NORGES BANK

2|19

JUNE

MONETARY POLICY REPORT

WITH FINANCIAL STABILITY ASSESSMENT

Key figures

INFLATION TARGET

2%

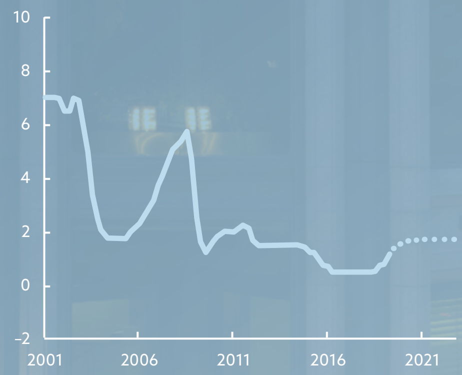
Norges Bank's objective is to ensure low and stable inflation around the target of 2%, while contributing to high and stable output and employment and to countering the build-up of financial imbalances

POLICY RATE

1.25%

Norges Bank's policy rate is raised to 1.25% with effect from 21 June 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%

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

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This *Monetary Policy Report* is based on information in the period to 14 June 2019 and was published on 20 June 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* 2/19

At its meeting on 12 June 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 19 June 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 1.25%. The Executive Board's current assessment of the outlook and balance of risks suggests that the policy rate will most likely be increased further in the course of 2019.

Growth among Norway's trading partners slowed after having been on the rise for several years. So far in 2019, growth has been a little higher than expected, but the growth outlook has weakened somewhat since the March 2019 *Monetary Policy Report*. The UK's relations with the EU are yet to be clarified, and trade tensions between the US and China have deepened. This has led to a broad-based fall in foreign interest rates. Both oil spot and futures prices have fallen and are somewhat lower than in March. Higher capacity utilisation has contributed to a pick-up in wage growth among trading partners over the past year. Price and wage inflation are expected to move up slightly ahead, broadly as projected in the March *Report*.

The upswing in the Norwegian economy has continued since autumn 2016. Employment has risen, and unemployment has fallen. There are prospects that the upswing will continue into 2020, owing in part to higher activity in oil services. Further out, a decline in investment on the Norwegian shelf is likely to dampen growth.

Growth in the mainland economy was somewhat lower than expected in 2019 Q1, weighed down by lower production in the power sector and fisheries. The enterprises in Norges Bank's Regional Network report solid growth and expect growth to remain firm ahead. Employment has risen more than expected. Unemployment has fallen a little, broadly as projected in the March *Report*.

Consumer price inflation picked up through 2018, in part reflecting a rise in electricity prices. So far in 2019, consumer price inflation has edged down. Underlying inflation also picked up in 2018, partly reflecting higher wage growth.

Since the March *Report*, inflation has been broadly as projected. The 12-month rise in the consumer price index (CPI) was 2.5% in May. Adjusted for tax changes and excluding energy products (CPI-ATE), inflation was 2.3%. The spring wage settlement indicates a pick-up in wage growth in 2019 in line with the projection in the March *Report*. Tighter labour market conditions suggest a further rise in wage growth, but lower oil prices and continued weak profitability in some business sectors will likely dampen the rise. The krone is weaker than expected.

Persistently high debt growth has increased household vulnerability. Household debt growth has abated somewhat in recent years, but remains higher than growth in disposable income. House price inflation has been low recently.

In its discussion of the risk outlook, the Executive Board focused in particular on global developments. If trade tensions deepen further, growth among trading partners and oil prices may be lower than projected. This may weigh on domestic growth. At the same time, the krone may remain weak, if uncertainty persists. The Executive Board also noted that the upswing in the oil industry and spillovers into the Norwegian economy may prove to be stronger than envisaged.

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.

In its assessment, the Executive Board notes that the monetary stance remains accommodative. Growth in the Norwegian economy is solid, and capacity utilisation is estimated to be somewhat above a normal level. Underlying inflation is a little higher than the inflation target. At the same time, trade tensions are a source of substantial global uncertainty. Uncertainty surrounding the effects of monetary policy suggests a cautious approach to interest rate setting. The overall outlook and balance of risk suggest that the policy rate be increased somewhat further.

The upturn in the Norwegian economy appears to be a little stronger the coming year than projected earlier. On the other hand, there are prospects for weaker external growth and lower foreign interest rates. The policy rate forecast indicates a slightly faster rate rise in the coming year than projected in the March *Report*, but the policy rate path is little changed further out. 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.

The Executive Board decided to raise the policy rate by 0.25 percentage point to 1.25%. The Executive Board's current assessment of the outlook and balance of risks suggests that the policy rate will most likely be increased further in the course of 2019. The decision was unanimous.

Øystein Olsen
19 June 2019

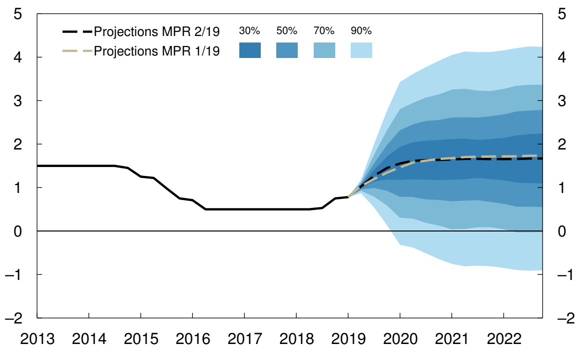
1 Overall picture

The upturn in the Norwegian economy continues. Employment is rising, and capacity utilisation appears to be somewhat above a normal level. Underlying inflation is a little higher than the inflation target.

The policy rate has been raised from 1% to 1.25%, and the forecast indicates a further rate increase in the course of 2019. At the end of 2022, the policy rate path is slightly below 1.75%. The policy rate forecast implies a slightly faster rate rise in the coming year than projected in the March 2019 *Monetary Policy Report*, but the forecast is little changed further out. The upward revision of the policy rate forecast reflects a stronger upswing in oil services and a weaker krone. Prospects for lower oil prices, weaker growth among trading partners and lower foreign interest rates pull in the opposite direction.

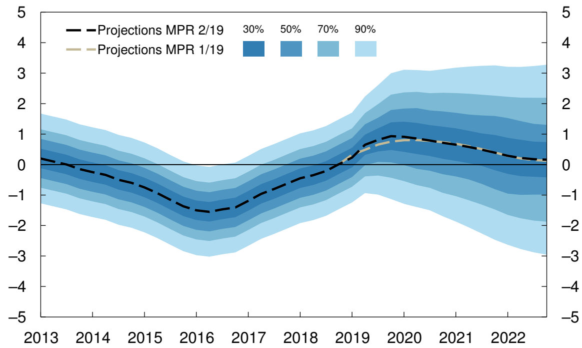
With a policy rate in line with the forecast, inflation is projected to remain close to the inflation target in the years ahead, at the same time as unemployment remains low. The projections are uncertain, and uncertainty increases through the projection period.

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



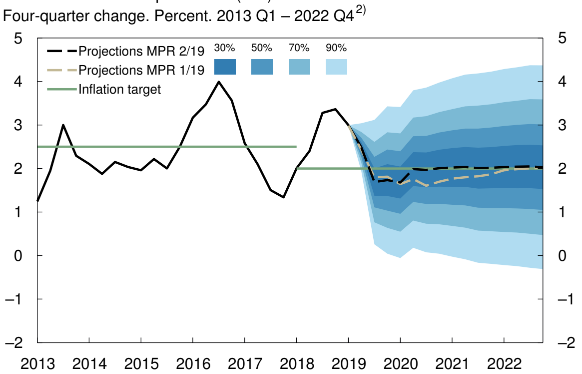
1) The fan chart is based on historical experience and stochastic simulations in Norges Bank's main macroeconomic model, NEMO. It does not take into account that a lower bound for the interest rate exists.
2) Projections for 2019 Q2 – 2022 Q4.
Source: Norges Bank

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



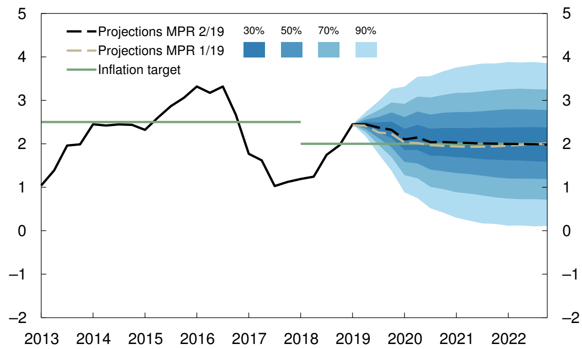
1) The output gap measures the percentage deviation between mainland GDP and estimated potential mainland GDP. 2) The fan chart is based on historical experience and stochastic simulations in Norges Bank's main macroeconomic model, NEMO.
Source: Norges Bank

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



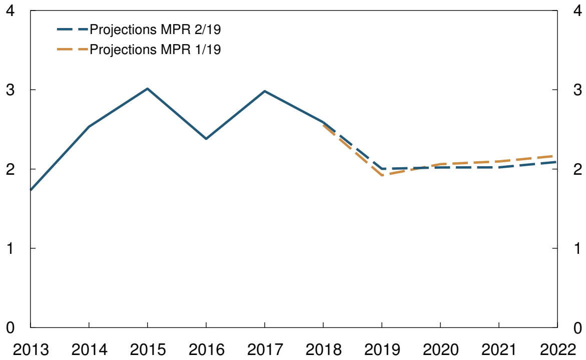
1) The fan chart is based on historical experience and stochastic simulations in Norges Bank's main macroeconomic model, NEMO. 2) Projections for 2019 Q2 – 2022 Q4.
Sources: Statistics Norway and Norges Bank

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



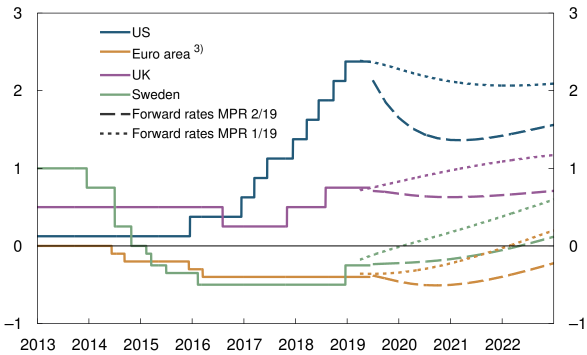
1) CPI adjusted for tax changes and excluding energy products. 2) The fan chart is based on historical experience and stochastic simulations in Norges Bank's main macroeconomic model, NEMO.
3) Projections for 2019 Q2 – 2022 Q4.
Sources: Statistics Norway and Norges Bank

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



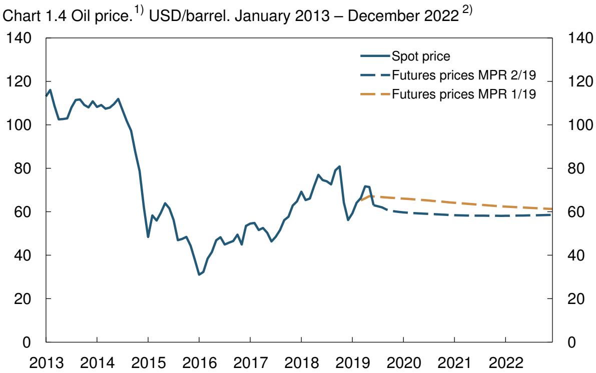
1) Export weights. Twenty-five main trading partners. 2) Projections for 2019 – 2022.
Sources: Thomson Reuters and Norges Bank

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 15 March 2018 for MPR 1/19 and 14 June 2019 for MPR 2/19. Forward rates are estimated based on Overnight Index Swap (OIS) rates. 2) Daily data through 14 June 2019. Quarterly data from 2019 Q3. 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 15 March 2018 (MPR 1/19) and on 14 June 2019 (MPR 2/19).
Sources: Thomson Reuters and Norges Bank

1.1 GLOBAL DEVELOPMENTS AND OUTLOOK

Slowdown in growth

GDP growth among Norway's trading partners slowed somewhat between 2017 and 2018 and appears to be softening further in 2019 (Chart 1.2). The slowdown likely reflects the uncertainty surrounding trade tensions and the UK's exit from the EU. Further out in the projection period, growth is expected to hold steady, but to be lower than in recent years. At the same time, global offshore investment is expected to grow after falling over several years. This will likely lift Norwegian exports.

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 somewhat below 1.5% since the beginning of 2017. Wage growth is expected to rise further, and inflation is also expected to pick up further out. The projections are little changed from *Monetary Policy Report* (MPR) 1/19, which was published on 21 March.

The UK's relations with the EU are yet to be clarified, and trade tensions between the US and China have deepened. This has led to a broad-based fall in foreign interest rates. Market policy rate expectations are considerably lower than in March (Chart 1.3), and long-term interest rates are very low.

Oil prices have been volatile in recent months. Spot and futures prices up to 2022 are now somewhat lower than in the March *Report* (Chart 1.4).

1.2 THE ECONOMIC SITUATION IN NORWAY

The upturn continues

Mainland economic growth has picked up over the past few years. Solid growth among trading partners and higher oil prices have helped lift activity, as have low interest rates.

In 2019 Q1, mainland GDP growth was dampened by temporary production declines in the power sector and fisheries. Growth is expected to pick up in the current and following quarters, in line with the expectations of enterprises in Norges Bank's Regional Network and the projections from Norges Bank's System for Averaging short-term Models (SAM) (Chart 1.5). The projections are a little higher than in the March *Report*.

Employment continues to rise, and the increase has been stronger than projected in March. Employment is projected to continue to rise in the coming period, but at a slightly slower pace than in recent quarters (Chart 1.6). Capacity utilisation is expected to continue to rise, with unemployment edging down further over the coming half-year.

Household debt growth has abated in recent quarters, but debt is still rising faster than income. House price inflation has been low recently.

Above-target inflation

Consumer price inflation picked up through 2018 and has remained high into 2019. In May, inflation slowed. The 12-month rise in the consumer price index (CPI) was 2.5% in May (Chart 1.7). Adjusted for tax changes and excluding energy products (CPI-ATE), inflation was 2.3%. Underlying inflation is expected to remain broadly unchanged in the coming months, moderating gradually thereafter.

Wage growth has risen over the past few years and is also expected to rise in 2019. Annual wage growth of 3.3% is projected for 2019, close to the wage norm and in line with the March projection.

The krone exchange rate is little changed since March, and is weaker than projected in the March *Report*.

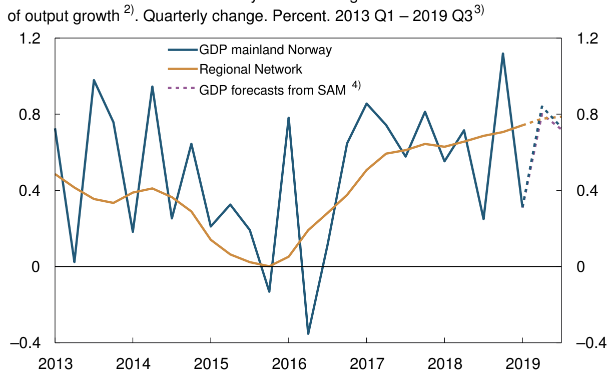
1.3 MONETARY POLICY AND PROJECTIONS

Policy rate rises somewhat

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.

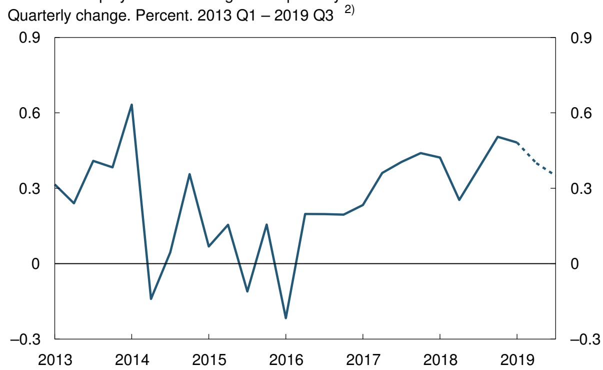
Monetary policy remains expansionary. A policy rate that is too low over time may increase pressures in the economy, triggering an acceleration in wage and price inflation and a further build-up of financial imbalances. However, raising the policy rate too rapidly may stifle the upturn, resulting in higher unemployment and below-target inflation. Trade tensions are a source of substantial global uncertainty. Uncertainty surrounding the effects of monetary policy suggests a cautious approach to interest rate setting. The

Chart 1.5 GDP for mainland Norway[1] and the Regional Network's indicator of output growth [2]. Quarterly change. Percent. 2013 Q1 – 2019 Q3[3]



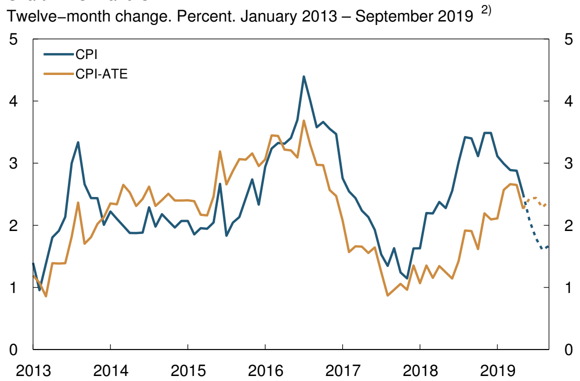
1) Seasonally adjusted. 2) Reported output growth past three months and next six months converted to quarterly figures. For 2019 Q2, a weighting of historical and expected growth is used, while for Q3 2019 only expected growth is used. 3) Projections for 2019 Q2 – 2019 Q3. 4) System for Averaging short-term Models.
Sources: Statistics Norway and Norges Bank

Chart 1.6 Employment according to the quarterly national accounts[1]. Quarterly change. Percent. 2013 Q1 – 2019 Q3 [2]



1) Seasonally adjusted. 2) Projections for 2019 Q2 – 2019 Q3.
Sources: Statistics Norway and Norges Bank

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



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

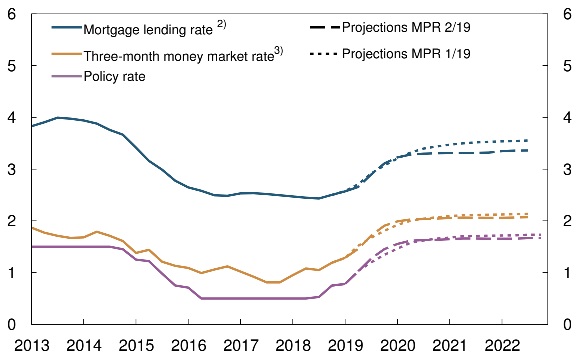
overall outlook and balance of risk suggest that the policy rate be increased somewhat further.

The policy rate has been raised from 1% to 1.25%, effective from 21 June 2019, and the forecast indicates a further rate increase in the course of 2019. At the end of 2022, the policy rate path is slightly below 1.75%. The policy rate path is a little higher in the coming year, but little changed further out compared with the March *Report* (Chart 1.1a). The upward revision of the policy rate forecast reflects a stronger upswing in oil services and a weaker krone. Prospects for lower oil prices, weaker growth among trading partners and lower foreign interest rates pull in the opposite direction.

The policy rate increase in March does not appear to have passed through fully to banks' mortgage rates. Looking ahead, bank lending rates are expected to rise in tandem with the policy rate, albeit with a lag. The policy rate forecast implies an increase in residential mortgage rates from 2.6% in 2019 Q1 to 3.4% in 2022 (Chart 1.8).

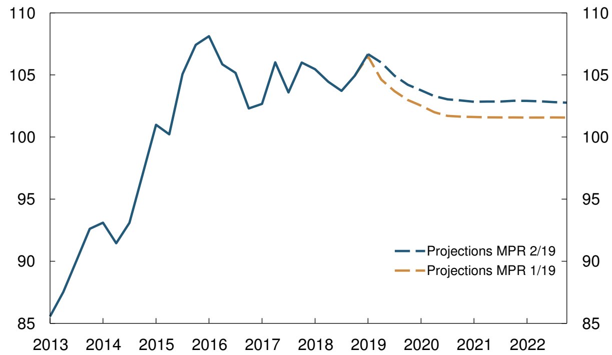
The projections are uncertain, and uncertainty increases through the projection period. The forecast shows the policy rate path given economic developments in line with current projections. If developments take a different course, the rate path will be adjusted.

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



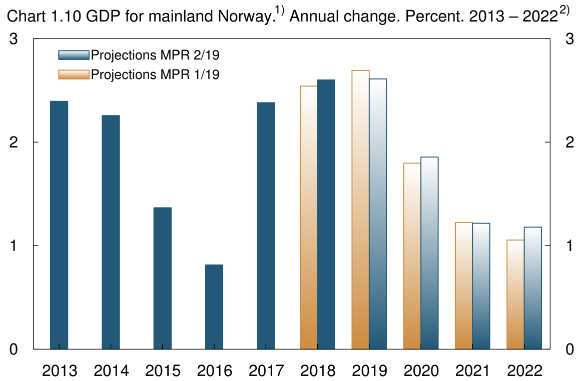
1) Projections for 2019 Q2 – 2022 Q3 (mortgage lending rate and three-month money market rate) / 2022 Q4 (key policy rate). **2)** Average interest rate on outstanding housing loans to households, for the sample of banks and mortgage companies included in Statistics Norway's monthly interest rate statistics. **3)** Projections are calculated as an average of the policy rate in the current and subsequent quarter plus an estimate of the 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)



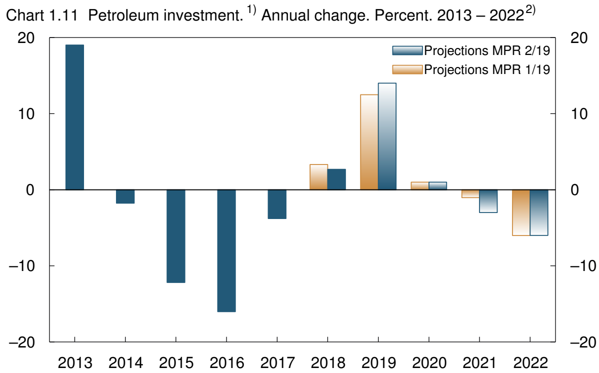
1) A positive slope denotes a weaker krone exchange rate. **2)** Projections for 2019 Q2 – 2022 Q4.
Sources: Thomson Reuters and Norges Bank

Chart 1.10 GDP for mainland Norway.1) Annual change. Percent. 2013 – 20222)



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 – 20222)



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, capacity utilisation is likely to continue to rise until the end of 2019, gradually declining thereafter (Chart 1.1b). Compared with the March *Report*, the projections for capacity utilisation have been revised up slightly for the coming period, but show little change thereafter. The krone is expected to appreciate somewhat ahead but remains a little weaker than projected in March throughout the projection period (Chart 1.9).

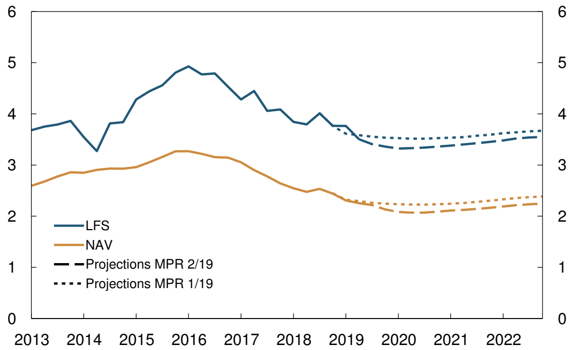
Inflation is projected to moderate to 2% (Chart 1.1c-d). A stronger krone is likely to restrain the rise in prices.

Mainland GDP growth is projected at 2.6% in 2019 (Chart 1.10). In the years ahead, higher interest rates and a gradual appreciation of the krone are expected to lead to slower growth. Investment on the Norwegian shelf is expected to rise sharply in 2019, followed by a further small rise in 2020, before falling back somewhat in the following years (Chart 1.11). Growth in public demand is also expected to slow ahead, and somewhat lower foreign import growth is expected to pull down export growth. The projection for GDP growth in the coming years has been revised up slightly compared with the March *Report*.

