NORGES BANK

3|19

SEPTEMBER

MONETARY POLICY REPORT

WITH FINANCIAL STABILITY ASSESSMENT

Key figures

INFLATION TARGET

2%

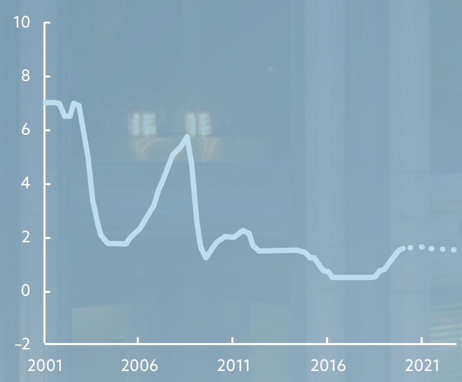
Norges Bank's objective is to ensure low and stable inflation around the target of 2%, while contributing to high and stable output and employment and to countering the build-up of financial imbalances

POLICY RATE

1.50%

Norges Bank's policy rate is raised to 1.50% with effect from 20 September 2019.

POLICY RATE FORECAST



COUNTERCYCLICAL CAPITAL BUFFER

2%

The countercyclical capital buffer rate is 2%. With effect from 31 December 2019, the rate will be raised to 2.5%

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 13 September 2019 and was published on 19 September 2019, the day after the Executive Board's monetary policy meeting.
The *Report* is available at www.norges-bank.no.

MONETARY POLICY IN NORWAY

OBJECTIVE

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.

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 disturbances 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 Executive Board. Policy rate decisions are normally taken at the Executive Board's monetary policy meetings. The Executive Board 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. At a meeting one to two weeks before the publication of the *Report,* the background for the monetary policy assessment is presented to and discussed by the Executive Board. On the basis of the analysis and discussion, the Executive Board assesses the consequences for future interest rate developments. The final policy rate decision is made on the day prior to the publication of the *Report*. In the *Report,* the Board´s assessment of the economic outlook and monetary policy is presented in "Executive Board's assessment".

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 PROCESS FOR *MONETARY POLICY REPORT* 3/19

At its meeting on 11 September 2019, the Executive Board discussed the economic outlook, the monetary policy stance and the need for a countercyclical capital buffer for banks. On the basis of this discussion and a recommendation from Norges Bank's management, the Executive Board made its decision on the policy rate at its meeting on 18 September 2019. The Executive Board also approved Norges Bank's advice to the Ministry of Finance on the level of the countercyclical capital buffer.

Executive Board's assessment

Norges Bank's Executive Board has decided to raise the policy rate by 0.25 percentage point to 1.50%. The Executive Board's current assessment of the outlook and balance of risks suggests that the policy rate will most likely remain at this level in the coming period.

Growth among Norway's trading partners slowed through 2018 after having been on the rise for several years. Unemployment is low in many countries. So far in 2019, external growth has been broadly in line with projections. There is still considerable uncertainty surrounding the UK's exit from the EU, and since the June 2019 *Monetary Policy Report*, trade tensions have deepened. This has weakened growth prospects for trading partners. Foreign interest rates have fallen. At the beginning of this week, oil prices rose following an attack on major oil facilities in Saudi Arabia. Futures prices show little change from June.

The upswing in the Norwegian economy has persisted for three years. Employment has risen, and unemployment has fallen. In 2019, high activity in oil services in particular is contributing to sustaining growth in the mainland economy. There are prospects that growth will slow further out, partly owing to lower investment on the Norwegian shelf.

Growth in the mainland economy in 2019 Q2 was broadly in line with projections. According to the enterprises in Norges Bank's Regional Network, output growth has remained solid in recent months. In the period ahead, contacts expect slightly slower growth, in line with the projections in the June *Report*. Developments in employment and unemployment have been approximately as projected. Despite solid growth in employment, labour shortages appear to be moderate. This may be an indication that the labour market is somewhat less tight than previously assumed.

Consumer price inflation has moderated over the past half-year, after having picked up markedly through 2018. Lower energy price inflation in particular has restrained the general rise in prices. Underlying inflation has also moderated and is close to the target.

Since the June *Report*, inflation has been a little lower than projected. The 12-month rise in the consumer price index (CPI) was 1.6% in August. Adjusted for tax changes and excluding energy products (CPI-ATE), inflation was 2.1%. Labour market tightening in recent years has pushed up wage growth. There are prospects that wage growth ahead may be somewhat lower than projected in June.

The krone has depreciated markedly and is weaker than projected in June. The krone's weakness may be partly attributable to persistent uncertainty about global developments. A weaker krone improves cost competitiveness for Norwegian firms. The krone depreciation will also contribute to higher inflation.

Household debt ratios are high, and house prices are at historically high levels. Debt growth has abated over the past two years, and house price inflation has been moderate, partly reflecting the interest rate increases over the past year. Since the June *Report*, house price inflation has been a little higher than projected.

In its discussion of the risk outlook, the Executive Board focused in particular on global developments. The events in the Middle East are adding to general uncertainty, including uncertainty about oil prices. The very low level of foreign interest rates may be a signal of weaker-than-projected growth prospects. Should the UK exit the EU without a deal, or if trade tensions deepen further, both external and domestic growth may turn out lower than projected. Owing to persistent global uncertainties, the krone may prove to be weaker than assumed.

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.

Over the past year, the policy rate has been raised, and the monetary stance has become gradually less expansionary. In the Executive Board's assessment, the overall outlook and balance of risks suggest a slightly higher policy rate. Underlying inflation is close to the inflation target. Growth in the Norwegian economy remains solid, and capacity utilisation is somewhat above a normal level. This suggests in isolation a higher policy rate. A higher policy rate may also mitigate the risk of a renewed acceleration in debt growth and house price inflation. At the same time, foreign interest rates are very low, and there is considerable uncertainty surrounding global growth prospects. This suggests a cautious approach to interest rate setting.

The policy rate forecast indicates a slightly smaller rate rise than in the June *Report*. Weaker growth prospects and lower interest rates abroad have contributed to the downward revision. Slightly lower inflation and a somewhat less tight domestic labour market compared with the June projections have also pulled down the rate path. A weaker-than-projected krone has in isolation pulled up the policy rate path. With a policy rate in line with the forecast, inflation is projected to remain close to the inflation target in the years ahead, at the same time as unemployment remains low. The policy rate path will be adjusted in response to a change in economic prospects or the balance of risks.

The Executive Board has decided to raise the policy rate by 0.25 percentage point to 1.50%. The Executive Board's current assessment of the outlook and balance of risks suggests that the policy rate will most likely remain at this level in the coming period. The decision was unanimous.

Øystein Olsen
18 September 2019

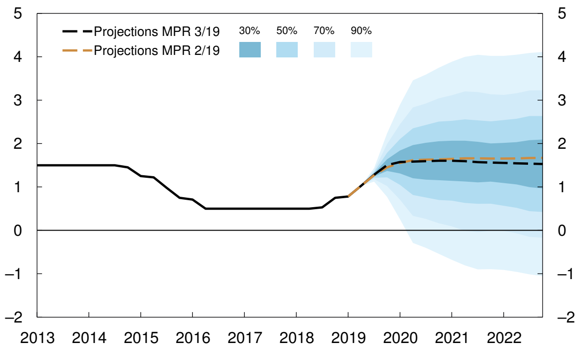
1 Overall picture

Over the past three years, growth in the Norwegian economy has been solid and employment has risen. Capacity utilisation now appears to be somewhat above a normal level, and underlying inflation is close to the inflation target.

The policy rate has been raised from 1.25% to 1.50%, and the forecast indicates that the policy rate will be close to this level ahead. The policy rate forecast is a little lower than in the June 2019 *Monetary Policy Report*. The downward revision reflects weaker growth prospects and lower interest rates abroad. Considerable global uncertainty and the risk of weaker developments than currently projected have pushed down the rate forecast further. A weaker krone has in isolation pulled up the rate forecast.

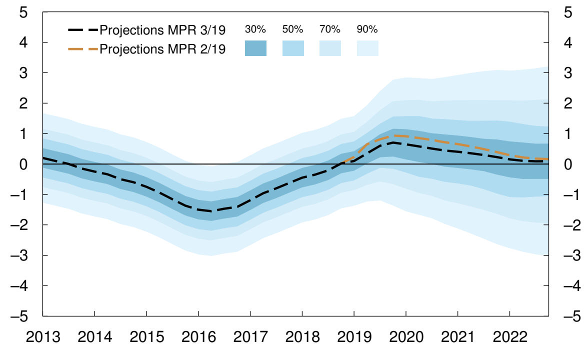
With a policy rate in line with the forecast, inflation is projected to remain close to the inflation target in the years ahead, at the same time as unemployment remains low.

Chart 1.1a Policy rate with fan chart[1].
Percent. 2013 Q1 – 2022 Q4[2]



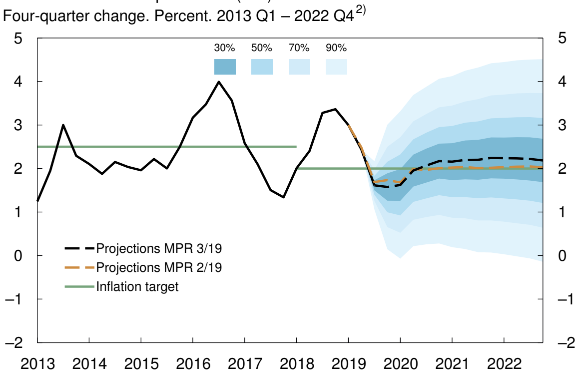
1) The fan chart is based on historical experience and stochastic simulations in Norges Bank's main macroeconomic model, NEMO. It does not take into account that a lower bound for the interest rate exists.
2) Projections for 2019 Q3 – 2022 Q4.
Source: Norges Bank

Chart 1.1b Estimated output gap[1] with fan chart[2].
Percent. 2013 Q1 – 2022 Q4



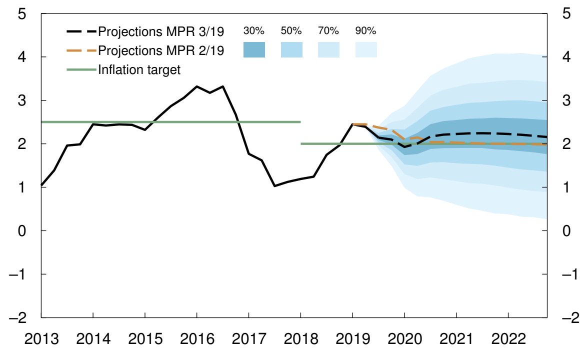
1) The output gap measures the percentage deviation between mainland GDP and estimated potential mainland GDP. 2) The fan chart is based on historical experience and stochastic simulations in Norges Bank's main macroeconomic model, NEMO.
Source: Norges Bank

Chart 1.1c Consumer price index (CPI) with fan chart[1].
Four-quarter change. Percent. 2013 Q1 – 2022 Q4[2]



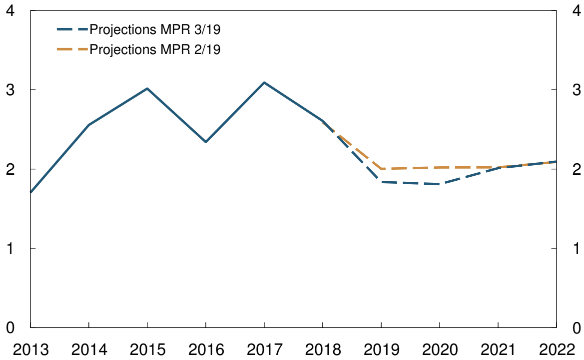
1) The fan chart is based on historical experience and stochastic simulations in Norges Bank's main macroeconomic model, NEMO. 2) Projections for 2019 Q3 – 2022 Q4.
Sources: Statistics Norway and Norges Bank

Chart 1.1d CPI-ATE[1] with fan chart[2].
Four-quarter change. Percent. 2013 Q1 – 2022 Q4[3]



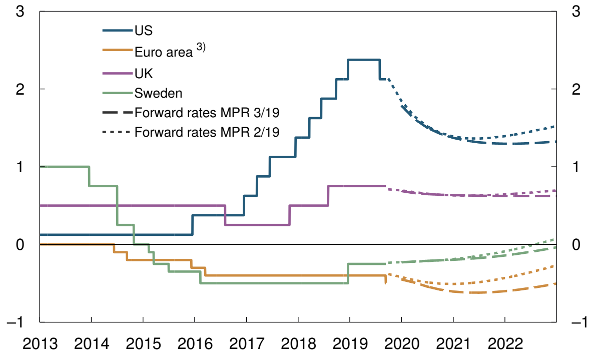
1) CPI adjusted for tax changes and excluding energy products. 2) The fan chart is based on historical experience and stochastic simulations in Norges Bank's main macroeconomic model, NEMO.
3) Projections for 2019 Q3 – 2022 Q4.
Sources: Statistics Norway and Norges Bank

Chart 1.2 GDP for Norway's trading partners[1]. Annual change. Percent. 2013 – 2022[2]



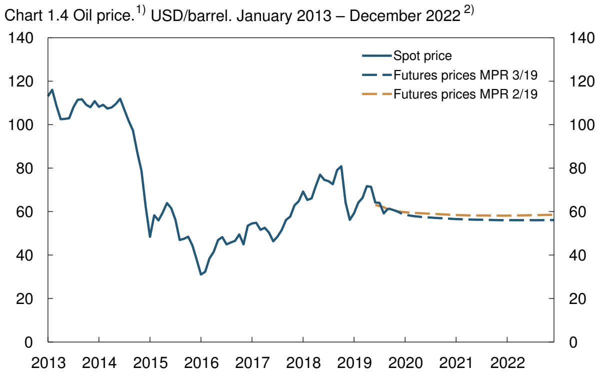
1) Export weights. Twenty-five main trading partners. 2) Projections for 2019 – 2022.
Sources: Thomson Reuters and Norges Bank

Chart 1.3 Policy rates and estimated forward rates[1] in selected countries. Percent. 1 January 2013 – 31 December 2022[2]



1) Forward rates at 14 June 2019 (MPR 2/19) and 13 September 2019 (MPR 3/19). Forward rates are estimated based on Overnight Index Swap (OIS) rates. 2) Daily data through 13 September 2019. Quarterly data from 2019 Q4. 3) ECB deposit facility rate.
Sources: Bloomberg, Thomson Reuters and Norges Bank

Chart 1.4 Oil price.[1] USD/barrel. January 2013 – December 2022[2]



1) Brent Blend. 2) Futures prices on 14 June 2019 (MPR 2/19) and on 13 September 2019 (MPR 3/19).
Sources: Thomson Reuters and Norges Bank

1.1 GLOBAL DEVELOPMENTS AND OUTLOOK

Considerable uncertainty

Growth among Norway's trading partners slowed through 2018 and appears to be softening further in 2019 (Chart 1.2). The slowdown reflects uncertainty surrounding global trade tensions and the UK's exit from the EU. Growth is also expected to be lower ahead than in recent years.

Capacity utilisation among Norway's trading partners is close to a normal level, and unemployment is low. Wage growth has moved up over the past year. Underlying inflation has remained stable at slightly below 1.5% since the beginning of 2017. A small increase in both inflation and wage growth is expected in the coming years.

There is considerable uncertainty surrounding global developments. Since *Monetary Policy Report* (MPR) 2/19, which was published on 20 June, trade tensions between the US and China have deepened. This has further weakened growth prospects for trading partners. At the same time, policy rate expectations abroad have fallen (Chart 1.3), and long-term interest rates are at very low levels. The US Federal Reserve and the European Central Bank (ECB) have lowered their policy rates, and several other central banks have signalled looser monetary policy ahead.

At the cut-off date, oil spot and futures prices were little changed since June (Chart 1.4).

1.2 THE ECONOMIC SITUATION IN NORWAY

The upturn continues

Growth in the Norwegian economy has been solid over the past three years. The global upturn, improved cost-competitiveness and higher oil prices have helped lift activity, as have low interest rates.

Mainland growth is projected to remain firm through the second half of 2019 (Chart 1.5). The projections for Q2 and Q3 are little changed overall from the June *Report*.

Recently capacity utilisation has picked up and employment has risen further (Chart 1.6). The share of enterprises in Norges Bank's Regional Network reporting labour shortages is nevertheless moderate.

This may be an indication that labour market tightening is somewhat less pronounced than previously assumed. Overall, capacity utilisation is assessed as being a little lower than assumed in the June *Report*. A further slight increase in capacity utilisation is projected in the coming period.

Household debt growth has abated over the past two years, and house price inflation has been moderate.

Inflation close to target

Consumer price inflation has moderated over the past half-year, after having picked up markedly through 2018. The 12-month rise in the consumer price index (CPI) was 1.6% in August. Adjusted for tax changes and excluding energy products (CPI-ATE), inflation was 2.1%. CPI-ATE inflation fell a little more than projected in June. Inflation is projected to remain broadly unchanged in the coming period (Chart 1.7).

Wage growth has risen over the past few years and is also expected to move higher in 2019. Annual wage growth of 3.3% is projected for 2019.

The krone has depreciated markedly and is weaker than projected in June.

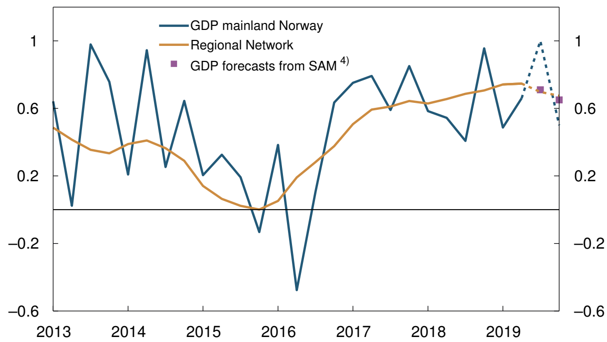
1.3 MONETARY POLICY AND PROJECTIONS

Slightly higher policy rate

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.

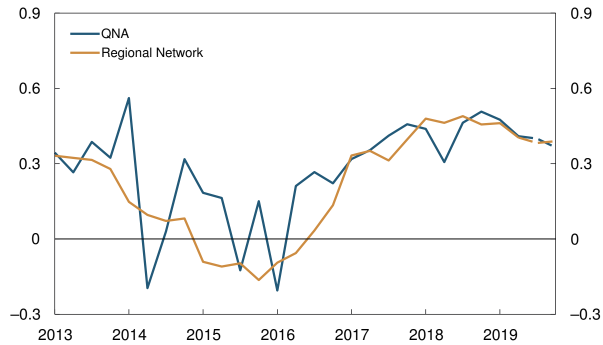
Over the past year, the policy rate has been raised, and the monetary stance has become gradually less expansionary. Overall, the outlook and balance of risks suggest a slightly higher policy rate. Underlying inflation is close to the inflation target. Growth in the Norwegian economy remains solid, and capacity utilisation is somewhat above a normal level. This suggests in isolation a higher policy rate. A higher policy rate may also mitigate the risk of a renewed acceleration in debt growth and house price inflation. At the same time, foreign interest rates are very low, and there is considerable uncertainty surrounding

Chart 1.5 GDP for mainland Norway[1] and the Regional Network's indicator of output growth [2]. Quarterly change. Percent. 2013 Q1 – 2019 Q4[3]



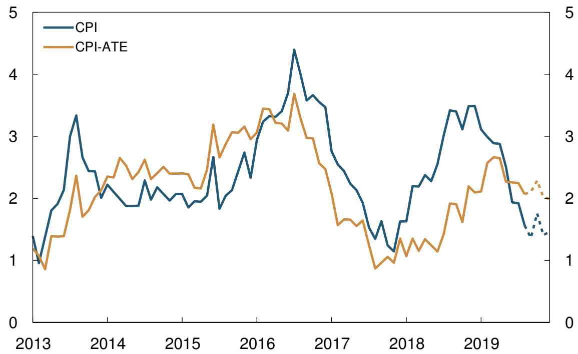
1) Seasonally adjusted. 2) Reported output growth past three months and expected growth next six months converted to quarterly figures. For 2019 Q3, a weighting of historical and expected growth is used, while for Q4 2019 only expected growth is used. 3) Projections for 2019 Q3 – 2019 Q4. 4) System for Averaging short-term Models.
Sources: Statistics Norway and Norges Bank

Chart 1.6 Employment according to the quarterly national accounts[1] and Regional Network [2]. Quarterly change. Percent. 2013 Q1 – 2019 Q4[3]



1) Seasonally adjusted. 2) Reported employment growth for the past three months and expected growth the next three months converted to quarterly figures. For 2019 Q3, historical and expected growth are weighted together while expected growth is used for 2019 Q4. 3) Projections for 2019 Q3 – 2019 Q4.
Sources: Statistics Norway and Norges Bank

Chart 1.7 CPI and CPI-ATE[1].
Twelve–month change. Percent. January 2013 – December 2019 [2]



1) CPI adjusted for tax changes and excluding energy products. 2) Projections for September 2019 – December 2019.
Sources: Statistics Norway and Norges Bank

global growth prospects. This suggests a cautious approach to interest rate setting.

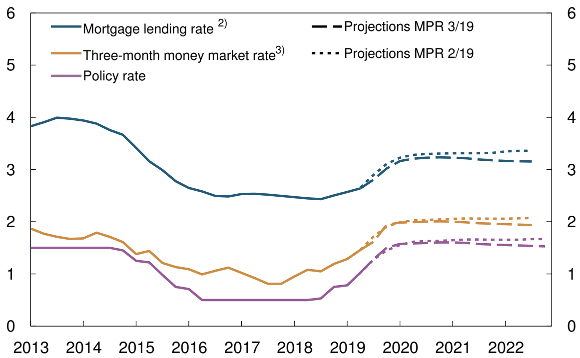
The policy rate forecast is a little lower than in the June *Report* (Chart 1.1a). Weaker growth prospects and lower interest rates abroad, combined with slightly lower inflation and a somewhat less tight domestic labour market, have contributed to the downward revision. Considerable global uncertainty and the risk of weaker developments than currently projected have pushed down the rate forecast further.

A weaker krone has in isolation pulled up the rate forecast.

Residential mortgage rates are expected to continue to edge higher in 2019 and 2020, reaching around 3.2% towards the end of 2020.

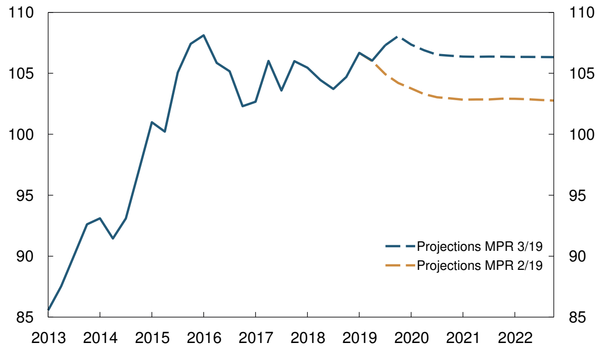
The projections are uncertain, and the uncertainty increases through the projection period. The policy rate path will be adjusted in response to a change in economic prospects or the balance of risks.

