Chart 1.1a Policy rate with fan chart[1].
Percent. 2013 Q1 – 2022 Q4 [2]
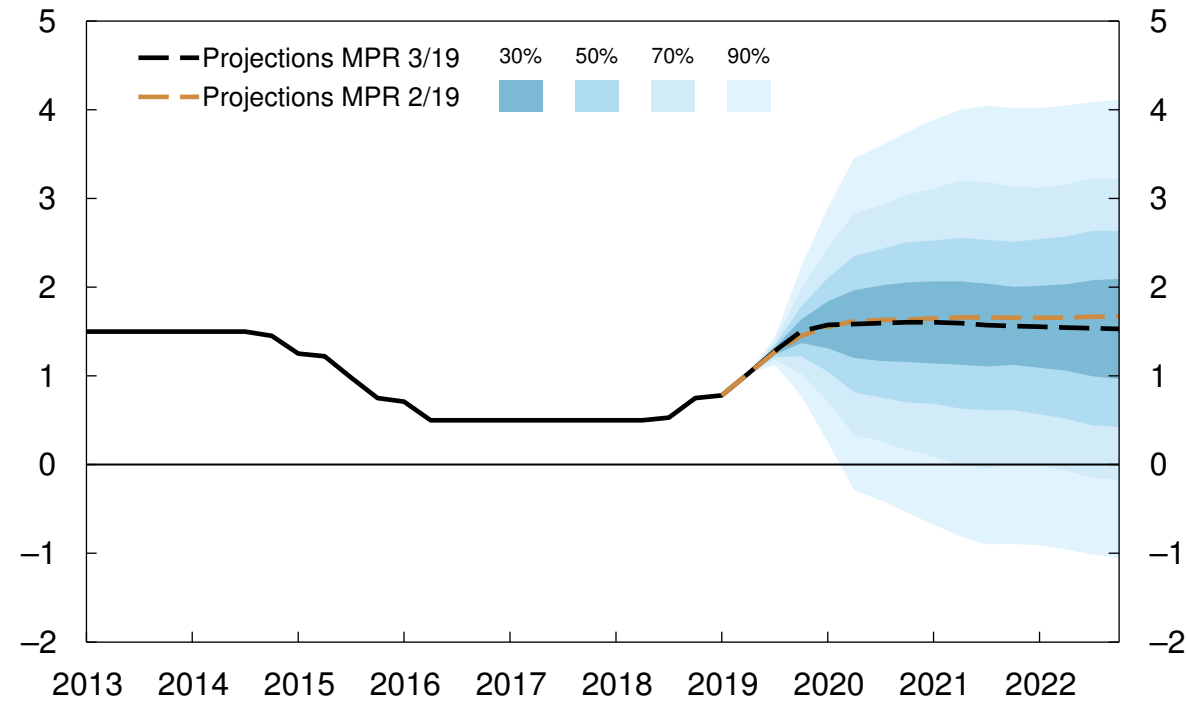
Legend:
- – – Projections MPR 3/19
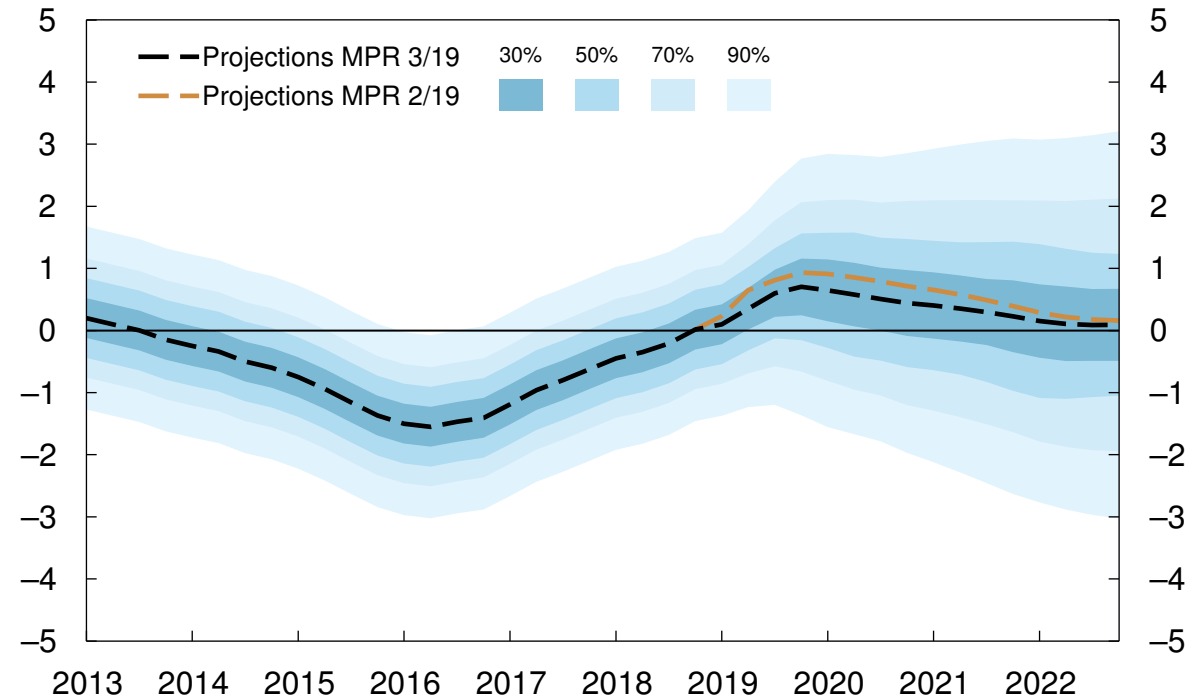- – – Projections MPR 2/19
- 30% 50% 70% 90%