Tighter labour market conditions and higher wage growth

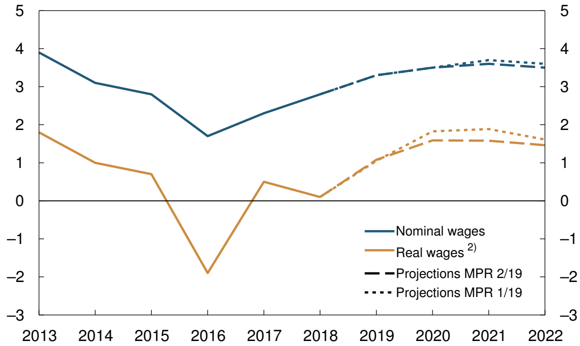
In the years ahead, continued growth in the Norwegian economy is projected to contribute to a further rise in employment. As mainland GDP growth softens, employment growth is also likely to slow. The employment projections have been revised up slightly compared with the March *Report*. A slight decrease in unemployment is expected ahead (Chart 1.12). Wage growth is projected to rise further on the back of improved labour market conditions (Chart 1.13). Lower oil prices and continued weak profitability in some business sectors will likely dampen the rise.

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 Q1 (LFS) / 2019 Q2 (NAV) – 2022 Q4.
Sources: Norwegian Labour and Welfare Administration (NAV), Statistics Norway and Norges Bank

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



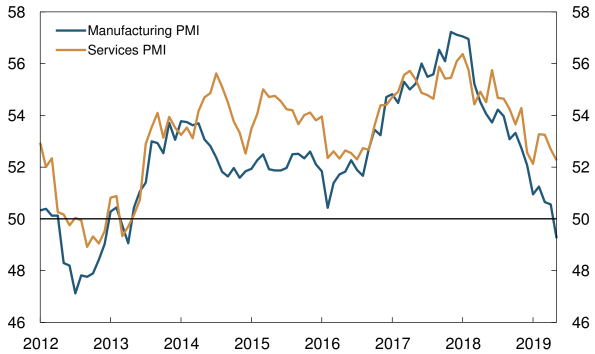
1) Projections for 2019 – 2022. 2) Nominal wage growth deflated by the CPI.
Sources: Statistics Norway and Norges Bank

2 The global economy

Capacity utilisation among Norway's main trading partners is close to a normal level and unemployment is low. Growth slowed through 2018 on the back of tighter financial conditions and uncertainty, primarily owing to trade tensions. Underlying inflation is stable and somewhat below inflation targets.

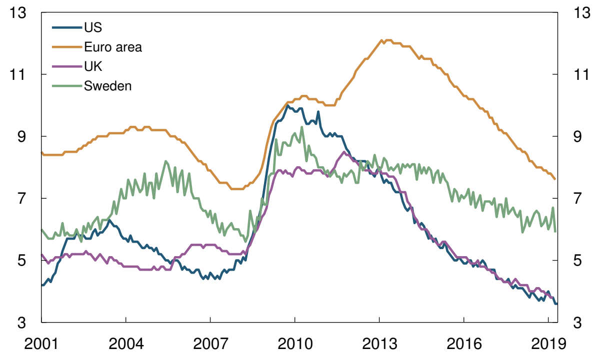
So far in 2019, GDP growth among trading partners has been higher than projected, but growth prospects are slightly lower than in the March *Report*. The projections for wage growth and underlying inflation abroad are about the same as in March, while the rise in prices for consumer goods imported to Norway appears to be higher than projected earlier. Oil spot and futures prices are somewhat lower than in March. Expected money market rates and long-term rates among trading partners have declined.

Chart 2.1 PMI for Norway's trading partners.[1)]
Seasonally adjusted. Index.[2)] January 2012 – May 2019



1) Export weights. 25 main trading partners. 2) Survey of purchasing managers. Diffusion index centred around 50.
Sources: Thomson Reuters and Norges Bank

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



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

2.1 GROWTH, PRICES AND INTEREST RATES

Slightly weaker growth prospects

Tighter financial conditions and uncertainty associated with trade tensions and the UK's exit from the EU led to a gradual slowing of growth among Norway's trading partners through 2018. Since the turn of the year, GDP growth has picked up in both the US and Europe. Growth has been slightly stronger than projected, but activity indicators for the manufacturing sector are declining and are now at their lowest level since 2013 (Chart 2.1). It appears that the decline for the service sector may have come to a halt. Labour markets are tight in a number of countries, with high employment rates and low unemployment (Chart 2.2).

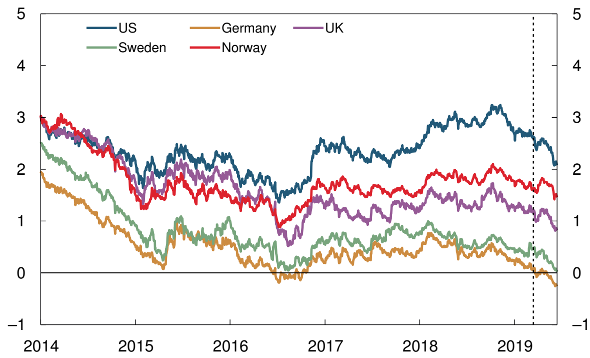
Trade tensions between the US and China have intensified since the March *Report*. Tariffs on a range of Chinese export goods have increased from 10% to 25%, and new restrictions have been imposed on trade with Chinese companies. The Chinese authorities have retaliated by raising tariffs on several products, including gas imports. In Europe, there is still uncertainty about the UK's exit from the EU. Together with signals from a number of central banks of a continued expansionary monetary stance, these factors have pushed down both short-term and long-term interest rates. Long-term interest rates are now at very low levels, particularly in Europe (Chart 2.3). Expected money market rates among Norway's main trading partners now indicate falling rates in the coming years (Chart 2.4). Global equity indexes are broadly at the same level as at the time of the March *Report* (Chart 2.5).

The projections are based on the assumption of unchanged tariff rates and other restrictions. Nevertheless, the uncertainty associated with trade tensions is expected to weigh on growth in the coming years, particularly as a result of reduced business investment willingness (Chart 2.6). It is also assumed that the UK's relationship with the EU will be clarified in the course of 2019 and that the exit will be orderly. Expansionary monetary policy is underpinning growth in a number of countries, while fiscal policy is assumed to be neutral from 2020. GDP growth among trading partners is projected to remain at current levels and capacity utilisation is projected to remain close to a normal level in the coming years. The projections for GDP growth are slightly lower than in March. In a number of emerging economies, the import content of goods production has been reduced in recent years. In addition, low investment growth in advanced economies is restraining import growth more than previously expected. The projections for import growth among trading partners have therefore been revised down more than the projections for GDP growth (Annex Table 1 and Chart 2.7). The outlook for global petroleum investment, particularly for offshore investment, has brightened. After several years of decline, the International Energy Agency (IEA) expects increased investment in 2019.

Higher rise in prices for consumer goods imported to Norway

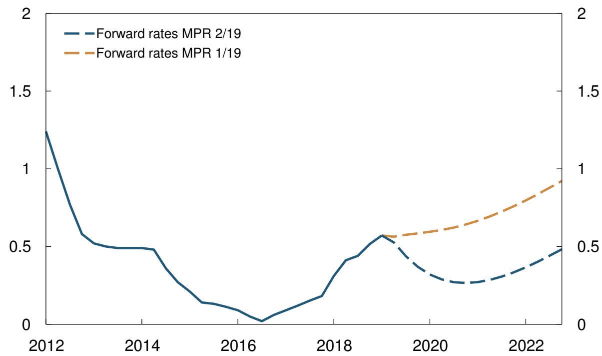
Underlying inflation has remained stable at somewhat below 1.5% since the beginning of 2017 (Chart 2.8), and has been approximately as expected since March. Wage growth among trading partners was low for a long time despite a marked fall in unemployment. Since spring 2018, wage growth has picked up, but the passthrough to inflation appears to be taking somewhat longer than in previous years. Nevertheless, overall inflation among trading partners has risen slightly more than projected, primarily reflecting higher energy price inflation following the rise in oil prices since the turn of the year. Wage growth and underlying price inflation are both projected to show a small increase over the next few years as a result of the rise in capacity utilisation (Annex Table 2). The projections for price and wage inflation are little changed from March. Oil spot prices are now USD 63 per barrel, somewhat lower than at the time of the March *Report*. Futures prices up to 2022 have also fallen (Chart 1.4). Oil prices are discussed in a box on page 17.

Chart 2.3 Yields on 10-year government bonds in selected countries. Percent. 2 January 2014 – 14 June 2019 1)



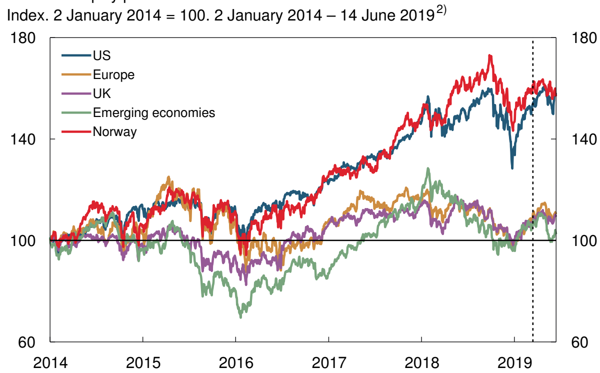
1) MPR 1/19 was based on information in the period up to 15 March 2019, indicated by the vertical line.
Source: Bloomberg

Chart 2.4 Three-month money market rates for Norway's trading partners.1)
Percent. 2012 Q1 – 2022 Q4 2)



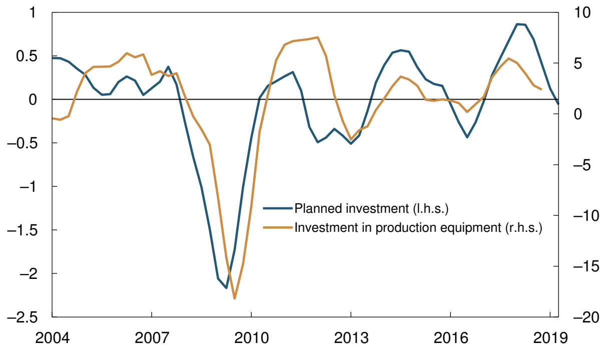
1) Based on money market rates and interest rate swaps. See Norges Bank (2015) "Calculation of the aggregate for trading partner interest rates". *Norges Bank Papers* 2/2015.
2) Forward rates at 15 March 2019 for MPR 1/19 and 14 June 2019 for MPR 2/19.
Sources: Thomson Reuters and Norges Bank

Chart 2.5 Equity price indexes in selected countries.1)
Index. 2 January 2014 = 100. 2 January 2014 – 14 June 2019 2)



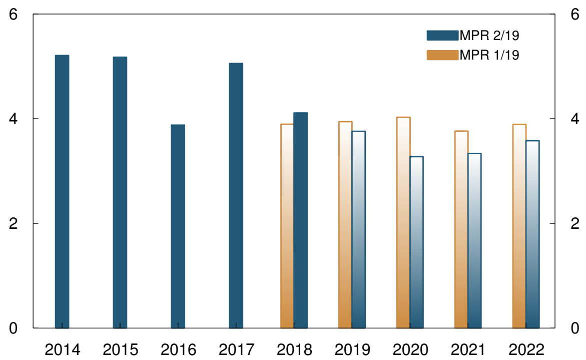
1) Standard and Poor's 500 Index (US). Euro Stoxx 50 Index (Europe). Financial Times Stock Exchange 100 Index (UK). MSCI Emerging Markets Index (emerging economies). Oslo Børs Benchmark Index (Norway). 2) MPR 1/19 was based on information in the period up to 15 March 2019, indicated by the vertical line.
Source: Bloomberg

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



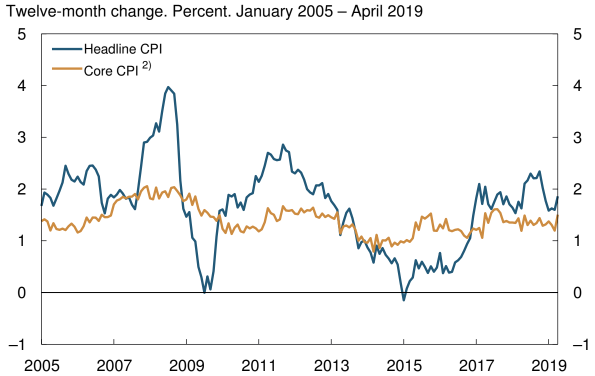
1) Survey data from respective countries. Normalised. Three-quarter moving average. 2) Growth three-quarters over previous three-quarters. Percent. 3) GDP weights. US, euro area and Japan.
Sources: Thomson Reuters and Norges Bank

Chart 2.7 Imports for Norway's trading partners.[1)] Annual change. Percent. 2014 – 2022[2)]



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

Chart 2.8 Headline and core inflation in selected countries.[1)] Twelve-month change. Percent. January 2005 – April 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 appreciably through 2018. Price inflation has remained elevated so far in 2019 and has been higher than projected in March for most goods components, particularly for clothing and footwear. In the past few years, the rise in prices for consumer goods imported to Norway has not been restrained to the same extent as in previous years by the shift in Norwegian imports towards low-cost countries such as China and other emerging economies. This applies in particular to clothing and footwear and audio-visual equipment. Weaker compositional effects are assumed also in the period ahead. The projections for consumer goods inflation have been revised up throughout the projection period (Chart 2.9).

Uncertainty remains substantial

There is considerable uncertainty surrounding global economic developments. The deterioration of relations between the US and China is likely the main reason why a number of uncertainty indicators, particularly in financial markets, have risen since March. Developments in various uncertainty indicators and possible effects of uncertainty on economic developments are discussed in a box on page 18. If trade tensions intensify further, growth among Norway's trading partners could be lower than expected. If the UK leaves the EU without a withdrawal agreement, or uncertainty about the relationship with the EU persists, growth may be lower than expected. 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 may pull down oil prices more than indicated by futures prices. On the other hand, US sanctions on Iran and Venezuela may pull up oil prices.

2.2 COUNTRIES AND REGIONS

Higher growth in the US

The US economy expanded at a fast pace in 2018. Tax cuts and increases in public spending boosted private and public demand, but in recent quarters, growth in domestic demand has slowed down somewhat, partly because of tightening financial conditions and the government shutdown. Nevertheless, growth in 2019 Q1 was higher than assumed in March owing to high inventories and the positive contribution from net exports. Employment growth has slowed somewhat in recent months. Wage growth has been slightly above 3%, which is somewhat lower than projected in March. Unemployment has declined to 3.6%, the lowest level since 1969 (Chart 2.2).

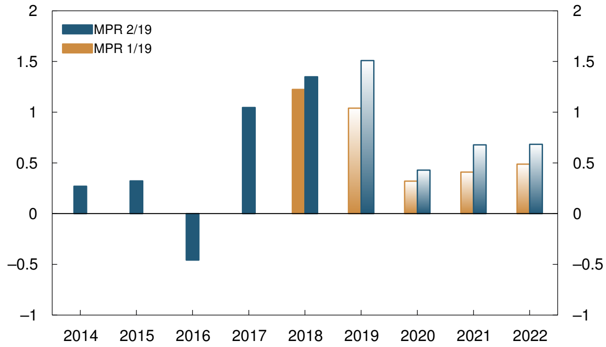
The Federal Reserve has kept its policy rate unchanged since the March *Report*. At the monetary policy meeting in March, the projections for the policy rate were revised down. The Federal Reserve highlighted the downside risk to the global growth outlook and a temporary fall in US underlying inflation as factors that contributed to the downward revision. Market pricing suggests that the Federal Reserve will lower its policy rate in the course of summer 2019. Policy rate expectations have fallen considerably since the time of the March *Report* (Chart 1.3).

The projection for GDP growth in 2019 has been revised up to 2.3% owing to strong growth in 2019 Q1. Lower interest rates and higher wage growth are expected to contribute to sustaining household demand. At the same time, the Bank expects lower growth in business investment owing to uncertainty associated with trade tensions and the fading effects of tax cuts. Rising capacity constraints and difficulties in recruiting qualified labour in a number of sectors will likely also dampen growth somewhat. GDP growth has been revised down slightly for 2020 and is expected to be an annual 1.7% over the coming years. Consumer price inflation has edged up and been higher than assumed in March, particularly owing to higher energy prices. Underlying inflation has slowed. Consumer price inflation is still expected to remain at about 2.3% over the coming years and underlying inflation to rise slightly.

Slightly higher growth in the euro area in 2019

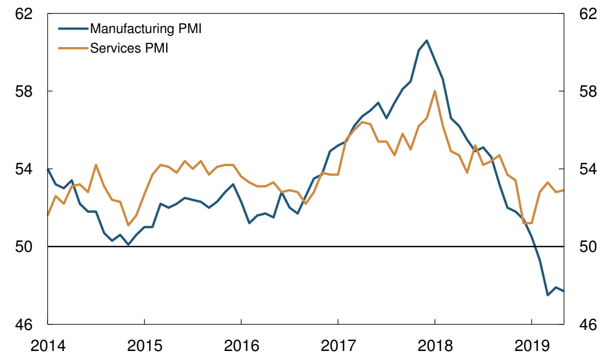
Following low growth in the second half of 2018, euro-area GDP growth picked up in 2019 Q1 and was higher than expected in the March *Report*. The decline in manufacturing activity indicators appears to have come to a halt, but the indicators are at low levels. Service sector activity indicators seem more robust (Chart 2.10). Household confidence indicators are little changed since March and slightly higher than the long-term average. Unemployment has continued to decline, and wage growth is on the rise. Euro area-wide capacity utilisation is estimated to be close to a normal level.

Chart 2.9 Indicator of international inflationary impulses to imported consumer goods with compositional effect (IPC).
Foreign currency. Annual change. Percent. 2014 – 2022 [1)]



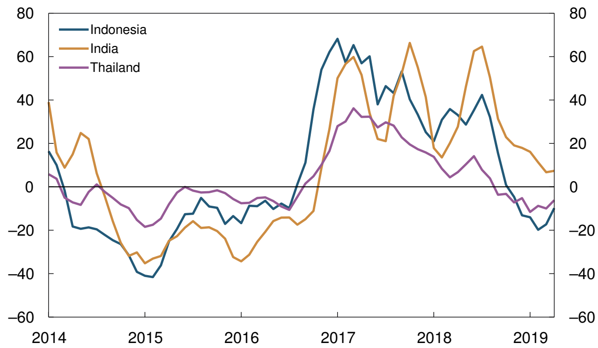
1) Projections for 2019 – 2022 (shaded bars).
Sources: Statistics Norway, Thomson Reuters and Norges Bank

Chart 2.10 PMI in the euro area.
Seasonally adjusted. Index.[1)] January 2014 – May 2019



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

Chart 2.11 Exports to China.
Twelve-month change.[1)] Percent. January 2014 – April 2019



1) Three-month moving average.
Sources: Thomson Reuters and Norges Bank

At the monetary policy meeting in June, the European Central Bank (ECB) revised its forward guidance on policy rates and is now signalling that it will keep rates unchanged until summer 2020. Policy rate expectations have fallen since the March *Report*, and forward rates now indicate that the ECB will lower its policy rates in 2020 Q1.

GDP growth is projected to increase from 1.2% in 2019 to 1.5% in 2022. Lower oil futures prices and rising wage growth are expected to boost household purchasing power, while uncertainty surrounding trade tensions and the UK's exit from the EU will also likely restrain business investment willingness ahead. The projections for 2019 are a little higher than in the March *Report*. Underlying inflation is expected to rise gradually in the coming years as a result of higher capacity utilisation and rising wage growth. The inflation projection for 2019 has been revised up to reflect a recent stronger-than-expected rise in prices. Overall annual price inflation is expected to remain below 2% to the end of the projection period.

Uncertainty in the UK persists
UK growth in 2018 was at its lowest level since the financial crisis. The weakness reflects persistent uncertainty about the UK's future relationship with the EU, and business investment fell throughout 2018. In recent quarters, growth has rebounded somewhat, partly owing to high stockbuilding activity and adjustments ahead of the original EU exit deadline in March. In 2019 Q1, growth was higher than expected in the March *Report*. Labour market conditions have tightened further, and unemployment is at its lowest level since 1974. The Bank of England has not made any changes to the monetary policy stance since March and continues to signal that a gradual tightening of monetary policy is necessary to stabilise inflation around target. Forward rates indicate no change in the policy rate in the projection period.

The deadline for a withdrawal agreement with the EU has now been postponed until October 2019, with the likely result that uncertainty and weak investment willingness will persist for longer than assumed earlier. Further ahead, the UK's exit from the EU is expected to be orderly, with business investment rebounding as future trade relations are clarified. A more expansionary fiscal policy and prospects for higher real wage growth are also likely to underpin growth. GDP growth of 1.3% is expected in 2019 and 2020, picking up slightly again thereafter. The projection for 2019 has been revised up since the March *Report*, while the projections for the next few years have been revised down. Inflation has been broadly in line with the March projection and is expected to remain at around 2% in the coming years.

Lower growth in Sweden
Following high growth in 2018 Q4, growth slowed in 2019 Q1. Household confidence indicators have fallen, while business activity indicators are broadly at the same level as at the time of the March *Report*. Capacity utilisation in the Swedish economy remains higher than normal. Inflation, as measured by the consumer price index with a fixed interest rate (CPIF), is close to the inflation target of 2%. In April, the Riksbank revised down its projections for the policy rate and inflation. Forward rates indicate a rate hike in the course of autumn 2021.

The negative impulses from lower housing investment are expected to fade, with stronger wage growth fuelling higher consumption growth. GDP growth is projected to remain slightly below 2% throughout the projection period. The projections are a little lower than in the March *Report*. Inflation is projected to remain close to target in the coming years.

Trade tensions drag down Asian growth
As expected, Chinese GDP growth slowed in 2019 Q1, dragged down by trade tensions with the US. On the other hand, Chinese policy measures have helped to underpin investment and private consumption. The strained US-China relations are contributing to heightened uncertainty surrounding the outlook, and a number of manufacturing firms have announced intentions to shift production out of China. The Chinese government is expected to implement further stimulus measures ahead. Growth is projected to drift down to 6% in 2019 and then to 5.7% from 2021. The projections towards the end of the projection period are a little lower than in the March *Report*.

The effects of trade tensions have spilled over into other emerging economies, especially those with extensive trade with China, such as Thailand. Weak export growth has also weighed on domestic demand in a number of countries (Chart 2.11). A fall in equity prices has contributed to tighter financial conditions in a number of emerging economies, despite a more expansionary monetary policy in a number of countries. Turkey is still in the midst of a pronounced downturn. Overall, the growth projections for emerging economies excluding China are slightly lower than in the March *Report*.

DEVELOPMENTS IN OIL AND NATURAL GAS PRICES

Oil spot prices are now USD 63 per barrel, somewhat lower than in March. Prices rose to close to USD 75 per barrel up to mid-May, primarily related to supply-side conditions in the oil market. OPEC+ has more than carried out the production cuts that were agreed on in December 2018.[1] In addition, production declined even further in Iran and Venezuela, partly as a result of US sanctions against these countries. This led to a fall in OECD oil inventories up to end-April 2019 (Chart 2.A). Contamination problems also led to a reduction in oil exports from Russia. Political tensions in the Middle East – particularly rising tensions between the US and Iran – also contributed to the rise in prices.

However, since mid-May prices have fallen by a good USD 10. Escalating trade conflicts between the US and a number of other countries have again come to the fore. As the outlook for the global economy is deteriorating, global oil consumption growth will likely slow. In addition, US oil production has continued to rise.

Oil prices are assumed to move in line with futures prices (Chart 1.4). Futures prices at end-2022 have fallen to USD 58, which is a somewhat lower than assumed in March.

Oil prices may turn out to be higher or lower than currently envisaged. Prices may fall more than suggested by futures prices if growth in the global economy is lower than expected, particularly if growth in emerging economies such as China and India slows more than anticipated. Global consumption growth may also decline over time as a result of energy efficiency measures and a shift towards new energy sources in order to meet long-term climate goals. A renewed upward revision of the projections for US oil production could also depress oil prices further.