Chart 1.8 Interest rates. Percent. 2013 Q1 – 2022 Q4 [1)]



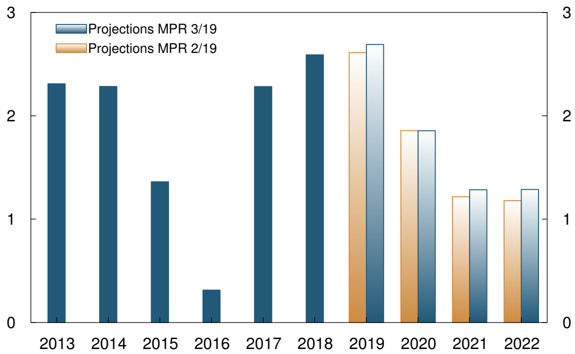
1) Projections for 2019 Q3 – 2022 Q3 (mortgage lending rate and three-month money market rate) / 2022 Q4 (policy rate). 2) Average interest rate on outstanding housing loans to households for the sample of banks and mortgage companies included in Statistics Norway's monthly interest rate statistics. 3) Projections are calculated as a two quarters moving average of the policy rate plus the projected money market premium.
Sources: Statistics Norway, Thomson Reuters and Norges Bank

Chart 1.9 Import-weighted exchange rate index (I-44).[1)] 2013 Q1 – 2022 Q4 [2)]



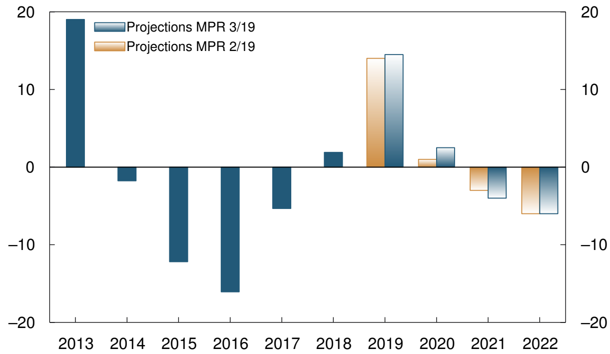
1) A positive slope denotes a weaker krone exchange rate. 2) Projections for 2019 Q3 – 2022 Q4.
Sources: Thomson Reuters and Norges Bank

Chart 1.10 GDP for mainland Norway.[1)] Annual change. Percent. 2013 – 2022[2)]



1) Working-day adjusted. 2) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Chart 1.11 Petroleum investment.[1)] Annual change. Percent. 2013 – 2022[2)]



1) Working–day adjusted. 2) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Higher capacity utilisation and inflation close to the target

With a policy rate in line with the forecast in this *Report*, capacity utilisation is projected to continue to drift up in 2019, gradually falling back thereafter (Chart 1.1b). Compared with the June *Report*, the projections for capacity utilisation are a little lower throughout the projection period. The krone is expected to appreciate slightly in the coming year, but remain weaker than projected in the June *Report* throughout the projection period (Chart 1.9).

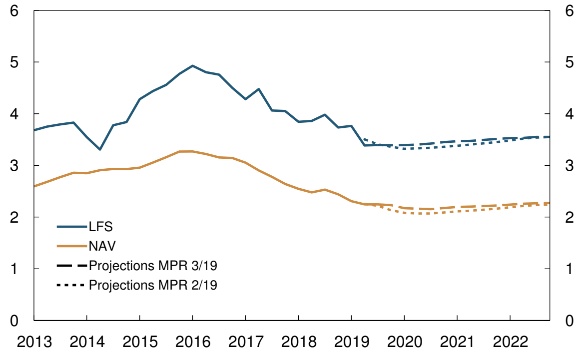
Inflation is projected to remain close to the target in the years ahead (Charts 1.1c-d). The recent krone depreciation will push up inflation in the next few years.

Mainland GDP is projected to rise by 2.7% in 2019. In the years ahead, growth is expected to slow somewhat. Growth prospects reflect developments in petroleum investment (Chart 1.11). Weaker external growth and a less expansionary monetary and fiscal stance than in recent years also contribute to the softening of the Norwegian economy. The projections for GDP growth in the coming years are little changed since June.

Low unemployment

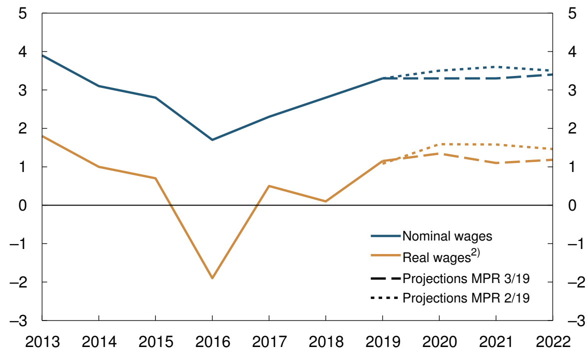
Prospects for continued growth in the Norwegian economy in the years ahead imply a further rise in employment. As the pace of economic growth decelerates, employment growth is also likely to slow. Unemployment is expected to show little change (Chart 1.12). Wage growth is projected to remain broadly unchanged in the years ahead (Chart 1.13). Wage growth prospects are dimmed by weak profitability in some business sectors and prospects for continued low productivity growth.

Chart 1.12 Unemployment according to LFS[1] and NAV[2].
Share of the labour force. Seasonally adjusted. Percent. 2013 Q1 – 2022 Q4[3]



1) Labour Force Survey. 2) Registered unemployment. 3) Projections for 2019 Q3 – 2022 Q4.
Sources: Norwegian Labour and Welfare Administration (NAV), Statistics Norway and Norges Bank

Chart 1.13 Wages. Annual change. Percent. 2013 – 2022[1]

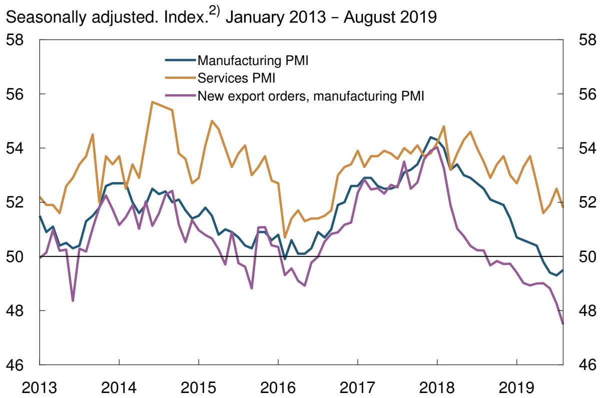


1) Projections for 2019 – 2022. 2) Nominal wage growth deflated by the CPI.
Sources: Statistics Norway and Norges Bank

2 The global economy

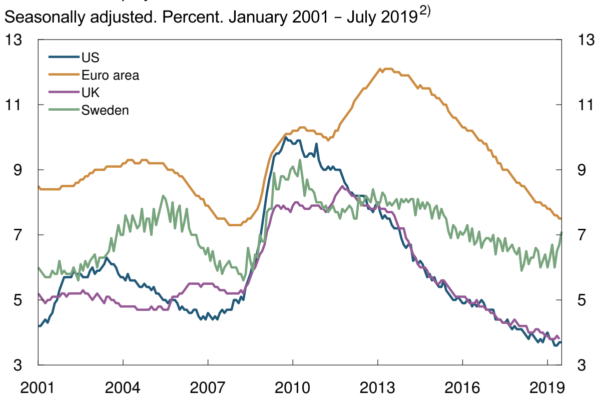
Uncertainties about trade tensions and the UK's exit from the EU are weighing on global GDP growth. At the same time, capacity utilisation among Norway's main trading partners is close to a normal level, and unemployment is low. Growth prospects are lower than in the June *Report*. Underlying inflation is below inflation targets. Oil spot and futures prices are approximately unchanged from June. Both short-term and long-term interest rates among trading partners have fallen.

Chart 2.1 Global PMI.[1]
Seasonally adjusted. Index.[2] January 2013 – August 2019



1) Weights based on contribution to global production of goods and services. 2) Survey of purchasing managers. Diffusion index centred around 50.
Source: Thomson Reuters

Chart 2.2 Unemployment[1] in selected countries.
Seasonally adjusted. Percent. January 2001 – July 2019[2]



1) Unemployed as a share of the labour force. 2) Latest observation is July 2019 for the euro area, Sweden and the US, and June 2019 for the UK.
Source: Thomson Reuters

2.1 GROWTH, PRICES AND INTEREST RATES

Weaker growth prospects

Owing in part to tighter financial conditions and uncertainties about trade tensions and the UK's exit from the EU, GDP growth among Norway's trading partners gradually slowed through 2018. Following solid growth at the beginning of 2019, growth has again weakened in both the US and Europe. GDP fell in the UK and Germany in 2019 Q2. Growth has also slowed in China and other emerging economies over the past year. Activity indicators for the manufacturing sector have declined and are now at low levels. The indicator for new export orders fell at a faster pace through summer (Chart 2.1). Activity indicators for the service sector and household confidence indicators have been more robust. Labour markets are tight in a number of countries, with high employment rates and low unemployment (Chart 2.2).

There is still uncertainty in Europe about the UK's exit from the EU. Trade tensions between the US and China have intensified since the June *Report*. The US has imposed a new punitive tariff of 15% on imports from China worth about USD 110bn. Including the latest increase, about two-thirds of US imports from China are now subject to punitive tariffs. China has retaliated, and the US has announced that tariffs will be increased further. Together with signals from a number of central banks of looser monetary policy, these factors have pushed down interest rates among trading partners. The US Federal Reserve lowered its policy rate in July. In September, the European Central Bank (ECB) also lowered its policy rate and announced the resumption of its asset purchase programme. Long-term rates have fallen (Chart 2.3) and are at very low levels in a number of countries. Expected money market rates among Norway's main trading partners indicate falling rates in the years ahead (Chart 2.4). Global equity indexes are slightly higher than at the time of the June *Report* (Chart 2.5).

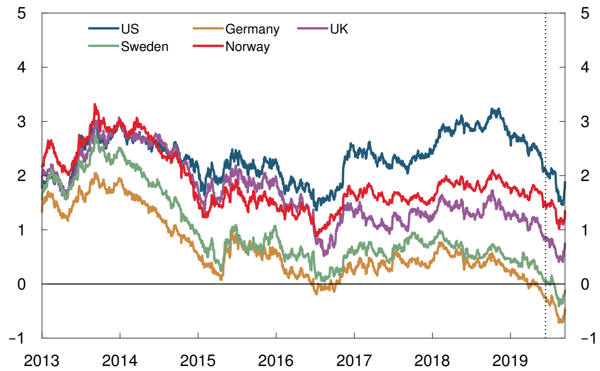
Uncertainties about trade tensions and the UK's relationship with the EU dampen the growth outlook for trading partners, particularly through reduced business investment willingness (Chart 2.6). Uncertainties and the risk of a global downturn are reflected in market rates and commodity prices on which the projections are conditioned. The projections for GDP growth in 2019 and 2020 are lower than in the June *Report*.

The economic consequences of a no-deal Brexit are highly uncertain (see box on page 17). Our projections are based on the assumption that the UK will not leave the EU without a withdrawal agreement. However, growth in the UK is still projected to be subdued in the years ahead. There is also considerable uncertainty surrounding trade tensions ahead. There are no prospects of an imminent resolution of the trade conflict between the US and China, and the projections are based on the assumption of persistent uncertainty. The technical assumption is made that no concrete measures will be taken beyond the tariffs and restrictions already imposed. In the projection, expansionary monetary policies make a positive contribution to growth in a number of countries, while fiscal policy is projected to be neutral from 2020. GDP growth among trading partners is projected to gradually edge up as investment willingness rebounds (Annex Table 1). Import growth among Norway's main trading partners slowed in the first half of 2019, partly reflecting low investment growth. The projections for import growth among trading partners are lower than in the June *Report* (Chart 2.7). The increase in global petroleum investment may be more moderate than previously assumed.

Prospects for slightly lower wage growth

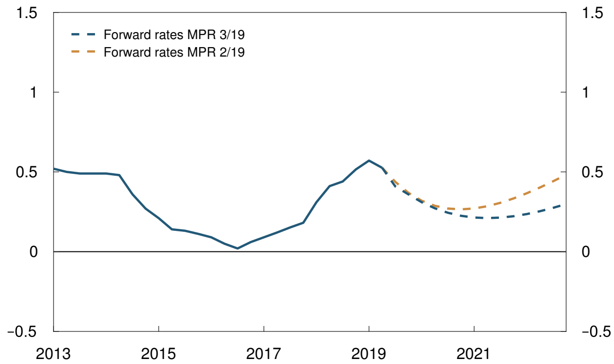
Underlying consumer price inflation among trading partners has remained stable at slightly below 1.5% since the beginning of 2017 (Chart 2.8) and has been broadly in line with projections since the June *Report*. Both wage growth and underlying inflation are projected to rise slightly in the next couple of years on the back of higher capacity utilisation (Annex Table 2). The projections are a little lower than in the June *Report* because of weaker growth prospects. The analyses in this *Report* are based on information in the period to 13 September. At the cut-off date, oil spot and futures prices were about the same as at the time of the June *Report* (Chart 1.4). Oil prices are discussed in a box on page 16.

Chart 2.3 Yields on 10-year government bonds in selected countries. Percent. 2 January 2013 – 13 September 2019[1)]



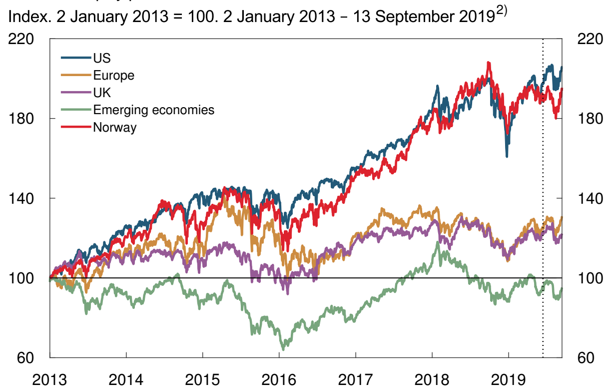
1) MPR 2/19 was based on information in the period up to 14 June 2019, indicated by the vertical line.
Source: Bloomberg

Chart 2.4 Three-month money market rates for Norway's trading partners.[1)] Percent. 2013 Q1 – 2022 Q4[2)]



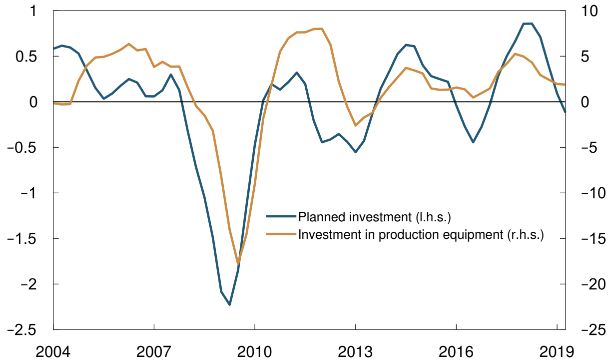
1) Based on money market rates and interest rate swaps. See Norges Bank (2015) "Calculation of the aggregate for trading partner interest rates". *Norges Bank Papers* 2/2015.
2) Forward rates at 14 June 2019 for MPR 2/19 and 13 September 2019 for MPR 3/19.
Sources: Thomson Reuters and Norges Bank

Chart 2.5 Equity prices in selected countries.[1)] Index. 2 January 2013 = 100. 2 January 2013 – 13 September 2019[2)]



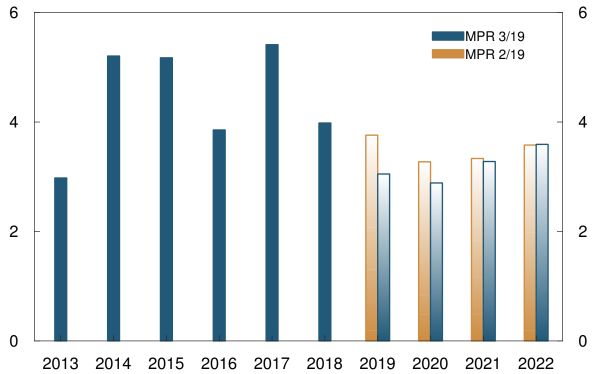
1) Standard and Poor's 500 Index (US). Euro Stoxx 50 Index (Europe). Financial Times Stock Exchange 100 Index (UK). MSCI Emerging Markets Index (emerging economies). Oslo Børs Benchmark Index (Norway). 2) MPR 2/19 was based on information in the period up to 14 June 2019, indicated by the vertical line.
Source: Bloomberg

Chart 2.6 Planned investment[1)] and investment in production equipment[2)] in selected countries[3)]. 2004 Q1 – 2019 Q2



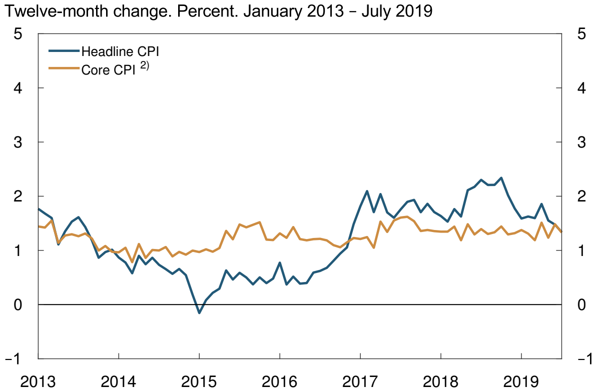
1) Survey data from respective countries. Normalised. Three-quarter moving average.
2) Three-quarter growth over previous three quarters. Percent. 3) GDP weights. US, euro area and Japan.
Sources: Thomson Reuters and Norges Bank

Chart 2.7 Imports for Norway's trading partners.[1)] Annual change. Percent. 2013 – 2022[2)]



1) Export weights. 25 main trading partners. 2) Projections for 2019 – 2022.
Sources: Thomson Reuters and Norges Bank

Chart 2.8 Headline and core inflation in selected countries.[1)] Twelve-month change. Percent. January 2013 – July 2019



1) Import weights. US, euro area, UK and Sweden. 2) US: excluding food and energy.
UK and euro area: excluding food, tobacco, alcohol and energy. Sweden: excluding energy.
Sources: Thomson Reuters and Norges Bank

The rise in prices for consumer goods imported to Norway, measured in foreign currency terms, accelerated rapidly through 2018. The rate of increase has remained elevated so far in 2019 and has been higher than projected in June, particularly for clothing, footwear and cars. The projections have been revised up for 2019 and 2020 (Annex Table 2).

Downside risks still dominate

There is considerable uncertainty associated with global economic developments. This is reflected in a number of uncertainty indicators (Chart 2.9). If trade tensions intensify further, growth among Norway's trading partners may be lower than projected. If the UK leaves the EU without a withdrawal agreement, growth in Europe will probably be lower than projected (see box on page 17). On the other hand, economic growth may prove stronger than projected if, for example, the US and China sign a trade agreement or solutions are rapidly found to the political processes in Europe. A marked decline in global growth expectations or a further upward revision of US oil production could push down oil prices further than indicated by futures prices.

2.2 COUNTRIES AND REGIONS

US growth has slowed

Growth in the US economy has slowed. Growth in 2019 Q2 was nevertheless higher than expected, particularly as a result of solid growth in private consumption. Employment growth has softened so far in 2019. Unemployment is still at a low level, and wage growth has remained at slightly above 3%.

The US Federal Reserve lowered its policy rate by 0.25 percentage point in July against the background of trade policy uncertainties and concerns that weaker global growth may drag down growth in the US economy. At the same time, inflation is below the 2% objective. Forward rates indicate three additional rate cuts in the period to summer 2020 (Chart 1.3).

Lower interest rates and solid labour market developments are expected to support household demand. Fiscal policy is assumed to be approximately neutral as from 2020. The new tariffs are likely to have limited direct effects on GDP growth, but uncertainty related to trade tensions is expected to weigh on business investment. GDP growth is expected to slow from 2.2% in 2019 to 1.7% annually from 2020. The growth projection for 2019 has been revised down slightly. Consumer price inflation is expected to be slightly higher in the period ahead than previously projected as a result of higher tariffs on consumer goods imported from China.

Weaker growth outlook for the euro area

Euro-area economic growth has slowed markedly since the cyclical peak in 2017. Growth in 2019 Q2 was slightly lower than anticipated in the June *Report*. Activity indicators for the manufacturing sector have fallen, while service sector indicators have been more robust (Chart 2.10). Unemployment has continued to fall and is at its lowest level since 2008. Euro area-wide capacity utilisation is estimated to be close to a normal level.

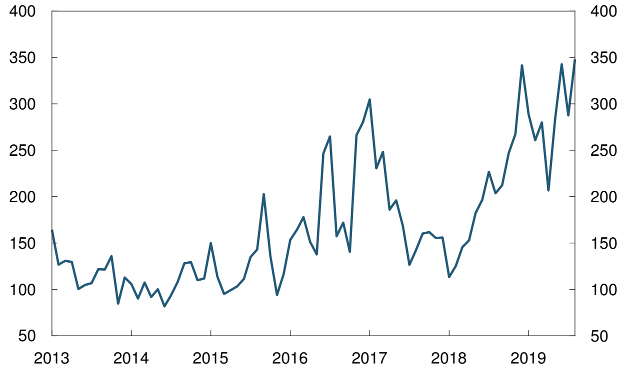
The ECB has lowered its policy rate and signalled that its key rates will be kept at their present or lower levels until the medium-term inflation outlook converges to a level sufficiently close to its inflation objective. In addition, the ECB will restart net purchases under its asset purchase programme.

Growth projections have been revised down to just over 1% annually for 2019 and 2020. Investment growth is likely to be subdued owing to continued high uncertainty related to trade tensions and the UK's withdrawal from the EU. Uncertainties are expected to dissipate and investment willingness to improve from 2021. These factors, combined with continued solid growth in private consumption, are expected to lift growth to about 1.5% towards the end of the projection period. Underlying inflation is expected to pick up somewhat in the period ahead as a result of higher wage growth.

Trade tensions dampen Asian growth

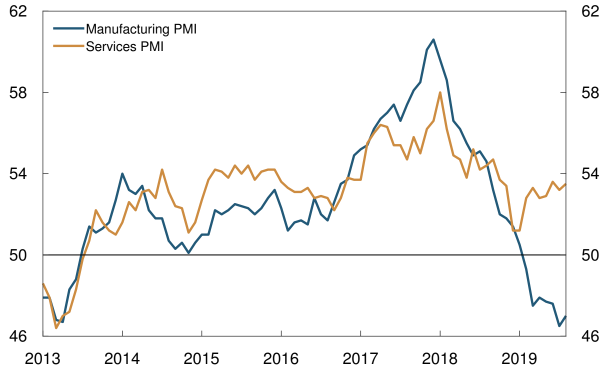
Chinese GDP growth has slowed in recent years. There are signs that the effects of trade tensions with the US are steadily worsening, but expansionary monetary and fiscal policies have made a positive contribution to growth. GDP growth is projected to slow from 6% in 2019 to 5.6% in 2022. The projections are slightly lower than in the June *Report*. Higher tariffs and other restrictions have reduced trade flows between the US and China in particular, but have also had an impact on other Asian countries (Chart 2.11). The projections for GDP growth among Norway's Asian trading partners have been revised down for 2019 and 2020 as a result of the trade tensions.

Chart 2.9 Global economic policy uncertainty.[1]
Index.[2] January 2013 – August 2019



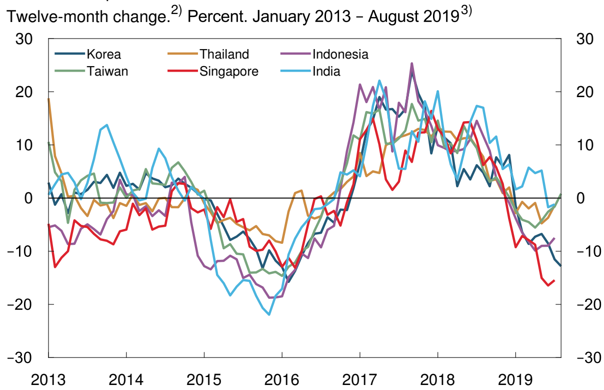
1) Indicator measuring the frequency of the word "uncertainty" connected to "economics" and "policy" in news articles. 2) Weighted by PPP-adjusted GDP. A positive slope denotes greater uncertainty.
Source: policyuncertainty.com

Chart 2.10 PMI in the euro area.
Seasonally adjusted. Index.[1] January 2013 – August 2019



1) Survey of purchasing managers. Diffusion index centred around 50.
Source: Thomson Reuters

Chart 2.11 Exports in selected Asian economies.[1]
Twelve-month change.[2] Percent. January 2013 – August 2019[3]



1) Singapore: domestic non-oil exports. Taiwan: excluding re-exports. 2) Three-month moving average.
3) Latest observation is August 2019 for Korea and Taiwan, July 2019 for the rest.
Sources: Thomson Reuters and Norges Bank

DEVELOPMENTS IN OIL AND NATURAL GAS PRICES

The analyses in this *Report* are based on information in the period to 13 September. At the cut-off date, oil spot prices were around USD 60 per barrel, close to the level in June. Growth in global oil consumption has been low in recent months, and weaker global economic prospects may continue to push down growth in oil consumption. Supply-side conditions in the oil market, however, have supported oil prices. The OPEC+ countries decided at the beginning of July to extend the production cuts from the first half of 2019 up to the end of 2020 Q1. Production in Iran, Libya and Venezuela has fallen further.

