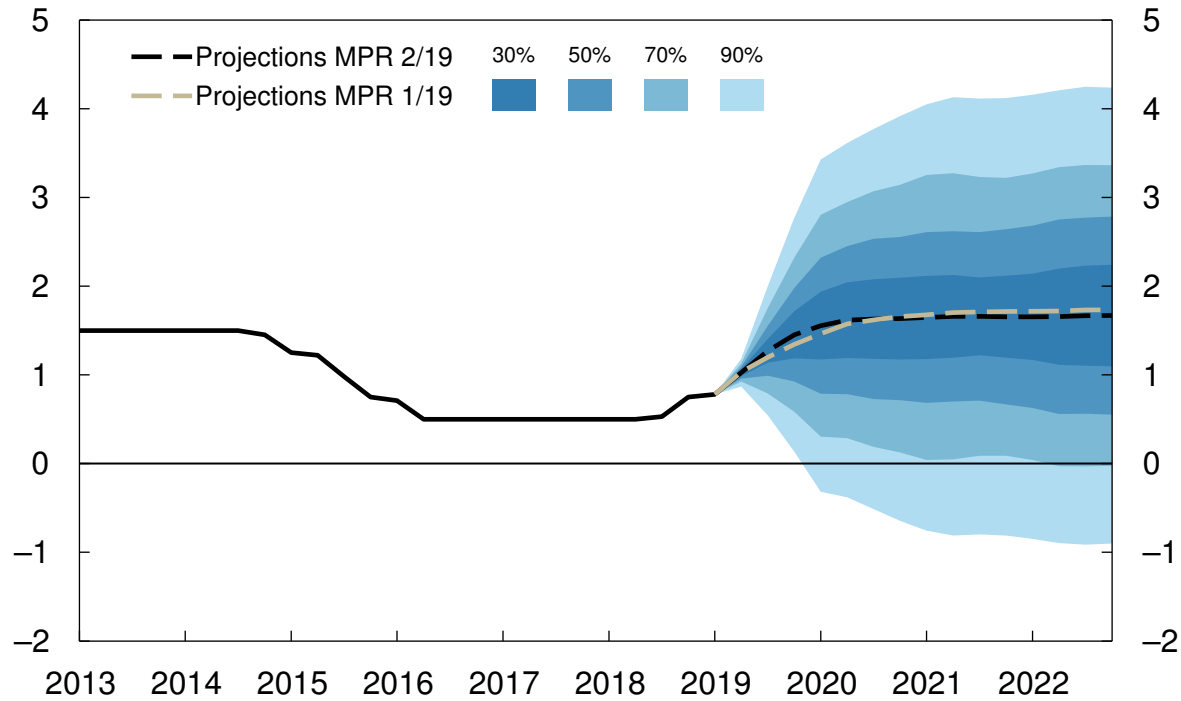Chart 1.1a Policy rate with fan chart[1].
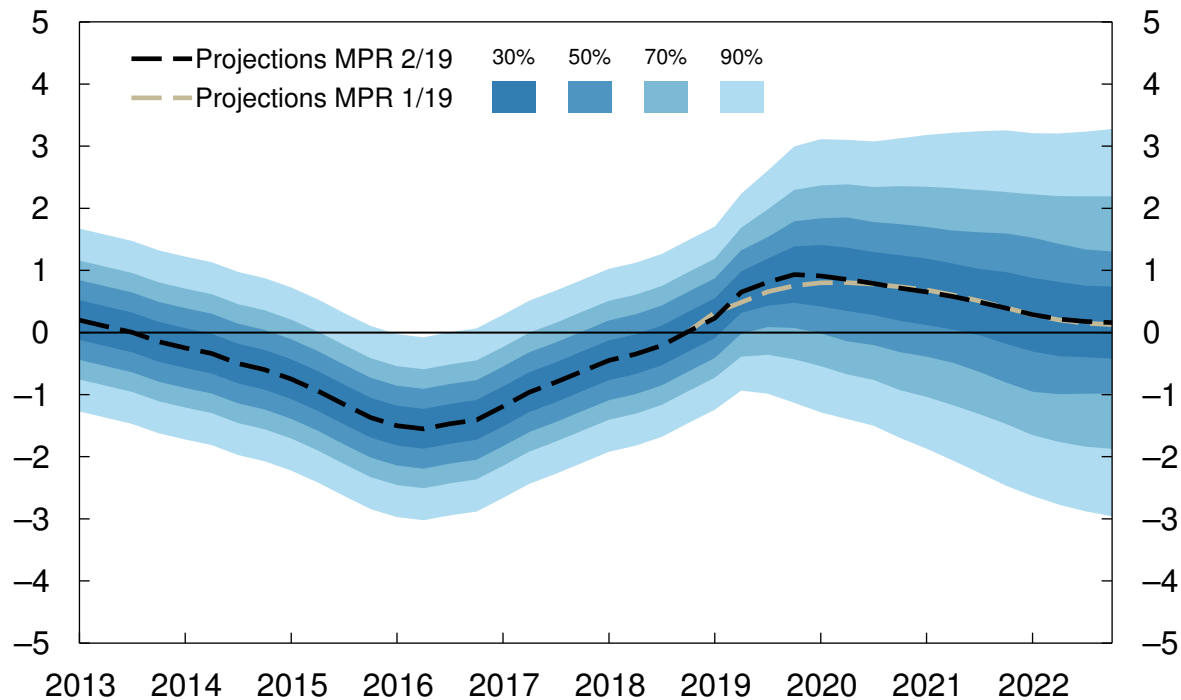Percent. 2013 Q1 – 2022 Q4 [2]

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.
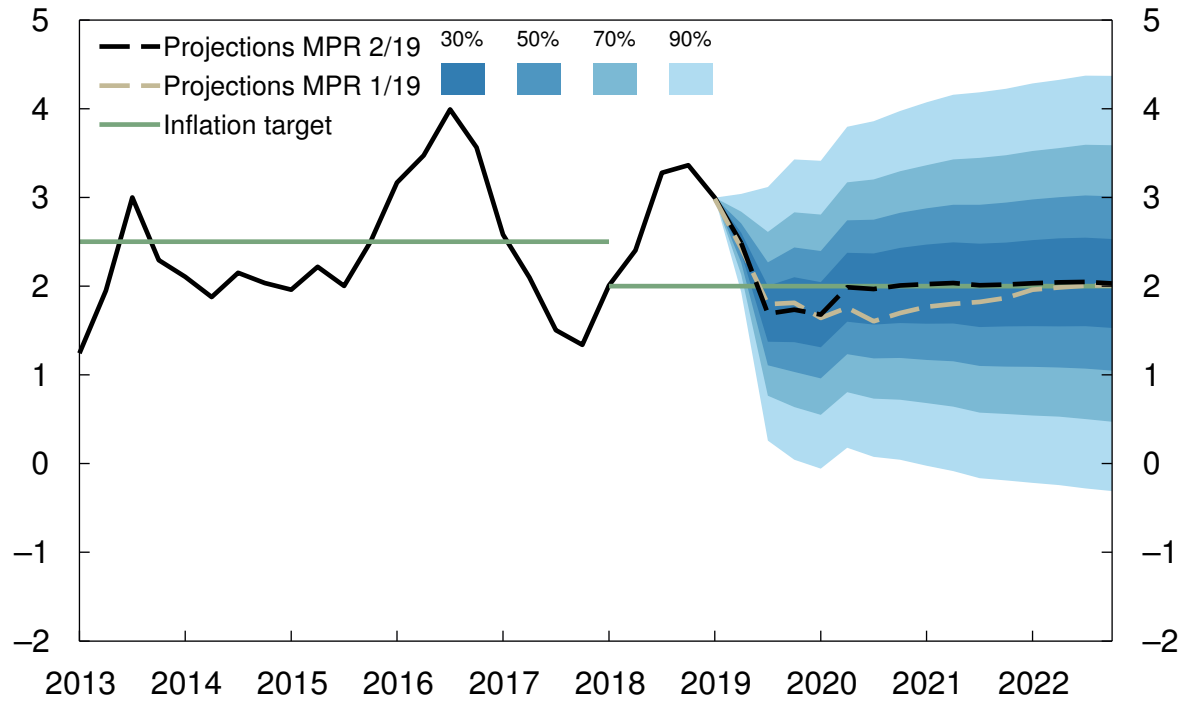**2)** Projections for 2019 Q2 – 2022 Q4.
Source: Norges Bank

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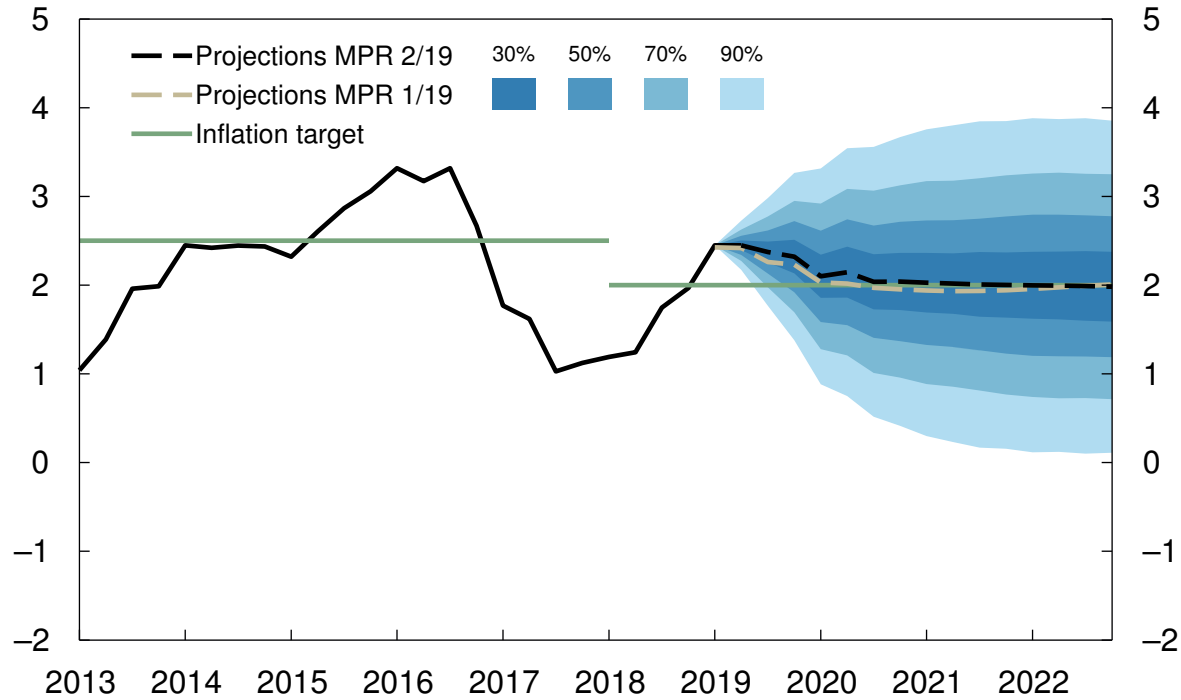
1) CPI adjusted for tax changes and excluding energy products. **2)** The fan chart is based on historical experience and stochastic simulations in Norges Bank's main macroeconomic model, NEMO.
**3)** Projections for 2019 Q2 – 2022 Q4.
Sources: Statistics Norway and Norges Bank

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

- - - Projections MPR 2/19
- - - Projections MPR 1/19
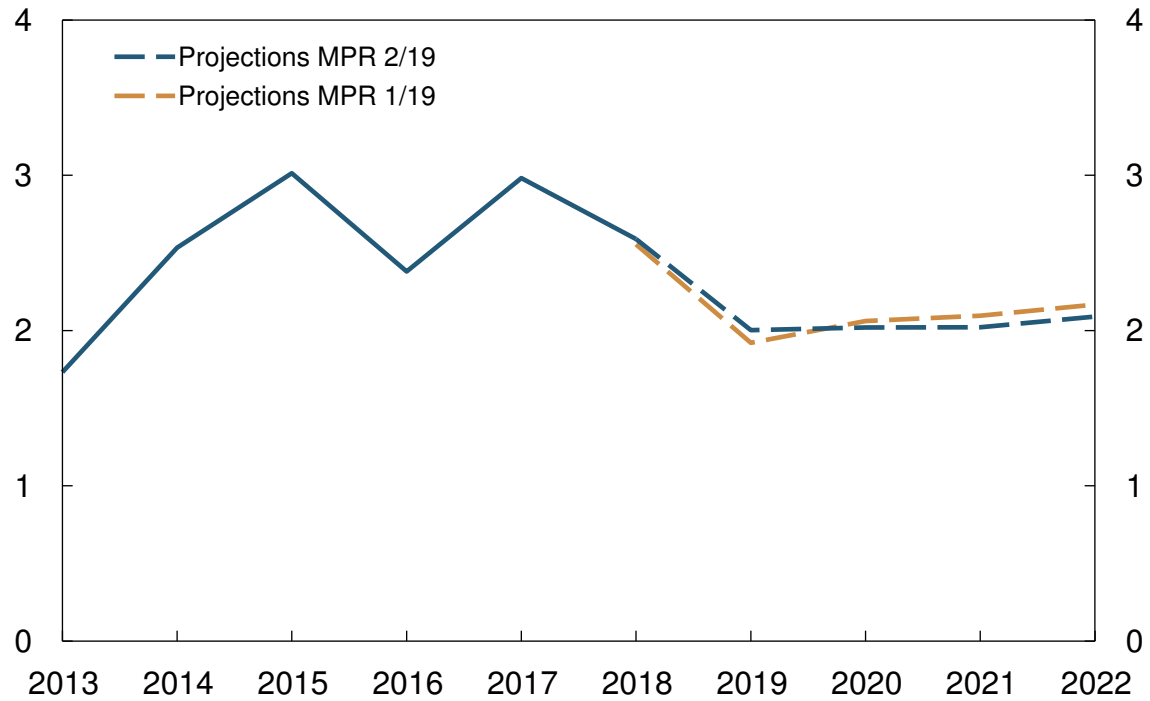
1) Export weights. Twenty-five main trading partners. **2)** Projections for 2019 – 2022.
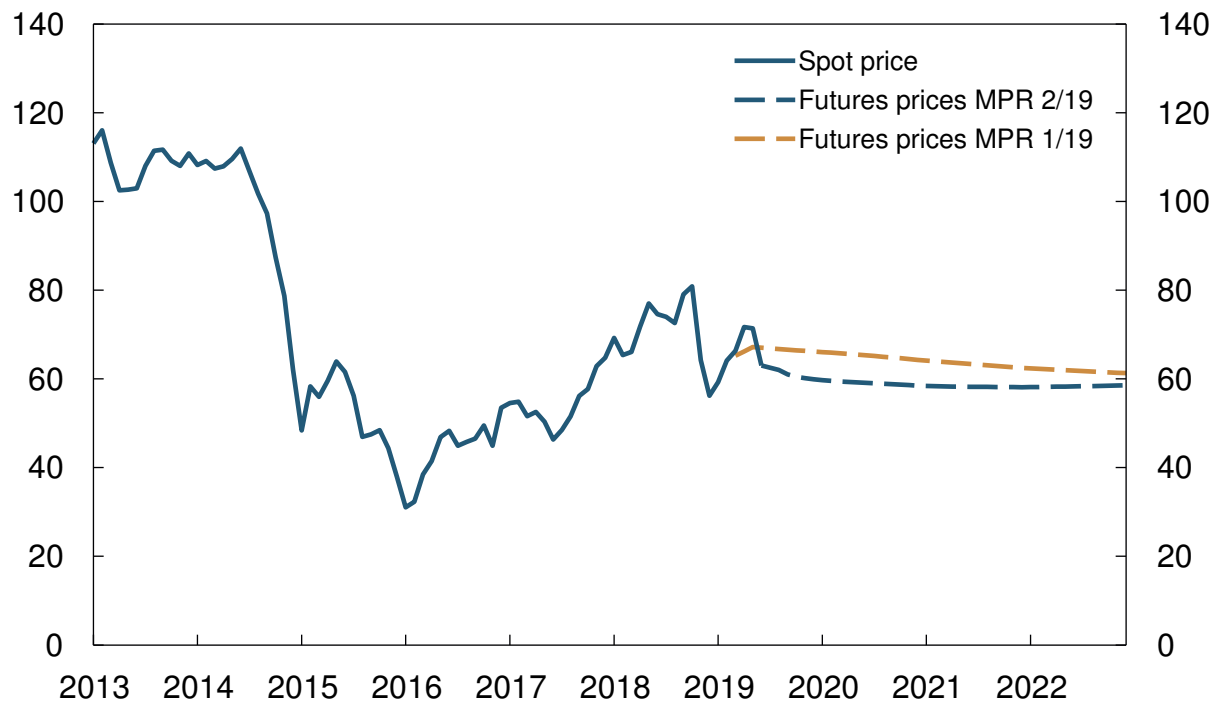Sources: Thomson Reuters and Norges Bank

Chart 1.3 Policy rates and estimated forward rates[1] in selected countries.
Percent. 1 January 2013 – 31 December 2022[2]
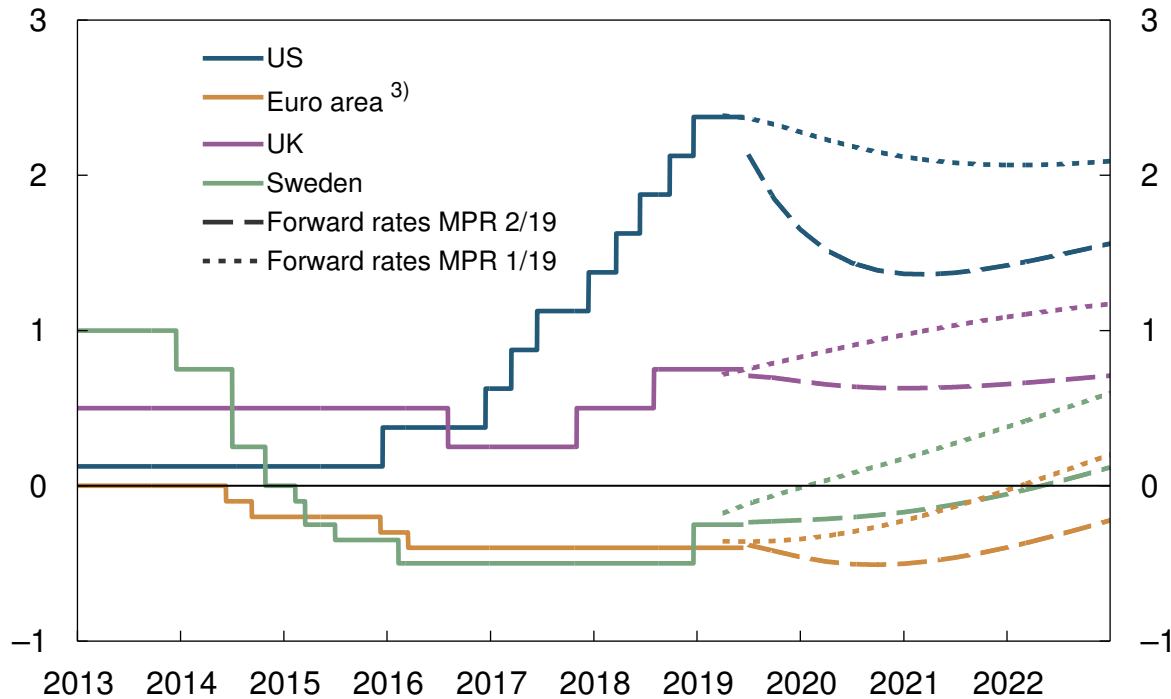
Chart 1.4 Oil price.[1] USD/barrel. January 2013 – December 2022 [2]

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

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]

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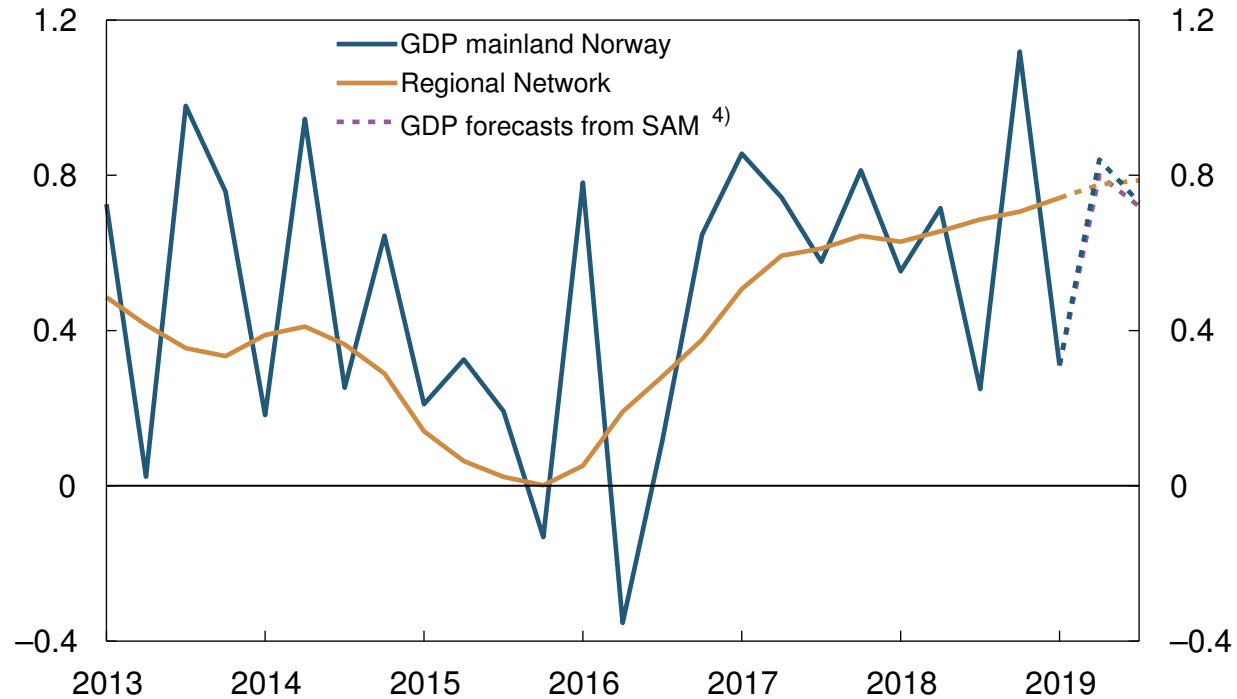
1) Seasonally adjusted. 2) Reported output growth past three months and next six months converted to quarterly figures. For 2019 Q2, a weighting of historical and expected growth is used, while for Q3 2019 only expected growth is used. 3) Projections for 2019 Q2 – 2019 Q3. 4) System for Averaging short-term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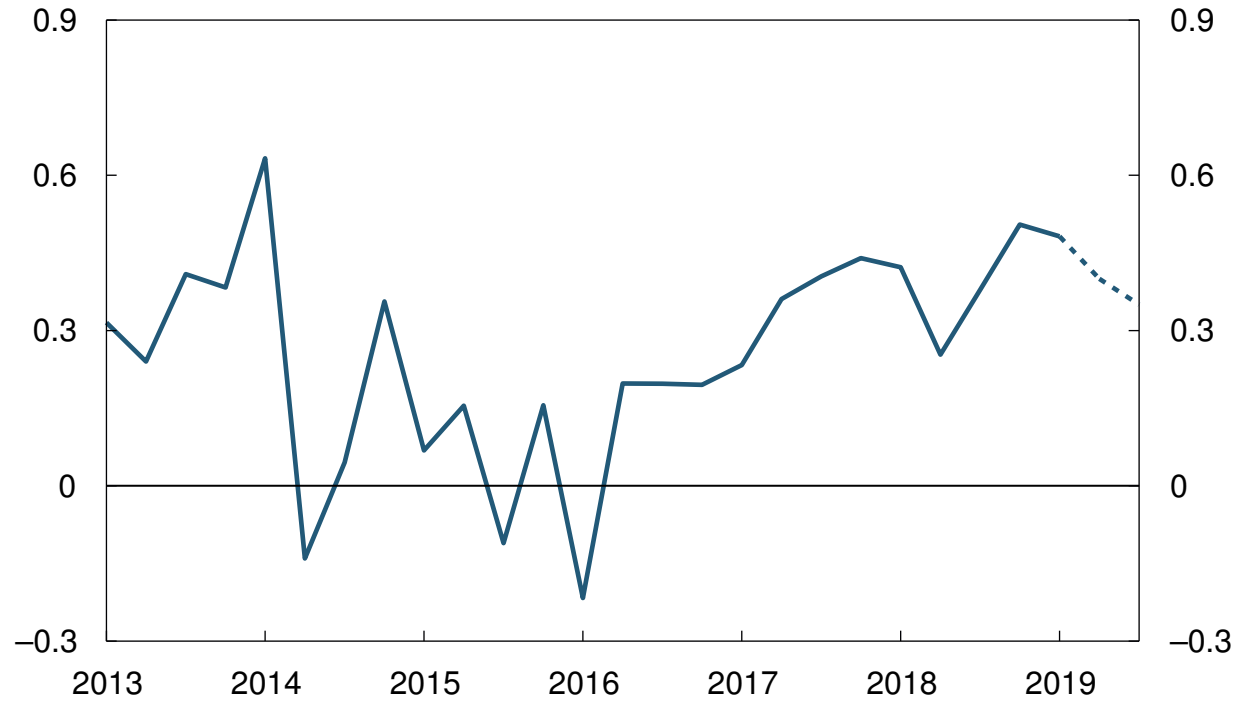
1) Seasonally adjusted. 2) Projections for 2019 Q2 – 2019 Q3.
Sources: Statistics Norway and Norges Bank

Chart 1.7 CPI and CPI-ATE[1].
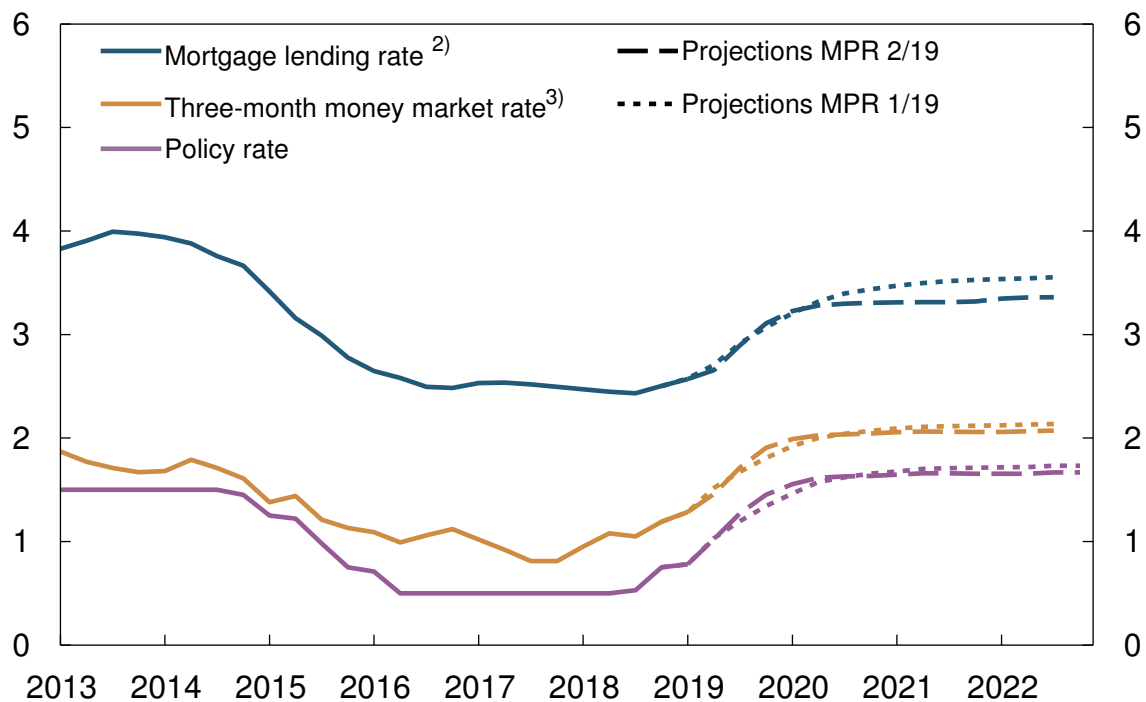Twelve–month change. Percent. January 2013 – September 2019 [2]
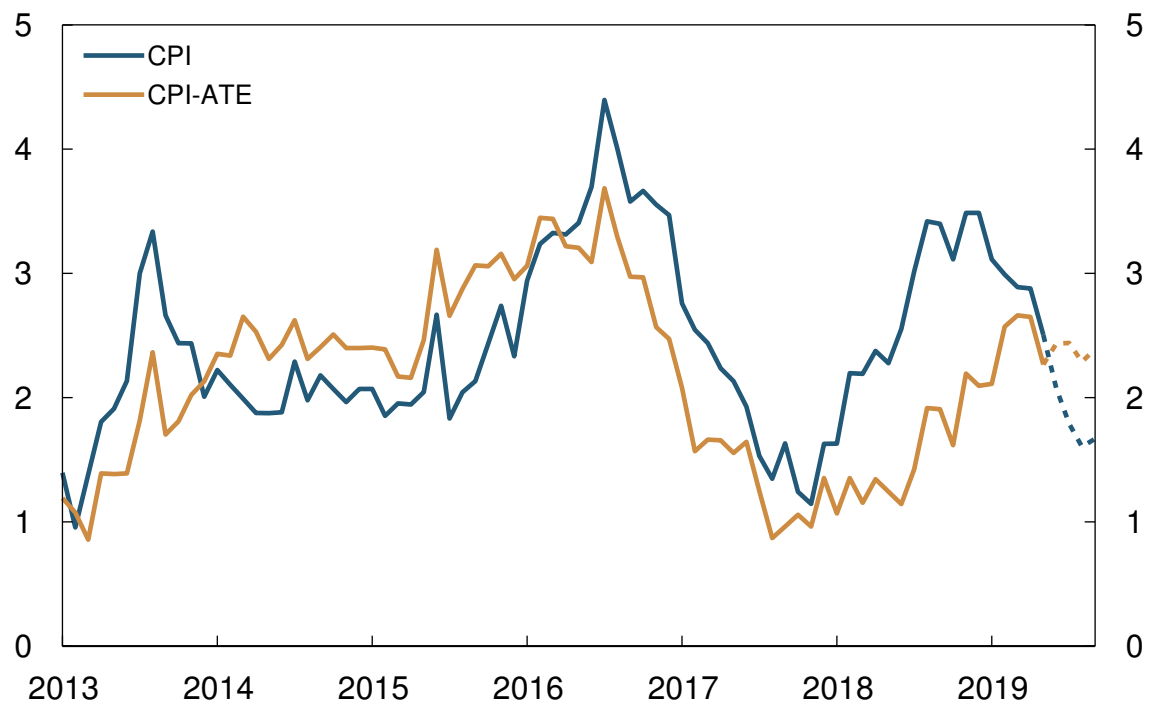
1) CPI adjusted for tax changes and excluding energy products. **2)** Projections for June 2019 –
September 2019.
Sources: Statistics Norway and Norges Bank

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

Legend:
— Mortgage lending rate [2)]
— Three-month money market rate [3)]
— Policy rate
— — Projections MPR 2/19
···· Projections MPR 1/19

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]

– – Projections MPR 2/19
– – Projections MPR 1/19
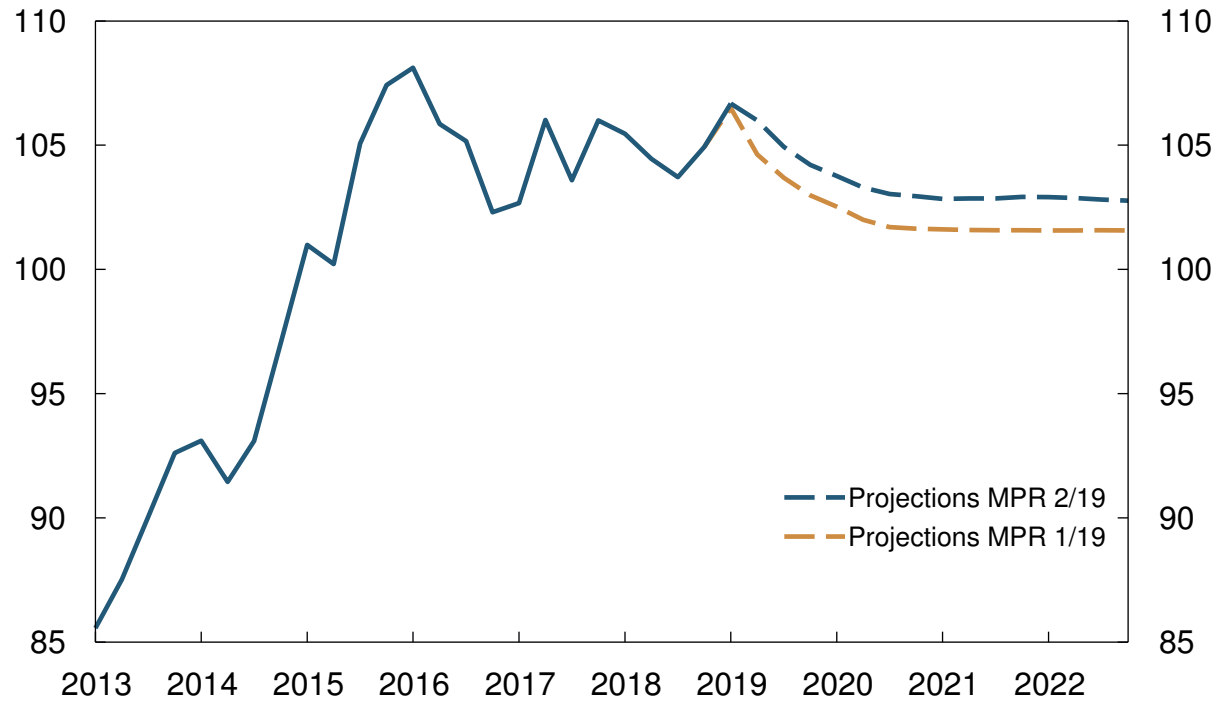
1) A positive slope denotes a weaker krone exchange rate. **2)** Projections for 2019 Q2 – 2022 Q4.
Sources: Thomson Reuters and Norges Bank

Chart 1.10 GDP for mainland Norway.[1] Annual change. Percent. 2013 – 2022[2]
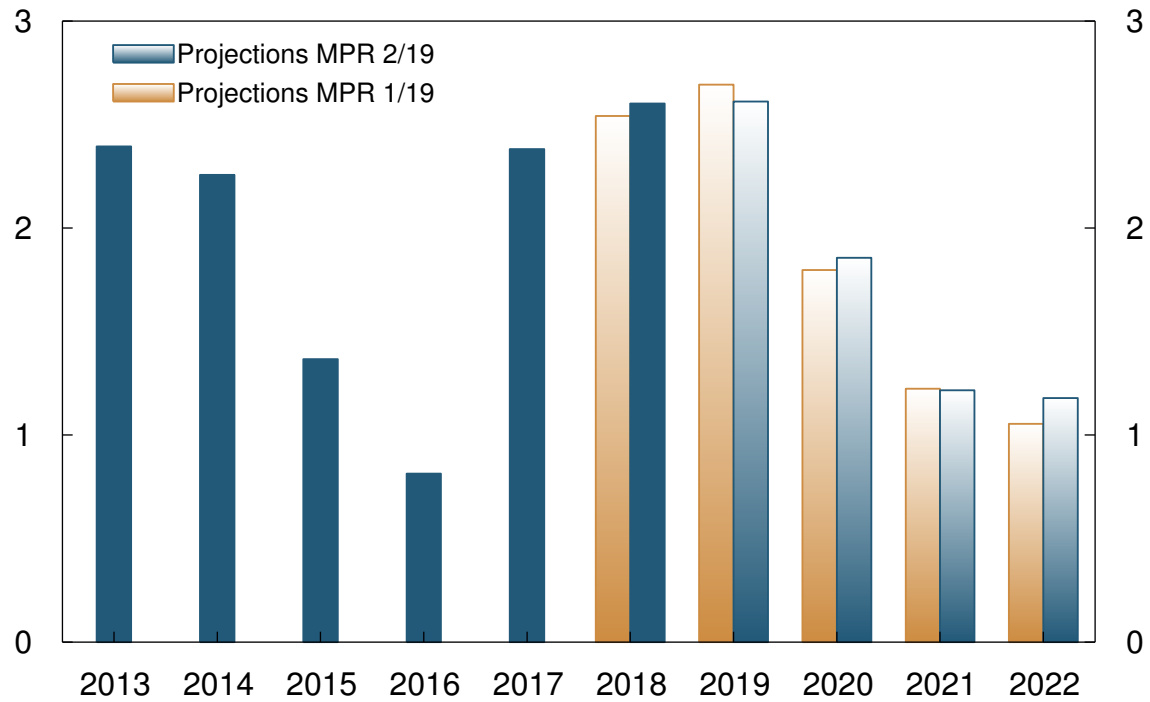
1) Working-day adjusted. 2) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Chart 1.11 Petroleum investment. [1] Annual change. Percent. 2013 – 2022[2]
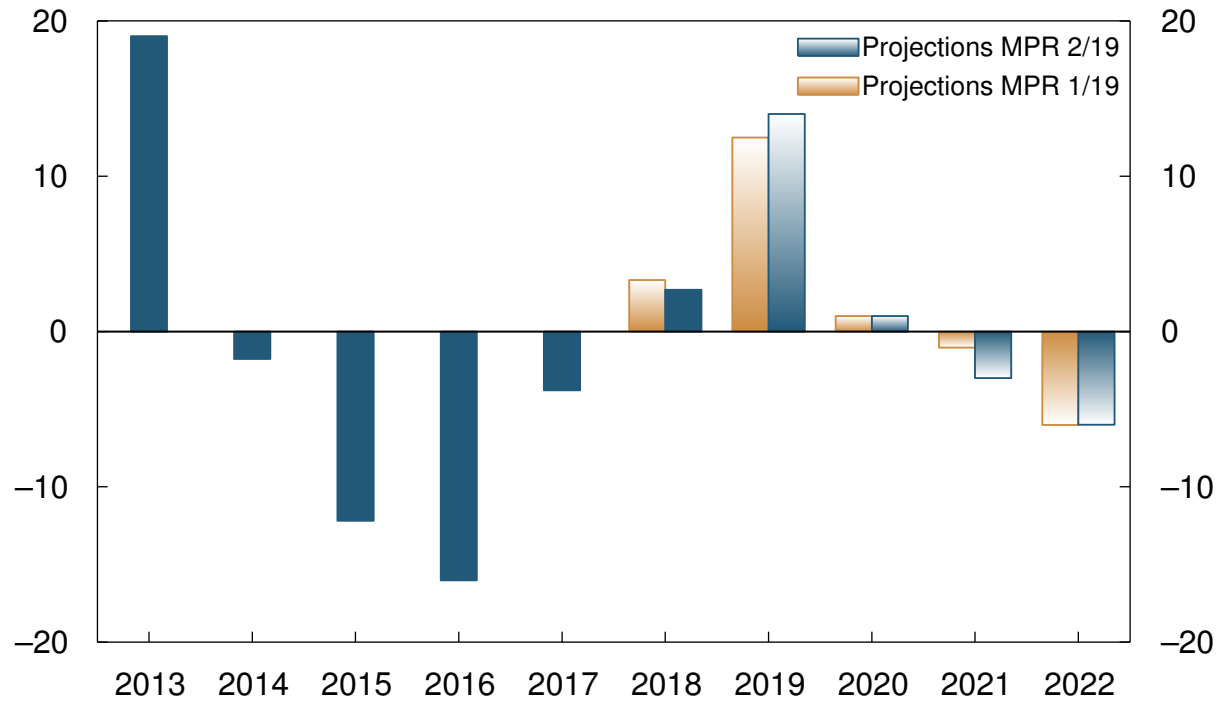
Projections MPR 2/19
Projections MPR 1/19

