NORGES BANK

4|20

DECEMBER

MONETARY POLICY REPORT

WITH FINANCIAL STABILITY ASSESSMENT

The *Monetary Policy Report with financial stability assessment* is published four times a year, in March, June, September and December. The *Report* assesses the interest rate outlook and forms the basis for Norges Bank's advice on the level of the countercyclical capital buffer. The *Report* includes projections of developments in the Norwegian and global economy.

Editor: Øystein Olsen

Contents

This *Monetary Policy Report* is based on information in the period to 11 December 2020. The *Report* was published on 17 December 2020, the day after the Committee's monetary policy meeting, and is available at www.norges-bank.no.

Monetary policy in Norway

OBJECTIVES

Monetary policy shall maintain monetary stability by keeping inflation low and stable. The operational target of monetary policy shall be annual consumer price inflation of close to 2% over time. Inflation targeting shall be forward-looking and flexible so that it can contribute to high and stable output and employment and to countering the build-up of financial imbalances. Monetary policy objectives and trade-offs are discussed in a box on page 50.

IMPLEMENTATION

Norges Bank sets its policy rate with the aim of stabilising inflation around the target in the medium term. The horizon will depend on the shocks to which the economy is exposed and the effects on the outlook for inflation and the real economy. In its conduct of monetary policy, Norges Bank takes into account indicators of underlying consumer price inflation.

DECISION PROCESS

The policy rate is set by Norges Bank's Monetary Policy and Financial Stability Committee. Policy rate decisions are normally taken at the Committee's monetary policy meetings. The Committee holds eight monetary policy meetings per year. The *Monetary Policy Report* is published four times a year in connection with four of the monetary policy meetings. Prior to publication, several seminars and meetings are held at which analyses are presented to the Committee and economic developments, the balance of risks and the monetary policy stance are deliberated. On the basis of the analyses and deliberations, the Committee assesses future interest rate developments. The final policy rate decision is made on the day prior to the publication of the *Report*. The Committee's assessment of the economic outlook and monetary policy is presented in "Monetary policy assessment" in the *Monetary Policy Report*.

REPORTING

Norges Bank places emphasis on transparency in its monetary policy communication. The Bank reports on the conduct of monetary policy in its *Annual Report*. The assessments on which interest rate setting is based are published regularly in the *Monetary Policy Report* and elsewhere.

Countercyclical capital buffer

The objective of the countercyclical capital buffer is to bolster banks' resilience and to lessen the amplifying effects of bank lending during downturns. The Ministry of Finance sets the level of the buffer four times a year. Norges Bank draws up a decision basis and provides advice to the Ministry regarding the level of the buffer. The advice is submitted to the Ministry of Finance in connection with the publication of Norges Bank's *Monetary Policy Report*. The advice is published when the Ministry of Finance has made its decision. Norges Bank will recommend that the buffer rate should be increased when financial imbalances are building up or have built up. The buffer rate may be reduced in the event of an economic downturn and large bank losses, with a view to mitigating the procyclical effects of tighter bank lending. The buffer rate shall ordinarily be between 0% and 2.5% of banks' risk-weighted assets, but in special circumstances may be set higher.

Decision-making process for *Monetary Policy Report* 4/20

At its meetings on 1 and 8 December, the Committee discussed the economic outlook, the monetary policy stance and the buffer rate. On the basis of the deliberations and a recommendation from Norges Bank staff, the Committee made its decision on the policy rate on 16 December. The Committee also approved its advice to the Ministry of Finance on the buffer rate.

Monetary policy assessment

The Covid-19 pandemic has led to a sharp downturn in the Norwegian economy. Low interest rates are dampening the downturn and mitigating the risk of a more prolonged impact on output and employment. Since the September 2020 *Monetary Policy Report,* higher infection rates and stricter containment measures have weighed on activity, but there are prospects for a faster upturn through 2021. There is substantial uncertainty surrounding the economic recovery ahead.

Norges Bank's Monetary Policy and Financial Stability Committee decided to keep the policy rate unchanged at 0% at the monetary policy meeting on 16 December. There are prospects that the policy rate will remain at the current level for some time ahead.

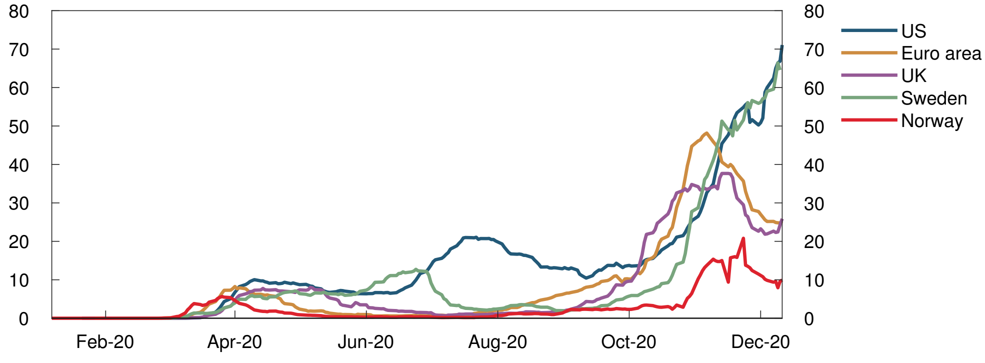
Rise in infection rates impairs the global recovery

The Covid-19 outbreak led to a severe downturn in the global economy. Activity among Norway's trading partners picked up considerably through summer and was higher in Q3 than assumed in the September *Report*. A sharp rise in infection rates and stricter containment measures in many countries are now weighing on economic activity. Vaccine availability will likely speed up the recovery through 2021 compared with that projected in the September *Report*. High unemployment and low wage growth will likely contribute to keeping global inflation low in the years ahead. Market-implied rates still indicate expectations of very low interest rates among Norway's trading partners for a long time ahead.

Oil prices have risen since the September *Report* and are now around USD 50. European gas prices have continued to rise. Futures prices indicate broadly unchanged oil and gas prices in the coming years.

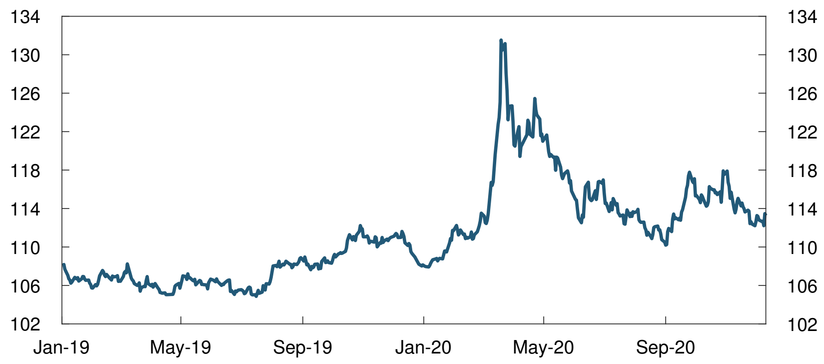
Chart A Sharp rise in infection rates through autumn

Seven-day moving average of new cases per 100 000 inhabitants



Sources: Refinitiv Datastream and Norges Bank

Chart B The krone has appreciated
Import-weighted exchange rate index (I-44)



Source: Norges Bank

Heightened volatility in the wake of the Covid-19 outbreak subsided through spring and summer. Since the September *Report*, there have been relatively large movements in financial markets. Positive vaccine news has contributed to a rise in global equity markets. Long-term US interest rates have risen since September, while long-term euro area interest rates have fallen. Bond risk premiums have fallen further both abroad and in Norway. Norwegian money market premiums have risen and have been slightly higher than expected. Residential mortgage rates are little changed since the September *Report*.

The krone exchange rate, as measured by the import-weighted index I-44, has appreciated after reaching record-weak levels in March. Reduced uncertainty in global financial markets and a rise in oil prices have likely contributed to the krone appreciation. Since the September *Report*, the krone exchange rate has fluctuated somewhat, but the krone is now stronger than projected in September.

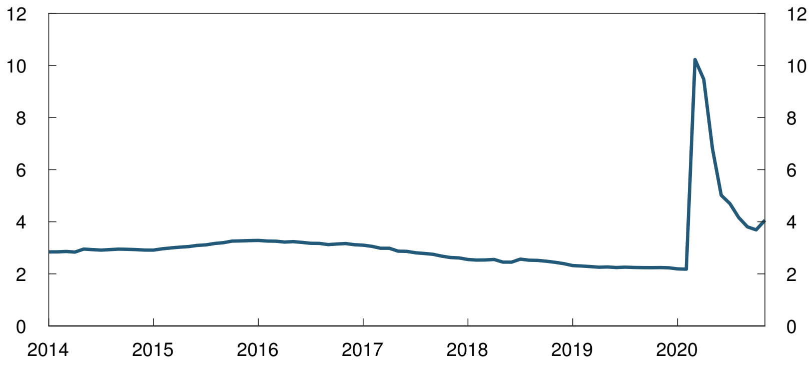
Prospects for a pronounced recovery in 2021
After the Covid-19 outbreak led to a sharp decline in the Norwegian economy in March and April, economic activity has picked up and unemployment has come down from historically high levels. Mainland GDP was 1.5% lower in October than in February. The level was higher than projected in the September *Report*.

Higher household demand has been the main driver of activity in the mainland economy since spring. Household consumption of goods has picked up markedly, but overall consumption remains low. Since income for most households has remained solid, the saving ratio has risen to a very high level on the back of a long period of limited consumption opportunities. High household saving provides room for strong consumption growth ahead, but it is highly uncertain how quickly and how far the saving ratio will fall.

Through autumn, infection rates have also risen in Norway, and stricter containment measures have been introduced. Household demand is falling, and the economic recovery has stalled. In November, the enterprises in Norges Bank's Regional Network reported that they expect weak growth in activity ahead.

The number of furloughed workers has risen again. Registered unemployment rose to 4.1% in November, which is higher than projected in the September *Report*. Long-term unemployment has risen substantially, especially among the youngest age groups.

Chart C Unemployment has risen again
Registered fully unemployed as a share of the labour force. Seasonally adjusted. Percent



Source: Norwegian Labour and Welfare Administration (NAV)

A renewed period of low growth, may entail that it will take longer for those who are now unemployed to return to work.

Housing market activity has picked up further through autumn. Turnover in the housing market has been high, and house prices have risen more than projected. Growth in credit to households has risen a little, in line with the projections in the September *Report*.

Since the September *Report*, it has become increasingly likely that one or more vaccines will be made widely available during 2021, which is expected to give a clear boost to economic activity in 2021. There is still uncertainty about the evolution of the pandemic and its economic impact.

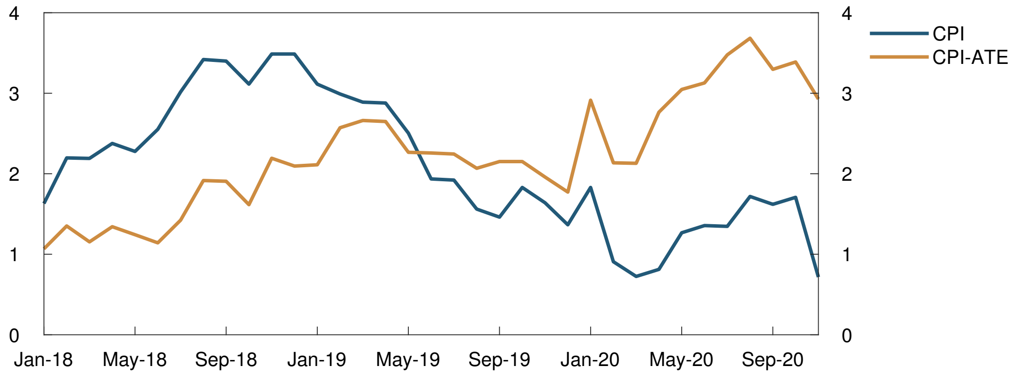
Increased infection rates and the reintroduction of containment measures have prompted the Government to propose new economic measures for 2021, which will result in somewhat higher public spending in 2021 than indicated in the National Budget. The approved budget may suggest that petroleum revenue spending in 2021 will turn out slightly lower than assumed in the September *Report*.

Inflation has moderated

The underlying rise in prices measured by the consumer price index (CPI) adjusted for tax changes and excluding energy products (CPI-ATE) picked up through spring and summer. The rise is primarily attributable to higher imported goods inflation, which in turn reflects the krone depreciation through winter and spring. In recent months, CPI-ATE inflation has moderated and has been lower than projected in the September *Report*. In November, 12-month CPI-ATE inflation was 2.9%. Norges Bank's Expectations Survey indicates that inflation expectations in the somewhat longer term are well-anchored around the inflation target.

Lower energy prices contributed to a marked decline in CPI inflation through 2019. Twelve-month CPI inflation picked up through spring and summer, but fell abruptly to 0.7% in November. Futures prices for electricity and fuel have fallen since September and now indicate a somewhat slower rise in energy prices through 2021 than previously assumed. This may contribute to a considerably slower rise in CPI inflation in the coming year than projected in the September *Report*.

Chart D Inflation has moderated
CPI and CPI-ATE. Twelve-month change. Percent



Source: Statistics Norway

This year's wage negotiations began in August, and on the basis of negotiations with manufacturing sector trade unions, the wage norm for manufacturing as a whole was estimated at 1.7%. The other wage settlements appear to have been in line with this norm. A marked decline in the number of employees in low-wage sectors in isolation lifts overall annual wage growth somewhat. These compositional effects appear to be more pronounced than assumed earlier, and annual wage growth is now projected at 2.2%.

Low policy rate ahead

The operational target of monetary policy is annual consumer price inflation of close to 2% over time. Inflation targeting shall be forward-looking and flexible, so that it can contribute to high and stable output and employment and to countering the build-up of financial imbalances.

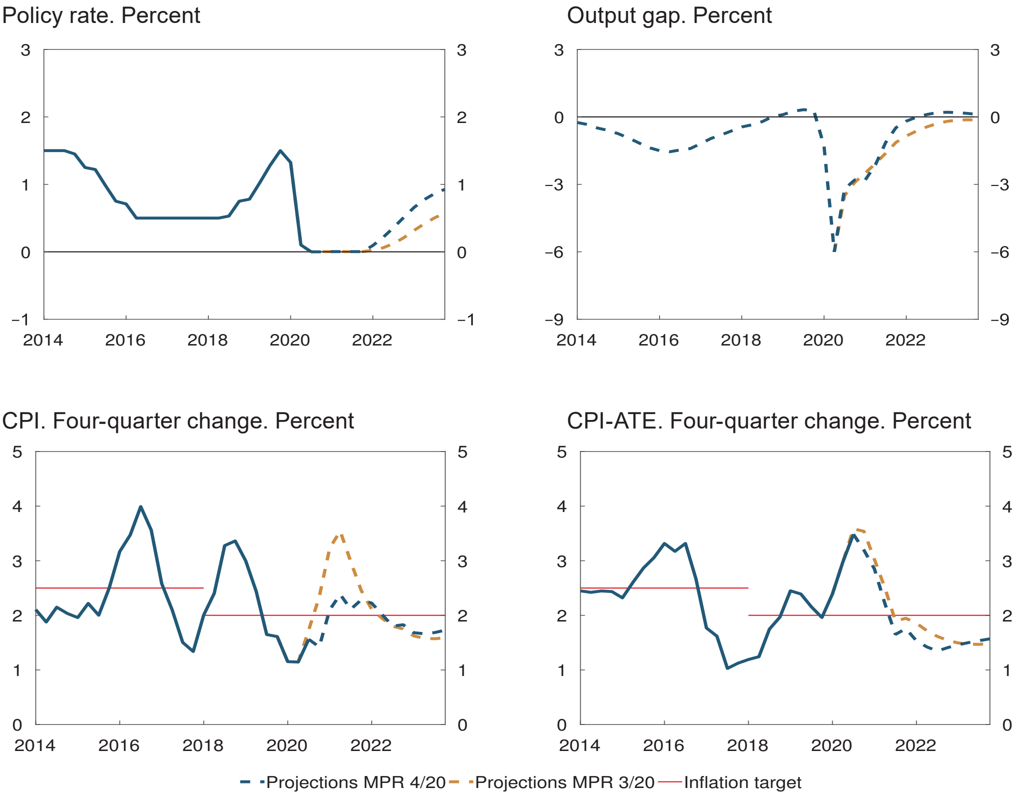
The Norwegian economy is in the midst of a deep downturn. Higher infection rates and stricter containment measures are now holding back the recovery. On the other hand, there is positive news about vaccines, and there are prospects that vaccination can begin in the very near future. This may result in a faster pick-up in economic activity than previously projected. Nevertheless, it will probably take time for output and employment to return to pre-pandemic levels.

Underlying inflation is above the target, but the krone appreciation since March and prospects for low wage growth suggest that it will moderate further ahead. As long as capacity utilisation is rising, there is limited risk that inflation will become too low.

In discussing the trade-offs facing monetary policy, the Committee placed weight on the contribution of low interest rates to speeding up the return to more normal output and employment levels. This reduces the risk of unemployment becoming entrenched at a high level. On the other hand, the Committee was also concerned that house prices have risen markedly since spring and that a long period of low interest rates increases the risk of a build-up of financial imbalances.

In the Committee's assessment, the overall outlook and balance of risks imply a very expansionary monetary policy stance. In spring, the policy rate was reduced by a total of 1.50 percentage points to 0%. The sharp economic downturn and considerable uncertainty surrounding the outlook suggest keeping the policy rate on hold until there are

Chart E Low policy rate helps to achieve the objectives of monetary policy



Sources: Statistics Norway and Norges Bank

clear signs that economic conditions are normalising. The Committee does not envisage making further policy rate cuts.

The policy rate forecast implies a rate at the current level for over a year ahead, followed by a gradual rise from the first half of 2022 as activity approaches a normal level. The forecast implies a somewhat faster rate rise than projected in the September *Report*. With such a policy rate path, there are prospects that capacity utilisation will gradually increase and that the output gap will close during the projection period. Unemployment is projected to decline, but remain somewhat higher than prior to the pandemic. Underlying inflation is projected to edge down over the next year and a half, before rising to somewhat above 1.5% towards the end of the projection period.

The Committee decided unanimously to keep the policy rate unchanged at 0%. In the Committee's current assessment of the outlook and balance of risks, the policy rate will most likely remain at today's level for some time ahead.

Øystein Olsen
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16 December 2020

THREE DIFFERENT ASSUMPTIONS REGARDING VACCINES, INFECTION RATES AND CONTAINMENT MEASURES

The uncertainty surrounding the economic outlook is high in Norway and globally. Developments largely depend on how quickly a vaccine can be deployed and how effectively it will protect against illness and infection, which in turn will determine the evolution of infection rates and the need for containment measures. Recently, there has been a rising tide of positive vaccine news. One of the vaccines has now been approved in the UK, the US and Canada, and vaccination of risk groups in these countries has already begun. The EU and Norway will likely follow in the very near future. Additional vaccines are expected to be approved in Europe and the US next month. Vaccination has also begun in a number of emerging economies with vaccines developed in Russia and China. The likelihood that an effective vaccine will be widely available during 2021 has increased considerably since the September *Report*. At the same time, a rise in infection rates and new restrictions in Q4 have weakened the near-term economic outlook.

In our baseline scenario, which underlies the projections in this *Report*, it is assumed that vaccination of risk groups begins in 2021 Q1 and that the general population both of Norway and its main trading partners is largely vaccinated by the end of 2021 (Table A). The assumptions for Norway over the coming six months are consistent with the latest risk assessments from the Norwegian Institute of Public Health, which states: "Vaccination can probably begin during the first half of 2021, and it is hoped a large percentage of risk groups and some health workers can be vaccinated before summer".[1] It is further assumed that the spread of Covid-19 gradually slows during 2021 Q1, owing to already introduced containment measures, that containment measures are gradually relaxed through the year and that some restrictions on international travel are still in place at the end of 2021.

The baseline scenario is based on what we currently assess as the most probable path for the vaccination rate and containment measures. However, uncertainty is high. The deployment of vaccines may proceed more quickly or take longer than assumed in the baseline scenario. We have chosen to illustrate possible economic implications of the uncertainty we face with upside and downside scenarios that reflect two alternative but

Table A Vaccine and containment measures timeline

	2021				2022			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Upside	Risk groups	Population						
Baseline	Risk groups	Risk groups / Population	Population	Population				
Downside	Risk groups	Risk groups	Risk groups / Population	Population	Population	Population		

Strict containment measures
Less strict containment measures
Some containment measures
Few or no containment measures

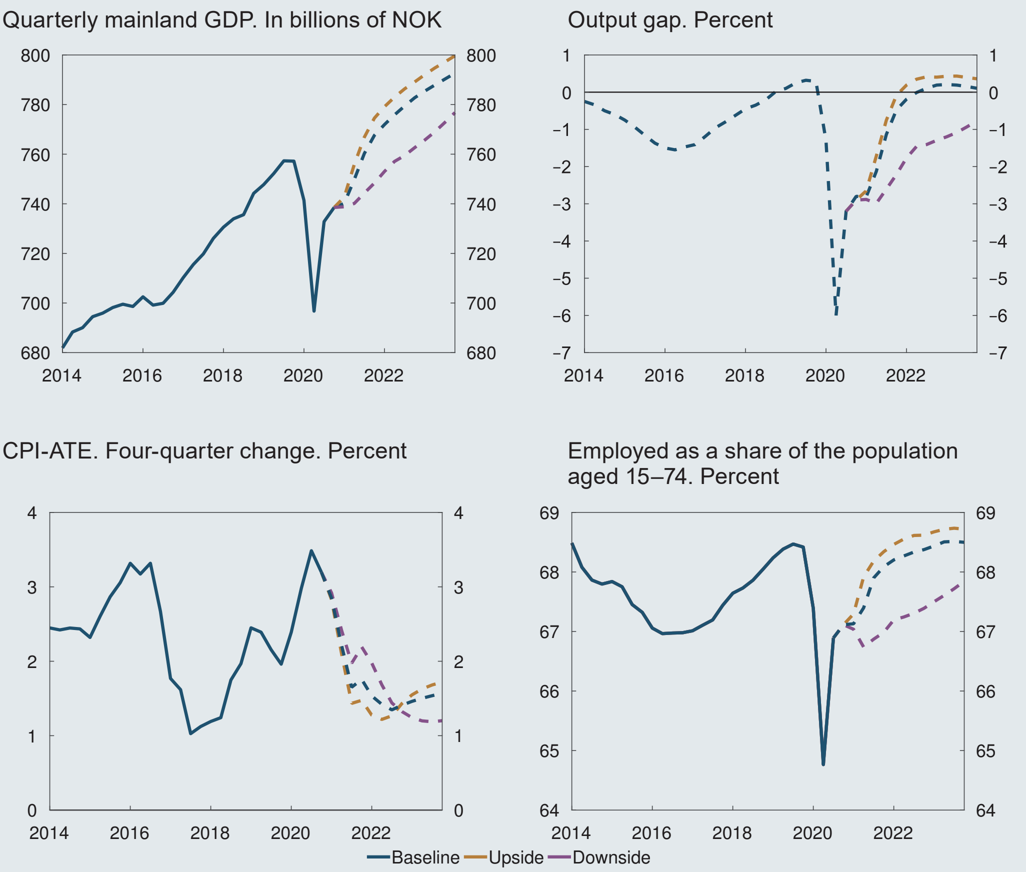
1 See COVID-19 EPIDEMIC: Knowledge, situation, forecast, risk and response in Norway after Week 48. Report, Norwegian Institute of Public Health, 30 November 2020 (Norwegian only).

still probable sets of assumptions relating to the further path for vaccination and containment measures.