In spite of a substantial decrease in OPEC+ oil production in the first half of 2019, OECD oil inventories have edged up again in recent months (Chart 2.A). If OPEC+ countries continue to hold back production, forecasts from the International Energy Agency (IEA) indicate that OECD oil inventories could fall through the second half of 2019. However, IEA forecasts for the first half of 2020 indicate that oil inventories could increase again unless OPEC+ cuts production below today's level. The OPEC+ countries are scheduled to meet in December 2019 to assess the outlook for the oil market in the first half of 2020.

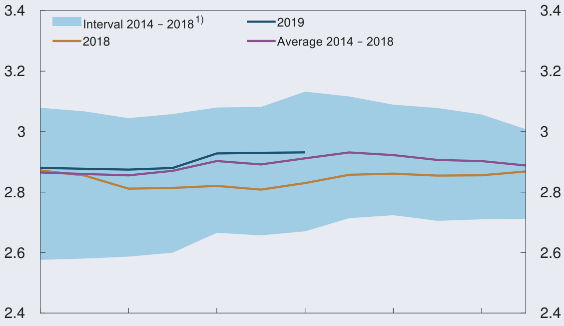
Oil prices are assumed to move in line with futures prices (Chart 1.4). Futures prices at the end of 2022 are now at USD 56 per barrel, approximately as anticipated in June.

Oil prices may fall more than implied by futures prices if global economic growth is lower than expected, particularly if growth in emerging economies such as China and India slows more than anticipated. Growth in oil consumption may also decline over time as a result of energy efficiency gains and a shift towards new energy sources in order to meet long-term climate goals in the Paris Climate Agreement. A further upward revision of the growth forecasts for non-OPEC oil production could also depress oil prices.

On the other hand, oil prices could rise if US sanctions against Iran and Venezuela lead to a further decrease in oil exports from those countries. Tensions in the Middle East could also lead to higher prices than anticipated.

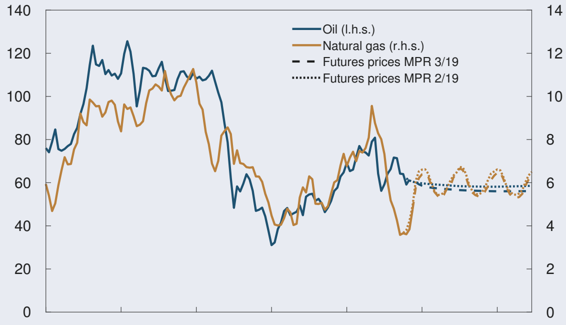
European natural gas prices are approximately the same as in June. In the period to the beginning of September, prices fell (Chart 2.B). Gas inventories in Northwest Europe continued to increase, partly owing to an ample supply of liquefied natural gas (LNG). In addition, weaker economic developments may have affected gas consumption. Recently, however, prices have risen, which may reflect expectations of a substantial fall in production in the Groningen gas field in the Netherlands. Russian gas exports to Europe may also be lower. Reduced nuclear power generation in France may also underpin European gas consumption in the coming period. Gas prices are assumed to move in line with futures prices. Futures prices for European gas and Asian LNG indicate higher prices ahead, approximately as in June.

Chart 2.A Total OECD oil inventories.
In billions of barrels. January 2018 – July 2019



1) Interval between the highest and lowest level for a given month in the period 2014 – 2018.
Sources: International Energy Agency and Norges Bank

Chart 2.B Oil and natural gas prices[1)].
Oil, USD/barrel. Natural gas, USD/MMBtu. January 2010 – December 2022[2)]



1) Value-weighted average of prices on natural gas in the Netherlands and the UK.
2) Futures prices on 14 June 2019 for MPR 2/19 and on 13 September 2019 for MPR 3/19.
Sources: Norwegian Petroleum, Thomson Reuters and Norges Bank

CONSEQUENCES OF A NO-DEAL BREXIT

There is still considerable uncertainty about the UK's exit from the EU. In the event of a no-deal Brexit, trade between the two parties will be subject to WTO rules. For example, goods will need to clear customs, and VAT on cross-border transactions will need to be collected. Moreover, the UK will no longer be covered by EU trade agreements with third countries.[1] The lack of infrastructure means that the necessary border checks may cause problems and delays for imported or exported goods. Indirect trade costs will also rise owing to differences in technical regulations and product standards. Financial market participants and others will lose the automatic right to sell services from the UK to EEA countries. A no-deal Brexit may also have a considerable adverse impact on financial markets.

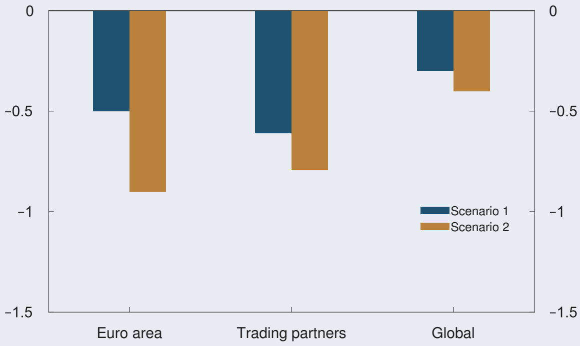
The economic consequences are uncertain. The largest impact by far will be in the UK itself. According to IMF calculations, UK GDP may be around 3.5% lower over three years compared with a smooth Brexit.[2] This is consistent with estimates by other institutions.

Such an outcome will result in global spillovers from lower demand in the UK and higher trade costs. Other countries may also be affected indirectly owing to heightened uncertainties and tighter financial conditions. To illustrate the possible effects, we have used a forecasting model designed to analyse spillovers from shocks in one region to other regions and to commodity prices.[3] We have looked at two scenarios. In Scenario 1, we look at spillovers from lower demand in the UK. In Scenario 2, there is also a marked tightening of euro area financial conditions.

The model's results show that spillovers to European countries are clearly the most pronounced, while the effects on other regions and global GDP are moderate (Chart 2.C). In 2022, euro area GDP may be around 0.5% lower than in the baseline scenario in this *Report* because of the demand effects of lower UK growth. In the event of increased uncertainty and a marked tightening of euro area financial conditions, GDP may drop by a little less than 1%. In these scenarios, GDP for Norway's trading partners will be between 0.6% and 0.8% lower. By comparison, global GDP will fall by between 0.2% and 0.4%. Prices for oil and other

1 The UK has prepared temporary measures that will exempt 87% of the country's imports from tariffs in the first 12 months after a no-deal Brexit. Provisional agreements are also in place covering a number of financial services. The analyses take these measures into account.
2 IMF *World Economic Outlook*, April 2019.
3 We have used the Global Projection Model (GPM), a global, quarterly forecast model that covers 10 regions and commodity prices. For each region, a set of equations describes the relationship between output, inflation, interest rates and the exchange rate. The model takes into account changes in external demand and financial conditions and constitutes a structural, global model framework suited to analysing spillovers across regions.

Chart 2.C Spillovers to the euro area, trading partners[1)] and global economy[2)] from a no-deal Brexit. Percentage change in GDP in 2022. Compared to baseline scenario in MPR 3/19



1) Export weights. 25 main trading partners. 2) GDP weights.
Source: Norges Bank

commodities soften somewhat, but are supported by continued solid growth in the US and in large emerging economies.

The scenarios do not reflect all the Brexit-related effects, such as changes in capital flows or disruptions to multi-country production chains. In addition, the extent and consequences of higher indirect trade costs and changes in financial conditions are highly uncertain.

In both scenarios, we assume that most countries will loosen monetary policy. In countries with limited monetary policy space, the effects of monetary easing may now be less pronounced than in a normal situation. The negative effects on growth and inflation may then be greater. We do not assume that fiscal policy will be actively used to stabilise the economy. A more expansionary fiscal policy may cushion the negative impacts in both the UK and other countries.

Consequences for Norway

In terms of export value, the UK is Norway's largest trading partner. The UK accounts for around one-fifth of Norway's total exports, two-thirds of which is crude oil and natural gas. Excluding oil and gas, Norway's service exports to the UK are greater than its goods exports. The UK accounts for the highest share of service imports to Norway and service exports from Norway. A large share of the trade in services with the UK is related to petroleum activities on the Norwegian and UK shelf.

The conditions for trade with the UK build on the fact that the UK is an EU member state. Norwegian and UK authorities have concluded agreements that will allow goods trade to remain largely unaffected even in the event of a no-deal Brexit. These agreements are intended to enter into force quickly after a withdrawal, but may not prevent considerable delays for goods imported into the UK.

The effect of a no-deal Brexit on trade in services is more uncertain, as the EU internal market facilitates such cross-border trade.

A no-deal Brexit will have a negative impact on the Norwegian economy. Weaker growth among Norway's main trading partners will reduce demand from Norwegian export firms, and a somewhat lower oil price may pull down investment in petroleum activities both on the Norwegian shelf and globally. This will reduce the activity of Norwegian oil service firms.

The impact in Norway will depend on the extent of the decline in activity among trading partners, the Brexit-related effects on financial markets and associated uncertainties. If the krone weakens at the same time, this may dampen the impact on the Norwegian economy.

3 Financial conditions

The average residential mortgage rate has risen gradually over the past year, but less than the policy rate. The mortgage rate is expected to increase slightly also in 2019 and 2020, reaching 3.2% at the end of 2020. The krone has depreciated and is weaker than projected in the June 2019 *Monetary Policy Report*. The krone is projected to remain weak in the years ahead.

3.1 LENDING RATES AND MARKET RATES

Higher lending rates

The average residential mortgage rate was 2.7% at the end of the end of 2019 Q2 (Chart 3.1). Developments in interest rates offered by banks through summer indicate that the residential mortgage rate will average around 2.9% at the end of 2019 Q3. While the policy rate has been raised by a total of 0.75 percentage point between September 2018 and June 2019, the overall rise in the residential mortgage rate is likely to be about 0.5 percentage point in the period to the end of 2019 Q3. The pass-through from the policy rate to the mortgage rate was weaker than expected.

Banks' average deposit rate increased less than the money market rate in 2019 Q2 and up to July. At the same time, many banks have reported that there is strong competition in the mortgage lending market. These conditions may have curbed the increase in lending rates.

Banks' lending rates are expected to follow policy rate developments ahead, albeit with a lag. The average residential mortgage rate is projected to increase slightly also in 2019 and 2020, reaching around 3.2% at the end of 2020.

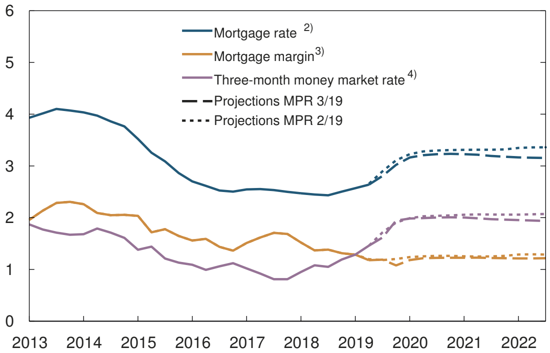
Lending rates offered by banks to enterprises were about 0.5% higher in July than before the policy rate hike in September 2018.

MONETARY POLICY SINCE JUNE

At the monetary policy meeting on 19 June, the policy rate was raised from 1% to 1.25%. The analyses in the June *Report* implied a further rate rise in the course of the year. The rate path was slightly below 1.75% at the end of 2022. With such a policy rate path, inflation was projected to remain close to the target, at the same time as unemployment was projected to remain low.

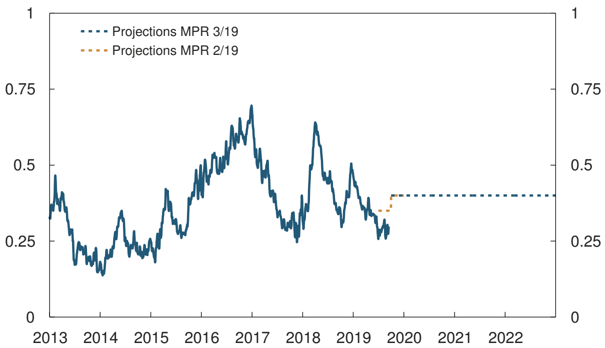
At the monetary policy meeting on 14 August, new information was assessed against the projections in the June *Report*. The upturn in the Norwegian economy had continued broadly in line with projections, while underlying inflation had been a little lower than projected. Growth prospects for Norway's trading partners appeared to be a little weaker than assumed. The krone had depreciated markedly. The Executive Board's assessment was that the outlook for the policy rate for the period ahead was little changed since the June *Report*. The global risk outlook entailed greater uncertainty about policy rates going forward. The Executive Board decided to keep the policy rate unchanged at 1.25%.

Chart 3.1 Interest rates. Percent. 2013 Q1 – 2022 Q3 1)



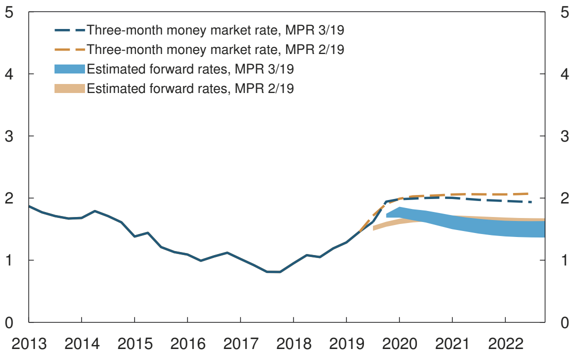
1) Projections for 2019 Q3 – 2022 Q3. **2)** Average interest rate on outstanding mortgage loans to households from the sample of banks included in Statistics Norway's monthly interest rate statistics. **3)** Difference between the mortgage lending rate and the three-month money market rate. **4)** Projections are calculated as a two quarters moving average of the policy rate plus the projected money market premium.
Sources: Statistics Norway, Thomson Reuters and Norges Bank

Chart 3.2 Norwegian three-month money market premium.1) Five-day moving average. Percentage points. 1 January 2013 – 31 December 2022 2)



1) Norges Bank estimates of the difference between the three-month money market rate and the expected policy rate. **2)** Projections for 2019 Q3 – 2022 Q4.
Sources: Thomson Reuters and Norges Bank

Chart 3.3 Three-month money market rate 1) and estimated forward rates2). Percent. 2013 Q1 – 2022 Q4 3)



1) Projections for the money market rate are calculated as a two quarters moving average of the policy rate plus the projected money market premium. **2)** Forward rates are based on money market rates and interest rate swaps. The orange and blue bands show the highest and lowest rates in the period 3 June – 14 June in 2019 (MPR 2/19) and in the period 2 September – 13 September in 2019 (MPR 3/19), respectively. **3)** Projections for 2019 Q3 – 2022 Q3 (money market rate) / 2022 Q4 (forward rates).
Sources: Thomson Reuters and Norges Bank

Increase in money market rates

Lending rates facing households and enterprises depend over time on banks' funding conditions, which are determined by both deposit rates and wholesale market funding rates.

For market funding, banks pay the money market rate Nibor plus a risk premium set at bond issue. Since the June *Report*, there have only been small changes in the risk premium, while three-month Nibor has increased somewhat through the same period, pushing up the price of banks' market funding.

Nibor is determined by market expectations of the average policy rate over the next three months plus a risk premium, generally referred to as the money market premium. Expectations of a policy rate hike at the September monetary policy meeting pushed up Nibor by about 0.1 percentage point through summer as the meeting drew closer. The money market premium, as estimated here, is unchanged overall since June (Chart 3.2). So far in Q3, the premium has on average been about 0.3 percentage point. The market is pricing in a somewhat higher money market premium in USD ahead, which may indicate that the Nibor premium will also rise. The money market premium is projected to rise a little through the next quarter and hover around 0.40 percentage point in the coming years.

Changes in market interest rates among trading partners have led to wide fluctuations in Norwegian forward money market rates in recent months. Norwegian forward money market rates are now somewhat higher than in June, but forward rates are still somewhat lower than the policy rate path (Chart 3.3).

Long-term interest rates have also been volatile in recent months owing to changes in foreign interest rates, but are now little changed from the June *Report* (Chart 3.4). Long-term interest rates are of importance for households that want fixed-rate loans. The proportion of households with fixed-rate mortgages is low so that changes in the rate on fixed-rate mortgages have little impact on overall mortgage rates.

3.2 KRONE EXCHANGE RATE

Weaker-than-projected krone

The krone, as measured by the import-weighted exchange rate I-44, has depreciated by about 2% since the June *Report* (Chart 3.5). The krone weakened markedly at the beginning of August when trade tensions between China and the US deepened. The interest rate differential against trading partners has widened since the June *Report*, which in isolation would imply a stronger krone. The krone is weaker than projected in June.

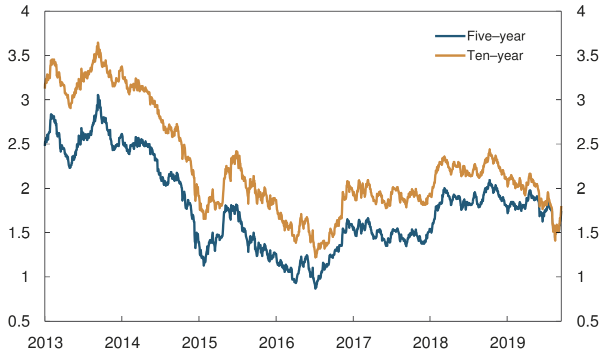
The krone has been weaker for some time than projected in the *Monetary Policy Report*. This may be attributable in part to heightened global uncertainties[1], which may have contributed to pushing up the risk premium on the Norwegian krone and other low liquidity currencies. Prospects for lower activity in the petroleum sector and uncertainty about the need for restructuring in the Norwegian economy may also have weighed on the krone.

It is assumed that the conditions that have been weighing on the krone will contribute to keeping the krone weak in the years ahead, while the risk premium is expected to be somewhat lower. Combined with prospects for a wider interest rate differential against trading partners (Chart 3.6), the krone should strengthen in the year ahead. The krone is now projected to be weaker than in the June *Report*.

A weaker-than-expected krone strengthens the cost competitiveness of Norwegian companies and implies an increase in net exports. A weaker krone will also push up inflation as a result of increases in prices for goods and services imports.

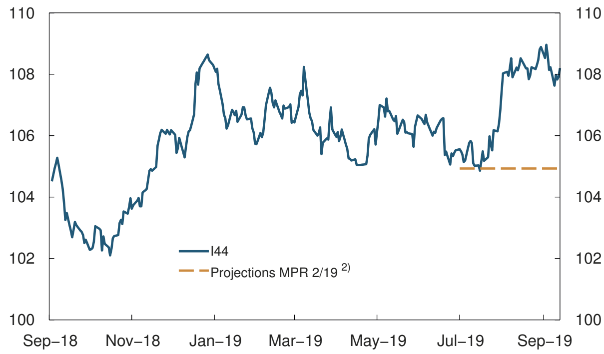
The krone exchange rate may differ from that projected. A rising interest rate level relative to our trading partners may result in a stronger krone than projected in this *Report*. The krone may also appreciate more than projected if global uncertainty diminishes. On the other hand, the krone depreciation may be more persistent than assumed, and hence the krone may remain weaker longer than anticipated.

Chart 3.4 Five- and ten-year swap rates. Percent.
1 January 2013–13 September 2019



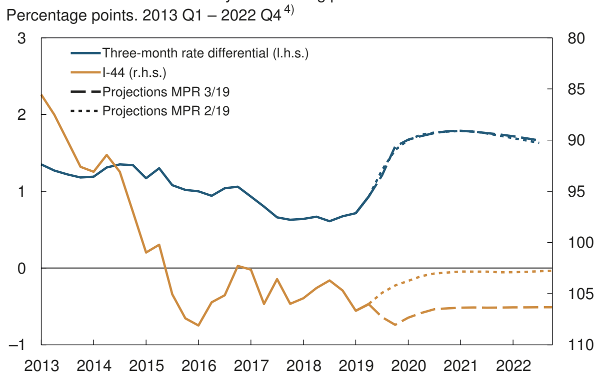
Source: Bloomberg

Chart 3.5 Import-weighted exchange rate index (I-44).[1)]
1 September 2018 – 13 September 2019



1) A positive slope denotes a weaker krone exchange rate. **2)** Projection for the average in 2019 Q3.
Sources: Thomson Reuters and Norges Bank

Chart 3.6 Import-weighted exchange rate index (I-44).[1)] Three-month money market rate differential between Norway[2)] and trading partners[3)].
Percentage points. 2013 Q1 – 2022 Q4[4)]



1) A positive slope denotes a stronger krone exchange rate. **2)** Projections for the money market rate are calculated as a two quarters moving average of the policy rate plus the projected money market premium. **3)** Forward rates for trading partners at 14 June 2019 (MPR 2/19) and 13 September 2019 (MPR 3/19). See Norges Bank (2015) "Calculation of the aggregate for trading partner interest rates". *Norges Bank Papers* 2/2015. **4)** Projections for 2019 Q3 – 2022 Q3 (money market rate) / 2022 Q4 (I-44).
Sources: Thomson Reuters and Norges Bank

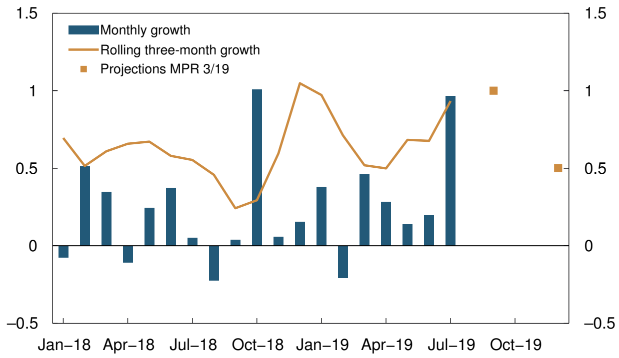
1 See Akram, Q.F. "Oil price drivers, geopolitical uncertainty and oil exporters' currencies". *Working Paper* 15/2019. Norges Bank.

4 The Norwegian economy

Growth in the Norwegian economy has been solid over the past three years. Employment has risen, and unemployment has fallen. Capacity utilisation appears to be somewhat above a normal level. Inflation is close to the target.

Mainland GDP is projected to grow by 2.7% in 2019. A marked pick-up in petroleum investment is contributing to lifting mainland growth in the near term. Further out in the projection period, investment on the Norwegian continental shelf is expected to decline. Combined with a less expansionary monetary and fiscal policy in Norway and weaker external growth, this will push down growth in the Norwegian economy in the years ahead. Capacity utilisation is projected to continue to drift up in 2019, gradually falling back to a normal level thereafter. Wage growth is expected to increase in 2019 and show little change thereafter. Inflation is projected to be a little higher than 2% in the years ahead.

Chart 4.1 GDP for mainland Norway. Seasonally adjusted. Percent. Monthly growth and rolling three-month growth [1]. January 2018 – December 2019 [2]



1) Growth the past three-month period compared with the previous three-month period. 2) Projections for September 2019 – December 2019.
Sources: Statistics Norway and Norges Bank

REGIONAL NETWORK

Norges Bank has regular contact with a network of business leaders. The purpose is to gather information on economic developments in their businesses and industries. The network consists of around 1 500 enterprises, and each enterprise is contacted about once a year. A round of interviews is conducted each quarter, and more than 300 network contacts participate in each round.