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

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

- LFS
- NAV
- Projections MPR 2/19
- Projections MPR 1/19
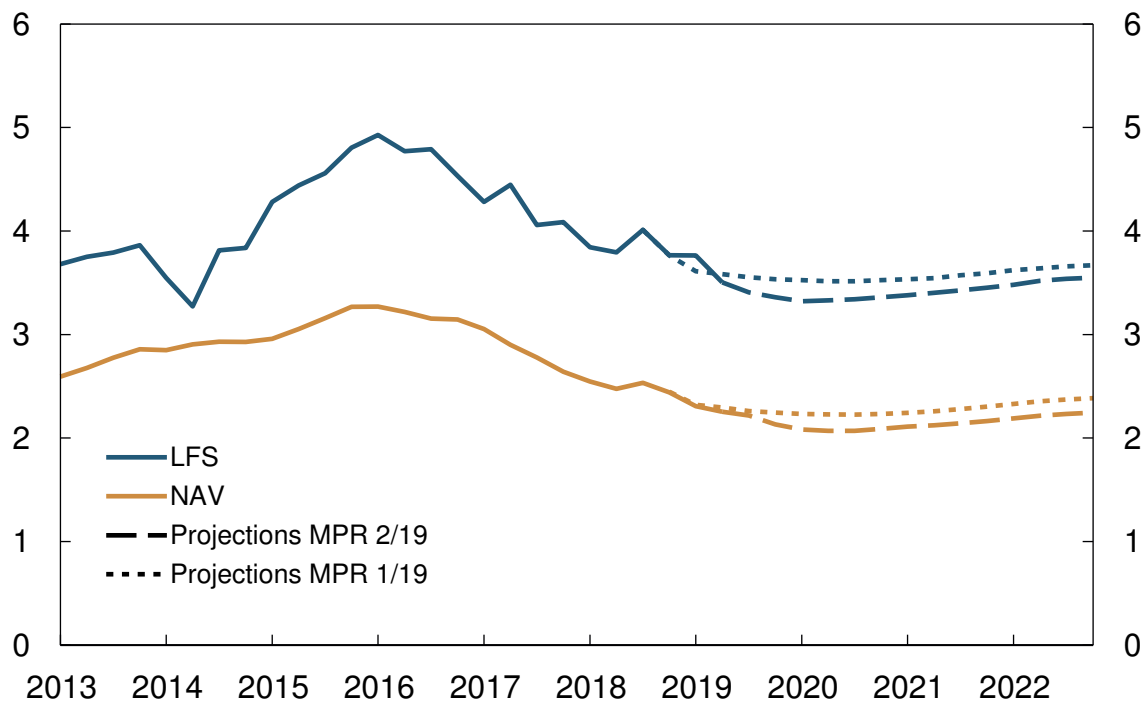
1) Labour Force Survey. **2)** Registered unemployment. **3)** Projections for 2019 Q1 (LFS) / 2019 Q2 (NAV) – 2022 Q4.
Sources: Norwegian Labour and Welfare Administration (NAV), Statistics Norway and Norges Bank

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

- Nominal wages
- Real wages [2]
- Projections MPR 2/19
- Projections MPR 1/19
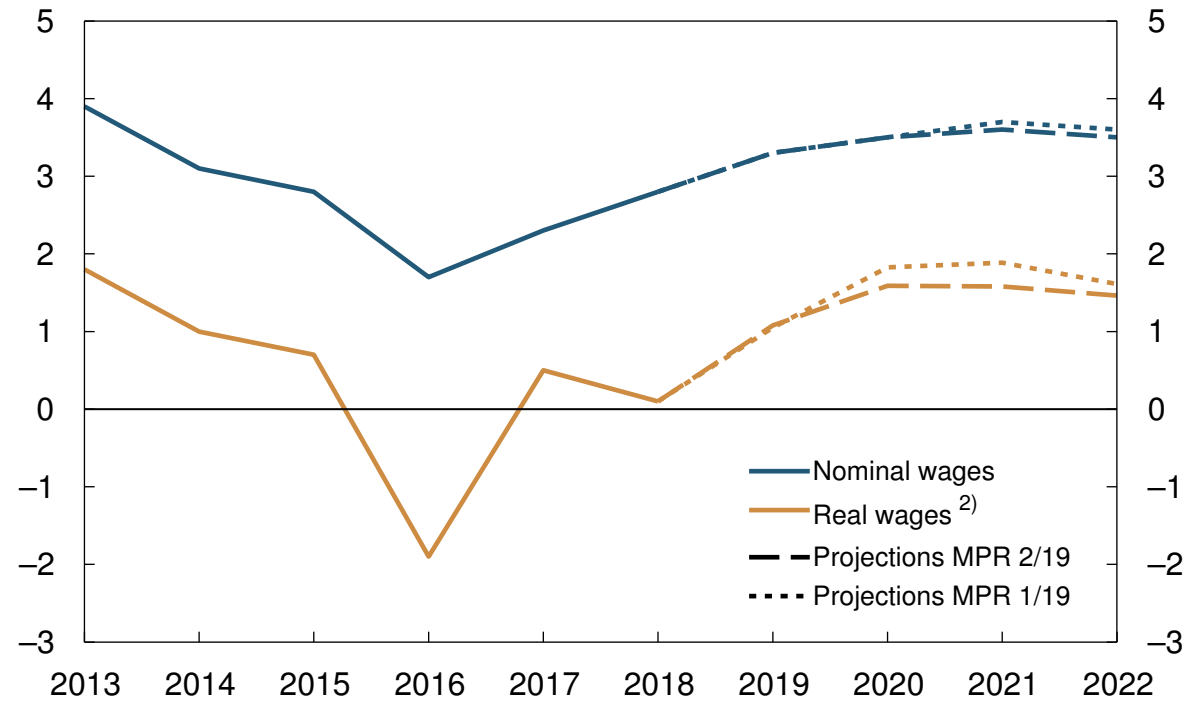
1) Projections for 2019 – 2022. **2)** Nominal wage growth deflated by the CPI.
Sources: Statistics Norway and Norges Bank

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

- Manufacturing PMI
- Services PMI
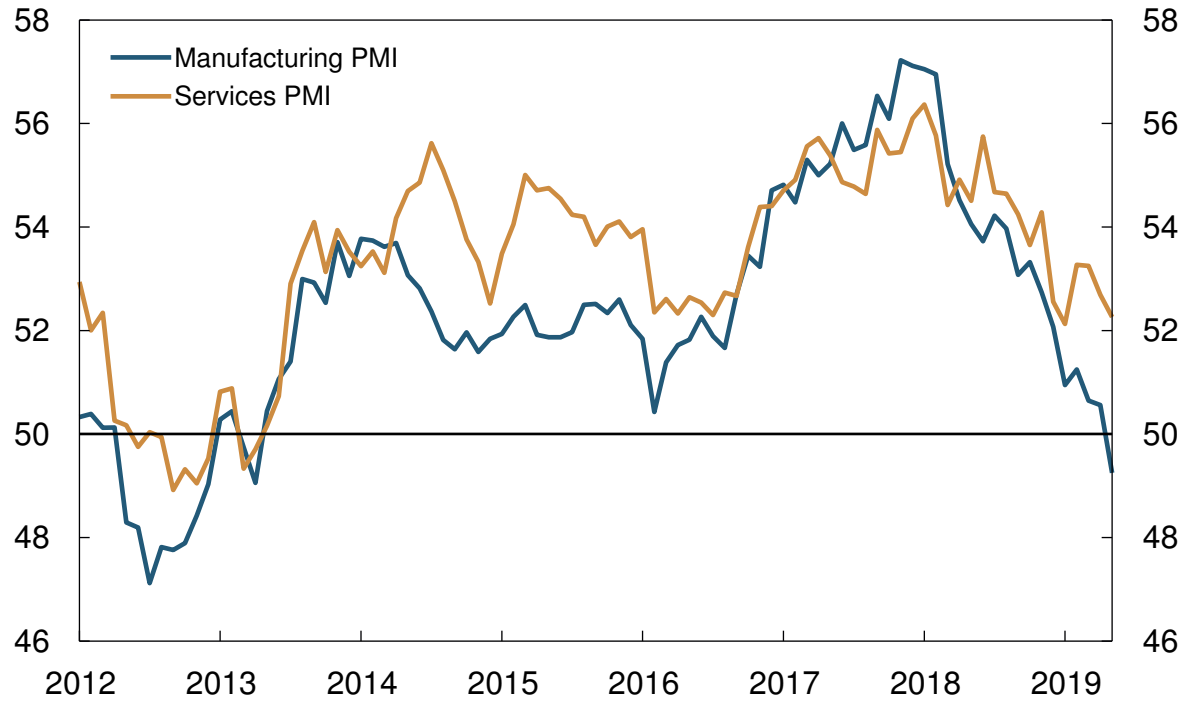
1) Export weights. 25 main trading partners. **2)** Survey of purchasing managers. Diffusion index centered around 50.
Sources: Thomson Reuters and Norges Bank

Chart 2.2 Unemployment[1] in selected countries.
Seasonally adjusted. Percent. January 2001 – May 2019[2]
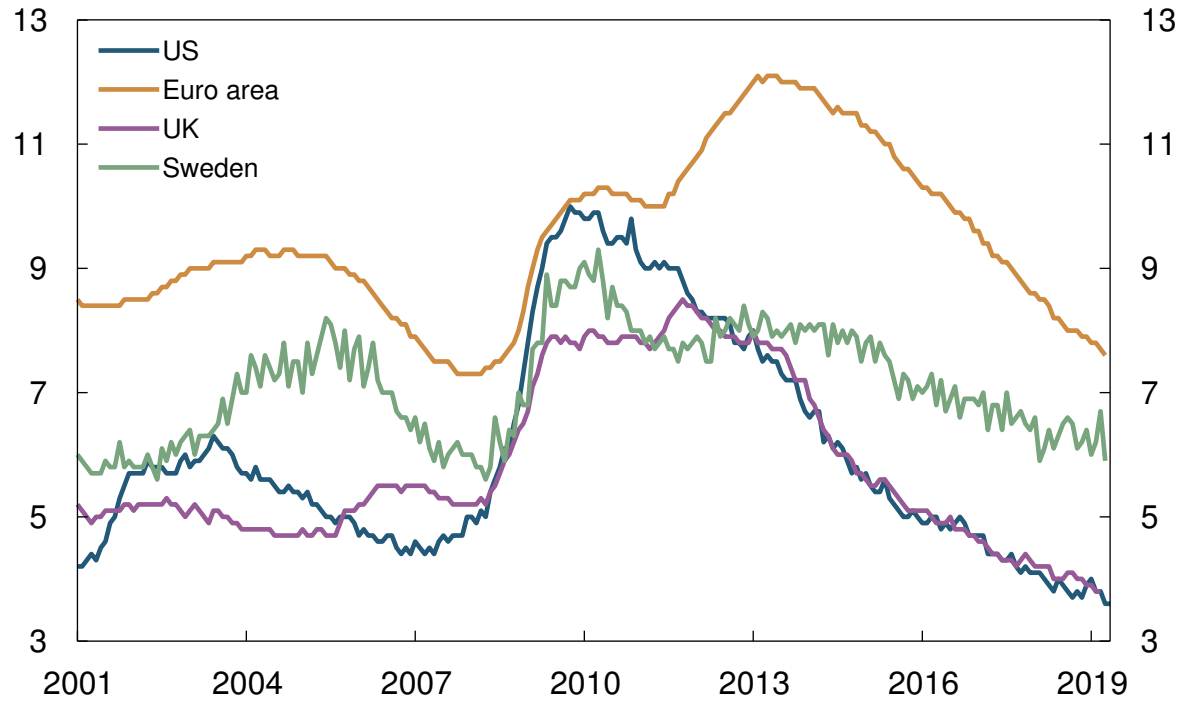
1) Unemployed as a share of the labour force. **2)** Latest observation is May 2019 for the US,
April 2019 for the euro area and Sweden, and March 2019 for the UK.
Source: Thomson Reuters

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

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

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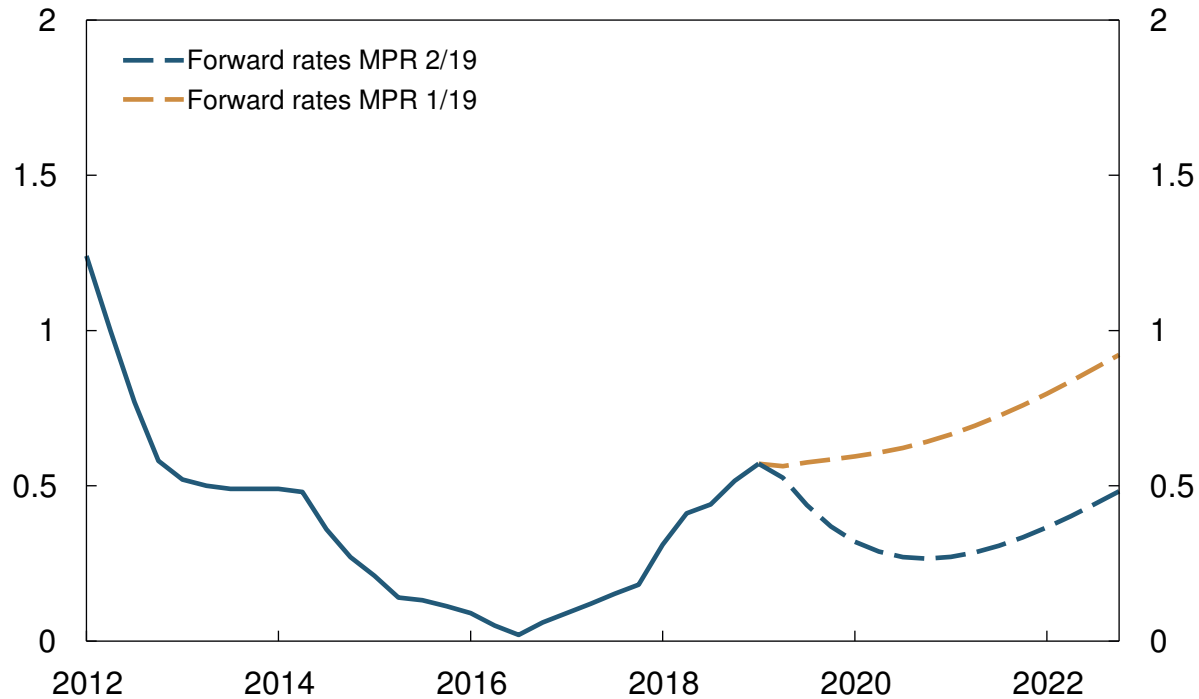
1) Based on money market rates and interest rate swaps. See Norges Bank (2015) "Calculation of the aggregate for trading partner interest rates". *Norges Bank Papers* 2/2015.
2) Forward rates at 15 March 2019 for MPR 1/19 and 14 June 2019 for MPR 2/19.
Sources: Thomson Reuters and Norges Bank

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

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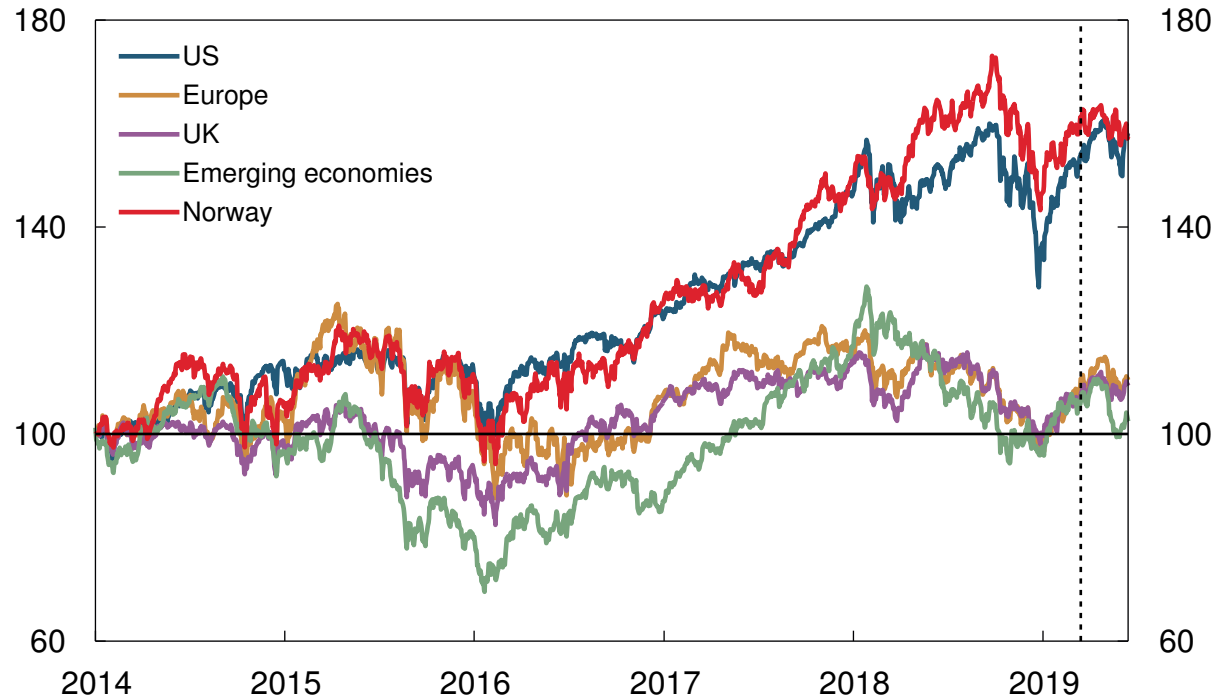
1) Standard and Poor's 500 Index (US). Euro Stoxx 50 Index (Europe).
Financial Times Stock Exchange 100 Index (UK). MSCI Emerging Markets Index (emerging economies).
Oslo Børs Benchmark Index (Norway). **2)** MPR 1/19 was based on information in the period up
to 15 March 2019, indicated by the vertical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

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

Planned investment (l.h.s.)
Investment in production equipment (r.h.s.)
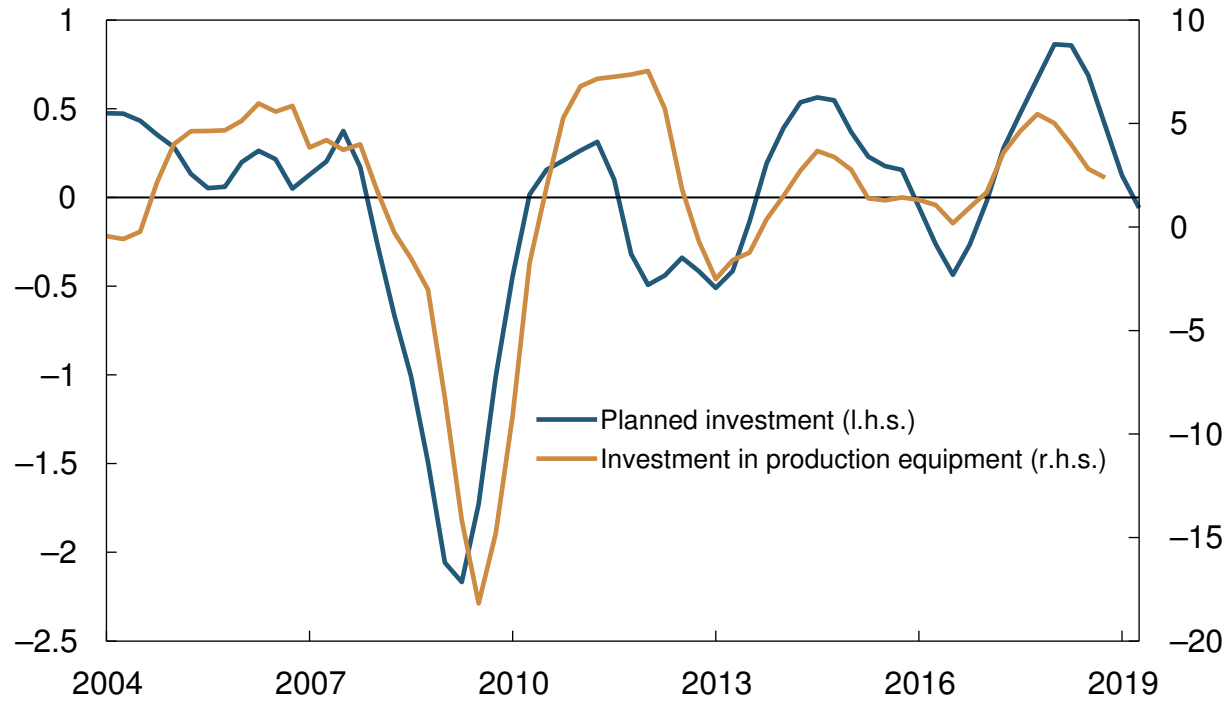
1) Survey data from respective countries. Normalised. Three-quarter moving average. **2)** Growth three-quarters over previous three-quarters. Percent. **3)** GDP weights. US, euro area and Japan.
Sources: Thomson Reuters and Norges Bank

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

- MPR 2/19
- MPR 1/19
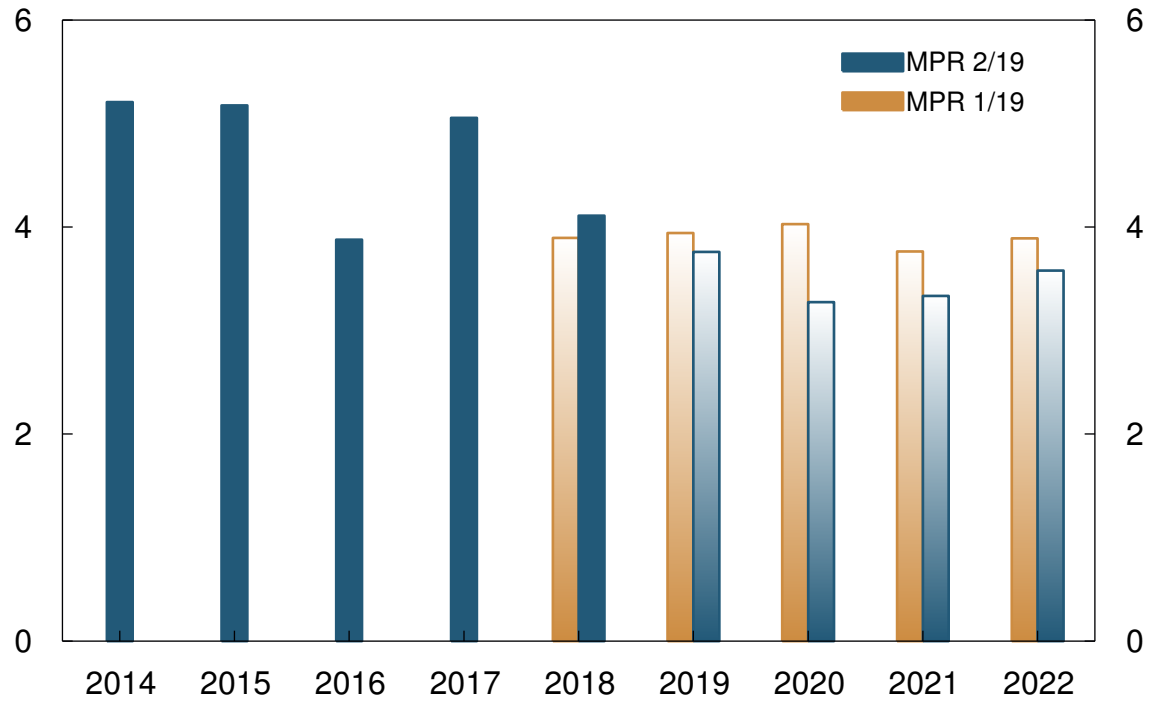
1) Export weights. 25 main trading partners. **2)** Projections for 2019 – 2022 (shaded bars).
Sources: Thomson Reuters and Norges Bank

Chart 2.8 Headline and core inflation in selected countries.[1]
Twelve-month change. Percent. January 2005 – April 2019

Legend:
- Headline CPI
- Core CPI [2]
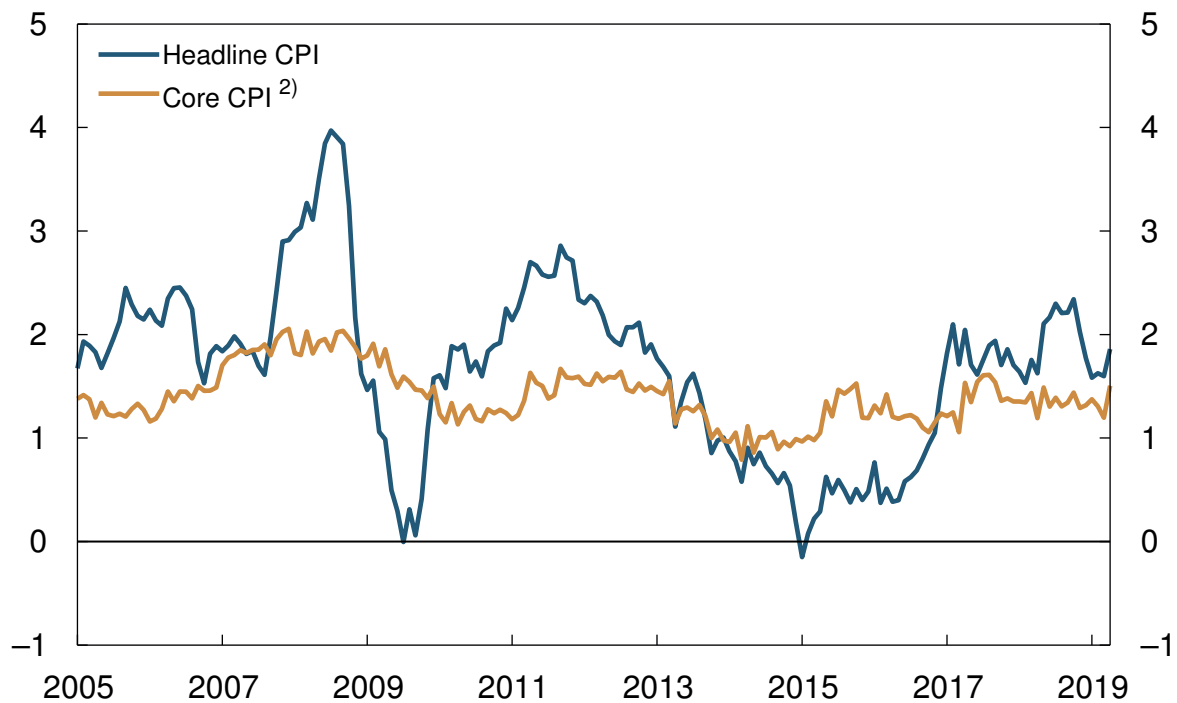
1) Import weights. US, euro area, UK and Sweden. **2)** US: excluding food and energy.
UK and euro area: excluding food, tobacco, alcohol and energy. Sweden: excluding energy.
Sources: Thomson Reuters and Norges Bank

Chart 2.9 Indicator of international inflationary impulses to imported consumer goods with compositional effect (IPC).
Foreign currency. Annual change. Percent. 2014 – 2022 [1]
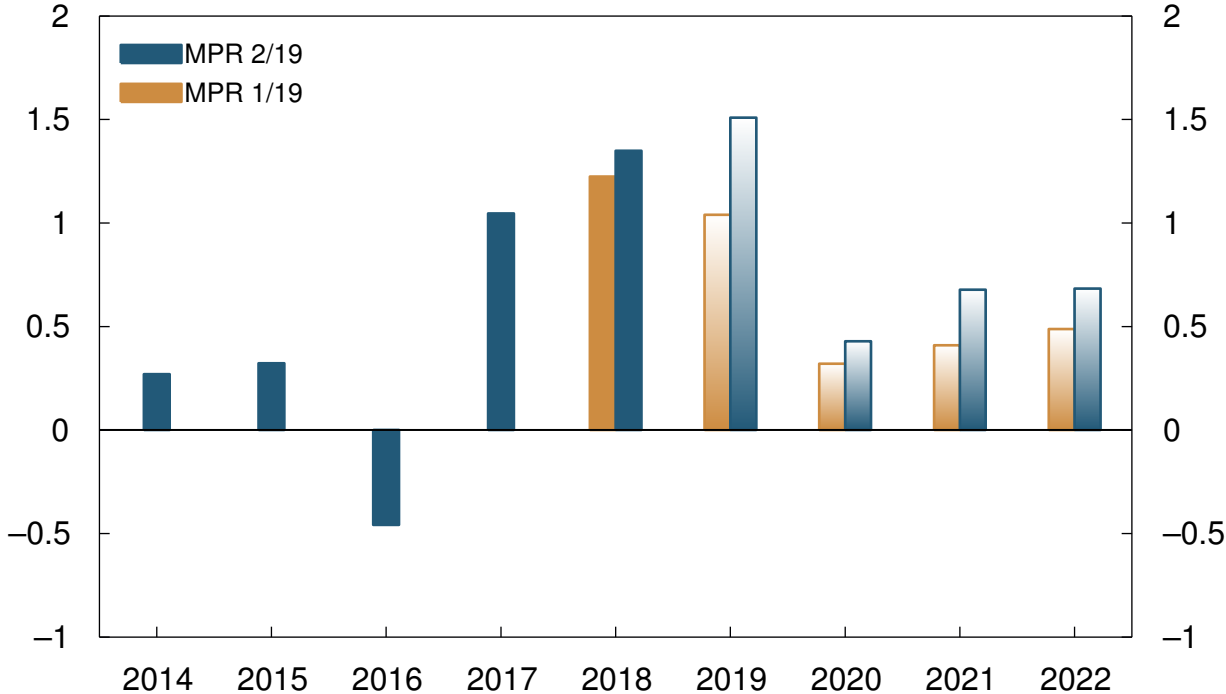
1) Projections for 2019 – 2022 (shaded bars).
Sources: Statistics Norway, Thomson Reuters and Norges Bank

Chart 2.10 PMI in the euro area.
Seasonally adjusted. Index.[1] January 2014 – May 2019
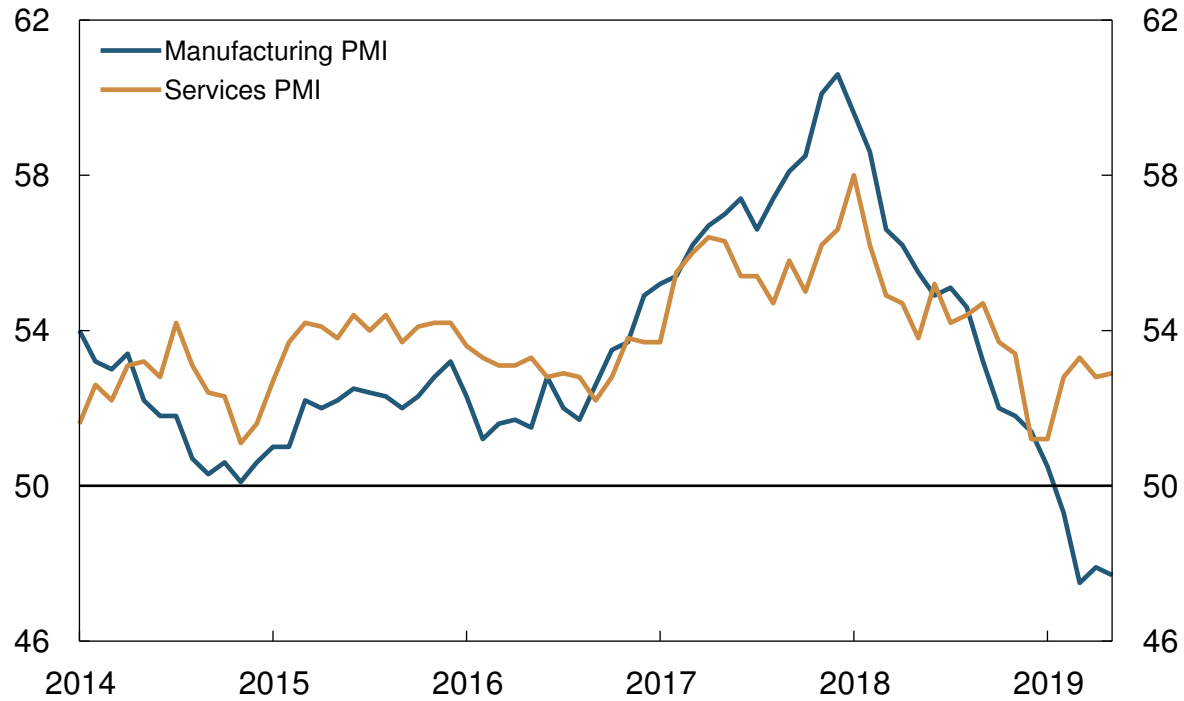
1) Survey of purchasing managers. Diffusion index centered around 50.
Source: Thomson Reuters

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

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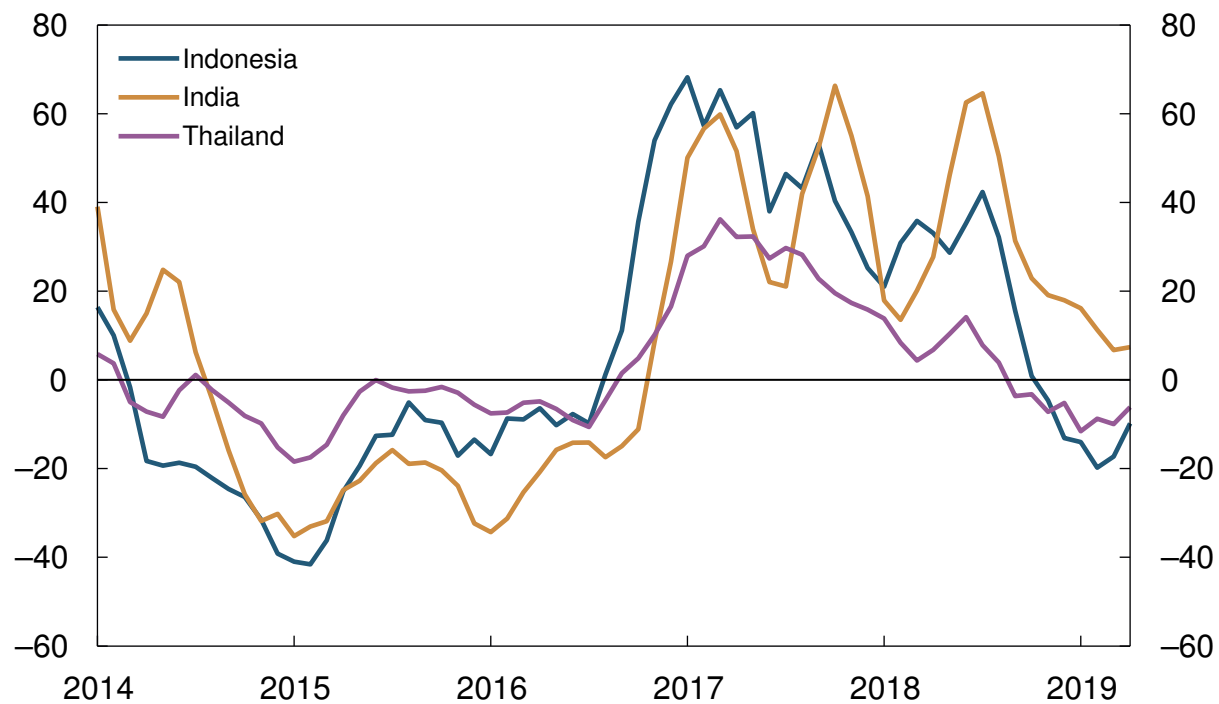
1) Three-month moving average.
Sources: Thomson Reuters and Norges Bank

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

- Interval 2014 – 2018 [2]
- 2019
- 2018
- Average 2014 – 2018
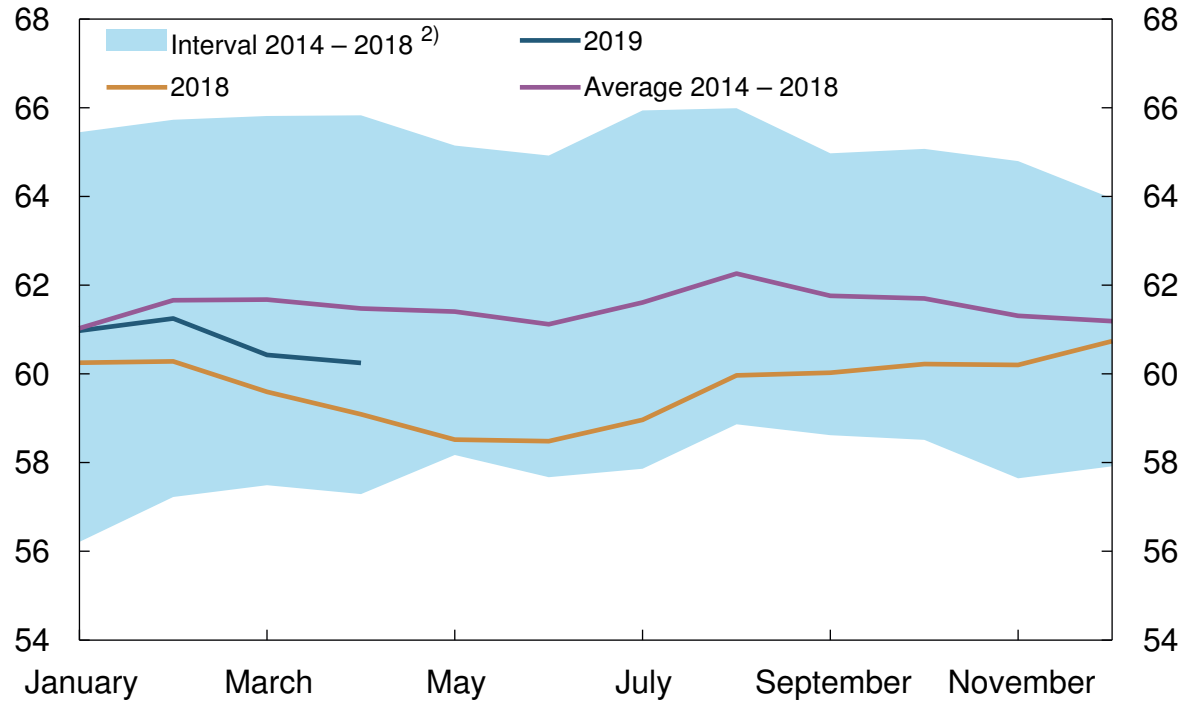
1) Days of consumption is calculated using the average expected demand over the next three months.
2) Interval between the highest and lowest level for a given month in the period 2014 – 2018.
Sources: International Energy Agency and Norges Bank