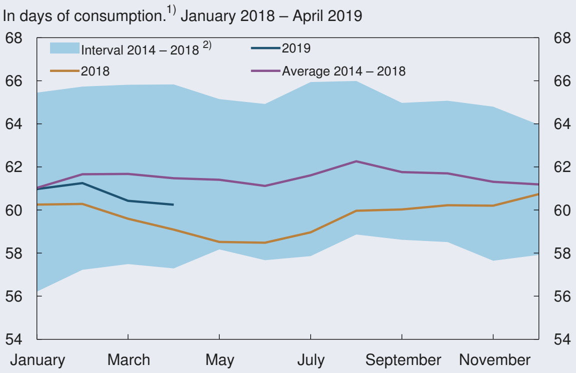
On the other hand, oil prices could rise if US sanctions against Iran and Venezuela lead to a further decrease in oil exports from these countries. Tensions in the Middle East could also flare up again.

OPEC+ is set to meet at the end of June to decide whether to extend the production cuts until the end of 2019.

European natural gas prices have declined further since the March *Monetary Policy Report* (Chart 2.B), reflecting an ample supply of liquefied natural gas (LNG) to Europe and high gas exports from Russia. Gas inventories in Northwest Europe are now substantially larger than at the same time in 2018. Gas prices are assumed to move in line with futures prices. Futures prices for European gas and for LNG in Asia indicate higher prices ahead, as in March.

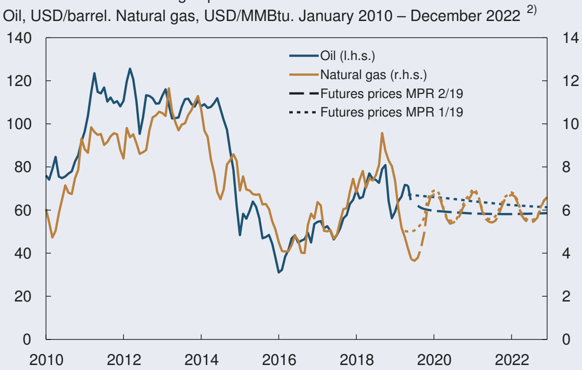
1 Twelve OPEC countries and 10 non-OPEC countries agreed to cut back production at the meetings in December 2018 (see press release).

Chart 2.A Total OECD oil inventories.
In days of consumption.[1)] January 2018 – April 2019



1) Days of consumption is calculated using the average expected demand over the next three months.
2) 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) Average of prices on natural gas in the Netherlands and the UK. 2) Futures prices on 15 March 2019 for MPR 1/19 and on 14 June 2019 for MPR 2/19.
Sources: Norwegian Petroleum, Thomson Reuters and Norges Bank

HOW DOES UNCERTAINTY AFFECT ECONOMIC DEVELOPMENTS?

Over the past year, the IMF, OECD and several central banks have revised down their projections for global economic growth. All point to heightened uncertainty as one of the reasons for weaker growth. Many economic and political factors can contribute to this uncertainty. Examples from the past year include the process around the UK's withdrawal from the EU and the ongoing trade conflicts between the US and a number of other countries.

Uncertainty can be associated with macroeconomic variables, such as growth and inflation, and with financial variables such as interest rates, share prices and exchange rates, but also with framework conditions, such as economic policy and various types of regulation. Uncertainty can affect economic developments when economic agents take account of uncertainty in their decisions. Some uncertainty must be expected as agents' knowledge about the current economic situation and developments ahead is, as a rule, limited. However, uncertainty that is greater than normal can have a negative impact on the economy.[1]

Empirical studies show that heightened uncertainty can lead to a decline in economic activity.[2] Aastveit et al. (2017) also shows that monetary and fiscal policy are less effective when uncertainty is high.[3] The impact of uncertainty also depends on the type of uncertainty. Larsen (2017) finds that different types of uncertainty can have different effects on the Norwegian economy: while heightened uncertainty about macroeconomic conditions can reduce economic activity, increased uncertainty related to technological innovation and organisational changes can boost activity.[4]

There are several reasons why uncertainty can have a negative effect on economic activity. A rise in uncertainty can induce households to increase precautionary saving, thereby reducing current consumption. Purchases of durable consumer goods can also be postponed. Firms can postpone projects, thereby reducing investment, particularly if the projects are costly to reverse. Similarly, firms can delay hiring and strategic decisions, while workers can be more reluctant to change jobs. As a result, economic activity can decline in the short and the long run.

Banks and other financial institutions can amplify the effects of uncertainty partly by reducing lending and partly by increasing the price of loans, as expected losses rise and collateral valuation becomes more difficult. In addition, heightened uncertainty often leads to a fall in share prices and thus an increase in firms' equity funding costs.

Uncertainty is difficult to measure. Volatility measures derived from option prices for stocks, interest rates, exchange rates and oil prices are often used for financial market uncertainty. These measures express uncertainty about prices for the underlying assets typically three months ahead. For macroeconomic developments, the variance in different institutions' projections for growth and inflation is often used.

Uncertainty about factors such as economic policy and various types of regulation are more difficult to measure.[5] One approach that has attracted considerable attention in recent years is the use of indicators

1 See Black, J., N. Hashimzade and G. A. Myles (2013) *Dictionary of Economics* (4th Ed.). Oxford University Press
2 See Bloom, N. (2014) "Fluctuations in uncertainty". *Journal of Economic Perspectives* 28 2, 153-76.
3 Aastveit, K. A., G. J. Natvik and S. Sola (2017) "Economic uncertainty and the influence of monetary policy". *Journal of International Money and Finance* 76, pp. 50–67.
4 See Larsen, V. H. (2017) "Components of uncertainty". *Working Papers* 5/2017. Norges Bank.
5 This kind of uncertainty has been defined as economic agents' inability to predict the outcome not only of fiscal, monetary and trade policy measures, but also regulatory measures related to the financial sector and competition.

based on the frequency of the word "uncertainty" and related forms of the word in selected newspapers or on websites.[6] Uncertainty related to specific topics is identified by the frequency of the word "uncertainty" in the same context as other words such as "economy", "regulation" or "trade".[7]

A composite index for the various measures of financial market volatility and the index for economic-political uncertainty (EPU) illustrate that uncertainty varies over time (Charts 2.C and 2.D). At the end of 2018, there was a considerable rise in uncertainty as measured by these indicators. This can partly be attributed to the trade conflict between the US and China. There was also concern that abrupt increases in interest rates and risk premiums could lead to turbulence and substantial movements in capital flows and exchange rates for a number of countries with high levels of debt. In addition, there was rising uncertainty related to the UK's withdrawal from the EU.

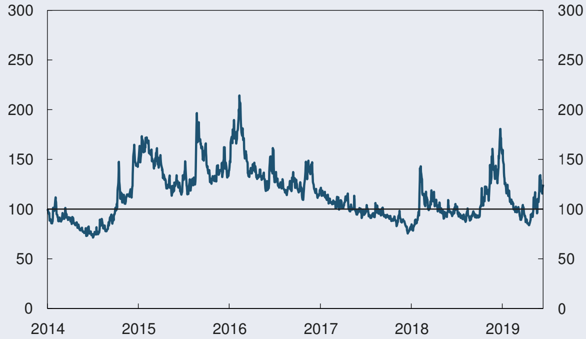
Measures of financial market volatility fell in the period to March 2019 when the Federal Reserve announced that it would take a more cautious approach to increasing the policy rate than previously indicated. The EPU index remained high, perhaps because uncertainty around the UK's withdrawal from the EU was particularly high in the first quarter of 2019.

Since March, measures of financial market volatility have risen. The EPU index is still high. The trade conflicts between the US and other countries have again come to the fore. Renewed uncertainty around the UK's withdrawal from the EU may also be having an impact. In addition, political tensions in the Middle East have escalated.

The above indicators must be used with caution as they have not always been reliable. Several volatility indicators, for example, were very low just before the financial crisis erupted in 2008. An assessment of the uncertainty picture will therefore include the use of several indicators as well as discretion.[8]

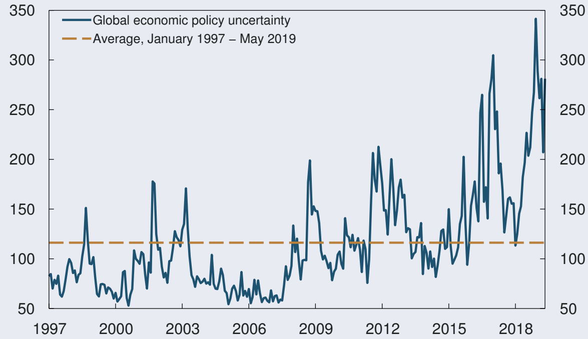
6 See Baker, S., N. Bloom and S. Davis (2016) "Measuring Economic Policy Uncertainty". *Quarterly Journal of Economics*.
7 See the website Economic Policy Uncertainty Index, which includes a number of sub-indices.
8 See for example Forbes, K. (2016) "Uncertainty about uncertainty". Bank of England.

Chart 2.C Average volatility of stocks, interest rates, oil and currency.[1)]
Index. 2 January 2014 = 100. 2 January 2014 – 14 June 2019



1) Chicago Board of Exchange for stock market and oil price volatility. Merill Lynch for interest rate volatility. JP Morgan for currency volatility.
Sources: Thomson Reuters and Norges Bank

Chart 2.D Global economic policy uncertainty.[1)]
Index.[2)] January 1997 – May 2019



1) Indicator measuring the frequency of the word "uncertainty" connected to "economics" and "policy" in news articles. **2)** Weighted by PPP-adjusted GDP.
Sources: policyuncertainty.com and Norges Bank

3 Financial conditions

Residential mortgage rates have risen in response to the policy rate hike in March, but the rise appears to be smaller than the increase in the policy rate. Lending rates are expected to continue to move up in response to a further rise in the policy rate. The average mortgage rate is expected to reach 3.4% in 2022.

The krone exchange rate has shown little change since the March *Report* and is weaker than expected. A higher interest rate level in Norway relative to other countries will likely lead to an appreciation of the krone ahead. The krone is nevertheless projected to be a little weaker than in the March *Report* throughout the projection period.

3.1 LENDING RATES AND MARKET RATES

Gradual rise in bank lending rates

The average residential mortgage rate was 2.6% at the end of Q1. The mortgage rate rose less than the money market rate in Q1 so that the lending margin fell slightly through the quarter. At the same time, the deposit rate rose somewhat less than the money market rate so that the total spread between mortgage rates and the rates on deposits from households showed little change in Q1.

MONETARY POLICY SINCE MARCH

At the monetary policy meeting on 20 March, the policy rate was raised from 0.75% to 1%. The analyses in the March *Report* implied a further rate rise in the course of the next half-year, reaching 1.75% at the end of 2022. Under that policy rate path, inflation was projected to stay near the target while unemployment remained low.

At the monetary policy meeting on 8 May, new information was assessed against the projections in the March *Report*. The uncertainty about global developments had persisted. Domestic capacity utilisation was broadly as projected, while price inflation had been a little higher than projected. The Executive Board's assessment was that near-term interest rate prospects had shown little change since March. The Executive Board decided to leave the policy rate unchanged at 1%. The Executive Board's assessment of the outlook and balance of risks suggested that the policy rate would most likely be increased in June.

Changes in the mortgage rates offered by banks through April and May indicate that the mortgage rate will be a good 2.7% at the end of Q2, which is around 0.3 percentage point higher than in 2018 Q3. The policy rate hikes of 0.25 percentage point in September and 0.25 percentage point in March have thus not passed through fully to the mortgage rate.

The projection for the mortgage rate in Q2 has been revised down a little (Chart 3.1). Bank lending rates are expected to fully reflect the increases in the policy rate ahead, albeit with a lag. In 2022, bank lending rates are estimated to reach 3.4%, which is a little lower than expected in March, and is consistent with the recent fall in banks' lending margins and a slightly lower policy rate path than in the March *Report*.

Increase in bank funding costs

Lending rates facing households and enterprises depend over time on banks' funding conditions, and are determined by both deposit rates and wholesale market funding rates. In the market, banks pay the money market rate Nibor plus a risk premium set at bond issue. Since the March Report, there have only been small changes in the risk premiums paid by banks. At the same time, the increase in Nibor has pushed up the price of market funding.

Three-month 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. The policy rate hike in March was expected by the market and had little impact on Nibor. Nibor has increased by about 0.20 percentage point since the March *Report*, reflecting an increase in market expectations of the policy rate.

In the same period, the money market premium, as estimated by the Bank, has declined slightly (Chart 3.2). So far this quarter, the premium has averaged around 0.35 percentage point and is expected to stay close to that level over the next quarter, while hovering around 0.4 percentage point in the following years.

While market interest rates among trading partners have fallen in recent months, the shortest forward money market rates in Norway have edged up since the March *Report*. The market is nevertheless pricing in fewer rate hikes than our forecast (Chart 3.3).

Increase in corporate funding costs

The interest rate on bank loans to enterprises is often directly linked to Nibor. The rate facing enterprises has therefore likely increased a little since March, following a small rise in 2019 Q1. Large enterprises can also procure financing directly in the bond market. Since the March *Report*, bond risk premiums have shown little change, while Nibor has increased. Overall, enterprises are facing somewhat higher funding costs.

For households and enterprises that prefer fixed-rate loans, fixed rates in the swap market matter. Those rates reflect expected average money market rates. In line with developments in foreign funding markets, 5- and 10-year swap rates have fallen since the March *Report* (Chart 3.4).

3.2 KRONE EXCHANGE RATE

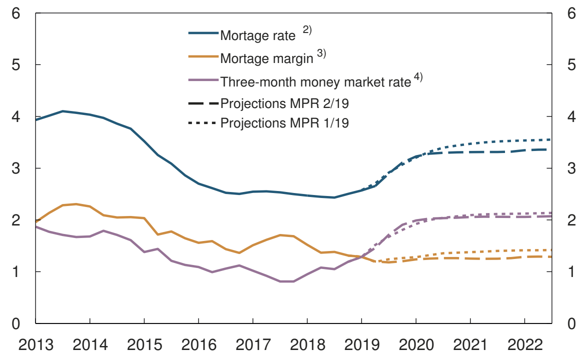
Weaker-than-projected krone

Developments in the krone, as measured by the import-weighted exchange rate index I-44[1], were weaker than projected in the March *Report*. In the first part of the period, the krone appreciated at the same time as oil prices edged up and the interest rate differential against main trading partners widened. In the latter part of the period, the krone weakened, likely reflecting heightened financial market uncertainty and lower oil prices. Overall, the krone is little changed since the March *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

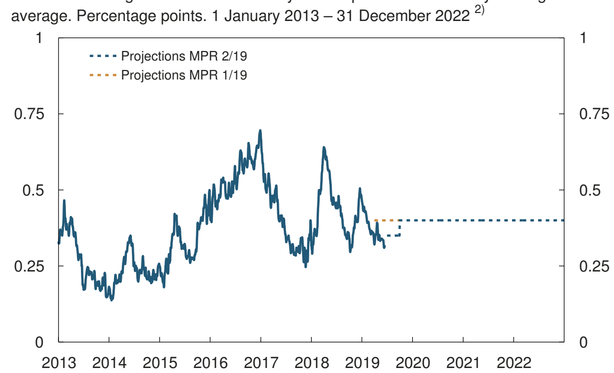
1 I-44 includes the currencies of 44 of Norway's trading partners and is calculated as a geometric weighted average. The weight of each currency reflect the share of imports to Norway.

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



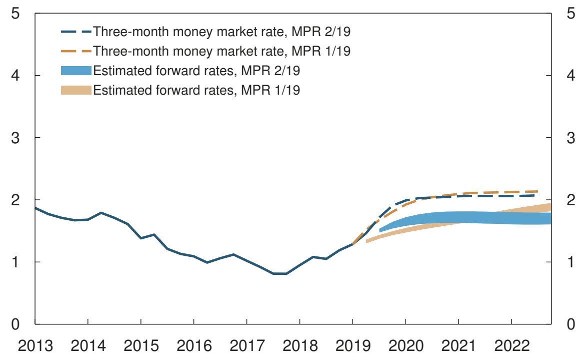
1) Projections for 2019 Q2 – 2022 Q3. 2) Average interest rate on outstanding mortgage loans to households from the sample of banks included in Statistics Norway's monthly interest rate statistics. 3) Difference between the mortgage lending rate and the three-month money market rate. 4) Projections are calculated as an average of the policy rate in the current and subsequent quarter plus an estimate of the money market premium.
Source: 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)]



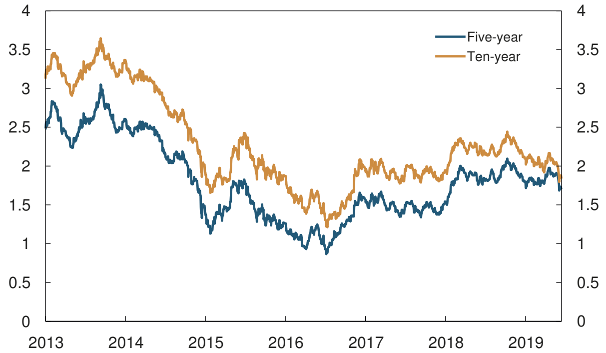
1) Norges Bank estimates of the difference between the three-month money market rate and the expected policy rate. 2) Projections for 2019 Q2 – 2022 Q4.
Sources: Thomson Reuters and Norges Bank

Chart 3.3 Three-month money market rate [1)] and estimated forward rates [2)]. Percent. 2013 Q1 – 2022 Q4 [3)]



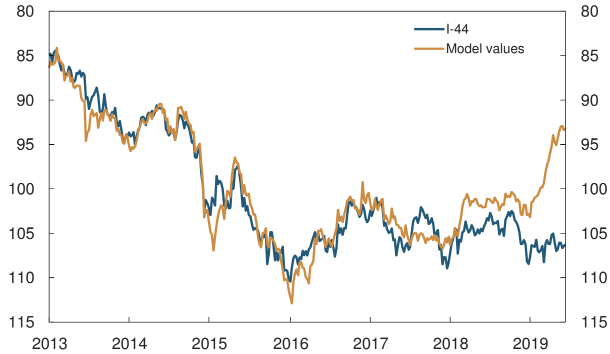
1) Projections for the money market rate are calculated as an average of the policy rate in the current and subsequent quarter plus an estimate of the money market premium. 2) Forward rates are based on money market rates and interest rate swaps. The orange and blue bands show the highest and lowest rates in the period 4 March – 15 March in 2019 (MPR 1/19) and in the period 3 June – 14 June in 2019 (MPR 2/19). 3) Projections for 2019 Q2 – 2022 Q3 (money market rate) / 2022 Q4 (forward rates).
Sources: Thomson Reuters and Norges Bank

Chart 3.4 Five- and 10-year swap rates. Percent. 2 January 2013 – 14 June 2019



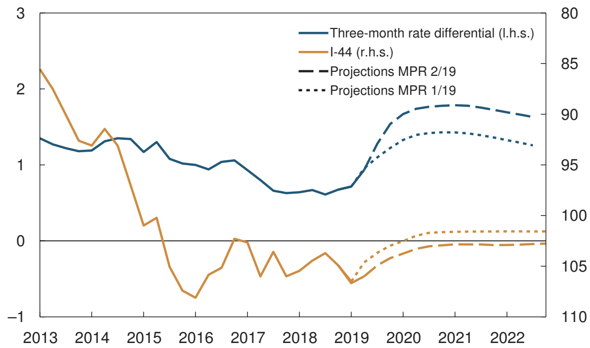
Source: Bloomberg

Chart 3.5 Empirical model for import-weighted krone exchange rate (I-44).[1) 2)]
Week 1 2013 – week 24 2019



1) Oil price and one-year and 10-year interest swap rate differential against trading partners are incorporated as explanatory variables. The model is estimated using data from week 1 of 2009 to week 38 of 2018. The chart shows the fitted values up to week 38 of 2018 and the model-predicted values from week 39 of 2018 to week 24 of 2019. **2)** A rising value in the chart denotes a stronger krone.
Sources: Bloomberg, Thomson Reuters and Norges Bank

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



1) Projections for the money market rate are calculated as an average of the policy rate in the current and subsequent quarter plus an estimate of the money market premium. **2)** Forward rates for trading partners at 15 March 2019 (MPR 1/19) and 14 June 2019 (MPR 2/19). See Norges Bank (2015) "Calculation of the aggregate for trading partner interest rates". *Norges Bank Papers* 2/2015. **3)** A positive slope denotes a stronger krone exchange rate. **4)** Projections for 2019 Q2 – 2022 Q3 (money market rate) / 2022 Q4 (I-44).
Sources: Thomson Reuters and Norges Bank

push up inflation as a result of increases in prices for goods and services imports.

Historically, there has been a close relationship between the krone and movements in oil prices and the interest rate differential against other countries (Chart 3.5). Over a period, however, the krone has been weaker than implied by the historical relationship.

A change in the long-term level of the real exchange rate, generally referred to as the equilibrium rate, can change the relationship between the nominal krone exchange rate and movements in the interest rate differential and oil prices. The equilibrium exchange rate is the rate that is consistent with both external and internal balance over time. The pronounced weakening of the krone after the oil price fall in 2014 while wage growth remained low can be interpreted as a weakening of the equilibrium rate. The projections in the March *Report* were therefore based on a weaker long-term real exchange rate level. We have not changed our assessment of the equilibrium exchange rate in this *Report*.

A weaker-than-expected krone can be interpreted as a higher risk premium on the Norwegian krone owing to increased financial market uncertainty. Such a risk premium is likely to fade over time, but how long it will take is uncertain.

The interest rate differential against trading partners is assumed to widen through the projection period (Chart 3.6). That implies an appreciation of the krone, as does a gradual phasing-out of the risk premium on the Norwegian krone. Lower oil prices imply in isolation a weaker krone. The krone is projected to appreciate somewhat ahead. Consistent with lower oil futures prices, the krone is projected to be slightly weaker throughout the projection period than envisaged in March, despite the projection of a wider interest rate differential against other countries.

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.

4 The Norwegian economy

The upturn in the Norwegian economy continues. Employment is rising and unemployment is falling. Capacity utilisation appears to be somewhat above a normal level. Underlying inflation is a little higher than the inflation target.

Mainland GDP growth is projected at 2.6% in 2019. A marked pick-up in oil investment in 2019 will lift mainland growth. Further out in the projection period, oil investment is expected to decline and, combined with higher domestic interest rates and lower external growth, pushes down growth in the Norwegian economy in the years ahead. Capacity utilisation is likely to rise in the next quarters, before gradually falling back towards a normal level. Wage growth is expected to increase in 2019 and 2020, and thereafter shows little change further out in the projection period. Inflation is projected to remain close to the target in the years ahead.

4.1 OUTPUT AND DEMAND

Continued upturn in the Norwegian economy

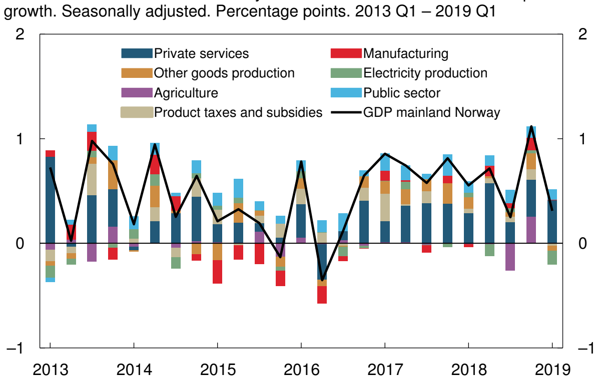
Over the past few years, growth in the mainland economy has been solid. Higher growth among Norway's trading partners and higher oil prices have boosted activity, as have persistently low interest rates.

In 2019 Q1, mainland GDP rose by 0.3% (Chart 4.1), which is somewhat lower than projected in the March *Report*. Growth was dampened by temporary production declines in the power and fisheries sectors.

Norges Bank's Regional Network enterprises reported in May that output growth had been slightly higher than three months earlier (Chart 4.2). Output growth has risen in most industries and was highest in oil services, commercial services and construction. Overall, enterprises expected that output growth would remain firm over the next six months.