The *upside scenario* is based on the assumption that the production capacity for already available vaccines is stepped up quickly and that further vaccines that are now in their final development phases are approved and go into production. In addition, we assume that vaccines will be distributed to the general population without delays, so that vaccination of risk groups is completed during 2021 Q1 and a sufficient vaccination rate is achieved already in summer 2021. We further assume that the prevailing containment measures are effective, and that infection rates fall relatively quickly both in Norway and globally. The containment measures are gradually relaxed as infection rates diminish and risk groups are vaccinated.

In the *downside scenario,* we assume that owing to production and distribution bottlenecks, vaccination starts later and takes longer than in the baseline scenario. We also assume that the current containment measures are not as effective as in spring, so that some of the measures are retained through 2021. Further tightening is also possible, before a gradual relaxation can take place through 2022, as the vaccination rate rises. This scenario can also accommodate a path for containment measures where periods

Chart F Considerable uncertainty surrounding the outlook



Sources: Statistics Norway and Norges Bank

of relaxation are followed by a resurgence in infection rates and new restrictions, as was seen in autumn. We assume similar developments among Norway's main trading partners. In such a scenario, we therefore receive little economic traction from abroad.

The projections for key economic variables in the coming quarters in the upside and downside scenarios, respectively, are based, among other things, on our assessments of developments in individual industries under the two alternative assumptions regarding the path for the vaccination rate and containment measures in Norway and abroad. For developments further out, when the situation is assumed to be normalising, the scenarios are based on estimates from the Bank's main macroeconomic model NEMO. We apply the technical assumption of a policy rate of 0% until the time the model analysis indicates a rate hike, if any.

In the upside scenario, a low infection rate and reduced containment measures boost activity in retail and service industries already from January. Nevertheless, continued social distancing reduces capacity in many industries for a period ahead. The tourism industry may see increased activity from summer 2021. Owing to the scaling-back of containment measures, private consumption, and eventually business investment, increase markedly through 2021 (Table B).

In this scenario, both output and employment pick up faster than in the baseline scenario, and the output gap closes already in 2021 Q3 (Chart F). An earlier and more marked policy rate hike, together with higher oil prices, contributes to strengthening the krone. Higher wage growth, nevertheless, means that the inflation projections are somewhat higher than in the baseline scenario towards the end of the projection period.

Table B Projections for main economic aggregates

	Upside				Downside			
	2020	2021	2022	2023	2020	2021	2022	2023
International								
GDP trading partners	-5.4	4.9	4.9	2.6	-5.4	0.8	5.1	2.6
Oil price[1]	41.7	52.5	56.5	59.0	41.7	36.8	36.6	38.7
Norway								
GDP, mainland Norway	-3.5	4.5	3.2	1.5	-3.5	2.1	2.0	1.7
– Household consumption	-8.3	7.0	7.2	3.0	-8.3	1.8	5.4	4.3
– Petroleum investment	-6.0	-5.0	-2.0	12.0	-6.0	-9.0	-11.0	1.0
– Business investment	-6.4	4.2	7.1	2.9	-7.3	-9.4	3.9	6.1
Registered unemployment rate	5.0	3.0	2.4	2.4	5.0	3.8	3.0	2.8
Exchange rate (I-44)	115.0	110.3	109.6	108.9	115.0	114.3	114.0	113.9
Annual wages	2.2	2.1	2.5	2.9	2.2	1.8	1.9	2.2
CPI-ATE	3.0	2.0	1.3	1.6	3.0	2.4	1.6	1.2

1 Brent Blend. USD per barrel.

Sources: Refinitiv Datastream, Statistics Norway and Norges Bank

In the downside scenario, developments in a number of industries related to tourism, culture, recreation and some other services will be weak in 2021 as well. The overall fall in GDP is dampened to some extent by a shift in demand to other industries, such as domestic goods production and distributive trade. We further assume that government authorities continue to provide economic support as needed, with a compensation rate in line with that seen so far in 2020. This dampens the negative effects of containment measures to some degree. Even so, developments in GDP are a good deal weaker than in the baseline scenario (Chart F).

Owing in part to weak growth in overall demand through 2021, employment remains lower than in the baseline scenario throughout the projection period, even though the gap narrows somewhat towards the end. Persistently high unemployment, low investment and an increase in the number of bankruptcies pull down long-term potential output. Subdued growth prospects and high unemployment also entail relatively weak wage growth in 2021. Nevertheless, inflation in the first part of the period is expected to be higher than in the baseline path. This is because an expected fall in oil prices contributes to a persistently weaker krone. In this scenario, there are prospects that the policy rate remains at the current level through much of the projection period.

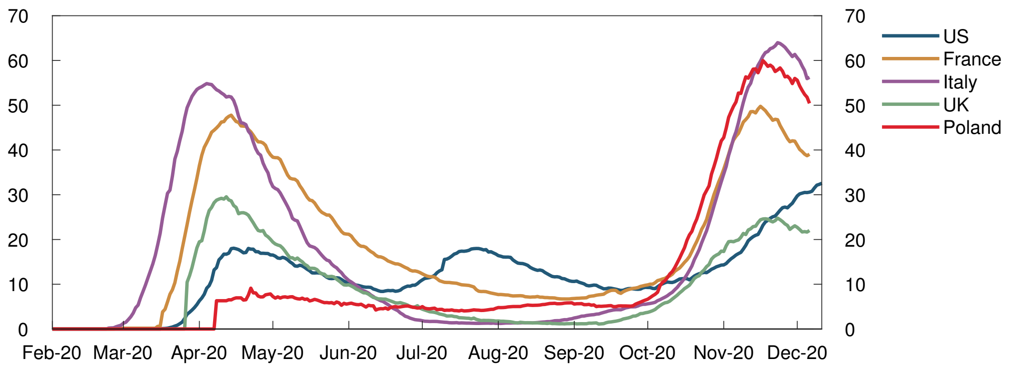
1 The global economy

The level of economic activity among Norway's trading partners picked up considerably in summer. In autumn, a marked rise in Covid-19 infection rates led to stricter containment measures in many countries, which is dampening activity in the short term. The deployment of a vaccine will likely boost growth from spring 2021. GDP among trading partners is projected to return to pre-pandemic levels at the end of 2021. Underlying inflation will likely remain low in the years ahead. Market-implied rates indicate expectations of very low interest rates among trading partners for a long period ahead.

Higher infection rates weigh on recovery before vaccine boosts growth
Global economic activity has picked up considerably since the pronounced fall in spring. Trading partner GDP expanded by more than 9% between 2020 Q2 and Q3. Government schemes have supported household income and contributed to a rapid rise in consumption. GDP growth in Q3 was stronger than expected in the September 2020 *Monetary Policy Report*, particularly in the euro area and the US.

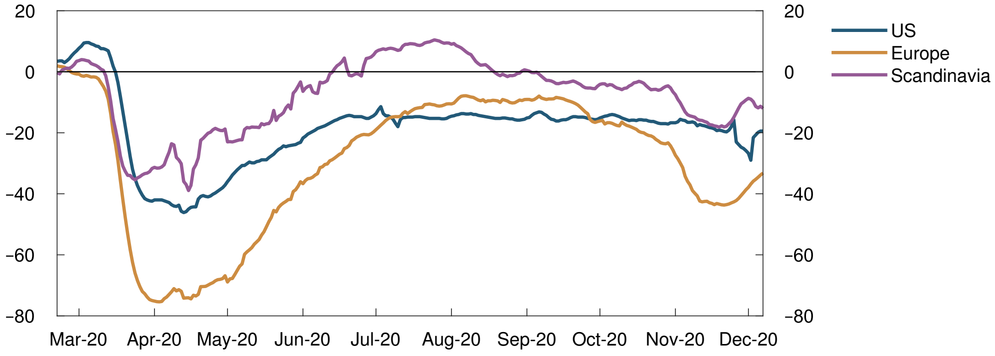
After a period of lower infection rates up to summer, the number of new cases rose considerably in Europe and the US in autumn (Chart A). There was also a marked rise in hospitalisations (Chart 1.1). A number of countries introduced restrictions and lockdowns. The service sector is again being severely affected. To alleviate the situation, the authorities in many countries have kept support schemes in place. Mobility data indicate falling activity in retail trade, and the culture and food service sectors in autumn (Chart 1.2). In the euro area, GDP is projected to fall considerably between Q3 and Q4. Stricter containment measures have led to a decrease in infection rates and higher mobility in recent weeks, and GDP is projected to rise somewhat in 2021 Q1. In the US, growth is expected to continue in Q4, but rising infection rates and stricter containment measures will likely contribute to a fall in activity in 2021 Q1. In emerging Asian economies, the rise in infections is only moderate, and activity levels are expected to pick up further in the quarters ahead.

Chart 1.1 Marked rise in hospitalisations in autumn
Number of hospitalisations per 100 000 inhabitants



Sources: covidtracking.com, ECDC, Refinitiv Datastream and Norges Bank

Chart 1.2 Fall in activity in autumn in retail trade, culture and food service sectors
Mobility in retail and recreation for selected trading partners. 7-day moving average. Percent deviation from reference value

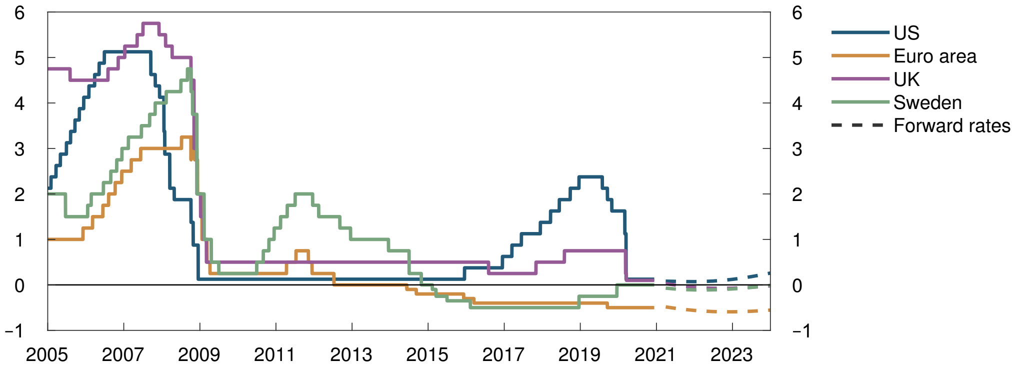


Sources: Google COVID-19 Community Mobility Reports, IMF and Norges Bank

In spite of a rise in Covid cases in many countries, positive news on vaccine development has lifted global equity markets. Continued monetary and fiscal stimulus and the clarifications about the US election have also made a positive contribution. Long-term US interest rates have risen since the September *Report*, while long-term rates in the euro area have moved down somewhat. The European Central Bank has announced an expansion of its asset purchase programme and other measures to make monetary policy more expansionary. The central banks of Sweden and the UK have also expanded their asset purchase programmes. Corporate bond risk premiums have continued to edge down. Market-implied interest rates indicate expectations of very low policy rates among Norway's main trading partners for a long time ahead (Chart 1.3).

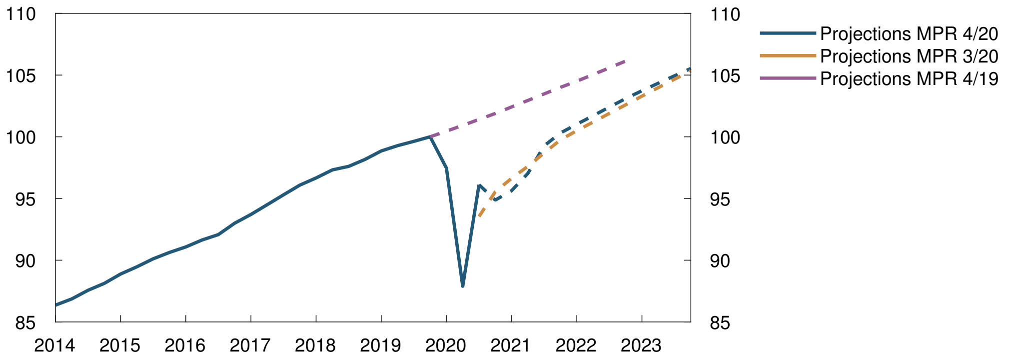
In the Bank's projections, higher infection rates and more stringent containment measures dampen growth in the short term, but it is assumed that an effective vaccine will become widely available among Norway's advanced economy trading partners in the course of 2021. This will likely boost growth from spring 2021. The Bank's assumptions regarding the evolution of the pandemic, containment measures and vaccines are described in a Special Feature on alternative scenarios on page 10. Expansionary monetary and fiscal policies make a positive contribution to growth in most countries. Trading partner GDP growth is projected at over 4% in 2021 and 2022 after falling by more than

Chart 1.3 Low policy rates expected for a long period ahead
Policy rates and estimated forward rates in selected countries. Percent



Sources: Bloomberg, Refinitiv Datastream and Norges Bank

Chart 1.4 GDP back at pre-pandemic levels at end-2021
GDP trading partners. Index. 2019 Q4 = 100



Sources: Refinitiv Datastream and Norges Bank

5% in 2020 (Annex Table 1). GDP growth has been revised down for 2021 and revised up for 2022 since the September *Report*. With such a path, GDP among trading partners will have returned to its pre-pandemic level at the end of 2021 (Chart 1.4). Trading partner imports are projected to increase by 6% in 2021. When the projections in this *Report* were finalised, the negotiations on a trade agreement between the UK and the EU were still in progress. Economic consequences of an outcome where the UK leaves the EU Single Market and EU Customs Union without an agreement are not included in the projections.

It is assumed that the Covid-19 pandemic in isolation will contribute to reducing the production capacity of the economy through falling investment, lower productivity growth and a decline in potential employment. Capacity utilisation is expected to be lower than normal throughout the projection period despite the downward revision in production capacity.

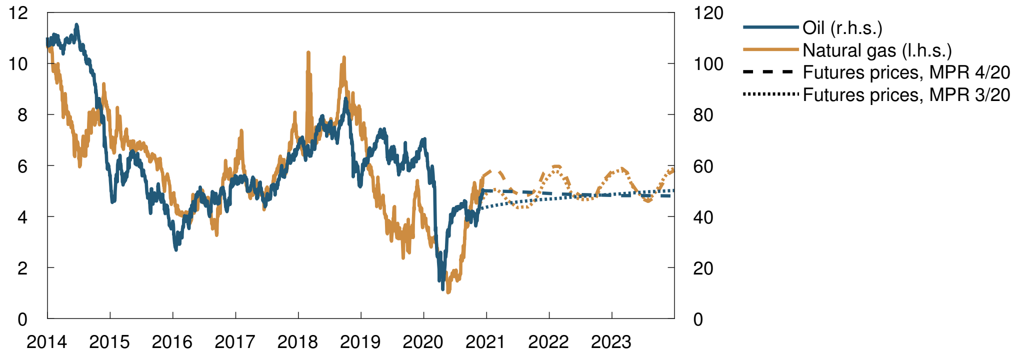
There is considerable uncertainty about global economic developments ahead. Developments will depend on factors such as the level of infection and the scale of containment measures ahead and how quickly a vaccine becomes widely available (see Special Feature on alternative scenarios on page 10). If the UK leaves the EU Single Market and EU Customs Union without a trade agreement, growth in Europe may be lower than projected in our main scenario.

Low inflation ahead

Underlying inflation in the euro area fell considerably in summer and has been very low in recent months. In particular, prices for services related to transport and tourism fell. Inflation has held up better in the US and UK. As a result of the low level of activity, wage and price inflation among Norway's main trading partners are expected to remain low for the coming year, in spite of potential price pressures on some goods and services generated by, for example, supply problems and containment measures (see also Special Feature on page 18 for more details). Underlying inflation among trading partners is projected to be below target throughout the projection period, and the projections are slightly lower than in the September *Report*.

Producer prices for consumer goods imported to Norway, in foreign currency terms, have fallen in the past half year for almost all goods components. Prices for audiovisual

Chart 1.5 Somewhat higher oil and natural gas prices
Oil. USD per barrel. Natural gas. USD per MMBtu



Sources: Refinitiv Datastream and Norges Bank

equipment and furniture and household equipment have shown the largest fall, while food prices have risen considerably over the past couple of months. The rise in producer prices since the September *Report* has been lower than projected, and the projections for 2020 have been revised down (Annex Table 1).

Somewhat higher oil and gas prices

Oil spot prices are now around USD 50 per barrel, an increase since the September *Report*. Futures prices somewhat further ahead are little changed and indicate that oil prices will be close to today's level in the years ahead (Chart 1.5). In the near term, increased Covid-19 infection rates and weaker economic developments may again impact global oil consumption. To counteract this, OPEC+ decided at the beginning of December to limit the increase in production from January 2021.[1] Over time, the deployment of vaccines could support oil consumption. High OECD oil inventories and ample spare production capacity among OPEC+ countries may dampen a rise in oil prices in the years ahead even though global oil consumption is expected to recover.

European gas spot prices have continued to rise along with Asian gas prices since the September *Report*. Gas inventories in Europe are still high. With weaker economic developments, gas inventories may remain high for a period ahead. Futures prices indicate that gas prices will remain at today's level to the end of the projection period.

1 OPEC+ consists of 13 OPEC countries and 9 non-OPEC countries. Saudi Arabia and Russia (as the non-OPEC representative) are considered key parties to the agreement. Three OPEC countries are exempt from production limitations. Meeting press release of 3 December 2020: The 12th OPEC and non-OPEC Ministerial Meeting concludes.

PROSPECTS FOR LOW INFLATION ABROAD, BUT UNCERTAINTY IS HIGH

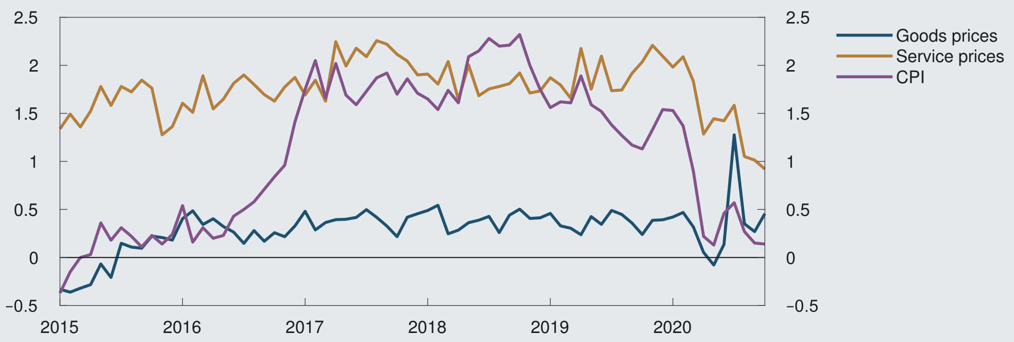
Global consumer price inflation (CPI) fell markedly when the Covid-19 pandemic broke out this spring and strict containment measures were introduced (Chart 1.A). Inflation picked up somewhat through summer in pace with the reopening of many economies. In the US, the rise continued until autumn, while inflation rapidly fell again in Europe. In the euro area, 12-month CPI inflation has been negative since August. Underlying inflation for Norway's main trading partners has fallen to the lowest level in over 20 years.

Business closures in spring dampened inflation, particularly in the service sector.[1] First, demand for services fell when employees were sent home to work remotely and businesses in the tourist, hospitality and entertainment sectors had to close their doors or reduce the number of guests. Second, the business closures led to a marked deterioration in labour market conditions, with furloughs and redundancies, and downward pressure on wages. Both forced saving and lower household income and income expectations amplified the decline in overall demand. Service price inflation among Norway's trading partners has thereby fallen to the lowest level observed in recent decades. In addition, oil prices dropped sharply, partly because of the fall in global demand, which pulled down overall inflation below both goods and service price inflation.

At the same time, the business closures led to breaks in production chains and supply problems, resulting in a marked rise in prices for some goods. Combined with a shift in demand from services to goods, this has supported goods price inflation. Very expansionary measures, fiscal as well as monetary, are also influencing price developments. Some of the measures, such as reduced VAT, may dampen inflation in the near term, but overall the measures are pushing up demand and underlying inflation.