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

- Oil (l.h.s.)
- Natural gas (r.h.s.)
- Futures prices MPR 2/19
- Futures prices MPR 1/19
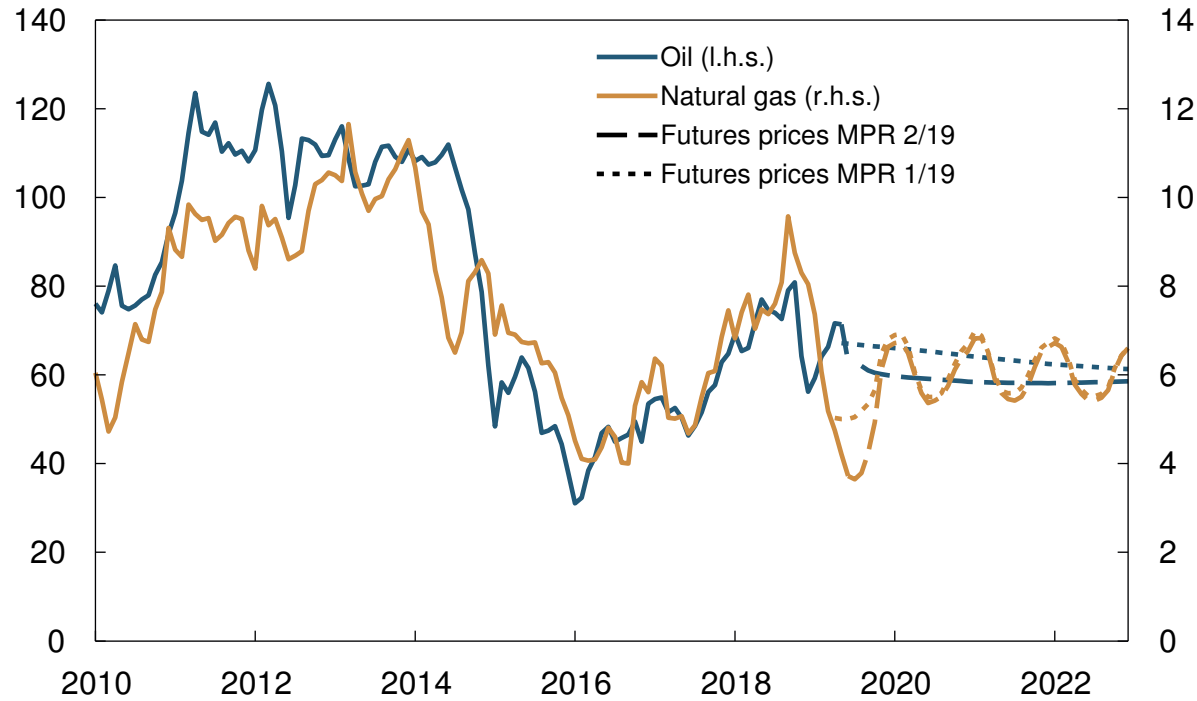
1) Average of prices on natural gas in the Netherlands and the UK. **2)** Futures prices on 15 March 2019 for MPR 1/19 and on 14 June 2019 for MPR 2/19.
Sources: Norwegian Petroleum, Thomson Reuters and Norges Bank

Chart 2.C Average volatility of stocks, interest rates, oil and currency.[1]
Index. 2 January 2014 =100. 2 January 2014 −14 June 2019
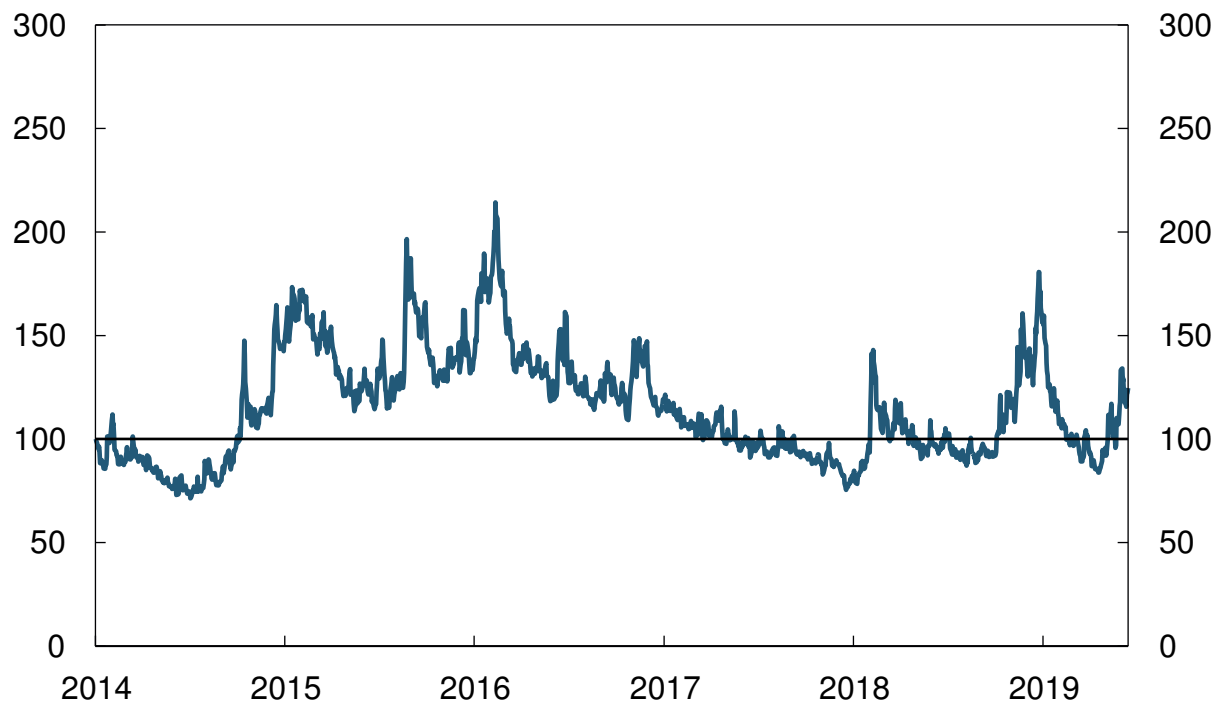
1) Chicago Board of Exchange for stock market and oil price volatility. Merill Lynch for interest rate volatility.
JP Morgan for currency volatility.
Sources: Thomson Reuters and Norges Bank

Chart 2.D Global economic policy uncertainty.[1]
Index.[2] January 1997 – May 2019
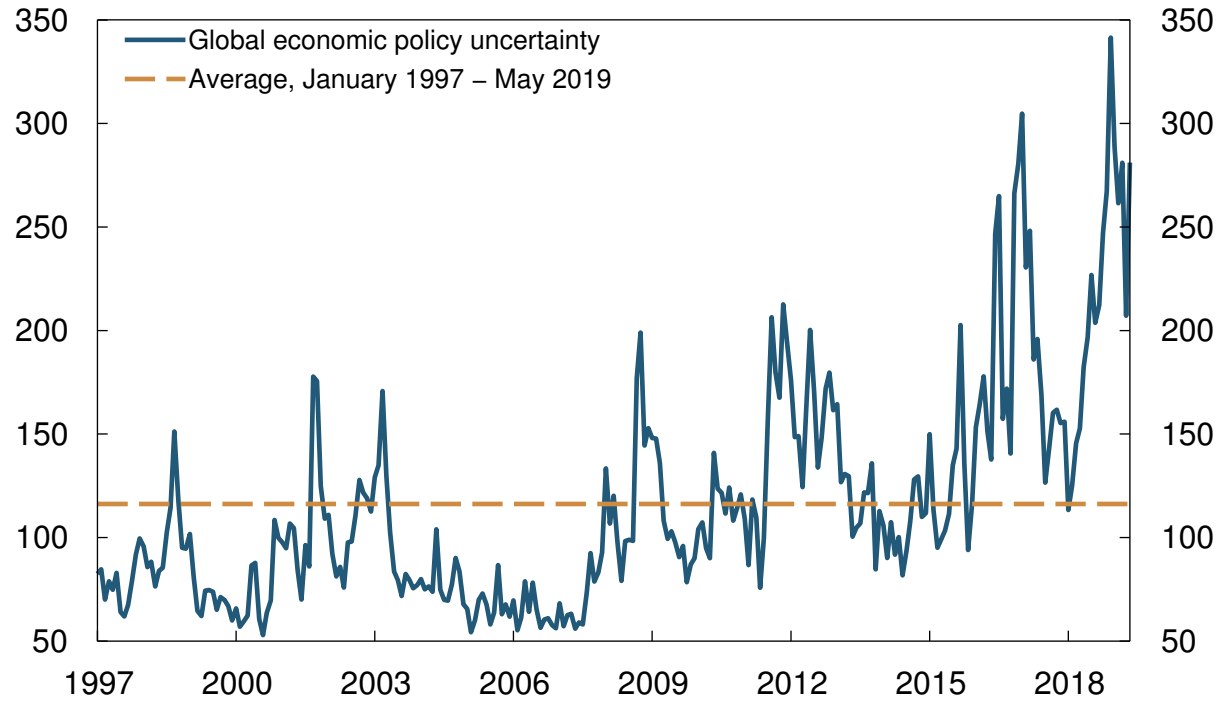
1) Indicator measuring the frequency of the word "uncertainty" connected to "economics"
and "policy" in news articles. **2)** Weighted by PPP –adjusted GDP.
Sources: policyuncertainty.com and Norges Bank

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

— Mortage rate [2]
— Mortage margin [3]
— Three-month money market rate [4]
− − Projections MPR 2/19
···· Projections MPR 1/19
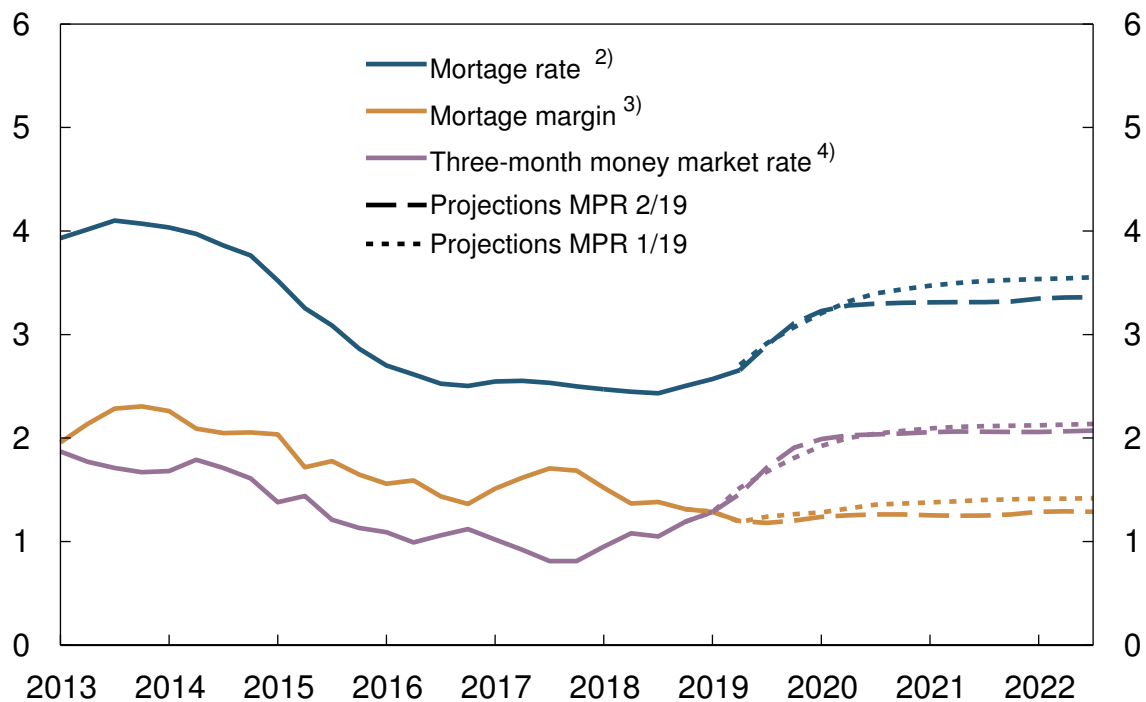
1) Projections for 2019 Q2 – 2022 Q3. **2)** Average interest rate on outstanding mortgage loans to households from the sample of banks included in Statistics Norway's monthly interest rate statistics.**3)** Difference between the mortgage lending rate and the three-month money market rate. **4)** Projections 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]

- - - - Projections MPR 2/19
- - - - Projections MPR 1/19

[Line chart showing the Norwegian three-month money market premium from 2013 to 2022, with a y-axis ranging from 0 to 1. The solid dark line shows historical data fluctuating roughly between 0.15 and 0.7, with projection lines (dashed) extending from 2019 to 2022 at approximately 0.4.]
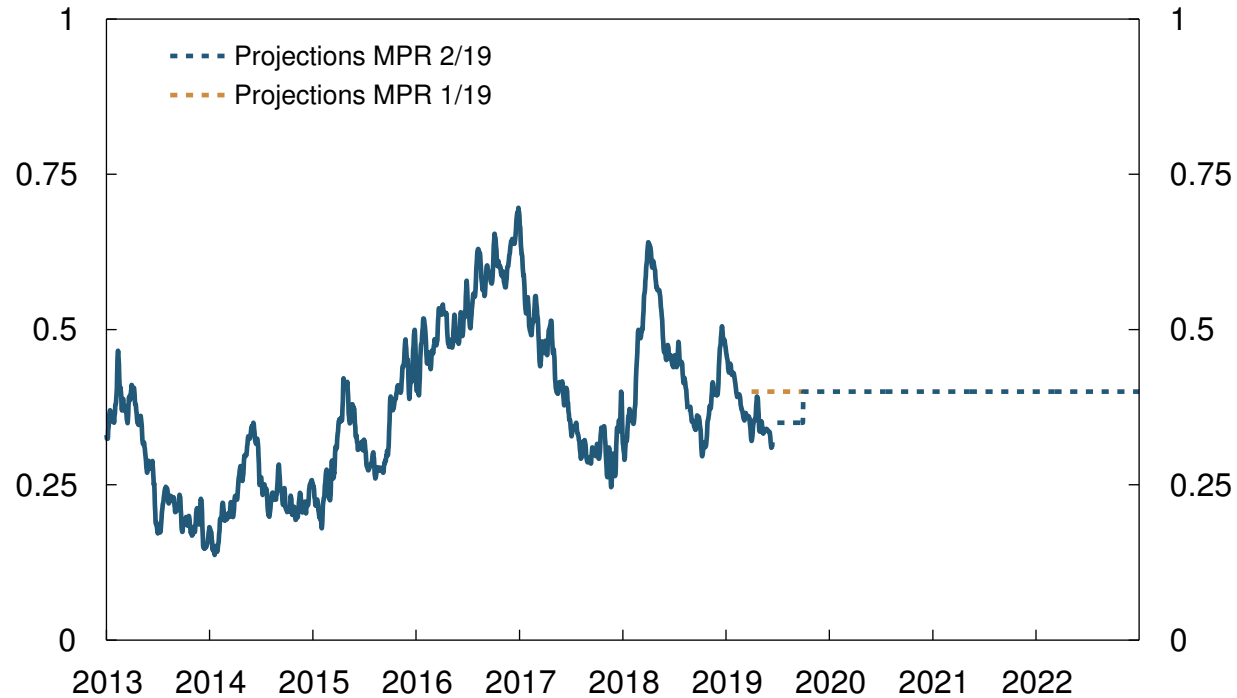
1) Norges Bank estimates of the difference between the three-month money market rate and the expected policy rate. **2)** Projections for 2019 Q2 – 2022 Q4.
Sources: Thomson Reuters and Norges Bank

Chart 3.3 Three-month money market rate [1] and estimated forward rates [2].
Percent. 2013 Q1 – 2022 Q4 [3]
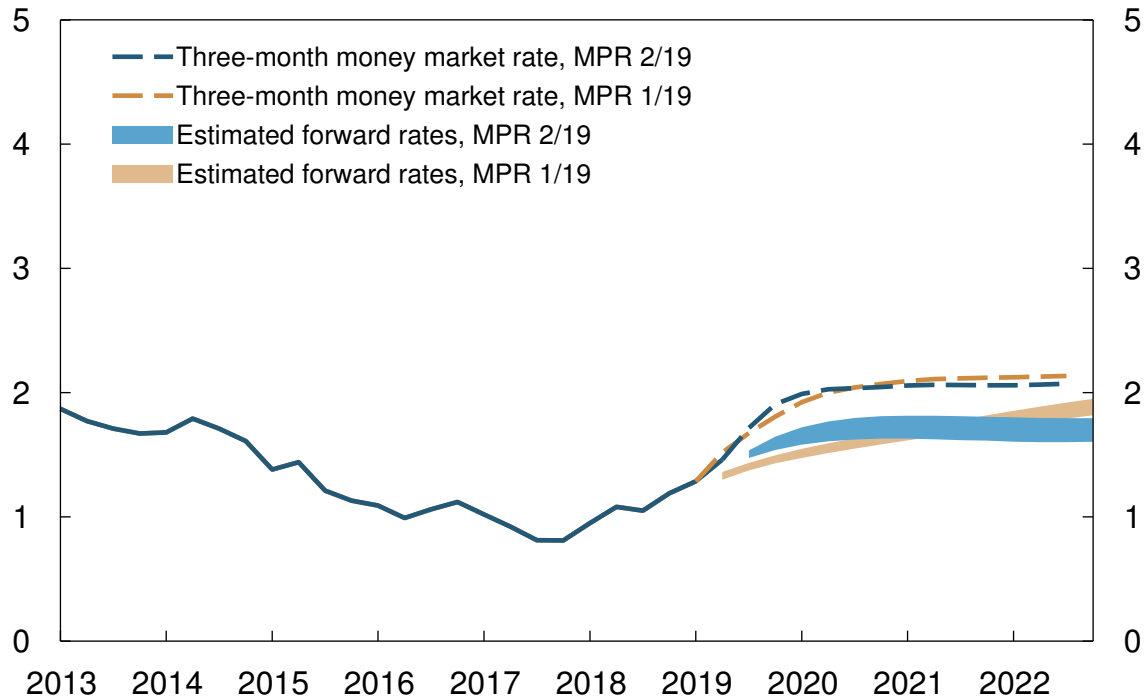
Legend:
- Three-month money market rate, MPR 2/19
- Three-month money market rate, MPR 1/19
- Estimated forward rates, MPR 2/19
- Estimated forward rates, MPR 1/19

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
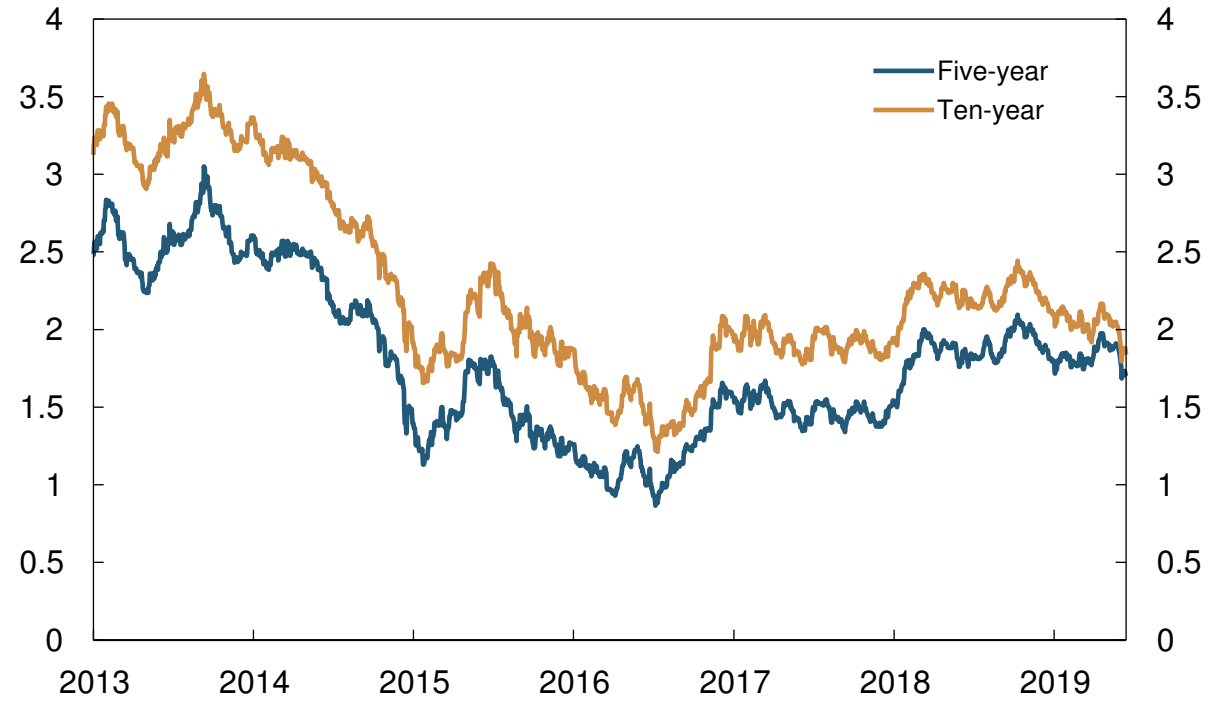
Source: Bloomberg

Chart 3.5 Empirical model for import-weighted krone exchange rate (I-44).[1] [2]
Week 1 2013 – week 24 2019
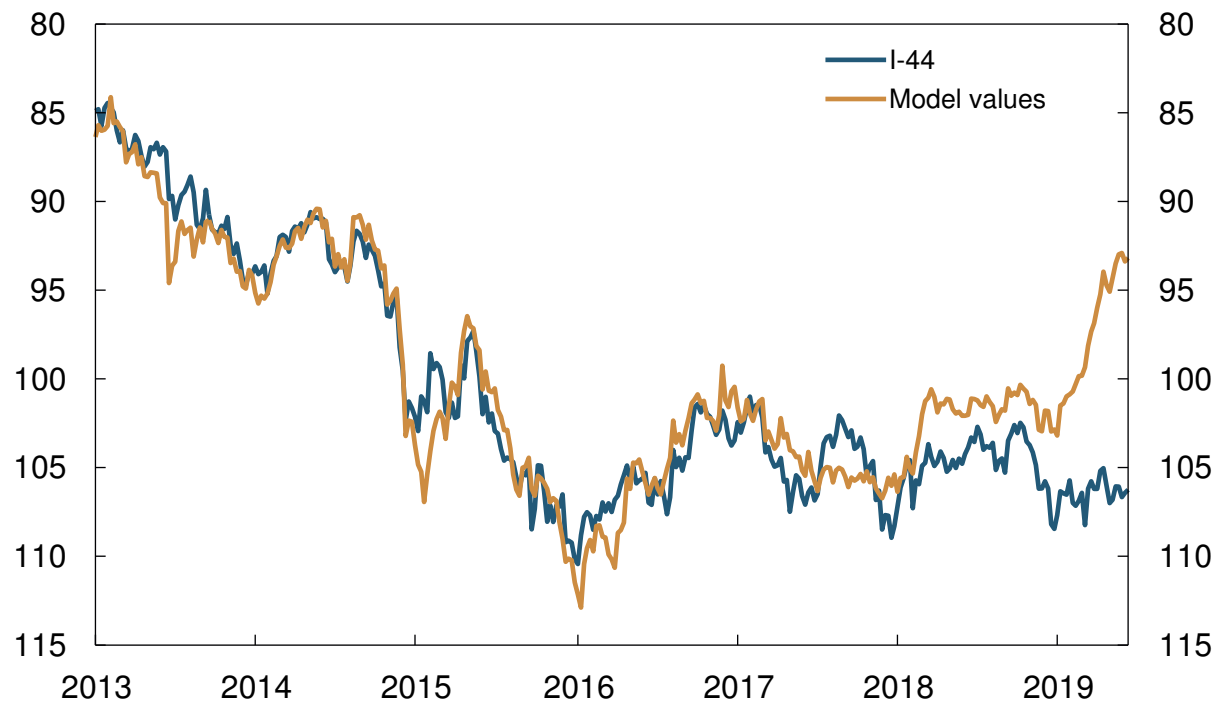
1) Oil price and one-year and 10-year interest swap rate differential against trading partners are incorporated as explanatory variables. The model is estimated using data from week 1 of 2009 to week 38 of 2018. The chart shows the fitted values up to week 38 of 2018 and the model-predicted values from 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]
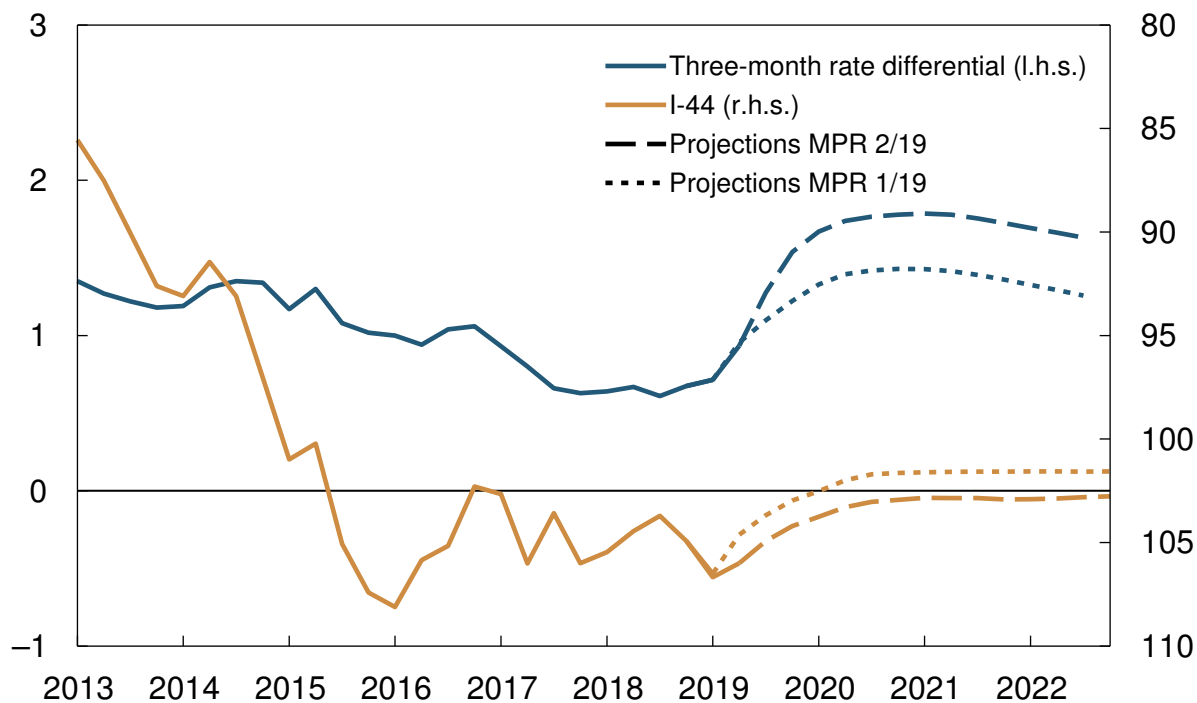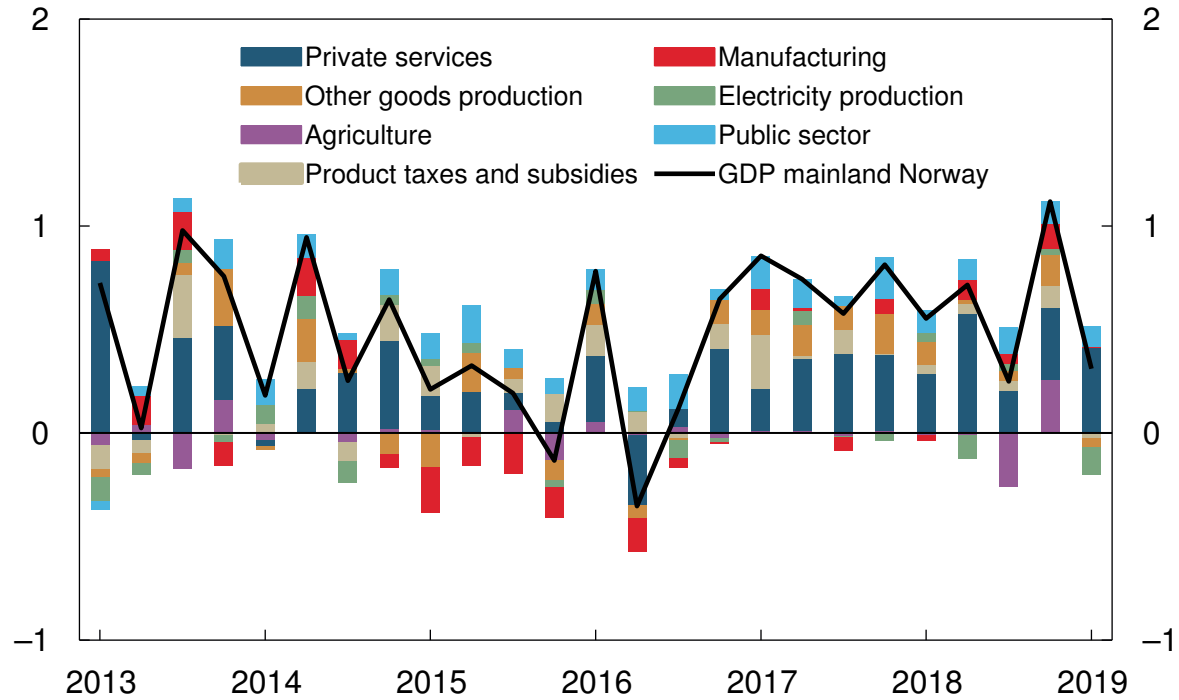

1) Projections for the money market rate are calculated as an average of the policy rate in the current and subsequent quarter plus an estimate of the money market premium. **2)** Forward rates for trading partners at 15 March 2019 (MPR 1/19) and 14 June 2019 (MPR 2/19). See Norges Bank (2015) "Calculation 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

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

Legend:
- Private services
- Manufacturing
- Other goods production
- Electricity production
- Agriculture
- Public sector
- Product taxes and subsidies
- GDP mainland Norway

Sources: Statistics Norway and Norges Bank

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

February 2019 – Previous 3 months
May 2019 – Previous 3 months
May 2019 – Next 6 months

Total   Manufacturing   Oil services   Construction   Retail trade   Services
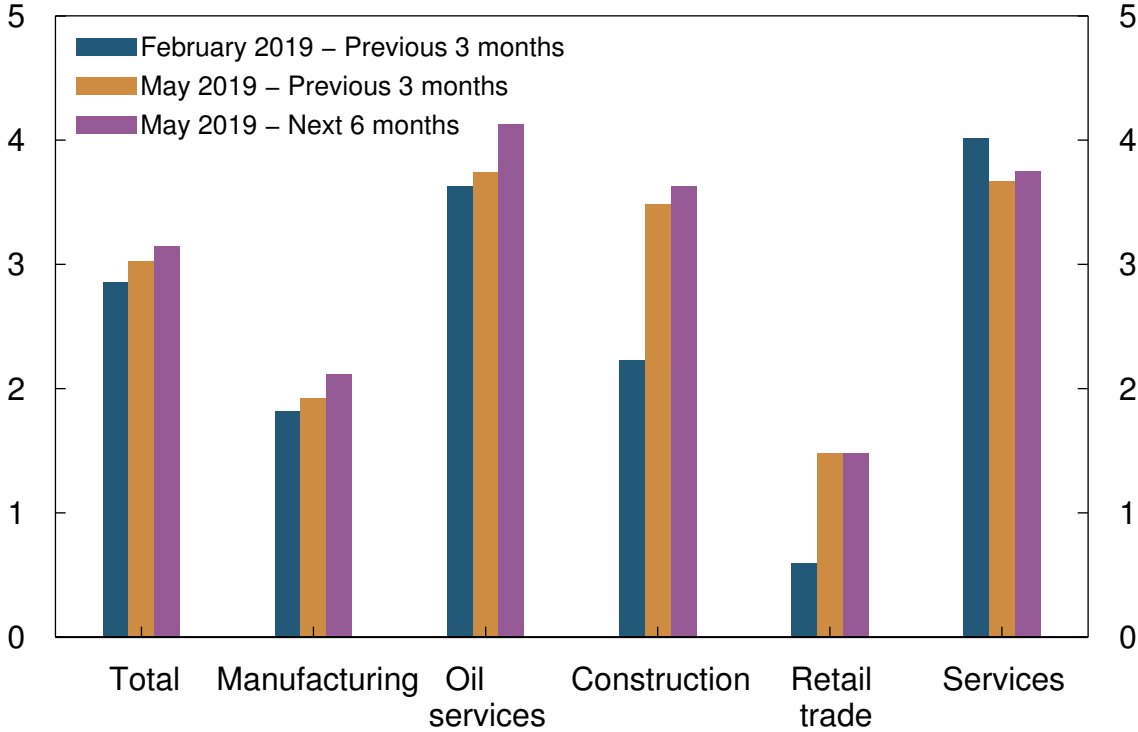
Source: Norges Bank

Chart 4.3 Household consumption[1]. Annual change. Percent. 2013 – 2022[2]
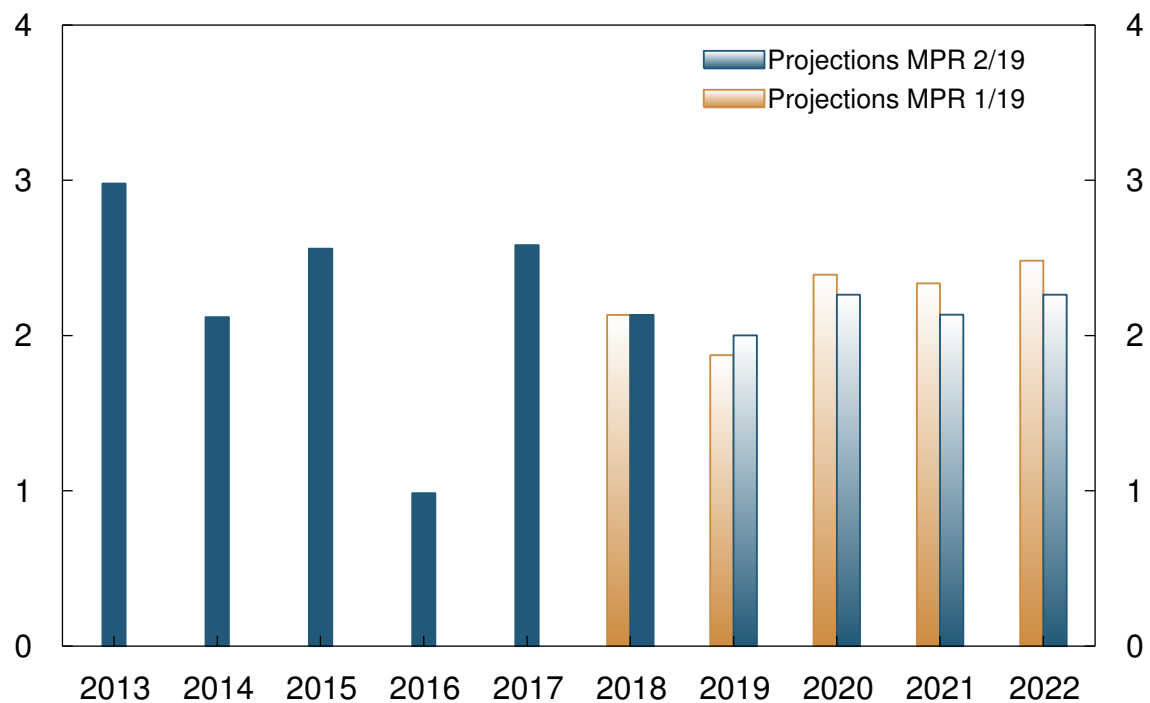
1) Includes consumption for non-profit organisations. Working-day adjusted. **2)** Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

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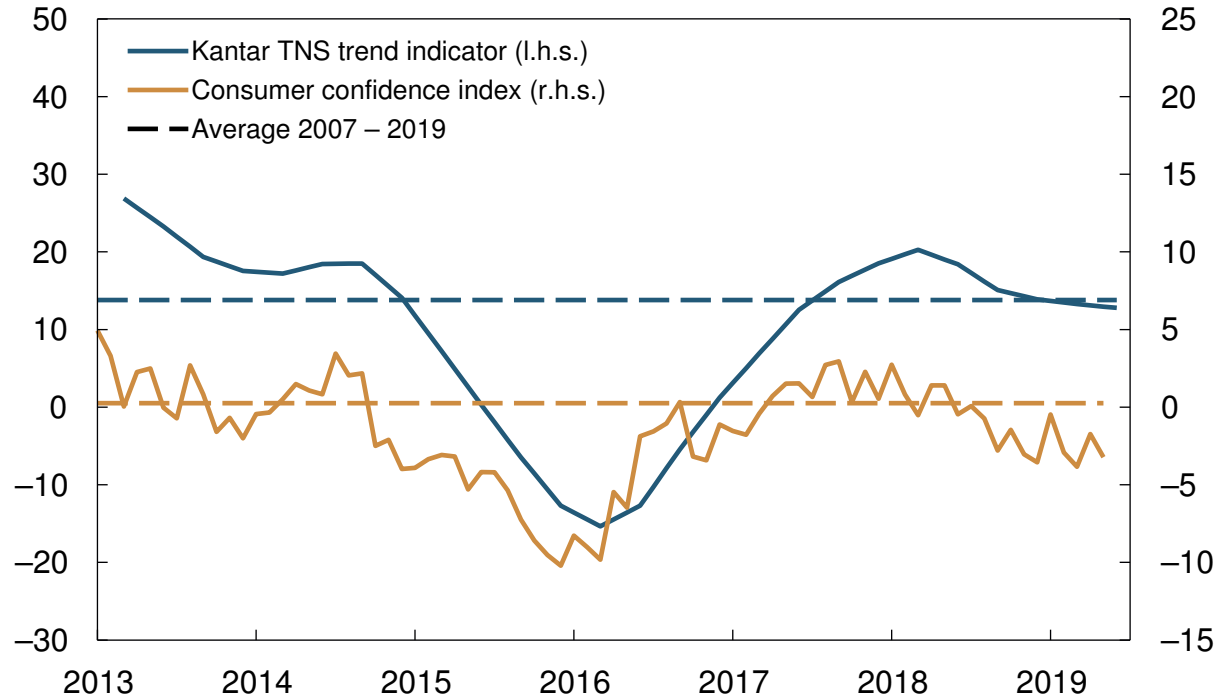
Sources: ForbrukerMeteret™ from Opinion, Kantar TNS and Norges Bank