According to monthly national accounts, growth was 0.3% in April. Accordingly, weak growth in the mainland economy in Q1 is assumed to have been temporary and growth is projected to be slightly higher in 2019 Q2 and 2019 Q3 than in the March *Report*. The projections are in line with Regional Network expectations and the projections from Norges Bank's System for Averaging short-term Models (SAM) (Chart 1.5). Annual growth in mainland GDP is projected at 2.6% in 2019, as in 2018. Growth is expected to decelerate gradually further out in the projection period,

Chart 4.1 GDP for mainland Norway. Market value. Contribution to four-quarter growth. Seasonally adjusted. Percentage points. 2013 Q1 – 2019 Q1



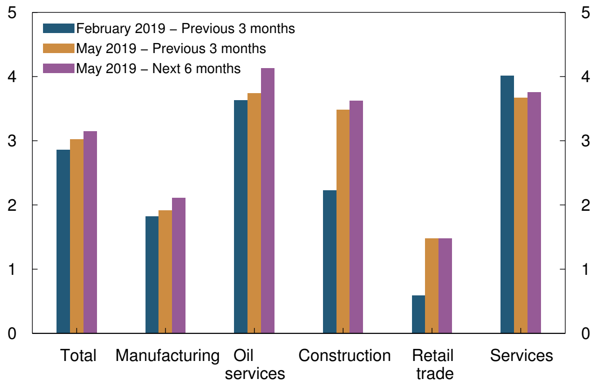
Sources: Statistics Norway and Norges Bank

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.

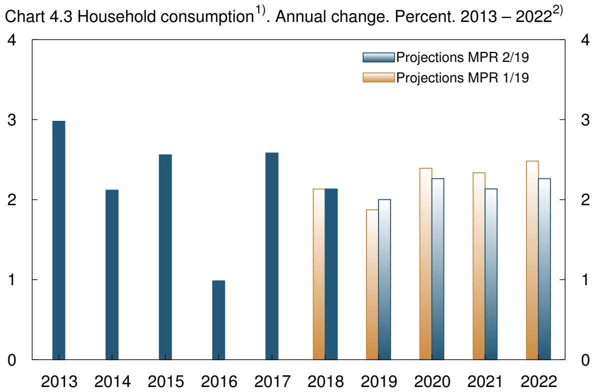
The contacts represent enterprises in the Norwegian business sector and the local government and hospital sector that reflect the production side of the economy both sector-wise and geographically.

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



Source: Norges Bank

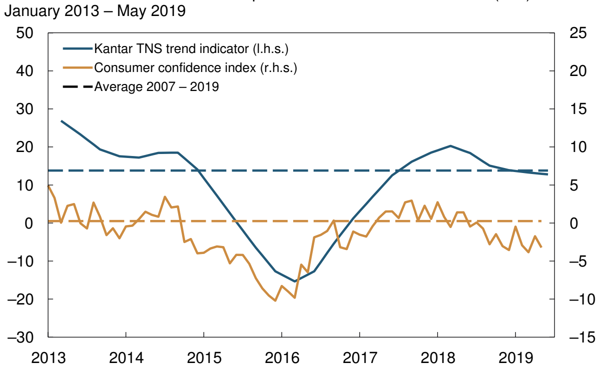
Chart 4.3 Household consumption[1]. Annual change. Percent. 2013 – 2022[2]



1) Includes consumption for non-profit organisations. Working-day adjusted. 2) Projections for 2019 – 2022.

Sources: Statistics Norway and Norges Bank

Chart 4.4 Consumer confidence. Net values. Kantar TNS trend indicator for households. 2013 Q1 – 2019 Q2. Opinion consumer confidence index (CCI). January 2013 – May 2019



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

but the projections are slightly higher than in the March *Report* (Chart 1.10).

The growth picture is influenced by developments in oil investment. After falling sharply between 2013 and 2017, oil investment has picked up and is expected to expand rapidly in 2019 (Chart 1.11). A further slight increase in investment is likely in 2020, followed by a decline in the years thereafter (see box on page 36).

In addition, higher interest rates are expected to weigh on consumption and investment throughout the projection period. In line with the projections in the Revised National Budget for 2019, growth in public demand is projected to be lower in 2019 than in previous years (see box on page 35). For the years ahead, it is assumed that fiscal policy will be slightly expansionary. The fiscal policy assumptions imply that growth in public demand will slow further. Export growth is also expected to decline ahead owing to a somewhat stronger krone and slightly lower growth in Norwegian export markets (Chart 2.7).

Continued growth in private consumption

For 2019, consumption is expected to grow at about the same rate as in 2018 (Chart 4.3). In 2019 Q1, increased car sales pulled up growth in goods consumption. Car sales are influenced by manufacturers' delivery dates and are volatile. At the same time growth in services consumption continued. Consumption growth was slightly higher than projected in the March *Report*. Consumer confidence indicators are slightly below their historical averages and are little changed since March (Chart 4.4).

Consumption is expected to grow approximately in pace with real household disposable income. Higher wage growth and continued employment growth will push up income growth while inflation is expected to slow. On the other hand, higher interest rates will have a dampening impact on disposable income. As household debt is high, a given interest rate change will have a stronger impact on disposable income than previously. Income growth is expected to be somewhat higher in 2019 and 2020 than projected in March, but a little lower further out in the projection period (Chart 4.5).

Overall, growth in private consumption is projected at 2.0% in 2019, with somewhat higher growth further out in the projection period. The projections for the years ahead are somewhat lower than in the March *Report*.

Household savings, which declined slightly after the oil price fall, are expected to remain fairly stable in the years ahead (Chart 4.6).

Moderate house price inflation ahead

Following a period of rapidly rising house prices, house price inflation has slowed markedly in the past couple of years (Chart 4.7). House price inflation has been broadly in line with that projected in March. In May, twelve-month house price inflation was 1.8%, which is lower than the rise in the consumer price index and lower than growth in household disposable income.

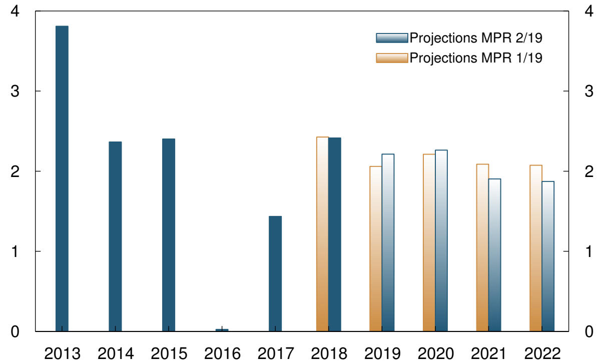
House price inflation is projected to be moderate ahead. Turnover in the market for existing homes remains at a high level. At the same time, the stock of unsold homes is high and a large number of new dwellings are nearing completion. Combined with higher residential mortgage rates, that will pull down on house price inflation ahead. Because of the high level of household debt, a rise in mortgage rates may dampen house prices more than previously. On the other hand, prospects for increased employment and higher wage growth pull up house prices. Compared with the March *Report*, the projections for house price inflation are little changed. A further discussion of the housing market is provided in Section 6.

Stable housing investment

The fall in housing investment towards the end of 2017 and through 2018 has now come to a halt. New home sales have been relatively stable in the past year, indicating little change in housing investment in the coming quarters. The level of investment is expected to show little change between 2018 and 2019.

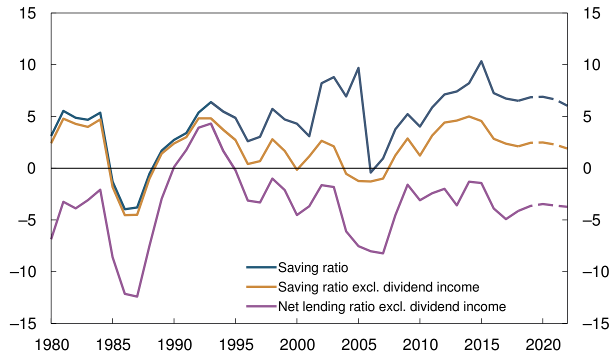
Further out in the projection period, higher real house prices pull up housing investment (Chart 4.8). The projections for housing investment are little changed since the March *Report*.

Chart 4.5 Household real disposable income [1]. Annual change. Percent. 2013 – 2022[2]



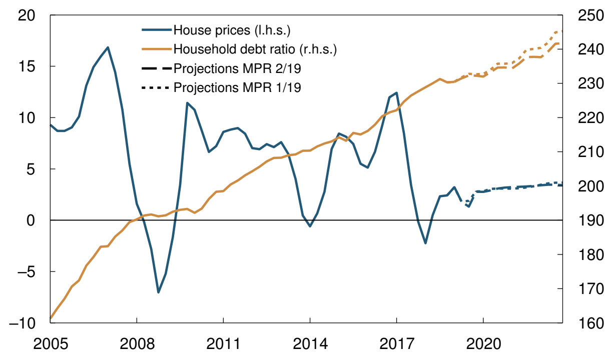
1) Excluding dividend income. Including income for non-profit organisations. 2) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Chart 4.6 Household saving and net lending. Share of disposable income. Percent. 1980 – 2022[1]



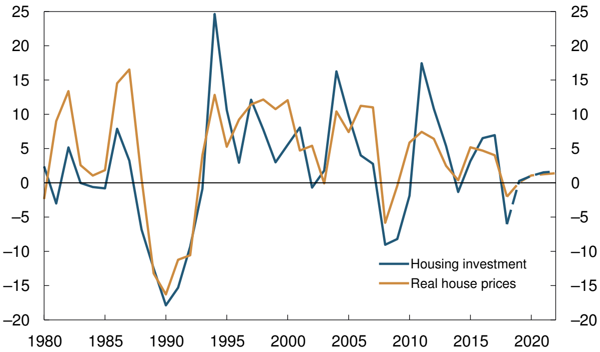
1) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Chart 4.7 House prices. Four-quarter change. Percent. Household debt ratio [1]. Percent. 2005 Q1 – 2022 Q4 [2]



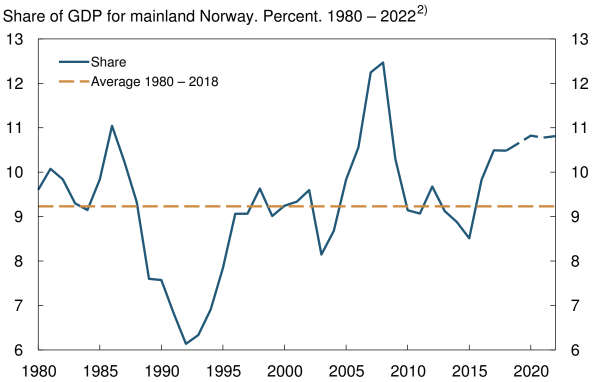
1) Loan debt as a percentage of disposable income. 2) Projections for 2019 Q2 – 2022 Q4.
Sources: Eiendomsverdi, Finn.no, Real Estate Norway, Statistics Norway and Norges Bank

Chart 4.8 Housing investment[1)] and real house prices[2)].
Annual change. Percent. 1980 – 2022[3)]



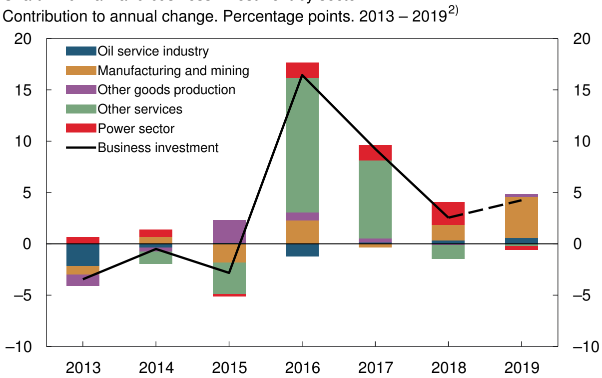
1) Working-day adjusted. 2) Deflated by the CPI. 3) Projections for 2019 – 2022.
Sources: Eiendomsverdi, Finn.no, Norwegian Association of Real Estate Agents (NEF), Real Estate Norway, Statistics Norway and Norges Bank

Chart 4.9 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

Chart 4.10 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

Higher growth in business investment

Business investment has grown rapidly since 2015, and investment as a share of mainland GDP has reached a high level compared with its historical average (Chart 4.9).

Brisk growth in investment in manufacturing and mining and quarrying is expected to result in higher annual growth in business investment in 2019 compared with 2018 (Chart 4.10). Statistics Norway's investment intentions survey for 2019 Q2 indicates that investment growth in manufacturing and mining and quarrying will be slightly higher than assumed in the March *Report* and the decline in the power sector will be somewhat smaller. As a result, the projection for investment growth for 2019 is the same as in March, even though developments in 2019 Q1 were slightly weaker than projected.

In the years ahead, higher-than-normal capacity utilisation in the business sector is expected to continue to push up business investment. On the other hand, higher interest rates and slightly weaker import growth among trading partners may dampen investment growth. Substantial business investment in recent years may also reduce investment demand ahead. Overall, business investment is expected to increase somewhat in the years ahead. The investment projections are little changed from the March *Report*.

Solid export growth in 2019

After having declined in 2016 and 2017, exports increased in 2018 (Chart 4.11). Export growth is expected to be appreciably higher in 2019 than in 2018 and higher than projected in March. Export growth is expected to moderate further ahead consistent with a projected stronger krone and lower growth in Norwegian export markets. Export growth is revised down slightly after 2019 compared with the March *Report*.

Import growth has also been low in recent years, particularly reflecting the impact of declining petroleum investment. In 2019, increased petroleum investment is expected to lift import growth before oil investment falls back, dampening import growth again further out in the projection period. The projections for import growth are slightly higher for 2019, but lower thereafter compared with the March *Report*.

The projections are uncertain

It appears that the upturn in the oil industry will be stronger in the near term than previously envisaged. Oil companies have cut costs considerably in recent years, and break-even prices for new development projects are now far lower than oil companies' long-term oil price expectations. This may support petroleum investment for longer than assumed. Historical experience also shows that business investment can increase substantially in upturns, and investment growth may be higher than projected. On the other hand, owing to the considerable uncertainty surrounding global developments, foreign import growth may be lower than assumed, which could in turn lead to weaker-than-projected export growth. There is also uncertainty about the effects of higher interest rates on the krone exchange rate and on household behaviour.

4.2 LABOUR MARKET AND OUTPUT GAP

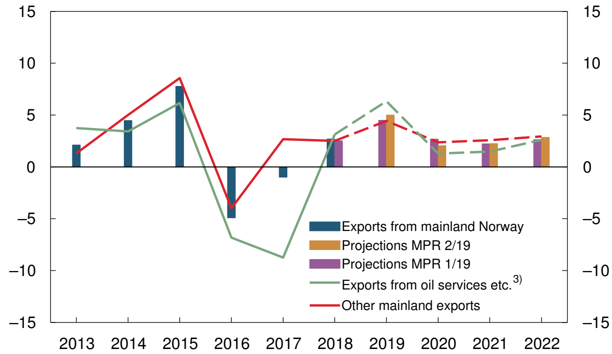
Rapid growth in employment

Employment has risen markedly since the cyclical trough in 2016 (Chart 4.12). According to the quarterly national accounts (QNA), the number of employed has increased by 46 000 over the past year. Employment is increasing in most sectors, particularly in construction. On the other hand, there has been a decline in the number employed in distributive trade over the past year. Total employment has increased more than expected since the March *Report*.

Unemployment has declined in pace with the rise in employment. Unemployment has fallen since the beginning of 2016 (Chart 4.13). Registered unemployment was 2.3% in May, as projected in the March *Report*. According to the Labour Force Survey (LFS), unemployment fell from 3.7% in December to 3.5% in March.

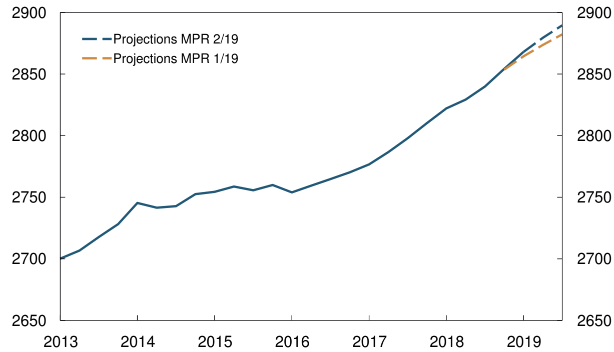
The number of unemployment benefit recipients has remained low since March (Chart 4.14). The number of vacancies increased slightly in 2019 Q1, after decreasing in 2018 Q4. This means that labour demand is still on the rise.

Chart 4.11 Exports from mainland Norway.[1)] Annual change. Percent. 2013 – 2022[2)]



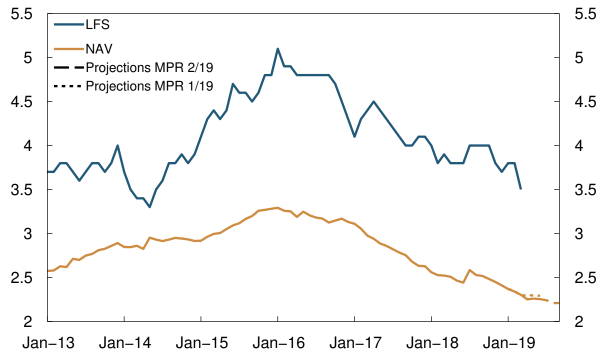
1) Working-day adjusted. 2) Projections for 2019 – 2022. 3) Groups of goods and services in the national accounts where the oil service industry accounts for a considerable share of exports.
Sources: Statistics Norway and Norges Bank

Chart 4.12 Employment. Seasonally adjusted. In thousands. 2013 Q1 – 2019 Q3[1)]



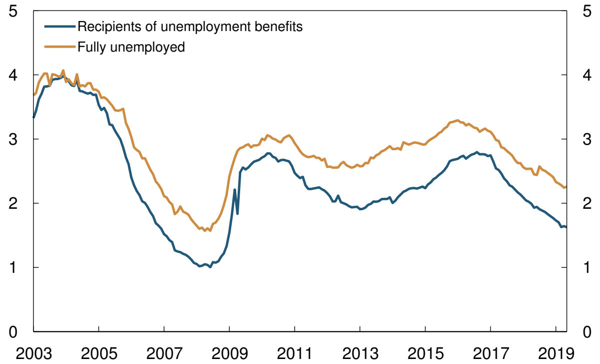
1) Projections for 2019 Q2 – 2019 Q3.
Sources: Statistics Norway and Norges Bank

Chart 4.13 Unemployment according to the LFS[1)] and NAV[2)]. Share of the labour force. Seasonally adjusted. Percent. January 2013 – September 2019[3)]



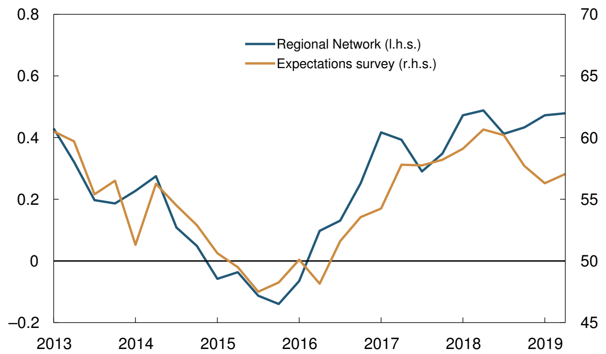
1) Labour Force Survey. 2) Registered unemployment. 3) Projections for June 2019 – September 2019 (NAV). Norges Bank does not provide monthly projections for the LFS.
Sources: Norwegian Labour and Welfare Administration (NAV), Statistics Norway and Norges Bank

Chart 4.14 Unemployment benefit recipients[1)] and registered unemployment. Share of labour force. Seasonally adjusted. Percent. January 2003 – May 2019



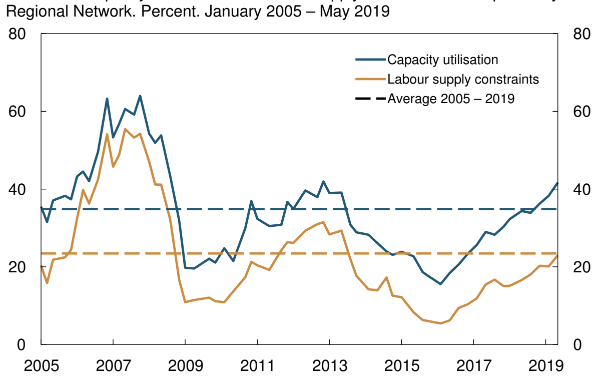
1) Approximately half of the fully unemployed receive unemployment benefits. Some partly unemployed persons and labour market programme participants are also eligible for unemployment benefits.
Sources: Norwegian Labour and Welfare Administration (NAV) and Norges Bank

Chart 4.15 Expected employment. Regional Network.[1)] Quarterly change. Seasonally adjusted. Percent. Norges Bank's expectations survey. Diffusion index.[2)] 2013 Q1 – 2019 Q2



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 4.16 Capacity utilisation[1)] and labour supply constraints[2)] as reported by the Regional Network. Percent. January 2005 – May 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 enterprises in the interview round.
Source: Norges Bank

Further improvement in the labour market

Regional Network contacts expect that employment growth will remain high over the next three months (Chart 4.15), while Norges Bank's expectations survey suggests that employment growth is slowing somewhat.

Prospects for continued growth in the Norwegian economy imply a continued rise in employment in the years ahead. Employment growth is projected to remain broadly unchanged between 2018 and 2019 and to gradually slow in the years ahead in pace with slowing mainland GDP growth. The projections for employment growth for 2019 are slightly higher than in March and little changed further out in the projection period. The number of employed is projected to increase by around 70 000 between the end of 2018 and the end of 2022.

Unemployment is expected to decline further, but less than implied by the rise in employment alone. This is because more people will likely enter the labour market in response to higher labour demand. Unemployment is projected to decline in 2019 and 2020, before rising slightly towards the end of the projection period (Chart 1.12). The projections for unemployment are lower than in March throughout the projection period.

In Norges Bank's previous analyses, registered unemployment of around 2½% was assumed consistent with normal capacity utilisation in the economy. Actual unemployment has fallen below this level and more than would be implied by the Bank's overall assessment of capacity utilisation. This may mean that the unemployment rate consistent with normal capacity utilisation is lower than previously assumed. In the analyses in this *Report*, the projections for unemployment have been revised down somewhat more than implied by the changes in capacity utilisation in isolation.

Capacity utilisation above normal

Capacity utilisation has been rising since 2016 (Chart 1.1b) and spare capacity in the Norwegian economy has gradually diminished. In the March *Report*, capacity utilisation was estimated at close to a normal level at the end of 2018 and to have risen further into 2019.

A number of signs indicate that capacity utilisation has continued to increase since March (Table 4.1). Unemployment has continued to drift down and wage growth is on the rise. An increasing share of Regional Network enterprises report that they are unable to increase output without modifying equipment or making workforce adjustments (Chart 4.16). More enterprises than previously report recruitment difficulties. Model estimates based on various labour market indicators suggest that capacity utilisation increased between 2018 Q4 and 2019 Q1 and is now slightly above a normal level (Chart 4.17). Model estimates that also include indicators for other sectors of the economy suggest that capacity utilisation showed little change in 2019 Q1 and is close to a normal level.

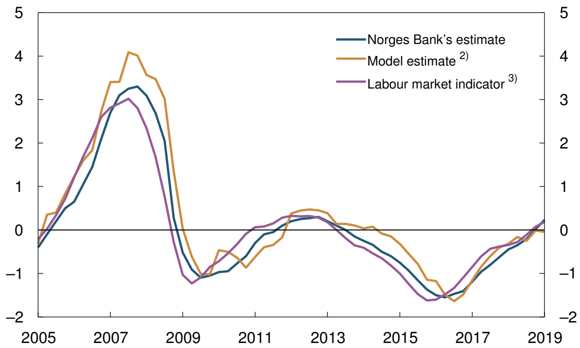
The assessment in this *Report* is that capacity utilisation is now above a normal level. Capacity utilisation is projected to increase further through 2019 and then decrease gradually (Chart 1.1b). The projections for the output gap in the coming year are slightly higher than in March and are little changed further out.

The employment rate appears to be close to the highest level that is consistent with price stability over time (see box on page 37).