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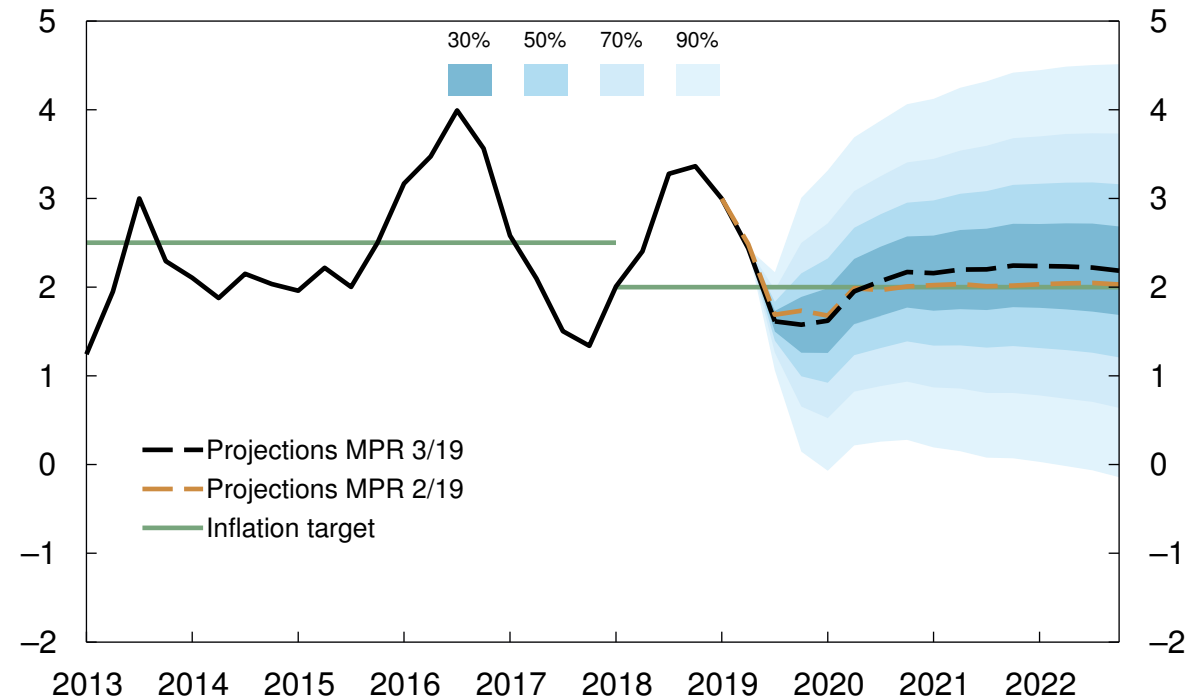**2)** Projections for 2019 Q3 – 2022 Q4.
Source: Norges Bank

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

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

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

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

Chart 1.1d CPI-ATE[1] with fan chart [2].
Four-quarter change. Percent. 2013 Q1 – 2022 Q4[3]
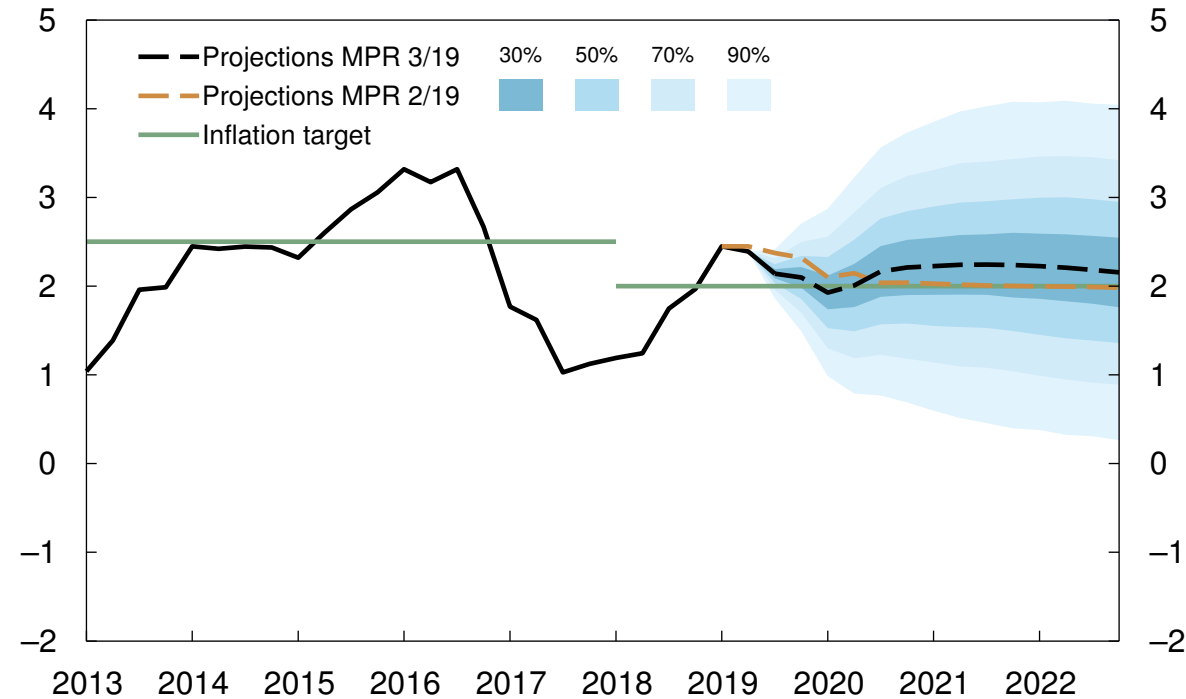
1) CPI adjusted for tax changes and excluding energy products. **2)** The fan chart is based on historical experience and stochastic simulations in Norges Bank's main macroeconomic model, NEMO.
**3)** Projections for 2019 Q3 – 2022 Q4.
Sources: Statistics Norway and Norges Bank

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

- - - Projections MPR 3/19
- - - Projections MPR 2/19
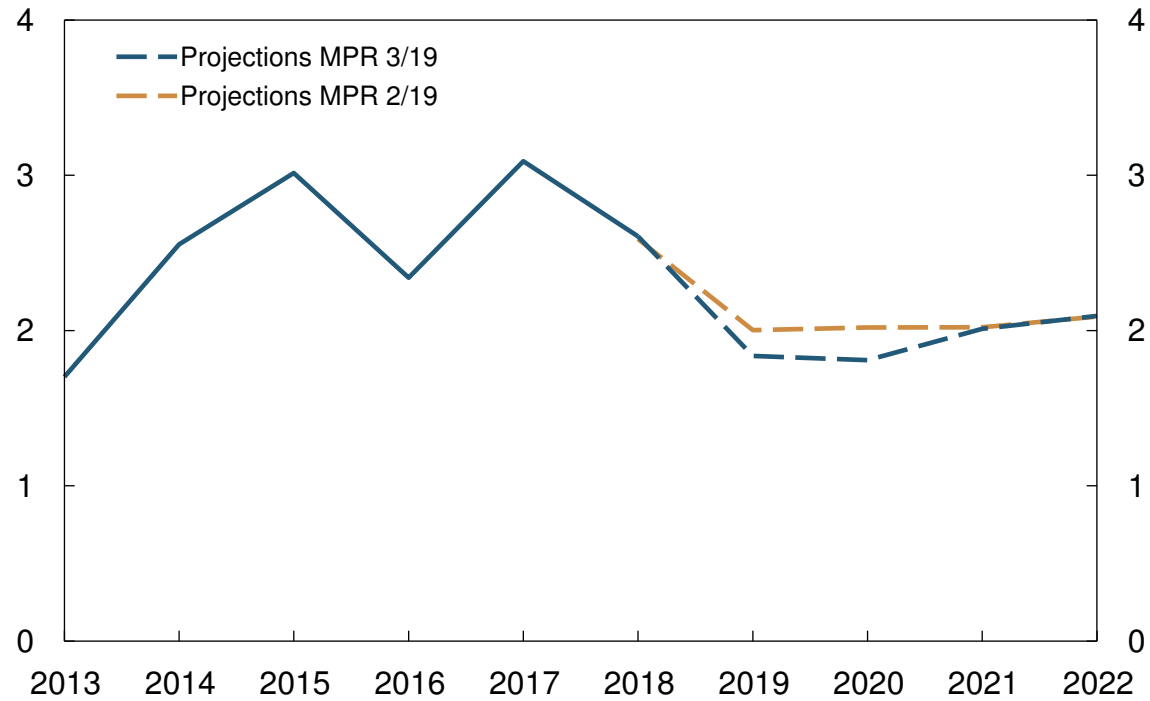
1) Export weights. Twenty-five main trading partners. 2) Projections for 2019 – 2022.
Sources: Thomson Reuters and Norges Bank