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

Legend: Projections MPR 2/19, Projections MPR 1/19
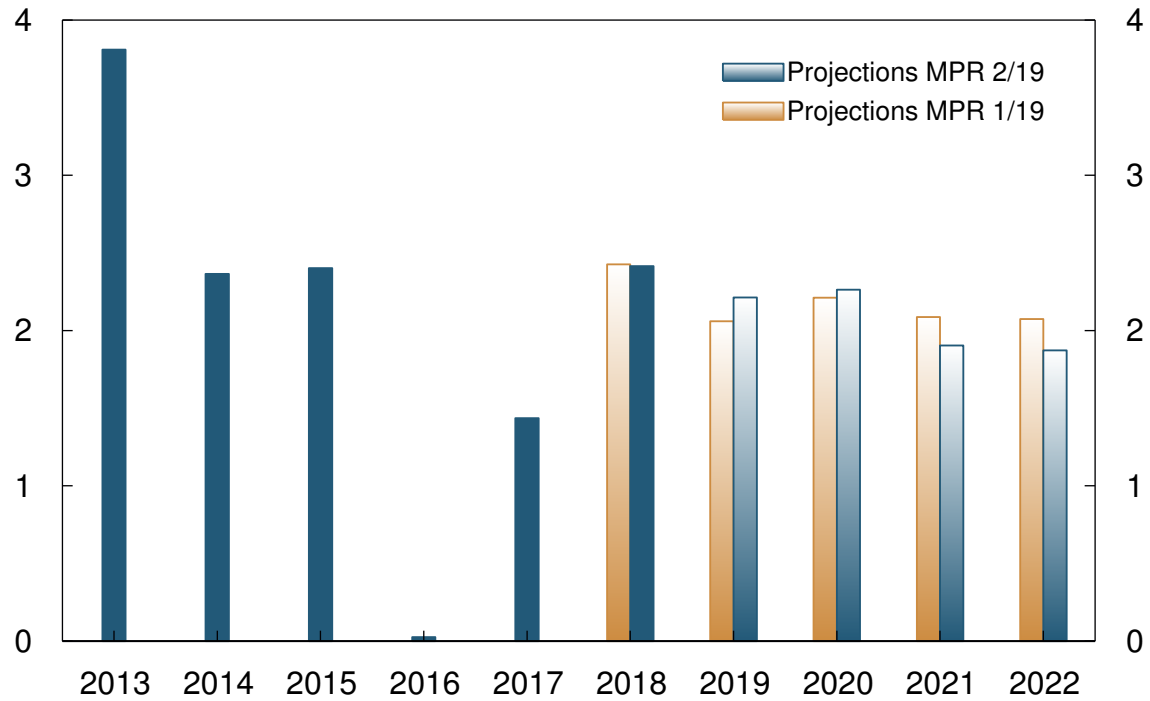
1) Excluding dividend income. Including income for non–profit organisations. 2) Projections for 2019 –
2022.
Sources: Statistics Norway and Norges Bank

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

Saving ratio
Saving ratio excl. dividend income
Net lending ratio excl. dividend income
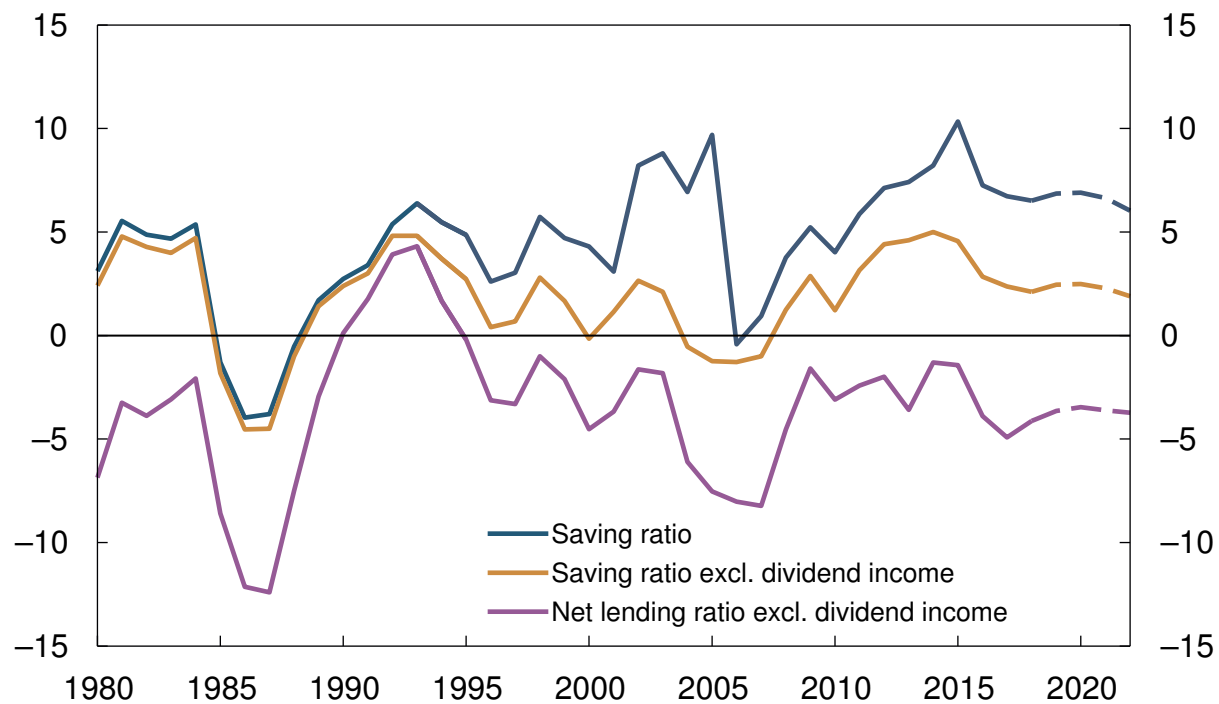
1) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

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

House prices (l.h.s.)
Household debt ratio (r.h.s.)
Projections MPR 2/19
Projections MPR 1/19
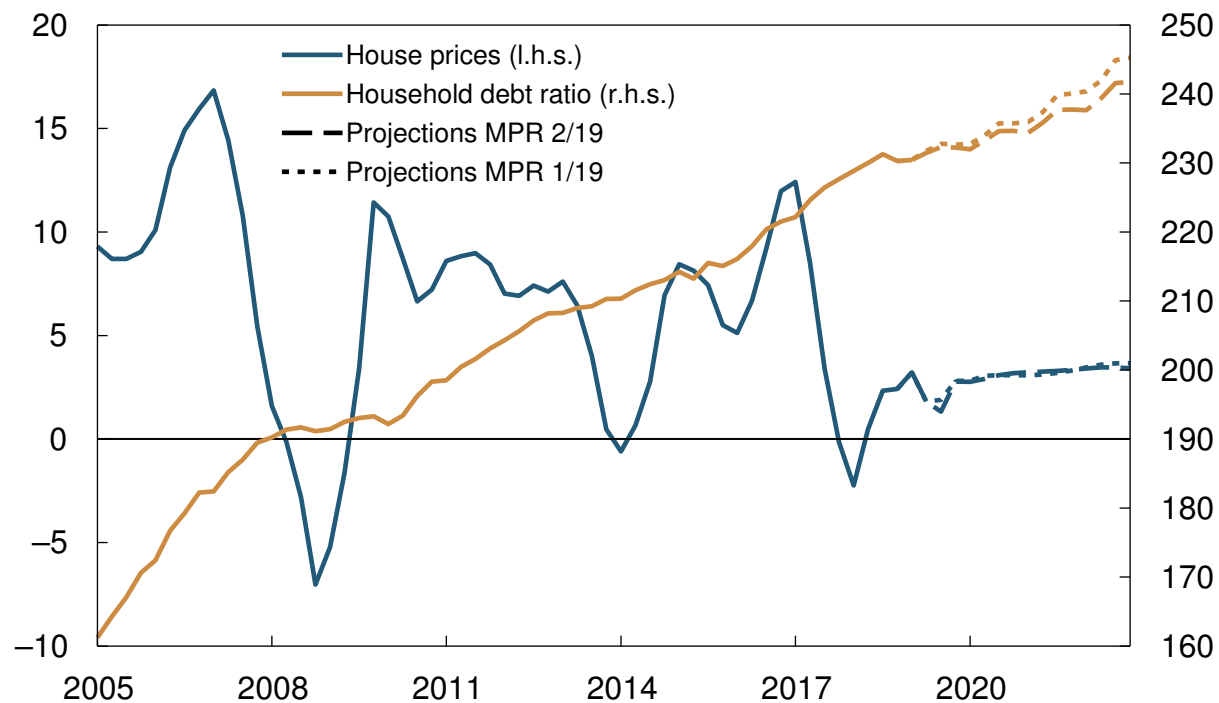
1) Loan debt as a percentage of disposable income. **2)** Projections for 2019 Q2 – 2022 Q4.
Sources: Eiendomsverdi, Finn.no, Real Estate Norway, Statistics Norway and Norges Bank

Chart 4.8 Housing investment[1] and real house prices[2].
Annual change. Percent. 1980 – 2022[3]
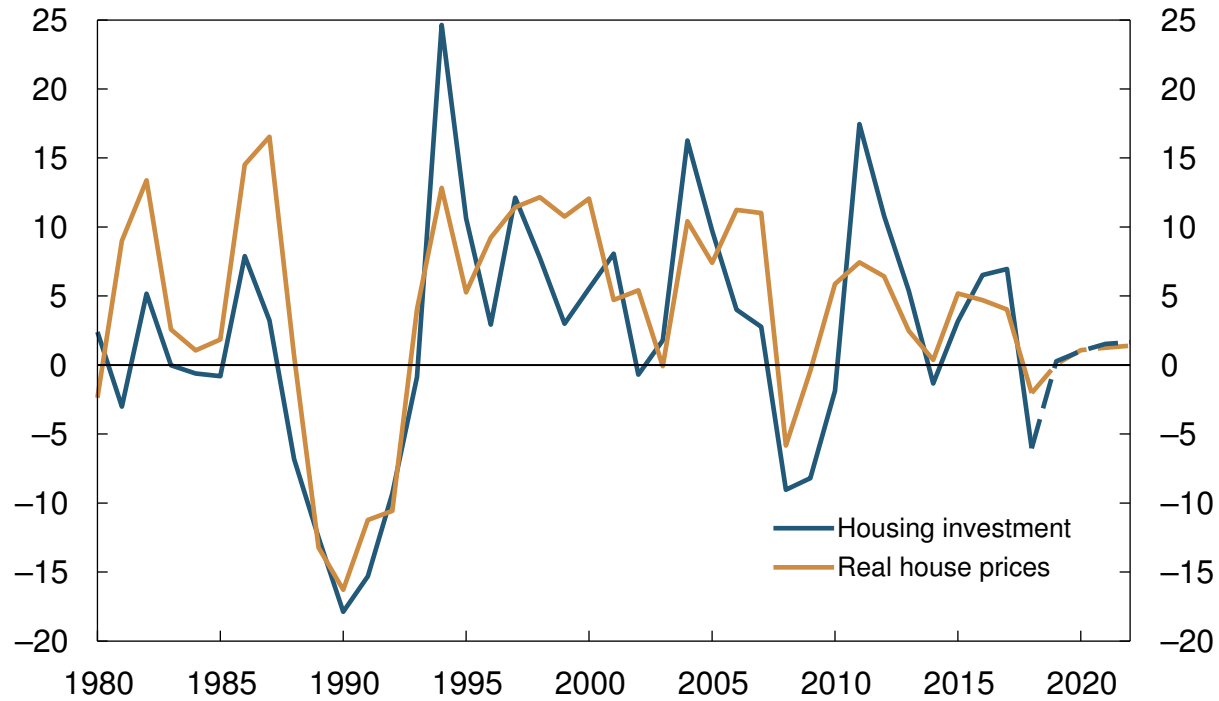
1) Working-day adjusted. **2)** Deflated by the CPI. **3)** Projections for 2019 – 2022.
Sources: Eiendomsverdi, Finn.no, Norwegian Association of Real Estate Agents (NEF), Real Estate Norway,
Statistics Norway and Norges Bank

Chart 4.9 Business investment[1] .
Share of GDP for mainland Norway. Percent. 1980 – 2022[2]
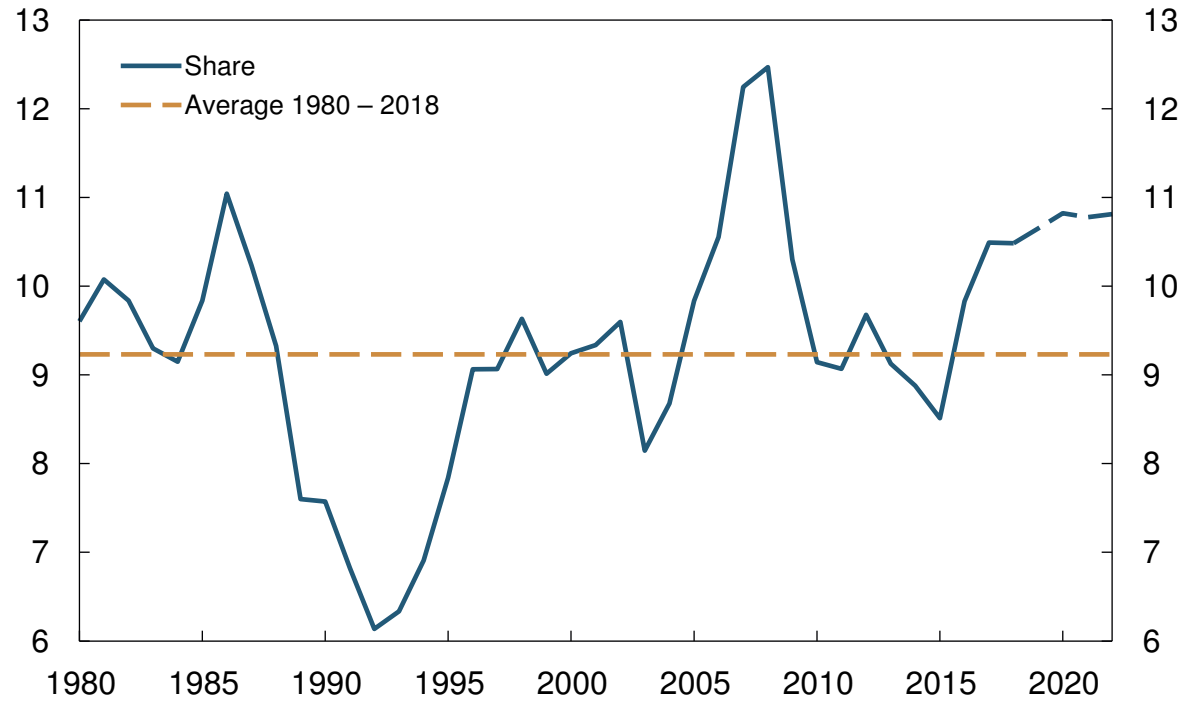
— Share
– – Average 1980 – 2018

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]

Legend:
- Oil service industry
- Manufacturing and mining
- Other goods production
- Other services
- Power sector
- Business investment
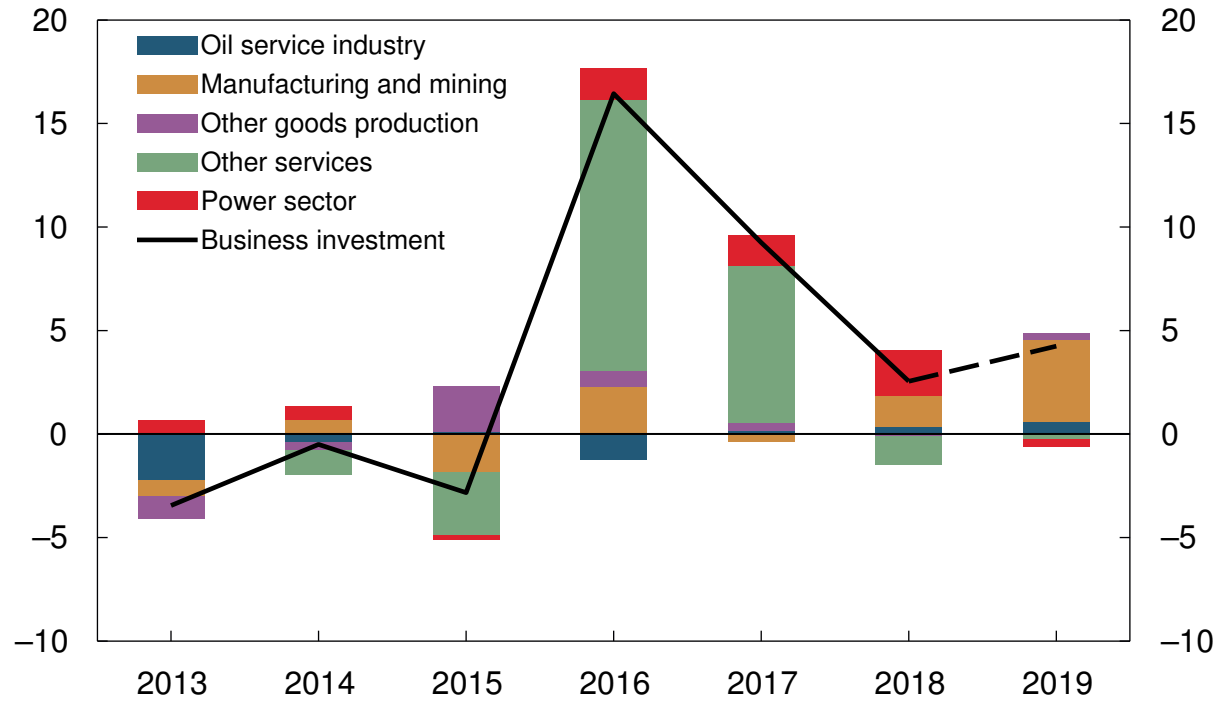
1) Working-day adjusted. 2) Projection for 2019.
Sources: Statistics Norway and Norges Bank

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

Legend:
- Exports from mainland Norway
- Projections MPR 2/19
- Projections MPR 1/19
- Exports from oil services etc.[3]
- Other mainland exports
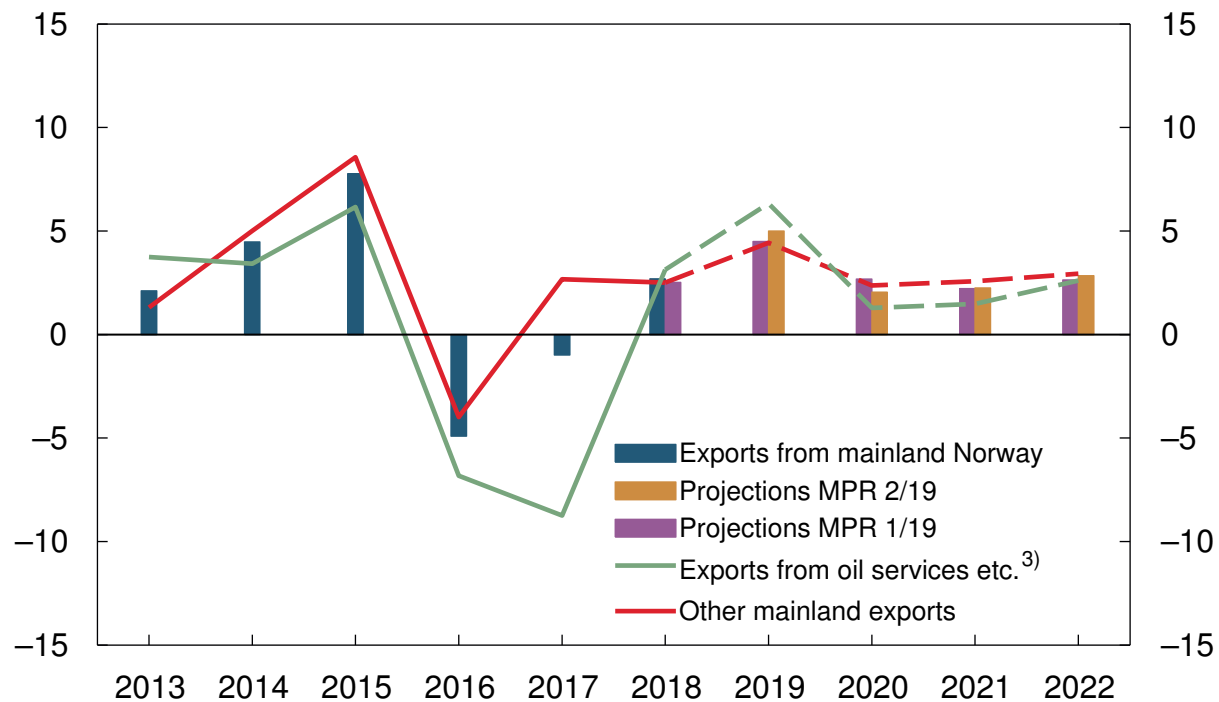
1) Working-day adjusted. 2) Projections for 2019 – 2022. 3) Groups of goods and services in the national accounts where the oil service industry accounts for a considerable share of exports.
Sources: Statistics Norway and Norges Bank

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

- - - Projections MPR 2/19
- - - Projections MPR 1/19
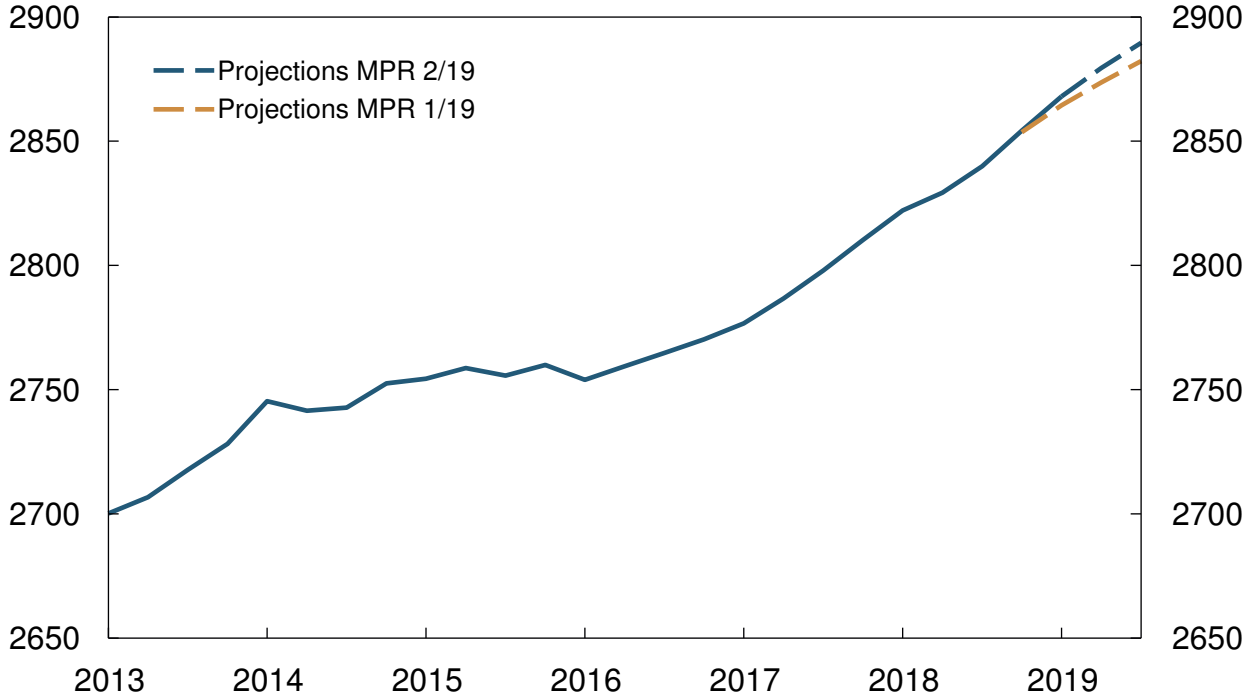
1) Projections for 2019 Q2 – 2019 Q3.
Sources: Statistics Norway and Norges Bank

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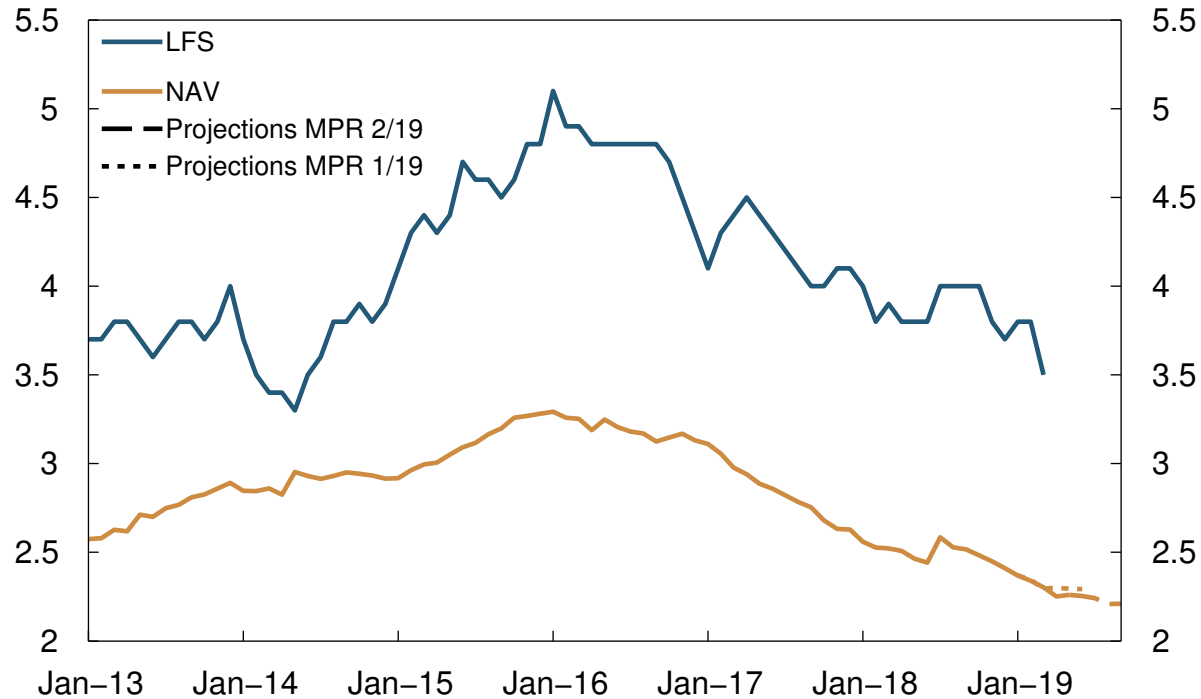
1) Labour Force Survey. 2) Registered unemployment. 3) Projections for June 2019 – September 2019 (NAV). Norges Bank does not provide monthly projections for the LFS.
Sources: Norwegian Labour and Welfare Administration (NAV), Statistics Norway and Norges Bank

Chart 4.14 Unemployment benefit recipients[1] and registered unemployment. Share of labour force. Seasonally adjusted. Percent. January 2003 – May 2019
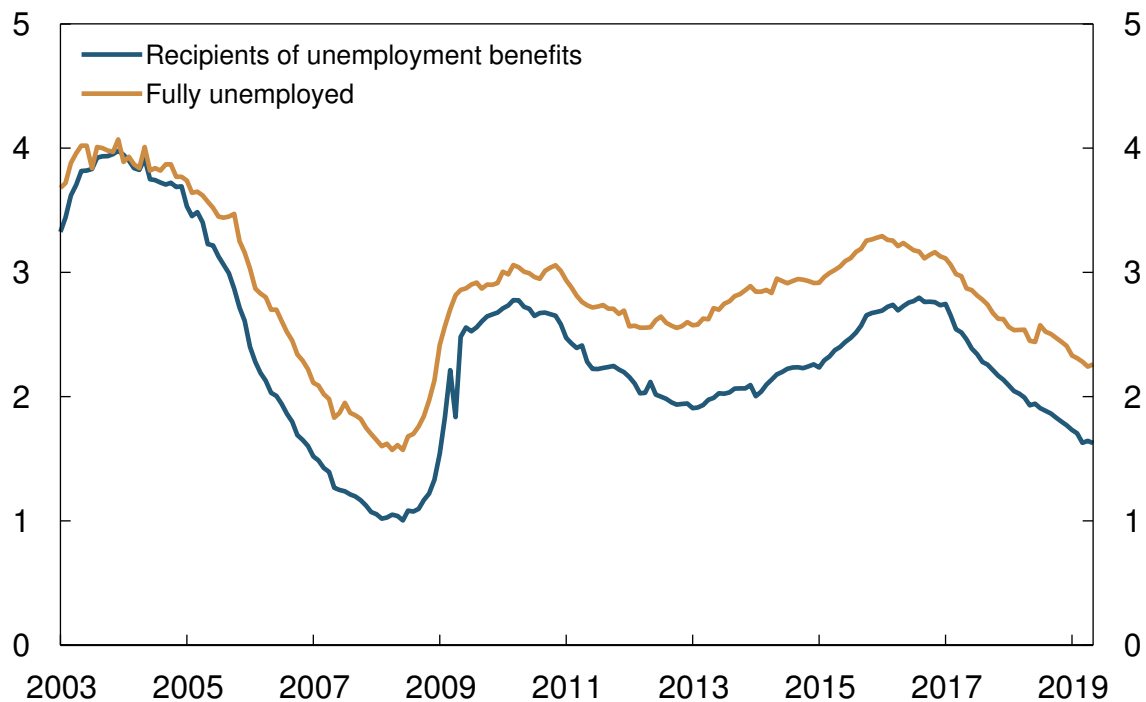
1) Approximately half of the fully unemployed receive unemployment benefits. Some partly unemployed persons and labour market programme participants are also eligible for unemployment benefits.
Sources: Norwegian Labour and Welfare Administration (NAV) and Norges Bank

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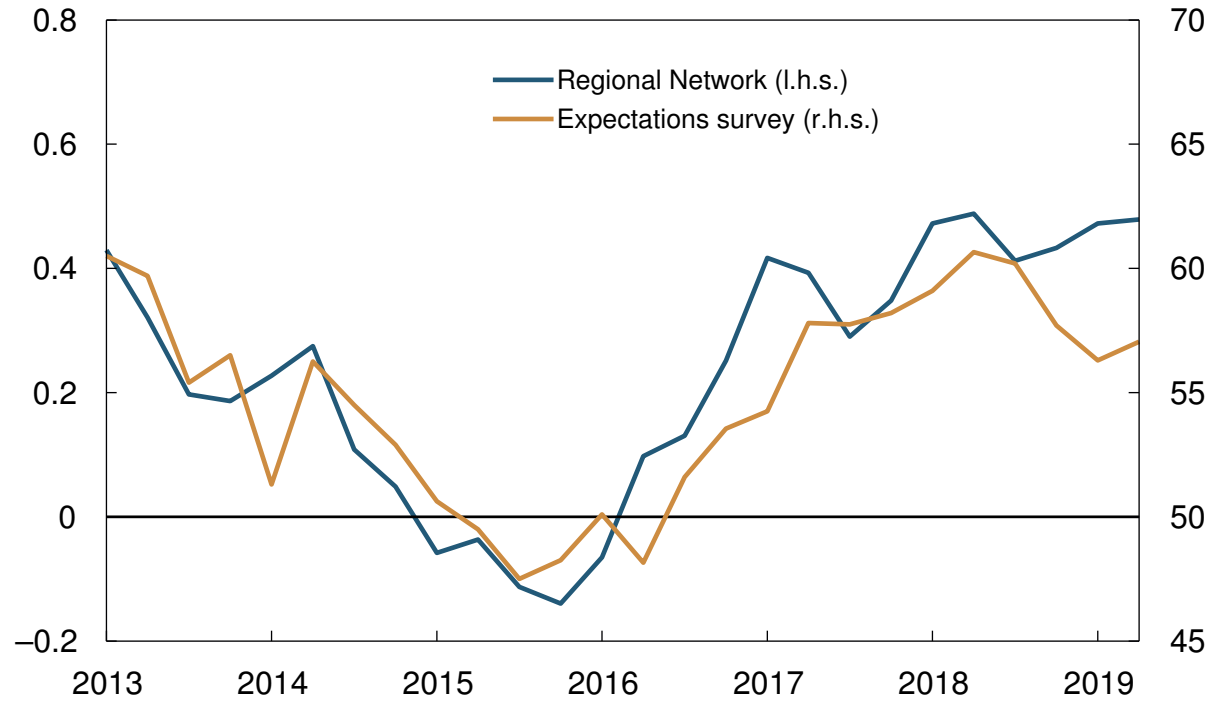
1) Expected change in employment next three months. **2)** Share of business leaders expecting "more employees" in their own firm in the following 12 months + 1/2 * share expecting "unchanged number of employees".
Sources: Epinion and Norges Bank

Chart 4.16 Capacity utilisation[1] and labour supply constraints[2] as reported by the Regional Network. Percent. January 2005 – May 2019
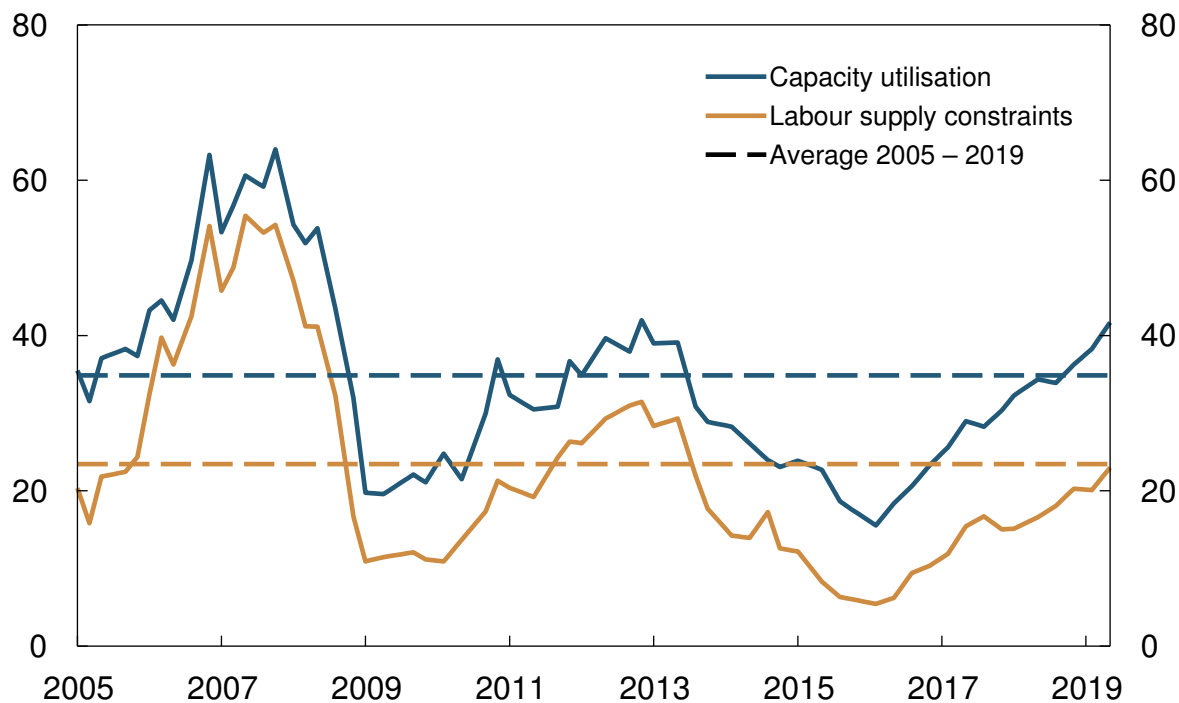
1) Share of contacts that will have some or considerable problems accommodating an increase in demand. **2)** Share of contacts reporting that output is being constrained by labour supply. Only enterprises reporting full capacity utilisation are asked about labour supply, but the series shows the share of all the enterprises in the interview round.
Source: Norges Bank

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

Legend:
- Norges Bank's estimate
- Model estimate [2]
- Labour market indicator [3]
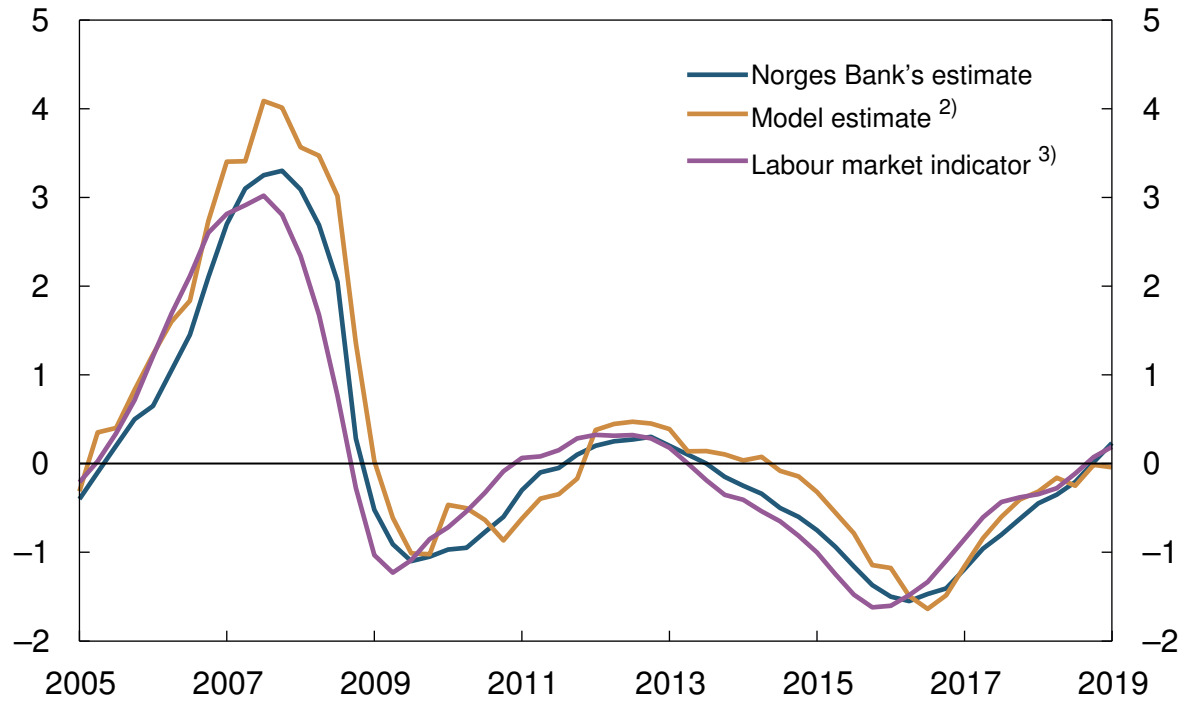
1) The output gap measures the percentage difference between mainland GDP and estimated potential mainland GDP. **2)** See box on page 34 in *Monetary Policy Report* 4/17. **3)** An indicator of the output gap based on the labour market. See Hagelund, K., F. Hansen and Ø. Robstad (2018) "Model estimates 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