Increase in non-resident workers

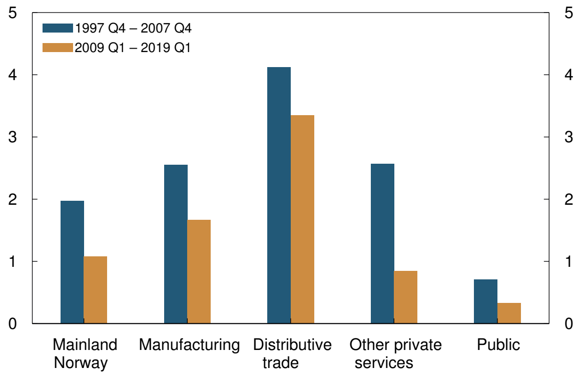
The output potential of the economy is projected to increase by an annual average of 1.6% in the years 2020–2022. The projection is based on trend produc-

Chart 4.17 Output gap estimates[1]. Percent. 2005 Q1 – 2019 Q1



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 4.18 Productivity by sector. Average four-quarter change. Percent



Sources: Statistics Norway and Norges Bank

Table 4.1 Capacity utilisation indicators[1]

Indicator type	Low	Close to normal	High
Employment and unemployment	Employment, aged 25-54, LFS	Unemployment, LFS	Registered unemployment
	Labour force, LFS		QNA employment
Prices and wages	Wage growth		Domestic inflation[2]
Business surveys		Labour supply, RN[3]	Capacity utilisation, RN[3]
		Capacity utilisation, SSB[4]	
Other		Job vacancies, SSB	

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 March *Report*. Red indicates lower capacity utilisation. Green indicates higher capacity utilisation.
2 Domestically produced goods and services in the CPI-ATE.
3 Regional Network.
4 Statistics Norway's business sentiment survey for manufacturing and mining and quarrying.

OUTPUT GAP

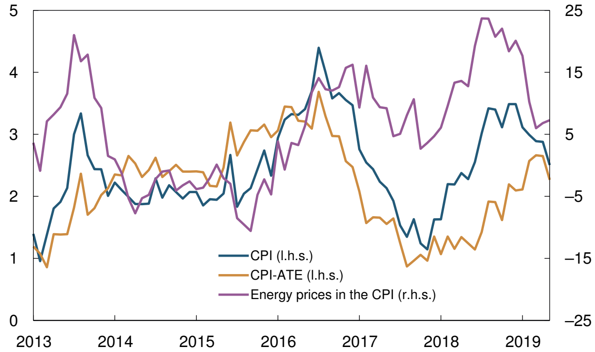
The output gap, also referred to as capacity utilisation, captures resource utilisation in the economy. The output gap is defined as the difference between actual output (GDP) and potential output. Potential output is the highest possible level of output that is consistent with stable price and wage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

Chart 4.19 CPI, CPI-ATE[1)] and energy prices in the CPI[2)].
Twelve-month change. Percent. January 2013 – May 2019



1) CPI adjusted for tax changes and excluding energy products. 2) Measured by the groups *transport fuels and lubricants* and *electricity and other fuels*.
Sources: Statistics Norway and Norges Bank

tivity growth of 1% and trend growth in employment of 0.6%.

Trend employment growth is estimated based on demographic projections. Lower immigration and an ageing population have pulled down trend growth in employment in recent years. Labour immigration has increased less than expected the past year, and the projections for immigration have been revised down for the years ahead. The updated projections still imply a slight increase in labour immigration going forward. While the number of immigrants to Norway has been lower than expected, there has been a substantial increase in recent years in the number of non-resident workers in Norway. The number of non-resident workers is expected to continue to increase in the years ahead. Overall, the estimates for trend employment growth are slightly higher than in March.

Stable productivity growth

The estimate of trend productivity is based on developments in actual productivity. Over the past decade, mainland productivity growth has been around 1%, and about 1 percentage point lower than in the previous decade. Productivity growth in distributive trade has remained relatively high, while growth in other private services has been low (Chart 4.18). Productivity growth in manufacturing has also been lower than in previous periods. The estimate of trend productivity growth ahead is unchanged from March.

Uncertainty about potential output ahead

Actual productivity normally rises faster than trend in the early stages of a cyclical upturn. Compared with previous upturns, productivity growth has remained low in recent years, which may indicate that underlying productivity growth is lower than assumed. On the other hand, growth in business investment and increased digitalisation may lead to higher trend productivity than currently assumed. The potential increase in employment in the years ahead is also uncertain. In the past few years, employment has increased more than expected. The estimate of trend employment growth ahead has been revised up, but the rate of growth is uncertain.

4.3 COSTS AND PRICES

Inflation above target

Inflation picked up markedly through 2018 (Chart 4.19), reflecting both higher wage growth and increased electricity prices. The rise in consumer price inflation adjusted for tax changes and excluding energy products (CPI-ATE) continued into 2019, while lower electricity prices dampened CPI inflation. Until March 2019, other underlying inflation indicators rose appreciably, but have since declined (see box on page 34).

Twelve-month CPI-ATE inflation fell to 2.3% in May, down 0.3 percentage point from April. Inflation remains slightly above the inflation target. Twelve-month CPI inflation was 2.5% in May. Overall, long-term inflation expectations were unchanged from 2019 Q1 to Q2 and are still somewhat above target (see box on page 34).

Inflation broadly as expected

The rise in prices for domestically produced goods and services has picked up since summer 2018 (Chart 4.20), partly reflecting higher wage growth, but the rise in prices has been higher than the rise in unit labour costs (see Chart 4.21). This may be because the depreciation of the krone, following the oil price decline in 2014, has pushed up import prices and hence other costs facing enterprises.

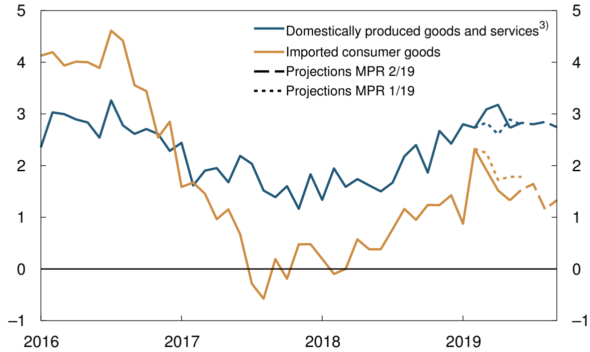
Overall, the rise in prices for domestically produced goods and services has been broadly in line with expectations since March. The rise in prices for imported goods has been somewhat lower than projected in the March *Report*. Twelve-month CPI and CPI-ATE inflation have been approximately as projected.

Wage growth is on the rise

Wage growth has risen in the past few years and is likely to continue to rise in 2019 (Chart 4.22). Annual wage growth is projected at 3.3% in 2019, as in the March *Report*. The projection is close to the expectations in both Norges Bank's expectations survey and among the enterprises in Norges Bank's Regional Network and is also consistent with the wage norm in this year's wage settlement.

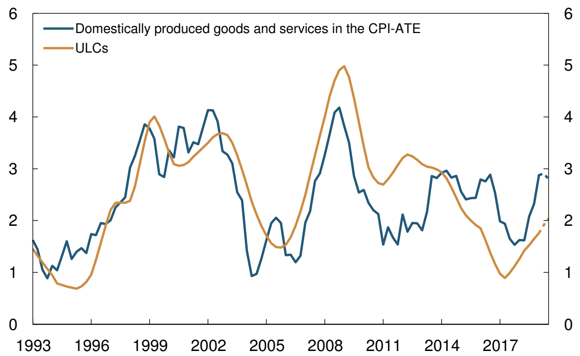
With capacity utilisation somewhat above a normal level and an improving labour market, wage growth

Chart 4.20 CPI-ATE[1)] by supplier sector.
Twelve-month change. Percent. January 2016 – September 2019 [2)]



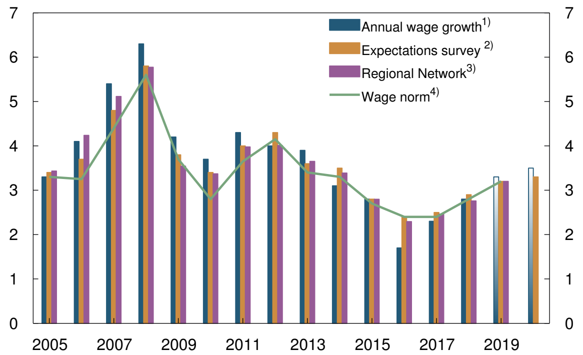
1) CPI adjusted for tax changes and excluding energy products. **2)** Projections for June 2019 – September 2019. **3)** Norges Bank's estimates.
Sources: Statistics Norway and Norges Bank

Chart 4.21 Domestically produced goods and services in the CPI-ATE [1)] and ULCs[2),3)] Four-quarter change. Percent. 1993 Q1 – 2019 Q3



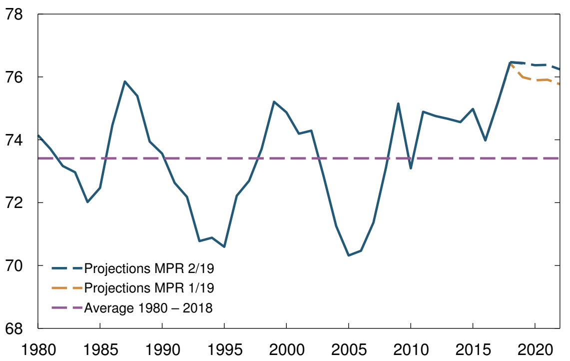
1) CPI adjusted for tax changes and excluding energy products. **2)** Unit labour costs lagged forward three quarters. ULC measured as the difference between annual wage growth and trend productivity growth for mainland Norway. Trend estimated using a two-sided, extended HP filter where lambda=20000. **3)** Norges Bank's estimates. 1996 Q1 – 2019 Q1. Projections for 2019 Q2 – 2019 Q3.
Sources: Statistics Norway and Norges Bank

Chart 4.22 Wages, wage norm and wage expectations.
Annual change. Percent. 2005 – 2020



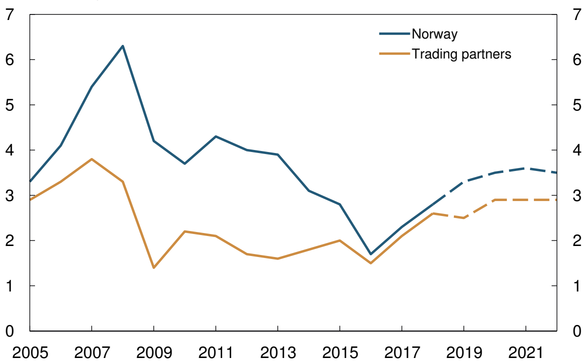
1) Actual annual wage growth from Statistics Norway. Norges Bank's projections for 2019 and 2020.
2) Social partners' wage growth expectations for the current year as measured by Norges Bank's expectations survey in Q2 each year and expected annual wage growth for 2020 measured in 2019 Q2.
3) Expected wage growth for the current year as reported by the Regional Network in Q2 each year.
4) Before 2014: for manufacturing as projected by the National Mediator or NHO. From 2014: for the overall industry, based on an assement by NHO, done in cooperation with LO.
Sources: Epinion, Kantar TNS, LO, NHO, Opinion, Statistics Norway and Norges Bank

Chart 4.23 Labour cost share for mainland Norway.[1)] Percent. 1980 – 2022[2)]



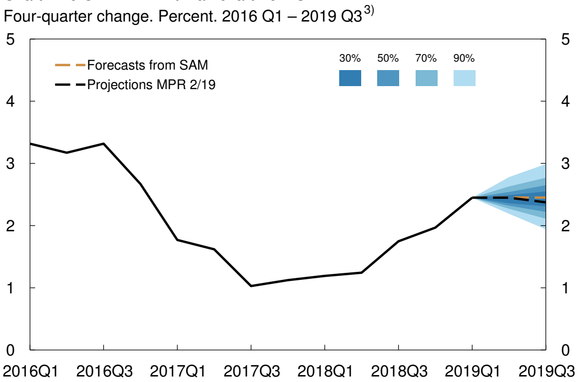
1) Labour costs as a proportion of factor income. 2) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Chart 4.24 Wage growth in Norway and for main trading partners[1)].
Annual change. Percent. 2005 – 2022[2)]



1) The aggregate for wage growth for trading partners is based on labour costs per employee in the euro area, Sweden, the UK and the US. 2) Projections for 2019 – 2022.
Sources: Statistics Norway, Thomson Reuters and Norges Bank

Chart 4.25 CPI-ATE[1)] with fan chart from SAM[2)].
Four-quarter change. Percent. 2016 Q1 – 2019 Q3[3)]



1) CPI adjusted for tax changes and excluding energy products. 2) System for Averaging short-term Models.
3) Projections for 2019 Q2 – 2019 Q3.
Sources: Statistics Norway and Norges Bank

is expected to increase further in 2020 and then remain fairly stable through the remainder of the projection period. Combined with prospects for lower inflation, this implies an increase in real wage growth in 2020. Norges Bank's expectations survey also shows higher wage expectations for 2020, but a little lower than the Bank's projections. Historically, the expectations survey has tended to underestimate wage growth in upturns.

The labour cost share in mainland Norway has reached a high level compared with its historical average (Chart 4.23). The rise in oil prices from their low levels in 2016 has so far not improved profitability in mainland Norway as calculated in the national accounts. The high labour cost share is expected to weigh on wage growth ahead.

The wage projections imply somewhat higher wage growth than among trading partners throughout the projection period (Chart 4.24).

Inflation will move close to the target

Underlying inflation is expected to remain broadly unchanged in the coming months and then decline gradually. Annual CPI-ATE inflation is projected at 2.4% in 2019, which is 0.1 percentage point higher than projected in March. The CPI-ATE projections are closely in line with the SAM-based projections for the coming two quarters (Chart 4.25).

Further out in the projection period, a somewhat stronger krone and weaker external price impulses are expected to push down import price inflation. At the same time, capacity utilisation above a normal level and rising wage growth will in isolation support the rise in prices for domestically produced goods and services. Overall, CPI-ATE inflation is projected to decline to 2% (Chart 4.26).

The projections for the next few years are slightly higher than in the March *Report*. The projections for the rise in prices for domestically produced goods and services are little changed from March, while the rise in prices for imported goods appears to be somewhat higher, reflecting expectations of a slightly weaker krone than projected in March and a slightly stronger rise in imported consumer goods prices (Chart 2.9).

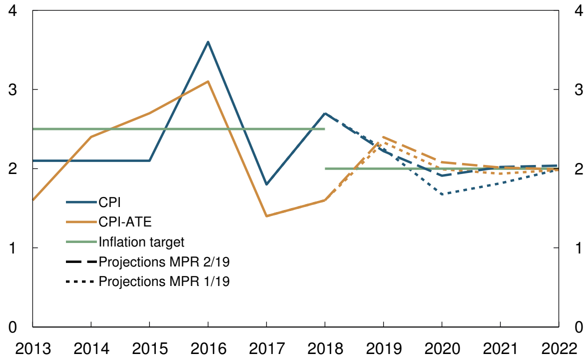
Energy price inflation has slowed over the past half-year, and futures prices for electricity and fuel indicate a further decline through 2019. At the same time, futures prices for the next years are somewhat higher than in March (Chart 4.27). CPI inflation is projected at 2.2% in 2019, little changed from March. Given the energy price projections, CPI inflation declines at a slightly faster pace than CPI-ATE inflation. The projections for CPI inflation in the coming years are a little higher than in March.

Overall, the projections for CPI inflation and wage growth are consistent with a rise in real wage growth between 2019 and 2020, with growth remaining stable further out in the projection period (Chart 1.13). Real wage growth is projected to be slightly lower than in March. The downward revision of real wage growth ahead reflects that the labour cost share for mainland Norway will be slightly higher in 2019 and 2020 than expected in March, partly owing to lower oil price expectations.

The projections are uncertain

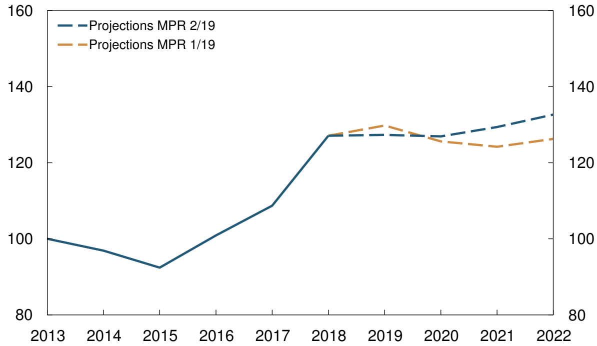
Inflation is projected to continue to edge lower ahead. At the same time, a tighter labour market and higher activity in oil services could result in stronger-than-projected wage growth. It is also assumed that profitability in the business sector will improve somewhat. Failing that, or if improvement takes longer than envisaged, wage growth may turn out to be lower than currently projected.

Chart 4.26 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 4.27 Energy prices in the CPI.[1] Index. 2013 = 100. 2013 – 2022[2]



1) Weighted average of prices for *transport fuels and lubricants* and for *electricity and other fuels* in the CPI. The projections are based on futures prices for electricity, petrol and fuel. 2) Projections for 2019 – 2022.
Sources: Nord Pool, Norwegian Water Resources and Energy Directorate, Statistics Norway, Thomson Reuters and Norges Bank

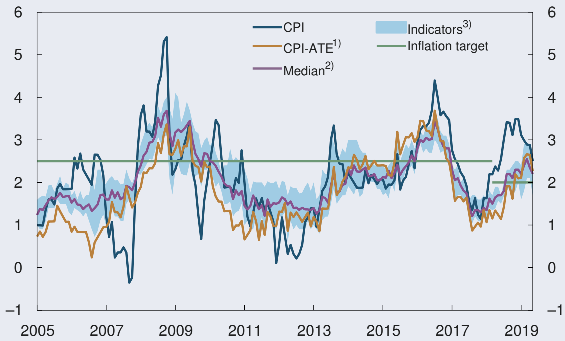
INDICATORS OF UNDERLYING INFLATION

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 the other indicators the Bank looks at ranged between 1.7% and 2.5% in May (Chart 4.A). The 12-month average rise in these indicators was 2.2%, up from 1.7% in May 2018. The underlying inflation indicators showed a clear increase in the period to March 2019, but have since edged down slightly.

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.

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

INFLATION EXPECTATIONS

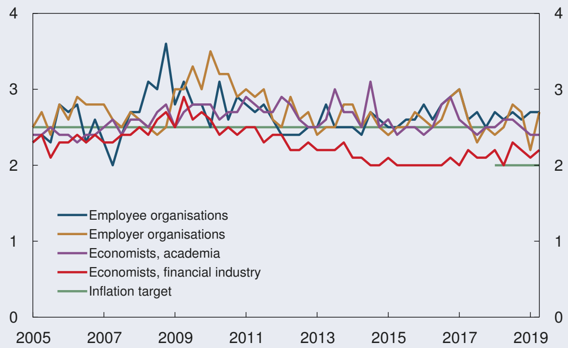
Expectations of future inflation have a bearing on many economic decisions, such as price setting and wage formation. Inflation expectations are often referred to as anchored when medium-term and long-term inflation expectations show little response to new information and remain at a stable level close 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% 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 Q2[2] showed that long-term inflation expectations were unchanged from Q1 and are still above the target. Financial industry economists report the lowest expectations at 2.2%.

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 29 April-19 May 2019.

Chart 4.B Expected twelve-month change in consumer prices five years ahead. Percent. 2005 Q1 – 2019 Q2



Sources: Epinion, Kantar TNS and Opinion

ASSUMPTIONS CONCERNING FISCAL POLICY

The fiscal policy assumptions in this *Report* are based on the Revised National Budget for 2019 and other 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), which is 0.3 percentage point higher than assumed in the March *Report*. The upward adjustment may be attributable to lower indirect tax revenues related to the increase in electric car sales, partial postponement of the sale of emission quotas and higher public spending in the revised budget.

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 for 2019, which is somewhat 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.

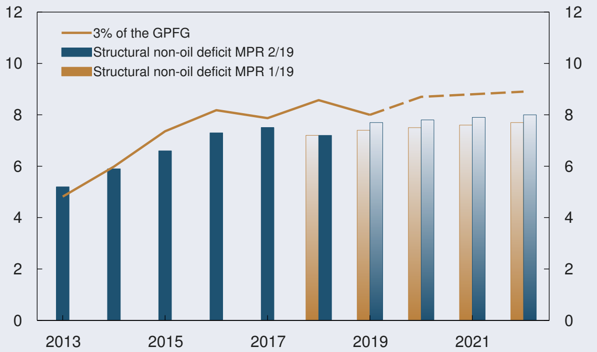
Real underlying growth in government expenditure also provides an indication of the fiscal stance, with growth estimated at 2.0% in 2019 in the Revised National Budget, ie slightly below the average for the period since 2001.

As in the March *Report*, the technical assumption is applied that the structural 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 the year, but it may be somewhat lower through the remainder of the projection period as the value of the GPFG has increased substantially since the beginning of the year.

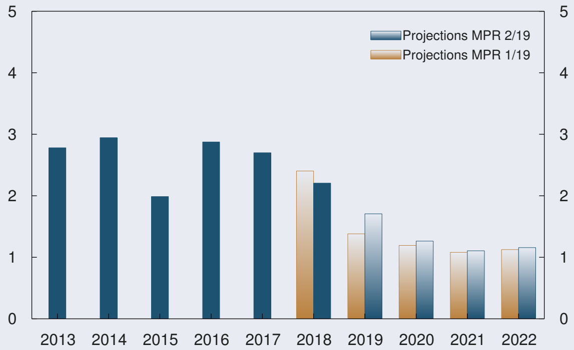
Since 2013, public demand has increased by 2%-3% annually (Chart 4.D). In line with the projections in the Revised National Budget for 2019, growth in public demand is assumed to be lower in 2019, but the growth projection is somewhat higher than in the March *Report*. Growth in public sector demand is expected to slow further in the period ahead. The projections for the coming years are little changed since March.

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 risen over the past year. Investment is expected to increase substantially in 2019 (Chart 4.E). The increased activity reflects the 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 17).

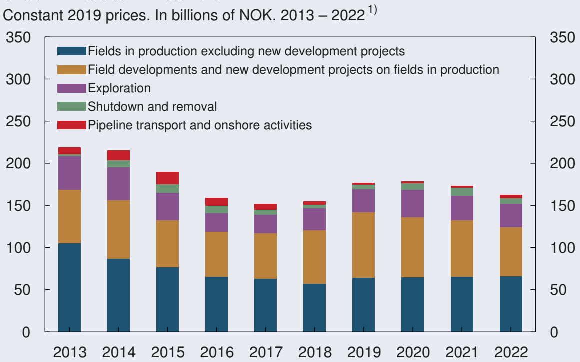
Investment in ongoing development projects increased by almost NOK 10bn in 2018. Investment is projected to increase by a further NOK 14bn in 2019, falling in the period to 2022 as the development projects are completed. This decrease will to some extent be offset by new development projects scheduled 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 Q2, 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 ahead, driven by the fall in drilling costs since 2013 and the prospects for oil and gas prices.

Overall petroleum investment is projected to increase by 14% in 2019 and by a further 1% in 2020. Investment is thereafter expected to fall by 3% in 2021 and by 6% in 2022. The investment projections for 2019 and 2020 are somewhat higher than in the March *Report*, while the projections for 2021 and 2022 are lower. The projections for 2019 and 2020 have been revised up in the light of the latest investment intentions survey, particularly for fields in production. The downward revision for 2021 and 2022 reflects the fall in oil and gas prices since March and the fact that some projects appear to be scheduled to start later than projected in the March *Report*.[2]

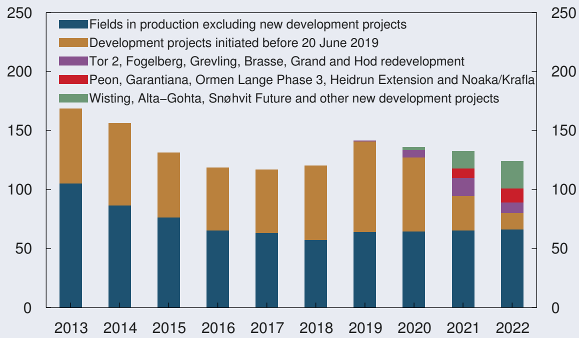
1 Development of the Wisting and Alta-Gohta discoveries may result in investment totalling NOK 80bn-NOK 100bn over five to six years. These developments are expected to commence towards the end of the projection period.
2 The Fogelberg, Garantiana and Noaka/Krafla projects.