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

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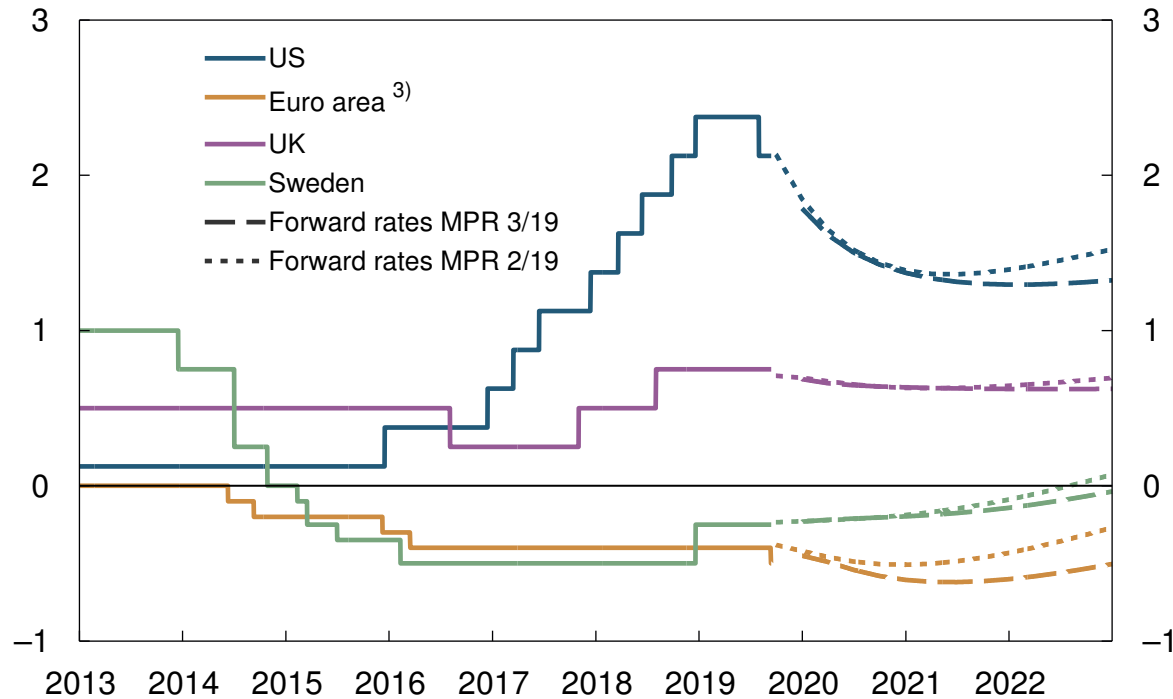
1) Forward rates at 14 June 2019 (MPR 2/19) and 13 September 2019 (MPR 3/19). Forward rates are estimated based on Overnight Index Swap (OIS) rates. **2)** Daily data through 13 September 2019. Quarterly data from 2019 Q4. **3)** ECB deposit facility rate.
Sources: Bloomberg, Thomson Reuters and Norges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

Chart 1.4 Oil price.[1] USD/barrel. January 2013 – December 2022 [2]
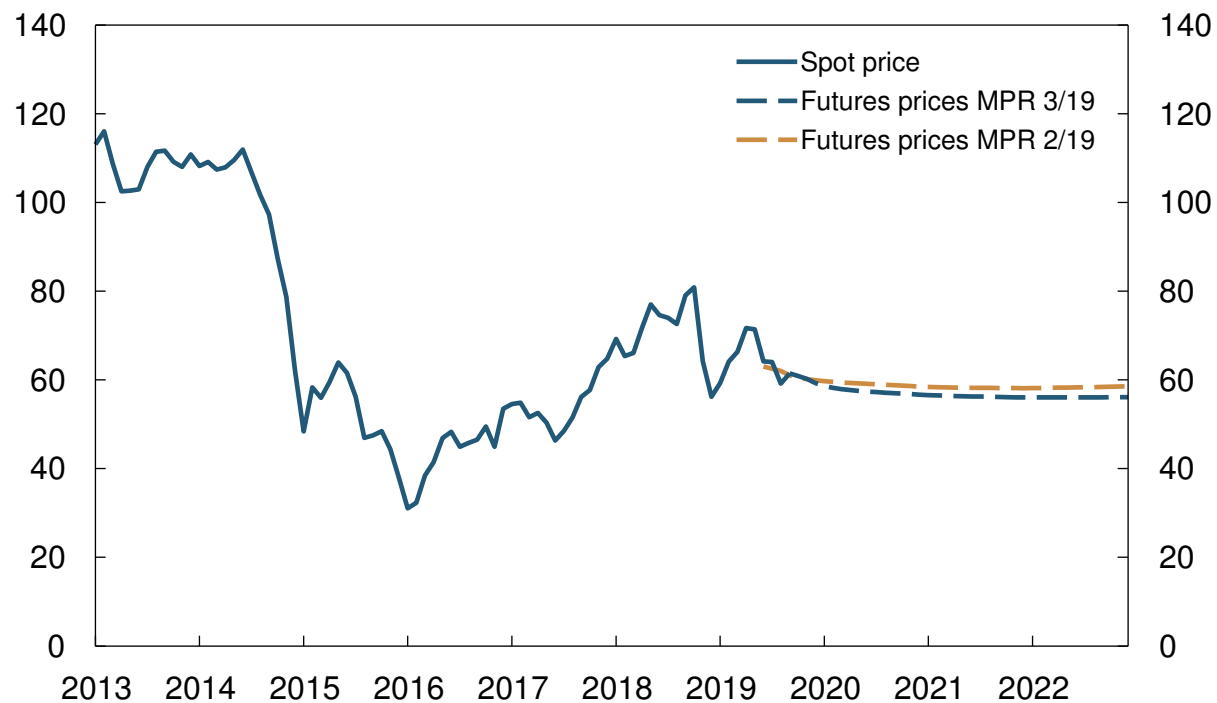
1) Brent Blend. 2) Futures prices on 14 June 2019 (MPR 2/19) and on 13 September 2019 (MPR 3/19).
Sources: Thomson Reuters and Norges Bank