In the years ahead, inflation among Norway's trading partners is expected to remain low. Unemployment for trading partners is still higher than its pre-pandemic level, and long-term unemployment has risen. This will continue to dampen wage and price inflation ahead. Ample spare capacity, particularly in the service sector, is pulling in the same

Chart 1.A Service price inflation has fallen markedly among trading partners
Twelve-month change for CPI, goods prices and service prices. Percent



Sources: Refinitiv Datastream and Norges Bank

1 Note that business closures have made it difficult for national statistical offices to measure inflation during the pandemic because it was not possible to collect data and because a number of goods and services in the consumption basket were not sold in this period.

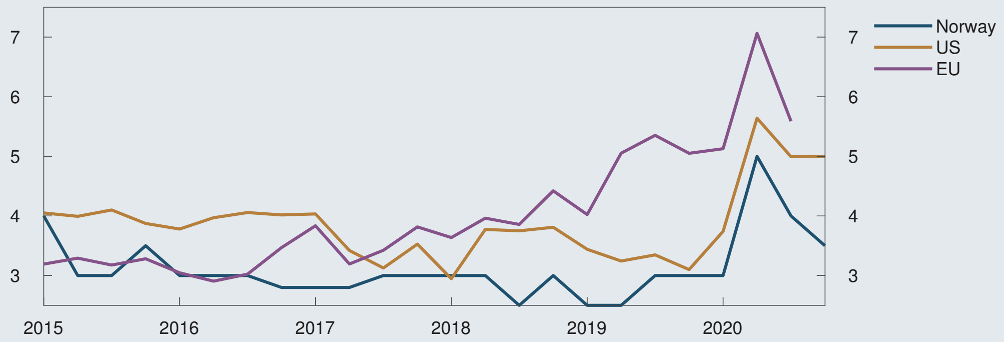
direction. In the slightly longer term, price inflation is expected to pick up at a moderate pace as the global economy normalises.

Uncertainty about global price developments in the years ahead, however, is unusually high. Projections are based on the assumption that the pandemic will continue to disrupt production and thereby lead to a substantial rise in prices for some goods, as has been the case for some goods imported to Norway in recent months. If a new, extensive lockdown becomes necessary because of a rise in infections, the supply of goods and services may be affected more severely than assumed. On the other hand, disruptions to production have so far been limited. This is partly because of increased output in China and other Asian countries, where the pandemic was brought under control at an early stage, and partly because manufacturing sectors in high-infection countries have avoided closures this autumn. If this level of flexibility in manufacturing can be maintained ahead, it may contribute to holding down prices.

Another element of uncertainty is related to the effects of expansionary policies. So far, many households have reacted to expansionary monetary policy and fiscal stimulus by increasing saving. A faster-than-expected decline in saving may fuel price pressures if supply is still constrained by containment measures or an increase in bankruptcies. Some price changes in financial markets may indicate that some participants expect the expanded money supply to lead to higher inflation ahead. Interest rates on long-term securities, for example, have recently risen, particularly in the US.

That uncertainty about inflation ahead is higher than usual is also reflected in inflation expectation surveys. On average, inflation expectations among financial market participants and households have shown little change through the pandemic. However, in many countries, including Norway, the variance of short-term inflation expectations across households has increased markedly (Chart 1.B). This spring in particular, a higher number expected inflation to be lower than usual while at the same time, there was a considerable increase in the share that expected that inflation would be high. This may reflect the very heterogeneous effects of the pandemic on different households, which resulted in larger differences in consumption baskets across households, related to for

Chart 1.B Variance of households' inflation expectations increased markedly in spring
Difference between 75th and 25th percentile in inflation expectations in one year. Percentage points



Sources: Epinion, European commission, Ipsos, Opinion, Survey of consumer expectations © 2013 - 2020 Federal Reserve Bank of New York and Norges Bank example health services and food. The variance of expectations diminished this autumn, but is still larger than usual.[2] The IMF has stressed that a rise in variance over time may increase the risk of expectations de-anchoring from the inflation target.[3]

In the longer term, changes in structural conditions can also influence price developments. The pandemic may trigger or accelerate such changes. While overall investment growth has been very low during the pandemic, the introduction of digital solutions and automation in many sectors has increased. This may contribute to higher productivity and lower inflation ahead. More online shopping and increased use of home offices and corporate video solutions may also affect relative prices for different goods and services, which in turn may affect inflation in a transitional phase.

After several decades of dismantling trade barriers between countries, developments have been reversed in recent years, with some countries citing national security concerns, but also from a desire to protect domestic manufacturing. The pandemic has also led to an increased focus on the potential for supply vulnerabilities for countries heavily dependent on imports. More reshoring of production and less trade could push up inflation ahead. More generally, governments and consumers are focusing more on climate change, pollution and fair working conditions.[4] If this were to lead to higher costs for companies, prices for some goods and services could rise as a result.

2 See Erlandsen, S. and I.N. Friis,(2020) "Er inflasjonsforventningene upåvirket av koronapandemien?" [Are inflation expectations unaffected by the Covid-19 pandemic?]. Blogpost on Bankplassen blog (Norwegian only), 20 June, and O. Armantier, G. Kosar, R. Pomerantz, D. Skandalis, K. Smith, G. Topa and W. van der Klaauw (2020) "Inflation Expectations in Times of COVID-19". Federal Reserve Bank of New York Liberty Street Economics, 13 May.
3 See E. Ebrahimy, D. Igan and S.M. Peria (2020) "The Impact of COVID-19 on Inflation: Potential Drivers and Dynamics". IMF Special Notes Series on COVID-19, 10 September.
4 See ILO and OECD (2020) "The impact of the COVID-19 pandemic on jobs and incomes in G20 economies". ILO-OECD paper prepared at the request of G20 leaders, Harvard Business School, Impact-weighted accounts and OECD (2020) "Building back better: A sustainable, resilient recovery after COVID-19". OECD Policy Brief, 5 June.

2 Financial conditions

Since the policy rate was reduced in spring, lending rates facing households and firms have declined and bond risk premiums have fallen. In recent months, bond premiums have continued to drift down, while residential mortgage rates have shown little change. Money market rates have increased a little owing to an increase in money market premiums.

The krone exchange rate has fluctuated somewhat in recent months. The krone has lately been somewhat stronger than expected in the September 2020 *Monetary Policy Report*.

2.1 Interest rates

Low residential mortgage rates

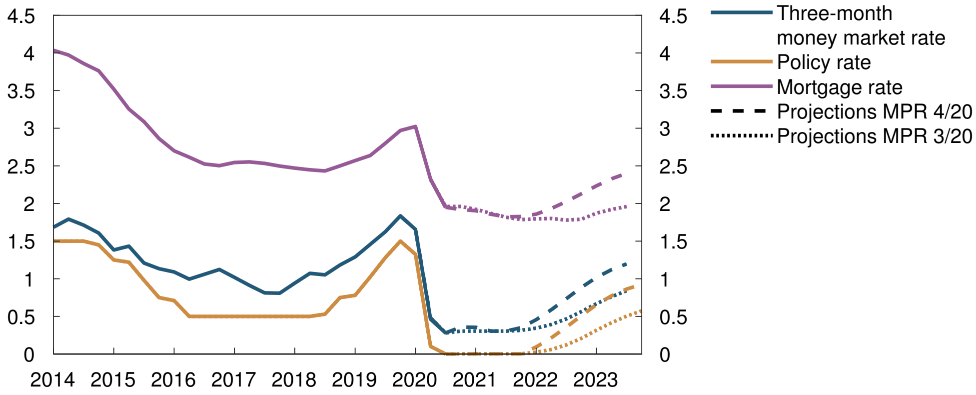
Mortgage rates in Norway are at historically low levels. Since the policy rate was cut by a total of 1.5 percentage points in spring, the average residential mortgage rate has moved down by about 1 percentage point (Chart 2.1). At end-October, the average rate stood at 1.9%, marginally lower than in August.

Mortgage rates have fallen less than the policy rate, which reflects developments in deposit rates. Banks' mortgage lending is primarily financed with deposits and wholesale funding. While the price of wholesale funding has declined in line with the policy rate, the fall in deposit rates has likely been restrained by banks' reluctance to charge negative deposit rates. Banks may have sought to compensate for this by increasing the spread between residential mortgage rates and the money market rate.

The average residential mortgage rate is expected to stay broadly unchanged in the near term. A little further out, the residential mortgage rate is expected to fall further, partly because of mortgage loan refinancing at lower interest rates. Towards the end of the projection period we expect mortgage rates to increase somewhat, owing to a rise in

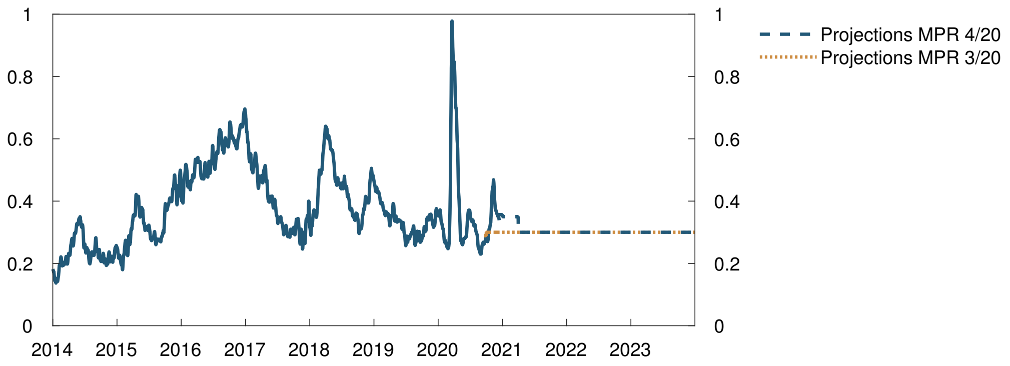
Chart 2.1 Low lending rates

Percent



Sources: Statistics Norway and Norges Bank

Chart 2.2 Slightly lower money market risk premium ahead
Percentage points



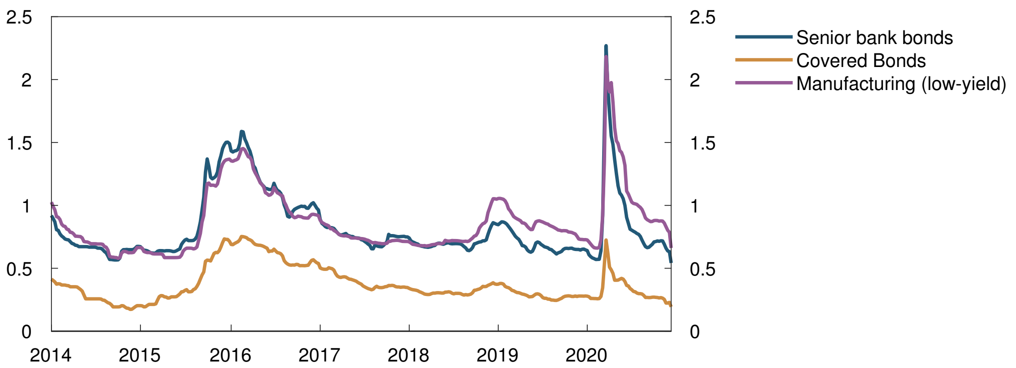
Sources: Refinitiv Datastream and Norges Bank

the policy rate. The rise in both the policy rate and mortgage rate towards the end of the projection period is somewhat bigger than in the September *Report*.

At the end of October, the average interest rate on loans to corporations was 2.5%, which is about 1.5 percentage points lower than at the start of the year. Banks' corporate lending rates are normally linked to the three-month money market rate (Nibor). The money market rate reflects market-based policy rate expectations for the next three months and a risk premium, often referred to as the money market premium. Since the September *Report*, the money market premium has increased a little and been slightly higher than expected. The increase is primarily related to lower overall bank liquidity having pushed up NOK FX swap prices. Because Nibor is constructed as a FX swap rate, this is reflected in the money market premium. The premium is expected to show a small decline ahead and remain close to 0.3 percentage point thereafter (Chart 2.2).

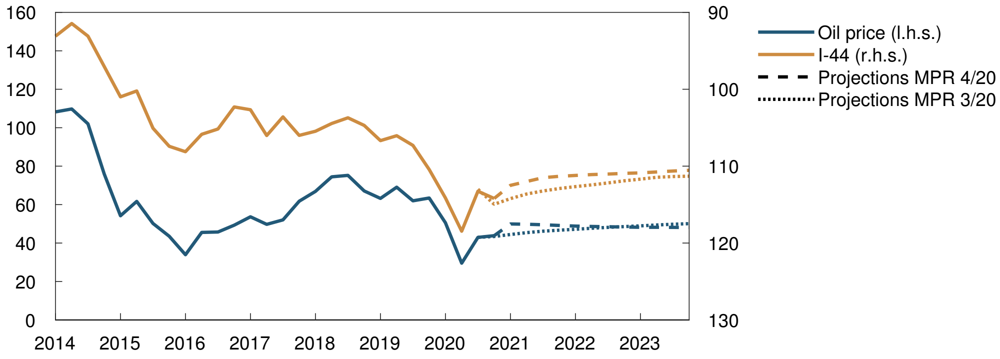
Large corporations also have the option of raising capital directly in the bond market. The bond risk premium facing non-financial corporations is somewhat lower than in September, albeit still higher than the levels observed prior to the period of volatility that started in March (Chart 2.3).

Chart 2.3 Further decline in risk premiums
NOK bonds with five-year maturity. Percentage points over three-month money market rate



Sources: DNB Markets and Nordic Bond Pricing

Chart 2.4 Stronger krone exchange rate ahead
Import-weighted exchange rate index (I-44) and oil price



Sources: Refinitiv Datastream and Norges Bank

Market participants expect a slightly faster rate rise
Equity prices on Oslo Børs and Norwegian long-term yields have advanced since the September *Report*. The gains appear to have largely been driven by positive vaccine news and a higher oil price.

Market-based policy rate expectations towards the end of the projection period are slightly higher than in September, while market-implied rates for the next year have shown little change. Market-implied rates indicate expectations that the policy rate will be increased from today's level in the course of spring 2022.

2.2 Krone exchange rate

Stronger krone than expected
The krone exchange rate, as measured by the import-weighted exchange rate index I-44, depreciated to record-weak levels during the financial market volatility in March. The krone has since appreciated against most currencies (Chart 2.4). Over the course of the year, the krone has moved largely in response to developments in oil prices and risk sentiment in global financial markets. In recent months, the krone has fluctuated somewhat. The krone has appreciated since September and is now stronger than projected in the September *Report*. The krone has strengthened against the background of an upswing in oil prices and reduced uncertainty in global financial markets.

The krone is expected to strengthen gradually ahead and to be stronger than projected in the September *Report*, in the light of prospects for a widening of the interest rate differential against trading partners in the years ahead. Futures prices indicate that the oil price will show little change through the projection period. There is substantial uncertainty regarding the krone's long-term level.

3 Norwegian economy

The Covid-19 pandemic has led to a severe downturn in the Norwegian economy. Rising infection rates through autumn and stricter containment measures are now weighing on the economic recovery. On the other hand, it appears that Covid-19 vaccination can begin in the very near future. Vaccination and the winding down of containment measures are expected to boost growth through 2021. Low interest rates also contribute to the recovery throughout the projection period. With increasing economic activity, unemployment is expected to decline, but will likely remain somewhat higher than prior to the pandemic at the end of the projection period. Capacity utilisation is projected to approach a normal level at the beginning of 2022, which is earlier than projected in the September 2020 *Monetary Policy Report*.

Underlying inflation has fallen in recent months, primarily owing to lower imported goods inflation. In the coming quarters, inflation is expected to slow further as the effect of the krone depreciation earlier in 2020 fades out. Low wage growth and a continued large margin of spare capacity in the Norwegian economy pull down on inflation throughout the projection period. Inflation is projected to be somewhat above 1.5% in 2023.

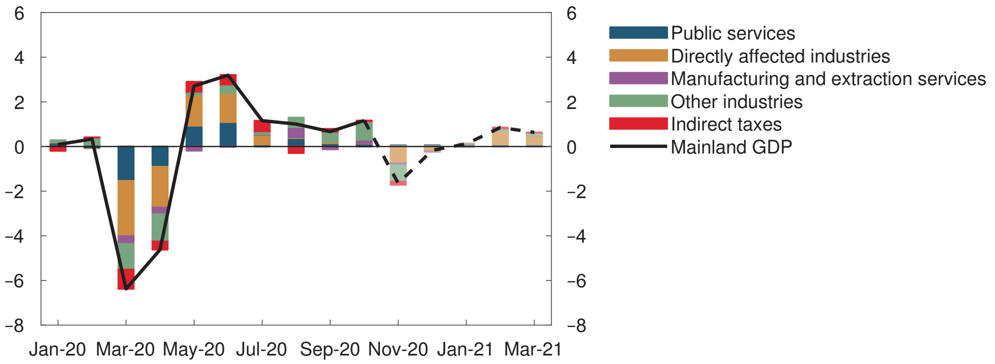
3.1 Economic developments

Higher infection rates and strict containment measures weigh on the recovery in the near term

The recovery in the mainland economy has continued after summer, albeit at a slower pace than in May and June (Chart 3.1). Mainland GDP in October was 1.5% lower than before the Covid-19 outbreak in March. The higher infection rates and stricter containment measures of recent months will likely lead to a fall in activity through Q4. Owing to new furloughs, unemployment rose again in November.

Chart 3.1 Containment measures weigh on the recovery

Mainland GDP. Contribution to monthly growth. Seasonally adjusted. Percent



Sources: Statistics Norway and Norges Bank

Services related to culture, restaurants, hotels and transport are affected in particular by the containment measures. Weaker economic developments are already reflected in Norges Bank's Regional Network survey, where contacts report lower growth in recent months. Household services report a marked fall in output. As the lockdown does not apply to schools, daycare centres and services such as dentistry and physiotherapy, the fall in activity will likely not be as sharp as in spring. It also appears that manufacturing will be little affected.

At the start of 2021, it is expected that the transmission of Covid-19 will slow enough so that containment measures can again be eased. This will contribute to a renewed pick-up in mainland GDP growth, largely driven by the sectors now affected by strict containment measures. The GDP growth projections for 2020 Q4 and 2021 Q1 have been revised down since September, while the projections for the remainder of 2021 have been revised up.

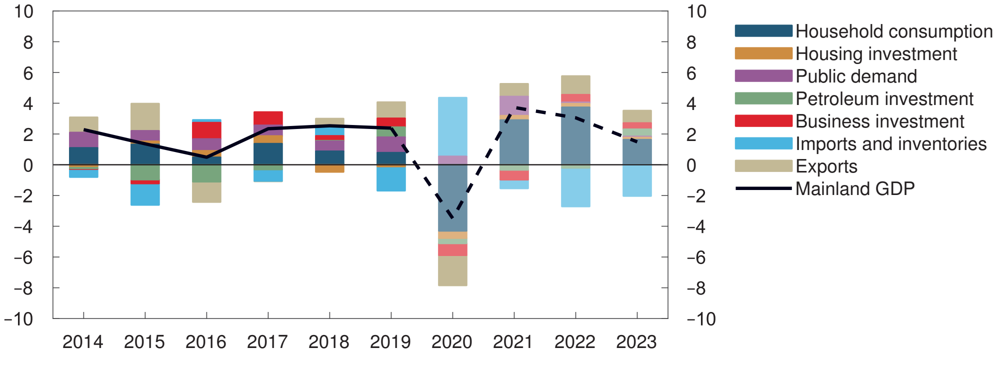
It now appears that one or more vaccines will be available in Norway in the very near future. Nevertheless, considerable uncertainty persists about infection and vaccination developments ahead and the duration of containment measures (see Special Feature on page 10). The projections are based on the assumption that a large percentage of the population will be vaccinated in the course of 2021. This will make a positive contribution to growth, in particular through a considerable pick-up in household consumption (Chart 3.2).

The recovery in the Norwegian economy is expected to continue, with growth remaining solid in both 2021 and 2022, then slowing in 2023. There are prospects that mainland GDP will reach its pre-pandemic level next autumn. The projection for GDP growth in 2021 is unchanged since the September *Report*, while growth in 2022 has been revised up.

A historic fall in consumption in 2020 will be followed by strong growth over the next couple of years, partly driven by low interest rates and substantial saving. Increasing activity among Norway's trading partners will boost Norwegian exports ahead. Fiscal policy will support growth in 2021, but growth in public spending is assumed to be somewhat lower further out in the projection period than in 2020 and 2021. Towards the end of the projection period, strong growth in petroleum investment is likely to make a positive contribution to growth.

Chart 3.2 Household consumption boosts growth ahead

GDP for mainland Norway. Contribution to annual growth. Percent



Sources: Statistics Norway and Norges Bank

Household demand will be temporarily dampened

After falling sharply in spring, household consumption increased substantially through summer and early autumn. Growth in Q3 was approximately as expected in the September *Report*. The containment measures and the lockdown in spring led to a clear shift in household consumption from services to goods (Chart 3.3).[1] In Q3, services consumption rose by more than 10%, reflecting the gradual opening of the economy in Q2 and further easing in Q3. Despite strong growth, services consumption in October was still about 10% lower than its pre-pandemic level. Goods consumption has increased considerably since April and was in October about 9% higher than before the pandemic.

The recent reintroduction of containment measures will likely result in a fall in services consumption in Q4, particularly consumption of accommodation and food services, leisure services and passenger transport. The decline in services consumption is not expected to be as pronounced as in March and April as a number of services, such as daycare centres and health services, are not subject to the new containment measures. Goods consumption will likely not be affected to the same extent by higher infection rates and containment measures. Data for overall card use via BankAxept indicate that goods purchases remained at a high level in November, while services purchases declined markedly. Overall, household consumption is projected to fall in Q4 before rebounding from mid-2021 Q1 as containment measures are relaxed.