The contacts represent enterprises in the Norwegian business sector and the local government and hospital sector that reflect the production side of the economy both sector-wise and geographically.

4.1 OUTPUT AND DEMAND

Continued upturn in the Norwegian economy

Over the past three years, growth in the Norwegian economy has been solid owing to the global upturn, improved cost competitiveness and higher oil prices. Low interest rates have contributed in the same direction.

In 2019 Q2, mainland GDP rose by 0.7% after having increased by 0.5% in Q1. According to monthly national accounts, growth picked up further in July. In the three-month period between May and July, mainland GDP grew by 0.9% compared with the preceding three-month period (Chart 4.1). The enterprises in Norges Bank's Regional Network also report that overall growth remained firm through summer (Chart 4.2). Activity was particularly high in the oil service industry, while output growth declined in manufacturing and construction. For the next six months, Regional Network contacts expect slightly lower growth.

The appreciable rise in July suggests that growth in the mainland economy will pick up slightly between Q2 and Q3. Growth will likely slow down thereafter. Overall, the projections for the second half of 2019 are consistent with the expectations of Regional Network contacts and the projections from Norges Bank's System for Averaging short-term Models (SAM) (Chart 1.5). Annual mainland GDP growth is projected at 2.7% in 2019.

The growth picture is affected by developments in petroleum investment. After falling sharply between 2013 and 2017, petroleum investment picked up through 2018 and is expected to expand rapidly in 2019 (Chart 1.11). Looking ahead, investment is likely to decline (see box on page 34).

Fiscal policy is assumed to be slightly expansionary in the coming years. The fiscal policy assumptions imply that growth in public demand will slow further (see box on page 33). Weaker growth in public demand and a less expansionary monetary policy is expected to push down mainland growth. Lower demand among Norway's trading partners is also weighing on growth prospects, while a weaker krone is benefiting the Norwegian economy. Compared with the June *Report*, the projections for Norwegian mainland GDP are little changed (Chart 1.10).

Stable consumption growth

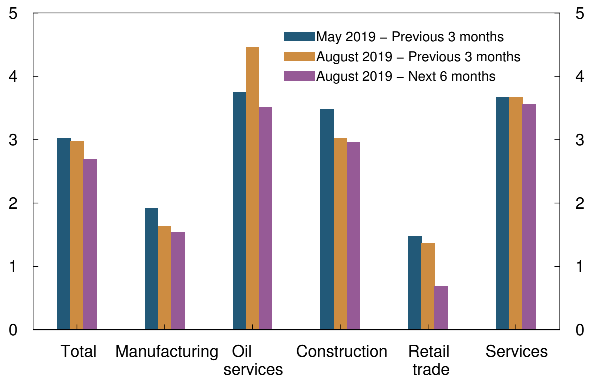
In recent years, household consumption growth has been solid. Services consumption in particular has risen, while growth in goods consumption has been moderate. Consumer confidence indicators are near their historical averages and, on the whole, have changed little since June (Chart 4.3).

In 2019 and 2020, consumption is expected to continue to grow, albeit at a somewhat slower pace than real household disposable income (Chart 4.4). Despite slower real income growth on the back of prospects for lower employment growth, consumption growth is projected to remain approximately unchanged further ahead. The household saving ratio is likely to increase slightly ahead partly owing to higher interest rates, and then fall back towards its historical average (Chart 4.5).

Moderate growth in housing investment

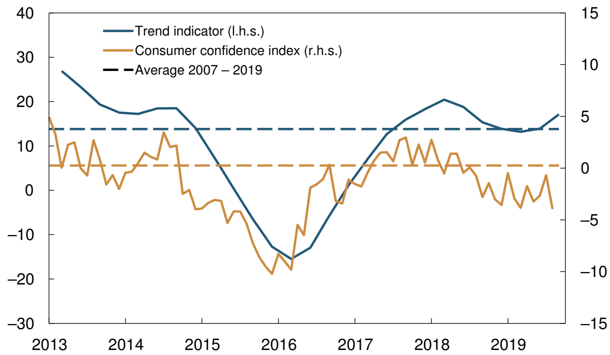
After having fallen markedly in the second half of 2017, house price inflation has been moderate over the past two years (Chart 6.6). In August, the twelve-month rise in prices was 2.6%. Turnover in the market for existing homes is high. At the same time, the stock of unsold homes is high and large numbers of dwellings are nearing completion. Together with higher residential mortgage rates, this will likely curb house price inflation ahead. Continued employment and wage growth may have the opposite effect. Overall,

Chart 4.2 Output growth by sector as reported by the Regional Network. Annualised. Percent



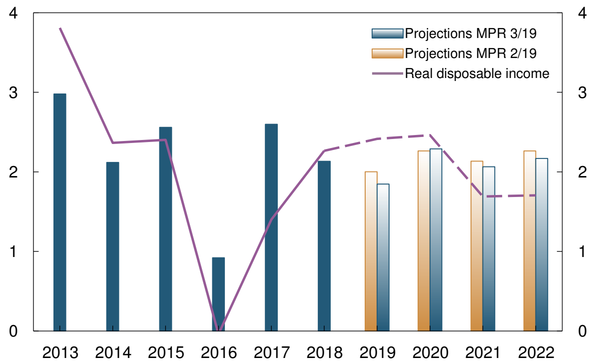
Source: Norges Bank

Chart 4.3 Consumer confidence. Net values. Kantar TNS trend indicator for households. 2013 Q1 – 2019 Q3. Opinion consumer confidence index (CCI). January 2013 – August 2019



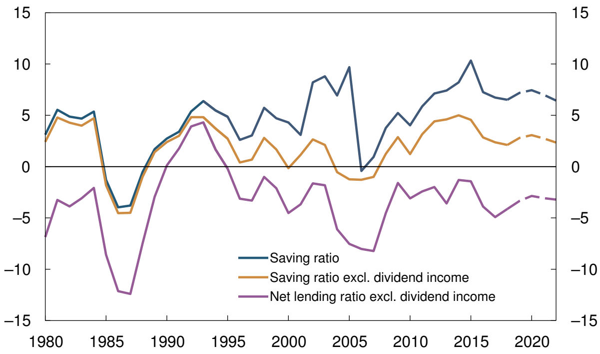
Sources: ForbrukerMeteret™ from Opinion, Kantar TNS and Norges Bank

Chart 4.4 Household consumption[1)] and real disposable income [2), 3)] Annual change. Percent. 2013 – 2022[4)]



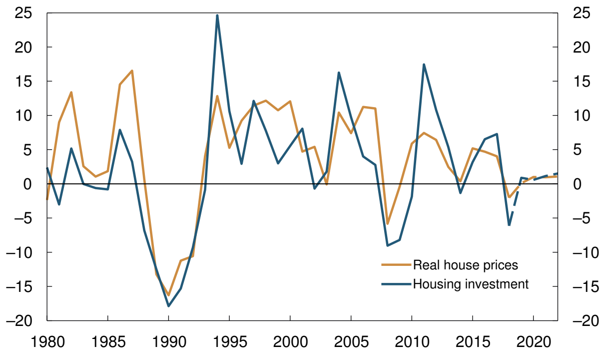
1) Working-day adjusted. **2)** Excluding dividend income. **3)** Includes non-profit organisations.
4) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Chart 4.5 Household saving and net lending.
Share of disposable income. Percent. 1980 – 2022[1)]



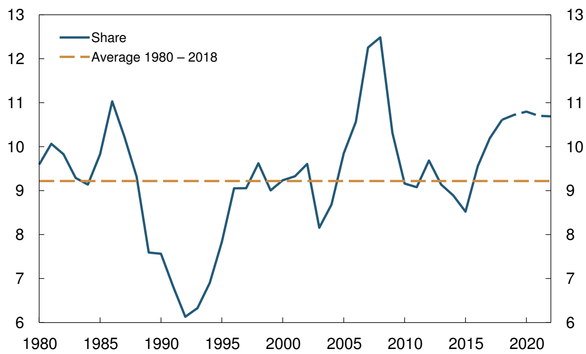
1) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Chart 4.6 Housing investment[1)] and real house prices[2)].
Annual change. Percent. 1980 – 2022[3)]



1) Working-day adjusted. 2) Deflated by the CPI. 3) Projections for 2019 – 2022.
Sources: Eiendomsverdi, Finn.no, Norwegian Association of Real Estate Agents (NEF), Real Estate Norway, Statistics Norway and Norges Bank

Chart 4.7 Mainland business investment[1)]. Share of GDP for mainland Norway.
Percent. 1980 – 2022 [2)]



1) Working-day adjusted. 2) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

house price inflation is expected to be moderate in the coming years. A further discussion of the housing market is provided in Section 6.

Housing investment has increased gradually over the past year. Developments in housing starts suggest that the rise in housing investment will continue in the coming quarters and be somewhat higher than envisaged in the June *Report*. Further out in the projection period, housing investment growth is projected to be fairly low, in line with the projections for real house price inflation (Chart 4.6).

Lower growth in business investment

Business investment grew rapidly between 2015 and 2018. Investment as a share of mainland GDP has reached a high level compared with a historical average (Chart 4.7).

Revised figures show that the increase in business investment in 2018 was stronger than previously estimated. Investment is projected to grow further in 2019, but at a somewhat slower pace than in 2018. Most of the industries in the Regional Network report prospects for investment growth in the coming period. To date, there are few signs that uncertainty relating to global growth prospects have dampened the willingness to invest among Regional Network contacts. According to Statistics Norway's investment intentions survey, investment in manufacturing and mining and quarrying will increase appreciably in 2019. Power sector investment is expected to decline owing to the completion of larger investment projects. This is having a dampening effect on investment growth (Chart 4.8).

In the years ahead, investment growth is expected to decline further. Capacity utilisation in the Norwegian economy appears to be somewhat above a normal level, suggesting continued growth in business investment. On the other hand, high business investment in recent years may have reduced the need for further investment.

Exports continue to rise

After a pronounced decline in 2016, growth in mainland exports has picked up over the past few years (Chart 4.9). National accounts figures show strong export growth in the first half of 2019. Growth was particularly strong in oil services, driven by solid demand from the global oil industry. The weak krone is improving the cost competitiveness of Norwegian companies. Regional Network contacts report continued solid export growth despite increased uncertainty surrounding global developments and weaker growth among Norway's trading partners. In 2020, export growth is expected to slow owing to weaker growth in Norwegian export markets. Growth is expected to pick up on the back of higher global demand in the following years.

Strong growth in petroleum investment is expected to contribute to a sharp rise in imports in 2019. Further ahead, lower growth in mainland investment and a decline in petroleum investment point to slower import growth. A weaker krone is projected to have a relatively modest effect on import growth, in line with historical relationships.[1]

The projections are uncertain

Growth in investment in the mainland economy and on the Norwegian continental shelf is projected to decline. Nevertheless, investment may remain elevated longer than projected in an environment of solid profitability in the petroleum sector, above-normal capacity utilisation, ample access to credit and continued optimism. On the other hand, considerable global uncertainty could lead to lower-than-expected growth among Norway's trading partners, which in turn could lead to weaker export growth. The Brexit process and developments in ongoing trade tensions may lead to larger shocks to international trade and global financial markets than currently assumed. See box on page 17 for a further discussion of the UK's withdrawal from the EU.

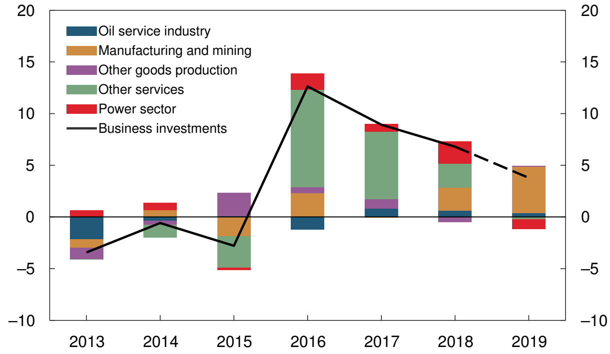
4.2 LABOUR MARKET AND OUTPUT GAP

Broad upswing in employment

Since 2016, employment growth has been solid (Chart 4.10). According to the quarterly national accounts (QNA), the number of employed has increased by 52 000 over the past four quarters. Approximately one third of these jobs are in construction and oil-related industries, but employment has risen in most industries over the past year. In the same period, the number of jobs in distributive trade has declined.

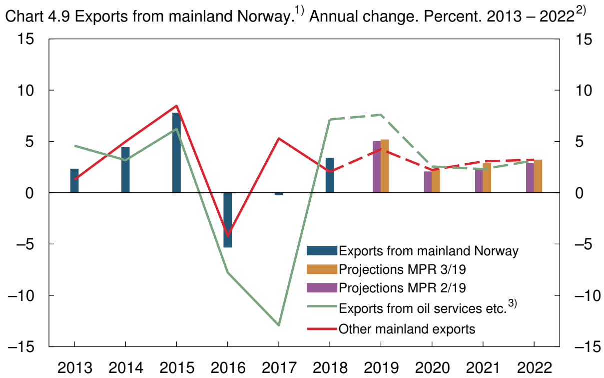
1 See Naug, B. and E. Nordbø (2018) "How much of a tailwind have we had from the weaker krone?". *Staff Memo* 6/2019. Norges Bank.

Chart 4.8 Mainland business investment by sector.[1)]
Contribution to annual change. Percentage points. 2013 – 2019[2)]



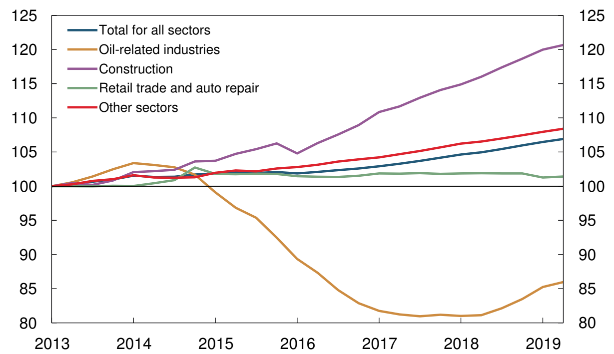
1) Working–day adjusted. 2) Projection for 2019.
Sources: Statistics Norway and Norges Bank

Chart 4.9 Exports from mainland Norway.[1)] Annual change. Percent. 2013 – 2022[2)]



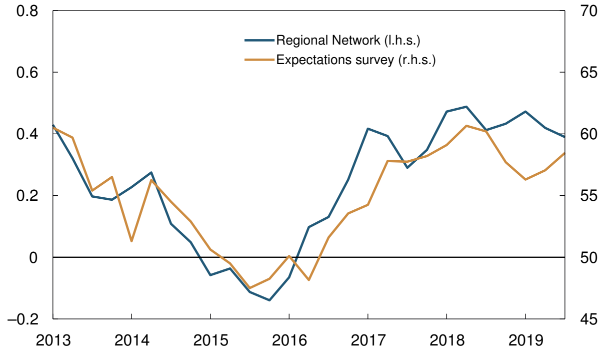
1) Working-day adjusted. 2) Projections for 2019 – 2022. 3) Groups of goods and services in the national accounts where the oil service industry accounts for a considerable share of exports.
Sources: Statistics Norway and Norges Bank

Chart 4.10 Employed persons. Wage earners and self-employed. Seasonally adjusted. Index. 2013 Q1 = 100. 2013 Q1 – 2019 Q2



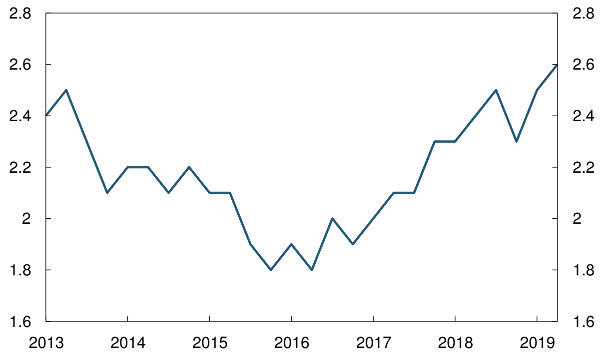
Sources: Statistic Norway and Norges Bank

Chart 4.11 Expected employment.[1] Regional Network. Quarterly change. Seasonally adjusted. Percent. Norges Bank's expectations survey. Diffusion index.[2] 2013 Q1 – 2019 Q3



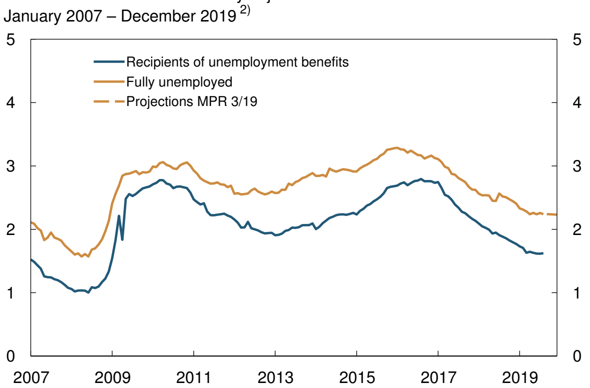
1) Expected change in employment next three months. 2) Share of business leaders expecting "more employees" in their own firm in the following 12 months + 1/2 * share expecting "unchanged number of employees".
Sources: Epinion and Norges Bank

Chart 4.12 Job vacancies. Share of the total number of jobs. Seasonally adjusted. Percent. 2013 Q1 – 2019 Q2



Source: Statistics Norway

Chart 4.13 Unemployment benefit recipients[1] and registered unemployment. Share of labour force. Seasonally adjusted. Percent. January 2007 – December 2019[2]



1) Approximately half of the fully unemployed receive unemployment benefits. Some partly unemployed persons and labour market programme participants are also eligible for unemployment benefits.
2) Projections for September 2019 – December 2019.
Sources: Norwegian Labour and Welfare Administration (NAV) and Norges Bank

According to revised national accounts figures, employment growth in recent years has been somewhat stronger than previously estimated. In 2019 Q2, employment increased broadly in line with projections. Norges Bank's Regional Network survey indicates that employment growth has continued in Q3 (Chart 4.11). The number of vacancies increased between Q1 and Q2 (Chart 4.12). This indicates that labour demand is still on the rise.

Unemployment declined from the beginning of 2016 and into 2019 (Chart 4.13). Unemployment has changed little in recent months. In August, registered unemployment was 2.2% of the labour force, in line with the projection in the June *Report*. The share receiving unemployment benefits has remained stable since spring.

Continued improvement in the labour market
Employment is expected to pick up further in the coming years. Employment growth will normally follow GDP growth with a lag and can therefore be expected to remain elevated for some time after GDP growth begins to slow. Employment growth is projected to remain broadly unchanged between 2018 and 2019 and to slow in the years ahead. The number of employed is projected to increase by close to 90 000 between the end of 2018 and the end of 2022.

In the coming years, the labour force is also expected to grow further so that unemployment will show little change. Towards the end of the projection period, unemployment is expected to increase slightly.

Slightly lower capacity utilisation than expected
Since 2016, GDP growth has been stronger than the estimated growth potential of the economy, and spare capacity has steadily diminished. In June, the assessment was that capacity utilisation had reached a normal level at the end of 2018 and increased further in 2019 (Chart 1.1b).

A number of signs indicate that capacity utilisation has picked up further since June (Table 4.1). An estimate where various labour market indicators are weighted together suggests that capacity utilisation increased between Q1 and Q2 and is now slightly above a normal level (Chart 4.14). A model estimation that also takes into account developments in other sectors of the economy also suggests that capacity utilisation has increased. At the same time, both estimates indicate that capacity utilisation in Q2 rose somewhat less than projected in the June *Report*.

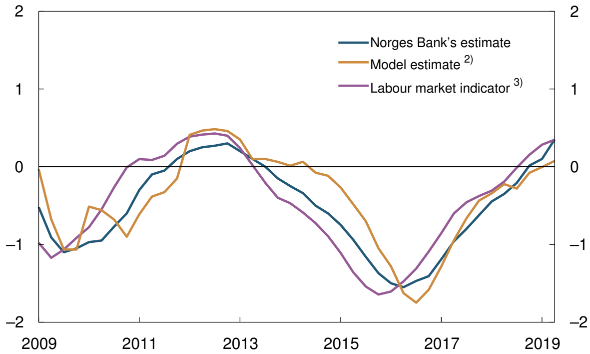
The share of Regional Network enterprises reporting capacity constraints is higher than its historical average (Chart 4.15). The share reporting labour shortages remains close to its historical average. Both measures have shown little change since the June *Report*. In the light of the pronounced rise in employment, enterprises were expected to report greater labour shortages. Wage growth is rising, but there are signs that the rise will be less pronounced ahead than envisaged earlier. Unemployment seems to be stabilising, while employment growth remains solid and has been stronger in recent years than previously assumed. This may indicate that the number of job-seekers is higher than anticipated so far. The labour market thus appears to be tightening somewhat less than projected in the June *Report*. Overall, the projection for capacity utilisation in 2019 has been revised down slightly.

Capacity utilisation is projected to continue to drift up in 2019, gradually falling back to a normal level thereafter. The projections for the output gap are slightly lower than in the June *Report* throughout the projection period.

High employment rate

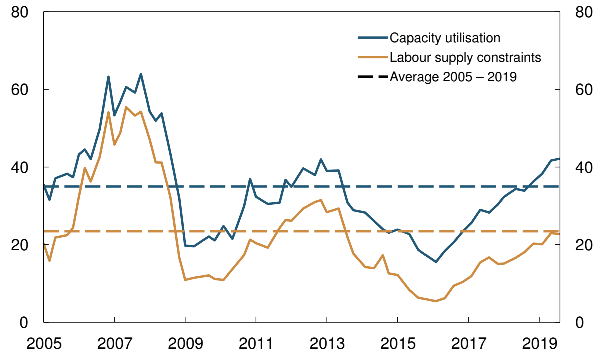
The rise in employment partly reflects an increase in the number of non-resident workers. According to

Chart 4.14 Output gap estimates.[1)] Percent. 2009 Q1 – 2019 Q2



1) The output gap measures the percentage difference between mainland GDP and estimated potential mainland GDP. **2)** See box on page 34 in *Monetary Policy Report* 4/17. **3)** An indicator of the output gap based on the labour market. See Hagelund, K., F. Hansen and Ø. Robstad (2018) "Model estimates of the output gap". *Staff Memo* 4/2018. Norges Bank, for more detail.
Source: Norges Bank

Chart 4.15 Capacity utilisation[1)] and labour supply constraints[2)] as reported by the Regional Network. Percent. January 2005 – August 2019



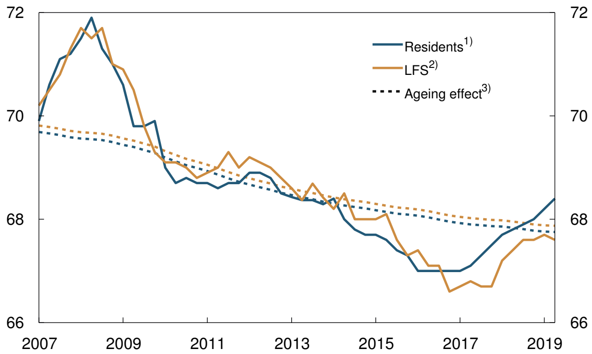
1) Share of contacts that will have some or considerable problems accommodating an increase in demand. **2)** Share of contacts reporting that output is being constrained by labour supply. Only enterprises reporting full capacity utilisation are asked about labour supply, but the series shows the share of all the contacts in the interview round. The municipal and hospital sector does not respond to the question of capacity utilisation but still responds to the question of labour supply.
Source: Norges Bank

Table 4.1 Capacity utilisation indicators[1]

Indicator type	Low	Close to normal	High
Employment and unemployment	Employment, 25–54 (LFS)	Registered unemployment (NAV)	QNA employment (2013 trend)[2]
	Labour force (LFS, 2013 trend)[2]	Unemployment (LFS)	
Prices and wages	Wage growth	Domestic inflation[3]	
Business surveys		Labour supply (RN)[4]	Capacity utilisation (RN)[4]
		Capacity utilisation (SSB)[5]	
Other		Job vacancies (SSB)	New job seekers (NAV)

1 The indicators are placed in columns according to whether they signal low, close to normal or high capacity utilisation. The colour indicates the change since the June *Report*. Red indicates lower capacity utilisation. Green indicates higher capacity utilisation.
2 Labour force and employment developments if the share for each five-year age cohort had been unchanged from 2013 levels.
3 Domestically produced goods and services in the CPI-ATE.
4 Regional Network.
5 Statistics Norway's business sentiment survey for manufacturing and mining and quarrying.