Chart 1.5 GDP for mainland Norway[1] and the Regional Network's indicator of output growth [2]. Quarterly change. Percent. 2013 Q1 – 2019 Q4[3]
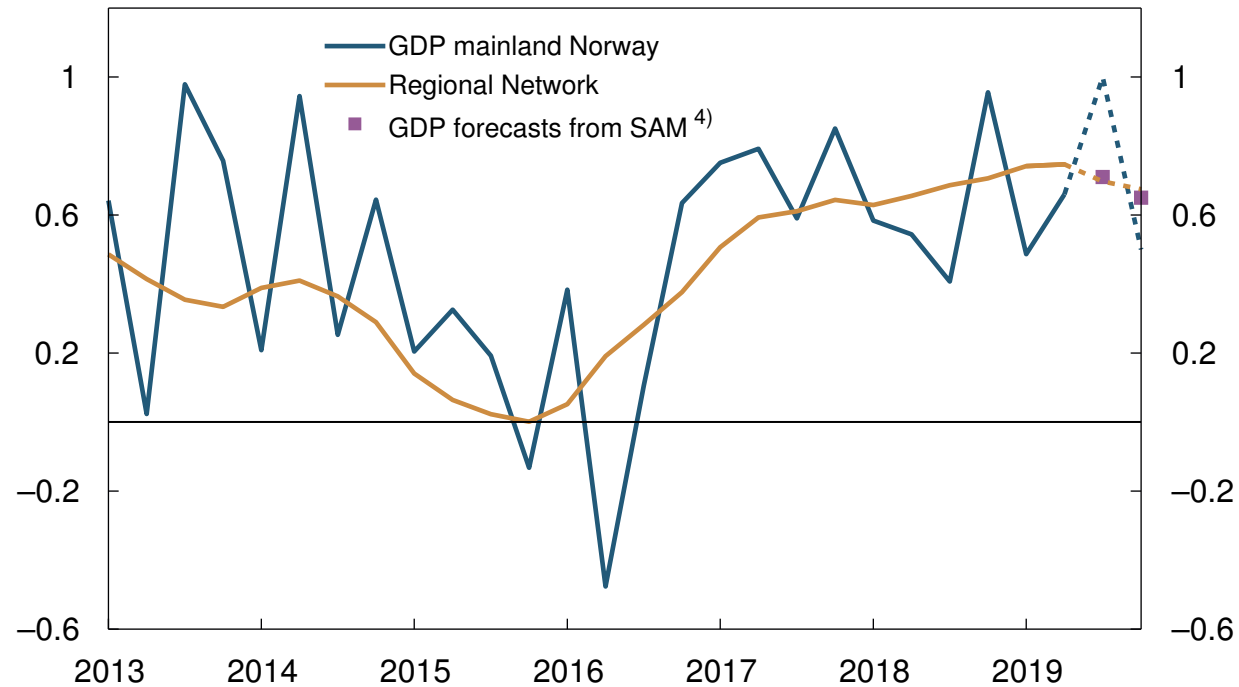
1) Seasonally adjusted. 2) Reported output growth past three months and expected growth next six months converted to quarterly figures. For 2019 Q3, a weighting of historical and expected growth is used, while for Q4 2019 only expected growth is used. 3) Projections for 2019 Q3 – 2019 Q4. 4) System for Averaging short-term Models.
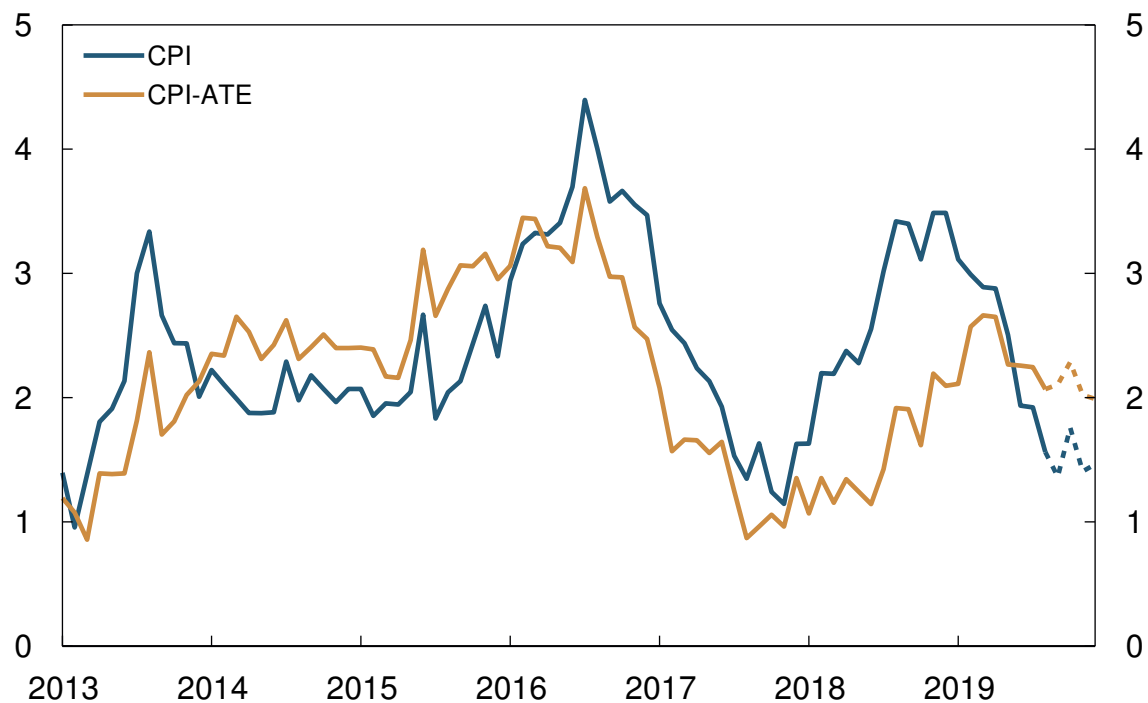Sources: Statistics Norway and Norges Bank