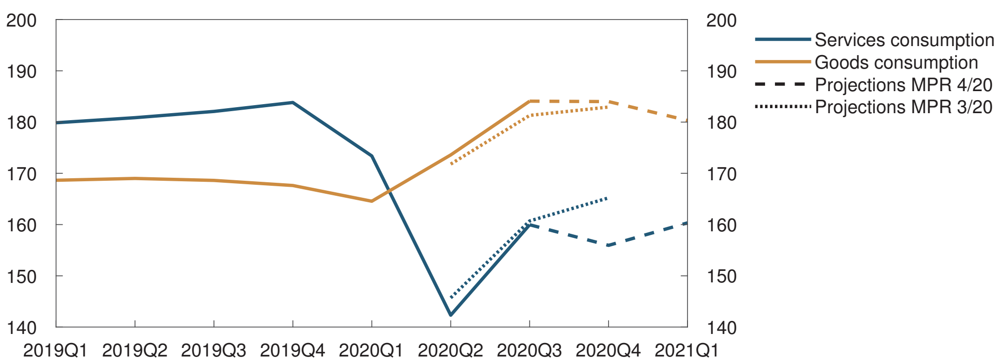
Through 2021, growth in goods consumption is expected to slow as the shift from services to goods consumption in spring reverses and household spending abroad gradually resumes when travel restrictions are relaxed.

Prospects that a large percentage of the population may be vaccinated in 2021 will likely boost household consumption through 2021. A high level of saving after a long period of limited consumption opportunities is also expected to contribute to strong consumption growth, both in 2021 and further out in the projection period (see Chart 3.4 and Special Feature on page 39).

The high level of saving through 2020 provides scope to increase consumption considerably more than income in the coming years. The saving ratio is projected to decline sharply from the start of 2021 and further out in the projection period. The projections for the saving ratio are little changed since the September *Report*.

Chart 3.3 Shift in consumption from services to goods

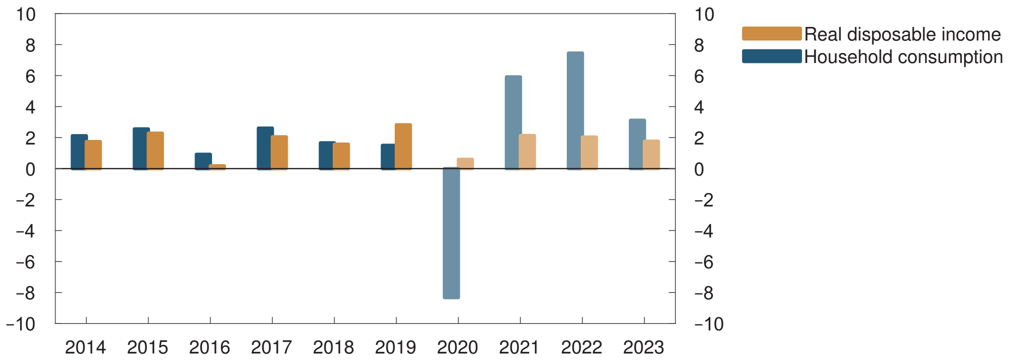
Goods and services consumption. Constant prices. Seasonally adjusted. In billions of NOK



Sources: Statistics Norway and Norges Bank

1 See Special Feature "Household consumption during the Covid-19 pandemic" in *Monetary Policy Report* 3/20.

Chart 3.4 Prospects for strong consumption growth in the coming years
Annual change. Percent



Sources: Statistics Norway and Norges Bank

Growth in household consumption is projected to be somewhat lower in 2020 and 2021 than in the September *Report*, while somewhat higher in 2022. The changes in the projections reflect that normalisation of consumption has been pushed somewhat further out in time owing to higher infection rates and the reintroduction of containment measures.

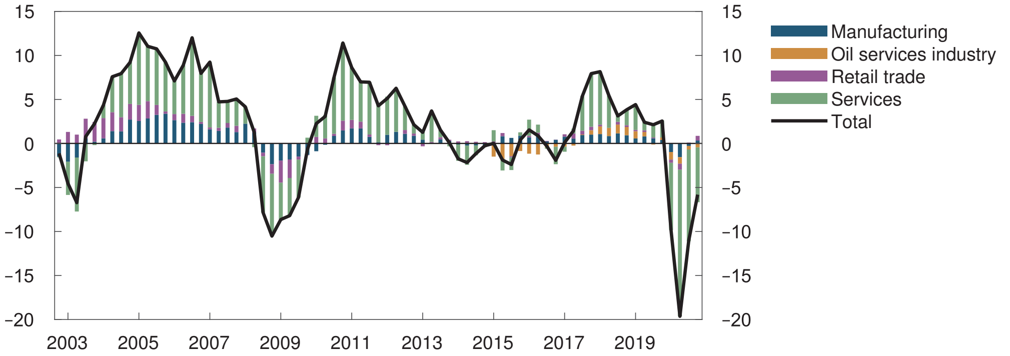
The pandemic does not appear to have dampened activity in the market for existing homes. After a couple of months of falling house prices in spring, prices have risen markedly and been higher than projected. There are prospects that house price inflation ahead may also be higher than projected in September. Lower interest rates stimulate the housing market, but increased levels of remote working and limited consumption opportunities may also have increased the willingness to pay for housing (see Section 5 for further discussion of housing market developments).

The rise in house prices through 2020 is expected to boost housing investment in Q4 after weak developments so far this year. The substantial pick-up in new home sales through summer and autumn supports this. Further out in the projection period, rising house prices are expected to contribute to a further increase in housing investment.

Weak prospects for business investment
Many businesses have been hard hit by the Covid-19 pandemic and measures to contain it. This has dampened the willingness and ability of mainland firms to invest. Nevertheless, investment has fallen less than expected so far in 2020, even showing a slight rise in Q3. A fall in investment is expected in Q4, continuing into 2021, in line with the picture drawn by Norges Bank's Regional Network and the investment intentions survey for manufacturing and electricity supply. Network contacts have revised up their investment expectations since the August survey, but are still expecting investment to fall in the next 12 months (Chart 3.5). In 2022 and 2023, improved profitability and brighter prospects for the Norwegian economy are expected to boost mainland business investment. The projections for investment growth have been revised up for 2020 and 2021 and are little changed for the remainder of the projection period.

The fall in oil and gas prices in spring, heightened uncertainty and containment measures have led to a decline in petroleum investment in 2020 after strong growth in 2019, particularly investment in exploration and field development (Chart 3.6). In the years ahead, the completion of a number of large development projects is expected to lead to a further decline in investment. However, a strong upswing is anticipated in 2023, reflecting the

Chart 3.5 Weak prospects for business investment
Expected change in business investment the next 12 months. Percent



Source: Norges Bank

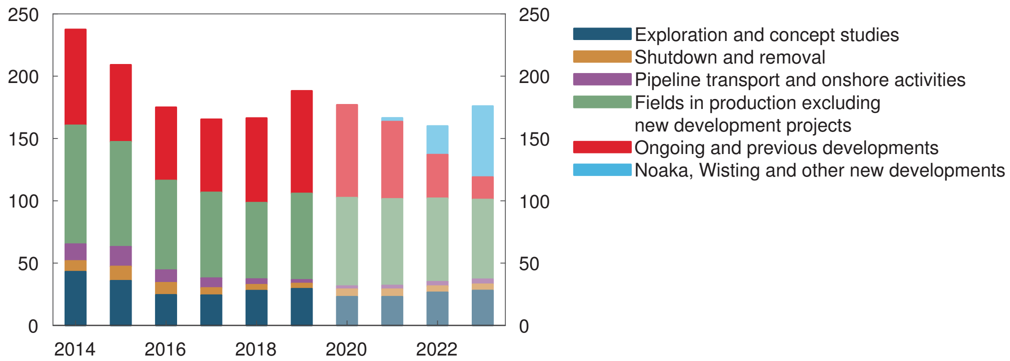
temporary tax reductions for the oil industry that apply to all new projects for which a plan for development and operation (PDO) has been submitted by end-2022. It appears that petroleum investment will fall more this year than previously expected, but projected investment in 2021, 2022 and 2023 is higher than in the September *Report*.

Rebound in foreign trade

Mainland exports increased markedly in Q3 in pace with higher activity among Norway's trading partners. Nevertheless, a decline of almost 9% between 2019 and 2020 appears likely. Over half of the decline reflects the very low number of travellers to Norway since mid-March. Oil service exports will fall sharply in 2020 owing to substantial cuts in investment plans in the global oil industry.

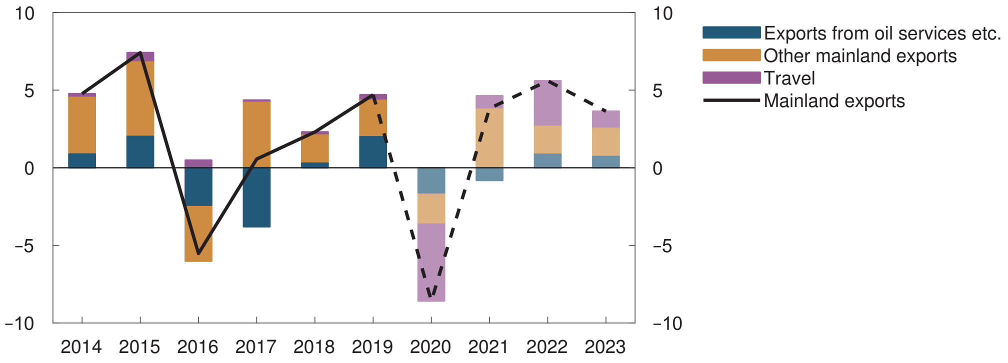
In the coming quarters, the global slowdown as a result of higher infection rates and strict containment measures is expected to weigh on export growth. Thereafter, increasing activity among Norway's trading partners will contribute to solid export growth. Improved cost competitiveness owing to the krone depreciation earlier in 2020 will also make a positive contribution to exports ahead. A substantial upswing in travel and an increase in the number of foreign tourists in Norway are expected through 2021 and

Chart 3.6 Decline in petroleum investment
Petroleum investment. At constant 2020 prices. In billions of NOK



Sources: Statistics Norway and Norges Bank

Chart 3.7 Exports expected to pick up
Mainland exports. Contribution to annual growth. Percent



Sources: Statistics Norway and Norges Bank

2022, which boosts exports (Chart 3.7). The projections for exports are somewhat higher than in the September *Report*.

Imports picked up sharply in Q3 following a substantial fall through the first half of 2020. In the same way as exports have been impacted by the low number of travellers to Norway, travel restrictions have dampened imports. Reduced travel activity accounted for around half of the decline in imports of traditional goods and services in the first half of 2020 and also contributed substantially to the upswing in Q3. As for exports, imports are expected to decline in 2020 Q4 and 2021 Q1 before picking up further out in 2021.

Lower petroleum revenue spending

After the pandemic broke out in March, the Government implemented extensive fiscal policy measures. In the National Budget for 2021, the Government proposed that most of the measures should be phased out in 2021 and that petroleum revenue spending should be reduced substantially. With higher infection rates and the reintroduction of containment measures in recent months, the Government has presented new economic measures for 2021, which will contribute to somewhat higher public spending in 2021 than indicated in the National Budget. The Government's budget compromise in the Storting (Norwegian parliament) pulls in the same direction.

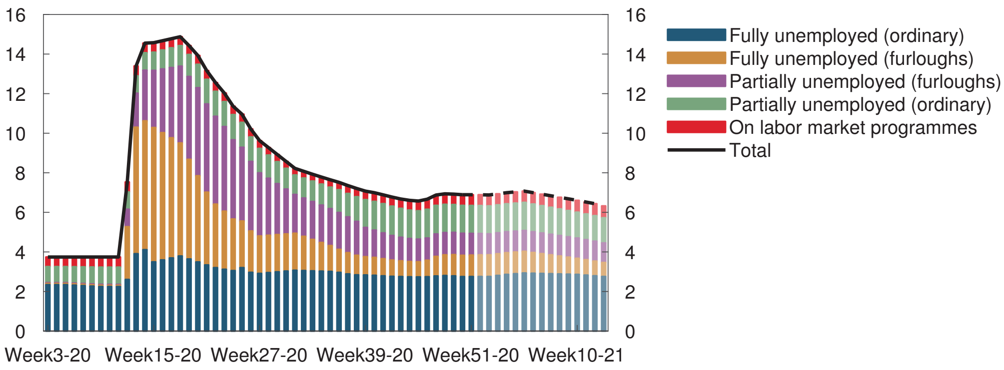
The structural non-oil deficit is assumed to be equivalent to 3.3% of the Government Pension Fund Global (GPFG) in 2021[2], which is in line with the National Budget and new economic measures currently planned. Further out in the projection period, petroleum revenue spending is assumed to decrease gradually, bringing the structural non-oil deficit to around 3.2% of the GPFG in 2022 and 3.1% in 2023.[3] Estimated petroleum revenue spending is somewhat lower than assumed in September throughout the projection period. The projections for growth in public sector demand have also been revised down since September.

Improvement in the labour market on hold

After summer, unemployment continued to decline and increasing numbers of furloughed employees returned to work. Developments in September and October were as projected in the September *Report*. In November, however, unemployment rose (Chart 3.8), mainly because of increased furloughs owing to higher infection rates and stricter containment measures.

2 Projected value of the GPFG at the start of 2021 from the 2021 National Budget.
3 Projected value of the GPFG at the start of 2022 and 2023 from the 2021 National Budget.

Chart 3.8 Unemployment has edged up again
Registered unemployed as a share of the labour force by category. Unadjusted. Percent



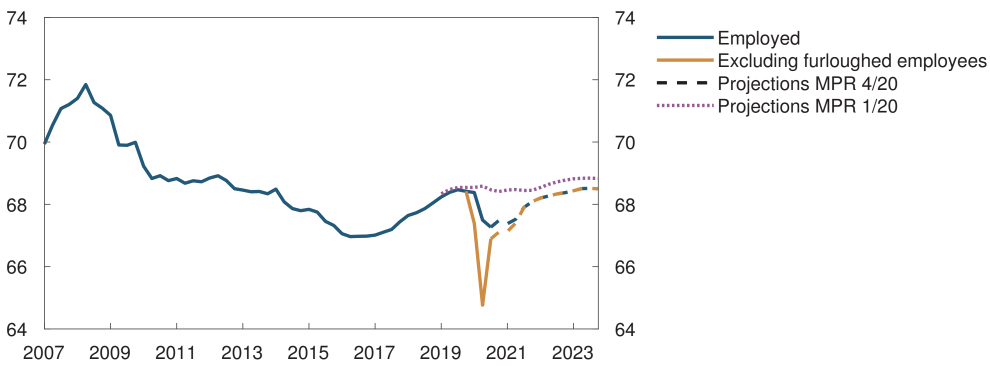
Sources: Norwegian Labour and Welfare Administration (NAV) and Norges Bank

During the lockdown in spring, the number of furloughed employees was just over 270 000 at its highest. Since then, many have returned to work, and in November around 60 000 employees were fully or partly furloughed. By comparison, the average number of layoffs was around 5 500 between 2010 and 2019. The number of ordinary fully unemployed has also been lower since spring, but has stabilised in recent months.

Weekly unemployment data indicate that the containment measures introduced in November had the most impact on the labour market immediately after introduction. Seasonally adjusted unemployment is projected to edge down again in December and January before falling at a markedly faster pace further out in 2021 as the containment measures are unwound. A decrease in the number of furloughed workers will contribute in particular to the fall in unemployment through 2021. The number of ordinary unemployed is also expected to fall, albeit more gradually.

Employment has been slightly higher than expected in September. Despite declining unemployment, employment as measured in the national accounts continued to fall after summer (Chart 3.9). This is because furloughed employees are counted as employed in national accounts statistics for the first three months of the furlough period. Employees furloughed in March and April who were still on furlough after summer were therefore only removed from the employment statistics in Q3. Employment is expected to

Chart 3.9 Fewer employed
Employed as a share of the population aged 15–74. Seasonally adjusted. Percent



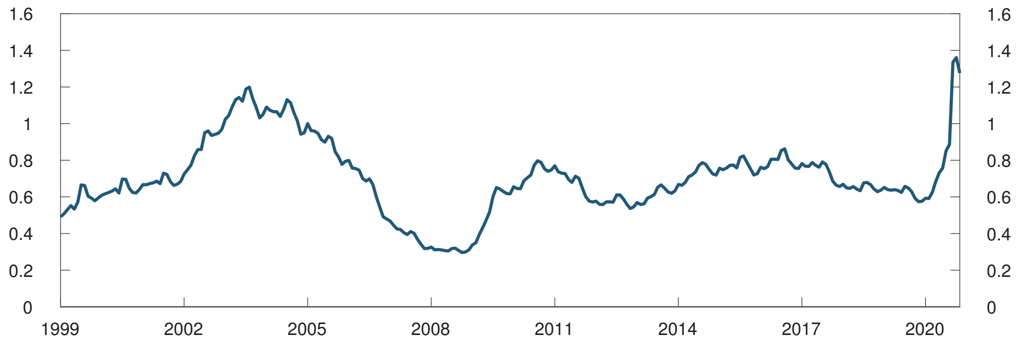
Sources: Norwegian Labour and Welfare Administration (NAV), Statistics Norway and Norges Bank show little change in the next two quarters until growth picks up in 2021, in line with signals from Norges Bank's Regional Network contacts.

Lower labour demand combined with travel restrictions has led to a decline in labour immigration during the pandemic. Labour immigration was very low in Q2, but increased somewhat in Q3. Labour immigration ahead is assumed to remain low through 2021, then pick up again, in line with Statistics Norway's projections. This will have a dampening effect on labour force growth over the coming year.

With rising activity in the Norwegian economy through 2021, demand for labour is expected to pick up and the number of job seekers to increase. Employment, however, is projected to increase more than the labour force so that unemployment declines to somewhat below 3% at end-2021. A more gradual decrease is expected thereafter, and at the end of the projection period, unemployment is still likely to be somewhat higher than before the pandemic. Employment is projected to reach its pre-pandemic level in mid-2022. The projection for unemployment in the near term has been revised up owing to higher infection rates and containment measures. The projection for employment in the near term has also been revised up, but this reflects better-than-expected developments in Q3. Further out in the projection period, the projections for the unemployment level are little changed from September.

The pandemic and the sharp downturn could have some prolonged effects on the labour market. Long-term unemployment, ie workers who have been unemployed for more than six months, has recently increased markedly to a record-high level (Chart 3.10). Some of the increase reflects employees who have been furloughed for more than half a year, but ordinary unemployed persons account for most of the increase. The figures also show that long-term unemployment has increased most among the young. Long-term unemployment can in itself reduce the likelihood of returning to work because of a lack of motivation to seek work, erosion of skills or because long-term unemployment can be a negative factor in employers' assessments of job seekers. Many long-term unemployed will also have to adapt to new jobs, and experience shows that this can take time and be difficult for workers with low qualifications.[4] The fact that the level of unemployment is still high and that many have become long-term unemployed supports the Bank's assessment that the pandemic will have some long-term negative consequences for labour market participation.

Chart 3.10 Marked rise in long-term unemployment
Share of labour force. Percent



Sources: Norwegian Labour and Welfare Administration (NAV) and Norges Bank.

4 See also the Special Feature "Long-term consequences for employment?" in *Monetary Policy Report* 2/20.

Prospects for less spare capacity in the economy

The sharp downturn has led to considerable slack in the Norwegian economy. Even though capacity utilisation increased between Q2 and Q3, it is still very low in our assessment. With weak activity growth towards the end of 2020 and the start of 2021, capacity utilisation is expected to level off before picking up markedly from 2021 Q2. The projections for capacity utilisation in the near term have been revised down from the September *Report*.

With solid growth in the mainland economy in 2021, there are prospects that capacity utilisation will increase rapidly and approach a more normal level earlier than projected in September (Chart E). The assumption that a vaccine will be widely available in 2021 is key to such developments.

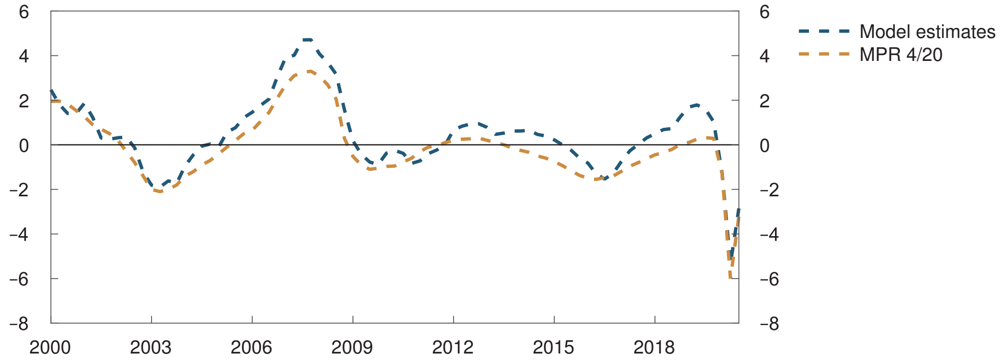
It is particularly challenging to project capacity utilisation in the prevailing economic situation. Norge Bank's estimate of capacity utilisation is based on a broad range of indicators, but the pandemic has likely changed the relationship between a number of these variables.

During previous economic downturns, many have completely exited the labour force; some become students, others are migrant workers that leave the country. As a result, the increase in unemployment has often been small compared with the impact on output, employment and capacity utilisation. The current downturn is unique because it has resulted in an unusually sharp rise in the number of furloughed employees. Many likely expect to be able to return to their jobs once economic activity picks up. They may therefore not be as active in seeking work as other unemployed and thus cannot be regarded as an available resource to the same extent as other unemployed. Based on historical patterns, high registered unemployment may therefore indicate too low a level of capacity utilisation.

The assessment of capacity utilisation by the contacts in Norges Bank's Regional Network is generally a good indicator of capacity utilisation in the economy. The results of the December survey suggest that capacity utilisation fell slightly between Q3 and Q4. However, there is considerable uncertainty regarding how accurately the data now reflect the level of capacity utilisation. The data capture the share of enterprises experiencing capacity constraints, but not how much or how little spare capacity enterprises have.

Chart 3.11 Considerable slack

Output gap. Percent



Source: Norges Bank

OUTPUT GAP

The output gap, also referred to as capacity utilisation, captures resource utilisation in the economy. The output gap is defined as the difference between actual output (GDP) and potential output. Potential output is the highest possible level of output that is consistent with stable price and wage inflation. Over time, potential output growth is determined by trend employment growth and productivity.