Chart 4.16 Employed as a share of the population aged 15 – 74. Percent. 2007 Q1 – 2019 Q2



1) Employment (QNA) minus non–resident workers (register data). The series for non–resident workers has been adjusted back in time owing to breaks in the series in 2015. **2)** Labour Force Survey. **3)** Employment share if the employment share for each five–year age cohort had remained unchanged at 2013–levels. The curve slopes downward owing to ageing of the population aged 15–74. The year 2013 was selected because capacity was, in Norges Bank's opinion, close to a normal level in that year.
Sources: Statistics Norway and 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.

register data, employment has also increased markedly among residents. The QNA and register statistics show that employed residents as a share of the population have continued to increase since June (Chart 4.16). In isolation, the ageing of the population has contributed to a trend decline in the employment rate in recent years. Adjusted for the effect of ageing, the employment rate among residents is now appreciably higher than in 2013, when capacity utilisation was considered by Norges Bank to be near a normal level. Labour shortages nevertheless appear moderate, which implies a higher employment potential than indicated by the 2013 employment rate adjusted by age alone. The LFS indicates that the employment rate has recently shown little change. The LFS is a sample survey and there is considerable uncertainty associated with short-term fluctuations. The overall assessment is that the employment rate is near the highest level consistent with price stability over time.

Unchanged trend growth ahead

Potential output is projected to grow by an average of just over 1½% through the projection period. The projection is based on trend productivity growth of just under 1% and growth in potential employment of around ¾%. Compared with the June *Report*, the projection for productivity growth has been revised down slightly, and the projection for growth in potential employment has been revised up slightly. The projection for overall potential output is broadly unchanged.

Trend employment growth is estimated based on Statistics Norway's demographic projections. Lower immigration and an ageing population have pulled down trend growth in employment in recent years. The projections imply a small increase in labour immigration over the coming years. At the same time, the Bank expects the number of non-resident workers to continue to increase ahead. Potential employment among residents appears slightly higher than envisaged earlier and is expected to rise somewhat more in the coming years than previously projected.

The projection for trend productivity growth is based on developments in actual productivity. Over the past decade, mainland productivity growth has been just under 1% annually, about half of productivity growth in the previous decade (Chart 4.17).

Uncertainty surrounding potential employment
The potential increase in employment in the years ahead is uncertain. For some time, employment has risen considerably faster than its estimated potential. Labour shortages have nevertheless remained moderate and there appear to be more entrants to the labour market than historical experience would suggest. The projection for growth in potential employment has been revised up somewhat, but the labour reserve among residents may still be larger than envisaged. Developments in the number of non-resident workers are also uncertain.

4.3 COSTS AND PRICES

Inflation close to target
Inflation increased markedly through 2018 (Chart 1.7), reflecting higher electricity prices, rising wage growth and capacity utilisation and higher prices in NOK for imported goods (Charts 4.18 and 4.19).

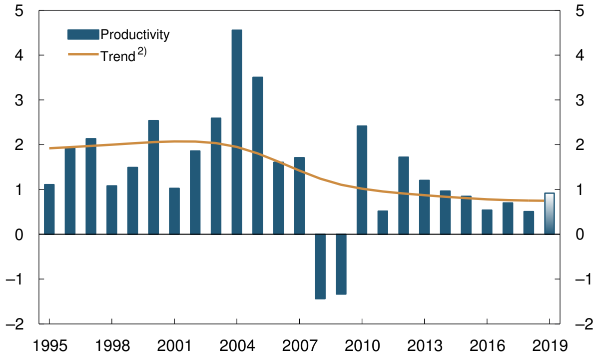
Inflation has slowed over the past half year. In August, the 12-month rise in the consumer price index (CPI) and the consumer price index adjusted for tax changes and excluding energy products (CPI-ATE) was 1.6% and 2.1%, respectively. The rise in other indicators of underlying inflation have also slowed (see box on page 32).

Much of the recent decline in inflation reflects a slower rise in prices for package holidays, food products and clothing, which are the same groups of goods and services that accounted for a large portion of the rise in prices in 2018. Historically, the rise in prices has varied considerably in these groups.

Overall, long-term inflation expectations fell slightly between 2019 Q2 and 2019 Q3 but remain somewhat above target (see box on page 32).

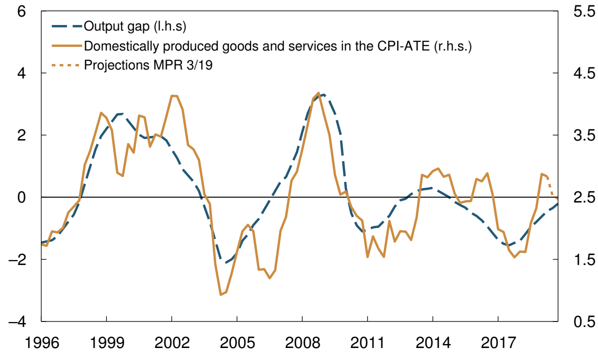
Slightly lower inflation than expected
Since the June *Report*, 12-month CPI-ATE inflation has fallen by slightly more than projected. The rise in prices for domestically produced goods and services has been lower than projected, while the rise in prices for imported consumer goods has been approximately as expected (Annex Table 3c). Food prices in particular have shown a smaller rise than projected. Energy price inflation has slowed less than expected.

Chart 4.17 Productivity. Mainland GDP per employee. Annual change. 1995 – 2019[1)]



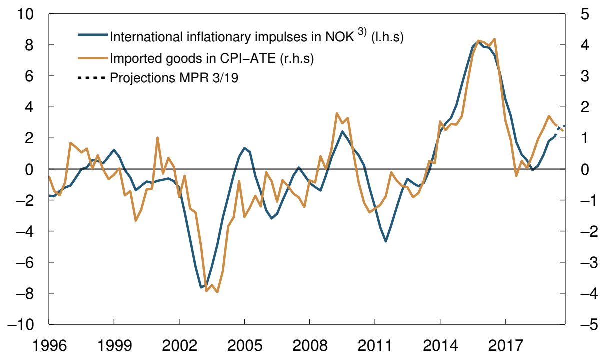
1) Projection for 2019. 2) Estimated with a Hodrick-Prescott filter with lambda = 100.
Sources: Statistics Norway and Norges Bank

Chart 4.18 Domestically produced goods and services in the CPI-ATE[1),2)] Four-quarter change. Percent. Lagged output gap.[3)] Percent. 1996 Q1 – 2019 Q4



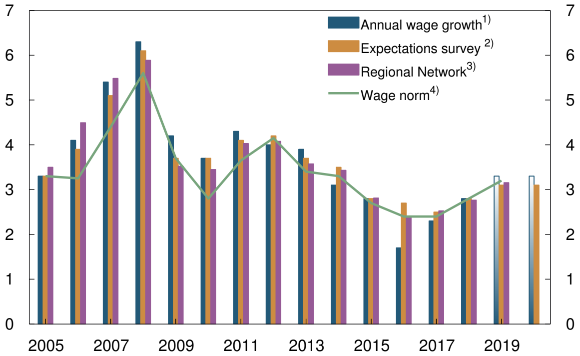
1) CPI adjusted for tax changes and excluding energy products. 2) Norges Bank's estimates. 1996 Q1 – 2019 Q2. Projections for 2019 Q3 – 2019 Q4. 3) The output gap is measured as the percentage difference between mainland GDP and estimated potential mainland GDP. The gap is lagged by five quarters and shows data for 1994 Q4 – 2018 Q3.
Sources: Statistics Norway and Norges Bank

Chart 4.19 Imported consumer goods in the CPI–ATE[1)] and international inflationary impulses in NOK. Four–quarter change. 1996 Q1 – 2019 Q4[2)]



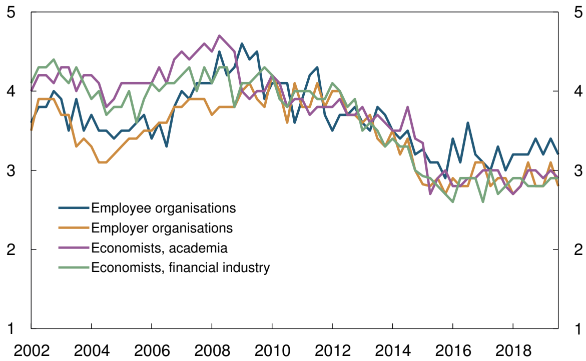
1) CPI adjusted for tax changes and excluding energy products. 2) Projections for 2019 Q3 – 2019 Q4.
3) Simple average for the past eight quarters.
Sources: Statistics Norway, Thomson Reuters and Norges Bank

Chart 4.20 Wages, wage norm and wage expectations. Annual change. Percent. 2005 – 2020



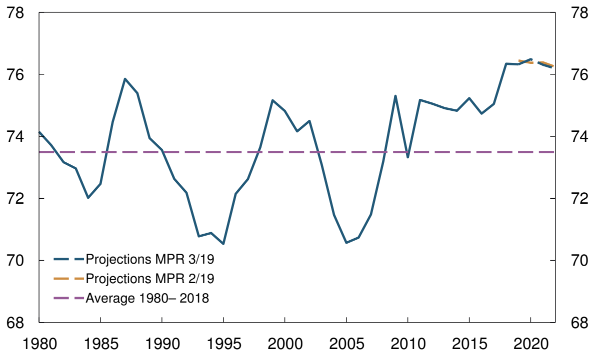
1) Actual annual wage growth from Statistics Norway. Norges Bank's projections for 2019 and 2020.
2) Social partners' wage growth expectations for the current year as measured by Norges Bank's expectations survey in Q3 each year and expected annual wage growth for 2020 measured in 2019 Q3.
3) Expected wage growth for the current year as reported by the Regional Network in Q3 each year.
4) Before 2014: for manufacturing as projected by the National Mediator or NHO. From 2014: for the overall industry, based on an assessment by NHO, done in cooperation with LO.
Sources: Epinion, Kantar TNS, LO, NHO, Opinion, Statistics Norway and Norges Bank

Chart 4.21 Expected annual wage growth five years ahead. Percent. 2002 Q1 – 2019 Q3



Sources: Epinion, Kantar TNS and Opinion

Chart 4.22 Labour cost share for mainland Norway.[1)] Percent. 1980 – 2022[2)]



1) Labour costs as a proportion of factor income. 2) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Overall, 12-month CPI inflation has been broadly in line with projections.

Wage growth picks up slightly in 2019

Tighter labour market conditions in recent years have contributed to an increase in wage growth, which is expected to rise further to 3.3% in 2019 (Chart 4.20). The projection is close to the wage norm in this year's wage settlement and in line with current wage statistics. Solid employment growth in high-wage industries appears to be giving a boost to overall wage growth in 2019.

Wage growth is expected to remain approximately unchanged in the years ahead (Chart 1.13). The wage projections for 2019 and 2020 are slightly higher overall than the expectations in Norges Bank's expectations survey and of Regional Network contacts. Both surveys have tended to underestimate wage growth during a cyclical upturn.

From a historical perspective, wage growth has been low in recent years. At the same time, respondents to Norges Bank's expectations survey reduced their long-term wage expectations (Chart 4.21). Developments reflect the decline in underlying productivity growth and low profitability in some industries in the wake of the fall in oil prices in 2014 (Chart 4.22). Lower wage expectations may also reflect prospects for lower activity in the petroleum sector and uncertainties surrounding the need for restructuring in the Norwegian economy.

Compared with the June *Report*, the wage growth projections have been revised down somewhat for the years ahead. The downward revision is in line with our assessment that the labour market is a little less tight than previously assumed. The respondents to the expectations survey have also revised down their wage expectations for 2020.

The krone depreciation pushes up inflation

Underlying inflation is projected to remain broadly unchanged in the coming period. Annual CPI-ATE inflation is projected at 2.3% in 2019, which is 0.1 percentage point lower than projected in June. The CPI-ATE projections are closely in line with the SAM-based projections for the coming two quarters (Chart 4.23).

From the beginning of 2020, inflation is expected to move up somewhat as the depreciation of the krone feeds through to import prices. Further out, inflation is expected to slow gradually as the effect of the krone depreciation unwinds. At the same time, above-normal capacity utilisation levels and continued growth in unit labour costs will, in isolation, contribute to underpinning inflation. Overall, CPI-ATE inflation is projected to remain slightly above 2% in the coming years (Chart 4.24).

The projections for the next few years are slightly higher than in the June *Report*, primarily reflecting prospects for a weaker krone than assumed in June (Chart 4.25).

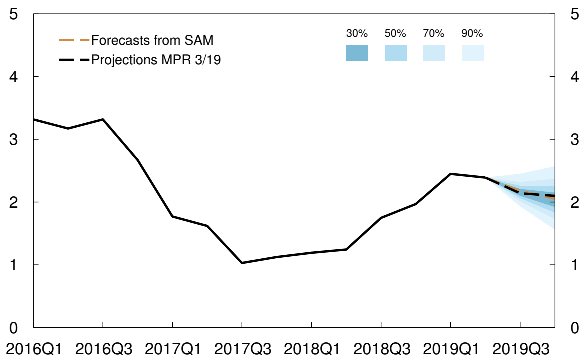
Energy prices in the CPI are now lower than one year ago. Futures prices for electricity and fuel indicate that energy price inflation will increase gradually through the projection period. Overall, annual CPI inflation for 2019 is projected at 2.2%. Towards the end of the projection period, CPI inflation is projected to be a little higher than 2%.

Overall, the projections for CPI inflation and wage growth are consistent with a rise in real wage growth between 2019 and 2020, with growth falling back slightly towards the end of the projection period (Chart 1.13). The projections for real wage growth are lower than in the June *Report*. The downward revision is in line with our assessment that the labour market is a little less tight than previously assumed, and reflects prospects for slightly lower productivity growth than envisaged earlier.

The projections are uncertain

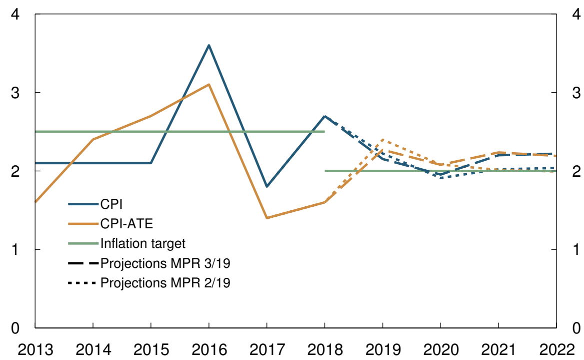
The krone exchange rate is projected to strengthen in the years ahead. If the krone exchange rate remains weaker than expected, inflation will likely be higher than projected. The prospects for business sector profitability are also uncertain. If profitability turns out to be weaker than envisaged, price and wage inflation may turn out to be lower than projected.

Chart 4.23 CPI-ATE[1)] with fan chart from SAM [2)].
Four-quarter change. Percent. 2016 Q1 – 2019 Q4[3)]



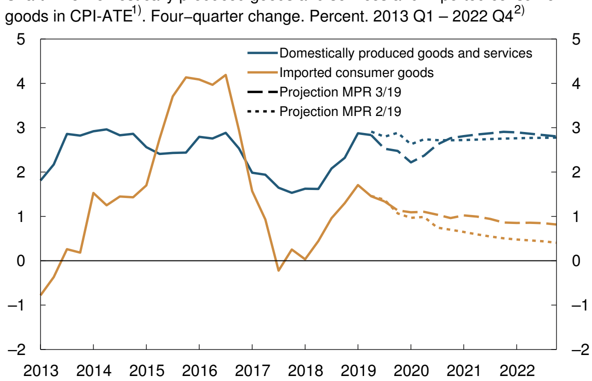
1) CPI adjusted for tax changes and excluding energy products. 2) System for Averaging short-term Models.
3) Projections for 2019 Q3 – 2019 Q4.
Sources: Statistics Norway and Norges Bank

Chart 4.24 CPI and CPI-ATE[1)]. Annual change. Percent. 2013 – 2022 [2)]



1) CPI adjusted for tax changes and excluding energy products. 2) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Chart 4.25 Domestically produced goods and services and imported consumer goods in CPI-ATE[1)]. Four–quarter change. Percent. 2013 Q1 – 2022 Q4[2)]



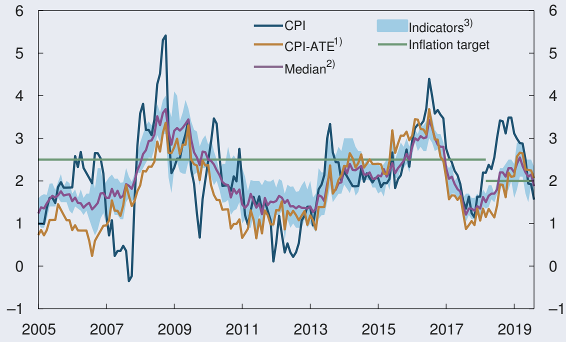
1) CPI adjusted for tax changes and excluding energy products. 2) Projections for 2019 Q3 – 2022 Q4.
Sources: Statistics Norway and Norges Bank

INDICATORS OF UNDERLYING INFLATION

Inflation targeting should be forward-looking and flexible. Norges Bank sets the policy rate with a view to stabilising annual consumer price inflation (CPI) in the medium term. Temporary conditions can lead to substantial short-term fluctuations in CPI inflation. Indicators of underlying inflation can be useful in order to see through such fluctuations.[1]

The most important indicator of underlying inflation in Norges Bank's analyses is the CPI adjusted for tax changes and excluding energy products (CPI-ATE), but supplementing this index with other indicators may be useful. The 12-month rise in other indicators the Bank looks at ranged between 1.6% and 2.3% in August (Chart 4.A). The 12-month average rise in these indicators was 1.9%. The underlying inflation indicators showed a clear increase in the period to March 2019, but have since edged down.

Chart 4.A CPI and indicators of underlying inflation.
Twelve-month change. Percent. January 2005 – August 2019



1) The CPI adjusted for tax changes and excluding energy products. **2)** Median of the CPIM, CPIXE, 20% trimmed mean, weighted median, CPI-XV and CPI common. **3)** The band shows the highest and lowest values for the CPIM, CPIXE, 20% trimmed mean, weighted median, CPI-XV and CPI common.
Sources: Statistics Norway and Norges Bank

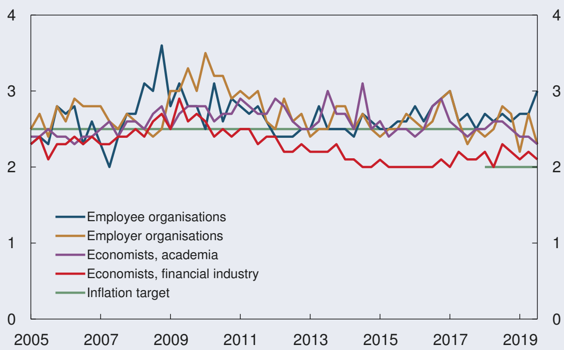
1 See Husabø, E. (2017) "Indicators of underlying inflation in Norway". *Staff Memo* 13/2017, Norges Bank, for a more detailed review of various indicators.

INFLATION EXPECTATIONS

Expectations of future inflation have a bearing on many economic decisions, such as price setting and wage formation. Inflation expectations are often referred to as anchored when medium-term and long-term inflation expectations show little response to new information and remain at a stable level close to the inflation target. Anchored inflation expectations can make it easier for monetary policy to achieve the objective of price stability and contribute to smoothing fluctuations in output and employment.

In recent years, longer-term inflation expectations, as measured in Norges Bank's expectations survey, have overall remained close to 2.5% (Chart 4.B).[1] The inflation target for monetary policy was lowered from 2.5% to 2.0% in March 2018. In the monetary policy reports published after the revision of the inflation target, it is assumed that it will take some time for inflation expectations to adjust to the new target. The expectations survey for 2019 Q3[2] showed that long-term inflation expectations have declined slightly from Q2, but are still somewhat above target. Financial industry economists report the lowest expectations at 2.1%.

Chart 4.B Expected twelve-month change in CPI five years ahead.
Percent. 2005 Q1 – 2019 Q3



Sources: Epinion, Kantar TNS and Opinion

1 See Erlandsen, S. K. and P.B. Ulvedal (2017) "Are inflation expectations anchored in Norway?". *Staff Memo* 12/2017. Norges Bank, for a more detailed review.
2 The expectations survey was conducted in the period 30 July-17 August 2019.

ASSUMPTIONS CONCERNING FISCAL POLICY

The fiscal policy assumptions in this *Report* are based on the Revised National Budget for 2019 and other publicly available information. Petroleum revenue spending, as measured by the structural non-oil deficit, is estimated at 7.7% of trend mainland GDP in 2019 (Chart 4.C), unchanged compared with the June *Report*.

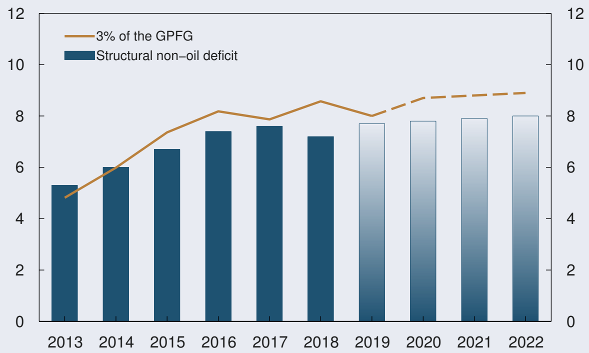
The change in the deficit as a share of trend GDP is used as a simple measure of the effect of the budget on demand for goods and services. In the Revised National Budget, this fiscal impulse is assumed to be 0.5 percentage point in 2019, which is above the average for the period since the introduction of the fiscal rule for petroleum revenue spending in 2001. An expected fall in government dividend income from mainland enterprises from a particularly high level in 2018 will contribute to the considerable fiscal impulse in 2019. The projected deficit in 2019 is 0.1 percentage point above the level in 2017.

As in the June *Report,* the technical assumption is applied that the structural non-oil deficit will increase by 0.1 percentage point annually as a share of trend GDP as from 2020.

Petroleum revenue spending in 2019 is projected to be equivalent to 2.9% of the value of the Government Pension Fund Global (GPFG) at the beginning of 2019, but it may be somewhat lower in 2020 as the value of the GPFG has increased substantially since the beginning of the year.