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

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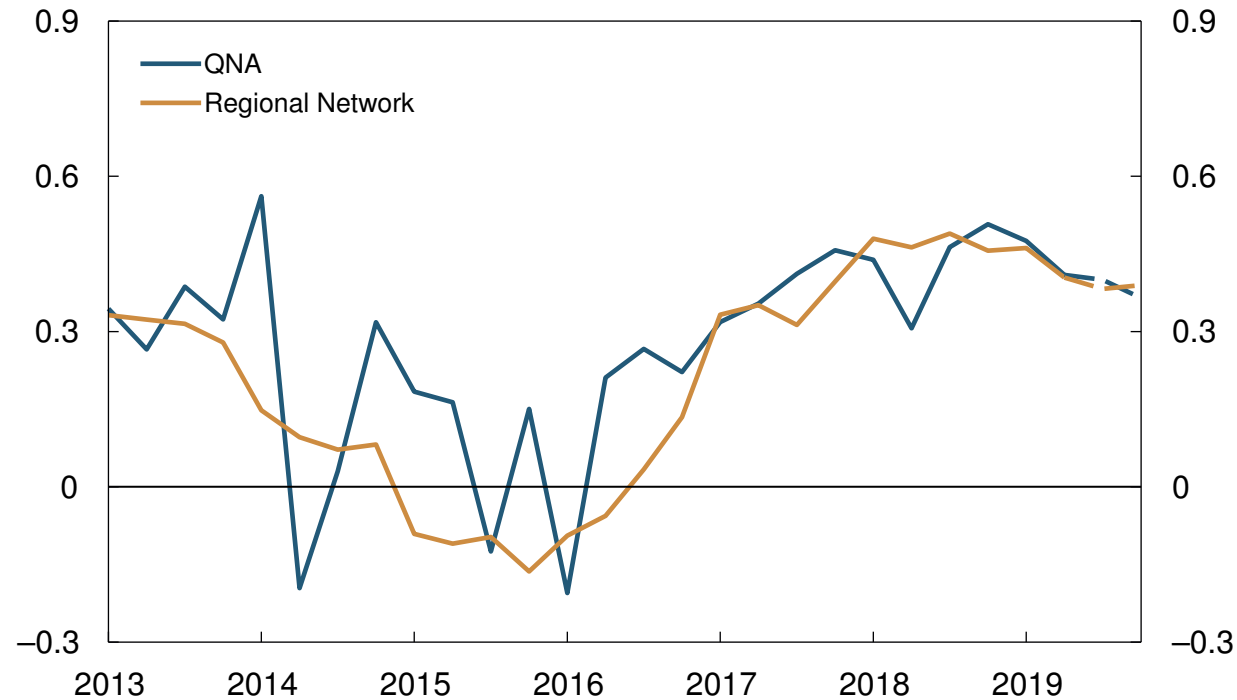
1) Seasonally adjusted. **2)** Reported employment growth for the past three months and expected growth the next three months converted to quarterly figures. For 2019 Q3, historical and expected growth are weighted together while expected growth is used for 2019 Q4. **3)** Projections for 2019 Q3 – 2019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

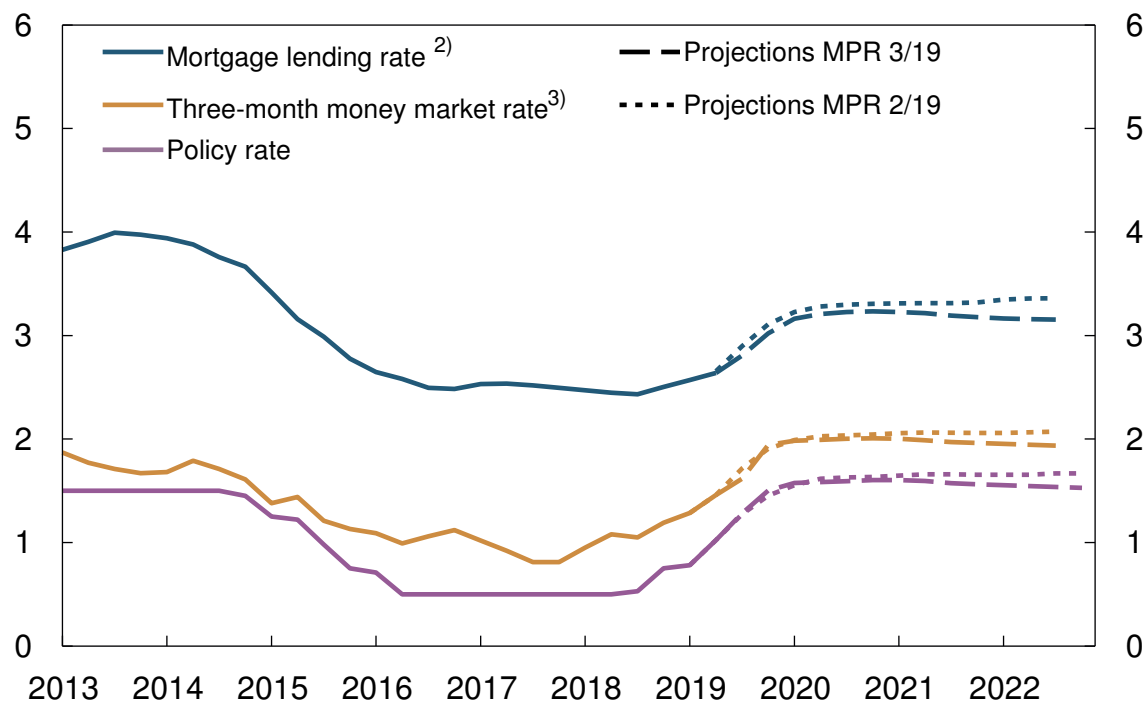Chart 1.7 CPI and CPI-ATE[1].
Twelve–month change. Percent. January 2013 – December 2019 [2]

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

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 3/19
- Projections MPR 2/19