The output gap is a key monetary policy variable. In interest rate setting, weight is given to smoothing fluctuations in output and employment. To achieve this, the aim is to keep the output gap close to zero. This is referred to as normal capacity utilisation.

If we attempt to keep output and employment above that level, wage and price inflation could become too high. The output gap is therefore also an important indicator of future inflation and is related to Norges Bank's objective of low and stable inflation.

Potential output and the output gap cannot be observed and must be estimated. Norges Bank's current output gap estimates are the result of an overall assessment of a number of indicators and models. In this assessment, particular weight is given to labour market developments.

The interpretation of the data on capacity utilisation among Regional Network enterprises is therefore more uncertain when some sectors experience very large falls in output.

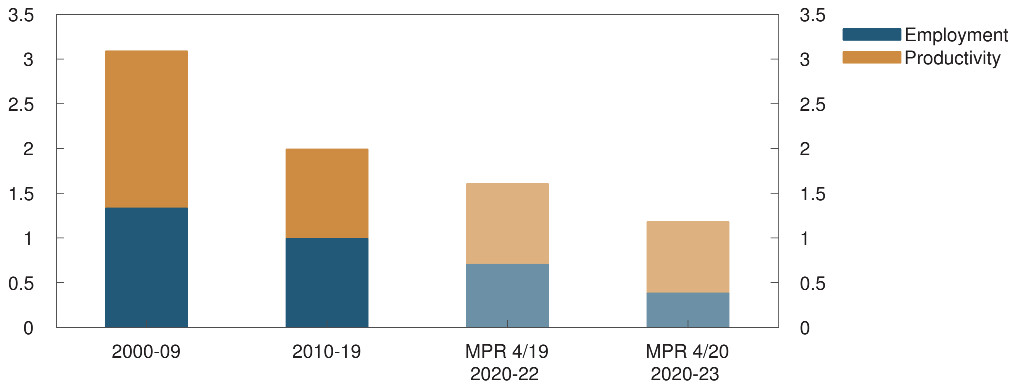
A model estimation that takes into account developments in several key variables indicates that there is a high degree of slack in the economy, but that capacity utilisation rose between Q2 and Q3 (Chart 3.11). The estimates from this model estimation are particularly useful in the Bank's assessment of current developments in capacity utilisation.[5]

The estimated level of capacity utilisation in this *Report* is primarily based on the considerable labour market slack indicated by high unemployment and low employment. The assessment is also based on the lower rate of potential output growth as a result of the Covid-19 pandemic and the sharp downturn (Chart 3.12). Compared with the pre-pandemic period, the projections for potential employment have been revised down. Persistently high unemployment is assumed to lead to an increase in exits from the labour market. Combined with prospects for lower labour immigration, this suggests lower potential employment ahead.

Potential mainland growth is projected to average 1.2% between 2020 and 2023. The projection is about the same as in September. The average for the years ahead is affected by the projection for potential growth in 2020, which is low because of closures due to the pandemic. Towards the end of the projection period, annual potential growth is assumed to be around 1.4%, reflecting projected productivity growth of around ¾% and

5 Owing to the pandemic, potential output in the models has also been revised down retrospectively. This has not been taken into account in the Bank's assessments and is why the models estimate a somewhat wider output gap than our estimate prior to the Covid-19 outbreak.

Chart 3.12 Lower growth in potential output
Estimated average annual potential growth decomposed into employment and productivity. Percent



Source: Norges Bank

employment growth of ½%. Potential growth towards the end of the projection period is thereby close to the Bank's pre-pandemic projections.

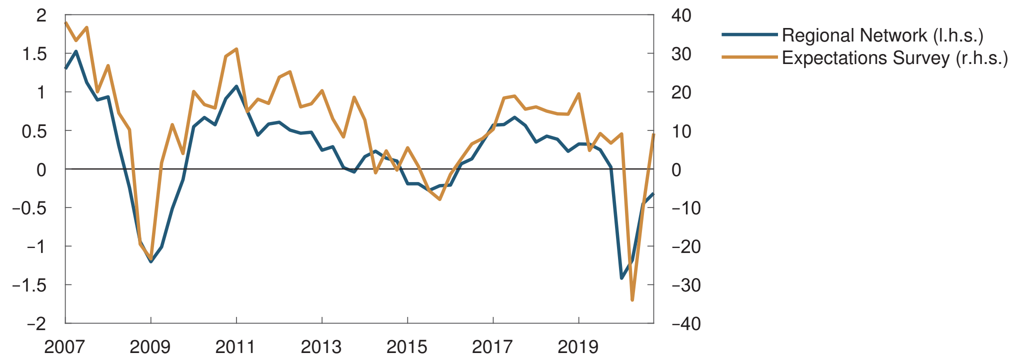
3.2 Costs and prices

Low wage growth

The Covid-19 pandemic has resulted in a marked decline in business sector profitability (Chart 3.13). Together with a sharp rise in unemployment, this will contribute to a substantial decline in wage growth in 2020. On the basis of negotiations with manufacturing sector trade unions, the wage norm for manufacturing as a whole was estimated at 1.7%. Other wage settlements appear to be in line with this norm.

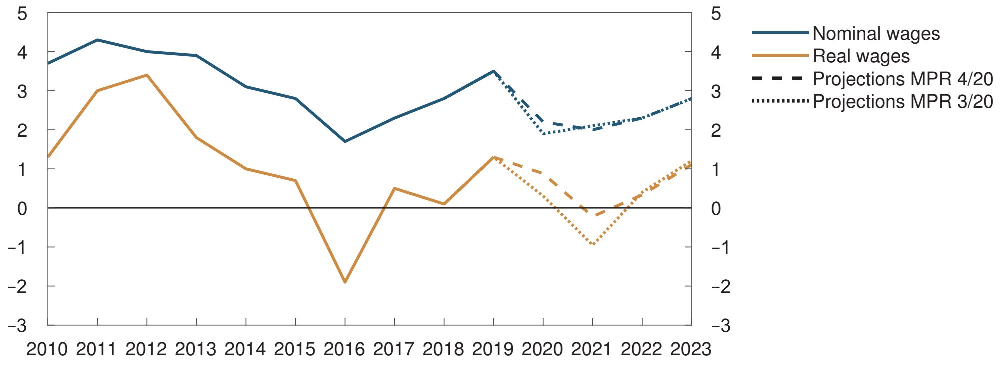
In 2020, substantial changes in employment composition will affect overall wage growth. Since the Covid-19 pandemic broke out in March, there has been a sharp fall in employment in low-wage occupations. This will result in an increase in the average wage level, even in a situation where the wages for each person employed remained unchanged. These compositional effects are captured in various ways by different wage measures, with the result that current indicators have provided a mixed picture of wage develop-

Chart 3.13 Weaker business sector profitability
Businesses' assessment of operating margin. Norges Bank's Expectations Survey and Regional Network



Sources: Epinion, Opinion, Ipsos and Norges Bank

Chart 3.14 Low wage growth ahead
Wages. Annual growth. Percent



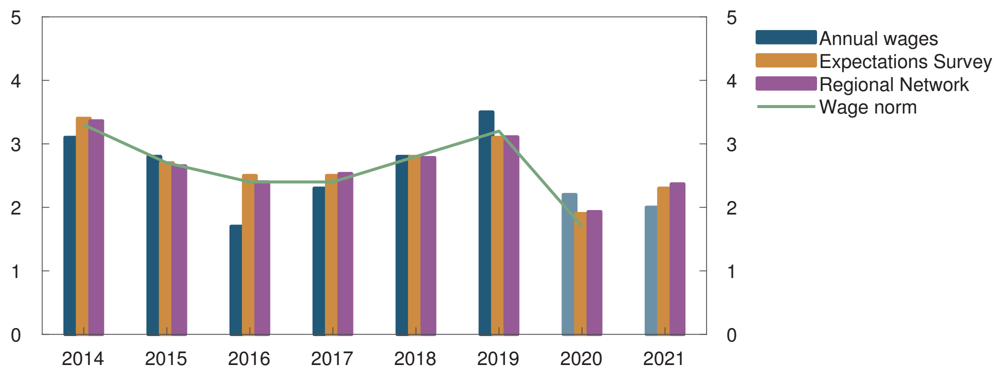
Sources: Statistics Norway and Norges Bank

ments through the year. It is assumed that owing to such effects, wage growth, as measured in the national accounts, will be somewhat higher than the wage norm. The wage growth projection of 2.2% in 2020 is higher than in the September *Report* (Chart 3.14). The compositional effects on annual wage growth appear to be somewhat more pronounced than previously assumed.

In the years ahead, wage growth is expected to pick up gradually as economic activity rises and unemployment falls. Continued spare capacity, low profitability and low productivity growth dampen the rise, so that wage growth remains relatively low throughout the projection period. In 2021, many workers in low-wage occupations are expected to return to work, which will lead to a partial reversal of the compositional effects from 2020. Annual wage growth may thus fall slightly between 2020 and 2021.

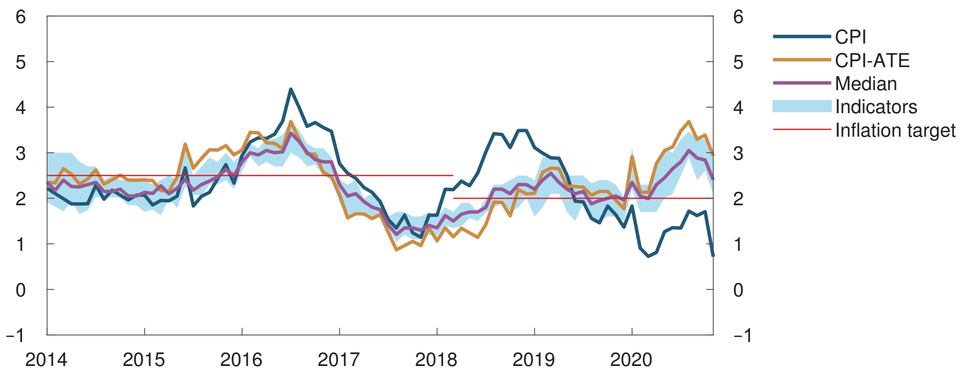
Both Norges Bank's Expectations Survey and Regional Network contacts indicate lower wage growth in 2020 and higher wage growth in 2021 than projected in this *Report* (Chart 3.15). We assume that wage expectations capture only to a limited degree that the compositional effects pull up annual wage growth in 2020 and down in 2021.

Chart 3.15 Expectations of slightly higher wage growth in 2021
Annual wage growth and wage expectations. Percent



Sources: Epinion, Opinion, Ipsos, Statistics Norway and Norges Bank

Chart 3.16 Inflation has moderated
CPI and indicators of underlying inflation. Twelve-month change. Percent



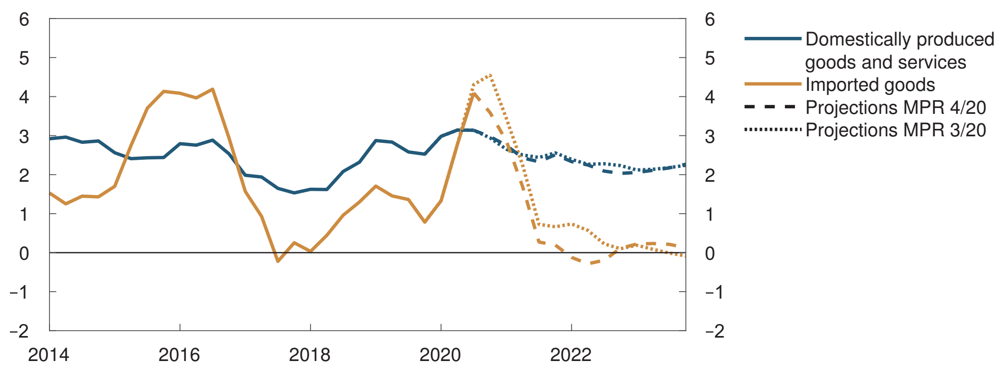
Sources: Statistics Norway and Norges Bank

Prospects for lower underlying inflation

Underlying inflation, measured as the 12-month rise in consumer prices adjusted for tax changes and excluding energy products (CPI-ATE), has moved up since March 2020 and was above 3% for six months. In recent months, underlying inflation has moderated. CPI-ATE inflation fell from 3.7% at its highest in August to 2.9% in November and has been a little lower than projected in the *September* Report. The 12-month rise in the consumer price index (CPI) was 0.7% in November, also lower than expected. The average 12-month rise in other indicators of underlying inflation fell from 2.9% in October to 2.5% in November (Chart 3.16).[6]

Imported goods inflation rose markedly in spring and summer owing to the sharp krone depreciation earlier in 2020 (Chart 3.17). Since the September *Report*, imported inflation has fallen as the effects of the krone depreciation have faded. The decline in imported inflation has occurred a little faster than envisaged in the September *Report*. Overall, imported inflation since spring has moved in line with that implied by its historical relationship with the krone exchange rate.

Chart 3.17 Continued high imported inflation
Domestically produced goods and services and imported goods in the CPI-ATE. Four-quarter change. Percent



Sources: Statistics Norway and Norges Bank

6 See Husabø, E. (2017) "Indicators of underlying inflation in Norway". *Staff Memo* 13/2017, Norges Bank, for a more detailed review of various indicators.

The rise in prices for domestically produced goods and services has remained close to 3% since September, in line with the projections in the September *Report*. Normally, the marked fall in capacity utilisation in the Norwegian economy would be expected to dampen domestic inflation, which, however, has remained stable throughout 2020. The special conditions associated with the pandemic are probably helping to sustain the rise in prices, such as the higher costs faced by some industries related to containment measures. Temporary reductions in indirect taxes may also have pulled up tax-adjusted inflation (see box on page 38).

CPI-ATE inflation is expected to edge down through 2021 as the effects of the krone depreciation on imported inflation fade further. Low wage growth and continued high spare capacity in the Norwegian economy are also expected to push down inflation ahead. Price increases in some sectors to cover costs associated with containment measures will likely help underpin inflation also in 2021. CPI-ATE inflation is projected to fall fairly rapidly in 2021. Owing in part to prospects for a stronger krone, the projections for CPI-ATE inflation are somewhat lower in the coming years than in the September *Report*. In 2023, inflation is projected to pick up a little faster than projected in September, and 12-month CPI-ATE inflation at the end of the projection period is just above 1.5%.

The projections for CPI inflation have been revised down considerably in 2021 compared with the September *Report*. Low energy prices have had a dampening effect on CPI inflation over the past year. At the time of the September *Report*, futures prices indicated that energy prices would rise markedly in the coming year. Since September, futures prices have fallen and now indicate that energy prices will remain low longer and rise less in 2021, which will weigh on CPI inflation in the same period. Lower indirect taxes on sugar, alcohol and other items will also pull down CPI inflation in 2021.

Low CPI inflation in 2020 will result in close to 1% growth in real wages, even though nominal wage growth will be relatively low. In 2021, the wage growth and CPI projections imply a slight decline in real wages, but less than in the September *Report*. This reflects prospects for lower energy prices. In 2023, real wage growth is projected to pick up substantially.

Greater difference in inflation expectations

Since the Covid-19 outbreak the difference in inflation expectations has increased, both in Norway and in other countries (see Special Feature on page 18).[7] In Norges Bank's Expectations Survey for 2020 Q2, both the share expecting higher inflation and the share expecting lower inflation increased, and the difference was wider than normal. The difference between the estimates at the one-to-two-year horizon was particularly wide. Wider differences among respondents may likely reflect greater uncertainty about economic developments, in addition to pandemic-related inflationary pressures in both directions driven by different forces. The difference in inflation expectations has diminished through autumn.

In the longer term, inflation expectations are little changed and lie close to the 2% target.

7 See Erlandsen. S and I. Nielsen Friis (2020) "Er inflasjonsforventningene upåvirket av koronapandemien?" [Are inflation expectations unaffected by the Covid-19 pandemic?] Blog post published on the Bankplassen blog, 30 June 2020 (Norwegian only).

MEASURING PRICES DURING THE COVID-19 PANDEMIC

Through the pandemic, the rise in prices for services that have been virtually unavailable owing to containment measures has been estimated. In November, just under 3% of the basis for weighting the consumer price index (CPI) was extrapolated, based on either seasonal variations or the total CPI.

As an economic support measure, the low rate of value-added tax (VAT) on goods and services was reduced from 12% to 6% in the period between 1 April 2020 and 1 July 2021. This applies to passenger transport and accommodation, and admission to cinemas, sports events, amusements parks and adventure centres. The VAT reduction has likely affected measured inflation. If businesses reduce their retail prices less than implied by the reduction in the VAT rate in isolation, the tax-adjusted price level will rise, all else equal. Only measured prices, not extrapolated prices, have been adjusted for taxes by Statistics Norway. In line with the resumption of measuring rather than estimating prices, the effect of the VAT reduction may have pulled up inflation measured by the consumer price index adjusted for tax changes and excluding energy prices (CPI-ATE).

HISTORIC LEVEL OF HOUSEHOLD SAVING

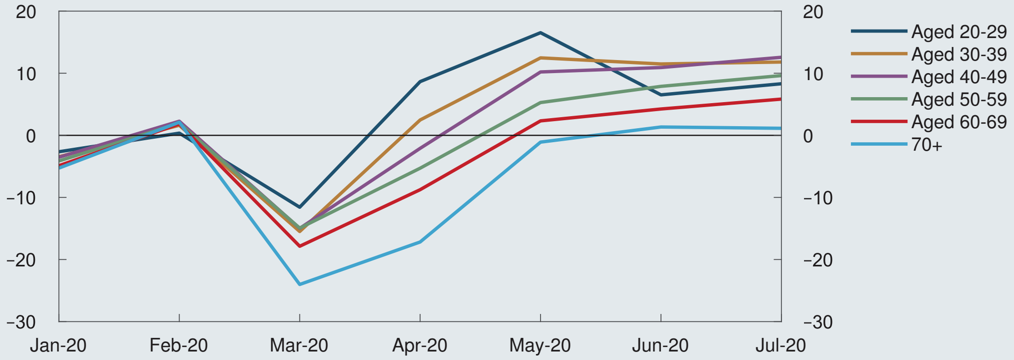
The Covid-19 pandemic has led many households to reduce private consumption. At the same time, lower interest expenses and various support schemes have dampened the fall in household incomes. About two-thirds of these savings are financial savings, a large share of which are bank deposits. Household bank deposits were close to 10% higher in 2020 Q3 compared with the same period in 2019.

The decline in the economy during the pandemic can largely be attributed to reduced consumption. Developments in household consumption ahead will therefore be a crucial factor in the economic recovery. There is, however, considerable uncertainty about household behaviour ahead, related to both how the pandemic evolves and how households will adjust to a given evolution of the pandemic.

In order to estimate the path of household consumption ahead, it is important to understand why the level of saving is so high. If many households have increased saving because of uncertainty about future income (precautionary saving), it may take time for saving to normalise. If, on the other hand, the high level of saving is primarily because some goods and services have been unavailable owing to containment measures (forced saving), it may be the case that households will spend some of their savings and that consumption will pick up more rapidly when the pandemic is over.

It is also relevant to know something about who is behind the substantial increase in saving. Data for card use in Norway indicate that the oldest age groups have reduced consumption most. The difference across age groups is particularly large for goods purchases, where the younger age groups shifted consumption to goods purchases much more quickly (Chart 3.A). Even though services purchases have been cut markedly in all age groups since the Covid-19 outbreak, the older age groups have also made the largest cuts here.

Chart 3.A Younger age groups quickly shifted to goods purchases
Value of card transactions for goods purchases, except for groceries, in 2020 relative to 2019. Growth-adjusted. Percent

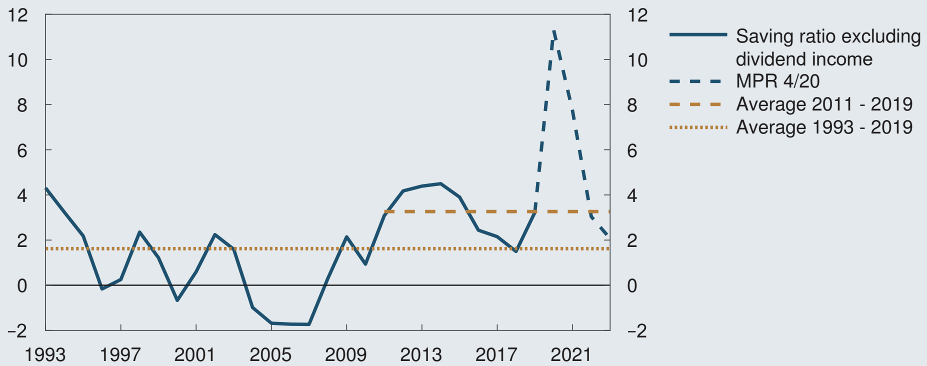


Sources: DnB and Norges Bank

Card transaction data have been used to estimate how much each age group has saved.[1] Our findings show that the over-60s account for about a third of the increase in saving in the first half of 2020, even though they only account for about a fifth of consumption in normal years. The elderly have thereby saved relatively more than the young, even though they probably face less income uncertainty. This may indicate that the fear of infection has motivated the increase in saving.[2] Since services purchases have fallen most, containment measures play an important role. This is in line with our empirical models of household saving that include indicators of income uncertainty, which can only explain about 10% of the increase in saving during the Covid-19 pandemic. Calculations by the European Central Bank for the five largest euro area countries also indicate that only 10% of the increase in saving can be attributed to precautionary saving.[3] This suggests that the saving ratio may fall relatively quickly once the pandemic is under control.