Legend:
- 1997 Q4 − 2007 Q4
- 2009 Q1 − 2019 Q1

X-axis categories: Mainland Norway, Manufacturing, Distributive trade, Other private services, Public
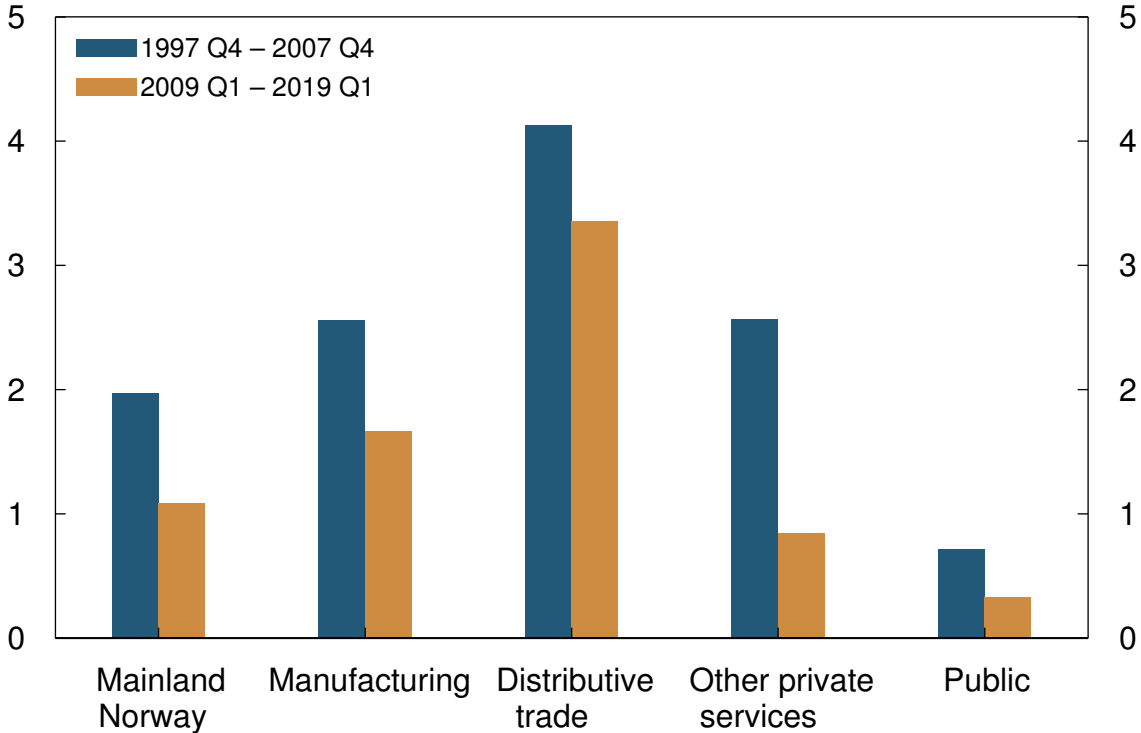
Sources: Statistics Norway and Norges Bank

Chart 4.19 CPI, CPI-ATE[1] and energy prices in the CPI[2].
Twelve-month change. Percent. January 2013 – May 2019
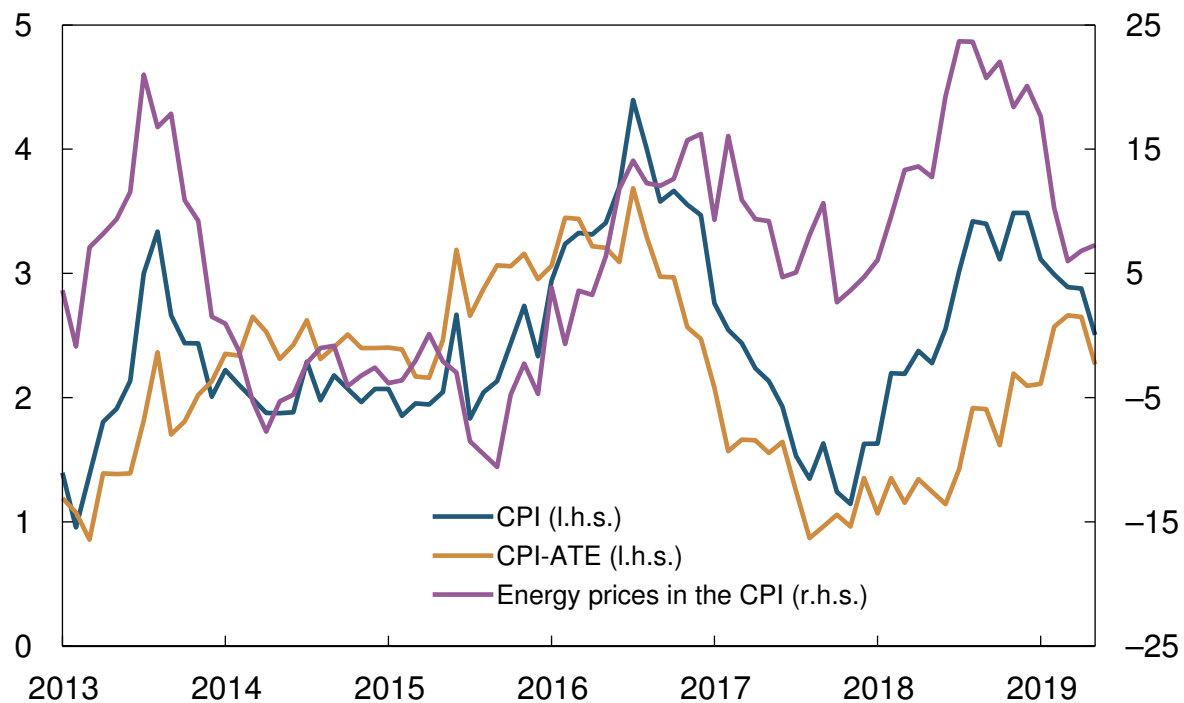
1) CPI adjusted for tax changes and excluding energy products. 2) Measured by the groups *transport fuels and lubricants* and *electricity and other fuels*.
Sources: Statistics Norway and Norges Bank

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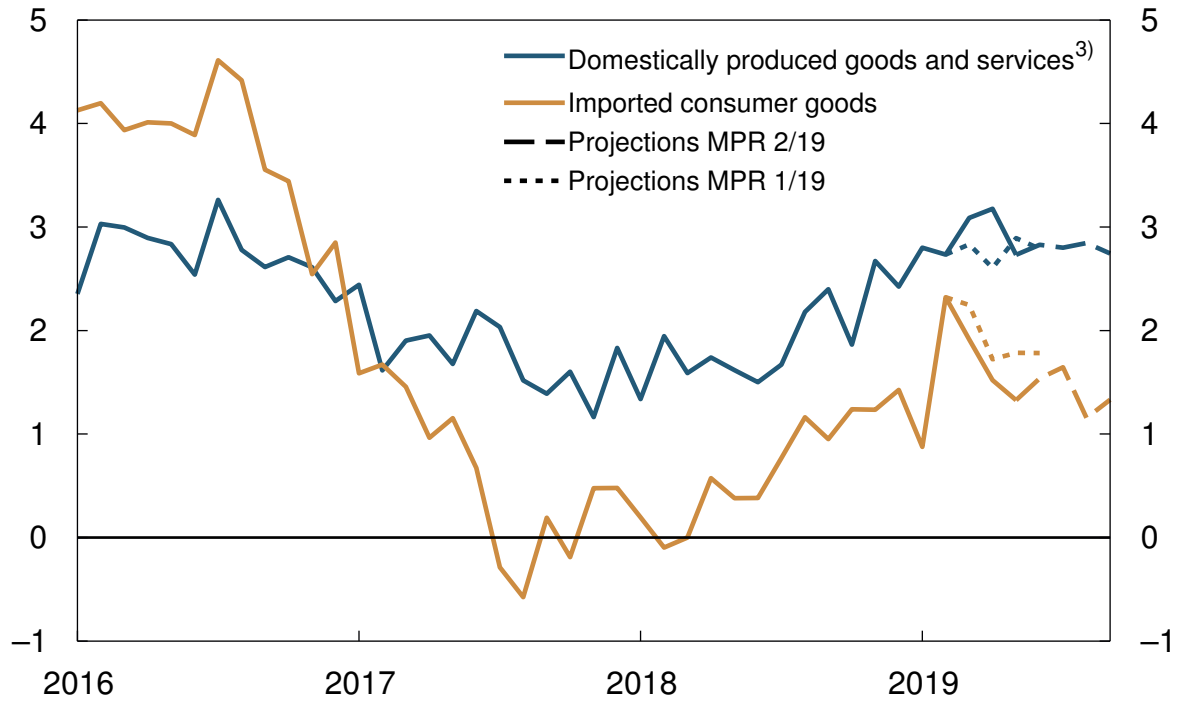Twelve-month change. Percent. January 2016 – September 2019 [2]

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

— Domestically produced goods and services in the CPI-ATE
— ULCs
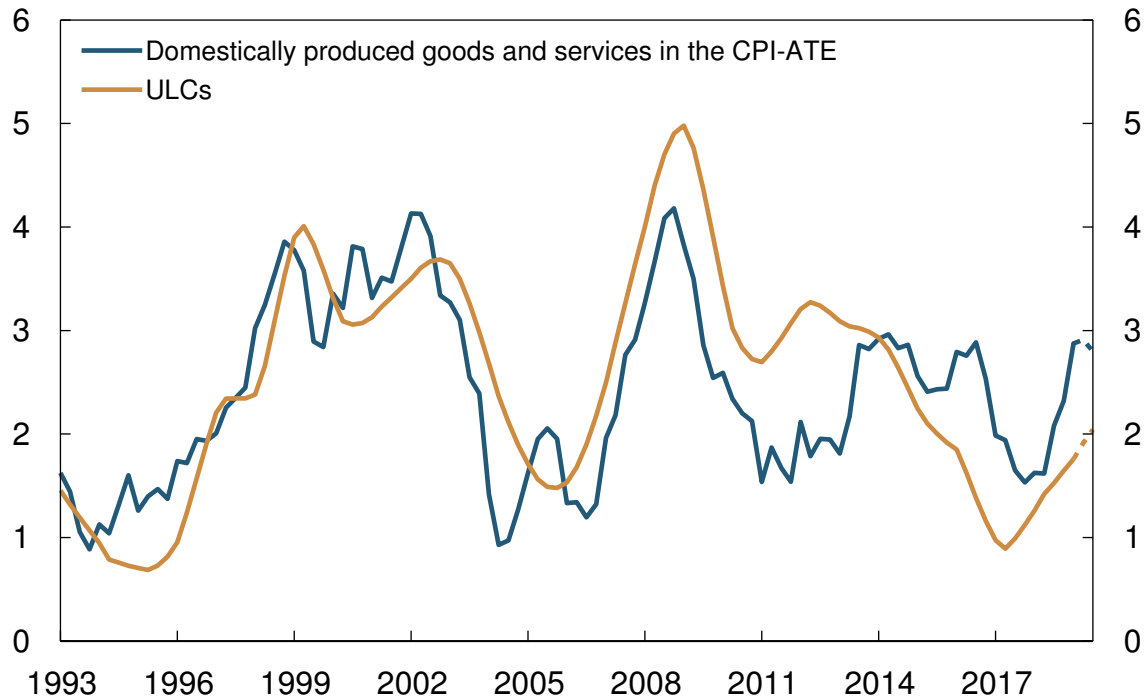
1) CPI adjusted for tax changes and excluding energy products. **2)** Unit labour costs lagged forward
three quarters. ULC measured as the difference between annual wage growth and trend productivity
growth for mainland Norway. Trend estimated using a two–sided, extended HP filter where
lambda=20000. **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
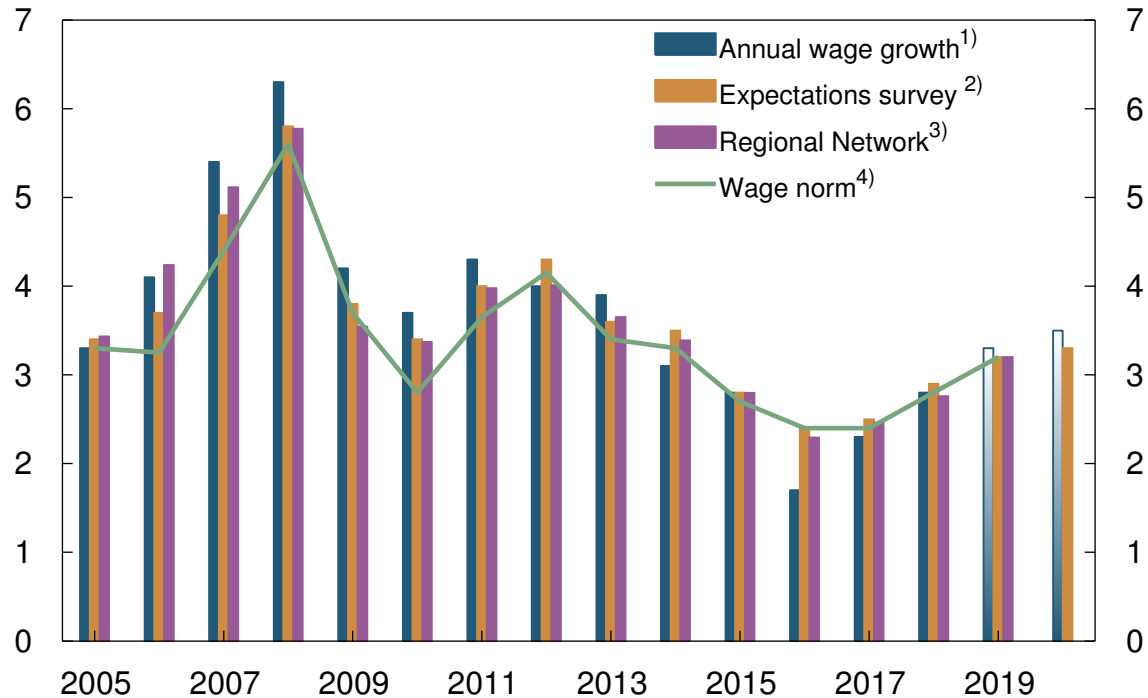
1) Actual annual wage growth from Statistics Norway. Norges Bank's projections for 2019 and 2020.
2) Social partners' wage growth expectations for the current year as measured by Norges Bank's
expectations survey in Q2 each year and expected annual wage growth for 2020 measured in 2019 Q2.
3) Expected 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]
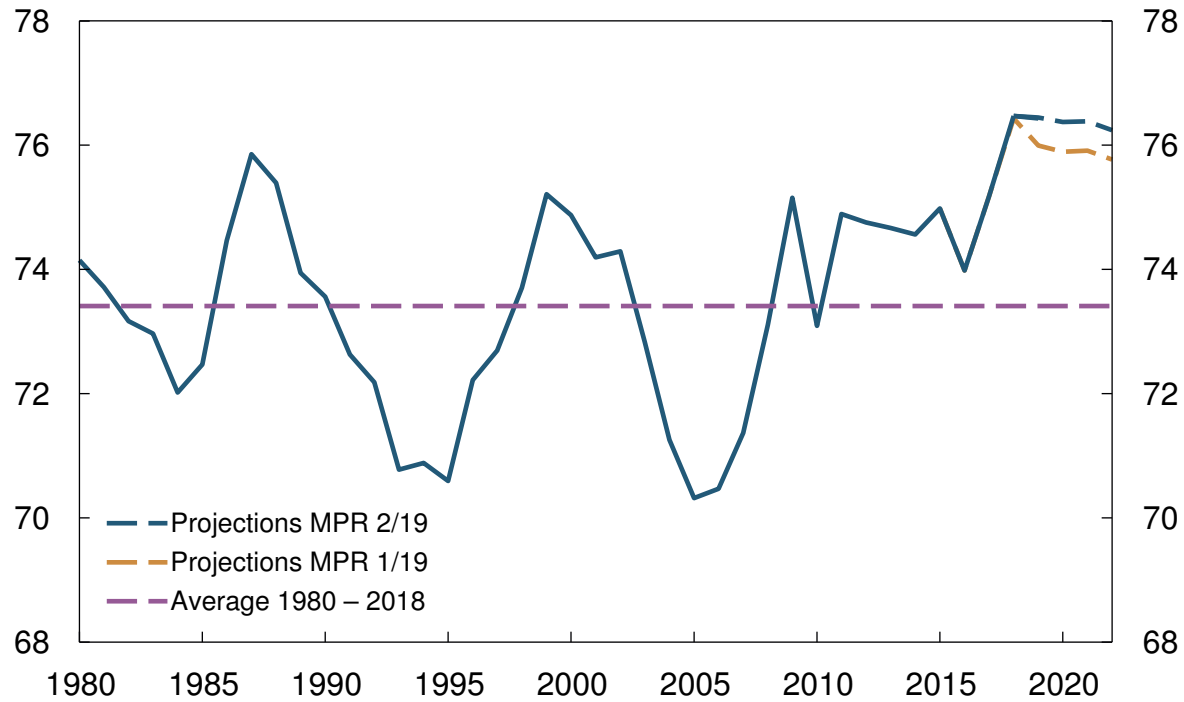
1) Labour costs as a proportion of factor income. **2)** Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Chart 4.24 Wage growth in Norway and for main trading partners[1].
Annual change. Percent. 2005 – 2022[2]
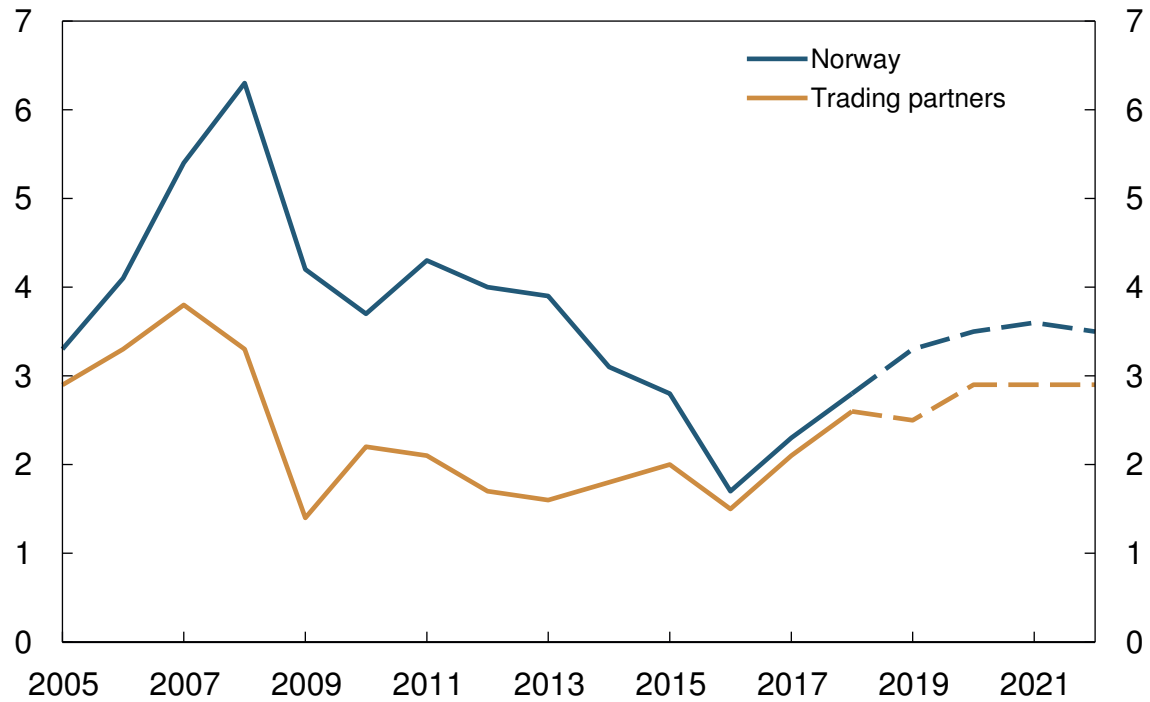
1) The aggregate for wage growth for trading partners is based on labour costs per employee in the euro area, Sweden, the UK and the US. **2)** Projections for 2019 – 2022.
Sources: Statistics Norway, Thomson Reuters and Norges Bank

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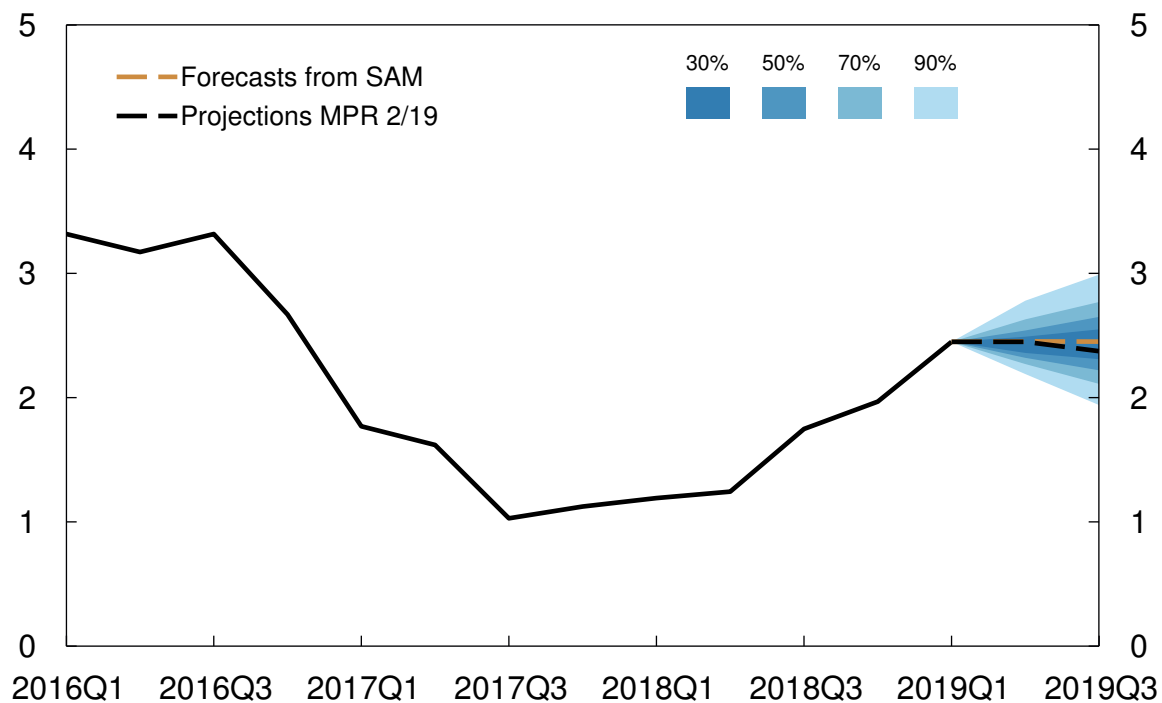Four-quarter change. Percent. 2016 Q1 – 2019 Q3[3]

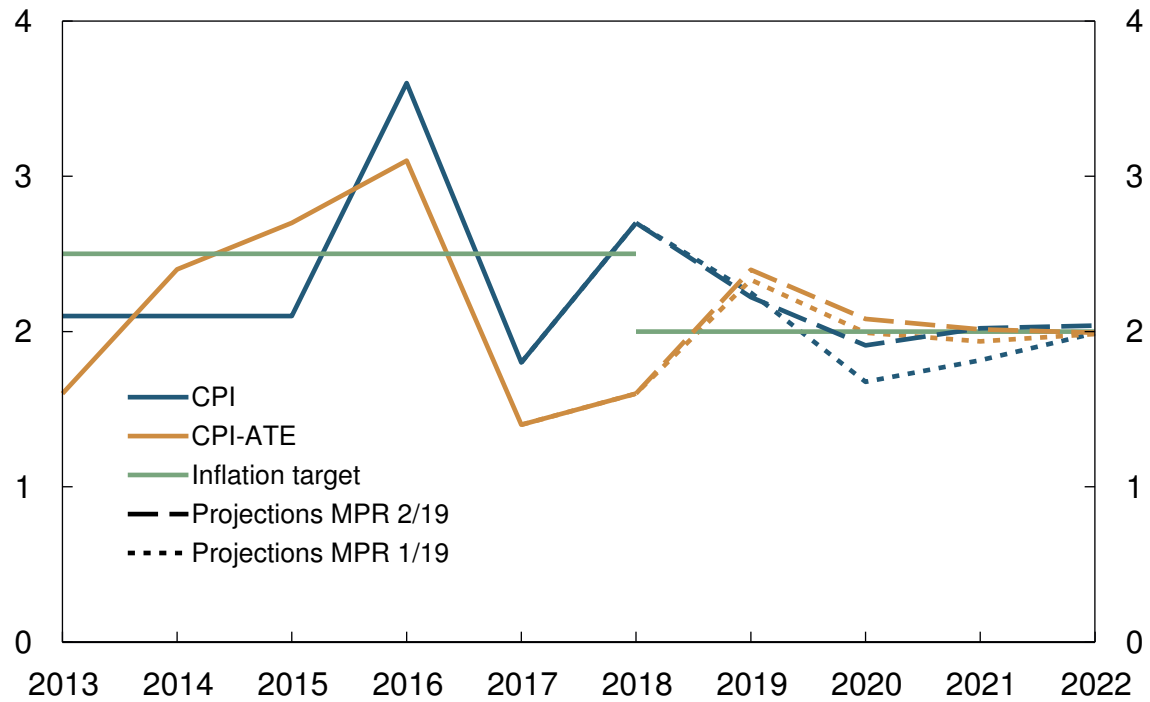**1)** CPI adjusted for tax changes and excluding energy products. **2)** System for Averaging short-term Models.
3) Projections for 2019 Q2 – 2019 Q3.
Sources: Statistics Norway and Norges Bank

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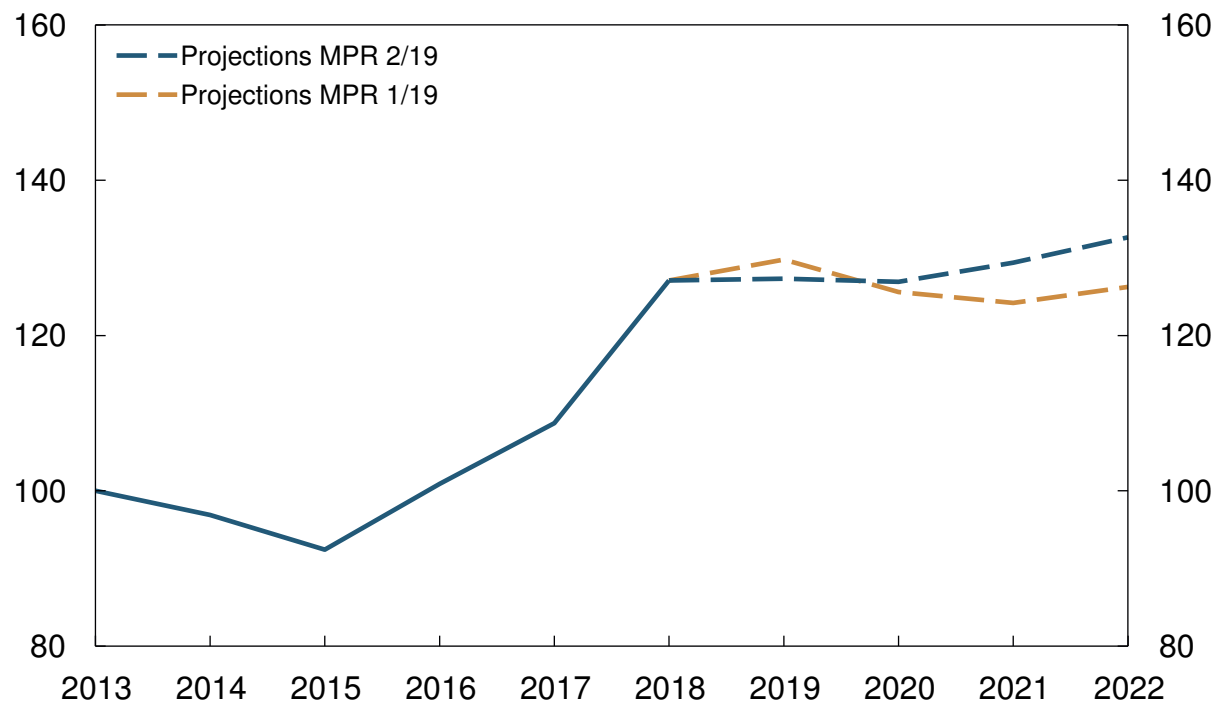
1) Weighted average of prices for *transport fuels and lubricants* and for *electricity and other fuels* in the CPI. The projections are based on futures prices for electricity, petrol and fuel. **2)** Projections for 2019 – 2022.
Sources: Nord Pool, Norwegian Water Resources and Energy Directorate,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

Chart 4.A CPI and indicators of underlying inflation.
Twelve-month change. Percent. January 2005 – May 2019
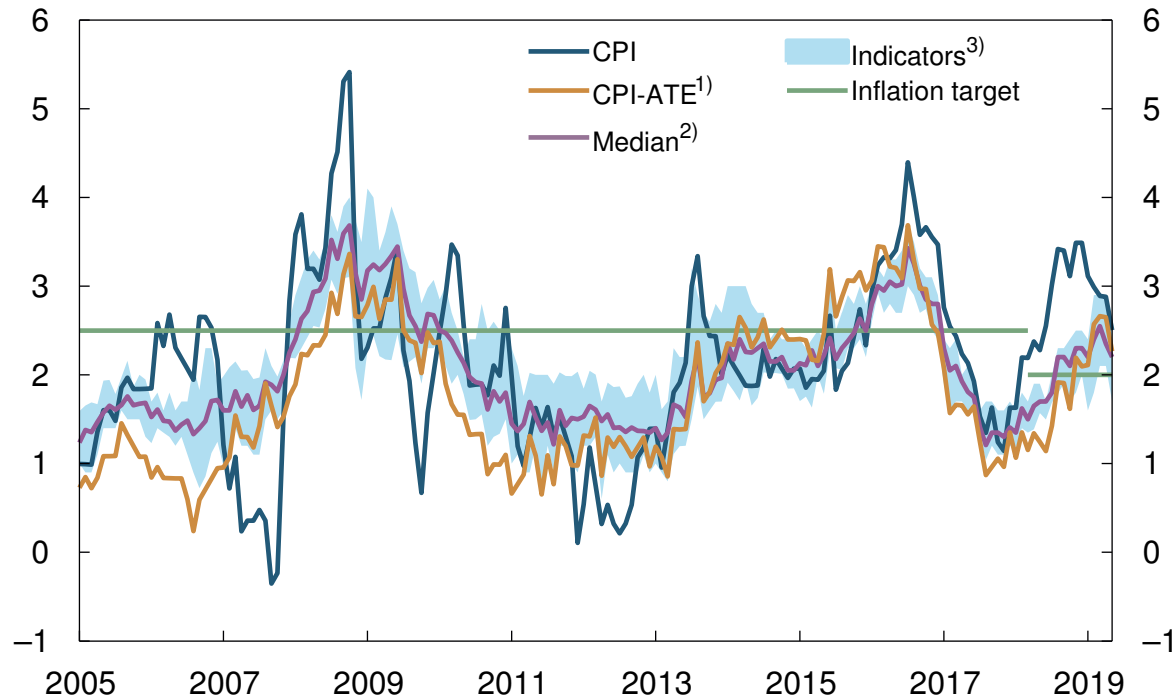
1) The CPI adjusted for tax changes and excluding energy products. **2)** Median of the CPIM, CPIXE, 20% trimmed mean, weighted median, CPI-XV and CPI common. **3)** The band shows the highest and lowest values for the CPIM, CPIXE, 20% trimmed mean, weighted median, CPI-XV and CPI common.
Sources: Statistics Norway and Norges Bank

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

Employee organisations
Employer organisations
Economists, academia
Economists, financial industry
Inflation target
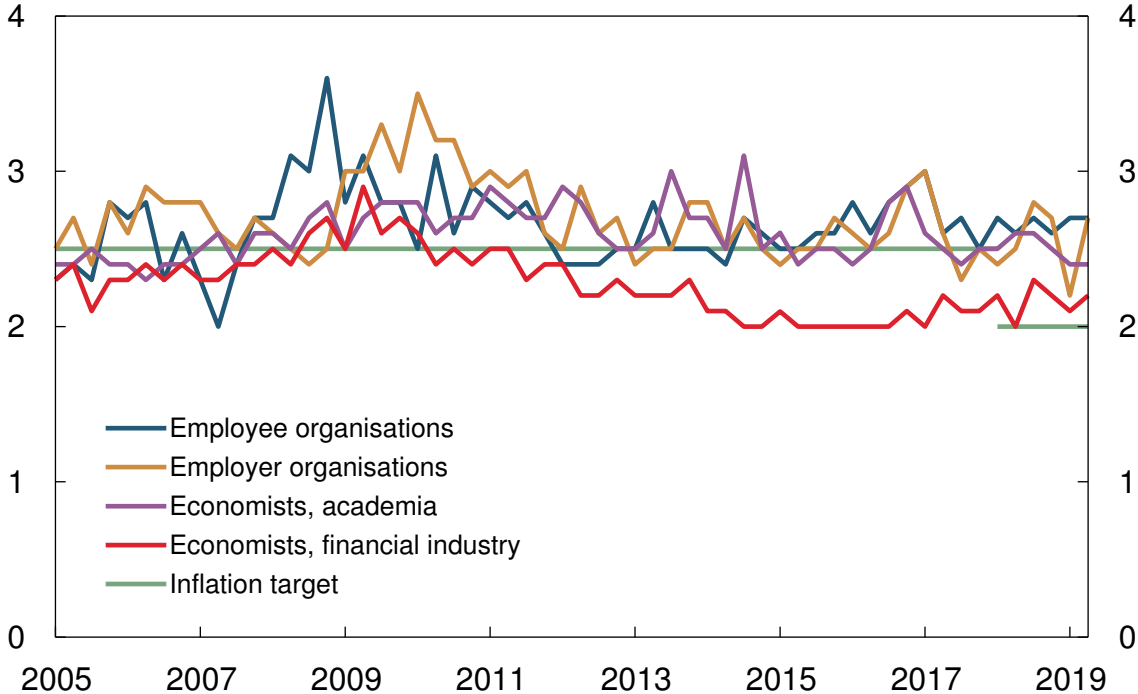
Sources: Epinion, Kantar TNS and Opinion

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

- 3% of the GPFG
- Structural non-oil deficit MPR 2/19
- Structural non-oil deficit MPR 1/19
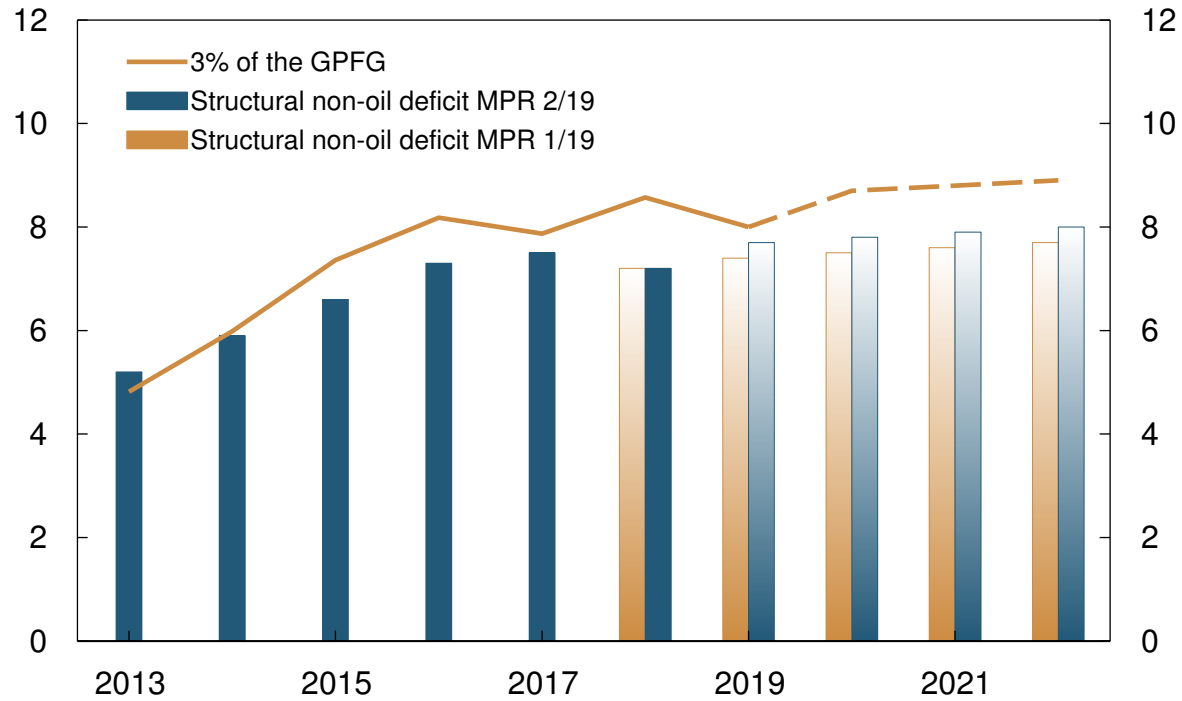
1) Government Pension Fund Global. **2)** Projections for 2019 – 2022.
Sources: Ministry of Finance and Norges Bank

Chart 4.D Public sector demand [1]. Annual change. Percent. 2013 – 2022[2]
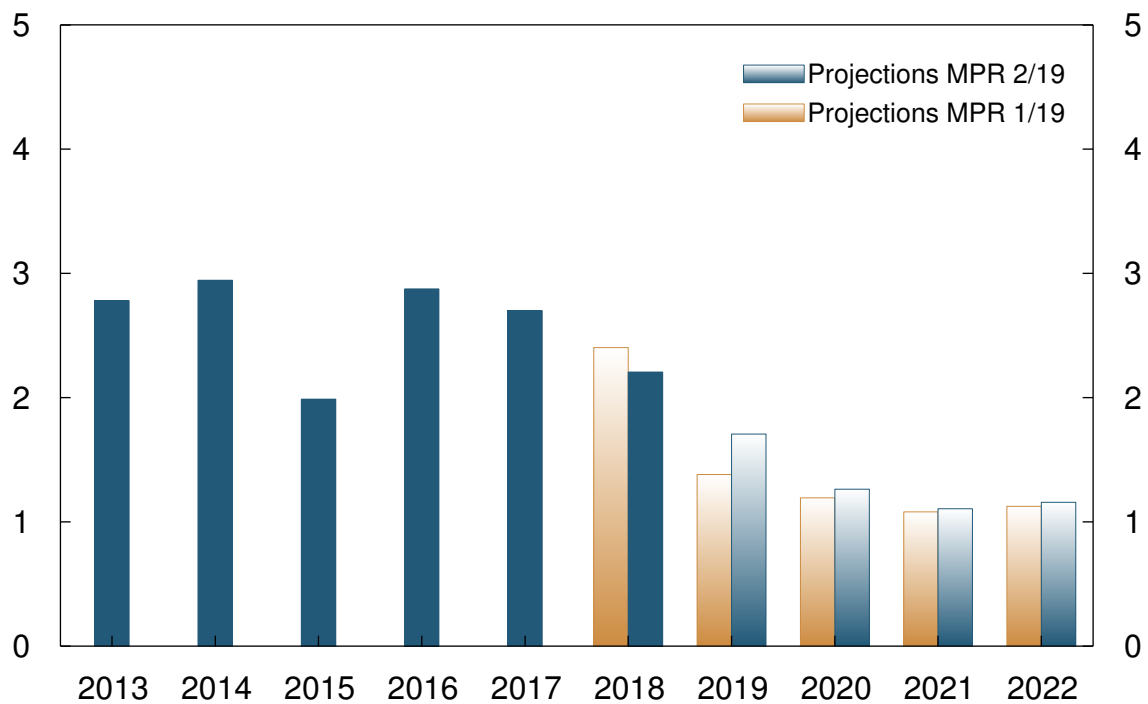
1) Working-day adjusted. **2)** Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Chart 4.E Petroleum investment.