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

Chart 1.9 Import-weighted exchange rate index (I-44).[1] 2013 Q1 – 2022 Q4 [2]
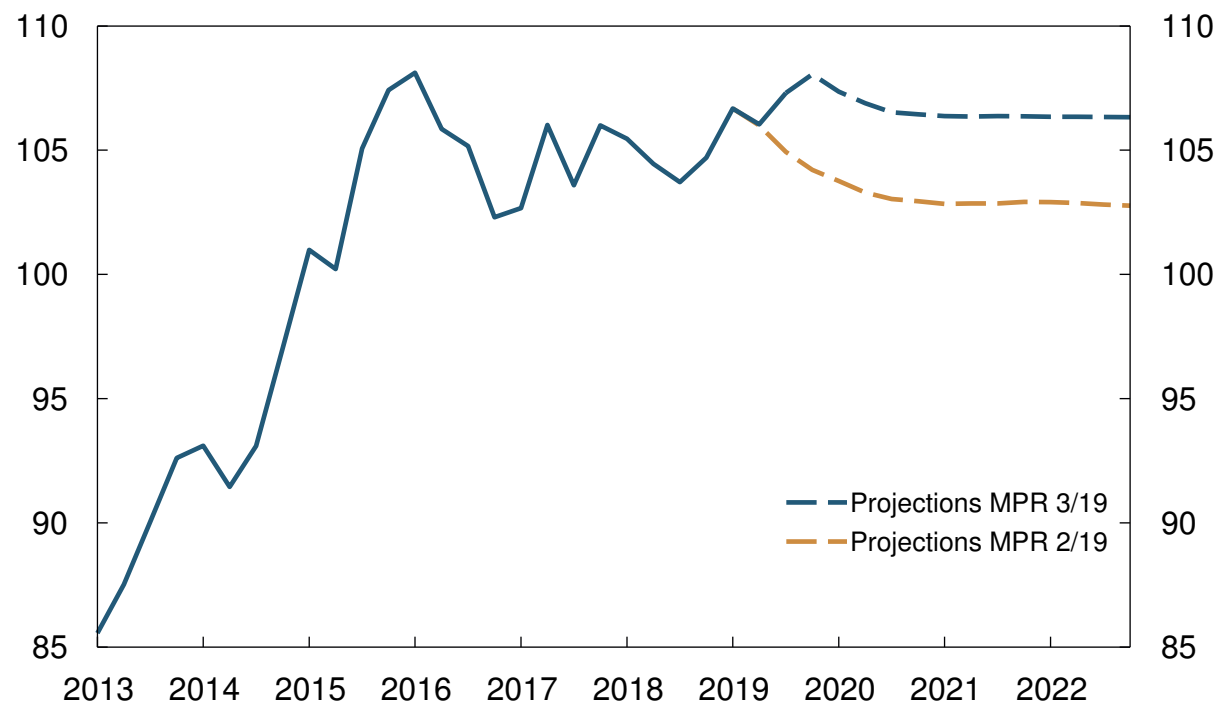
Projections MPR 3/19
Projections MPR 2/19

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

Chart 1.10 GDP for mainland Norway.[1] Annual change. Percent. 2013 – 2022[2]
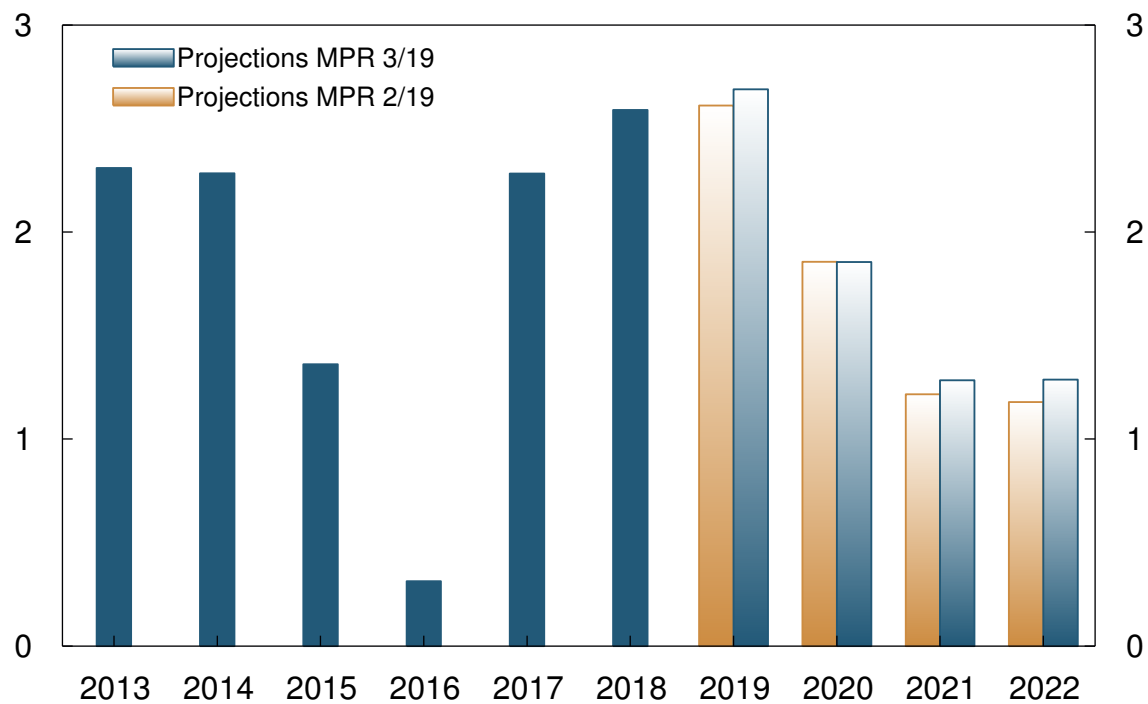
Legend:
- Projections MPR 3/19
- Projections MPR 2/19

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]
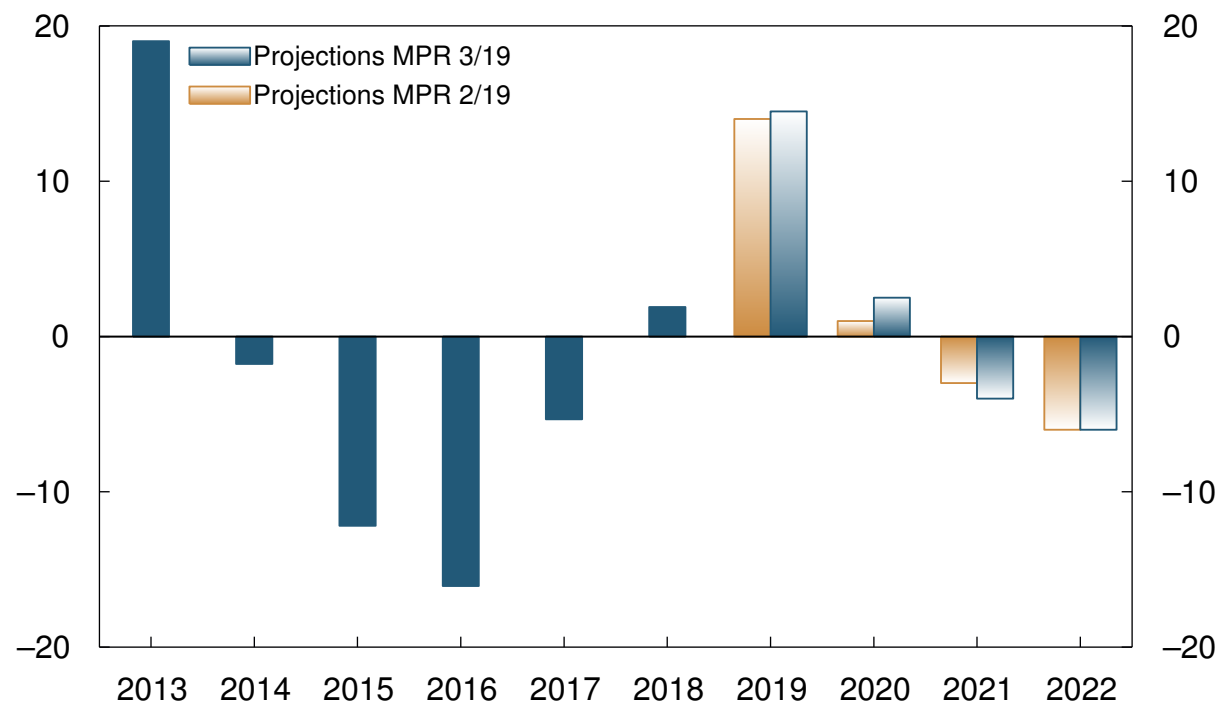