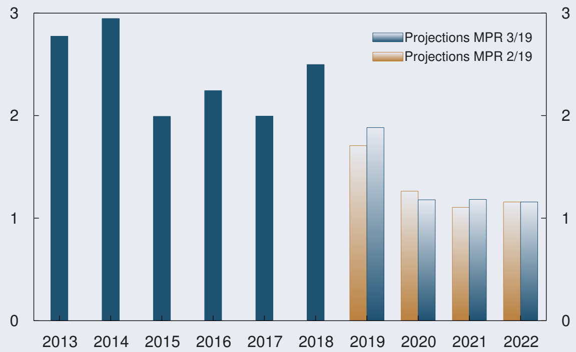
Since 2013, public demand has increased by 2%-3% annually (Chart 4.D). Growth in public sector demand is projected to slow between 2018 and 2019, but the projection has been revised up somewhat compared with the June *Report* as the national accounts indicate relatively strong growth in public demand so far this year. Public demand growth is expected to continue to drift down ahead. The sum of the projections for the coming years is broadly unchanged from the June *Report.*

Chart 4.C Structural non-oil deficit and 3% of the GPFG[1].
Share of trend GDP for mainland Norway. Percent. 2013 – 2022 [2]



1) Government Pension Fund Global. 2) Projections for 2019 – 2022.
Sources: Ministry of Finance and Norges Bank

Chart 4.D Public sector demand [1]. Annual change. Percent. 2013 – 2022[2]



1) Working-day adjusted. 2) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

PROJECTIONS FOR PETROLEUM INVESTMENT

After falling markedly between 2013 and 2017, petroleum investment has shown a solid rise over the past year. Investment is expected to continue to grow in autumn and into 2020 (Chart 4.E). Increased activity reflects substantial cost-cutting measures by oil companies in recent years and the pronounced rise in oil and gas prices since the beginning of 2016. As a result of the cost cuts, break-even prices for new development projects are now USD 10–35 per barrel of oil, which is far lower than the long-term oil prices expected by oil companies. Oil companies have therefore started a number of development projects in new and existing fields since 2016. If oil and gas price developments are approximately as projected in this *Report*, oil companies are expected to launch more than 20 development projects during the projection period (see box on page 16).

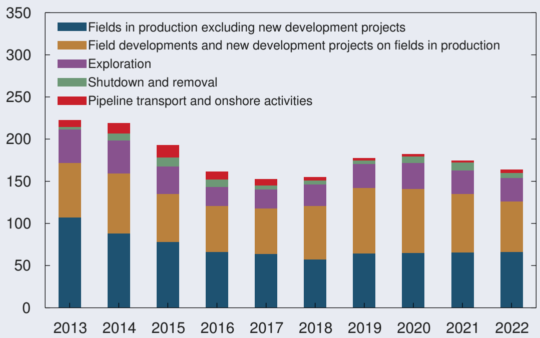
Investment in ongoing development projects increased by NOK 10bn in 2018, and it appears that it will increase even more in 2019, falling thereafter in the period to 2022 as the development projects are completed. This decrease will to some extent be offset by new development projects scheduled to start ahead (Chart 4.F). However, most of these new projects are small compared with ongoing projects[1], as there have been few large discoveries in recent years. Investment in development projects is therefore projected to fall between 2019 and 2022, particularly towards the end of the period. Well and operating investment in fields in production is expected to increase appreciably in 2019, in line with the investment intentions survey for Q3, and then rise moderately through the projection period.

Spending on exploration rose by NOK 4bn in 2018, after decreasing by almost half between 2013 and 2017. Exploration investment is projected to increase further in 2019 and 2020, driven by the fall in drilling costs since 2013 and the prospects for oil and gas prices. After 2020, exploration activity is expected to fall somewhat owing to recent years' weak drilling results.

Overall petroleum investment is projected to increase by 14.5% in 2019 and by 2.5% in 2020. Investment is thereafter expected to fall by 4% in 2021 and 6% in 2022. The projections for total investment growth are a little higher than in the June *Report*. The projections for 2019 and 2020 have been revised up in the light of the most recent investment intentions survey and new information about coming development projects.

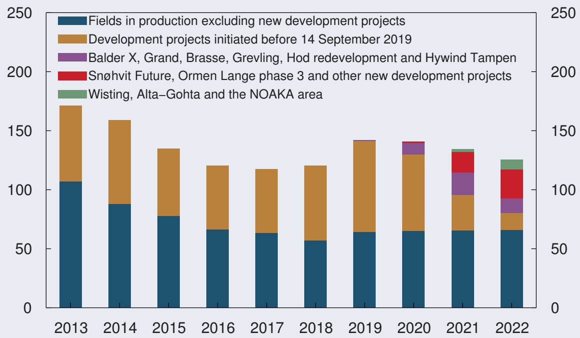
1 Development of the Wisting and Alta-Gohta discoveries may result in investment totalling NOK 100bn over five to six years. These developments are expected to commence towards the end of the projection period.

Chart 4.E Petroleum investment. Constant 2019 prices. In billions of NOK. 2013 – 2022 1)



1) Projections for 2019 – 2022. Figures for 2013 – 2018 are from Statistics Norway's investment intentions survey and are deflated by the price index for petroleum investment in the national accounts. The index is projected to rise by 2% per year in 2019 and 2020.
Sources: Statistics Norway and Norges Bank

Chart 4.F Investment in field development and fields in production. Constant 2019 prices. In billions of NOK. 2013 – 2022 1)



1) Projections for 2019 – 2022. Figures for 2013 – 2018 are from Statistics Norway's investment intentions survey and are deflated by the price index for petroleum investment in the national accounts. The index is projected to rise by 2% per year in 2019 and 2020.
Sources: Statistics Norway and Norges Bank

5 Monetary policy analysis

The policy rate has been raised from 1.25% to 1.50%, and the forecast indicates that the policy rate will be close to this level ahead.

The policy rate forecast is a little lower than in the June 2019 *Monetary Policy Report*. The downward revision reflects weaker growth prospects and lower interest rates abroad. Considerable global uncertainty and the risk of weaker developments than currently projected have pushed down the rate forecast further. A weaker-than-projected krone has in isolation pulled up the rate forecast.

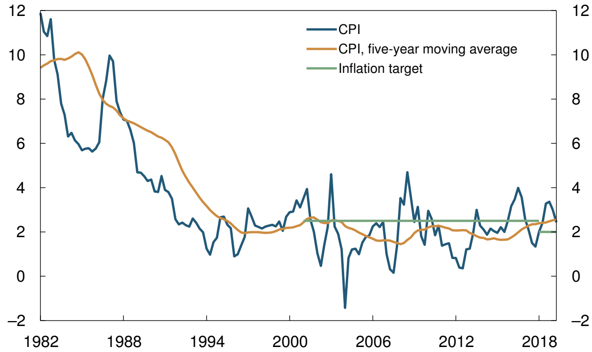
The projections are uncertain, and uncertainty increases through the projection period.

5.1 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 5.1).

Chart 5.1 Consumer price index (CPI).
Four-quarter change. Percent. 1982 Q1 – 2019 Q2



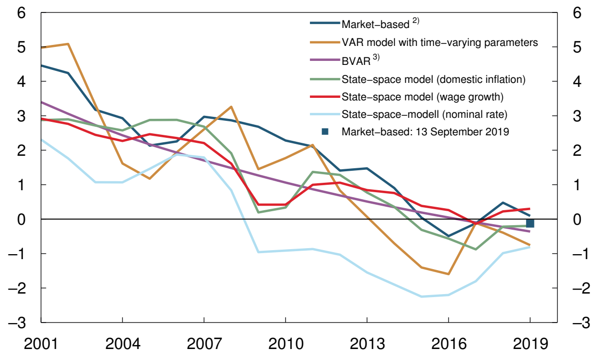
Sources: Statistics Norway and Norges Bank

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. Over the past decade, output and employment volatility has been relatively limited despite large shocks to the Norwegian economy. A flexible inflation targeting regime has helped to dampen the impact on the real economy. Monetary policy objectives and trade-offs are described further in a box on page 40.

Less expansionary monetary policy

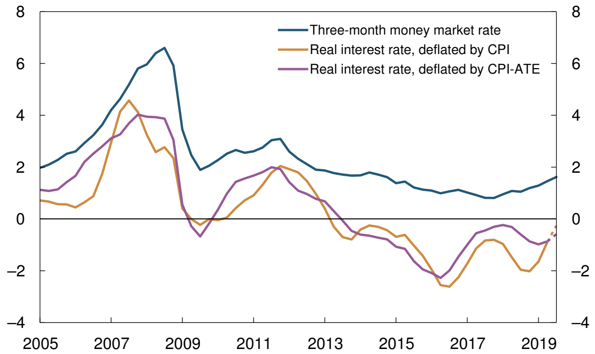
The interest rate level in recent years has been historically low, both globally and in Norway. This is because there has been a need for an expansionary monetary policy, and because the level of the neutral real interest rate has declined over time. The neutral real interest rate is the rate that is neither expansionary nor contractionary. It cannot be observed and must be estimated. Model estimates (Chart 5.2) as well as long-term domestic and foreign interest rates indicate that the neutral real interest rate has remained low in the past few years. The neutral real

Chart 5.2 Model estimates of the neutral real interest rate in Norway.[1]
Percent. 2001 – 2019



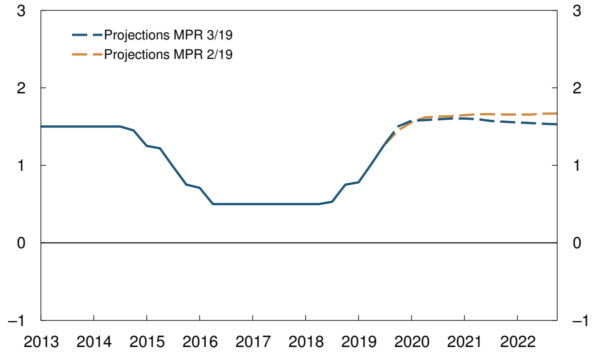
1) See Brubakk, L., J. Ellingsen, Ø. Robstad (2018) "Estimates of the neutral rate of interest in Norway". *Staff Memo* 7/2018. Norges Bank. **2)** Implicit five-year forward rates five years ahead based on interest rate swaps with five and ten years maturity for Norway less the inflation target. **3)** The underlying trend in interest rates in a Bayesian vector autoregressive model.
Source: Norges Bank

Chart 5.3 Three-month money market rate and real interest rates [1]. Percent. 2005 Q1 – 2019 Q2 [2]



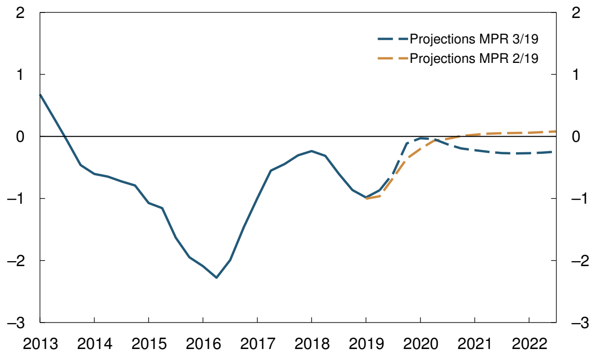
1) Three-month money market rate deflated by a three-quarter centred moving average of four-quarter inflation. 2) Projections for 2019 Q2.
Sources: Statistics Norway and Norges Bank

Chart 5.4 Policy rate. Percent. 2013 Q1 – 2022 Q4 [1]



1) Projections for 2019 Q3 – 2022 Q4.
Source: Norges Bank

Chart 5.5 Real interest rate.[1] Percent. 2013 Q1 – 2022 Q3 [2]



1) Three-month money market rate deflated by a three-quarter centred moving average of four-quarter inflation as measured by the CPI-ATE. 2) Projections for 2019 Q2 – 2022 Q3.
Sources: Statistics Norway and Norges Bank

interest rate in Norway, measured as the three-month money market rate less inflation, is estimated to be close to 0%. The estimate is shrouded in considerable uncertainty.

The money market rate has risen over the past year (Chart 5.3), in line with the increase in the policy rate. The real interest rate has also risen recently.

5.2 NEW INFORMATION AND ASSESSMENTS

Slightly higher policy rate

The policy rate was kept low for a long time in order to stimulate economic activity and stabilise inflation close to the target. Since 2016, there has been an upturn in the Norwegian economy and unemployment has moved down. Norges Bank started raising the policy rate in September 2018, and over the past year, monetary policy has become gradually less expansionary.

A policy rate that is too low over time may increase pressures in the economy, triggering an acceleration in wage and price inflation, and may contribute to the build-up of financial imbalances. On the other hand, a policy rate that is too high may dampen economic activity, resulting in higher unemployment and below-target inflation.

The upswing in the Norwegian economy continues, and capacity utilisation is somewhat above a normal level. The employment rate appears to be close to the highest level compatible with price stability over time. Underlying inflation is close to the inflation target, but the krone depreciation will push up inflation ahead. This implies a higher policy rate. A further rate rise may also mitigate the risk of a renewed acceleration of debt growth and house price inflation.

At the same time, foreign interest rates are very low, and there is considerable uncertainty surrounding the global growth outlook. The very low level of foreign interest rates may be a signal that growth prospects are weaker than assumed. If the UK exits the EU without a deal, or trade tensions deepen further, both external and domestic growth may turn out lower than projected. Considerable global uncertainty and the risk of weaker developments than currently projected suggest a cautious approach to interest rate setting.

The Executive Board's assessment is that the overall outlook and balance of risks suggest a slightly higher policy rate.

The policy rate has been raised from 1.25% to 1.50%, effective from 20 September 2019. The forecast indicates that the policy rate will be close to this level ahead (Chart 5.4).

Slightly lower policy rate forecast

The policy rate forecast is slightly lower than in the June *Report*. A model-based analysis of new information suggests that with a policy rate forecast unchanged since June, capacity utilisation will be a little lower and inflation a little higher than in the June *Report* throughout the projection period (see box on page 38).

Since the June *Report*, the krone has been weaker than projected, which in isolation pulls up the rate path. On the other hand, labour market tightening appears to be less pronounced than previously assumed. Inflation has been a little lower than expected, and wage growth appears to be somewhat lower ahead than projected earlier. There are prospects for weaker external growth and lower foreign interest rates than envisaged in June. These factors suggest a downward revision of the rate path. A purely model-based analysis implies on balance a slightly higher rate path in the near term and a slightly lower path further out.

At the same time, the Executive Board gives weight to the considerable uncertainty surrounding the global outlook. The risk of weaker developments than currently projected has contributed to a slightly lower rate path than in the June *Report*. The box on page 39 describes the factors behind the changes in the policy rate path.

Both the real and nominal interest rate can influence how monetary policy affects the Norwegian economy. In the analysis, the money market rate is assumed to rise in tandem with the rise in the policy rate (Chart 1.8). In the projection, the real interest rate rises in the coming year and falls slightly thereafter (Chart 5.5).

With a policy rate in line with the forecast in this *Report*, capacity utilisation is projected to continue to drift up in 2019, gradually falling back to a normal level thereafter (Chart 1.1b). Employment remains high, and unemployment remains low. The projections for capacity utilisation are a little lower than in the June *Report* throughout the projection period.

Inflation is projected to be a little above 2% at the end of 2022 (Charts 1.1c-d). The projections for CPI and CPI-ATE inflation are a little higher than in the June *Report*.

The projections in this *Report* are based on Norges Bank's assessment of the economic situation, the functioning of the economy and the effects of monetary policy. The projections are uncertain, and the uncertainty increases through the projection period. When the economic outlook or balance of risks changes, or if our understanding of the relationship between the interest rate level, inflation and the real economy changes, the policy rate forecast will be adjusted.

MODEL-BASED INTERPRETATION OF NEW INFORMATION

In assessing the effects of new information and new assessments on the outlook for inflation and the output gap, a model-based exercise is performed where the policy rate forecast from the previous *Report* is held constant. Norges Bank's macroeconomic model NEMO[1] is used in this exercise, where updated projections for the current and next quarter are applied. For exogenous variables, updated projections for the entire projection period are used and comprise the following variables: foreign import growth, external inflation, foreign interest rates, oil prices, domestic money market premiums, domestic public demand and domestic petroleum investment.

The krone has been weaker for some time than projected in the *Monetary Policy Report*. Combined with global uncertainty, prospects for lower activity in the petroleum industry and uncertainty about the need for restructuring in the Norwegian economy have contributed to keeping the krone weak. The forecasts are based on the assumption that the conditions that have been weighing on the krone will contribute to keeping the krone weak in the years ahead. In the model estimation, this is taken into account by adjusting the equilibrium exchange rate. A weaker equilibrium exchange rate implies lower wage growth ahead. See box in MPR 1/19 for a detailed discussion of the effect in NEMO of an adjustment of the equilibrium exchange rate.

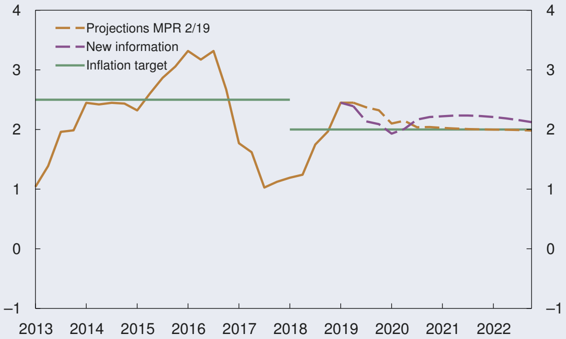
The model-based analysis suggests that with a policy rate forecast unchanged since June, CPI-ATE inflation will be a little lower in the coming year than projected in the June *Report* and a little higher further out in the projection period (Chart 5.A.). Inflation has been lower than expected in the recent period, and the short-term projections have been revised down. The upward revision further out is ascribable to higher imported inflation owing to a weaker krone. Lower wage growth in isolation pulls down inflation.

Capacity utilisation will remain lower than in the June *Report* throughout the projection period (Chart 5.B.). This is primarily because the near-term projections have been revised down and because the projections for growth and interest rates abroad are lower than in the June *Report*.

Higher inflation and lower capacity utilisation have opposing effects on the policy rate outlook.

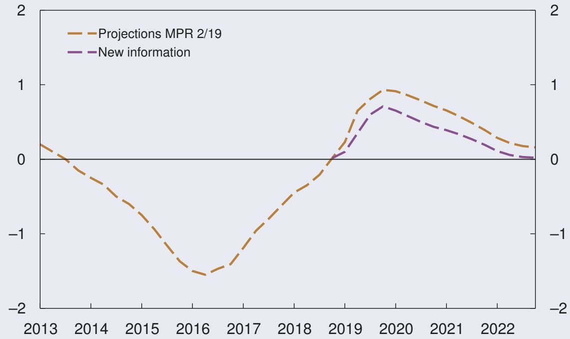
1 NEMO is described in Kravik, E.M and Y. Mimir (2019) "Navigating with NEMO". *Staff Memo* 5/2019. Norges Bank.

Chart 5.A CPI-ATE.[1)] Projections conditional on new information concerning the economic development and policy rate forecast in MPR 2/19. Four-quarter change. Percent. 2013 Q1 – 2022 Q4[2)]



1) CPI adjusted for tax changes and excluding energy products. 2) Projections for 2019 Q3 – 2022 Q4.
Sources: Statistics Norway and Norges Bank

Chart 5.B Estimated output gap[1)]. Conditional on new information concerning the economic development and policy rate forecast in MPR 2/19. Percent. 2013 Q1 – 2022 Q4



1) The output gap measures the percentage deviation between mainland GDP and estimated potential mainland GDP.
Source: Norges Bank

FACTORS BEHIND CHANGES IN THE POLICY RATE PATH

The main factors behind the changes in the rate path since the June *Report* are illustrated in Chart 5.C.

The bars show the various factors' contributions. The black line shows the overall change in the policy rate forecast. The macroeconomic model NEMO is used as a tool for interpreting the driving forces in the economy, but there is no mechanical relationship between news that deviates from the Bank's forecasts in the June *Report* and the effect on the new rate path.

The krone has been weaker than projected in the June *Report*. It is assumed that the conditions that have been weighing on the krone will contribute to keeping the krone weak in the years ahead. A weaker krone pulls up the rate path (orange bars).

Labour market tightening appears to be less pronounced than expected, and potential employment appears to be a little higher than projected earlier. This pulls down the rate path (dark blue bars).

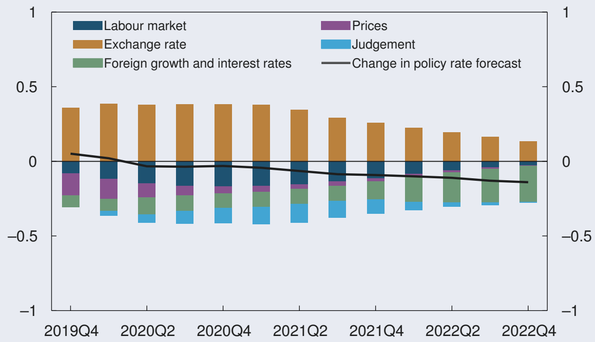
Inflation has been lower than projected, despite a weaker-than-expected krone. In isolation, this pulls down the rate path (purple bars).

Prospects for import growth among trading partners appear to be weaker than assumed in June, and foreign forward rates are lower. Both factors pull down the rate path (green bars).

Overall, new information since the June *Report* suggests a slightly higher rate path in the near term and a slightly lower rate path further out.

At the same time, the Executive Board gives weight to the considerable uncertainty surrounding the global outlook. The risk of weaker developments than currently projected has contributed to a slightly lower rate path than in the June *Report*. This judgement is expressed by the light blue bars.

Chart 5.C Factors behind changes in policy rate forecast since MPR 2/19. Cumulative contribution. Percentage points. 2019 Q4 – 2022 Q4



Source: Norges Bank

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 disturbances 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 achieve a reasonable trade-off between these considerations.

A flexible inflation targeting regime, in which 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 may 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.

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

Household debt continues to rise faster than income, but the difference has narrowed. Corporate debt growth remains elevated. House price inflation is moderate and housing market turnover is high. Rapid property price inflation in the commercial real estate (CRE) market has slowed. Bank profitability is solid and losses are low, and banks have ample access to wholesale funding. Norges Bank's assessment of financial imbalances has not changed substantially since 2019 Q2.

6.1 FINANCIAL IMBALANCES

Financial imbalances have built up over a long period. Household debt ratios are high and have risen sharply over many years. Following a long period of rapid growth, both residential and commercial property prices are at historically high levels. Norges Bank's assessment of financial imbalances has not changed substantially since Q2.

Household debt continues to rise faster than income, but the difference has narrowed over the past year, owing to both higher growth in disposable income and lower growth in household debt. Growth in corporate credit from domestic sources remains elevated and has generally outpaced growth in the economy since 2017 Q1.

House price inflation has been moderate over the past two years. At the same time, the housing market remains buoyant. The stock of houses for sale is large and turnover is high. House prices have fallen relative to household disposable income since the peak in 2017. In the CRE market, the rise in estimated selling prices for prime office space in Oslo has been more moderate over the past year.

The slowdown in household debt growth and in house price inflation may reflect banks´ lending requirements and the interest rate increases over the past year. Looking ahead, the higher interest rate level and continued moderate house price inflation are expected to curb debt growth further.

6.2 CREDIT MARKET

In Norway, credit in the mainland economy has long risen faster than GDP, but the difference has narrowed over the past few years (see credit indicator in Chart 6.1). The credit indicator rose somewhat in Q2 and is almost three percentage points higher than in 2018 Q2, mainly as a result of an increase in corporate debt relative to GDP. The credit gap, which shows the difference between the indicator and an estimated trend, also widened after narrowing in recent quarters (Chart 6.2).

Household debt growth is decelerating

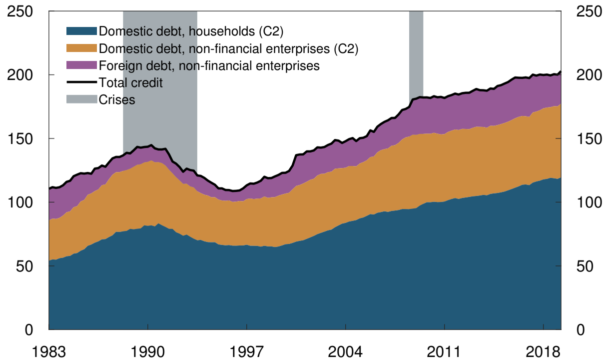
Household debt-to-income ratios have been rising for a long period and are at a historically high level (Chart 6.3). Households are therefore vulnerable to a sharp fall in income or a marked rise in the interest rate level. Recently, the difference between household debt growth and income growth has narrowed, and household debt-to-income ratios are therefore rising more slowly than previously.