Constant 2019 prices. In billions of NOK. 2013 – 2022 [1]
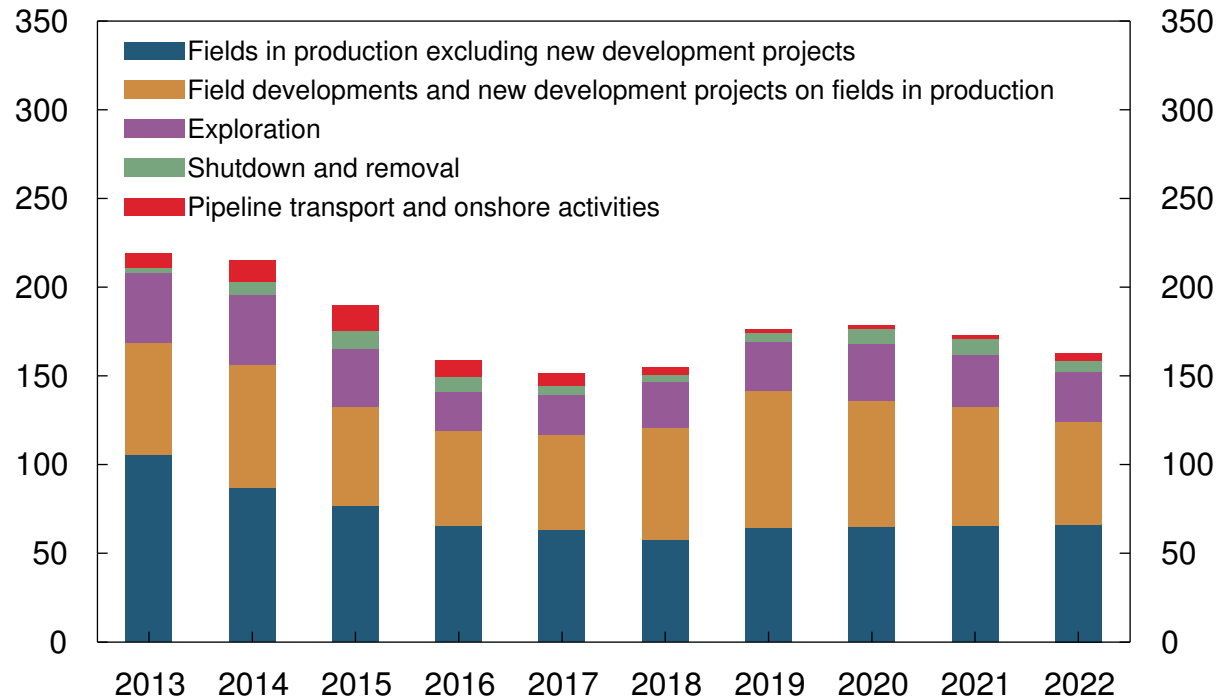
Legend:
- Fields in production excluding new development projects
- Field developments and new development projects on fields in production
- Exploration
- Shutdown and removal
- Pipeline transport and onshore activities

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]
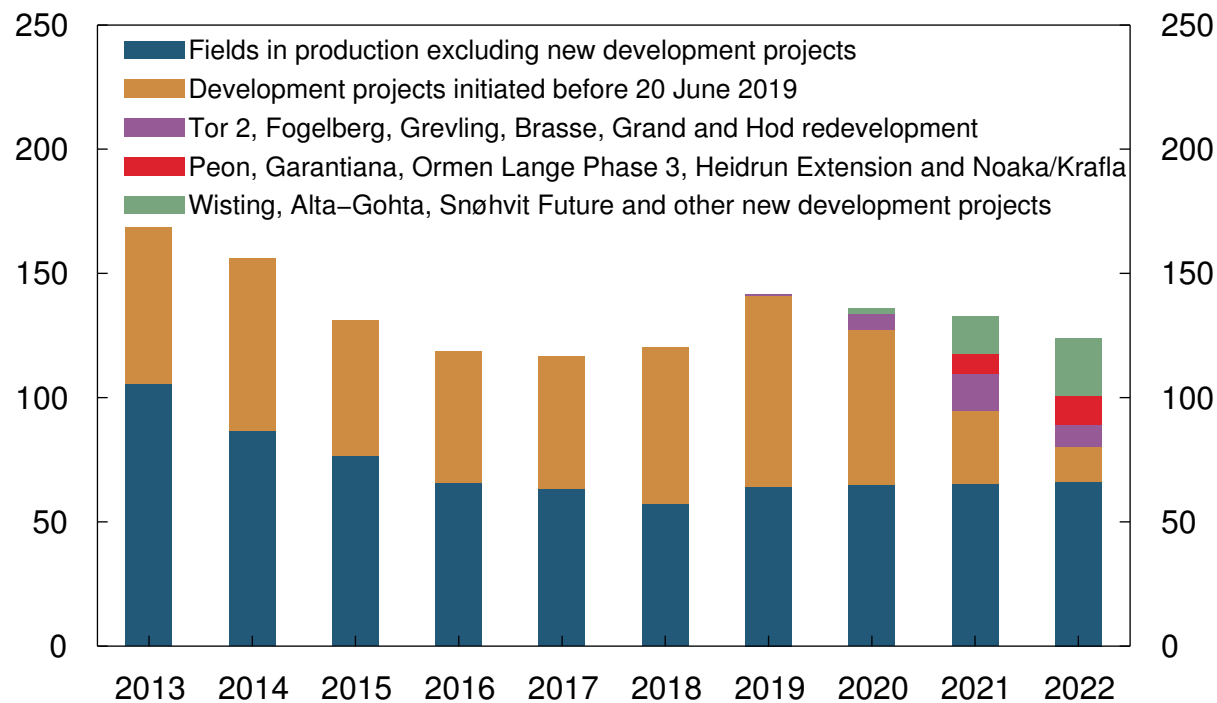
Legend:
- Fields in production excluding new development projects
- Development projects initiated before 20 June 2019
- Tor 2, Fogelberg, Grevling, Brasse, Grand and Hod redevelopment
- Peon, Garantiana, Ormen Lange Phase 3, Heidrun Extension and Noaka/Krafla
- Wisting, Alta–Gohta, Snøhvit Future and other new development projects

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

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

QNA[1]
Residents[2]
LFS [3]
Ageing effect [4]
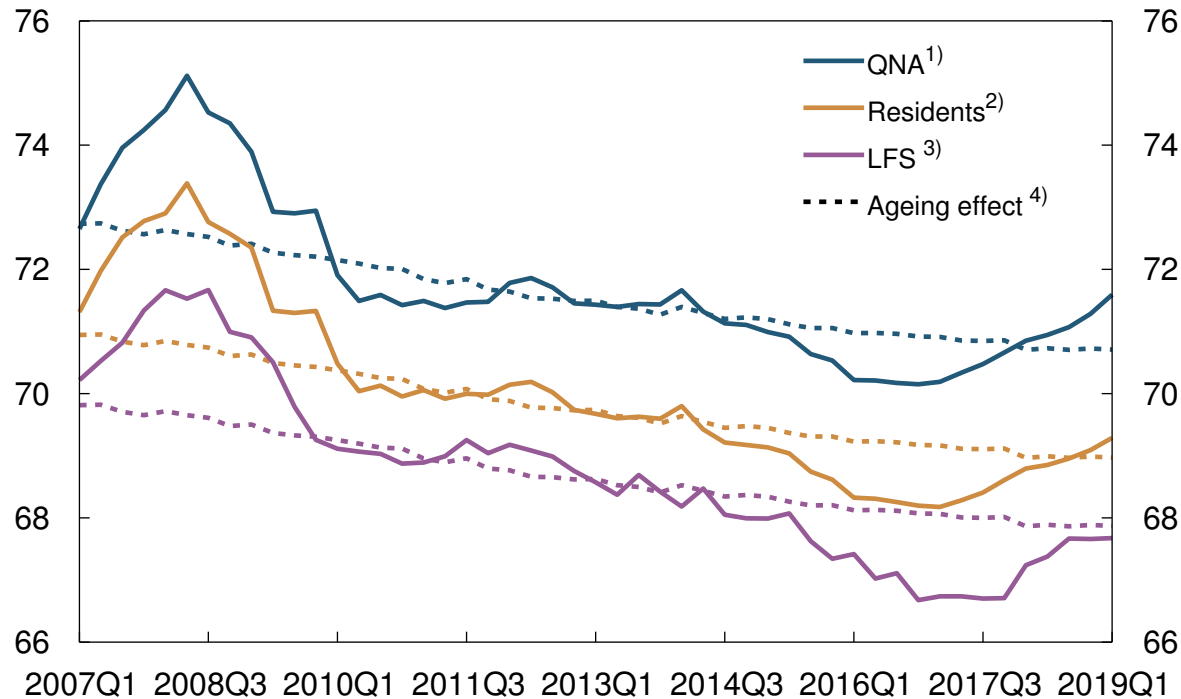
1) Quarterly national accounts. 2) Employment according to the QNA minus register data for non–resident workers. The series for non–resident workers has been adjusted back in time owing to breaks in the series in 2015. 3) Labour Force Survey. 4) Employment share if the employment share for each five-year 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.
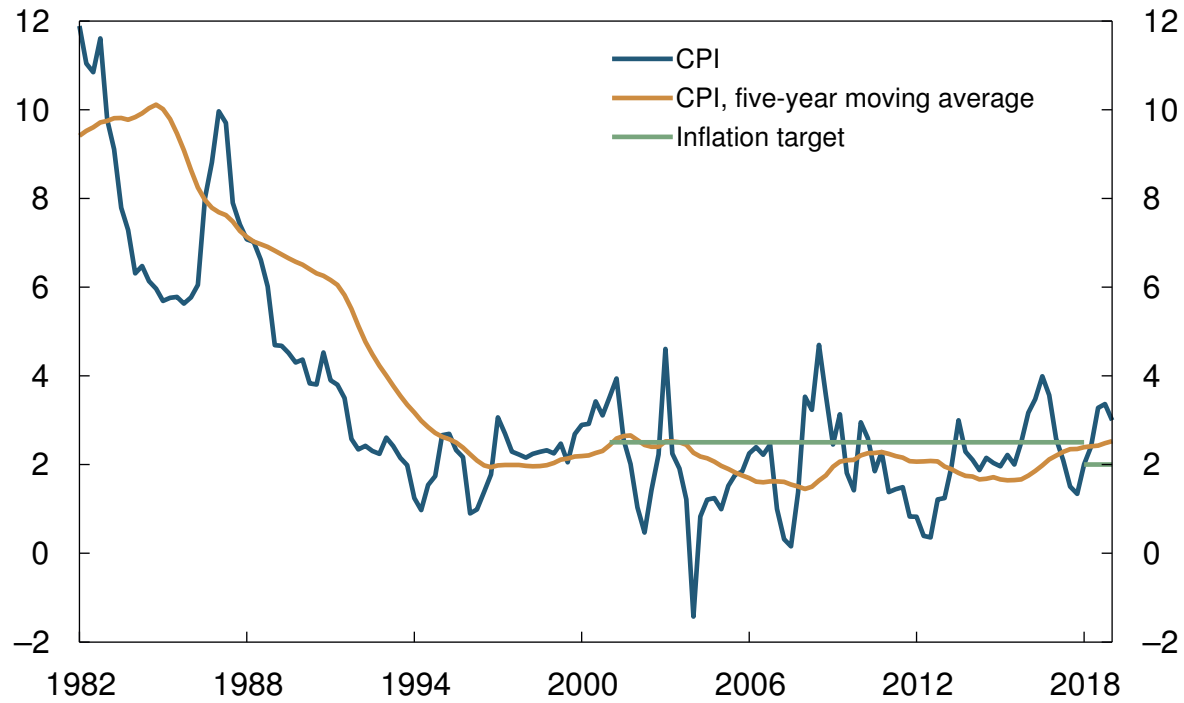Sources: Statistics Norway and Norges Bank

Chart 4.H Non−resident workers as a share of all employees[1].[2] Percent. 2003 − 2018
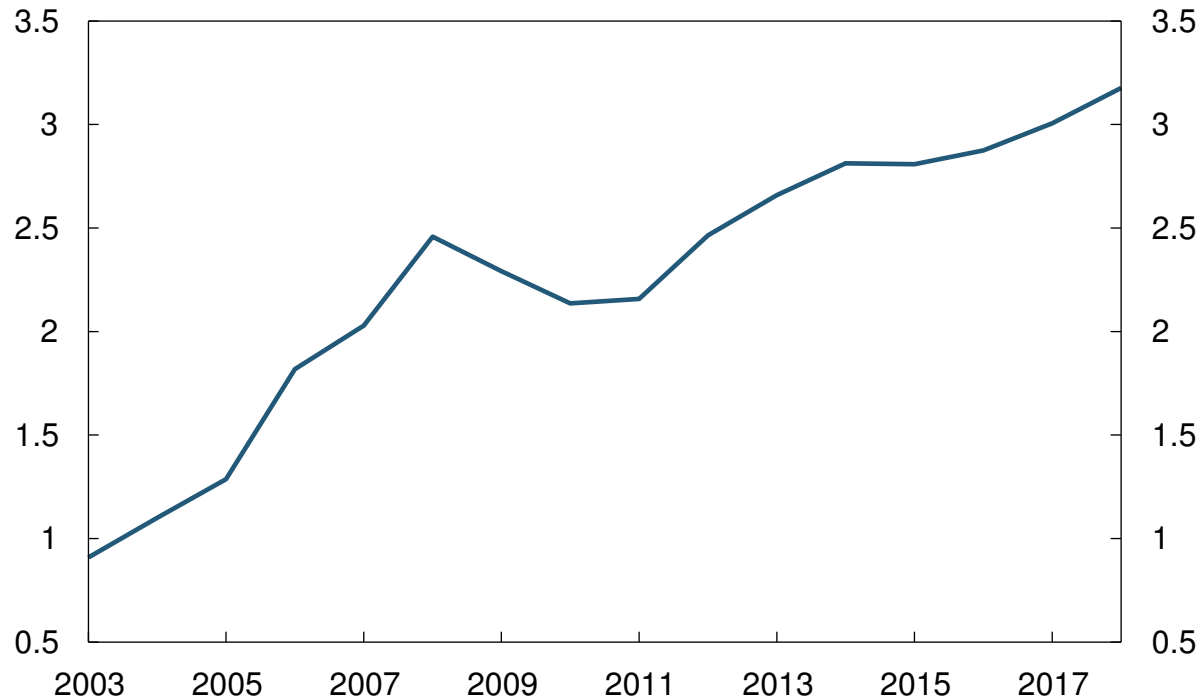
1) According to the quarterly national accounts. **2)** The series for non−resident workers has been adjusted back in time owing to breaks in the series in 2015. Changes from 2014 to 2015 are assumed to be the same as in the quarterly national accounts. The series is relayed backwards by using the series' own growth rates for the years before 2015.
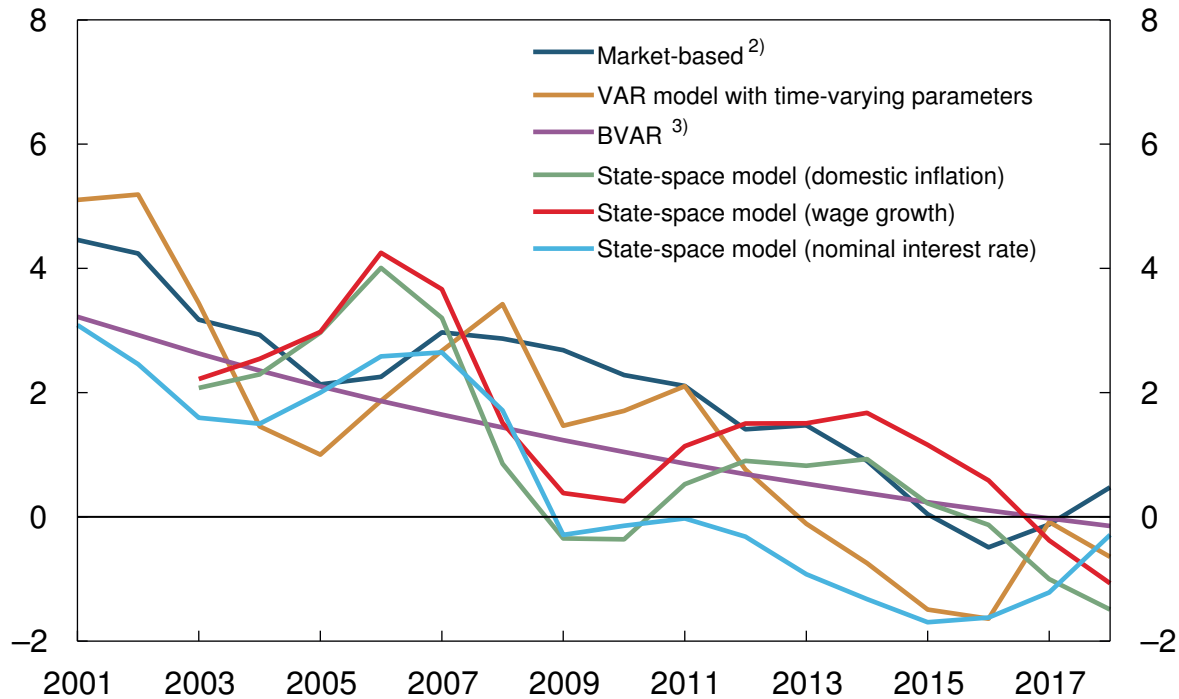Sources: Statistics Norway and Norges Bank

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

CPI
CPI, five-year moving average
Inflation target

Sources: Statistics Norway and Norges Bank

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

Legend:
- Market-based [2]
- VAR model with time-varying parameters
- BVAR [3]
- State-space model (domestic inflation)
- State-space model (wage growth)
- State-space model (nominal interest rate)

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].
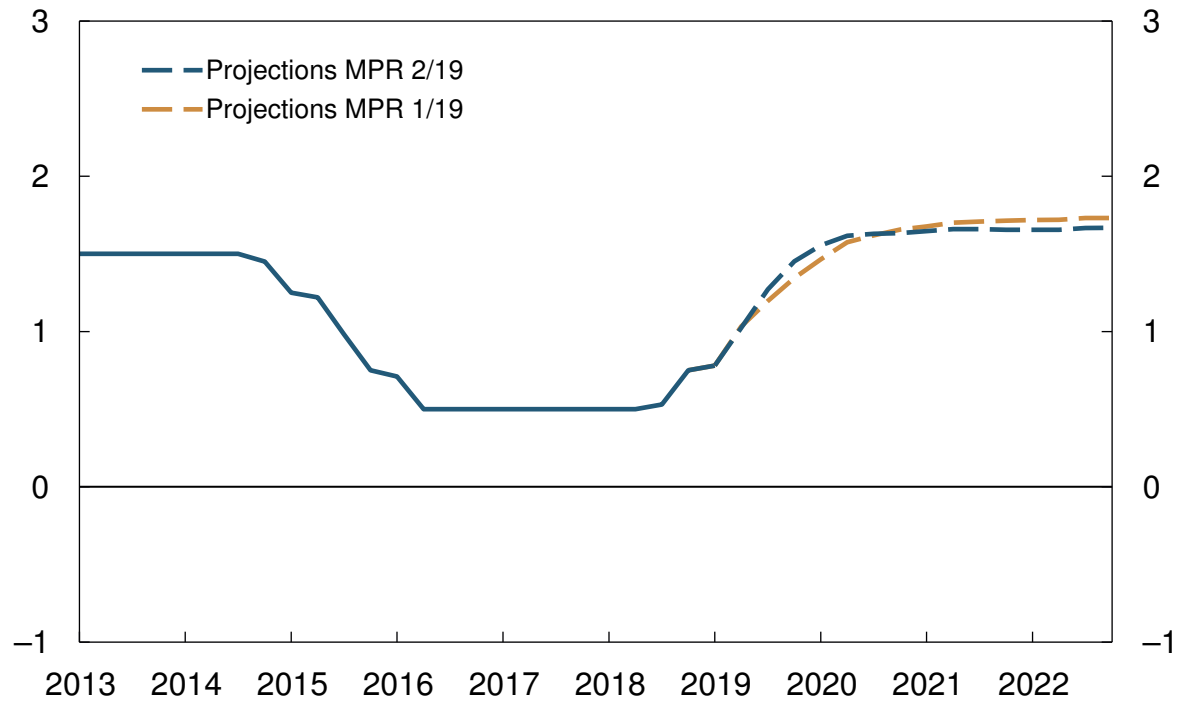Percent. 2005 Q1 – 2019 Q1 [2]
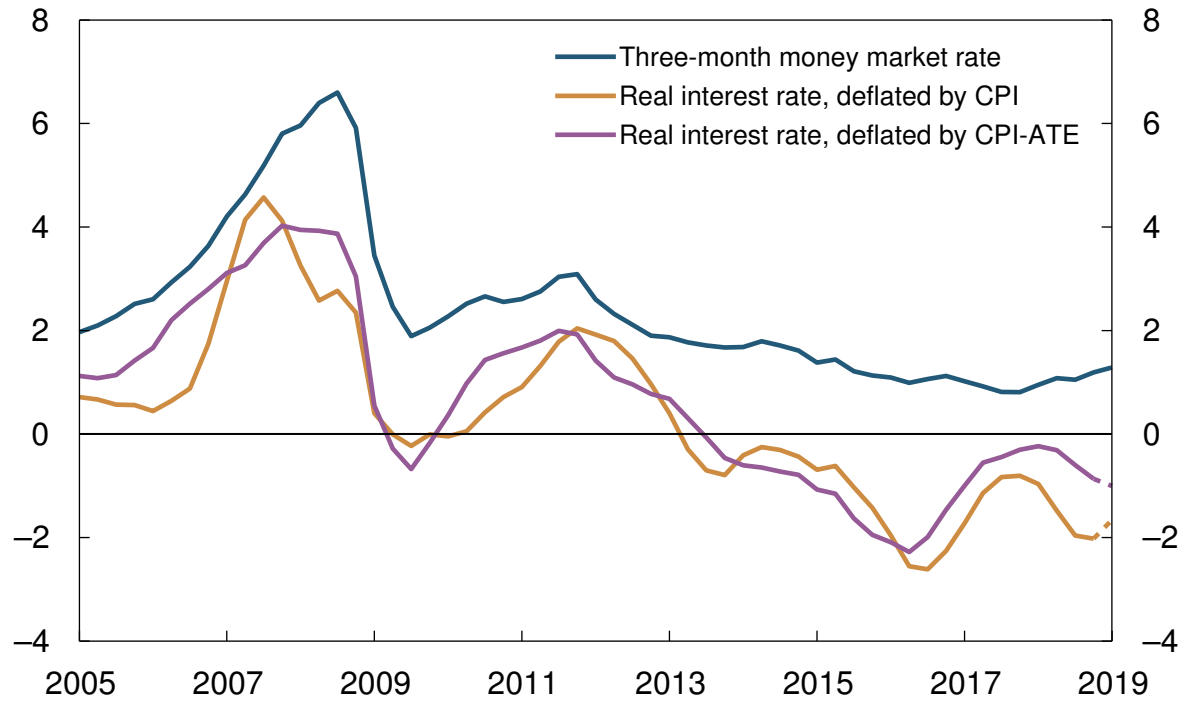
- Three-month money market rate
- Real interest rate, deflated by CPI
- Real interest rate, deflated by CPI-ATE

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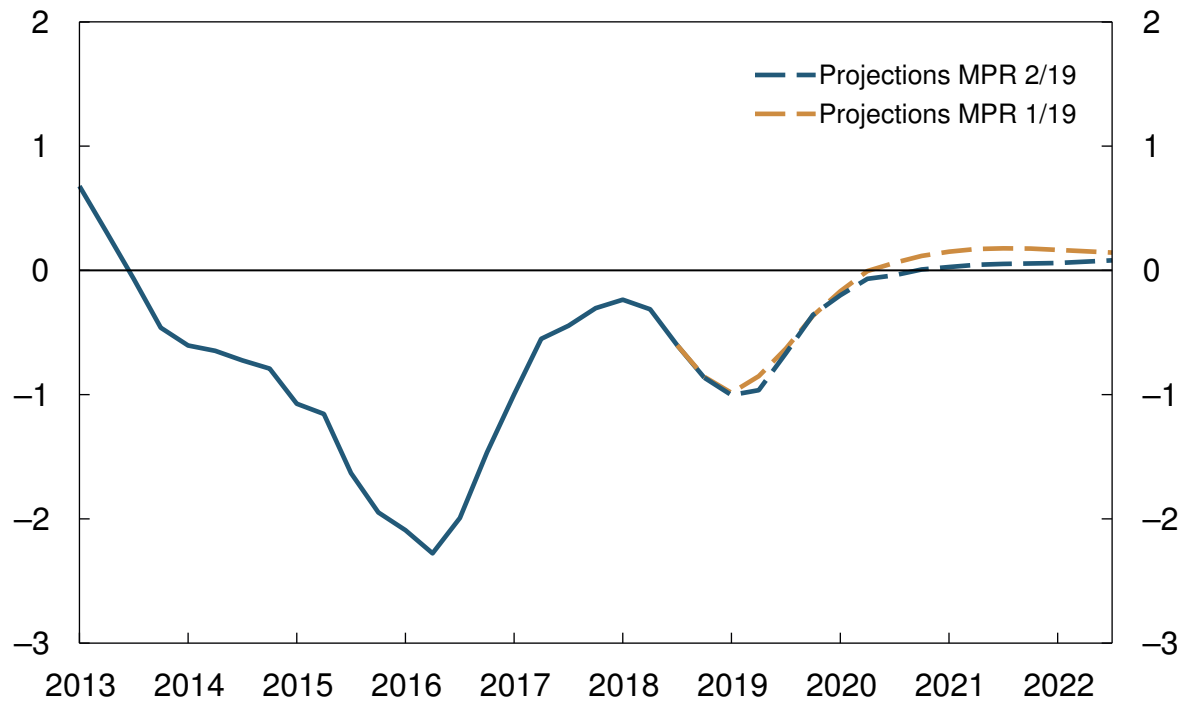Sources: Statistics Norway and Norges Bank

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

- - - Projections MPR 2/19
- - - Projections MPR 1/19

1) Projections for 2019 Q2 – 2022 Q4.
Source: Norges Bank

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

- - Projections MPR 2/19
- - Projections MPR 1/19

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

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]
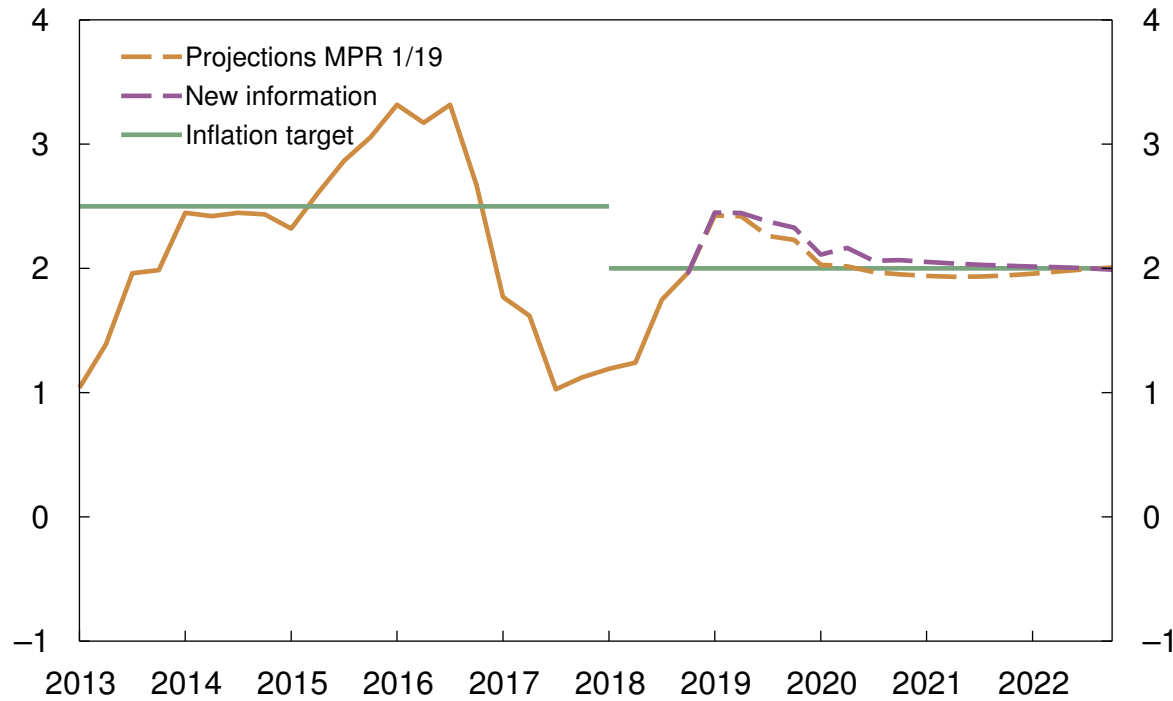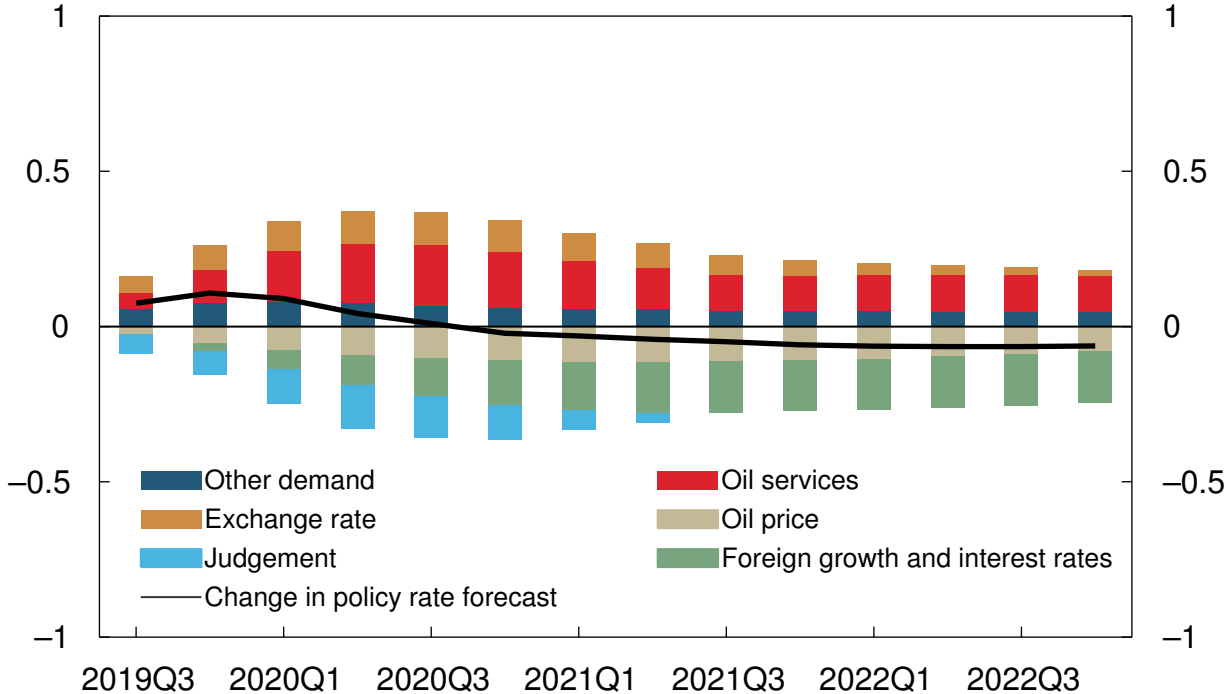

- – – Projections MPR 1/19
- – – New information
- —— Inflation target

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
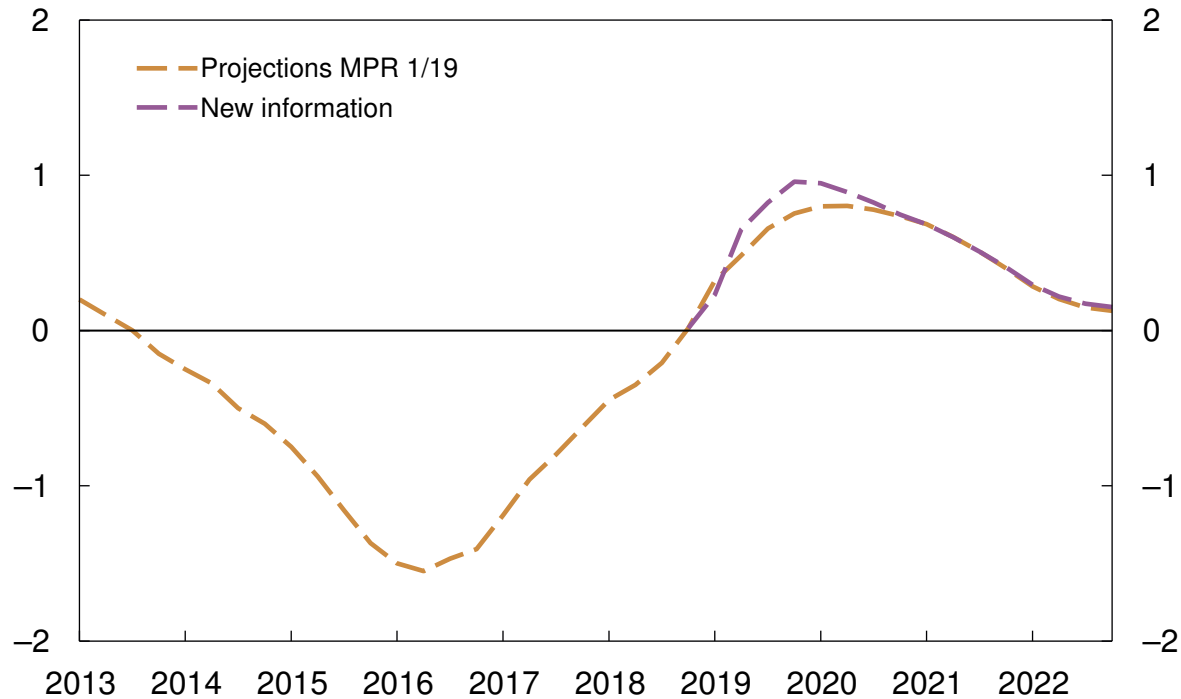

— — Projections MPR 1/19
— — New information

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

Chart 5.C Factors behind changes in policy rate forecast since MPR 1/19.
Cumulative contribution. Percentage points. 2019 Q3 – 2022 Q4

Legend:
- Other demand
- Exchange rate
- Judgement
- Change in policy rate forecast
- Oil services
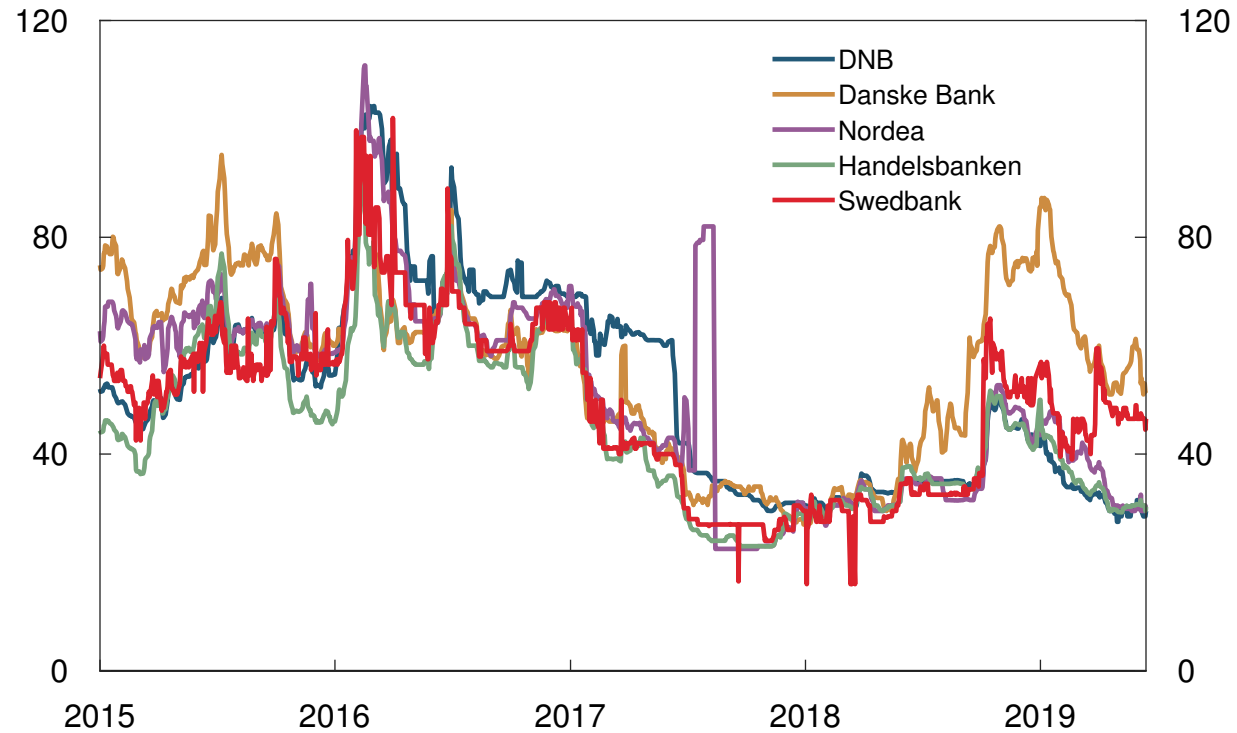- Oil price
- Foreign growth and interest rates