It is important to know which age groups are behind the substantial increase in saving when estimating how much of their savings households will spend on private consumption ahead. The sharp rise in financial saving owing to households' inability to consume as usual has no parallels in recent history. A study of Norwegian data exploring how households respond to lottery winnings can, however, provide useful insight. The study finds that the elderly save more of their winnings than the young.[4] This is consistent with the historically higher saving ratio among the elderly compared with the young. If

Chart 3.B Lower expected saving ratio in 2022 and 2023
Percent



Sources: Statistics Norway and Norges Bank

1 Savings are calculated as the difference between actual card use in the first half of 2020 and card use in the same period in 2019 adjusted for an age-specific growth rate. The growth rate is calculated based on 12-month growth in January and February 2020. Owing to inadequate data on disposable income by age, developments in disposable income are assumed to have been equally distributed across age groups.
2 Card use in Portugal also indicates that the older age groups have saved most during the pandemic (see Eichenbaum, M.S., M. Godinho de Matos, F. Lima, S. Rebelo and M. Trabandt (2020) "How do people respond to small probability events with large, negative consequences?". NBER working paper, series 27988.
3 See Dossche, M. and S. Zlatanos (2020) "COVID-19 and the increase in household savings: precautionary or forced". ECB *Economic Bulletin*, Issue 6/2020.
4 See Fagereng, A., M. Holm, and G. Natvik (2019) "MPC Heterogeneity and Household Balance Sheets". CESifo Working Paper Series No. 7134.

we base our estimate on the results of the lottery study and take account of the distribution of saving by age, we find that households will spend about a third of their savings on private consumption in the initial post-pandemic years. This will in isolation boost consumption by about 2% in the years ahead.

According to our saving and consumption estimates, households will spend some of their savings approximately in line with the lottery study findings, reflecting the likelihood that much of the increase in saving can be attributed to fear of infection and the containment measures, but also reduced interest rate expenses. The saving ratio is therefore expected to fall markedly in 2022 and 2023 when the pandemic is under control (Chart 3.B) and to be somewhat below the level we regard as normal at the end of the projection period. Structural conditions such as demographic changes, in the form of an ageing population, and regulatory changes, such as the pension system reform in 2011, have likely raised the normal level of the household saving ratio. The normal level of the saving ratio is therefore assumed to be around the average for the period between 2011 and 2019.

4 Monetary policy analysis

The policy rate was kept unchanged at 0% at the monetary policy meeting on 16 December, and the forecast indicates that the policy rate will remain at the current level for some time ahead. The monetary policy stance is very expansionary and supports further growth in output and employment.

The forecast implies a rate at today's level for over a year ahead. From the first half of 2022, the rate rises gradually as activity approaches a more normal level. The policy rate forecast has been revised up somewhat since the September 2020 *Monetary Policy Report*.

4.1 Objectives and recent developments

Low and stable inflation

The primary objective of monetary policy is low and stable inflation. When the inflation target was introduced in 2001, the operational target of monetary policy was annual consumer price inflation of 2.5%. In March 2018, the target was changed to 2%. Average annual consumer price inflation has been around 2% since 2001 (Chart 4.1). According to Norges Bank's Expectations Survey, long-term inflation expectations are well-anchored close to the target.

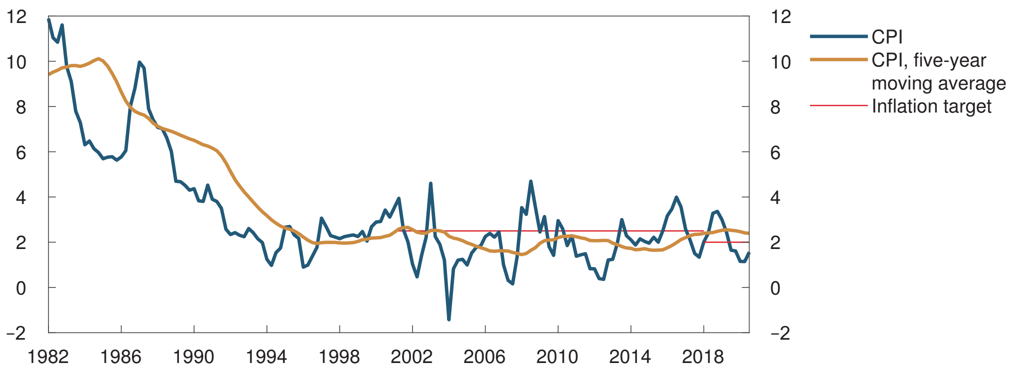
Inflation targeting shall be forward-looking and flexible so that it can contribute to high and stable output and employment and to countering the build-up of financial imbalances. Monetary policy objectives and trade-offs are described further in a box on page 50.

An expansionary monetary policy

To help dampen the economic downturn caused by the Covid-19 pandemic, the policy rate was reduced from 1.5% to 0% in spring. The monetary policy stance is expansionary as long as the policy rate over time is below its neutral level. The neutral three-month

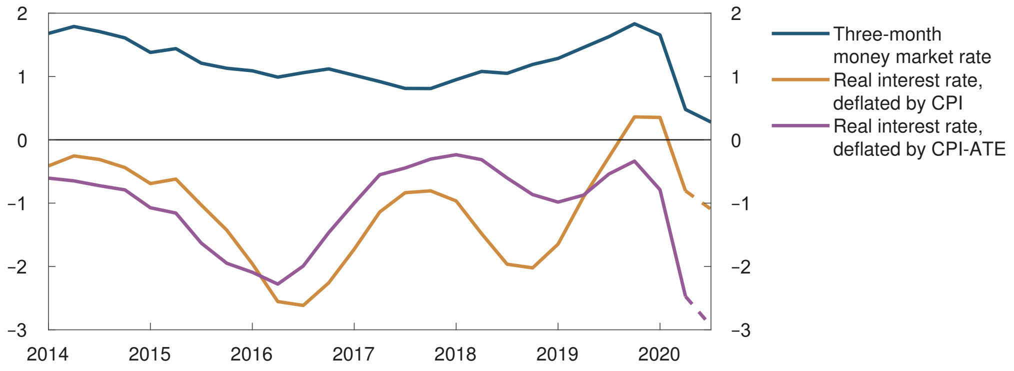
Chart 4.1 Average inflation close to target

Consumer price index (CPI). Four-quarter change. Percent



Sources: Statistics Norway and Norges Bank

Chart 4.2 The real interest rate has fallen
Three-month money market rate and real interest rates. Percent



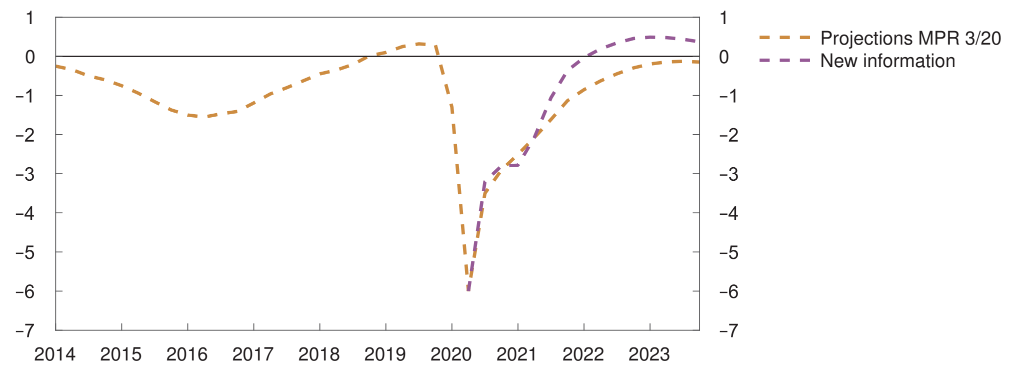
Sources: Statistics Norway and Norges Bank

money market rate in Norway is estimated to be close to 2%, but the estimate is highly uncertain (see *Monetary Policy Report* 3/20). The neutral level of the real interest rate, which is the nominal rate less expected inflation, is estimated at close to zero. This implies that the real interest rate was close to a neutral level prior to the pandemic, but the rate cuts since then have brought the real interest rate to well under its neutral level (Chart 4.2).

4.2 Model-based interpretation of new information

To shed light on how new information and new assessments in isolation influence the economic outlook, a model-based exercise is performed, where new information and assessments are incorporated, but the policy rate path from the September *Report* is held constant.[1] The policy rate path from September indicated that the policy rate would remain at 0% until the second half of 2022, followed by a gentle rise.

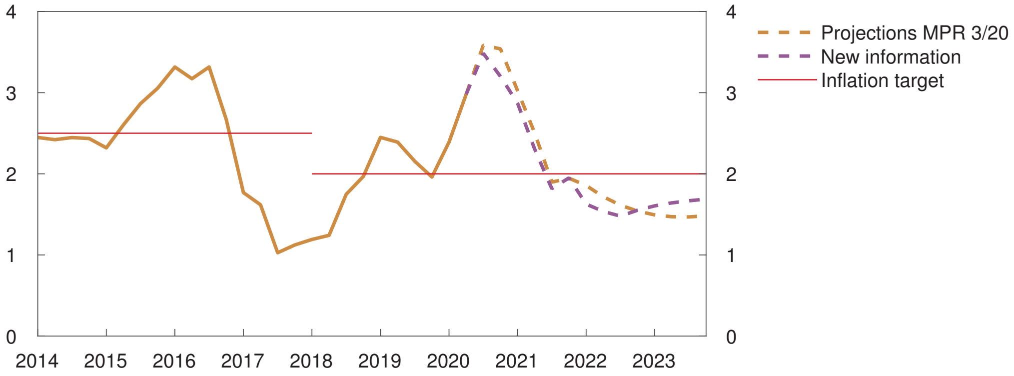
Chart 4.3 New information implies higher capacity utilisation
Estimated output gap. Conditional on new information concerning economic developments and the policy rate forecast in MPR 3/20. Percent



Source: Norges Bank

1 Normally, the projections are based on short-term forecasts for the current and subsequent quarter, while the Bank's macroeconomic model NEMO is used to project the remainder of the forecast path. Given that the projections build on concrete assumptions linked to non-modelled factors such as infection rates, containment measures and vaccine availability, the period for short-term forecasts in this *Report* has been extended by two additional quarters.

Chart 4.4 New information implies slightly lower inflation in the coming period
CPI-ATE. Projections conditional on new information concerning economic developments and the policy rate forecast in MPR 3/20. Four-quarter change. Percent



Sources: Statistics Norway and Norges Bank

Higher infection rates and stricter containment measures in the latter half of 2020 are expected to dampen economic growth in the current quarter and a little into 2021. At the beginning of 2021, the transmission of Covid-19 is expected to slow enough for containment measures to be relaxed again. At the same time, the likelihood of wide vaccine availability in 2021 has increased considerably since the September *Report*. This suggests higher growth further out. Overall, a delayed, but somewhat stronger recovery is assumed. In the analysis with the unchanged policy rate path, this implies slightly lower capacity utilisation in the near term than in the September *Report*, while it will be higher thereafter (Chart 4.3).

Underlying inflation has been lower than projected in the September *Report*, but is still above the 2% inflation target. The temporary rise in inflation primarily reflects the krone depreciation through winter and spring, which has resulted in higher imported goods inflation. In the model-based analysis with an unchanged policy rate path, inflation edges down towards 1.5% during 2022 (Chart 4.4). Inflation recedes somewhat faster than in the September *Report* owing to prospects for a somewhat stronger krone ahead. Further out, inflation in the exercise with an unchanged policy rate path is slightly higher than projected in September, as capacity utilisation in this exercise remains at a higher level further out than previously assumed.

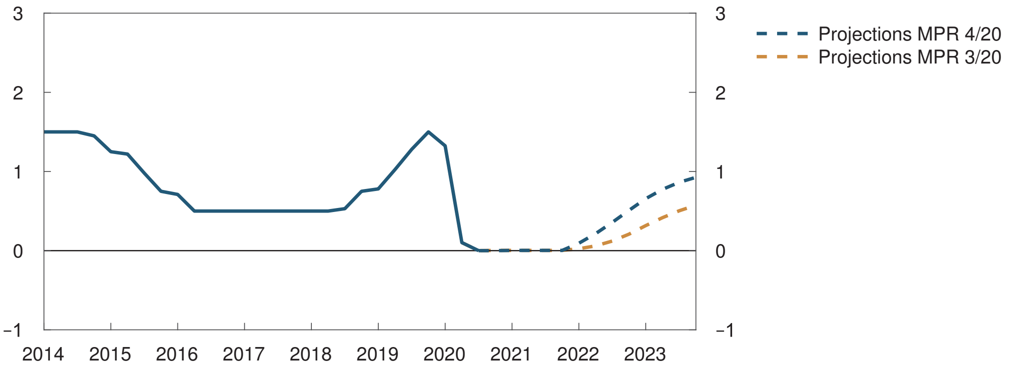
The model-based exercise with an unchanged policy rate path suggests a somewhat higher rate path, owing to prospects for slightly higher inflation and especially higher capacity utilisation than in the September *Report*. Slightly weaker developments in the near term, primarily reflecting higher infection rates and stricter containment measures, suggest in isolation a somewhat lower rate at the beginning of the projection period.

4.3 Policy rate path and decomposition of changes in the rate path

Somewhat faster policy rate rise

The Monetary Policy and Financial Stability Committee decided to keep the policy rate at 0% at the monetary policy meeting on 16 December and expects that the rate will remain at the current level for some time ahead. New information and assessments imply that the rate will remain at 0% for over a year ahead. From the first half of 2022, the rate is expected to rise gradually (Chart 4.5). As a slightly faster recovery is expected, the forecast also implies a faster rate rise than projected in the September *Report*. The

Chart 4.5 Somewhat faster policy rate increase
Policy rate. Percent



Source: Norges Bank

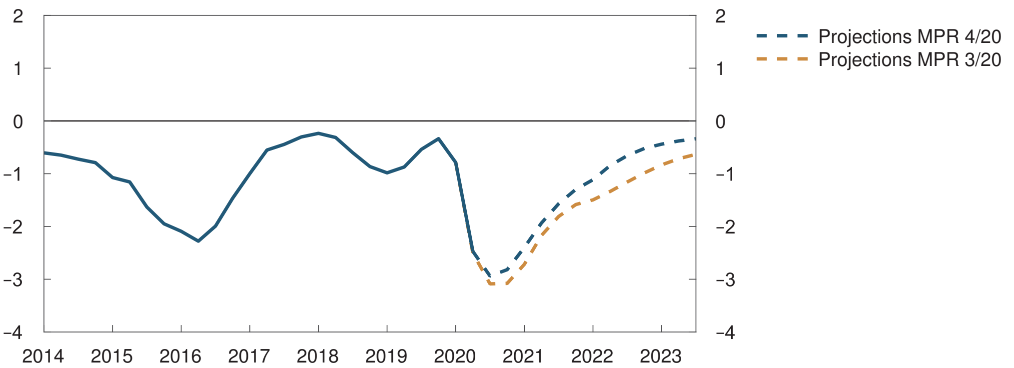
projections imply an increase in the real interest rate through the projection period, first owing to lower inflation and then owing to a higher policy rate (Chart 4.6). The monetary policy stance will then be less expansionary, but the real interest rate is expected to be well under a neutral level in the coming years. With prospects for lower inflation in the near term and higher policy rate path further out, the real interest rate will be higher than in the September *Report*.

Domestic demand pulls up the policy rate path

The main factors behind the changes in the policy rate forecast are illustrated in Chart 4.7. The bars show the various factors' contributions. The black line shows the overall change in the policy rate path.

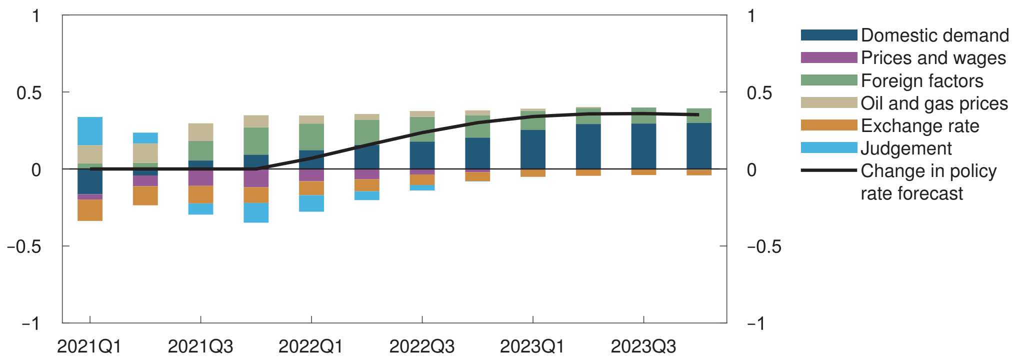
The decomposition of the factors behind the changes in the forecast is based on model output, but there is no mechanical relationship between news that deviates from the forecasts in the September *Report* and the effect on the new rate path. The bars for the various economic factors are based on what has been the historical reaction to news and do not take into account that news can affect interest rate setting differently when the policy rate is already at a very low level. The bars for judgement-based assessments in the decomposition chart are a result of the Committee's overall assessment of the

Chart 4.6 Continued expansionary monetary policy stance
Real interest rate. Percent



Sources: Statistics Norway and Norges Bank

Chart 4.7 Domestic demand pulls up the policy rate path
Cumulative contribution. Percentage points



Source: Norges Bank

monetary policy stance. The Special Feature on page 48 provides a further account of how news affects the policy rate path when the policy rate is close to zero.

Oil spot prices and European gas prices have risen since the September *Report*. Futures prices are little changed and indicate prices close to today's level in the coming years. Higher *oil and gas prices* push up activity in petroleum-related industries and pull in the direction of a slightly higher rate path (beige bars).

New information on *domestic demand* pulls down the rate path in the first quarters, but pulls it up further out (dark blue bars). The path is affected by assumptions concerning containment measures. Higher infection rates and stricter containment measures in the latter half of 2020 are expected to result in a slower recovery in consumption than envisaged in September. This pulls down the rate path. At the same time, the transmission of Covid-19 is expected to slow enough at the beginning of 2021 for containment measures to be relaxed again. In addition, the likelihood of wide vaccine availability in 2021 has increased considerably since the September *Report*. This contributes to higher consumption growth further out than previously projected and pulls up the rate path. Domestic demand is also lifted by house prices, which have risen more than expected through autumn. Higher house prices have a stimulatory effect on housing investment. Moreover, the contribution from domestic demand increases because petroleum investment will be slightly higher from 2021 than implied by the change in oil prices and higher than expected earlier. The contribution from domestic demand is pulled down by somewhat lower growth in public demand in 2022 and 2023 than projected in the September *Report*.

The growth estimate for *Norway's trading partners* have been revised up. At the beginning of the projection period, this has a neutral effect on the rate path. Capacity utilisation rises sharply during 2021, and is higher than assumed in the September *Report*. This implies higher growth in imports from Norway's trading partners and pulls up the rate path (green bars).

Since the September *Report*, the *krone exchange rate* has appreciated a little more than implied by developments in the interest rate differential and oil prices. This contributes to lower imported inflation and pulls down the rate path slightly (orange bars).

The rate path is pulled down somewhat in the near term by new information on *prices and wages* (purple bars). Imported inflation has fallen, since the effect of the krone depreciation earlier in 2020 has faded. However, the decline in imported inflation has occurred faster than envisaged in the September *Report* and faster than developments in the krone exchange rate would normally suggest. This will keep imported inflation slightly lower also in the coming period.

Overall, the factors above suggest a lower rate path than in the September *Report* in the first quarters, but a somewhat higher rate path thereafter.

The policy rate forecast is kept unchanged at 0% for over a year ahead. The Committee's overall *judgement-based assessments* are expressed by the light blue bars. In the current situation, it is the Committee's assessment that the costs associated with reducing the policy rate below zero outweigh the benefits. In that case, owing to news of weaker economic prospects, the policy rate will instead remain at the current level somewhat longer. It is also the Committee's assessment that the sharp economic downturn and considerable uncertainty surrounding the outlook suggest keeping the policy rate on hold until there are clear signs that economic conditions are normalising. This pulls up the rate path somewhat less in the coming years than news alone would imply. Both these factors are reflected in the judgement bars, which keep the rate path at 0% through 2021 and pull down the rate path slightly through 2022.

NEWS AND CHANGES IN THE POLICY RATE FORECAST WHEN THE POLICY RATE IS CLOSE TO ZERO

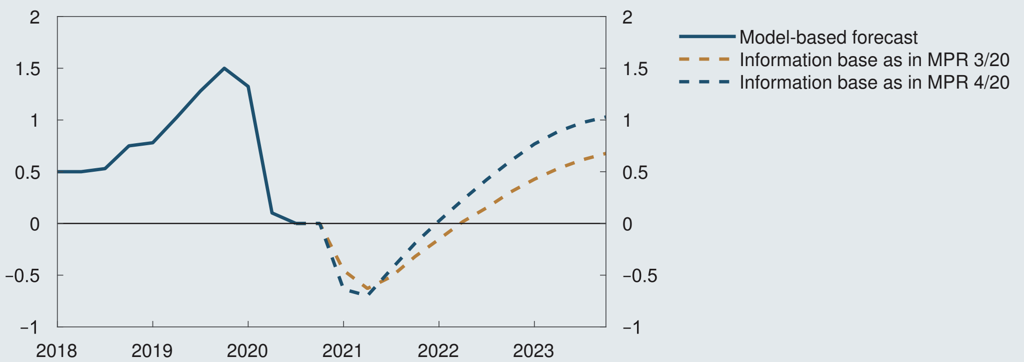
Norges Bank's policy rate forecast is based on the Committee's discussion of trade-offs and overall assessment of the economic outlook. The Bank's macroeconomic model NEMO is an important tool for generating the policy rate forecast. The model apparatus is used, among other things, to systematise and quantify the impact of new information and assessments on the policy rate forecast. To show the effect of news, Norges Bank publishes a decomposition chart of factors behind the changes in the forecast (Chart 4.7). There is no mechanical relationship between news and the effect on the forecast. The model represents a simplification of reality and is based on a number of assumptions. The forecast is subject to judgement-based adjustments to capture both factors outside the model and the Committee's discussion of trade-offs.