Household debt growth has gradually slowed in recent years (Chart 6.4). The 12-month growth rate was 5.5% in June, the lowest level since the mid-1990s. The 12-month growth rate fell further to 5.3% in July, although this reduction is primarily because of a change in the period for converting student loans to grants. Household credit growth now signals low risk in the heatmap (Chart 6A). Credit growth is expected to stay roughly at today's level until November and then to increase to 5.5% at the end of the year (Chart 6.4). [1]

Higher interest rates and continued moderate house price inflation ahead is expected to curb debt growth further in 2020. Somewhat higher debt growth on an annualised basis is expected towards the end of the projection period (Annex Table 4). The projections have been revised up somewhat since the June

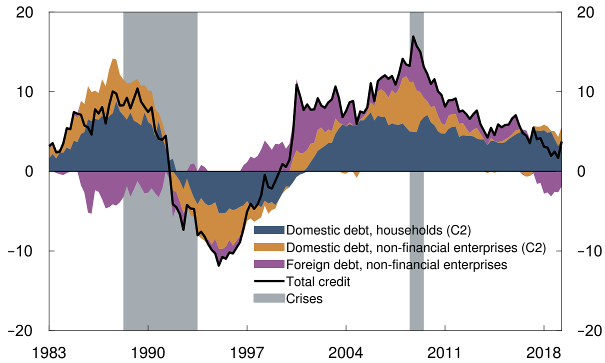
1 The period for converting student loans to grants has been changed from November to July. As a result, the 12-month growth rate is lower in July, and the change is expected to contribute to a higher 12-month growth rate in November.

Chart 6.1 Credit as a share of GDP. Mainland Norway. Percent. 1983 Q1 – 2019 Q2



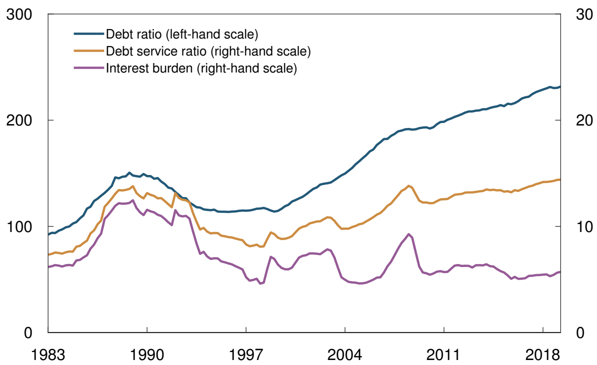
Sources: IMF, Statistics Norway and Norges Bank

Chart 6.2 Decomposed credit gap. Credit as a share of GDP. Mainland Norway. Gap calculated as deviation from trend. Percentage points. 1983 Q1 – 2019 Q2



Sources: IMF, Statistics Norway and Norges Bank

Chart 6.3 Household debt ratio[1)], debt service ratio[2)] and interest burden[3)]. Percent. 1983 Q1 – 2019 Q2[4)]



1) Loan debt as a percentage of disposable income. **2)** Interest expenses and estimated principal payments as a percentage of disposable income plus interest expenses. **3)** Interest expenses as a percentage of disposable income plus interest expenses. **4)** Projection for disposable income for 2019 Q2.
Sources: Statistics Norway and Norges Bank

Report, partly because real interest rates are now expected to be lower than previously assumed.

Owing to the low interest rate level, the interest burden, ie the ratio of interest expenses to income, is still low (Chart 6.3). With the policy rate rises in the past year, the interest burden has edged up. Most households have ample capacity to service debt at somewhat higher interest rates. Despite low interest expenses, the debt service ratio, ie the ratio of interest and normal principal payments to income, has also been increasing for a long period owing to steadily higher debt-to-income ratios (Chart 6.3). The household debt service ratio signals high risk in the heatmap (Chart 6.A).

Unsecured loans, such as consumer loans, account for slightly less than 4% of total household debt. New requirements for banks' lending standards were introduced in 2019 and banks had to comply with the requirements by 15 May. Analyses conducted by Norges Bank show that close to a quarter of households with consumer debt in 2016 would have been constrained by at least one of the requirements (see the 2018 *Financial Stability Report*). Two new registries were introduced in July 2019 to give financial institutions access to information on borrowers' unsecured debt. The new requirements and the debt registries may reduce the vulnerabilities that have built up among highly indebted households and will also likely have a dampening effect on household debt growth.

Corporate debt growth remains elevated

Enterprises have ample access to credit. Growth in credit from domestic sources to mainland enterprises picked up through 2017 and has since been relatively stable at 6%-8% (Chart 6.4). Twelve-month growth was 7.4% in July. Stronger credit growth may reflect the marked increase in business investment between 2015 and 2018 (Section 4.1). A continued high level of business investment is expected to support credit growth in the period ahead (Chart 6.4). All the corporate indicators signal low risk in the heatmap (Chart 6.A).

In the years prior to the banking and financial crises, mainland corporate debt grew appreciably faster than GDP, while for a long period following the financial crisis, it was fairly stable (Chart 6.1). Growth in corporate credit from domestic sources has been picking up since 2017, and domestic corporate debt as a share of GDP is now at about the same level as prior to the financial crisis. At the same time, corporate foreign debt has declined in recent years and total corporate debt as a share of GDP has remained fairly stable as a result.

Growth in bank lending to the corporate sector has been between 5% and 7% over the past year (Chart 6.5). Credit growth declined in most industries between May and July 2019. At the same time, credit growth rose in the commercial real estate industry, which accounts for 43% of banks' loans to the corporate sector. For a number of mainland industries, such as construction, services and distributive trade, growth is substantially higher than total growth in lending to the corporate sector. Lending to oil-related industries and international shipping makes a negative contribution to total growth in bank lending to the corporate sector.

Growth in bond and short-term paper debt declined through 2018, and issuance of new bonds was low at the beginning of the year. As a result, the contribution from debt securities to total debt growth was very limited. Issue activity picked up in Q2 and the contribution to growth from debt securities increased somewhat. Risk premiums in the Norwegian high- and low-yield corporate bond market have fallen so far in 2019. According to market participants, demand has exceeded new issuance. This has created favourable funding conditions for issuers.

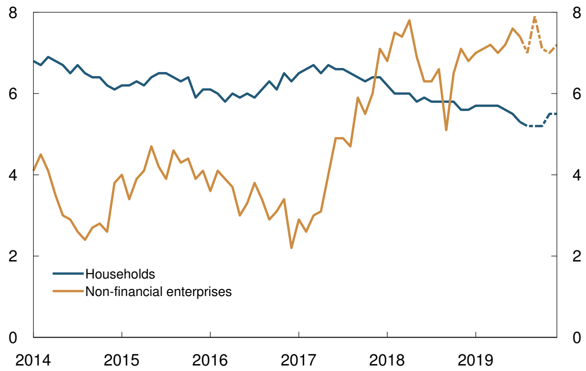
The projections are uncertain

The higher interest rate level is expected to continue to have a dampening effect on household debt growth ahead, although to what extent is uncertain. The long period of low interest rates and rising debt ratios has increased uncertainty surrounding the effects of higher interest rates. There is also uncertainty about the duration and magnitude of the effect of the new requirements for banks' credit standards for consumer loans and the introduction of the new debt registries.

6.3 HOUSING MARKET

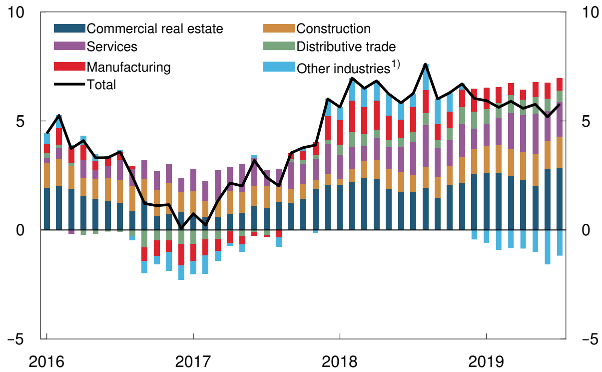
House prices have risen sharply over a long period and are currently more than 60% higher than before the financial crisis. The high level of house prices is a

Chart 6.4 Domestic credit to households and non-financial enterprises in mainland Norway. Twelve-month change. Percent. January 2014 – December 2019[1)]



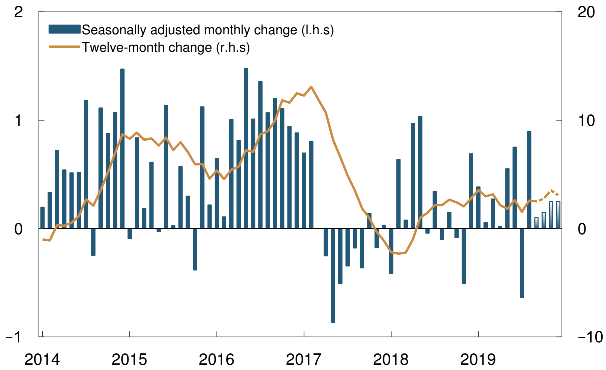
1) Projections for August 2019 – December 2019.
Sources: Statistics Norway and Norges Bank

Chart 6.5 Bank and mortgage company lending to Norwegian non-financial enterprises by industry. Contribution to twelve-month change in stock. Percent. January 2016 – July 2019



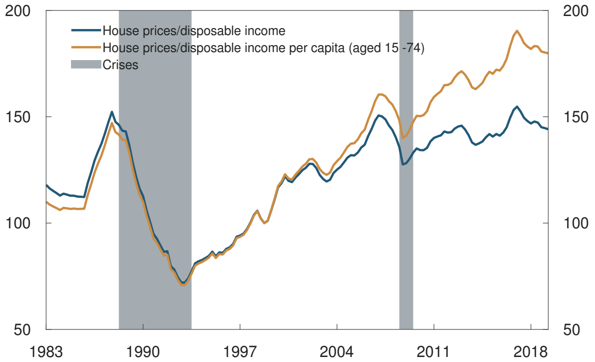
1) Other industries include extraction of natural resources, oil and gas service industry, international shipping and public undertakings.
Sources: Statistics Norway and Norges Bank

Chart 6.6 House prices. Percentage change. January 2014 – December 2019[1)]



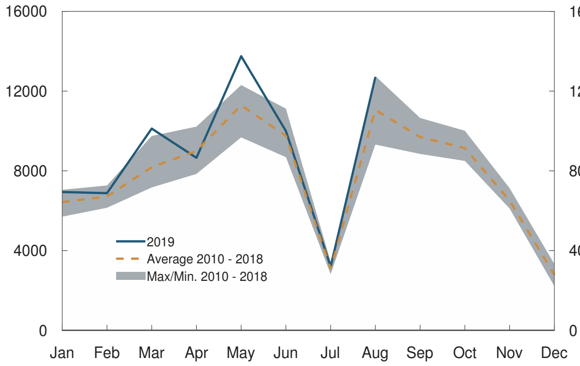
1) Projections for September 2019 – December 2019.
Sources: Eiendomsverdi, Finn.no, Real Estate Norway and Norges Bank

Chart 6.7 House prices relative to disposable income. Index. 1998 Q4 = 100. 1983 Q1 – 2019 Q2[1)]



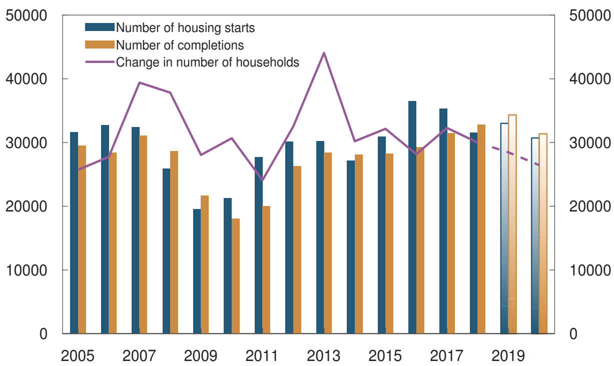
1) Projection for disposable income for 2019 Q2.
Sources: Eiendomsverdi, Finn.no, Norwegian Association of Real Estate Agents (NEF), Real Estate Norway, Statistics Norway and Norges Bank

Chart 6.8 Number of existing homes listed for sale. January 2010 - August 2019



Sources: Eiendomsverdi, Finn.no and Real Estate Norway

Chart 6.9 Housing starts and completions, annual change in number of households. 2005 – 2020[1)]



1) Projections for 2019 and 2020.
Sources: Statistics Norway and Norges Bank

source of vulnerability for the Norwegian financial system (see the 2018 *Financial Stability Report*).

Even though the level of house prices remains high, house price inflation has slowed. After a long period of rapid house price inflation, house prices fell by approximately 3% between the peak in March 2017 and the trough at the beginning of 2018. Since then, 12-month house price inflation has stabilised at a moderate level (Chart 6.6). Over the past two years, house prices relative to household disposable income have also declined (Chart 6.7). Relative to per capita disposable income, house prices are currently about 6% lower than at the peak level in 2017. Housing market developments since 2017 reduce the risk of an abrupt and more pronounced downturn further out.

In the heatmap, housing market developments have signalled low risk for the past two years (Chart 6.A).

Activity in the market for existing homes remains high

So far this year, a large number of homes have been listed for sale relative to previous years (Chart 6.8). This was particularly the case in May. The increase reflects the large number of homes currently being completed. Many homebuyers already have a home to sell. Even though turnover in the market for existing homes has remained elevated, the number of unsold homes has increased owing to the high number of homes listed for sale so far in 2019. There were about 17 400 unsold homes in August 2019, which is 5% higher than in August 2018.

Many new homes under construction

The number of housing completions was historically high in 2018 and a new peak in completions is expected in 2019 (Chart 6.9). Even though residential construction is currently outstripping the increase in the number of households, construction has been falling behind for a long period. This suggests that there is a backlog in residential construction that reduces the likelihood that the high number of housing starts and completions will lead to a substantial fall in house prices.

Over time, a large number of new homes have been completed across Norway (Chart 6.10), in particular in *Eastern Norway excluding Oslo*. In the past year, however, the number of completions has also risen sharply in Oslo. Analyses conducted by Norges Bank do not suggest that construction is excessive.[2]

Chart 6.11 shows the rise in the number of homes and households for Oslo and six different urbanisation classes between 2006 and 2018.[3] Since 2006, the rise in the number of households has appreciably outstripped the rise in the number of homes in Oslo. *Class 1 excluding Oslo* shows developments in the areas around Oslo, while Class 2 shows developments in the cities of Stavanger, Bergen and Trondheim. The number of households has also increased at a higher rate than the number of homes in these areas. Only in the two lowest urbanisation classes has the number of new homes exceeded household formation. Taken together, the two lowest urbanisation classes account for less than 15% of the population. In this period, therefore, the supply of new homes was lower than the number of households formed countrywide.

Over the past five years, residential construction has to a greater extent kept pace with household formation in all areas except Oslo, where residential construction is still appreciably lower.

Moderate house price inflation ahead

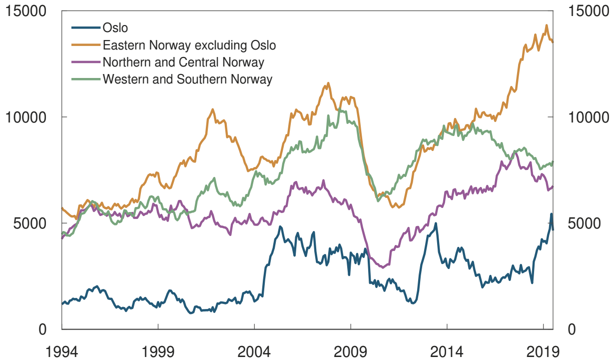
House price inflation is expected to be moderate ahead (Chart 6.6 and Annex Table 4). Owing to the high number of housing completions expected in Q3, the number of existing homes listed for sale is likely to remain high. In isolation, this contributes to lower house price inflation. At the same time, it is assumed that this effect will be dampened by continued high demand for homes in urban areas. The higher interest rate level is expected to exert some downward pressure on house price inflation. Prospects for increased employment and higher wage growth will have the opposite effect.

The projections are uncertain

The uncertainty surrounding the projections primarily reflects the effect of high residential construction on house prices. Analyses show that new homes are

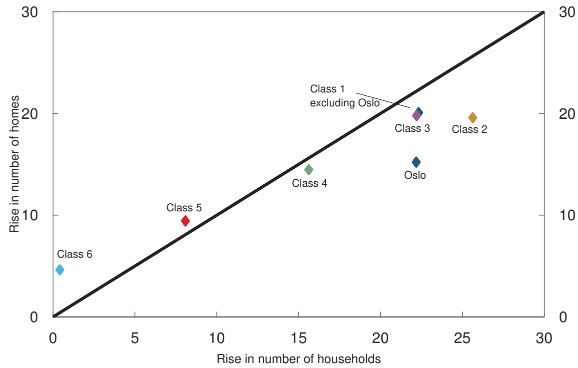
2 See Mæhlum, S., P. M. Pettersen and H. Xu (2018) "Residential construction and household formation". *Staff Memo* 12/2018. Norges Bank.
3 The urbanisation classes are described in Høydahl, E. (2017) "Ny sentralitetsindeks for kommunene" [New centrality index for municipalities in Norway]. *Notater* 2017/40. Statistics Norway.

Chart 6.10 Number of completions. Sum past twelve months. January 1994 – July 2019



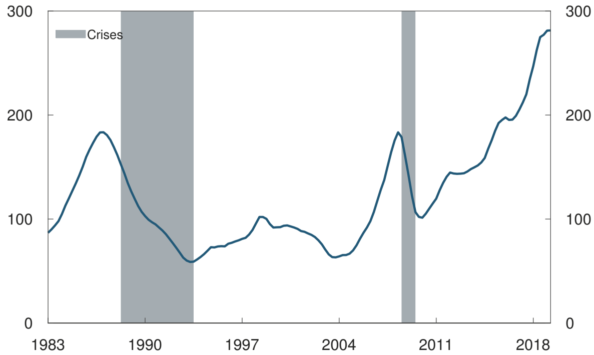
Sources: Statistics Norway and Norges Bank

Chart 6.11 Rise in number of households and homes by urbanisation class[1]. Percent. 2006 - 2018



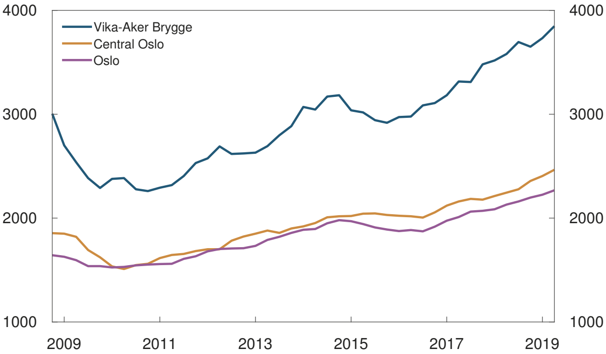
1) Ranked from 1-6, where the most highly urbanised municipalities are in Class 1 and the least urbanised are in Class 6.
Sources: Statistics Norway and Norges Bank

Chart 6.12 Real commercial real estate prices.[1] Index. 1998 = 100. 1983 Q1 – 2019 Q2



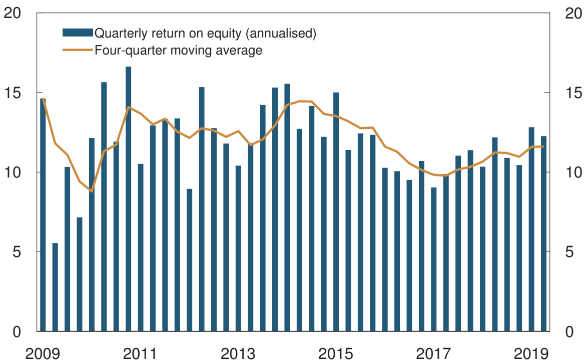
1) Estimated real selling prices per square metre for prime office space in Oslo. Deflated by GDP deflator for mainland Norway. Average selling price for the previous four quarters.
Sources: CBRE, Dagens Næringsliv, OPAK, Statistics Norway and Norges Bank

Chart 6.13 Office rents in Oslo.
NOK per square metre. Four-quarter moving average. 2008 Q4 – 2019 Q2



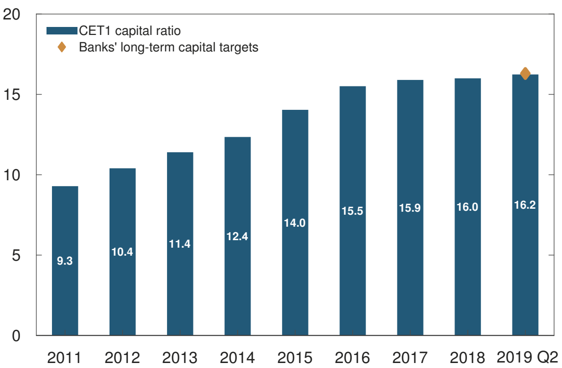
Source: Arealstatistikk (Norwegian company providing commercial real estate statistics)

Chart 6.14 Return on equity for large Norwegian banks.
Percent. 2009 Q1 – 2019 Q2



Sources: Banks' quarterly reports and Norges Bank

Chart 6.15 Large Norwegian banks' Common Equity Tier 1 capital ratios.
Percent. 2011 – 2019 Q2



Sources: Banks' quarterly reports and Norges Bank

primarily being built in areas where household formation is highest. The change in the number of households provides a useful indication of housing demand, but the strength of the relationship is uncertain.

6.4 COMMERCIAL REAL ESTATE MARKET

CRE prices have risen sharply over a long period. Developments in CRE prices are important for banks, which have substantial CRE exposures. The CRE market indicator signals high risk in the heatmap (Chart 6.A).

More moderate rise in CRE prices

Estimated selling prices for prime real estate in Oslo have risen sharply over a number of years, but the rise has slowed in recent quarters (Chart 6.12). Selling prices are estimated as the ratio of market rents to yields, and for a long period prices were being driven up by falling yields. Over the past two years, yields have remained fairly stable, while rents have risen sharply and pushed up selling prices.

Office rents continued to rise somewhat in Oslo in Q2 (Chart 6.13). According to market participants, there is strong demand for offices in central Oslo, which together with a low level of office construction in Oslo in 2019, is fuelling expectations of a relatively sharp rise in office rents. A more moderate rise in office rents is expected in areas outside the city centre. From 2020, a moderate rise in rents is also expected in central Oslo owing to an increase in office building completions. According to the real estate company Entra's Consensus Report for Q2, market sentiment is the same as at the time of the previous report, but Entra's office vacancy rate estimates for Oslo have been revised down further and rent estimates have been revised up.

Total financing costs for CRE loans have fallen slightly in the past year, owing to declining long-term interest rates in 2019 and a gradual fall in banks' margins since the beginning of 2018. Long-term interest rates were on the rise through 2018 and market participants expected that CRE yields would gradually pick up. When foreign and domestic interest rate expectations started to decline earlier in 2019, market participants expected that yields would remain fairly flat ahead as a result. Since the June *Report*, long-term interest rates have fallen further. This contributes to keeping yields low.

Overall, market expectations of rents and yields imply that selling prices will continue to rise slightly in 2019, albeit at a more moderate pace.

6.5 BANKS

Stricter capital, liquidity and recovery and resolution requirements following the financial crisis have strengthened banks' resilience to losses and market stress. A majority of the banking indicators in the heatmap signal low risk (Chart 6.A).

Banks' profitability is solid

Norwegian banks' profitability is solid (Chart 6.14), and their return on equity rose in Q1 and Q2 and was higher than in the preceding three years. However, some of the increase reflects the effect of non-recurring gains in a number of large banks in Q1 and Q2. Higher market prices for securities holdings are also making a positive contribution to banks' profitability.