Projections MPR 3/19
Projections MPR 2/19

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 3/19
Projections MPR 2/19
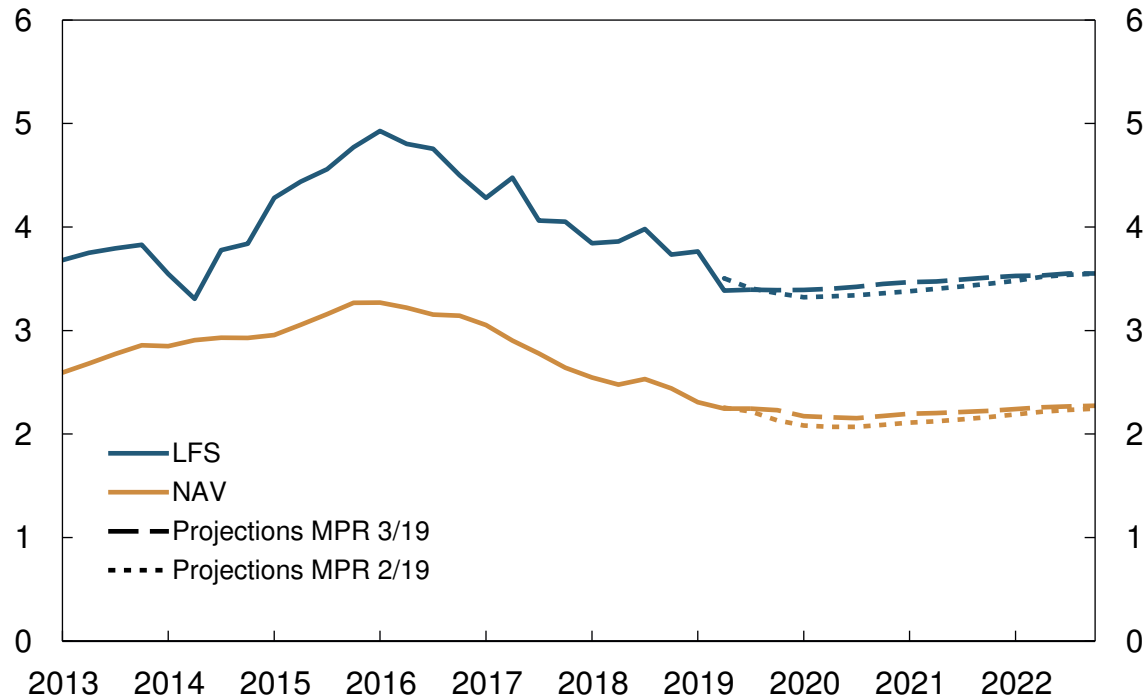
1) Labour Force Survey.**2)** Registered unemployment. **3)** Projections for 2019 Q3 – 2022 Q4.
Sources: Norwegian Labour and Welfare Administration (NAV), Statistics Norway and Norges Bank
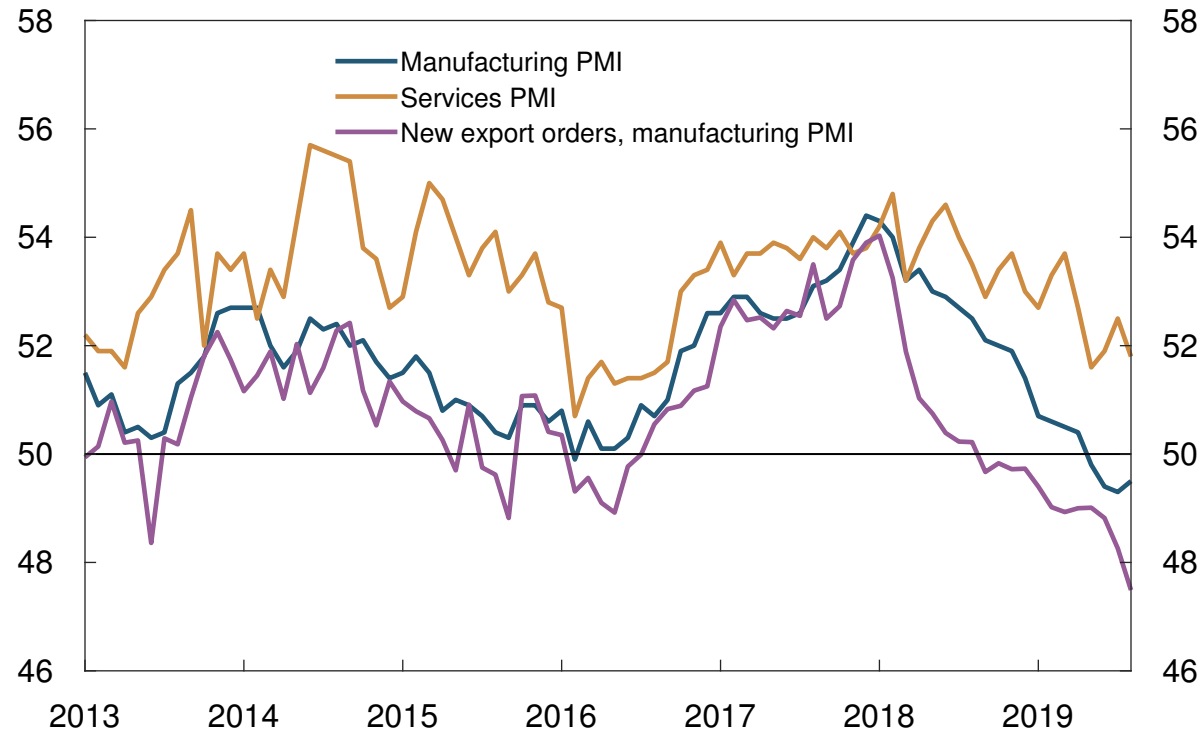
Chart 1.13 Wages. Annual change. Percent. 2013 – 2022[1]
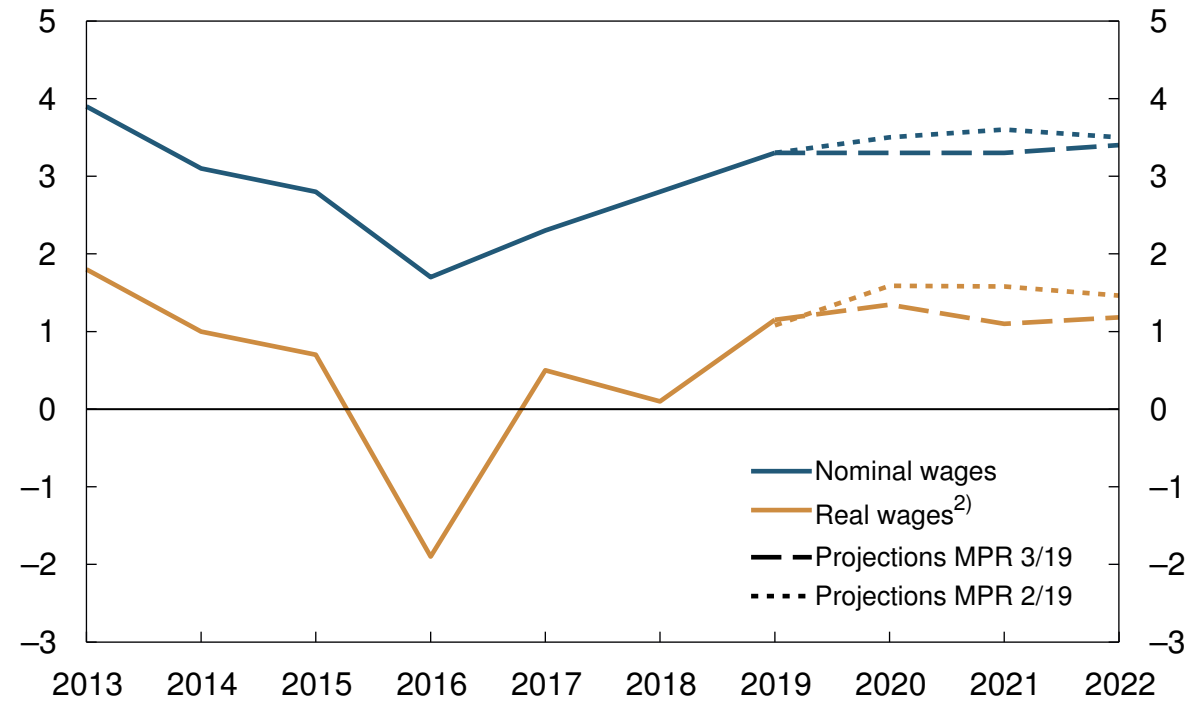
1) Projections for 2019 – 2022. **2)** Nominal wage growth deflated by the CPI.
Sources: Statistics Norway and Norges Bank