When the policy rate forecast is close to 0%, larger adjustments than usual may be needed. In NEMO, the policy rate has the same effect even at very low or negative levels. This is a simplification that is not realistic, for which there are good reasons to re-examine. For example, there is good reason to assume that the pass-through of the policy rate to interest rates faced by households and firms gradually diminishes as the rate is set very low. In addition, a very low interest rate level may have uncertain, in part undesired, effects on financial markets and lead to the build-up of financial imbalances. In the current situation, it is the Committee's assessment that the costs associated with reducing the policy rate further outweigh the benefits. Therefore, the policy rate path in this *Report* does not fall below 0%.

In the decomposition chart, the assessments associated with not setting the policy rate below zero are illustrated by the bars reflecting the overall exercise of judgement. This means that the bars for the other factors should be interpreted as the effect of news in line with the Bank's historical response pattern, without being adjusted to take into account that these relationships can change when the policy rate is already very low.

When the policy rate is zero for a longer period, it may difficult to read a monetary policy response pattern into the way in which the policy rate path is affected by new information and assessments. A model-based path for the policy rate path, which is the policy rate forecast from NEMO absent any adjustments for special conditions associated with

Chart 4.A News first pulls the policy rate path down, then up



Source: Norges Bank

a policy rate close to zero, can make this simpler. Such a model-based path provides information on how the model interprets the effect of news on the policy rate and how low a rate the economic outlook might imply if the policy rate had a normal effect below zero.

Chart 4.A shows the model-based policy rate path based on the information underlying the current and previous reports. The change in the model-based rate path shows how the model interprets the effect of new information on policy rate setting. With new information, the model-based policy rate path is somewhat lower in the near term. This reflects the temporary economic weakness due to the rise in infection rates and stricter containment measures. Further out, the model-based rate path is higher, since containment measures are expected to be relaxed and a vaccine made widely available somewhat faster than previously assumed. The difference between the model-based rate paths in Chart 4.A corresponds to the sum of all the bars except for judgement in the decomposition chart (Chart 4.7).

The level of the model-based policy rate path provides an indication of the magnitude of judgement-based adjustments made to take into account NEMO's inability to provide an adequate description of the effect of a policy rate below zero. When the model-based path drops far below zero, these adjustments are substantial. In that case, the actual policy rate will not reflect changes in that model-based rate to any appreciable extent. Even if news should pull down the model-based rate path in the near term, the policy rate in the current situation will most probably remain at zero. In such cases, the decomposition chart will show positive judgement-based bars. Similarly, news that pulls up the model-based path in the near term will not necessarily result in a higher policy rate, in which case, the decomposition chart will show negative judgement-based bars.

MONETARY POLICY OBJECTIVES AND TRADE-OFFS

The operational target of monetary policy is annual consumer price inflation of close to 2% over time. Inflation targeting shall be forward-looking and flexible so that it can contribute to high and stable output and employment and to counteracting the build-up of financial imbalances. The various considerations are weighed against each other.

The policy rate is set with a view to stabilising inflation around the target in the medium term. The horizon will depend on the shocks to which the economy is exposed and the effects on the outlook for inflation and for output and employment.

Monetary policy can contribute to stabilising output and employment at around the highest possible level consistent with price stability over time. This level is determined by structural conditions such as the tax and social security system, the system of wage formation and the composition of the labour force.

When shocks occur, a short-term trade-off may arise between reaching the inflation target and supporting high and stable output and employment. Monetary policy should strike a reasonable balance between these considerations.

A flexible inflation-targeting regime where sufficient weight is given to the real economy can prevent downturns from becoming deep and protracted. This can reduce the risk of unemployment becoming entrenched at a high level following an economic downturn.

If there are signs that financial imbalances are building up, the consideration of high and stable output and employment may in some situations suggest keeping the policy rate somewhat higher than would otherwise be the case. To some extent, this can contribute to reducing the risk of sharp economic downturns further ahead. Nevertheless, the regulation and supervision of financial institutions are the primary means of addressing shocks to the financial system.

The conduct of monetary policy takes account of uncertainty regarding the functioning of the economy. Uncertainty surrounding the effects of monetary policy normally suggests a cautious approach to interest rate setting. This can reduce the risk that monetary policy will have unintended consequences. The policy rate will normally be changed gradually so that the effects of interest rate changes and other new information about economic developments can be assessed.

In situations where the risk of particularly adverse outcomes is pronounced, or if there is no longer confidence that inflation will remain low and stable, it may in some cases be appropriate to react more strongly in interest rate setting than normal.

5 Financial stability assessment
– decision basis for the countercyclical capital buffer

Norges Bank's Monetary Policy and Financial Stability Committee has advised the Ministry of Finance to keep the countercyclical capital buffer requirement unchanged at 1.0%.[1] On the basis of its current assessment of economic developments and prospects for bank losses and lending capacity, the Committee will advise increasing the buffer in the course of 2021. The Committee expects the buffer to return to 2.5% in the period ahead.

During the Covid-19 pandemic, house price inflation has risen markedly and household credit growth has edged up. Owing to persistently high house price inflation and higher credit growth, financial imbalances may build up further. Creditworthy businesses and households appear to have ample access to credit. Banks' credit losses declined in 2020 Q3, but losses ahead remain highly uncertain. Norwegian banks are well equipped to absorb higher losses while maintaining credit supply.

5.1 Access to credit

Creditworthy businesses and households appear to have ample access to credit. Banks have the capital and liquidity to maintain credit supply (see Section 5.3). In Norges Bank's lending survey, banks reported minor changes in credit standards in 2020 Q3. For Q4, banks expect a slight tightening of credit standards for households, primarily because the expanded flexibility quotas in the regulation on residential mortgage loans were not retained after Q3. This is reflected in the residential mortgage lending survey for 2020 conducted by Finanstilsynet (Financial Supervisory Authority of Norway), which shows that loans in breach of one or more of the requirements in the regulation accounted for 12% of total loan volume. This is within the expanded flexibility quotas, but beyond the ordinary quotas. The Ministry of Finance has recently decided that the residential mortgage regulation shall be retained without amendments for the next four years.

1 See letter from Norges Bank to the Ministry of Finance of 16 December 2020.

FRAMEWORK FOR ADVICE ON THE COUNTERCYCLICAL CAPITAL BUFFER

Advice on the level of the countercyclical capital buffer is based on an assessment of three main areas: (i) households' and business' access to credit, (ii) financial imbalances and (iii) the situation for banks. More about Norges Bank's framework can be found in *Norges Bank Papers* 4/2019: A framework for advice on the countercyclical capital buffer. Updated charts with all the indicators included in the framework can be found on Norges Bank's website.

For corporates, the banks in Norges Bank's lending survey reported unchanged credit standards for 2020 Q4. Issuance volumes in the corporate bond market have been at normal levels this autumn. Risk premiums have fallen somewhat since the September 2020 *Monetary Policy Report*, but remain slightly higher than levels observed before the turbulence intensified in March (see Section 2.1).

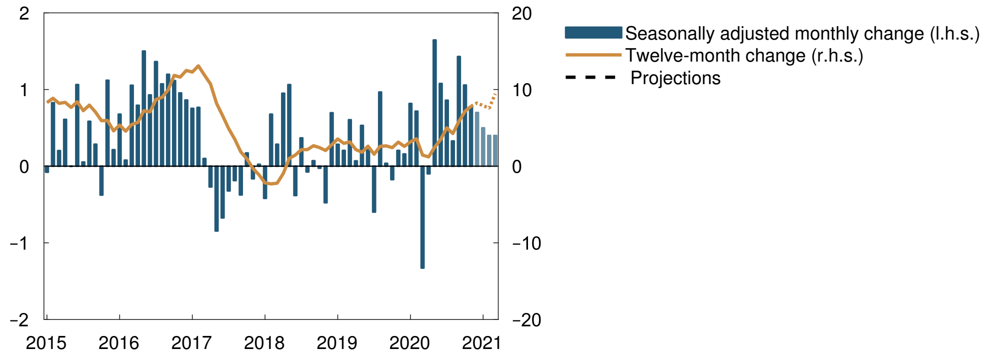
5.2 Financial imbalances

Prior to the reduction in March, the countercyclical capital buffer requirement was set at 2.5% against the background of a build-up of financial imbalances over a long period. Household debt ratios are high and have increased markedly over many years. After rising rapidly over a long period, property prices are at high levels. In recent years, debt growth has slowed and property price inflation has been moderate. During the Covid-19 pandemic, house price inflation has risen markedly and household credit growth has edged up. These developments should be viewed in the context of lower lending rates and the temporary relaxation of the residential mortgage regulation. Owing to persistently high house price inflation and increased credit growth, financial imbalances may build up further. Commercial property prices fell markedly in the first half of 2020 but rebounded in Q3.

Substantial pressures in the housing market

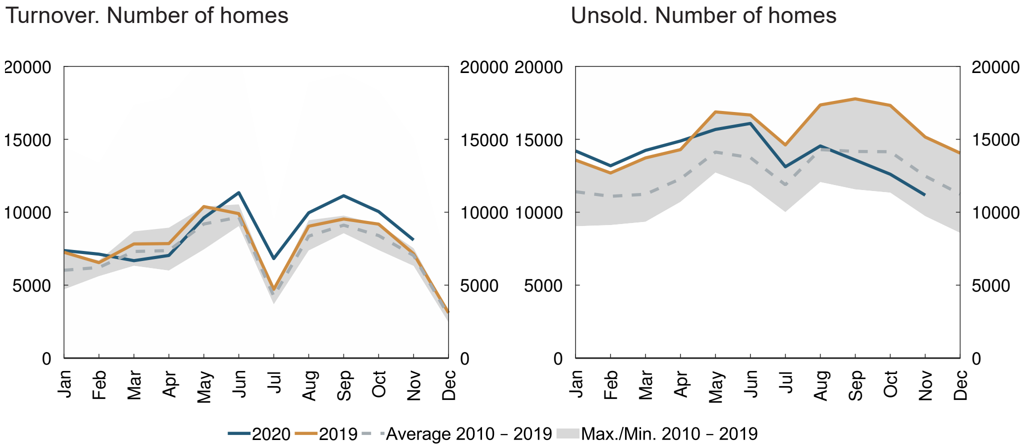
House prices have increased markedly since May (Chart 5.1). The 12-month rise in house prices was 7.8% in November, which is higher than projected in the September *Report*. House price inflation has risen in all parts of Norway, but is highest in Oslo. Sales of existing homes have been high compared with previous years (Chart 5.2), while the stock of existing homes for sale has not increased to the same extent. As a result, the stock of unsold existing homes has declined markedly (Chart 5.2). High activity and fewer available dwellings suggests substantial pressures in the housing market. New home sales have also picked up since March and have been somewhat higher this autumn than in previous years. At the same time, few housing construction projects have been listed for sale during the period. The number of unsold new homes has therefore declined, particularly those under construction. At the beginning of 2020, the number of unsold homes under construction was at a high level, which may partly explain why few new homes are listed for sale. The stock of new housing construction projects is expected to eventually rise again as homes under construction find buyers.

Chart 5.1 House price inflation has increased markedly
Percent



Sources: Eiendomsverdi, Finn.no, Real Estate Norway and Norges Bank

Chart 5.2 High activity in the market for existing homes



Sources: Eiendomsverdi, Finn.no and Real Estate Norway

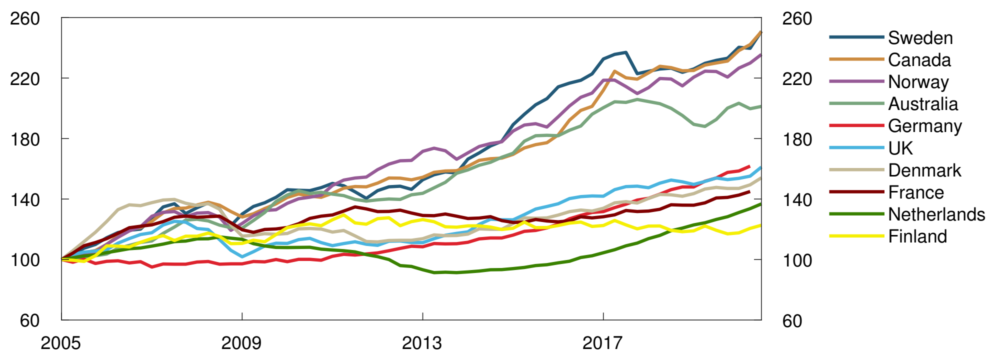
Very low residential mortgage rates and the temporary relaxation of the residential mortgage regulation may be driving the rapid rise in house prices. A greater willingness to pay for housing may also reflect increased remote working and somewhat limited consumption opportunities since the outbreak of the Covid-19. At the same time, higher unemployment may have dampened house price inflation to a lesser extent than expected. This is because unemployment has had a greater impact on low-income occupational groups, and the share of homeowners is substantially lower among low-income households than among high-income households.

House prices in many other countries have also risen during the pandemic (Chart 5.3), both in countries where house price inflation has been similar to Norway's over the past 15 years, such as Sweden and Canada, and in countries where house prices inflation during the same period has been lower, such as Denmark. The recent rise is likely driven by many of the same factors as in Norway. However, interest rates in many countries were also very low before the pandemic, but the economic downturn may have led homebuyers to expect that policy rates would remain low even longer.

Housing market pressures are expected to ease somewhat ahead, in part due to waning effects of lower interest rates and the recent reversal of the temporary relaxation of the

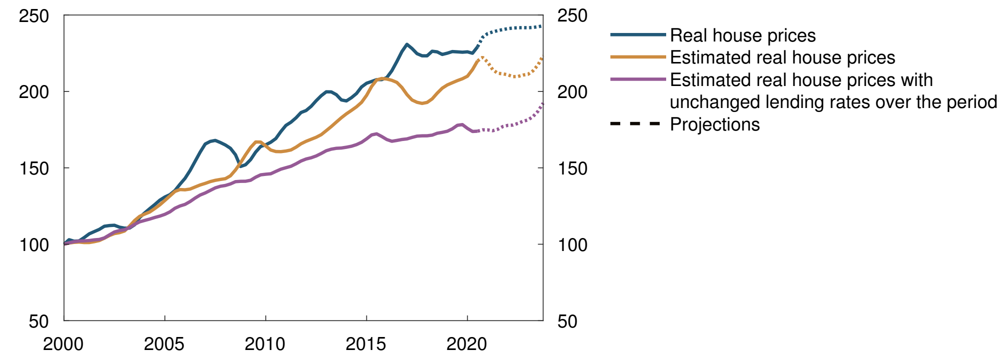
Chart 5.3 Rising house prices in many countries

Index. 2005 Q1 = 100



Sources: Australian Bureau of Statistics, BIS, Eiendomsverdi, Eurostat, Finn.no, HM Land Registry, Real Estate Norway, Statistics Denmark, Statistics Netherlands and Valuegard

Chart 5.4 House prices are rising more than implied by income and interest rates
Index. 2000 Q1 = 100



Sources: Eiendomsverdi, Finn.no, Norwegian Association of Real Estate Agents (NEF), Real Estate Norway, Statistics Norway and Norges Bank

residential mortgage loan regulation. House prices are expected to continue to rise in the coming period, albeit at a slower monthly rate than in recent months (Chart 5.1). A little further out, increased residential construction and somewhat higher interest rates will likely result in a further decline in house price inflation, and towards the end of the projection period, an annual increase of close to 2% is expected (Annex Table 3).

House prices are at a high level after having risen faster than household income over a long period. Since 2017, the rise in prices has been moderate and lower than income growth, but this trend has again reversed and it is assumed that house prices will rise faster than disposable income further ahead. House price inflation over the past 20 years largely reflects growth in household income and lower mortgage lending rates (Chart 5.4).[2] It is normal for house prices to rise in pace with income. Lower lending rates stimulate borrowing and also affect house prices. Lower lending rates are estimated to account for approximately a third of the rise in house prices over the period. In periods, the rise in house prices has been greater than implied by developments in income and interest rates (the gap between the blue and yellow lines in Chart 5.4). This gap was particularly pronounced in 2016, when house price inflation was strong before gradually declining thereafter in pace with moderate house price inflation and a balanced housing market. The house price, interest rate and income projections in this *Report* imply that the gap widens again ahead, because households are likely to spend a larger share of their income on housing than previously.

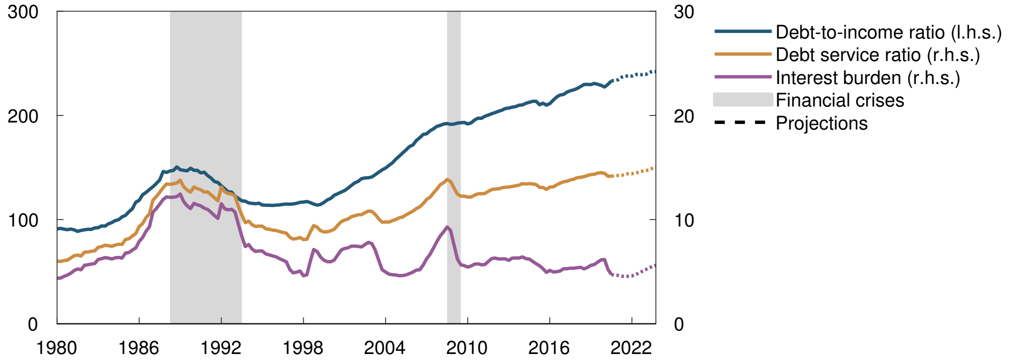
Housing market pressures increase household debt

Household leverage is at a high level after rising over a long period (Chart 5.5), making households vulnerable to income loss, higher interest rates and a fall in house prices. In response to such shocks, many households have the option of deferring principal repayments, drawing on financial buffers or tightening consumption. Since the Covid-19 pandemic began, residential mortgage rates have fallen markedly so that interest burdens have diminished and the use of interest-only periods increased sharply in spring, alleviating the situation especially for households that have experienced income loss.

Since 2017, household credit growth has slowed (Chart 5.6), reflecting the rise in interest rates in the period between 2018 and 2019 and the introduction of a number of measures by the authorities in recent years to restrain borrowing. In recent months, credit growth

2 See Ingholt, M.M. and S. Mæhlum (2020) "Boligprisboble i Norge?" [Housing bubble in Norway?]. Blog post on the *Bankplassen blog*. 24 September 2020 (Norwegian only).

Chart 5.5 Higher debt-to-income ratios ahead
Percent

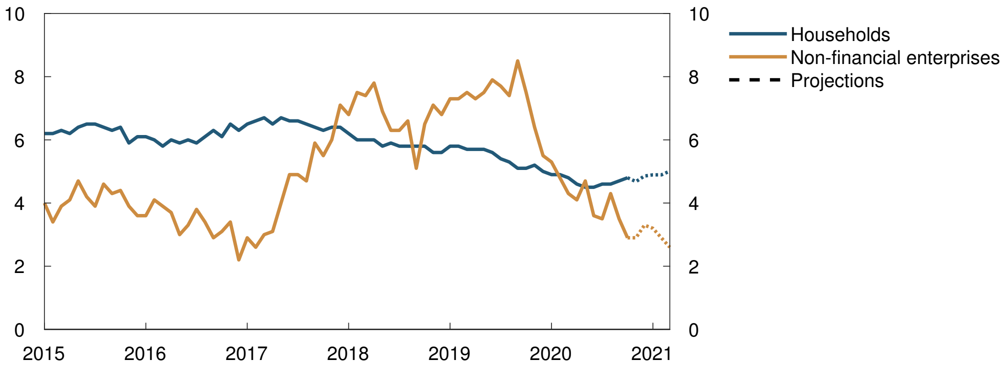


Sources: Statistics Norway and Norges Bank

has edged up again, and in October, the 12-month rise was 4.8%, approximately as projected in the September *Report*. Increased housing market pressures have fuelled credit growth. In line with housing market developments, credit growth is also expected to accelerate in the coming period, before slowing somewhat further out (Annex Table 3). Credit growth is expected to be higher than disposable income growth ahead, so that debt ratios increase somewhat (Chart 5.5).

Mainland corporate credit grew markedly faster than GDP in the years prior to the banking crisis and financial crisis, but has risen more in pace with GDP over the past ten years. Growth in corporate credit from domestic sources picked up through 2017 but has fallen markedly since autumn 2019 (Chart 5.6). Since March, corporate credit growth has fallen moderately. In October, the 12-month growth rate declined further to 2.9%, which was a less pronounced decline than projected in the September *Report*. Growth in corporate credit is expected to slow somewhat further in the coming period. Developments in corporate credit largely reflect developments in business investment (see Section 3.1). The banks in Norges Bank's lending survey reported increased credit demand for investment purposes in Q3 and fewer liquidity loans. According to the banks, liquidity loans have generally not crowded out loans for investment purposes.

Chart 5.6 Household credit growth is increasing somewhat and corporate credit growth is slowing further
Mainland Norway. Twelve-month change. Percent



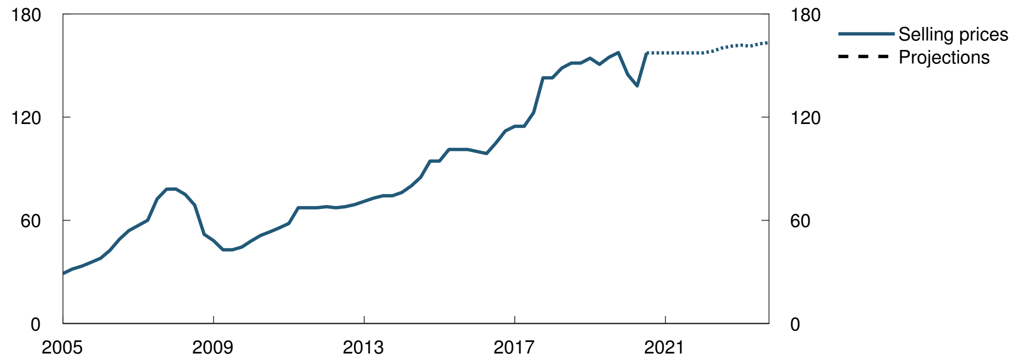
Sources: Statistics Norway and Norges Bank

Commercial property prices back to pre-pandemic levels
High commercial property prices are one of the key financial system vulnerabilities. The office segment is especially important for financial stability since banks' exposure to this segment is substantial. A relatively large share of the stock of office buildings is in Oslo, and selling prices for prime office space in Oslo are therefore an important indicator of commercial real estate (CRE) sector vulnerabilities.