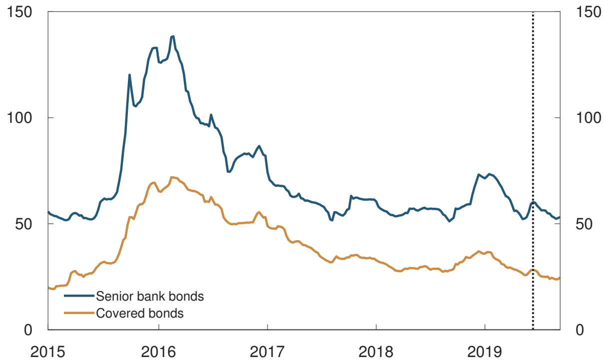
Banks' net interest income remained approximately unchanged between Q1 and Q2. Low operating expenses and losses are making a positive contribution to profitability. Banks' low losses reflect solid developments in the Norwegian economy.

Banks meet capital requirements

Banks are well positioned to comply with changes to capital requirements, including the increase in the countercyclical capital buffer to 2.5% from year-end 2019. Banks' capital ratios are in line with regulatory requirements and banks' own long-term Common Equity Tier 1 (CET1) targets (Chart 6.15).

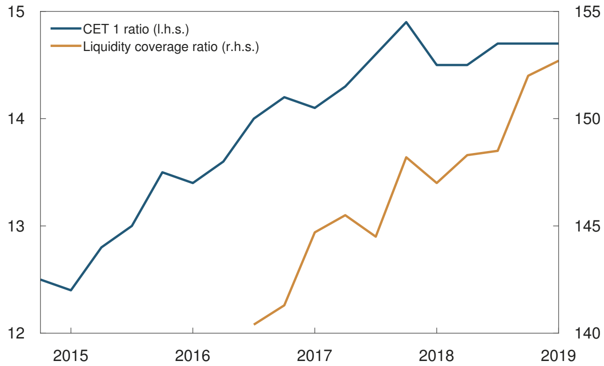
The forthcoming transposition of EU regulations into Norwegian law will lead to a reduction in the capital required to achieve the same risk-weighted capital ratio. The Ministry of Finance has circulated for comment a draft of possible adjustments to Norwegian capital requirements. The adjustments are aimed at preventing an undesirable weakening of the capital positions that Norwegian banks have built up since the financial crisis and at harmonising capital requirements for Norwegian and foreign banks operating in Norway.

Chart 6.16 Risk premiums on covered bonds and senior bonds issued by Norwegian banks. Five-year maturity, basis points over three-month money market rate. Week 1 2015 – week 37 2019[1)]



1) MPR 2/19 was based on information in the period up to 14 June 2019, indicated by the vertical line.
Source: Nordic Bond Pricing

Chart 6.17 Capital and liquidity coverage ratios in the EU banking system. Weighted average. Percent. 2014 Q4 – 2019 Q1



Source: EBA

Norwegian banks have ample access to wholesale funding, in both NOK and foreign currency. The risk premiums Norwegian banks pay for senior bonds and covered bonds have fallen somewhat since the June *Report* (Chart 6.16). In Norges Bank's liquidity survey, banks reported continued ample access to funding. In the course of 2019, Finanstilsynet (Financial Supervisory Authority of Norway) will draw up a recovery and resolution plan and set a minimum requirement equal to the sum of own funds and eligible liabilities (MREL) for the largest and most complex banks. This may impact banks' funding structure.

In the period ahead, banks are expected to have sufficient capacity to meet credit demand. Twelve-month growth in bank lending to Norwegian corporates increased through 2017 and has since remained at more than 5% (Chart 6.5). Compared with branches of foreign banks in Norway, Norwegian banks' share of corporate lending growth has declined somewhat since the June *Report*.

6.6 GLOBAL FINANCIAL STABILITY

There is persistent global uncertainty concerning a number of conditions that may have a substantial impact on current and future economic developments (see discussion in Section 2). Owing to high debt levels in a number of countries, an abrupt change in risk appetite, and the related increase in risk premiums, is the vulnerability that poses the greatest risk to global financial stability. The marked fall in risk-free interest rates over the past year has in isolation reduced debt servicing costs in many countries. Persistently low interest rates and high risk-taking may contribute to a continued rise in global debt levels.

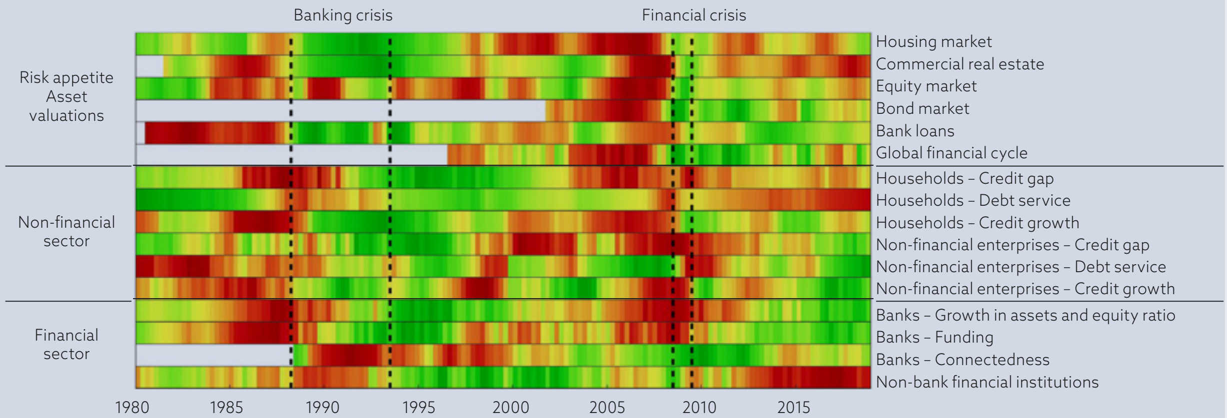
Despite EU banks' persistently low profitability, CET1 capital ratios have been rising since 2015, although the rise has come to a halt in the past year (Chart 6.17). EU banks' liquidity coverage ratios have also increased and are on average well above the regulatory requirement of 100%. Owing to higher lending growth, the default rate continued to fall in Q1. However, the volume of non-performing loans increased somewhat. Prospects for weaker economic growth in the EU may impair banks' profitability and make it more difficult to reduce the default rate ahead.

A HEATMAP FOR MONITORING SYSTEMIC RISK

Norges Bank's ribbon heatmap is a tool for assessing systemic risk in the Norwegian financial system. The heatmap tracks developments in a broad range of indicators for three main areas: risk appetite and asset valuations, non-financial sector vulnerabilities (household and corporate) and financial sector vulnerabilities.[1]

Developments in each individual indicator are mapped into a common colour coding scheme, where green (red) reflects low (high) levels of vulnerability. The heatmap thus provides a visual summary of current vulnerabilities in the Norwegian financial system compared with historical episodes. The composite indicators are constructed by averaging individual indicators.

Chart 6.A Composite Indicators in the heatmap 1980 Q1 – 2019 Q2[2]



Sources: BIS, Bloomberg, CBRE, Dagens Næringsliv, DNB Markets, Eiendomsverdi, Finn.no, Norwegian Association of Real Estate Agents (NEF), OECD, OPAK, Real Estate Norway, Statistics Norway, Thomson Reuters and Norges Bank

1 For a detailed description of the heatmap and the individual indicators, see Arbatli, E.C. and R.M. Johansen (2017) "A Heatmap for Monitoring Systemic Risk in Norway". *Staff Memo* 10/2017. Norges Bank. See also box on page 54 of *Monetary Policy Report* 4/17.

2 The equity market indicator is revised in order to only reflect developments in equity prices relative to trend. This indicator has previously also reflected developments in the price/earnings ratio (PE ratio).

CRITERIA FOR AN APPROPRIATE COUNTERCYCLICAL CAPITAL BUFFER[1]

The countercyclical capital buffer should satisfy the following criteria:

1. Banks should become more resilient during an upturn
2. The size of the buffer should be viewed in the light of other requirements applying to banks
3. Stress in the financial system should be alleviated

The countercyclical capital buffer should be increased when financial imbalances are building up or have built up. This will bolster banks' resilience and lessen the amplifying effects of bank lending during downturns. Moreover, a countercyclical capital buffer may curb high credit growth and mitigate the risk that financial imbalances trigger or amplify an economic downturn.

Experience from previous financial crises in Norway and other countries shows that both banks and borrowers often take on considerable risk in periods of strong credit growth. In an upturn, credit that rises faster than GDP can signal a build-up of imbalances. In periods of rising real estate prices, debt growth tends to accelerate. When banks grow rapidly and raise funding for new loans directly from financial markets, systemic risk may increase.

Norges Bank's advice to increase the countercyclical capital buffer will as a main rule be based on four key indicators: i) the ratio of total credit (C2 households and C3 mainland non-financial enterprises) to mainland GDP, ii) the ratio of house prices to household disposable income, iii) real commercial property prices and iv) wholesale funding ratios for Norwegian credit institutions. The four indicators have historically risen ahead of periods of financial instability. As part of the basis for its advice on the countercyclical capital buffer, Norges Bank will analyse developments in the key indicators and compare the current situation with historical trends.[2]

Norges Bank's advice will also build on recommendations from the European Systemic Risk Board (ESRB). Under the EU Capital Requirements Directive (CRD IV), national authorities are required to calculate a reference buffer rate (a buffer guide) for the countercyclical buffer on a quarterly basis.

There will not be a mechanical relationship between the indicators, the gaps or the recommendations from the ESRB[3] and Norges Bank's advice on the countercyclical capital buffer. The advice will be based on the Bank's professional judgement, which will also take other factors into account. Other requirements applying to banks will be part of the assessment, particularly when new requirements are introduced.

The countercyclical capital buffer is not an instrument for fine-tuning the economy. The buffer rate should not be reduced automatically even if there are signs that financial imbalances are receding. In long periods of low loan losses, rising asset prices and credit growth, banks should normally hold a countercyclical buffer.

The buffer rate can be reduced in the event of an economic downturn and large bank losses. If the buffer functions as intended, banks will tighten lending to a lesser extent in a downturn than would otherwise have been the case. This may mitigate the procyclical effects of tighter bank lending. The buffer rate will not be reduced to alleviate isolated problems in individual banks.

The key indicators are not well suited to signalling when the buffer rate should be reduced. Other information, such as market turbulence, substantial loan loss prospects for the banking sector and significant credit supply tightening, will then be more relevant.

1 See also "Criteria for an appropriate countercyclical capital buffer". *Norges Bank Papers* 1/2013.
2 See Norges Bank's website "Indicators of financial imbalances". As experience and insight are gained, the set of indicators can be developed further.
3 See European Systemic Risk Board (2014) "Recommendation on guidance for setting countercyclical buffer rates".

Annex

Monetary policy meetings in Norges Bank

Tables and detailed projections

Monetary policy meetings in Norges Bank

Date[1]	Policy rate[2]	Change
18 December 2019		
23 October 2019		
18 September 2019	**1.50**	**0.25**
14 August 2019	1.25	0
19 June 2019	1.25	0.25
8 May 2019	1.00	0
20 March 2019	1.00	0.25
23 January 2019	0.75	0
12 December 2018	0.75	0
24 October 2018	0.75	0
19 September 2018	0.75	0.25
15 August 2018	0.50	0
20 June 2018	0.50	0
2 May 2018	0.50	0
14 March 2018	0.50	0
24 January 2018	0.50	0
13 December 2017	0.50	0
25 October 2017	0.50	0
20 September 2017	0.50	0
21 June 2017	0.50	0
3 May 2017	0.50	0
14 March 2017	0.50	0
14 December 2016	0.50	0
26 October 2016	0.50	0
21 September 2016	0.50	0
22 June 2016	0.50	0
11 May 2016	0.50	0
16 March 2016	0.50	-0.25
16 December 2015	0.75	0
4 November 2015	0.75	0
23 September 2015	0.75	-0.25
17 June 2015	1.00	-0.25
6 May 2015	1.25	0
18 March 2015	1.25	0
10 December 2014	1.25	-0.25
22 October 2014	1.50	0
17 September 2014	1.50	0
18 June 2014	1.50	0
7 May 2014	1.50	0

1 The interest rate decision has been published on the day following the monetary policy meeting as from the monetary policy meeting on 13 March 2013. The interest rate decision at the monetary policy meeting on 14 March 2017 was published two days after the meeting.
2 The policy rate is the interest rate on banks' sight deposits in Norges Bank. This interest rate forms a floor for money market rates. By managing banks' access to liquidity, Norges Bank ensures that short-term money market rates are normally slightly higher than the policy rate.

Table 1 Projections for GDP growth in other countries

Change from projections in *Monetary Policy Report 2/19* in brackets	Share of world GDP[1] PPP	Share of world GDP[1] Market exchange rates	Trading partners[4]	Percentage change from previous year 2018	2019	2020	2021	2022
US	16	25	9	2.9 (0)	2.2 (-0.1)	1.7 (0)	1.7 (0)	1.7 (0)
Euro area	12	16	33	1.9 (0)	1.1 (-0.1)	1.2 (-0.2)	1.4 (0)	1.5 (0)
UK	2	4	10	1.4 (0)	1.1 (-0.2)	1 (-0.3)	1.4 (0)	1.5 (0)
Sweden	0.4	0.7	12	2.4 (-0.1)	1.5 (-0.2)	1.4 (-0.3)	1.7 (0)	1.8 (0)
Other advanced economies[2]	7	10	18	2 (0.1)	1.4 (-0.2)	1.3 (-0.3)	1.8 (0)	1.8 (0)
China	16	15	6	6.6 (0)	6 (0)	5.7 (-0.1)	5.7 (0)	5.6 (-0.1)
Other emerging economies[3]	19	11	12	3.7 (0)	2.6 (-0.4)	3.6 (-0.2)	3.8 (0)	3.9 (0)
Trading partners[4]	72	79	100	2.6 (0)	1.8 (-0.2)	1.8 (-0.2)	2 (0)	2.1 (0)
World (PPP)[5]	100			3.6 (0)	3.1 (-0.1)	3.4 (-0.1)	3.5 (0)	3.6 (0)
World (market exchange rates)[5]		100		3.1 (0)	2.5 (-0.1)	2.7 (0)	2.8 (0)	2.9 (0)

1 Country's share of global output measured in a common currency. Average 2015–2017.
2 Other advanced economies in the trading partner aggregate: Denmark, Japan, Korea, Singapore and Switzerland. Export weights.
3 Emerging economies in the trading partner aggregate excluding China: Brazil, India, Indonesia, Poland, Russia, Thailand and Turkey. GDP weights (market exchange rates) are used to reflect the countries' contribution to global growth.
4 Export weights, 25 main trading partners.
5 GDP weights, three-year moving average.

Sources: IMF, Thomson Reuters and Norges Bank

Table 2 Projections for consumer prices in other countries

Change from projections in *Monetary Policy Report 2/19* in brackets	Trading partners[4]	Percentage change from previous year 2018	2019	2020	2021	2022
US	8	2.4 (0)	1.8 (-0.1)	2.3 (0.1)	2.3 (0)	2.3 (0)
Euro area	33	1.8 (0)	1.2 (-0.1)	1.3 (-0.2)	1.5 (-0.1)	1.6 (-0.1)
UK	6	2.3 (0)	1.9 (-0.1)	2.1 (0)	2.1 (0.1)	2 (0.1)
Sweden[1]	13	2.1 (0)	1.7 (-0.2)	1.8 (-0.2)	1.9 (-0.1)	2 (0)
Other advanced economies[2]	17	1.1 (0)	0.7 (-0.4)	1.3 (-0.2)	1.6 (0)	1.6 (-0.1)
China	12	2.1 (0)	2.4 (0.1)	2.3 (-0.1)	2.6 (-0.1)	2.6 (0)
Other emerging economies[3]	10	4.4 (0)	4.8 (-0.2)	4.7 (0)	4.5 (0)	4.5 (0)
Trading partners[4]	100	2 (0)	1.8 (-0.2)	2 (-0.1)	2.1 (-0.1)	2.1 (-0.1)
Underlying inflation[5]		1.4 (0)	1.4 (-0.1)	1.7 (0)	1.8 (-0.1)	1.8 (-0.1)
Wage growth[6]		2.6 (0)	2.5 (0)	2.8 (-0.1)	2.8 (-0.1)	2.8 (-0.1)
Prices for consumer goods imported to Norway[7]		1.4 (0.1)	1.8 (0.3)	0.6 (0.2)	0.6 (-0.1)	0.7 (0)

1 Consumer price index with a fixed interest rate (CPIF).
2 Other advanced economies in the trading partner aggregate: Denmark, Japan, Korea, Singapore and Switzerland. Import weights.
3 Emerging economies in the trading partner aggregate excluding China: Brazil, India, Indonesia, Poland, Russia, Thailand and Turkey. GDP weights (market exchange rates).
4 Import weights, 25 main trading partners.
5 The aggregate for underlying inflation includes: the euro area, Sweden, UK and US. Import weights.
6 Projections for compensation per employee in the total economy. The aggregate includes: the euro area, Sweden, UK and US. Import weights.
7 Measured in foreign currency terms. Including compositional effects.

Sources: IMF, Thomson Reuters and Norges Bank

Table 3a GDP for mainland Norway. Quarterly change. Seasonally adjusted. Percent

	2019			
	Q1	Q2	Q3	Q4
Actual	0.5	0.7		
Projections in MPR 2/19		0.8	0.7	
Projections in MPR 3/19			1.0	0.5

Sources: Statistics Norway and Norges Bank

Table 3b Registered unemployment (rate). Percent of labour force. Seasonally adjusted

	2019						
	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Actual	2.2	2.3	2.2				
Projections in MPR 2/19	2.3	2.2	2.2	2.2			
Projections in MPR 3/19				2.2	2.2	2.2	2.2

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

Table 3c Consumer prices. Twelve-month change. Percent

	2019						
	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Consumer price index (CPI)							
Actual	1.9	1.9	1.6				
Projections in MPR 2/19	2.1	1.8	1.6	1.7			
Projections in MPR 3/19				1.4	1.8	1.4	1.5
CPI-ATE[1]							
Actual	2.3	2.2	2.1				
Projections in MPR 2/19	2.4	2.4	2.3	2.4			
Projections in MPR 3/19				2.1	2.3	2.0	2.0
Imported consumer goods in the CPI-ATE							
Actual	1.5	1.8	1.1				
Projections in MPR 2/19	1.5	1.6	1.2	1.3			
Projections in MPR 3/19				1.2	1.2	1.1	1.1
Domestically produced goods and services in the CPI-ATE[2]							
Actual	2.6	2.6	2.6				
Projections in MPR 2/19	2.8	2.8	2.8	2.7			
Projections in MPR 3/19				2.4	2.7	2.4	2.3

1 CPI adjusted for tax changes and excluding energy products.
2 The aggregate "domestically produced goods and services in the CPI-ATE" is calculated by Norges Bank.

Sources: Statistics Norway and Norges Bank

Table 4 Projections for main economic aggregates

Change from projections in *Monetary Policy Report* 2/19 in brackets	In billions of NOK 2018	Percentage change from previous year (unless otherwise stated) 2018	Projections 2019	2020	2021	2022
Prices and wages						
Consumer price index (CPI)		2.7 (0)	2.2 (0)	2.0 (0.1)	2.2 (0.2)	2.2 (0.2)
CPI-ATE[1]		1.6 (0)	2.3 (-0.1)	2.1 (0)	2.2 (0.2)	2.2 (0.2)
Annual wages		2.8 (0)	3.3 (0)	3.3 (-0.2)	3.3 (-0.3)	3.4 (-0.1)
Real economy[2]						
Gross domestic product (GDP)	3531	1.6 (-0.2)	1.3 (-0.7)	2.2 (-0.1)	1.9 (0.1)	1.6 (0.1)
GDP, mainland Norway	2907	2.6 (0)	2.7 (0.1)	1.9 (0)	1.3 (0.1)	1.3 (0.1)
Output gap, mainland Norway (level)[3]		-0.2 (0)	0.4 (-0.3)	0.5 (-0.3)	0.3 (-0.2)	0.1 (-0.1)
Employment, persons, QNA		1.7 (0.1)	1.8 (0.1)	1.2 (0.4)	0.3 (0)	0.3 (0.1)
LFS unemployment[4] (rate, level)		3.8 (0)	3.5 (0)	3.4 (0.1)	3.5 (0.1)	3.5 (0)
Registered unemployment (rate, level)		2.5 (0)	2.3 (0.1)	2.2 (0.1)	2.2 (0.1)	2.3 (0.1)
Demand[2]						
Mainland demand[5]	3062	2.1 (0.5)	2.0 (0)	1.8 (-0.2)	1.5 (-0.1)	1.7 (-0.1)
- Household consumption[6]	1538	2.0 (-0.1)	1.8 (-0.2)	2.3 (0)	2.1 (0)	2.2 (-0.1)
- Business investment	311	6.8 (4.3)	3.8 (-0.4)	2.6 (-0.9)	0.4 (-0.4)	1.2 (-0.3)
- Housing investment	194	-6.1 (-0.1)	0.9 (0.6)	0.6 (-0.4)	1.1 (-0.4)	1.5 (-0.2)
- Public demand[7]	1020	2.5 (0.3)	1.9 (0.2)	1.2 (-0.1)	1.2 (0.1)	1.2 (0)
Petroleum investment[8]	153	1.9 (-0.8)	14.5 (0.5)	2.5 (1.5)	-4.0 (-1.0)	-6.0 (0)
Mainland exports[9]	661	3.4 (0.7)	5.2 (0.2)	2.3 (0.3)	2.8 (0.6)	3.2 (0.4)
Imports	1155	1.9 (1.3)	4.3 (0.9)	1.2 (-1.0)	2.5 (-0.3)	2.4 (-0.2)
House prices and debt						
House prices		0.7 (0)	2.2 (-0.1)	3.0 (0)	3.2 (-0.1)	3.3 (-0.1)
Credit to households (C2)[10]		5.6 (0.1)	5.5 (-0.1)	5.4 (0.2)	5.7 (0.4)	5.8 (0.4)
Interest rate and exchange rate (level)						
Policy rate[11]		0.6 (0)	1.1 (0)	1.6 (0)	1.6 (-0.1)	1.5 (-0.2)
Import-weighted exchange rate (I-44)[12]		104.6 (0)	107.0 (1.6)	106.8 (3.5)	106.4 (3.5)	106.3 (3.5)
Money market rates, trading partners[13]		0.4 (0)	0.5 (0)	0.3 (0)	0.2 (-0.1)	0.3 (-0.1)
Oil price						
Oil price, Brent Blend. USD per barrel[14]		71 (0)	63 (0)	57 (-2)	56 (-2)	56 (-2)

1 CPI adjusted for tax changes and excluding energy products.
2 All figures are working day-adjusted.
3 The output gap measures the percentage deviation between mainland GDP and projected potential mainland GDP.
4 Labour Force Survey.
5 Household consumption and private mainland gross fixed investment and public demand.
6 Includes consumption for non-profit organisations.
7 General government gross fixed investment and consumption.
8 Extraction and pipeline transport.
9 Traditional goods, travel, petroleum services and exports of other services from mainland Norway.
10 Credit growth is calculated as the four-quarter change at year-end.
11 The policy rate is the interest rate on banks' deposits in Norges Bank.
12 The weights are estimated on the basis of imports from 44 countries, which comprise 97% of total imports. A higher value denotes a weaker krone exchange rate.
13 Based on three-month money market rates and interest rate swaps.
14 Spot price for 2018. The price for 2019 is calculated as the average spot price so far in 2019 and futures prices for the remainder of the year. Futures prices for 2020–2022. Futures prices at 13 September 2019.

Sources: Eiendomsverdi, Finn.no, Norwegian Labour and Welfare Administration (NAV), Real Estate Norway, Statistics Norway, Thomson Reuters and Norges Bank

Design: Brandlab
Printing: 07 Media AS
The text is set in 9.5 point Azo Sans Light
Photo: Esten Borgos
ISSN: 1894-0242 (print) | 1894-0250 (online)

NORGES BANK
Bankplassen 2, P.O. Box 1179 Sentrum, N-0107 Oslo, Norway
Phone: +47 22316000
www.norges-bank.no