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 projections are based on Reports to the Storting, impact analyses, forecasts from the Norwegian Petroleum Directorate, Statistics Norway's investment intentions survey and current information about development projects.
Sources: Statistics Norway and Norges Bank

POTENTIAL EMPLOYMENT

The objective of monetary policy is to contribute to stabilising employment at the highest level consistent with price stability over time.[1] The level will rise over time owing to population growth, but is also influenced by the demographic composition of the population and by factors related to wage formation and the tax and social security system. The level, which we refer to as potential employment, is not observable.

Potential employment is estimated using the actual employment rate, ie the number of people employed as a percentage of the working age population. However, different data sources yield different estimates of the number employed and changes in the employment rate in recent years.

According to the quarterly national accounts (QNA), which include all employed persons in Norway, employment has risen gradually since the cyclical trough in 2016. The total number employed has increased faster than the population, entailing a rise in the employment rate (blue line in Chart 4.G).

Increase in non-resident workers

Some of the rise in employment reflects the growing number of non-resident workers in Norway (Chart 4.H). These workers expect to stay in Norway for less than six months. There are now about 90 000 non-resident wage earners in Norway, or 3% of all employed persons in the country. Around 60% are resident in EU countries in Central and Eastern Europe. About 30% are employed in the construction industry. In addition, around 20% are registered with employment agencies, and many of these probably also work in construction.

The number of non-resident workers in Norway has increased over time. In addition, it appears that the inflow of workers varies with job prospects in Norway. In the years 2006–2008, amid a marked upturn in the Norwegian economy, the number of non-resident workers rose sharply. In 2009, in the wake of the financial crisis, the number fell.

Higher employment rate for residents

The Labour Force Survey (LFS) only covers persons resident in Norway and does not capture non-resident workers. Like the QNA, the LFS shows a rise in the employment rate since 2016, but the employment rate in the LFS has shown little change since autumn 2018 (purple line in Chart 4.G). The LFS is a sample survey and therefore the figures are subject to considerable uncertainty.

Another measure of employment among the resident labour force can be obtained by removing non-resident workers from the employment figures in the QNA. This measure shows that employment among the resident labour force has continued to increase since autumn 2018 (yellow line in Chart 4.G).

An ageing labour force

In recent years, a growing share of the population aged between 15 and 74 has entered age groups where labour force participation rates are low. The ageing of the population points toward a falling employment rate over time. To illustrate the effect of the ageing of the population, a trend employment rate has been estimated assuming that employment rates for all five-year age cohorts between 15 and 74 are held constant at the 2013 level (broken lines in Chart 4.H). In 2013, capacity utilisation was, in the Bank's assessment, at close to a normal level. According to the QNA, the employment rate is now appreciably higher than the 2013 trend. This could imply higher employment than that consistent with normal capacity utilisation in

1 See box in *Monetary Policy Report* 2/18 "How can monetary policy contribute to high and stable output and employment?".

the economy. The estimated employment rate for the resident labour force is also higher than the 2013 trend, but the gap is smaller than for overall employment in the QNA.

However, more factors than the ageing of the population may have influenced trend employment growth. The pension reform, which entered into force in 2011, and a rising level of education in the population may have contributed to a rise in the employment rate. The apparent decline in recent years in the registered unemployment rate consistent with normal capacity utilisation pulls in the same direction. On the other hand, there has been a decline over time in the youth employment rate.

The gap between the employment rate for residents and the 2013 trend can be a measure of the difference between the actual and potential employment rate. Until the cyclical trough in 2016, there was a close correlation between this employment gap and the Bank's assessment of capacity utilisation in the Norwegian economy. However, in recent years this gap has closed faster than implied by other capacity utilisation indicators as a whole.

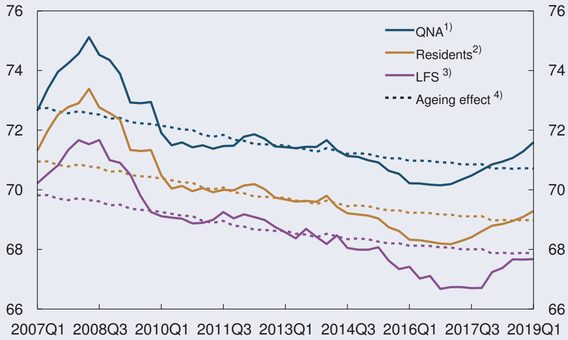
The Bank's assessment is that the trend employment rate has not declined as much as implied by the ageing of the population in isolation in recent years and that employment rate now seems to be near its potential.

Continued growth in potential employment

Looking ahead, the pension reform will likely continue to push up the employment rate. On the other hand, the youth employment rate may continue to decline, partly because more people remain in education for longer. The employment rate for residents is assumed to remain stable ahead. The ageing effect is fading as the large post-war cohorts are exiting the labour force.

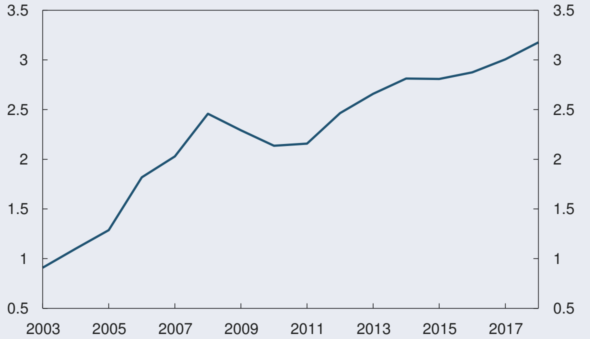
At the same time, the number of non-resident workers is assumed to continue to increase ahead, so that overall trend employment growth is a little higher than population growth.

Chart 4.G Employed as a share of the population aged 15-74. Percent. 2007 Q1 – 2019 Q1



1) Quarterly national accounts. **2)** Employment according to the QNA minus register data for non–resident workers. The series for non–resident workers has been adjusted back in time owing to breaks in the series in 2015. **3)** Labour Force Survey. **4)** 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 utilisation was, in Norges Bank's opinion, close to a normal level in that year.
Sources: Statistics Norway and Norges Bank

Chart 4.H Non–resident workers as a share of all employees[1),2)] Percent. 2003 – 2018



1) According to the quarterly national accounts. **2)** The series for non–resident workers has been adjusted back in time owing to breaks in the series in 2015. Changes from 2014 to 2015 are assumed to be the same as in the quarterly national accounts. The series is relayed backwards by using the series' own growth rates for the years before 2015.
Sources: Statistics Norway and Norges Bank

5 Monetary policy analysis

The policy rate has been raised from 1% to 1.25%, and the forecast indicates a further rate increase in the course of 2019. At the end of 2022, the policy rate path is slightly below 1.75%.

The policy rate forecast implies a slightly faster rate rise in the coming year than projected in the March 2019 *Monetary Policy Report,* but the policy rate forecast is little changed further out. The upward revision of the policy rate forecast reflects a stronger upswing in oil services and a weaker krone. Lower oil prices and prospects for weaker external growth and lower foreign interest rates in isolation pull down the policy rate path.

The projections are uncertain, and the uncertainty increases through the projection period. If the outlook or the Bank's assessment of economic relationships changes, the policy rate forecast will be adjusted.

5.1 OBJECTIVES AND RECENT DEVELOPMENTS

Low and stable inflation

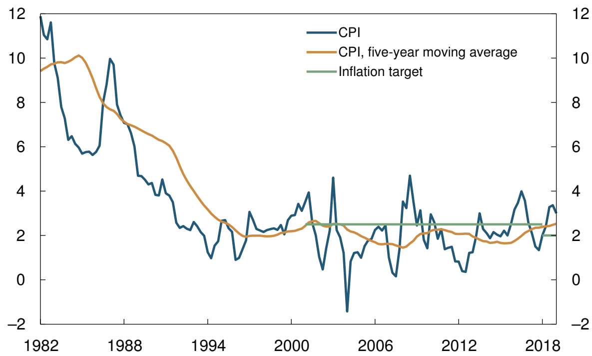
The primary objective of monetary policy is low and stable inflation. When the inflation target was introduced in 2001, the operational target of monetary policy was annual consumer price inflation of 2.5%. In March 2018, the target was changed to 2%. Average annual consumer price inflation has been around 2% since 2001 (Chart 5.1).

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 45.

Continued expansionary monetary policy

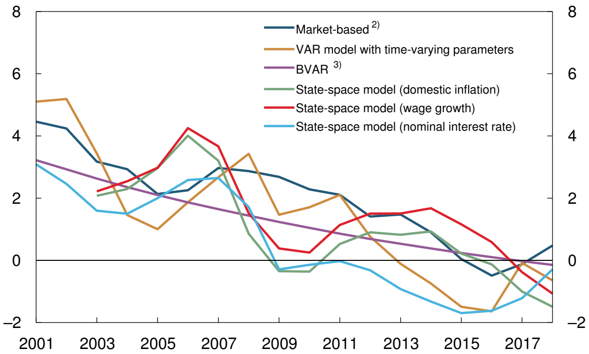
The interest rate level in recent years has been historically low, both globally and in Norway. This is because there has been a need for an expansionary monetary policy, and because the level of the neutral real interest rate has declined over time. The neutral real interest rate is the rate that is neither expansionary nor contractionary and cannot be observed. Model estimates indicate that the neutral real interest

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



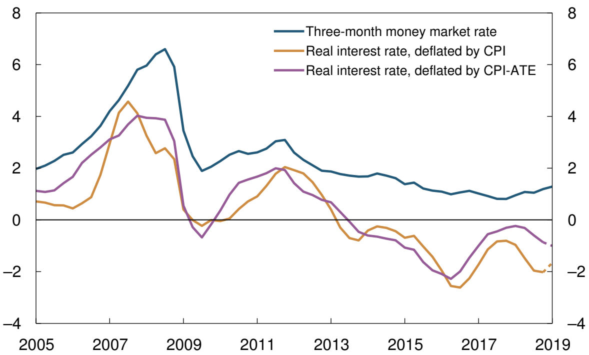
Sources: Statistics Norway and Norges Bank

Chart 5.2 Models for neutral real rates in Norway.[1)] Percent. 2001 – 2018



1) For further reading 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 5- and 10-year maturity for Norway. **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 Q1 [2)]



1) Three-month money market rate deflated by a three-quarter centred moving average of four–quarter inflation.
2) Projections for 2019 Q1.
Sources: Statistics Norway and Norges Bank

rate has remained low in the past few years (Chart 5.2). The neutral real interest rate in Norway, measured as the three-month money market rate less inflation, is estimated to be close to 0%, but the estimate is shrouded in considerable uncertainty.

The money market rate has edged up recently (Chart 5.3) in line with the increase in the policy rate. The real interest rate has fallen in response to higher inflation and is lower than the Bank's estimate of the neutral real interest rate.

5.2 NEW INFORMATION AND ASSESSMENTS

Further rate rise

Growth in the Norwegian economy is solid. Spare capacity is gradually diminishing, and capacity utilisation appears to be somewhat higher than a normal level. Wage growth has risen, and the improvements in labour market conditions suggest a further rise. Underlying inflation is a little above the inflation target.

Monetary policy remains expansionary. A policy rate that is too low over time may increase pressures in the economy, triggering an acceleration in wage and price inflation. Persistently high debt growth has increased household vulnerability. Household debt growth has edged lower in recent years, but remains somewhat higher than growth in household disposable income. Keeping the policy rate low for a long time amplifies the risk of a renewed acceleration in debt growth and house price inflation. A further build-up of financial imbalances increases the risk of a sharp economic downturn further out.

A gradual rate rise may contribute to keeping house price inflation moderate and to a further dampening of household debt growth. On the other hand, raising the policy rate too rapidly may stifle the upturn, resulting in higher unemployment and below-target inflation. Moreover, the past decline in the neutral real interest rate suggests that the policy rate should be increased less than in previous upturns.

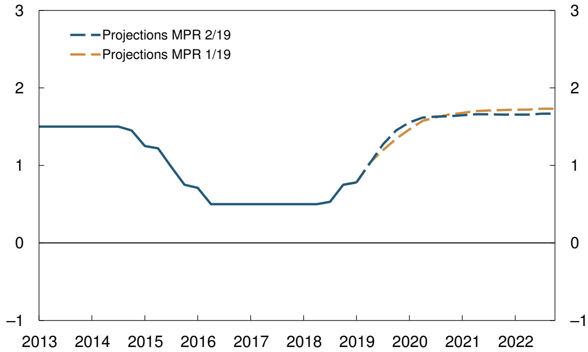
The risk outlook primarily reflects global developments. Trade tensions between the US and China have deepened. This has led to a broad-based fall in foreign interest rates. If trade tensions deepen further, growth among trading partners and oil prices may be lower than projected. This may weigh on domestic growth. At the same time, the krone may remain weak, if global uncertainty persists. The UK's relations with the EU are yet to be clarified. This *Report* applies the assumption that these relations will be clarified in the course of 2019 and that the UK's exit from the EU will be orderly. If the UK exits the EU without a Withdrawal Agreement or the uncertainty about the UK's relations with the EU persists, growth in Europe may turn out lower than anticipated.

The strength of the upturn in Norway is also uncertain. Oil companies have cut costs substantially in recent years, and break-even prices for new developments are now far lower than the long-term oil prices expected by oil companies. The upswing in the oil industry may persist for a longer period, and spillovers into the wider Norwegian economy may end up being larger than anticipated. Employment prospects are also uncertain. Over the past few years, employment has risen more than expected and more than other indicators of labour market tightness would suggest. The projection for trend employment growth has been revised up, but the rate is uncertain.

The effects of monetary policy are uncertain. A wider interest rate differential ahead is expected to result in an appreciation of the krone, but the strength of the effect is uncertain. The policy rate hikes since autumn 2018 have not so far passed through fully to interest rates facing households. Owing to high household debt burdens, higher interest rates will likely dampen household demand more than historical experience indicates. The long period of low interest rates and rising debt burdens has increased the uncertainty surrounding the effects of higher interest rates. The uncertainty surrounding the effects of monetary policy suggests a cautious approach to interest rate setting.

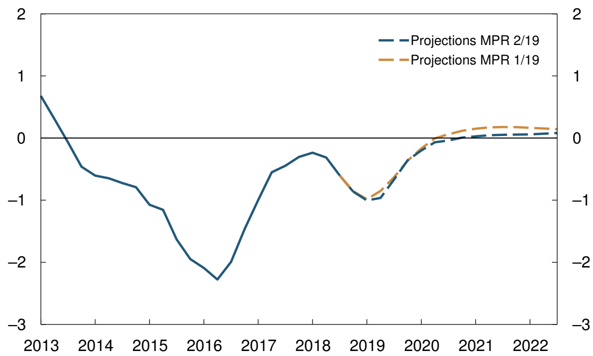
The overall outlook and balance of risk suggest that the policy rate be increased somewhat further.

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



1) Projections for 2019 Q2 – 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 Q1 – 2022 Q3.
Sources: Statistics Norway and Norges Bank

Higher capacity utilisation

Capacity utilisation in the Norwegian economy appears to be rising a little faster than projected in the March *Report*. This partly reflects prospects for higher petroleum investment and oil service exports than envisaged in March and a slightly more expansionary fiscal policy than expected. The krone has been weaker than expected. There are prospects for weaker external growth and lower foreign interest rates than envisaged in March.

A model-based analysis of new information suggests that with a policy rate forecast unchanged since March, both capacity utilisation and inflation will be a little higher than projected throughout the projection period (see box on page 43). New information thus implies a slightly faster rate rise ahead than indicated by the policy rate forecast in the March *Report*.

The policy rate has been raised

The policy rate has been raised from 1% to 1.25% effective from 21 June 2019, and the forecast indicates a further rate increase in the course of 2019 (Chart 5.4). At the end of 2022, the policy rate path is slightly below 1.75%. The policy rate path is slightly higher than in the March *Report* for the coming year and a little lower further out. The box on page 44 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 next few years and shows little change thereafter (Chart 5.5).

With a policy rate in line with the forecast in this *Report*, the output gap is projected to be positive throughout the projection period. Capacity utilisation is projected to peak towards the end of 2019, declining thereafter (Chart 1.1b). The projections for capacity utilisation are a little higher than in March in the coming period and little changed thereafter.

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

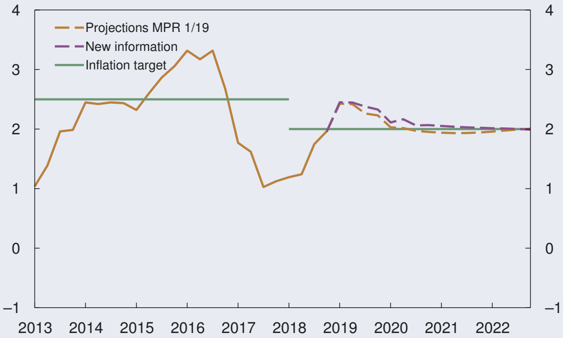
The model-based analysis suggests that with a policy rate forecast unchanged since March, CPI-ATE inflation will be a little higher than projected in the March *Report* until the end of the projection period (Chart 5.A), reflecting slightly higher-than-projected inflation in the near term and a weaker krone. With an unchanged rate path, the krone is weaker than projected in March throughout the projection period, despite a widening of the interest rate differential against other countries compared with the March *Report*. This reflects a weaker-than-expected krone and lower oil futures prices than in March.

Capacity utilisation is rising a little faster and reaches a slightly higher level than projected in the March *Report* (Chart 5.B), mainly reflecting an upward adjustment of the projections for the oil service sector and public demand since March. Consistent with an unchanged policy rate forecast and slightly higher inflation, the real interest rate will be a little lower than projected in March throughout the projection period, resulting in slightly higher demand and capacity utilisation. On the other hand, lower oil prices, lower growth abroad and lower foreign interest rates will in isolation pull down capacity utilisation.

Higher inflation and higher capacity utilisation in the coming period suggest a slightly faster rise in the policy rate than indicated by the policy rate forecast in the March *Report*.

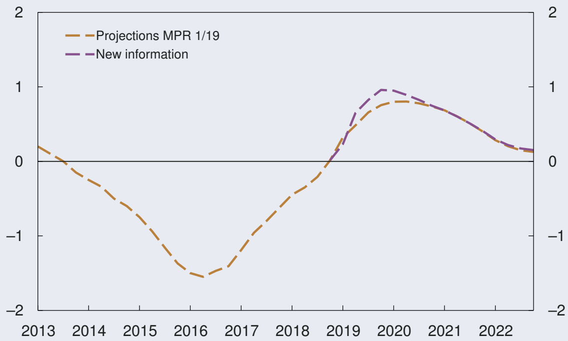
1 NEMO is described in Kravik, E.M and Y. Mimir (2019) "Navigating with NEMO". *Staff Memo* 5/2019. Norges Bank.

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



1) CPI adjusted for tax changes and excluding energy products. 2) Projections for 2019 Q2 – 2022 Q4.
Sources: Statistics Norway and Norges Bank

Chart 5.B Estimated output gap[1)]. Conditional on new information and policy rate forecast in MPR 1/19. 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 March *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 March *Report* and the effect on the new rate path.

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

The krone is weaker than projected and weaker than developments in the interest rate differential and oil prices would suggest. A weaker krone pulls up the rate path (orange bars).

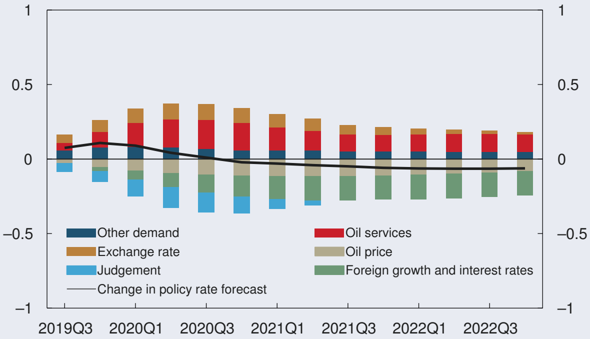
Oil futures prices are lower than in March, implying lower petroleum investment and lower growth in oil-related exports. At the same time, lower oil prices contribute in isolation to lifting growth among trading partners. On balance, lower oil prices pull down the rate path (beige bars).

Despite lower oil prices, the near-term prospects for oil services have improved. This is because petroleum investment on the Norwegian shelf appears to be a little higher than assumed earlier and because oil service exports appear to be growing faster than projected. In the longer term, petroleum investment and oil service exports have been revised down, but less than the fall in oil prices would suggest. Increased demand from oil services in isolation pulls up the rate path (red bars).

Changes in other domestic demand factors pull the rate path up slightly, reflecting in part slightly stronger fiscal policy impulses, but also a weak passthrough from the policy rate increases to bank lending rates. The effect on the rate path of changes in domestic demand factors are illustrated by the dark blue bars.

Overall, new information since the March *Report* suggests an upward adjustment in the rate path in the near term and a slight downward adjustment further out in the projection period. Trade tensions are a source of substantial global uncertainty. The uncertainty surrounding the effects of monetary policy suggests a cautious approach to interest rate setting. Our judgement implies a somewhat smaller upward adjustment of the interest rate path than new information in isolation would indicate, as expressed by the light blue bars.

Chart 5.C Factors behind changes in policy rate forecast since MPR 1/19.
Cumulative contribution. Percentage points. 2019 Q3 – 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

Growth in credit to Norwegian households has decelerated in recent years, but debt ratios are high. Corporate credit growth is being sustained. Over the past two years, the housing market has been characterised by moderate house price inflation and high turnover. House prices relative to household disposable income have declined. The rise in commercial real estate (CRE) prices has slowed somewhat. 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 the preceding quarter.

6.1 FINANCIAL IMBALANCES

Financial imbalances have built up over a long period. Household debt ratios are high and have increased substantially over many years. After rising rapidly for a long period, both residential and commercial property prices are at very high levels.

Household debt is still growing faster than income, but the pace of growth has slowed somewhat in recent quarters. Corporate credit growth is being sustained and is higher than the rate of growth in the economy. Enterprises have ample access to credit.

House prices relative to household disposable income have decreased over the past two years. House price inflation has recently been clearly lower than growth in disposable income. The sharp rise in CRE prices has slowed somewhat in recent quarters.

Norges Bank's assessment of financial imbalances has not changed substantially since the preceding quarter. Looking ahead, rising interest rates and moderate house price inflation are expected to dampen household debt growth. In the CRE market, the moderate rise in prices seen in recent quarters is expected to continue. Against this background, the build-up of financial imbalances is likely to moderate, which enhances financial stability. After a period, this may curb a further build-up of financial imbalances and mitigate the risk of a sharp and more pronounced economic downturn further out.

6.2 GLOBAL FINANCIAL STABILITY

Owing to high debt levels in many countries, the global economy is vulnerable to abrupt declines in asset prices and higher debt servicing costs. Risk pricing in global financial markets has long been fairly low, despite the uncertainty associated with global trade tensions and the UK's exit from the EU. However, there have been sharp movements in market prices over the past half-year. Turbulence in global financial markets may lead to shocks to the Norwegian financial system, first through a rise in wholesale funding costs, which could feed through to the supply of credit to households and enterprises and in turn hamper growth in the Norwegian economy.

Risk-taking in global financial markets remains high. Bond market risk premiums are now somewhat higher than before market turbulence heightened at the end of 2018 (Chart 6.1). In the global equity market, corporate valuations have been approximately unchanged since the March 2019 *Monetary Policy Report*, despite a substantial downward revision of expectations regarding growth in corporate earnings and persistent uncertainty surrounding economic and political developments (see further discussion in Section 2). In the US, growth in leveraged loans continued in 2019 Q1. Reduced international interest rate expectations and high risk-taking may give rise to increased global financial imbalances.

In the EU, banks continue to reduce their stock of non-performing loans, freeing up capital and improving banks' capacity to extend new loans. Nevertheless, profitability among European banks remains low. Several Nordic banks with activities in the Baltic countries are under investigation for deficiencies in their routines for combating money laundering. This has had a considerable impact on wholesale funding costs for the implicated banks (Chart 6.2). There does not appear to have been any contagion to Norwegian banks or other Nordic banks that have had activities in the Baltic countries.