Selling prices for prime real estate in Oslo have risen for a long time, reaching historically high levels prior to the Covid-19 pandemic (Chart 5.7). In the first half of 2020, selling prices fell substantially before rising markedly in Q3. Selling prices have now returned to pre-pandemic levels. Selling prices are estimated as the ratio between rents and the yield. Lower rents pulled selling prices down in the first half of 2020, while the lower yield and a slight increase in rents pulled selling prices up again. In the first half of 2020, the yield increased marginally despite the marked decline in long-term interest rates. This partly reflects a higher risk premium owing to the Covid-19 outbreak, and the resulting convergence of the risk premium on office premises in Oslo with that in other cities after it was markedly lower for a long period (Chart 5.8). Lower yield in Q3 primarily reflect some decline in the risk premium, likely because of reduced uncertainty.

Selling prices are expected to remain broadly unchanged in the period ahead (Chart 5.7). Somewhat further out, selling prices are expected to increase gradually on the back of rising rents in pace with a normalisation of the level of economic activity.[3] However, there is considerable uncertainty regarding both developments in the real economy and long-term changes in the CRE market. If the Covid-19 pandemic leads to structural changes, such as a permanent increase in remote working, demand for office space may be reduced,[4] increasing the risk of a pronounced fall in rents and selling prices. Over time, lower rents will reduce CRE companies' debt-servicing capacity. Selling prices will also depend on yield developments. In the event of a renewed and sustained period of financial stress, the yield could rise sharply and lead to a marked decline in selling prices.

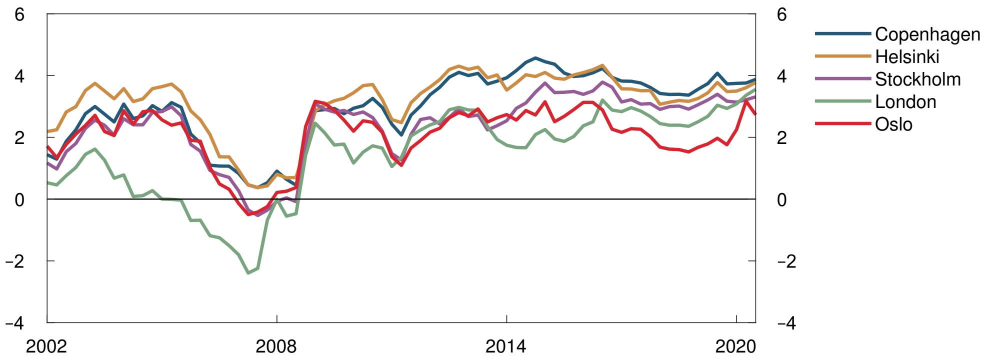
Chart 5.7 Commercial property prices back to levels prevailing before the downturn
In thousands of NOK per square metre



Sources: CBRE and Norges Bank

3 The Bank's analyses indicate that office rents in Oslo as a whole are moving in line with developments in the real economy, see Bjørland, C. and M. Hagen (2019) "What drives office rents?". *Staff Memo* 12/2019.
4 The Covid-19 pandemic may also have accelerated the trend towards increased online shopping. This impact may be positive for the logistics sector and negative for retail trade.

Chart 5.8 Risk premium on CRE in Oslo now somewhat lower than in other European cities
Yield less five-year swap rate. Percentage points



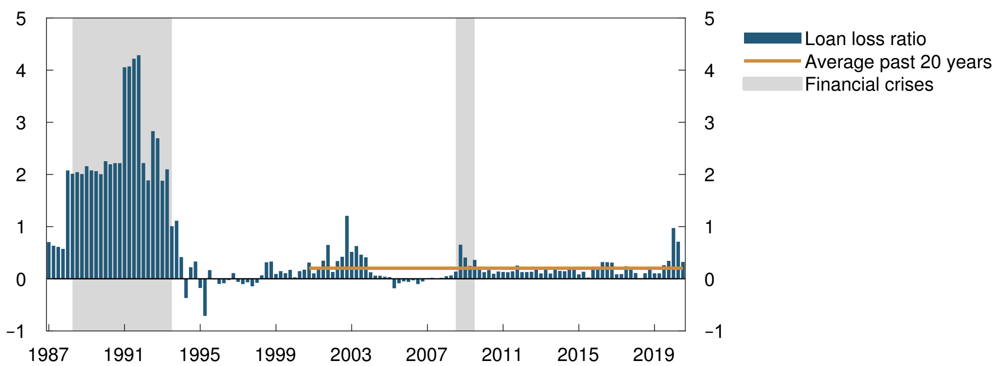
Sources: CBRE and Datastream

5.3 Banks

Norwegian banks have weathered the Covid-19 pandemic well. Extensive government measures have limited credit losses. Banks' profitability is solid and they have been able to maintain credit supply to both households and businesses. Banks have ample access to long-term wholesale funding and bond risk premiums have shown little change since the September *Report*. In the autumn, banks issued a substantial volume of covered bonds but also senior bonds and subordinated debt.

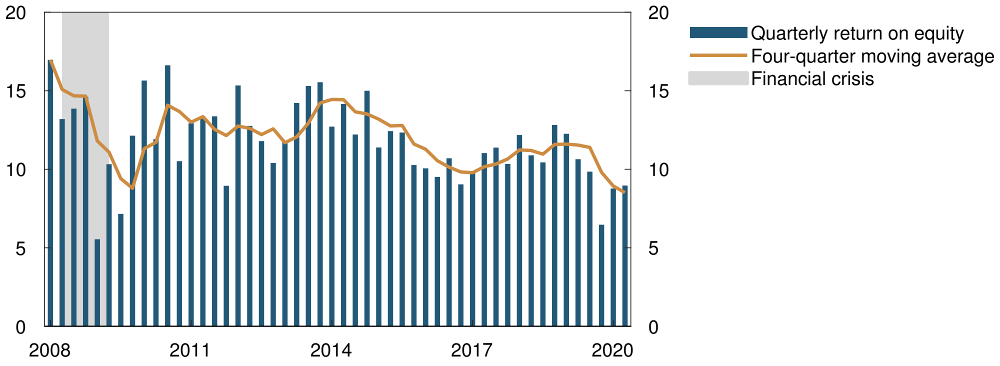
Corporate credit losses are the main reason behind fluctuations in banks' earnings, but the most vulnerable industries during the downturn account for a relatively small share of banks' total lending. Banks' total loan loss ratio fell from 1.0% in 2020 Q1 to 0.3% in 2020 Q3 (Chart 5.9). Total losses in the first three quarters of 2020 were approximately three times higher than the average for the past 20 years, but significantly lower than during the banking crisis. Approximately half of the large banks' credit losses in the first three quarters of 2020 were on loans to oil-related industries. A large share of the decline in credit losses in recent quarters is attributable to lower provisions for expected credit losses, reflecting banks' assessment that the outlook has not worsened. Despite higher credit losses, Norwegian banks have posted profits so far in 2020. Between 2020 Q2 and Q3, profitability increased somewhat, but it is still lower than in 2019 (Chart 5.10).

Chart 5.9 Credit losses close to normal levels in 2020 Q3
Share of lending. Annualised. Percent



Source: Norges Bank

Chart 5.10 Banks' profitability is still solid
Return on equity. Annualised. Percent



Sources: SNL / S&P MI and Norges Bank

Norges Bank's calculations show that banks have ample capacity to absorb losses and maintain credit supply (see *Financial Stability Report* 2020). The loan loss ratio for banks is expected to be lower in 2021 than in 2020, but remain markedly higher than the average for the past 20 years.[5] Losses on exposures to the oil service industry are a main source of increased credit losses in the near term.

There is considerable uncertainty surrounding losses ahead. In the coming period, increased infection rates and stringent containment measures are likely to cause a new decline in activity in a number of industries. A number of businesses have drawn on buffers they had prior to the downturn. If their turnover continues to be low, the number of bankruptcies ahead can be expected to rise. It is likely that banks' losses will then also increase. Tourism, transport and personal services have been particularly affected by the Covid-19 pandemic and containment measures. However, they only account for approximately 5% of banks' total corporate exposures, limiting banks' risk of losses. At the same time, problems in a particular business may result in considerable losses for a bank if the business accounts for a large share of the bank's lending portfolio. In isolation, this may reduce the bank's supply of credit to other businesses.[6]

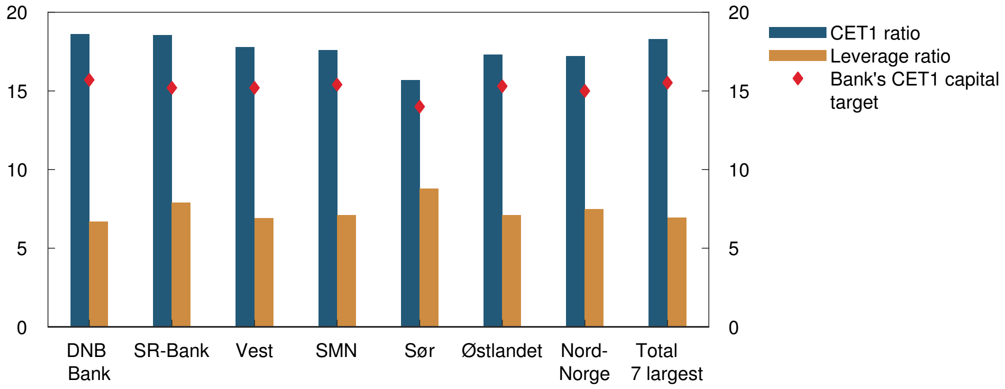
CRE developments will be particularly important for banks' credit losses ahead. Large portions of banks' exposures are to CRE and losses on such exposures have been high during previous crises. In Norges Bank's assessment, the CRE market was well-balanced at the end of 2019 and companies have adequate financial buffers to absorb the fall in rents observed so far in 2020. However, there is considerable uncertainty regarding developments ahead. The risk of losses in the CRE market is particularly high in the event of a persistent decline in rents and a subsequent fall in market prices. Norges Bank's analyses indicate that should losses become substantially greater than expected, banks will have to draw down on their capital buffers to maintain credit supply (see *Financial Stability Report* 2020).

The risk of losses for banks is attenuated by continued government support measures for severely affected businesses and recent promising vaccine news.

5 See Hjelseth, I.N., E.S. Arbatli, H. Solheim and B.H. Vatne (2020) "Estimates of banks' losses on loans to the corporate sector". *Staff Memo* 10/2020. Norges Bank. The analysis uses detailed microdata for each firm and loan in each bank to estimate losses on corporate loans in the years 2020–2022.

6 See Galaasen, S., R. Jamilov, R. Juelsrud and H. Rey. (2020) "Granular Credit Risk". *Working Paper* 15/2020. Norges Bank. The analysis shows that certain large customers, which account for large share of banks' total exposures, constitute a concentration risk in Norway. The analysis is based on a new dataset that covers all bank loans granted to limited liability companies in Norway in the period between 2003 and 2015.

Chart 5.11 Banks' capital adequacy is above banks' capital targets
Largest Norwegian-owned banking groups. Percent



Sources: Banking groups' quarterly reports and Norges Bank

Banks' capital ratios have increased and are well above the capital requirements. In 2020, Common Equity Tier 1 (CET1) capital ratios increased by an average of 0.4 percentage point between end-Q2 and Q3. Both increased CET1 capital and a decline in risk-weighted assets for certain banks explain the increase. At the same time, the average leverage ratio increased by 0.1 percentage point to 6.9%. The largest banks fulfil their capital targets by ample margins even when the systemic risk buffer and the risk weight floor for residential mortgages and CRE loans are taken into account (Chart 5.11).[7] Even with an increase in the countercyclical capital buffer, at the outset, banks' capital ratios will be well above the capital requirements.

With a higher countercyclical capital buffer, banks are better equipped for future shocks. The Norwegian economy is in the midst of a deep downturn (see Section 3). An illustrative exercise in *Financial Stability Report* 2020 shows that the economic recovery may be delayed if the capital requirement is raised in bad times and banks need to tighten credit to satisfy higher capital requirements. The extent to which an increase in the buffer requirement affects banks' credit standards and the Norwegian economy during a recovery is uncertain. The tightening effect of a higher buffer requirement is likely to be less pronounced if, at the outset, banks satisfy the capital requirements by an ample margin or banks' earnings are solid.

Even though banks have paid out modest dividends so far in 2020, reduced and suspended payouts for 2019 only add 0.2 percentage point to reported CET1 capital ratios. This is because a large share of dividend payouts were suspended rather than cancelled. Were a larger share of dividends for 2019 to be cancelled, banks' capital ratios would increase more than shown in Chart 5.11. Banks' profitability and capital adequacy suggests that they are able to distribute dividends, although decisions regarding dividends must still take into account the uncertainty surrounding economic developments.

7 The capital targets take into account the increase of the systemic risk buffer from 3% to 4.5% at the end of 2020 for banks using the internal ratings-based (IRB) approach. It has been decided to introduce temporary floors for average risk weights for Norwegian residential mortgage and CRE exposures of 20% and 30%, respectively, at end-2020. Norges Bank's analyses indicate that as Norwegian banks' average risk weights are equal to or higher than the floors, the floors will have little bearing on Norwegian banks.

Annex

Detailed tables of projections

Table 1 International projections

Change from projections in *Monetary Policy Report* 3/20 in brackets	Weights[1] Percent	Percentage change from previous year				
		2019	2020	2021	2022	2023
GDP						
US	10	2.2 (-0.1)	-3.6 (0.9)	3.5 (-0.1)	3.2 (0.2)	2.1 (-0.4)
Euro area	35	1.3 (0)	-7.5 (0.8)	3.9 (-1.4)	4.4 (1)	1.9 (-0.5)
UK	11	1.3 (-0.2)	-11.1 (-0.7)	5.2 (-0.5)	4.7 (1.1)	3 (0.2)
Sweden	13	1.4 (0.1)	-3.2 (0.3)	2.9 (-1)	3.9 (1)	2.2 (0)
China	6	6.1 (0)	1.8 (-0.2)	8.2 (0.3)	5.6 (-0.1)	5.6 (0)
13 trading partners[1]	100	2 (0)	-5.4 (0.5)	4.2 (-0.7)	4.1 (0.7)	2.5 (-0.2)
5 trading partners[2]		2 (0)	-5.7 (0.4)	4.4 (-0.8)	4.3 (0.8)	2.5 (-0.3)
Prices						
Underlying inflation[3]		1.4 (0)	1.1 (-0.1)	1 (-0.1)	1.3 (0)	1.6 (-0.1)
Prices for consumer goods imported to Norway[4]		1.6 (-0.1)	0.4 (-0.2)	0.3 (0)	0.6 (0)	0.7 (0)

1 The aggregate includes: Euro area, China, UK, Sweden, US, Brazil, Denmark, India, Poland, South Korea, Singapore, Thailand and Turkey. Export weights.
2 The aggregate includes: China, Euro area, Sweden, UK and US. Export weights.
3 The aggregate for underlying inflation includes: Euro area, Sweden, UK and US. Import weights.
4 In foreign currency terms. Including compositional effects.

Sources: IMF, Refinitiv Datastream and Norges Bank

Table 2a Consumer prices. Twelve-month change. Percent

	2020				2021		
	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Consumer price index (CPI)							
Actual	1.6	1.7	0.7				
Projections MPR 3/20	2.1	2.3	2.1	2.5			
Projections MPR 4/20				2.2	1.9	2.8	2.9
CPI-ATE							
Actual	3.3	3.4	2.9				
Projections MPR 3/20	3.6	3.7	3.4	3.5			
Projections MPR 4/20				3.3	2.5	2.9	3.1
Imported consumer goods in the CPI-ATE							
Actual	3.8	4.1	3.2				
Projections MPR 3/20	4.5	4.5	4.5	4.6			
Projections MPR 4/20				3.5	2.5	3.3	3.9
Domestically produced goods and services in the CPI-ATE							
Actual	3.0	3.0	2.8				
Projections MPR 3/20	3.0	3.2	2.8	2.9			
Projections MPR 4/20				3.1	2.4	2.6	2.6

Sources: Statistics Norway and Norges Bank

Table 2b GDP for mainland Norway. Quarterly change. Seasonally adjusted. Percent

	2020			
	Q2	Q3	Q4	Q1
Actual	-6.0	5.2		
Projections MPR 3/20		5.2	1.3	
Projections MPR 4/20			0.8	0.2

Sources: Statistics Norway and Norges Bank

Table 2c GDP for mainland Norway. Monthly change. Seasonally adjusted. Percent

	2020				2021		
	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Actual	0.7	1.2					
Projections MPR 3/20	0.5	0.3	0.3				
Projections MPR 4/20			-1.6	-0.2	0.1	0.9	0.6

Sources: Statistics Norway and Norges Bank

Table 2d Registered unemployment (rate). Percent of labour force. Seasonally adjusted

	2020				2021		
	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Actual	3.8	3.7	4.1				
Projections MPR 3/20	3.8	3.8	3.7	3.7			
Projections MPR 4/20				3.9	3.7	3.6	3.4

Sources: Norwegian Labour and Welfare Administration (NAV) and Norges Bank

Table 3 Projections for main economic aggregates

Change from projections in *Monetary Policy Report* 3/20 in brackets	In billions of NOK 2019	2019	Percentage change from previous year (unless otherwise stated) Projections 2020	2021	2022	2023
Prices and wages						
CPI		2.2	1.3 (-0.3)	2.2 (-0.9)	2.0 (0.1)	1.7 (0.1)
CPI-ATE		2.2	3.0 (-0.1)	2.1 (-0.2)	1.4 (-0.3)	1.5 (0.0)
Annual wages		3.5	2.2 (0.3)	2.0 (-0.1)	2.3 (0.0)	2.8 (0.0)
Real economy[1]						
Gross domestic product (GDP)	3568	0.9	-1.3 (0.5)	4.0 (0.2)	3.1 (0.2)	1.6 (-0.3)
GDP, mainland Norway	3068	2.4	-3.5 (0.1)	3.7 (0.0)	3.1 (0.4)	1.5 (-0.3)
Output gap, mainland Norway (level)		0.2	-3.3 (0.1)	-1.6 (0.2)	0.0 (0.6)	0.2 (0.4)
Employment, persons, QNA		1.6	-1.6 (0.4)	0.3 (-0.2)	1.8 (0.1)	0.9 (-0.1)
Registered unemployment rate (level)		2.3	5.0 (0.0)	3.2 (0.0)	2.5 (-0.2)	2.4 (-0.1)
Demand[1]						
Mainland demand	3191	2.2	-4.8 (0.1)	3.7 (-1.3)	4.5 (0.7)	2.2 (-0.4)
– Household consumption	1590	1.5	-8.3 (-0.8)	5.9 (-1.8)	7.5 (2.1)	3.1 (-0.1)
– Business investment	325	5.6	-7.3 (5.3)	-6.3 (1.3)	5.4 (-0.4)	4.3 (-1.1)
– Housing investment	195	-1.7	-7.5 (-1.8)	4.7 (-0.6)	3.8 (-0.3)	2.3 (-1.0)
– Public demand	1081	2.9	1.6 (-0.1)	3.4 (-1.1)	0.2 (-0.6)	0.2 (-0.7)
Petroleum investment	178	12.6	-6.0 (-3.0)	-6.0 (6.0)	-4.0 (-2.0)	10.0 (2.0)
Mainland exports	701	4.7	-8.6 (0.1)	3.8 (1.2)	5.6 (0.1)	3.6 (-0.6)
Imports	1242	4.7	-12.5 (0.0)	5.1 (0.4)	7.9 (1.2)	4.8 (0.0)
House prices and debt						
House prices		2.6	4.4 (0.7)	6.7 (1.5)	2.4 (-1.3)	1.8 (-0.8)
Credit to households (C2)		5.0	4.9 (0.1)	4.8 (0.5)	4.4 (0.2)	4.4 (0.2)
Interest rate, exchange rate and oil price						
Policy rate (level)		1.1	0.4 (0.0)	0.0 (0.0)	0.3 (0.2)	0.8 (0.3)
Import-weighted exchange rate (I-44) (level)		107.6	115.0 (-0.1)	111.8 (-1.7)	111.1 (-1.2)	110.7 (-0.7)
Money market rates, trading partners (level)		0.5	0.0 (0.0)	-0.2 (0.0)	-0.2 (0.0)	-0.1 (0.0)
Oil price, Brent Blend. USD per barrel		64.4	41.7 (0.1)	49.6 (3.9)	48.6 (0.7)	48.2 (-1.4)
Household income and saving[1]						
Real disposable income excl. dividend income		2.8	0.6 (-0.9)	2.1 (1.0)	2.0 (0.0)	1.8 (-0.6)
Saving ratio (rate, level)		7.6	15.2 (0.7)	11.7 (2.6)	7.1 (0.9)	6.0 (0.6)
Saving ratio excl. dividend income (rate, level)		3.2	11.3 (0.3)	7.7 (2.5)	3.0 (0.8)	2.1 (0.5)
Net lending excl. dividend income (rate, level)		-2.5	6.7 (0.3)	3.3 (2.9)	-1.8 (1.3)	-3.2 (0.8)
Fiscal policy						
Structural non-oil deficit as a percentage of GPFG[2]		2.9	3.9 (0.1)	3.3 (-0.2)	3.2 (-0.2)	3.1 (-0.2)

1 All figures are working-day adjusted.
2 Government Pension Fund Global measured at the beginning of the year. Projected value is obtained from the National Budget for 2021.

Sources: Eiendomsverdi, Finn.no, Ministry of Finance, Norwegian Labour and Welfare Administration (NAV), Real Estate Norway, Refinitiv Datastream, Statistics Norway and Norges Bank

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