Source: Norges Bank

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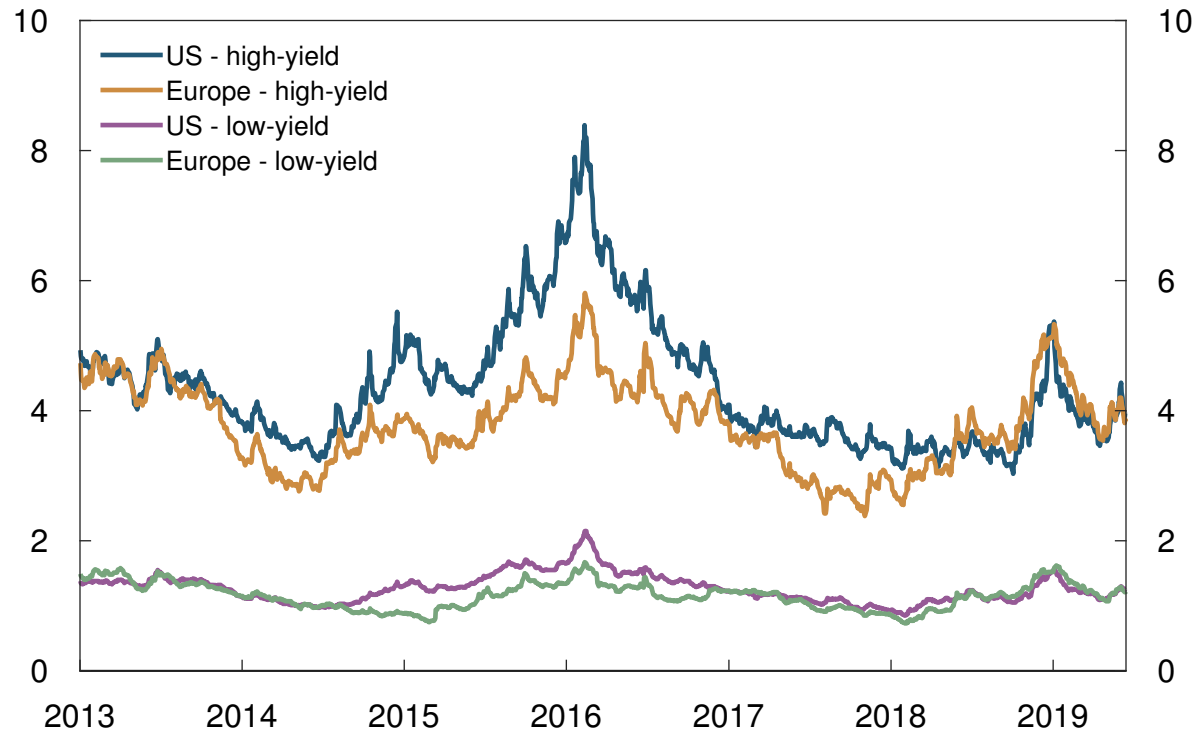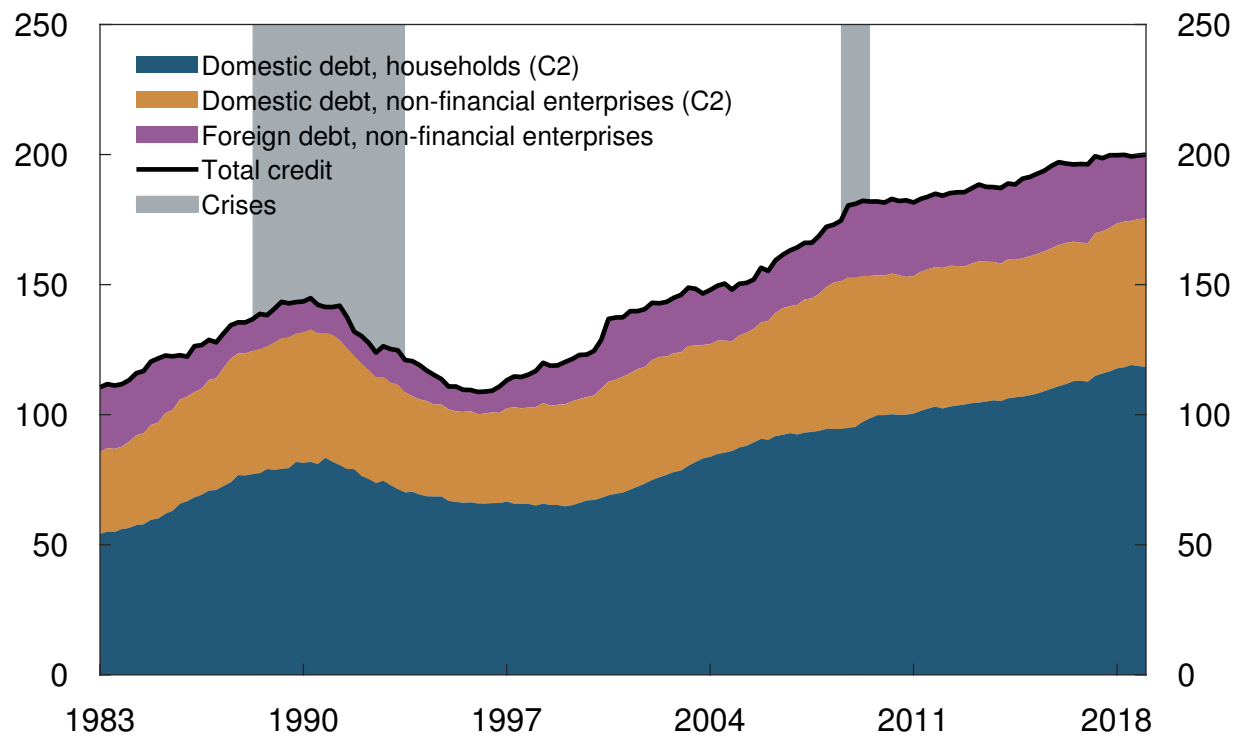
Source: Bloomberg

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

Legend:
- Domestic debt, households (C2)
- Domestic debt, non-financial enterprises (C2)
- Foreign debt, non-financial enterprises
- Total credit
- Crises

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


Domestic debt, households (C2)
Domestic debt, non-financial enterprises (C2)
Foreign debt, non-financial enterprises
Total credit
Crises
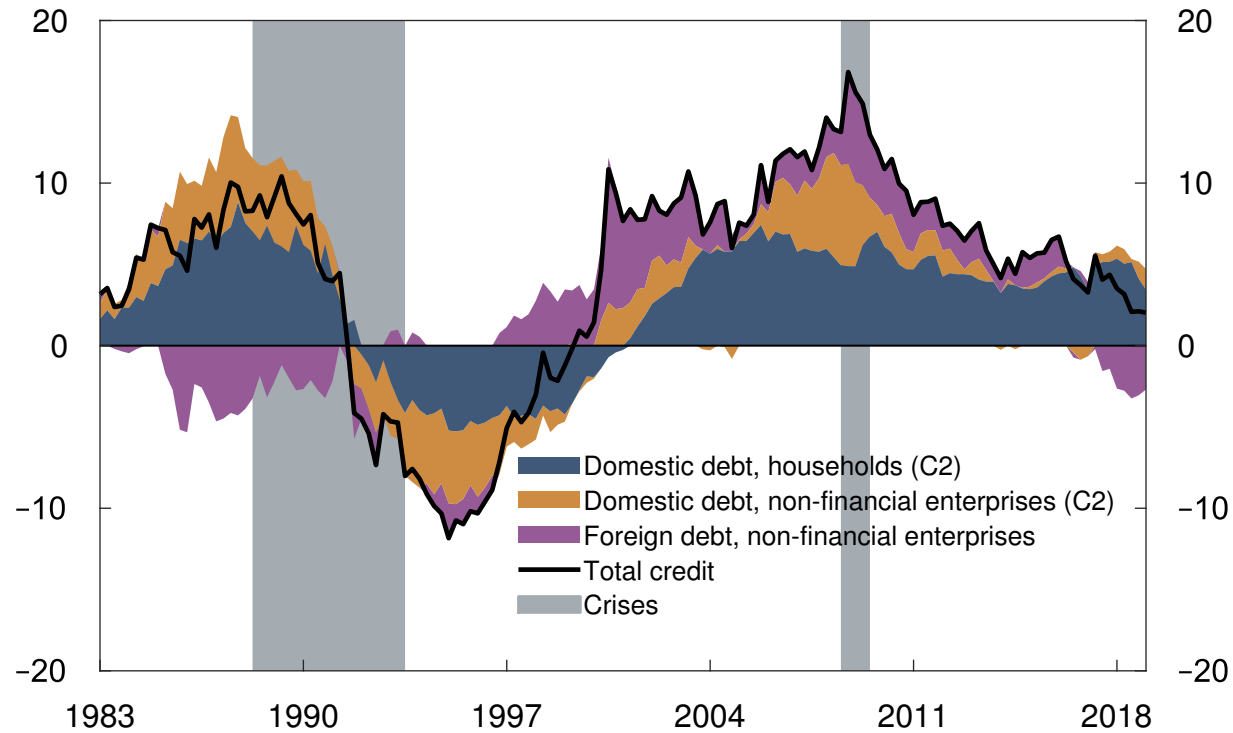
Sources: IMF, Statistics Norway and Norges Bank

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

- Debt ratio (left-hand scale)
- Debt service ratio (right-hand scale)
- Interest burden (right-hand scale)
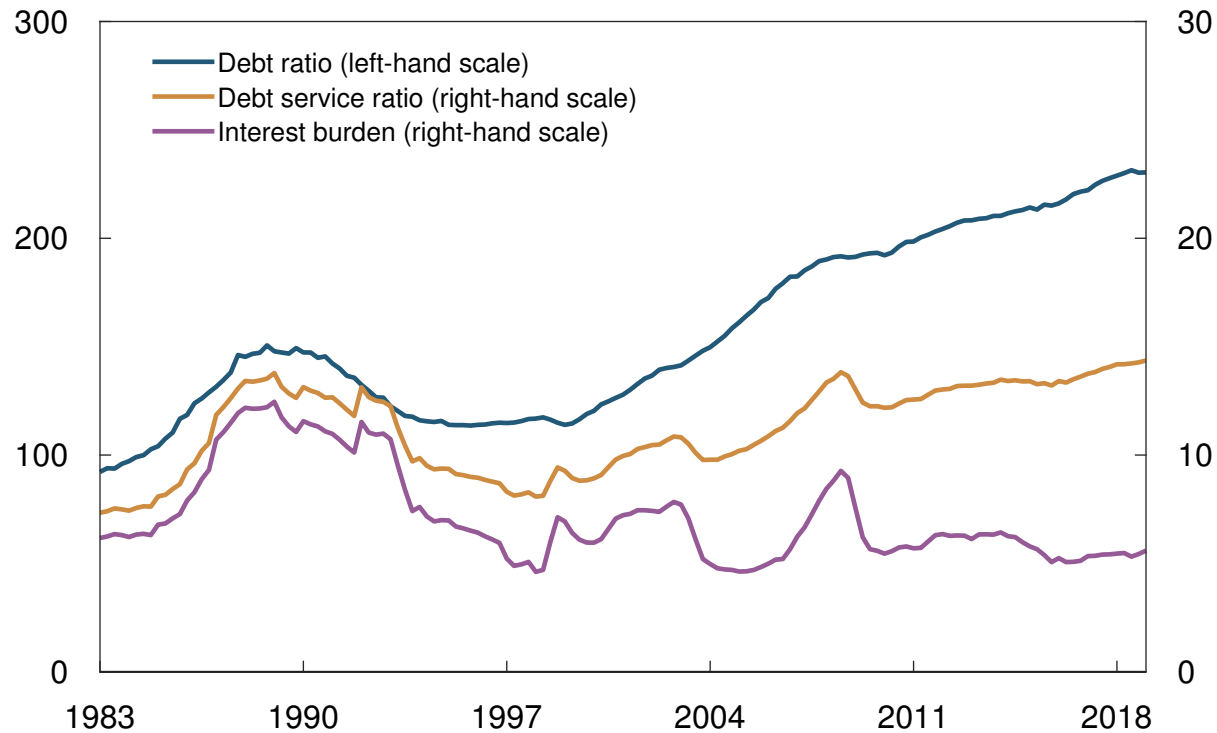
1) Loan debt as a percentage of disposable income. **2)** Ratio of interest payments and estimated principal payments to the sum of disposable income and interest payments. **3)** Interest expenses as a percentage of disposable income plus interest expenses.
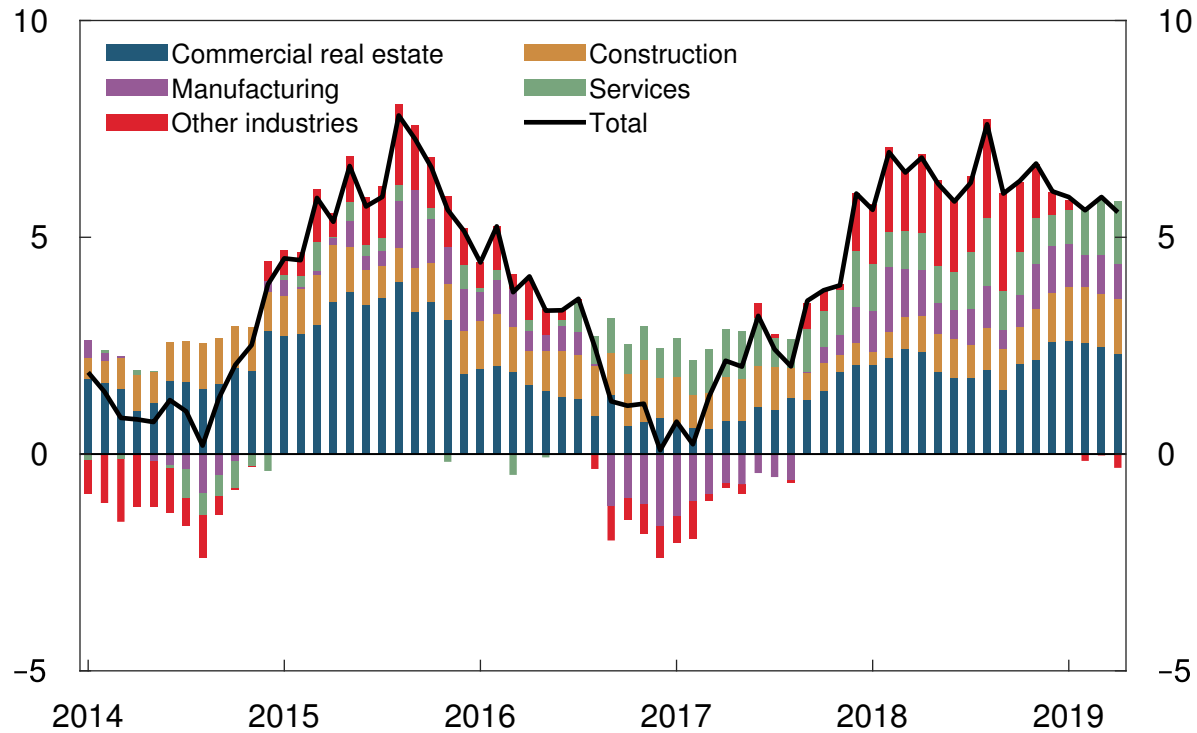Sources: Statistics Norway and Norges Bank

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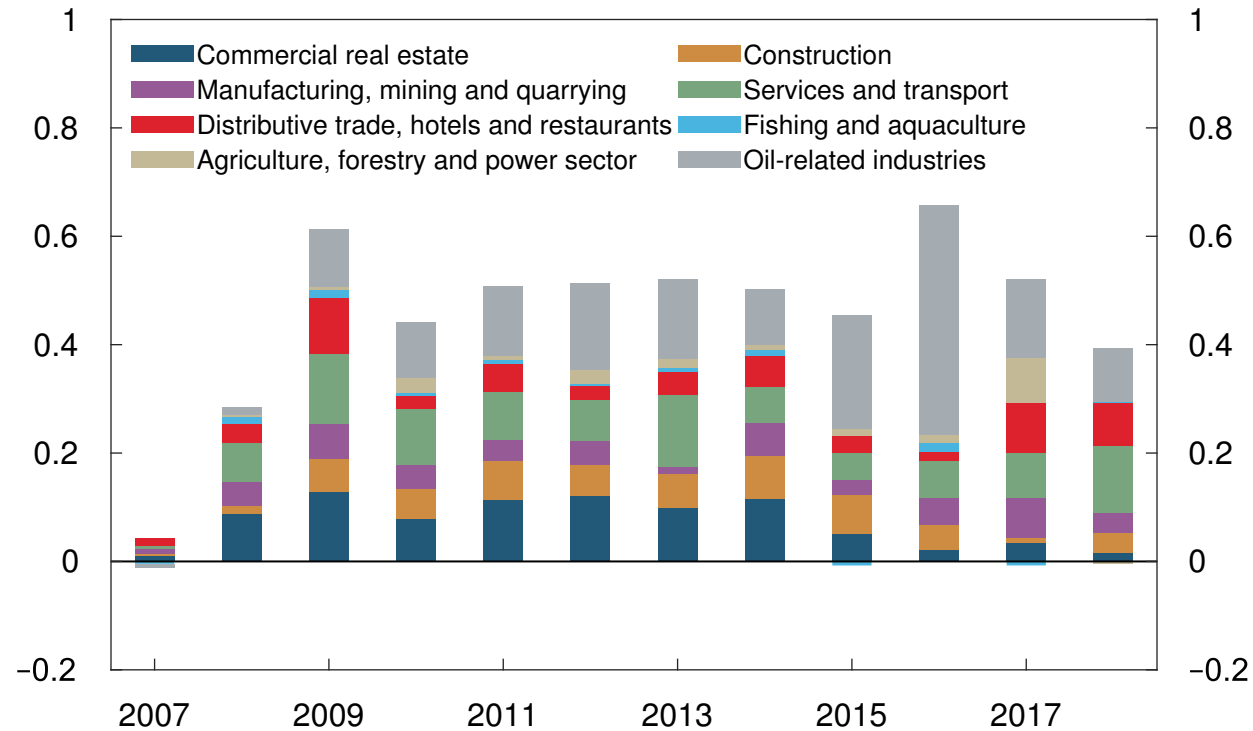

Households
Non-financial enterprises
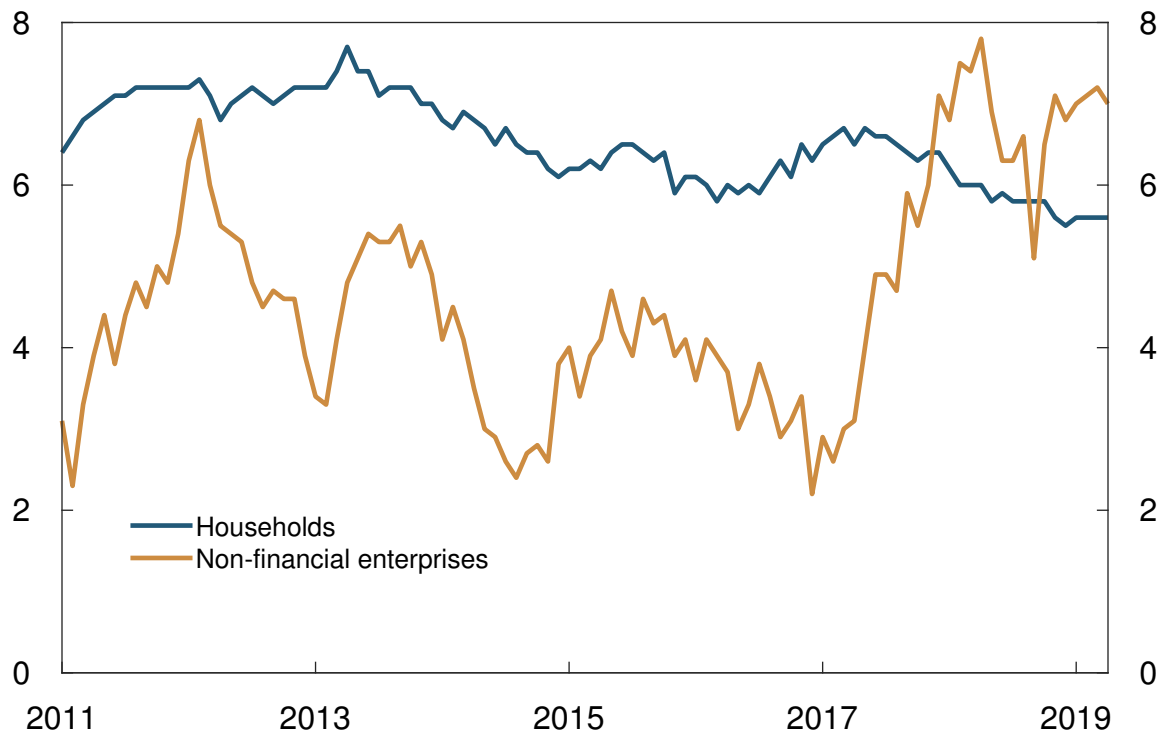
Sources: Statistics Norway and Norges Bank

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
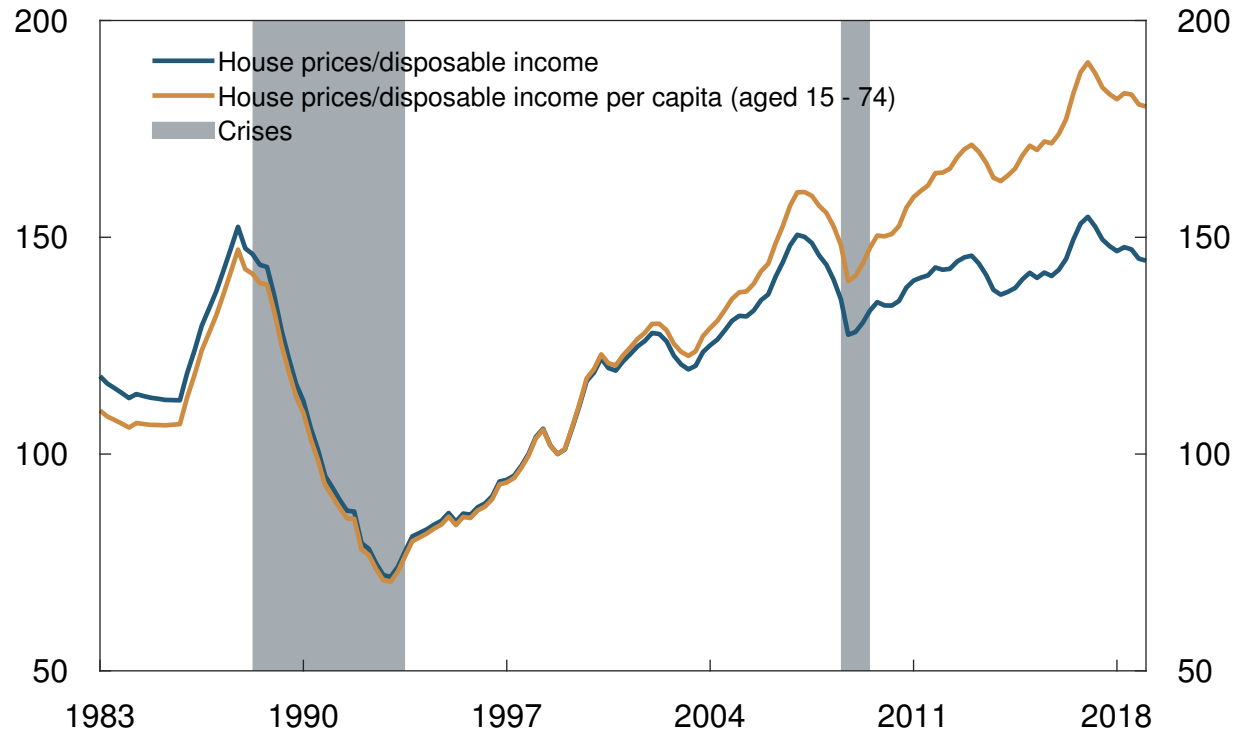

Sources: Statistics Norway and Norges Bank

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

Legend:
- Commercial real estate
- Construction
- Manufacturing, mining and quarrying
- Services and transport
- Distributive trade, hotels and restaurants
- Fishing and aquaculture
- Agriculture, forestry and power sector
- Oil-related industries

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

House prices/disposable income
House prices/disposable income per capita (aged 15 - 74)
Crises

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

Seasonally adjusted monthly change (l.h.s)
Twelve-month change (r.h.s)
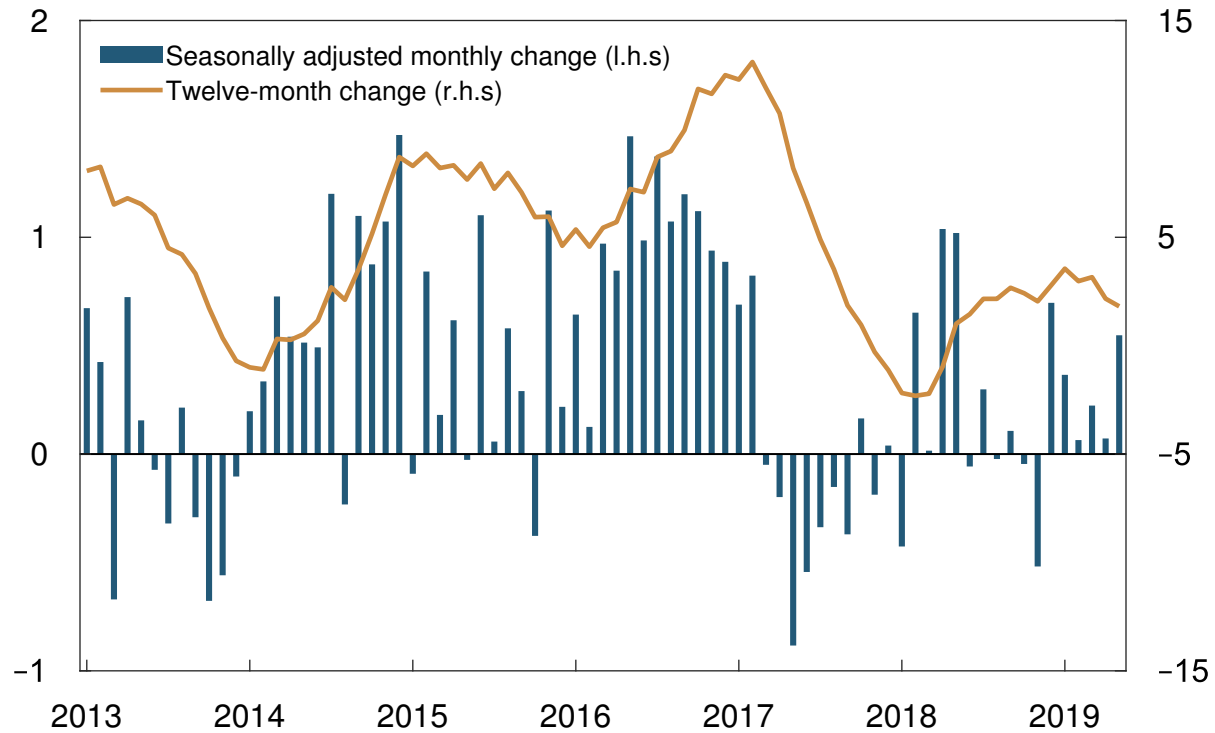
Sources: Eiendomsverdi, Finn.no and Real Estate Norway

Chart 6.11 House prices. Index. Seasonally adjusted. January 2003 = 100.
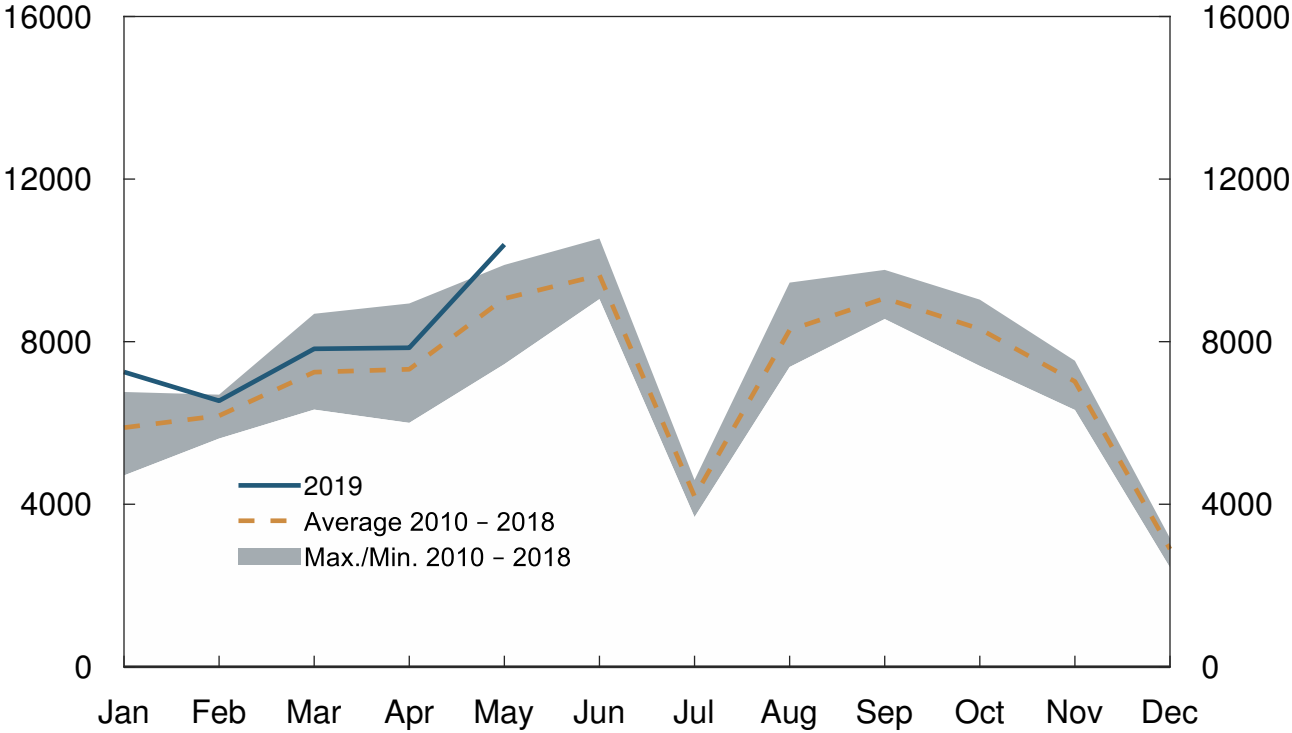January 2003 – May 2019
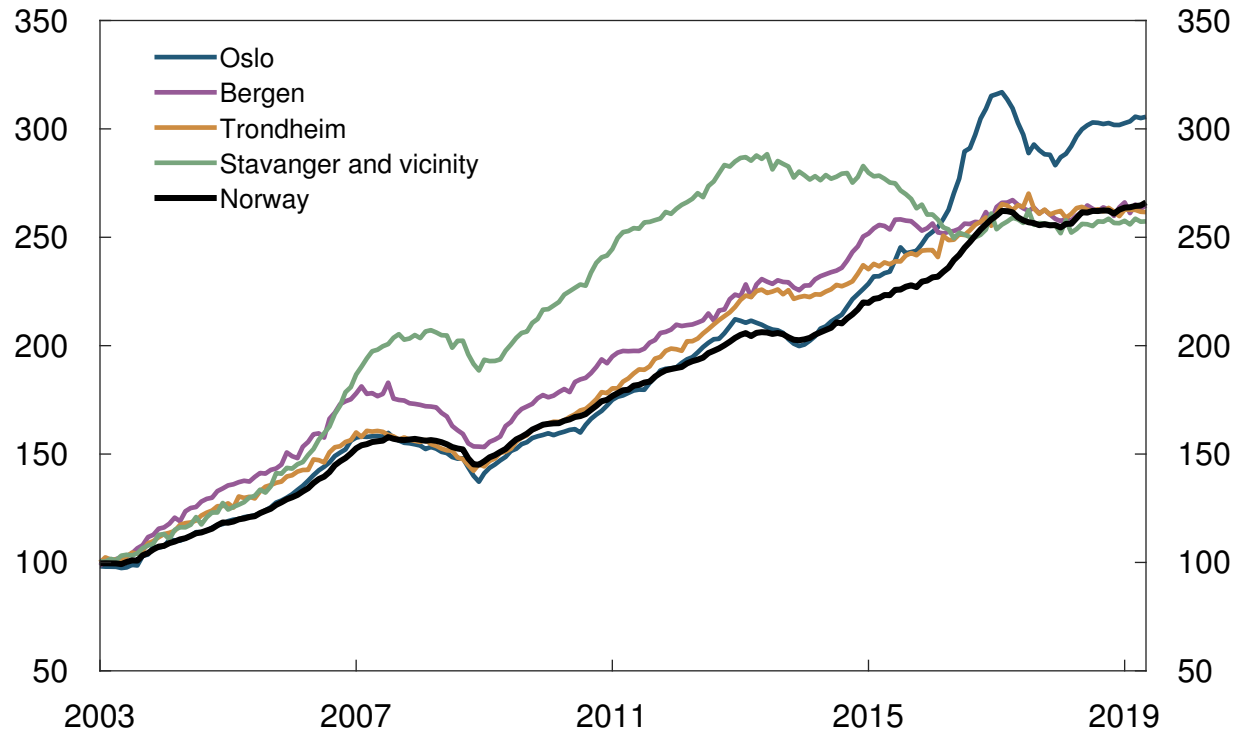
Sources: Eiendomsverdi, Finn.no and Real Estate Norway

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

- 2019
- Average 2010 - 2018
- Max/Min. 2010 - 2018

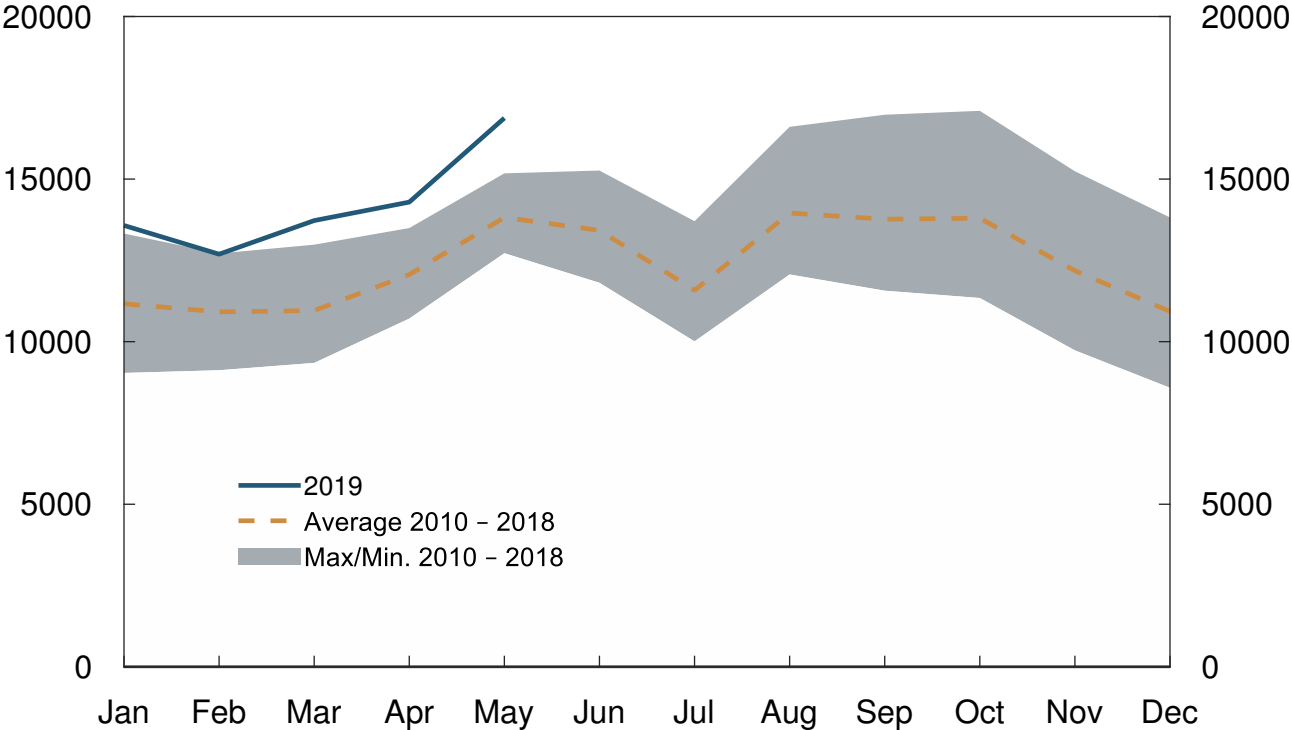Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
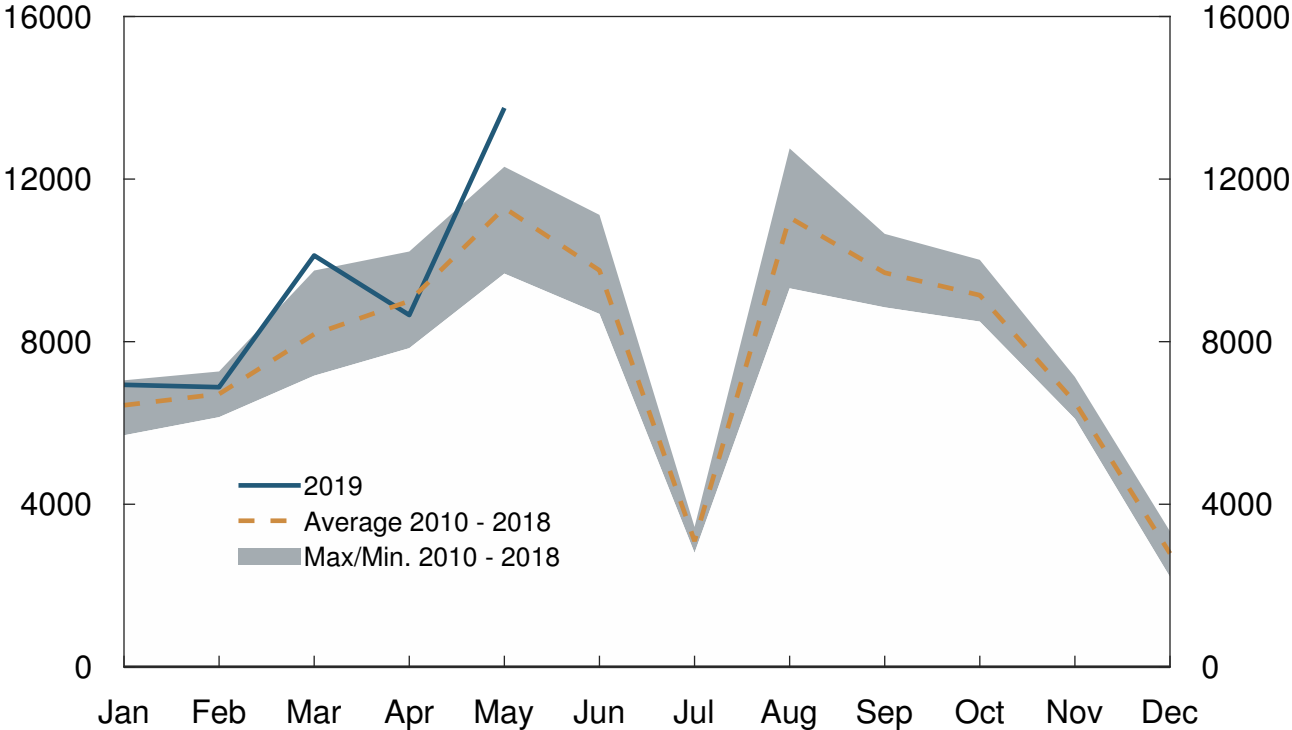
Sources: Eiendomsverdi, Finn.no and Real Estate Norway