6.3 CREDIT MARKET

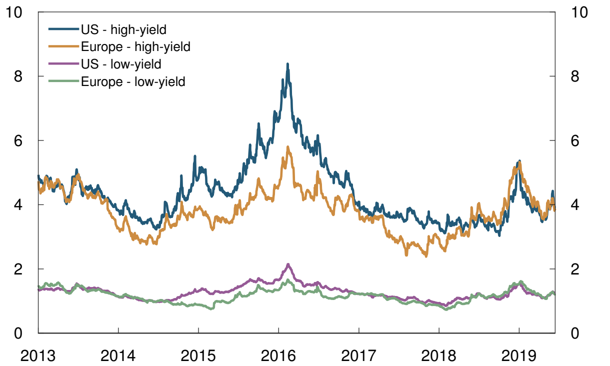
In Norway, credit has long risen faster than mainland GDP (Chart 6.3). Over the past couple of years, this credit indicator has remained approximately unchanged. The credit gap, which shows the difference between the indicator and an estimated trend, is steadily becoming less positive (Chart 6.4).

Household debt is still growing faster than income

Household debt-to-income ratios are high and have risen substantially over a long period (Chart 6.5). A high debt ratio entails a risk that households will have to tighten consumption in response to a sharp fall in income or a marked rise in interest rates.

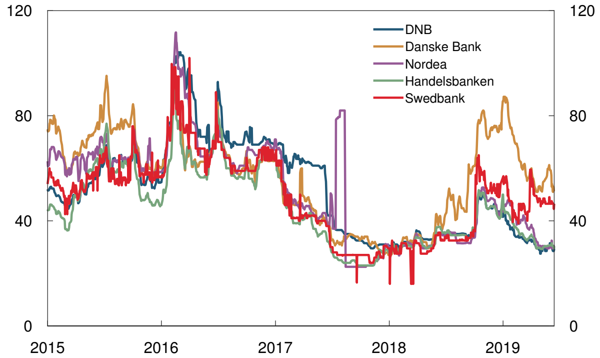
Growth in credit to households has slowed in recent years and is now at its lowest level since 1997 (Chart 6.6). The 12-month rise has remained unchanged at 5.6% since January. In the period ahead, household

Chart 6.1 Corporate bond risk premiums. Premiums above government bond yields. Percentage points. 1 January 2013 – 14 June 2019



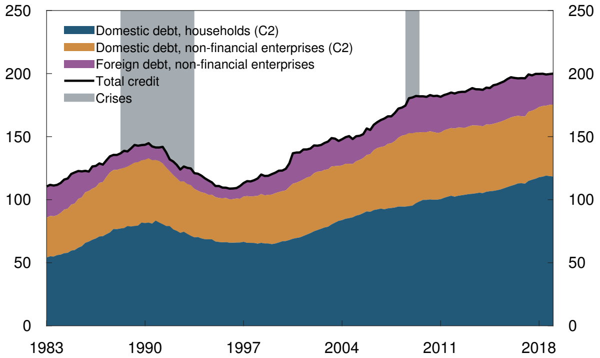
Source: Bloomberg

Chart 6.2 CDS prices for Nordic banks' senior bonds. Five-year maturity. Five-day moving average. Basis points. 1 January 2015 – 14 June 2019



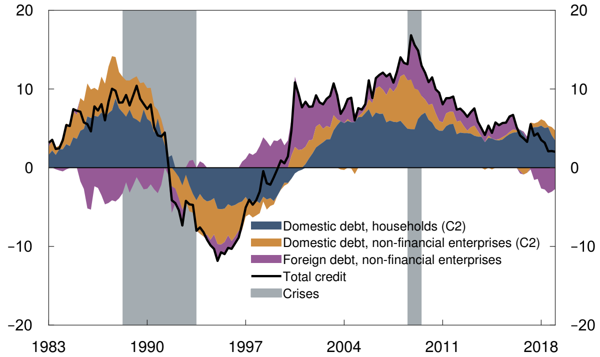
Source: Bloomberg

Chart 6.3 Credit as a share of GDP. Mainland Norway. Percent. 1983 Q1 – 2019 Q1



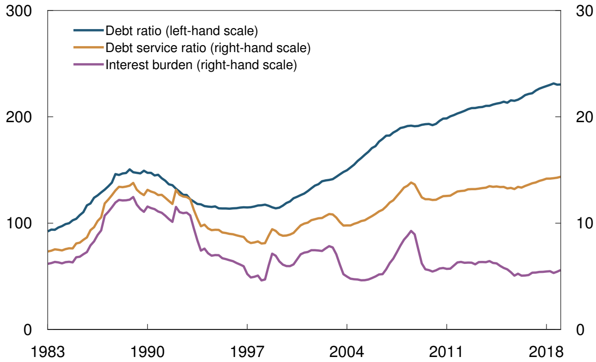
Sources: IMF, Statistics Norway and Norges Bank

Chart 6.4 Decomposed credit gap. Credit as a share of GDP. Mainland Norway. Gap calculated as deviation from trend. Percentage points. 1983 Q1 – 2019 Q1



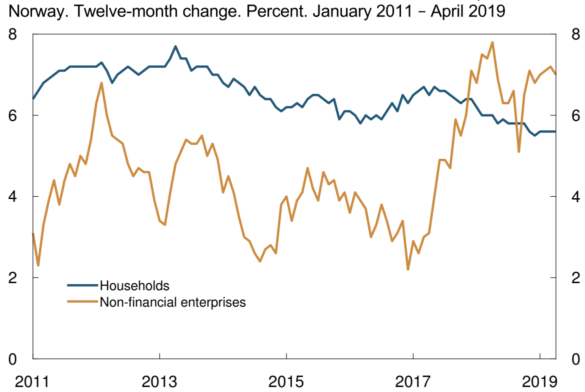
Sources: IMF, Statistics Norway and Norges Bank

Chart 6.5 Household debt ratio[1)], debt service ratio[2)] and interest burden[3)]. Percent. 1983 Q1 – 2019 Q1



1) Loan debt as a percentage of disposable income. **2)** Ratio of interest payments and estimated principal payments to the sum of disposable income and interest payments. **3)** Interest expenses as a percentage of disposable income plus interest expenses.
Sources: Statistics Norway and Norges Bank

Chart 6.6 Domestic credit to households and non-financial enterprises in mainland Norway. Twelve-month change. Percent. January 2011 – April 2019



Sources: Statistics Norway and Norges Bank

credit growth is expected to edge down further (Annex Table 4). Debt ratios are expected to continue to rise (Chart 4.7), but at a somewhat slower pace.

The debt service ratio, ie the ratio of interest and normal principal payments to income, is high and at the same level as during the financial crisis in 2008 and the banking crisis at the beginning of the 1990s (Chart 6.5). The interest burden, ie the ratio of interest payments to income, is likely to have increased further following the policy rate increase in March. Nevertheless, from a historical perspective, the interest burden is low (Chart 6.5). Most households have ample capacity to service debt at somewhat higher interest rates. For households with large consumer loans, the high interest rates on such loans contribute to a heavy interest burden. Household debt service signals high risk in the heatmap (Chart 6.A).

Unsecured loans, such as consumer loans, account for just below 4% of total household debt. New requirements for banks' consumer credit standards will likely entail a tightening in this lending segment. The requirements may restrain the build-up of vulnerabilities among highly indebted households. Analyses conducted by Norges Bank show that close to one-fourth of households with consumer debt in 2016 would have been limited by at least one of the requirements (see the 2018 *Financial Stability Report*). Banks were required to comply with the new requirements by 15 May 2019.

The banks included in Norges Bank's lending survey expect somewhat higher residential mortgage demand in 2019 Q2. They also report increased competition in the residential mortgage market. Banks expect credit standards for households to remain unchanged.

Sustained corporate debt growth

Enterprises have ample access to credit. Growth in corporate credit from domestic sources increased through 2017 and was around 6% to 7% in 2018 (Chart 6.6). During the past months, growth has been sustained. Developments in corporate debt signal low risk in the heatmap (Chart 6.A).

In the years leading up to the banking and financial crises, corporate credit grew markedly faster than

GDP (Chart 6.3). After the financial crisis, the credit-to-GDP ratio was fairly stable, but since 2017, credit growth has been somewhat higher than the rate of growth in the economy. Compared with other countries, Norwegian corporate debt is not particularly high (see the 2018 *Financial Stability Report*). In the period ahead, credit growth for non-financial enterprises is expected to remain at approximately the current level.

CRE lending has long been the main contributor to bank credit growth (Chart 6.7). At the same time, CRE selling prices have increased sharply. Over the past year, construction lending has increased faster than growth in total bank credit to corporates. Higher growth in credit to real estate-related sectors may fuel the build-up of financial imbalances. The risk of losses on construction loans appears to be low, even though high residential construction activity in recent years has likely contributed to the increase in credit growth in this industry (see box on page 56). Banks' overall corporate loan losses edged lower between 2017 and 2018, partly owing to lower loan losses in the power sector (Chart 6.8). Oil-related industries are also contributing to lower losses, but the contribution varies by sub-industry.

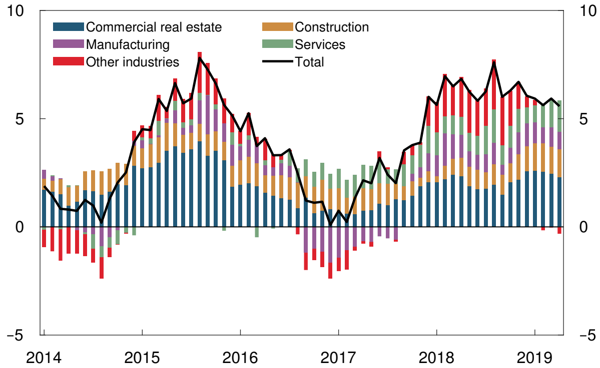
Growth in bond and short-term paper debt declined through 2018 and issuance was low in 2019 Q1 compared with 2018 Q1. So far in 2019 Q2, issuance has picked up somewhat. The real estate and manufacturing sectors are the main contributors to overall growth, even though the growth contributions have fallen since summer 2018. The power sector is making a negative contribution. Redemptions will increase somewhat through 2019, and activity is therefore expected to pick up further. In line with international developments, risk premiums have fallen so far in 2019, despite having increased somewhat recently.

All corporate indicators signal low risk in the heatmap (Chart 6.A).

6.4 HOUSING MARKET

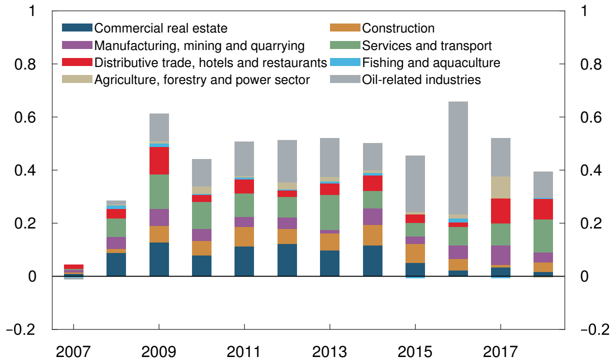
House prices have risen sharply over a long period and are at historically high levels. Nevertheless, over the past two years, house prices relative to household disposable income have declined (Chart 6.9). In the heatmap, housing market developments have sig-

Chart 6.7 Bank and mortgage company lending to Norwegian non-financial enterprises by industry. Contribution to twelve-month change in stock. Percent. January 2014 – April 2019



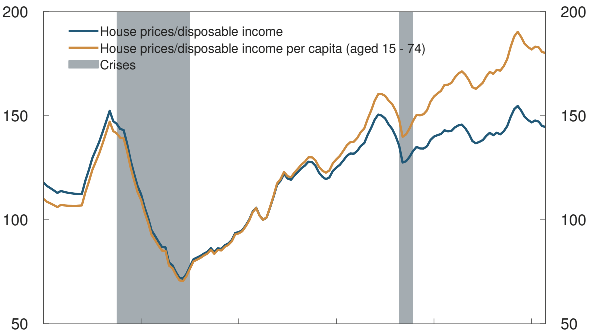
Sources: Statistics Norway and Norges Bank

Chart 6.8 Banks'[1)] loan losses to the corporate market as a share of total lending to the corporate market. Contribution by sector. Percent. 2007 – 2018



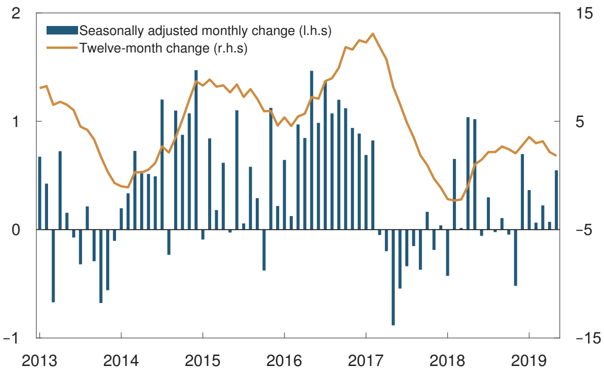
1) Branches of foreign banks are not included, except for Nordea.
Source: Norges Bank

Chart 6.9 House prices relative to disposable income. Index. 1998 Q4 = 100. 1983 Q1 – 2019 Q1



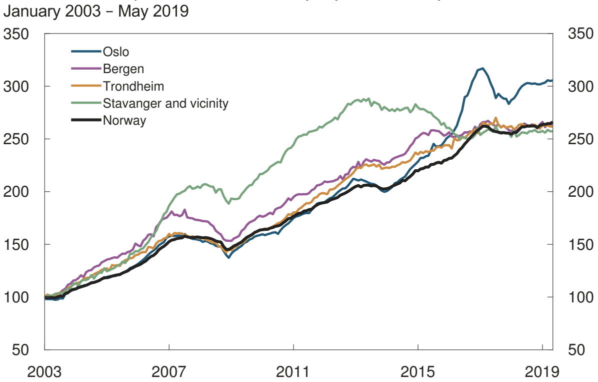
Sources: Eiendomsverdi, Finn.no, Norwegian Association of Real Estate Agents (NEF), Real Estate Norway, Statistics Norway and Norges Bank

Chart 6.10 House prices. Percentage change. January 2013 – May 2019



Sources: Eiendomsverdi, Finn.no and Real Estate Norway

Chart 6.11 House prices. Index. Seasonally adjusted. January 2003 = 100. January 2003 – May 2019



Sources: Eiendomsverdi, Finn.no and Real Estate Norway

nalled low risk since 2017 Q4 (Chart 6.A). At the same time, the high level of house prices is a source of vulnerability for the Norwegian financial system (see the 2018 *Financial Stability Report*).

After a long period of rapid house price inflation, house prices fell in 2017 by approximately 3% between the peak in March and the trough at the beginning of 2018. House prices rebounded in the course of 2018. As expected, house price inflation has recently been low and lower than growth in household disposable income. The 12-month rise was 1.8% in May (Chart 6.10). The slower rise in house prices will likely reduce the risk of an abrupt and more pronounced downturn further out.

Smaller regional differences

In the past five years, house price inflation has varied widely across regions. In 2015 and 2016, house prices rose sharply in Oslo while falling markedly in Stavanger (Chart 6.11). The decline in house prices in 2017 was much more pronounced in Oslo than in the other cities. Regional differences in house price inflation have recently narrowed. From 2003 to the present, house prices in large urban areas have risen to approximately the same extent, with the exception of Oslo, where the rise in prices has been significantly higher (Chart 6.11). This is partly because residential construction in Oslo has for a longer period been lower than implied by population growth.[1] In Stavanger, prices rose at a very fast pace in the pre-crisis years and at a faster pace than in other urban areas up until the fall in oil prices in 2014.

Activity remains high

Activity in the market for existing homes is strong Through much of 2018, the number of homes for sale was at its highest monthly post-crisis level, and in May 2019, a particularly high number of homes were listed for sale (Chart 6.12). The number of listings is high in much of the country. The increase reflects a large number of completions. Many buyers of new homes will sell and move from the property they already own.

Sales of existing homes have also been high through 2018 and so far in 2019 (Chart 6.13). Housing demand

1 See Mæhlum, S., P. M. Pettersen and H. Xu (2018) "Residential construction and household formation". *Staff Memo* 12/2018. Norges Bank.

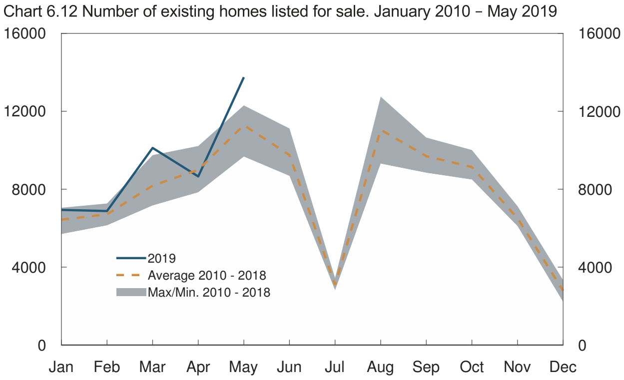
may have increased as a result of solid developments in the Norwegian economy, with lower unemployment and increased income growth. However, sales have not increased by as much as the number of homes listed for sale. This has resulted in an increase in the number of unsold existing homes from already high levels (Chart 6.14). Although this increase affects much of the country, the number of unsold homes is particularly high in central, southern and western Norway.

In the market for new homes, the number of unsold homes has declined somewhat over the past four months, especially for housing starts. This reflects both fewer new homes listed for sale compared with the same period in 2018 and continued firm demand. This indicates that the market for new homes is in balance (see box on page 56).

Moderate house price inflation ahead

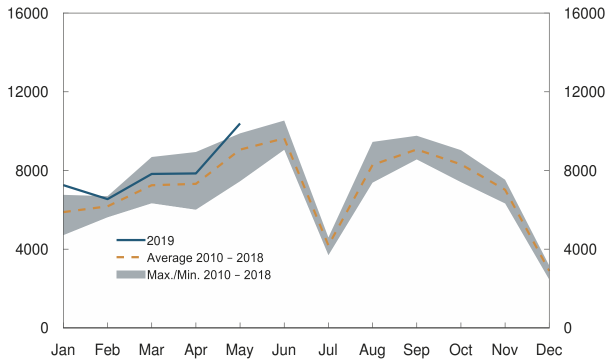
House price inflation is expected to be moderate in the coming years (Annex Table 4). The number of housing starts is expected to remain firm, with a large number of completions in 2019 (Chart 6.15). This is likely to sustain the high volume of existing homes listed for sale. Along with higher interest rates, these developments are expected to pull down on house price inflation, while prospects for increased employment and higher wage growth pull in the opposite direction.

Chart 6.12 Number of existing homes listed for sale. January 2010 – May 2019



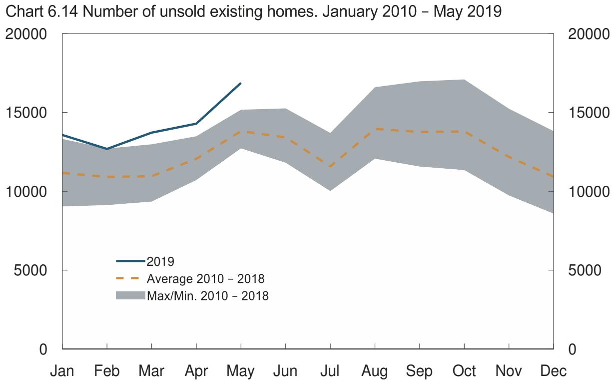
Sources: Eiendomsverdi, Finn.no and Real Estate Norway

Chart 6.13 Turnover of existing homes.
Number of homes. January 2010 – May 2019



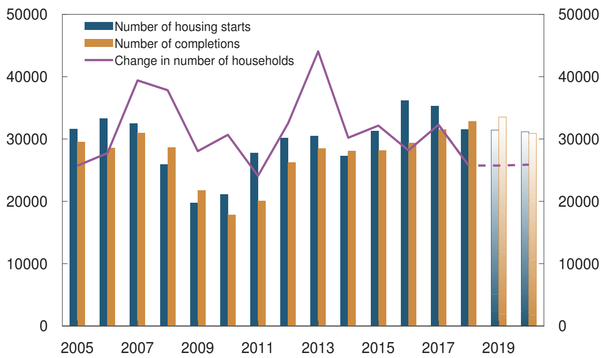
Sources: Eiendomsverdi, Finn.no and Real Estate Norway

Chart 6.14 Number of unsold existing homes. January 2010 – May 2019



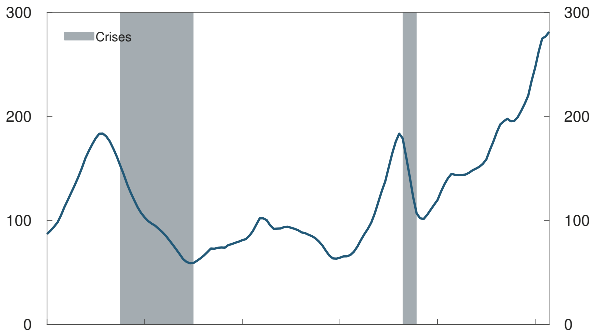
Sources: Eiendomsverdi, Finn.no and Real Estate Norway

Chart 6.15 Housing starts, completions and annual change in number of households. 2005 – 2020[1)]



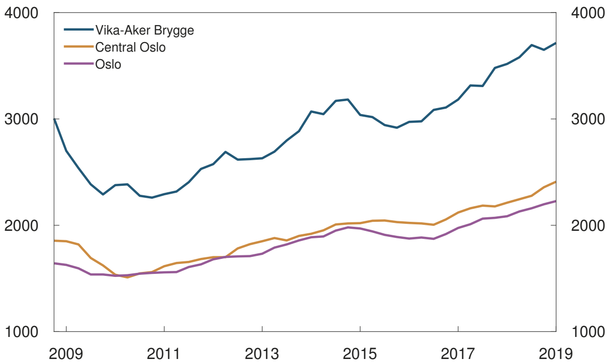
1) Projections for 2019 and 2020 (broken lines and shaded bars).
Sources: Statistics Norway and Norges Bank

Chart 6.16 Real commercial real estate prices.[1)]
Index. 1998 = 100. 1983 Q1 – 2019 Q1



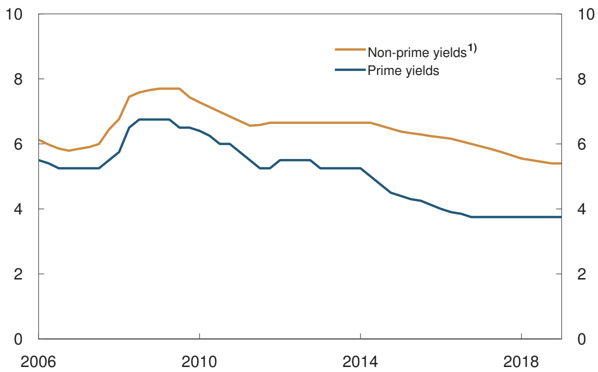
1) Estimated real selling prices per square metre for prime office space in Oslo. Deflated by GDP deflator for mainland Norway. Average selling price for the previous four quarters.
Sources: CBRE, Dagens Næringsliv, OPAK, Statistics Norway and Norges Bank

Chart 6.17 Office rents in Oslo.
NOK per square metre. Four-quarter moving average. 2008 Q4 – 2019 Q1



Source: Arealstatistikk

Chart 6.18 Yields on office space in Oslo.
Percent. 2006 Q1 – 2019 Q1



1) Property along Ring 3. Five-year lease.
Source: DNB Næringsmegling

For a long period, residential construction activity has been outpaced by household formation. This backlog in residential construction reduces the likelihood of a substantial fall in house prices owing to the high number of housing completions.

The projections are uncertain

The uncertainty surrounding the effects of higher interest rates on house prices has increased as a result of a long period of low lending rates and historically high household leverage. The projections for house price inflation are also discussed in Section 4.1.

6.5 COMMERCIAL REAL ESTATE MARKET

CRE prices have risen sharply over a long period. Prices are at historically high levels. Developments in CRE prices are important for banks owing to their substantial CRE exposures. The CRE market indicator signals high risk in the heatmap (Chart 6.A).

Somewhat more moderate rise in CRE prices

Estimated real selling prices for prime real estate in Oslo have risen sharply in recent years (Chart 6.16). Prices continued to rise in 2019 Q1, but the rise in prices has edged down. Selling prices are estimated as the ratio of market rents to yields. The rise in selling prices was long driven up by falling yields. In the past two years, however, higher rents have made the largest contribution to growth while yields have remained stable.

Rents continued to rise somewhat in Oslo in 2019 Q1 (Chart 6.17). As reasons for the rise in rents, market participants point in particular to a low supply of new office buildings and strong demand for offices in central Oslo. According to the real estate company Entra's Consensus Report, market participants expect the rise in rents in 2019 to be fairly strong in central Oslo and somewhat more moderate in surrounding areas. From 2020, an increased number of new office building completions is expected to contribute to a moderate rise also in central Oslo. In Bergen, Trondheim and Stavanger, demand for centrally located office space is high and has contributed to higher rents. Conditions are more varied outside of the city centres.

Yields on office space in Oslo were unchanged in 2019 Q1, both for prime and non-prime office space (Chart

6.18). In recent quarters, banks' margins on CRE exposures have narrowed somewhat, which may reflect stronger competition. Long-term interest rates are lower compared with the March *Report* (Chart 3.4), resulting in a slight decline in total level of financing costs. Owing to continued high demand for attractive investment opportunities and lower foreign and domestic interest rate expectations, market participants expect yields to remain fairly flat in the years ahead with only a marginal rise next year.

Overall, market expectations of higher rents and yields suggest that selling prices will continue to rise ahead, albeit at a more moderate pace than in recent years.

6.6 BANKS

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

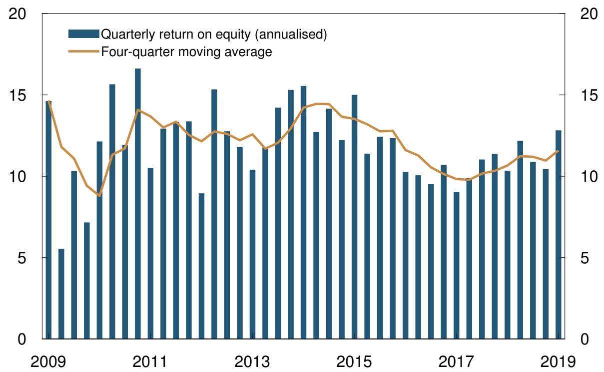
Bank profitability is solid

The profitability of Norwegian banks is solid (Chart 6.19). In 2019 Q1, the return on equity of a number of large Norwegian banks was affected by a non-recurring gain related to the merger of SpareBank 1 Skadeforsikring and DNB Forsikring. Underlying profitability is also solid, and higher market prices for securities holdings are also making a positive contribution. Net interest income is pulling profitability down somewhat (Chart 6.20), partly owing to new rules for the calculation of banks' contributions to the deposit guarantee fund. Low operating expenses and losses are making positive contribution to profitability. The low losses reflect solid developments in the Norwegian economy.

Banks meet capital requirements

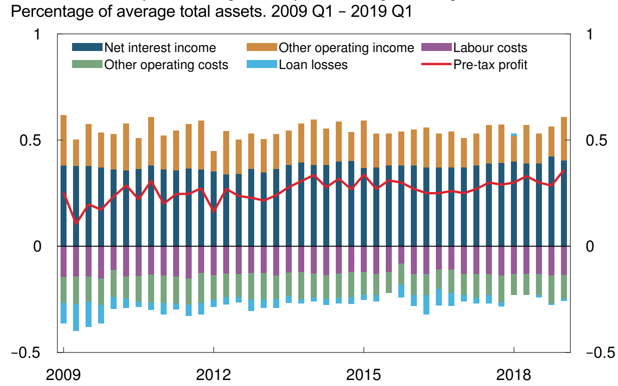
Banks are well positioned to comply with changes to capital requirements, including the increase in the countercyclical capital buffer to 2.5% from year-end 2019. Banks' capital ratios are in line with regulatory requirements and banks' long-term Common Equity Tier 1 (CET1) targets (Chart 6.21). The Ministry of Finance has decided that changes will not be made to the criteria for designating systemically important banks. Finanstilsynet (Financial Supervisory Author-

Chart 6.19 Return on equity for large Norwegian banks. Percent. 2009 Q1 – 2019 Q1



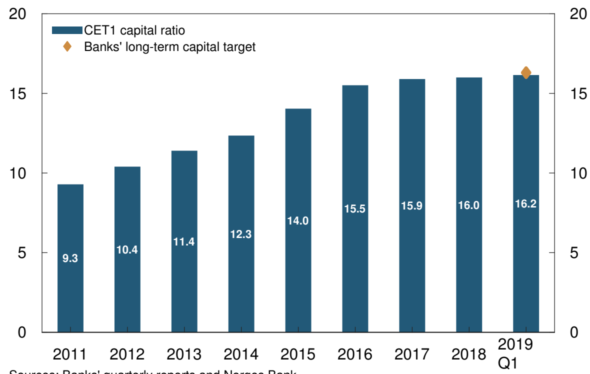
Sources: Banks' quarterly reports and Norges Bank

Chart 6.20 Decomposed change in the profits of large Norwegian banks. Percentage of average total assets. 2009 Q1 – 2019 Q1



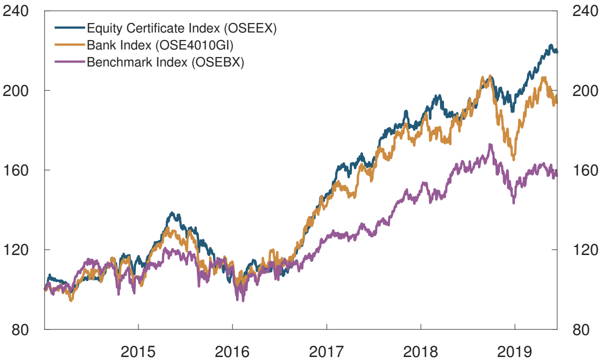
Sources: Banks' quarterly reports and Norges Bank

Chart 6.21 Large Norwegian banks' Common Equity Tier 1 capital ratios. Percent. 2011 – 2019 Q1



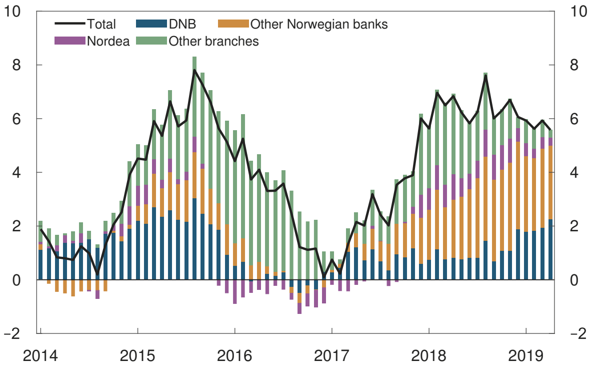
Sources: Banks' quarterly reports and Norges Bank

Chart 6.22 Equity price indexes in the banking sector. Index. 2 January 2014 = 100. 2 January 2014 – 14 June 2019



Source: Thomson Reuters

Chart 6.23 Banks' and mortgage companies' lending to Norwegian non-financial enterprises. Banking groups' contribution to 12-month growth in the stock of loans. Percent. January 2014 – April 2019



Sources: Statistics Norway and Norges Bank

ity of Norway) had proposed a regional criterion, which Norges Bank supported and which would have imposed higher capital requirements on several large regional banks.

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 will soon circulate for comment a draft of possible adjustments to Norwegian capital requirements aimed at preventing an undesirable weakening of the capital levels that Norwegian banks have reached since the financial crisis and at harmonising capital requirements for Norwegian and foreign banks operating in Norway.

Norwegian banks' market capitalisation fell considerably during the stock market decline in 2018 Q4, but has since recovered (Chart 6.22). Market capitalisation is somewhat lower than at the time of the March *Report*, but 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 are at approximately the same level as at the time of the March *Report*. In the liquidity survey, banks reported continued ample access to funding. In the course of 2019, Finanstilsynet will set a recovery and resolution plan and 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.

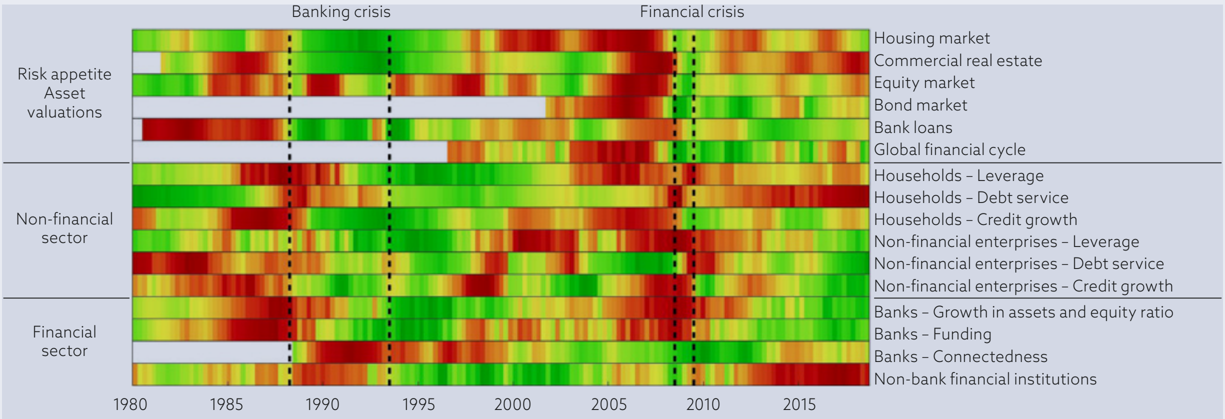
In the period ahead, banks are expected to have sufficient capacity to meet credit demand. Twelve-month growth in bank lending to Norwegian corporates increased during 2017, stabilising at around 6% (Chart 6.23). Relative to lending from branches of foreign banks in Norway, Norwegian banks' share of corporate lending growth has increased over the past twelve months, while the share of growth in lending to households has declined.

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 Q1[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).

BANKS' RISK FROM ACQUISITION, DEVELOPMENT AND CONSTRUCTION EXPOSURES[1]

Norwegian banks' acquisition, development and construction (ADC) exposures are considerable. Historically, the bankruptcy rate in this sector has been fairly high, particularly during downturns. Most bankruptcies are in construction, but most of the debt is in real estate development. Bank losses on real estate development exposures have been low since the financial crisis. Pre-sale requirements help to mitigate loss risk in building projects. Despite high residential construction activity, the number of unsold homes in completed projects has been low in recent years.

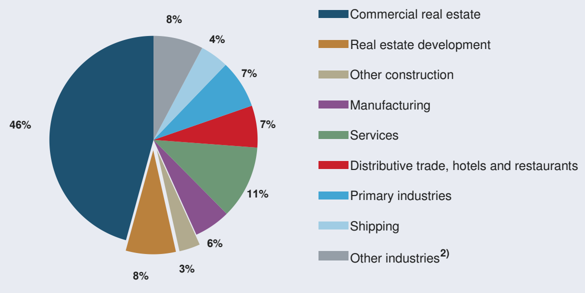
The ADC sector accounts for approximately 8% of mainland GDP and about 11% of banks' corporate exposures (Chart 6.B). Bank losses on real estate development exposures have been low since the financial crisis (Chart 6.C). Losses on the other ADC exposures have been higher than the average for corporate loan losses but this is a smaller share of banks' lending.

For a real estate developer, unsold homes in a development project are a substantial source of risk. New completions without buyers could be a source of large financial losses for both banks and developers. A high proportion of pre-sales is therefore important for reducing the risk associated with the debt held by these enterprises. In pre-sales, buyers normally pay a smaller deposit and are obliged to pay the remainder of the contractual purchase price when the homes are completed.

High pre-sale requirements mean that the buyers of newly completed homes assume much of the project's price risk. This may be appropriate. As long as the purchase was not made solely with the intent to resell, the buyer will still have use for the home even if it were to have decreased in value since its purchase date.

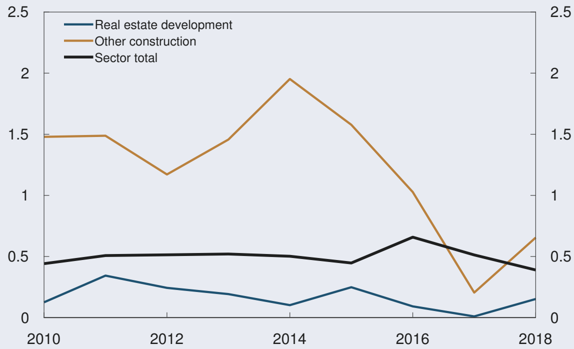
1 See also Hagen, M., I. N. Hjelseth, H. Solheim and B. H. Vatne (2019) "Kan høy boligbygging gi økte tap i bankene? " [Can high residential construction activity result in higher bank losses?]. Published on *Bankplassen blogg* 20 June 2019.

Chart 6.B Lending to the corporate market[1)] by all banks and mortage companies. Percent. At 31 March 2019



1) Total corporate loans NOK 1 484bn. **2)** Other industries comprise "Oil services", "Other transportation", "Electricity and water supply" and "Extraction of natural resources". Here, "Oil services" are narrowly defined.
Source: Norges Bank

Chart 6.C Banks'[1)] loan losses by sector.
Share of total lending to the sector. Percent. 2010 – 2018



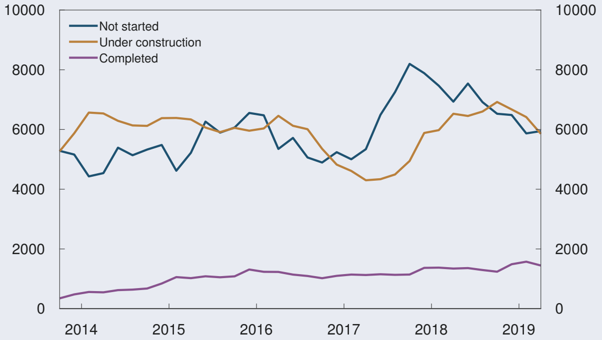
1) Branches of foreign banks are not included, except for Nordea.
Source: Norges Bank

At the same time, a high pre-sale requirement may make it difficult to launch new real estate development projects in periods when buyers are unwilling to assume price risk. Pre-sale requirements may therefore contribute to a decline in new building starts in periods when property price developments are weak and to exacerbating the procyclical nature of residential construction.

Residential construction activity in Norway was high in the years to 2017, but housing starts have declined somewhat in 2018 and 2019 (Chart 6.15). The high level of activity was preceded by a period in which housing construction activity was lower than population growth. The stock of unsold new homes rose markedly when house price inflation fell in 2017 (Chart 6.D). The rise was particularly high in eastern Norway, where housing starts had been highest and the decline in house price inflation was most pronounced. The number of unsold homes in completed projects in eastern Norway has not risen substantially, even though expectations for house price inflation may have diminished (Chart 6.E). During the financial crisis, the number of unsold completed homes rose markedly in eastern Norway. Following the fall in oil prices in 2014, there has been a slight increase in the number of unsold completed homes in western Norway.

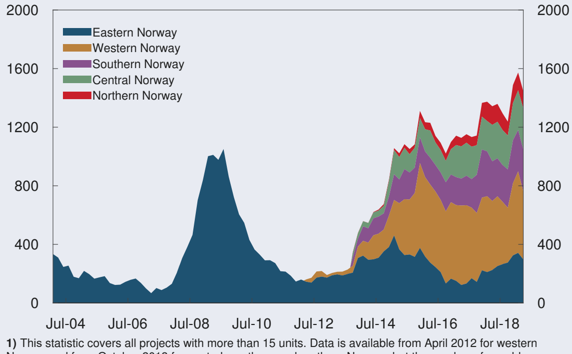
Throughout Norway, the number of unsold new homes under construction has recently declined, which indicates that most of the unsold homes are sold during the construction phase and that there will not be a glut of unsold completed homes. This indicates that the market for new homes is in balance and that banks' loss risk related to the sector as a whole appears to be low.

Chart 6.D Unsold new homes.[1] Number of units. October 2013 – April 2019



1) This statistic covers all projects with more than 15 units.
Sources: ECON and Economics Norway

Chart 6.E Unsold completions. Number of units. February 2004 - April 2019[1]



1) This statistic covers all projects with more than 15 units. Data is available from April 2012 for western Norway and from October 2013 for central, southern and northern Norway, but the number of unsold completions may be somewhat underestimated in the beginning of the data series for each of these regions.
Sources: ECON and Economics Norway

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 September 2019		
14 August 2019		
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
26 March 2014	1.50	0
4 December 2013	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* 1/19 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)	2.3 (0.1)	1.7 (-0.1)	1.7 (0)	1.7 (0)
Euro area	12	16	33	1.9 (0.1)	1.2 (0.1)	1.4 (0)	1.4 (-0.1)	1.5 (0)
UK	2	4	10	1.4 (0)	1.3 (0.2)	1.3 (-0.1)	1.4 (-0.1)	1.5 (0)
Sweden	0.4	0.7	12	2.5 (0.1)	1.7 (0.1)	1.7 (0)	1.7 (-0.1)	1.8 (-0.2)
Other advanced economies[2]	7	10	18	1.9 (0)	1.6 (-0.1)	1.6 (-0.1)	1.8 (-0.1)	1.8 (-0.1)
China	16	15	6	6.6 (0)	6 (0)	5.8 (0)	5.7 (-0.1)	5.7 (-0.1)
Other emerging economies[3]	19	11	12	3.7 (0.1)	3 (-0.3)	3.8 (0)	3.8 (-0.1)	3.9 (-0.1)
Trading partners[4]	72	79	100	2.6 (0)	2 (0.1)	2 (-0.1)	2 (-0.1)	2.1 (-0.1)
World (PPP)[5]	100			3.6 (0)	3.2 (0)	3.5 (0)	3.5 (-0.1)	3.6 (-0.1)
World (market exchange rates)[5]		100		3.1 (0)	2.6 (0)	2.7 (-0.1)	2.8 (-0.1)	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* 1/19 in brackets	Trading partners[4]	Percentage change from previous year 2018	2019	2020	2021	2022
US	8	2.4 (0)	1.9 (0.1)	2.2 (-0.1)	2.3 (0)	2.3 (0)
Euro area	33	1.8 (0)	1.3 (0.1)	1.5 (0)	1.6 (0)	1.7 (0)
UK	6	2.3 (0)	2 (0.1)	2.1 (0)	2 (0)	1.9 (0)
Sweden[1]	13	2.1 (0)	1.9 (0)	2 (0)	2 (0)	2 (0)
Other advanced economies[2]	17	1.1 (0)	1.1 (-0.3)	1.5 (-0.1)	1.6 (-0.1)	1.7 (0.1)
China	12	2.1 (0)	2.3 (0.1)	2.4 (0)	2.7 (0)	2.6 (0)
Other emerging economies[3]	10	4.4 (-0.3)	5 (-0.2)	4.7 (-0.1)	4.5 (0)	4.5 (0.2)
Trading partners[4]	100	2 (-0.1)	2 (0)	2.1 (0)	2.2 (0)	2.2 (0.1)
Underlying inflation[5]		1.4 (0)	1.5 (0)	1.7 (0)	1.9 (0)	1.9 (0)
Wage growth[6]		2.6 (-0.1)	2.5 (-0.1)	2.9 (0)	2.9 (0)	2.9 (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.

Sources: IMF, Thomson Reuters and Norges Bank

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

	2018	2019		
	Q4	Q1	Q2	Q3
Actual	1.1	0.3		
Projections in MPR 1/19		0.6	0.8	
Projections in MPR 2/19			0.8	0.7

Sources: Statistics Norway and Norges Bank

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

	2019						
	Mar	Apr	May	Jun	Jul	Aug	Sep
Actual	2.3	2.2	2.3				
Projections in MPR 1/19	2.3	2.3	2.3	2.3			
Projections in MPR 2/19				2.3	2.2	2.2	2.2

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

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

	2019						
	Mar	Apr	May	Jun	Jul	Aug	Sep
Consumer price index (CPI)							
Actual	2.9	2.9	2.5				
Projections in MPR 1/19	2.9	2.5	2.6	2.2			
Projections in MPR 2/19				2.1	1.8	1.6	1.7
CPI-ATE[1]							
Actual	2.7	2.6	2.3				
Projections in MPR 1/19	2.6	2.3	2.5	2.4			
Projections in MPR 2/19				2.4	2.4	2.3	2.4
Imported consumer goods in the CPI-ATE							
Actual	1.9	1.5	1.3				
Projections in MPR 1/19	2.2	1.7	1.8	1.8			
Projections in MPR 2/19				1.5	1.6	1.2	1.3
Domestically produced goods and services in the CPI-ATE[2]							
Actual	3.1	3.2	2.7				
Projections in MPR 1/19	2.8	2.6	2.9	2.8			
Projections in MPR 2/19				2.8	2.8	2.8	2.7

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* 1/19 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 (-0.1)	1.9 (0.2)	2.0 (0.2)	2.0 (0)
CPI-ATE[1]		1.6 (0)	2.4 (0.1)	2.1 (0.1)	2.0 (0.1)	2.0 (0)
Annual wages		2.8 (0)	3.3 (0)	3.5 (0)	3.6 (-0.1)	3.5 (-0.1)
Real economy[2]						
Gross domestic product (GDP)	3536	1.8 (0.1)	2.0 (-0.4)	2.3 (0.3)	1.8 (0.1)	1.5 (0)
GDP, mainland Norway	2907	2.6 (0.1)	2.6 (-0.1)	1.9 (0.1)	1.2 (0)	1.2 (0.1)
Output gap, mainland Norway (level)[3]		-0.2 (0)	0.7 (0.1)	0.8 (0)	0.5 (0)	0.2 (0)
Employment, persons, QNA		1.6 (0)	1.7 (0.3)	0.8 (0)	0.3 (0)	0.2 (0.1)
Labour force, LFS[4]		1.5 (0)	0.9 (-0.4)	0.8 (0.1)	0.3 (-0.1)	0.2 (0)
LFS unemployment (rate, level)		3.8 (0)	3.5 (-0.1)	3.3 (-0.2)	3.4 (-0.2)	3.5 (-0.1)
Registered unemployment (rate, level)		2.4 (0)	2.2 (-0.1)	2.1 (-0.1)	2.1 (-0.2)	2.2 (-0.2)
Demand[2]						
Mainland demand[5]	3068	1.6 (0)	2.0 (0.2)	2.0 (0.1)	1.6 (-0.1)	1.8 (-0.1)
- Household consumption[6]	1539	2.1 (0)	2.0 (0.1)	2.3 (-0.1)	2.1 (-0.2)	2.3 (-0.2)
- Business investment	312	2.5 (0.7)	4.2 (0.1)	3.5 (1.0)	0.8 (-0.2)	1.5 (-0.3)
- Housing investment	192	-6.0 (0)	0.3 (0.3)	1.0 (-0.2)	1.5 (0.2)	1.7 (0.2)
- Public demand[7]	1025	2.2 (-0.2)	1.7 (0.3)	1.3 (0.1)	1.1 (0)	1.2 (0.1)
Petroleum investment[8]	155	2.7 (-0.6)	14.0 (1.5)	1.0 (0)	-3.0 (-2.0)	-6.0 (0)
Mainland exports[9]	650	2.7 (0.2)	5.0 (0.5)	2.0 (-0.7)	2.2 (0)	2.8 (0.2)
Imports	1154	0.6 (-0.3)	3.4 (0.7)	2.2 (-1.1)	2.8 (-0.5)	2.6 (-0.5)
House prices and debt						
House prices		0.7 (0)	2.3 (-0.1)	3.0 (0)	3.3 (0.1)	3.4 (-0.2)
Credit to households (C2)[10]		5.5 (0)	5.6 (0.2)	5.2 (0)	5.3 (-0.1)	5.4 (-0.3)
Interest rate and exchange rate (level)						
Policy rate[11]		0.6 (0)	1.1 (0)	1.6 (0)	1.7 (0)	1.7 (0)
Import-weighted exchange rate (I-44)[12]		104.6 (0)	105.4 (1.0)	103.3 (1.3)	102.9 (1.3)	102.8 (1.2)
Money market rates, trading partners[13]		0.4 (0)	0.5 (-0.1)	0.3 (-0.3)	0.3 (-0.4)	0.4 (-0.5)
Oil price						
Oil price, Brent Blend. USD per barrel[14]		71 (0)	63 (-3)	59 (-6)	58 (-5)	58 (-4)

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 14 June 2019.

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

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