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

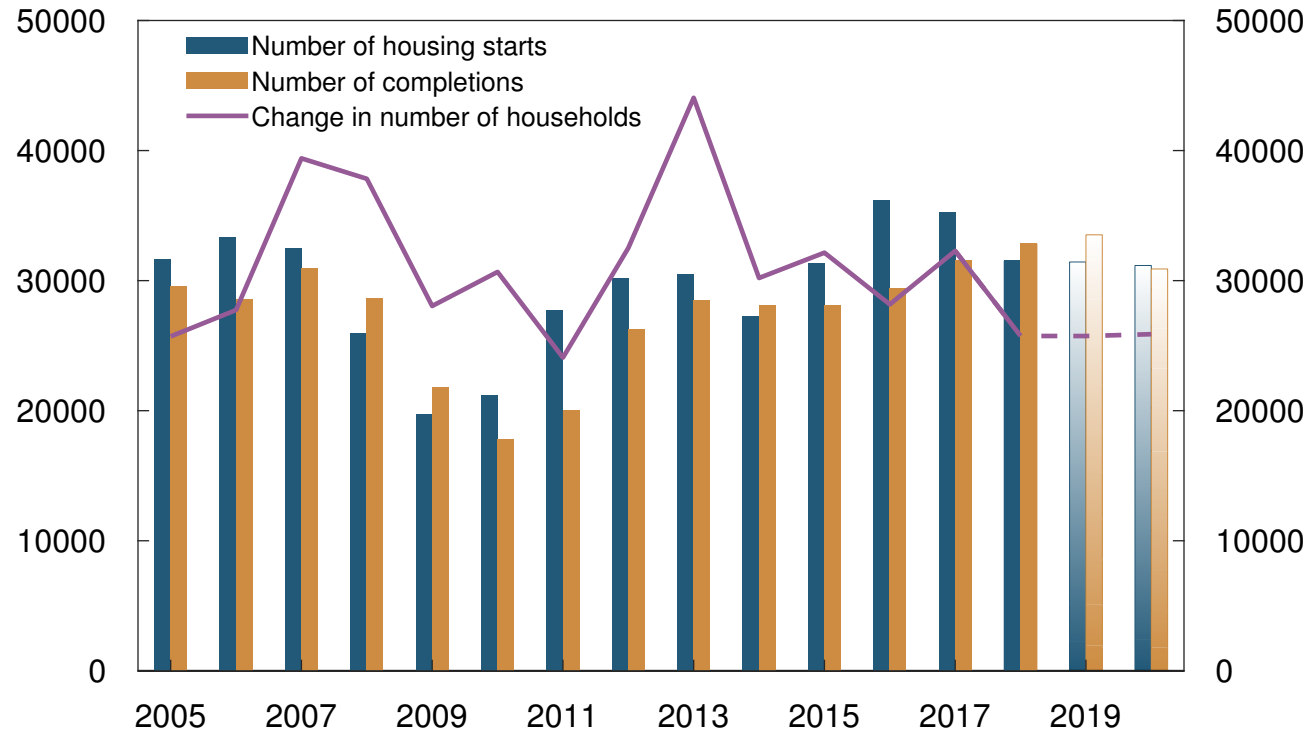Sources: Eiendomsverdi, Finn.no and Real Estate Norway

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


2019
Average 2010 – 2018
Max/Min. 2010 – 2018

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

Crises

1983   1990   1997   2004   2011   2018
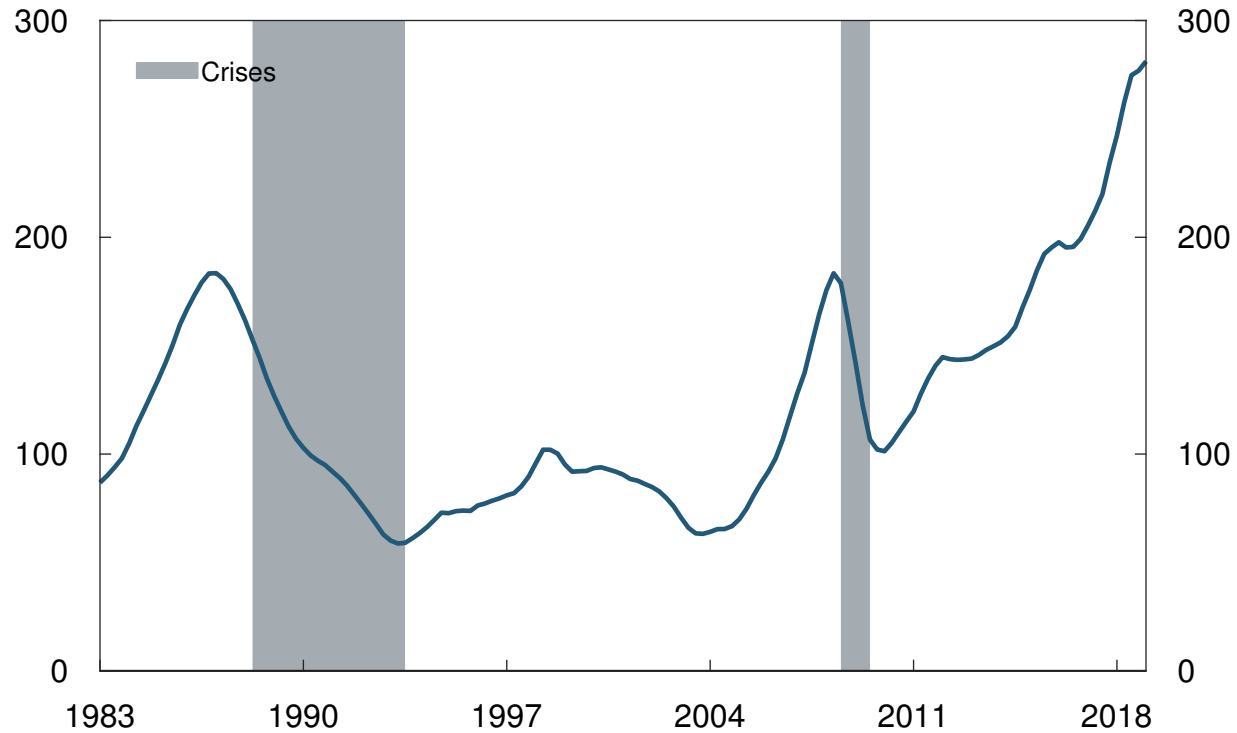
1) Estimated real selling prices per square metre for prime office space in Oslo. Deflated by GDP deflator for mainland Norway. Average selling price for the previous four quarters.
Sources: CBRE, Dagens Næringsliv, OPAK, Statistics Norway and Norges Bank

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

Vika-Aker Brygge
Central Oslo
Oslo
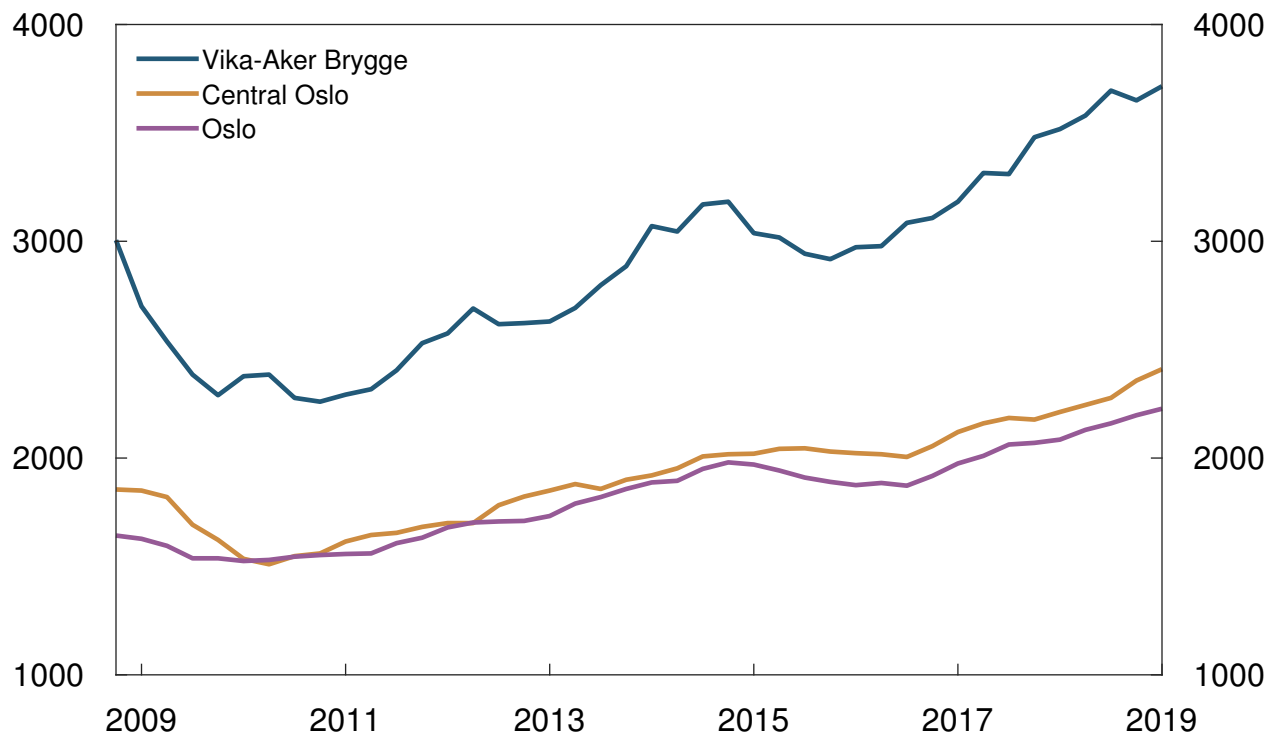
Source: Arealstatistikk

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

Non-prime yields[1]
Prime yields
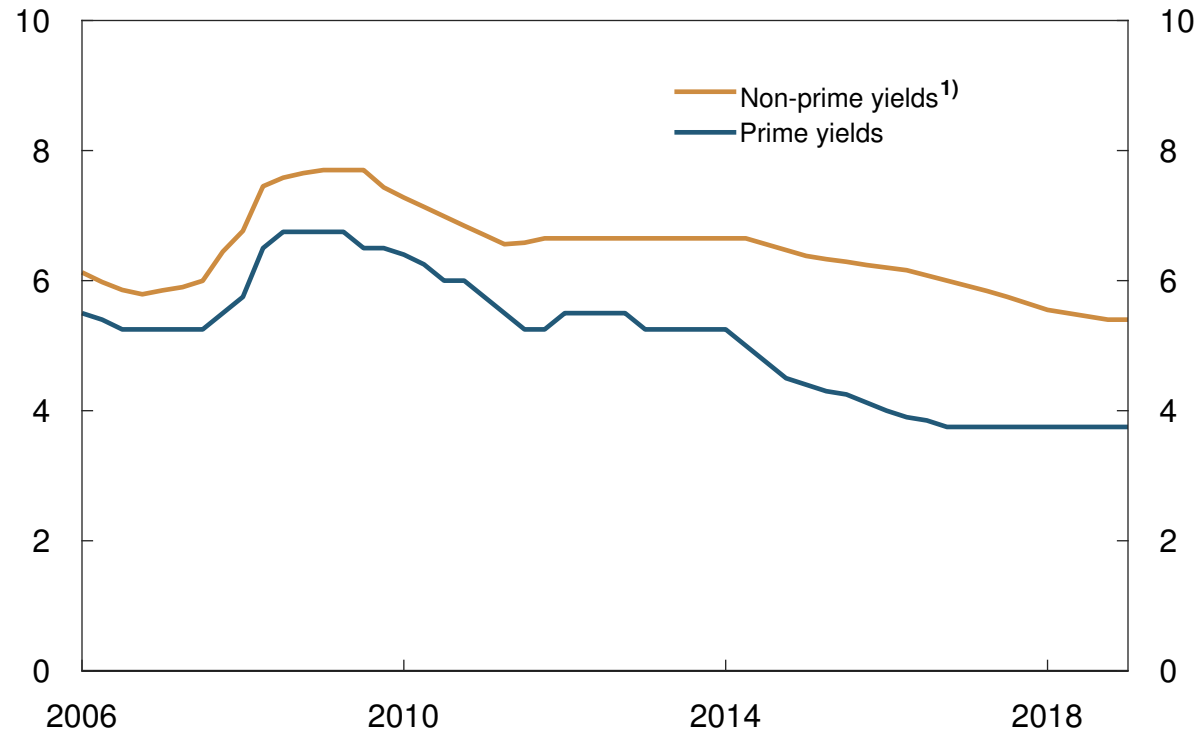
1) Property along Ring 3. Five-year lease.
Source: DNB Næringsmegling

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

Legend:
- Quarterly return on equity (annualised)
- Four-quarter moving average

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

Legend: Net interest income, Other operating income, Labour costs, Other operating costs, Loan losses, Pre-tax profit

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

■ CET1 capital ratio
◆ Banks' long-term capital target

9.3 | 10.4 | 11.4 | 12.3 | 14.0 | 15.5 | 15.9 | 16.0 | 16.2

2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 Q1
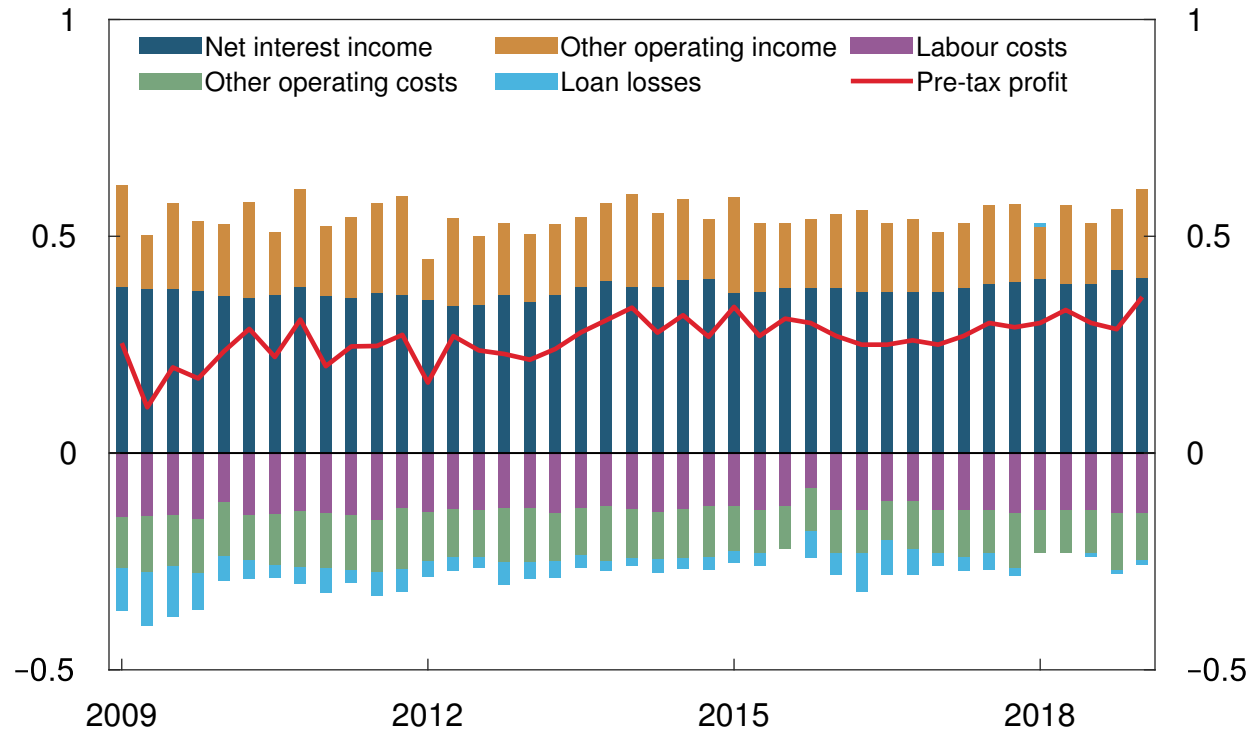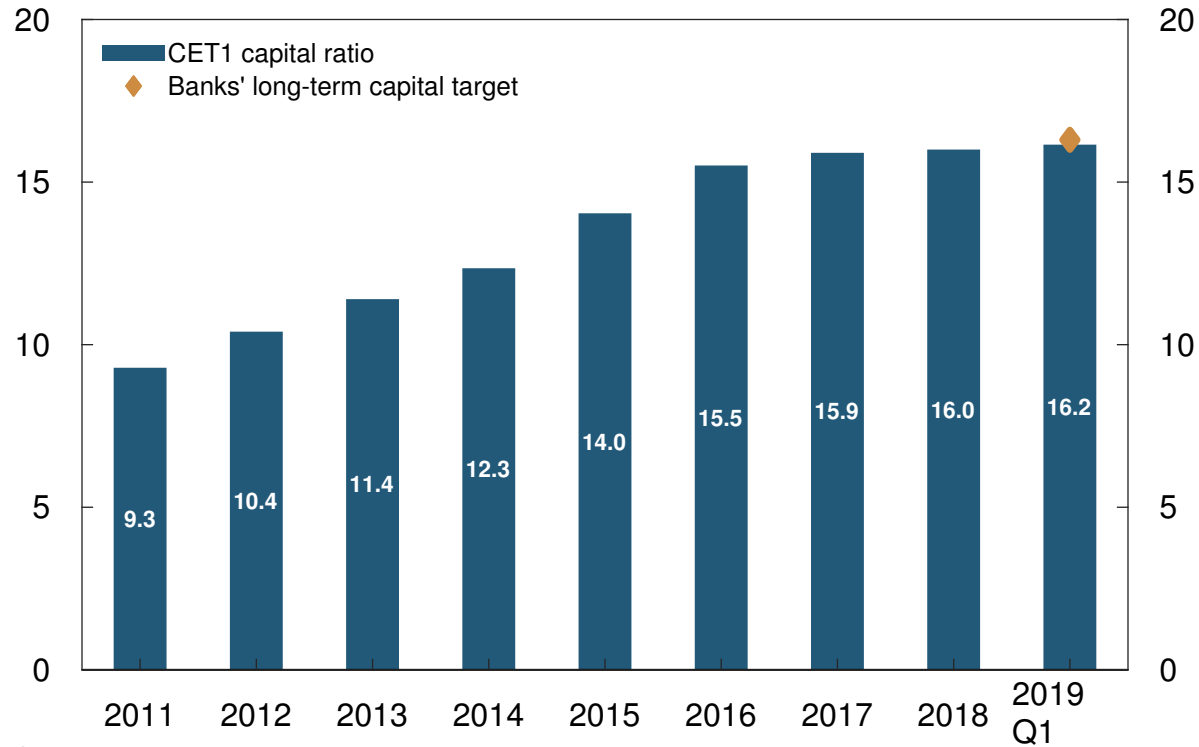
Sources: Banks' quarterly reports and Norges Bank

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

- Equity Certificate Index (OSEEX)
- Bank Index (OSE4010GI)
- Benchmark Index (OSEBX)
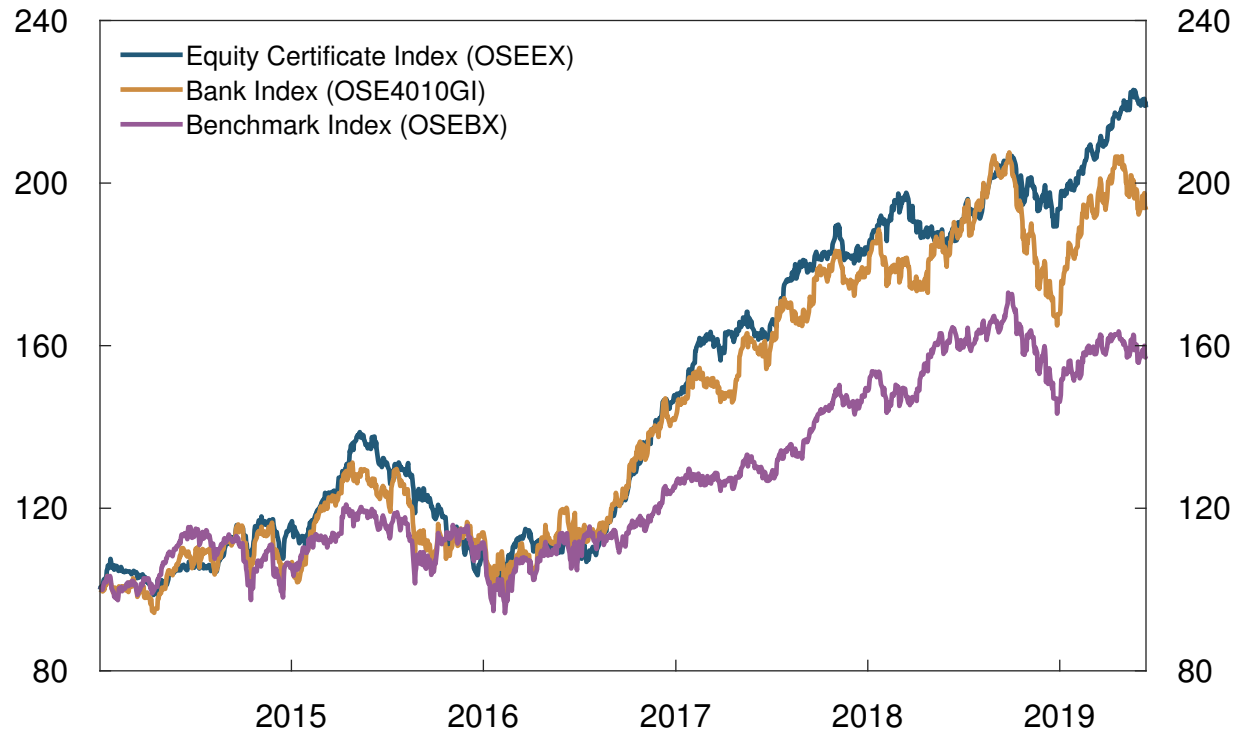
Source: Thomson Reuters

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

Banking crisis   Financial crisis

Risk appetite
Asset
valuations
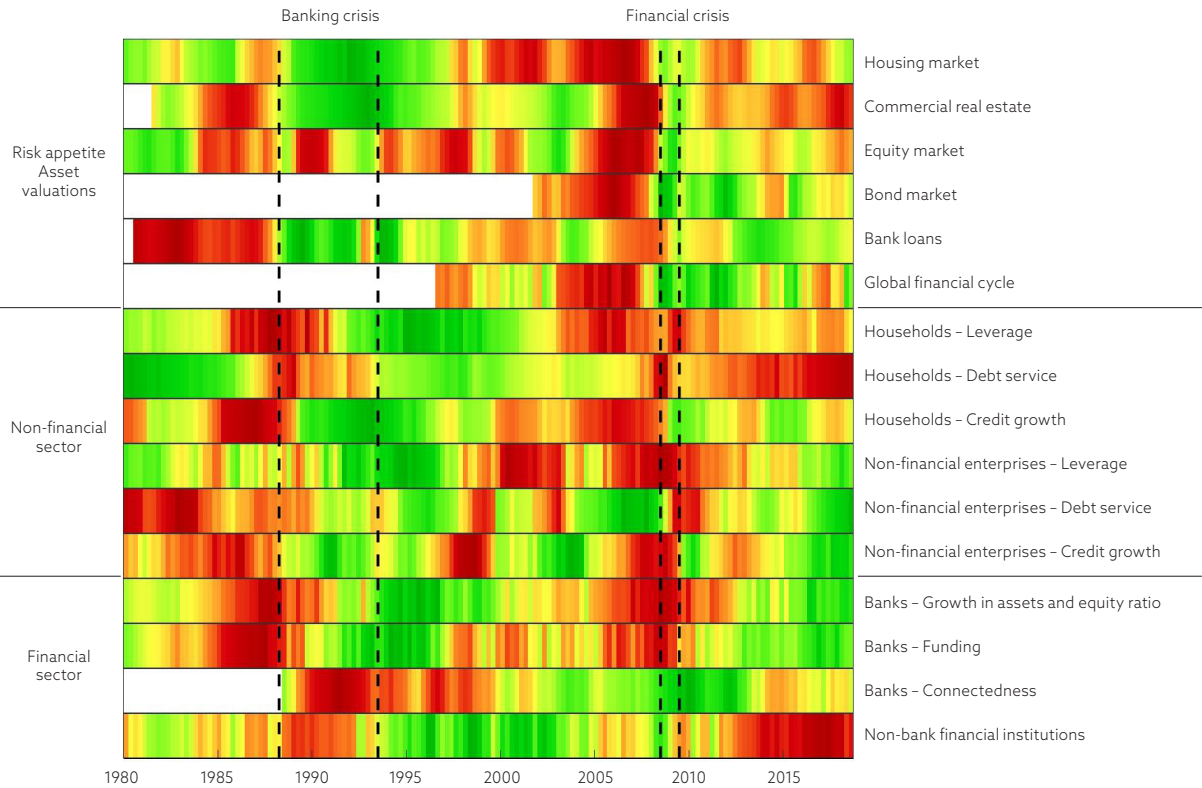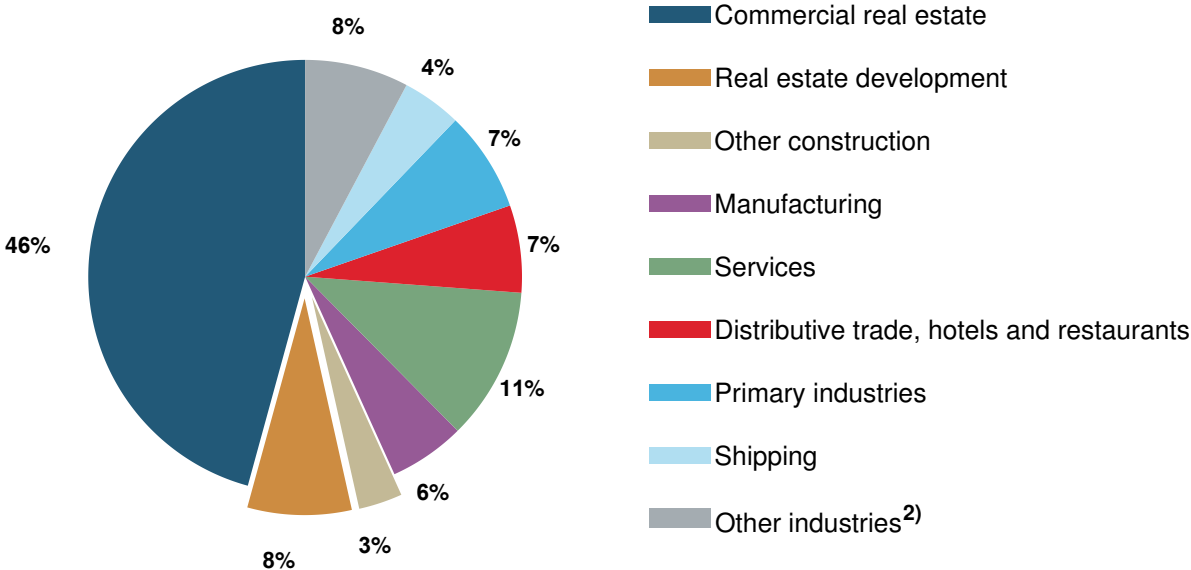
Housing market

Commercial real estate

Equity market

Bond market

Bank loans

Global financial cycle

Non-financial
sector

Households – Leverage

Households – Debt service

Households – Credit growth

Non-financial enterprises – Leverage

Non-financial enterprises – Debt service

Non-financial enterprises – Credit growth

Financial
sector

Banks – Growth in assets and equity ratio

Banks – Funding

Banks – Connectedness

Non-bank financial institutions

1980   1985   1990   1995   2000   2005   2010   2015

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

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

- Commercial real estate
- Real estate development
- Other construction
- Manufacturing
- Services
- Distributive trade, hotels and restaurants
- Primary industries
- Shipping
- Other industries[2]

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

Legend:
- Real estate development
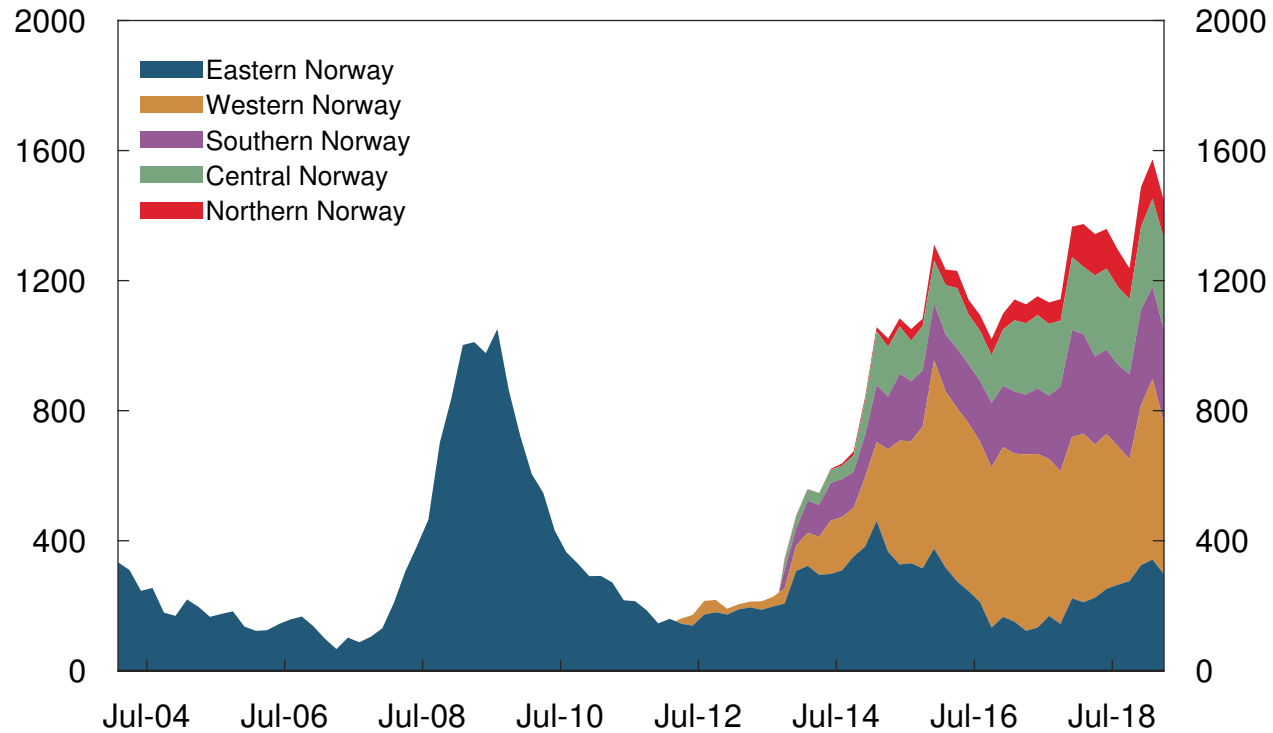- Other construction
- Sector total
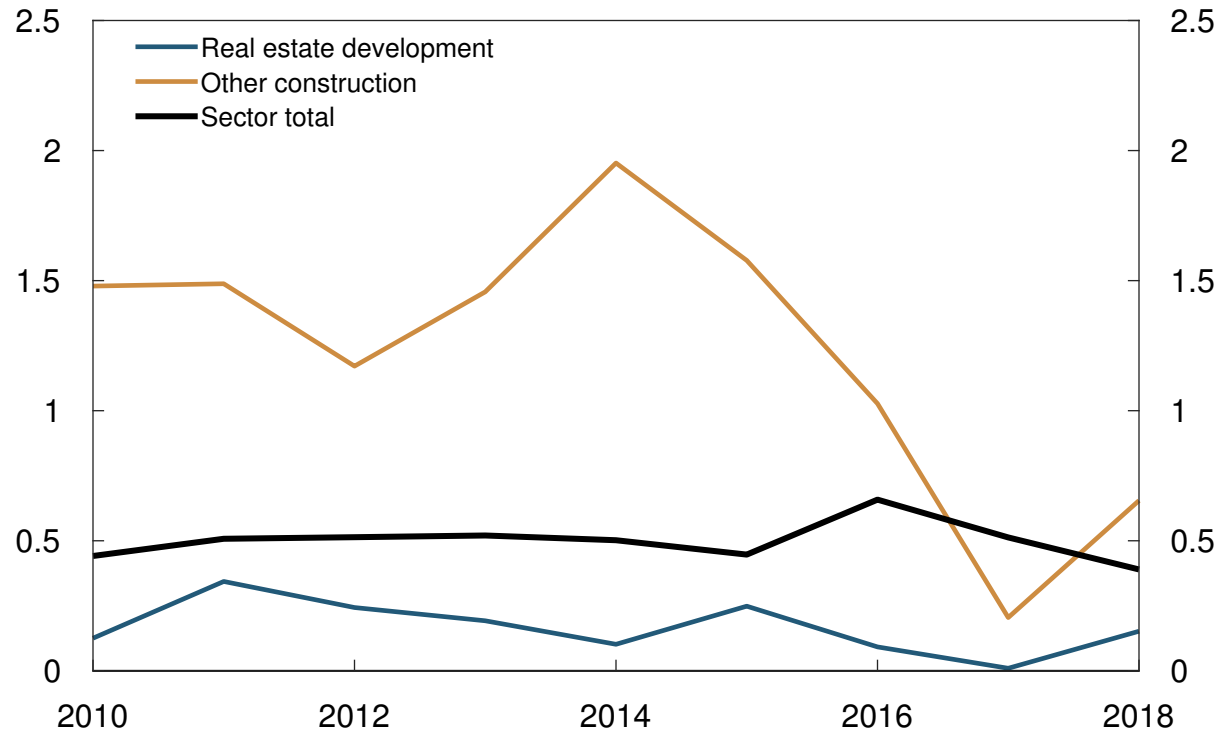
1) Branches of foreign banks are not included, except for Nordea.
Source: Norges Bank

Chart 6.D Unsold new homes.[1] Number of units. October 2013 – April 2019
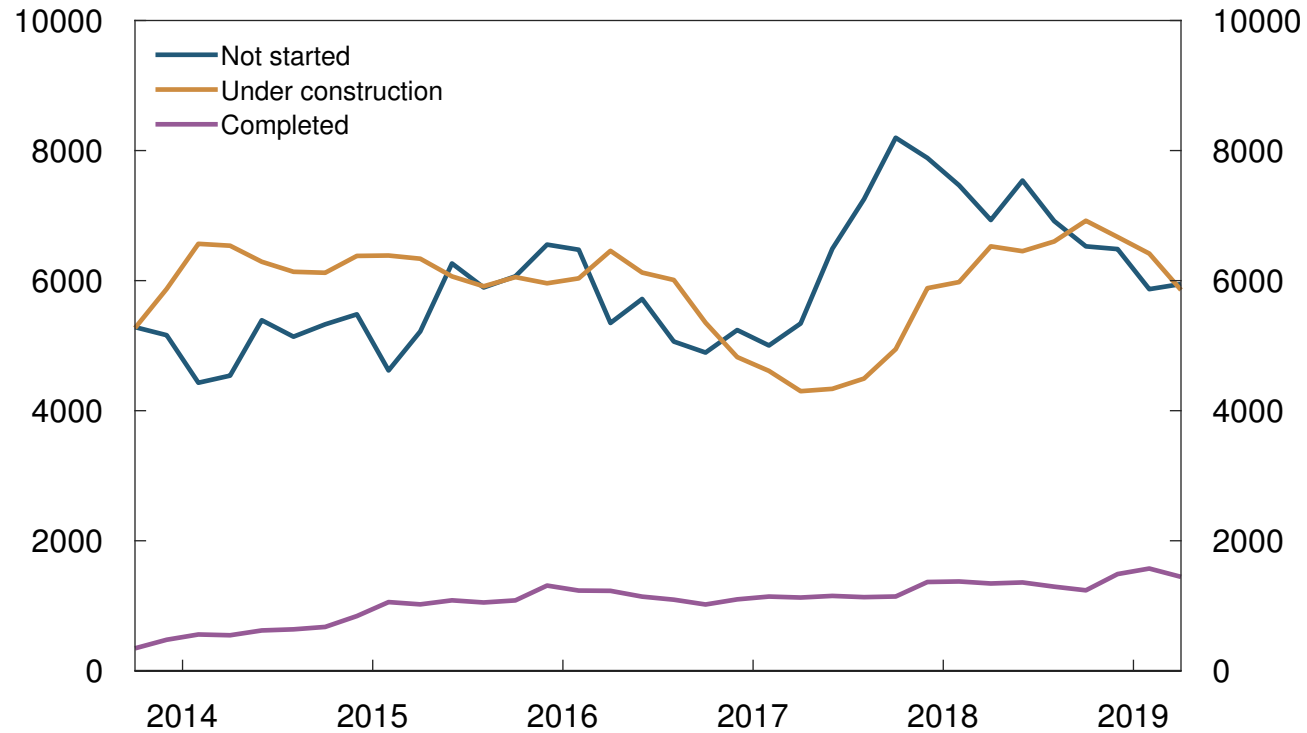
1) This statistic covers all projects with more than 15 units.
Sources: ECON and Economics Norway

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

1) The 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