Chart 2.1 Global PMI.[1]

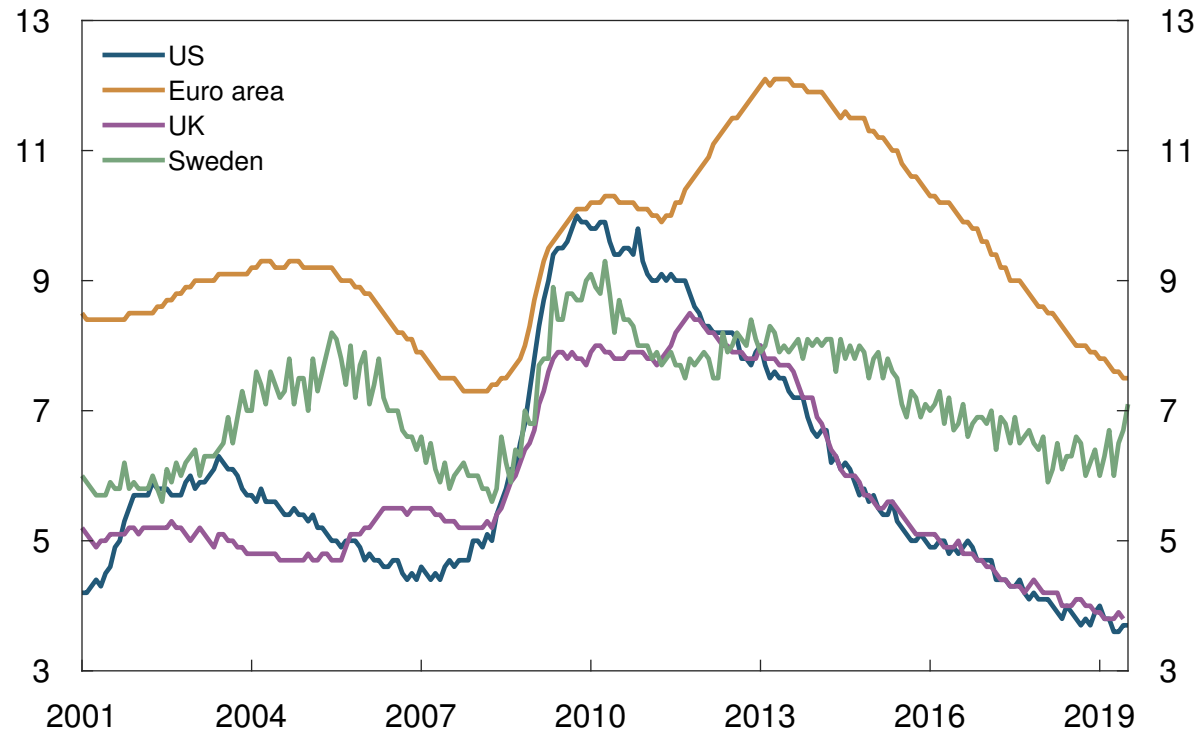Seasonally adjusted. Index.[2] January 2013 – August 2019

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

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

- US
- Euro area
- UK
- Sweden

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

Chart 2.3 Yields on 10-year government bonds in selected countries.
Percent. 2 January 2013 – 13 September 2019[1]
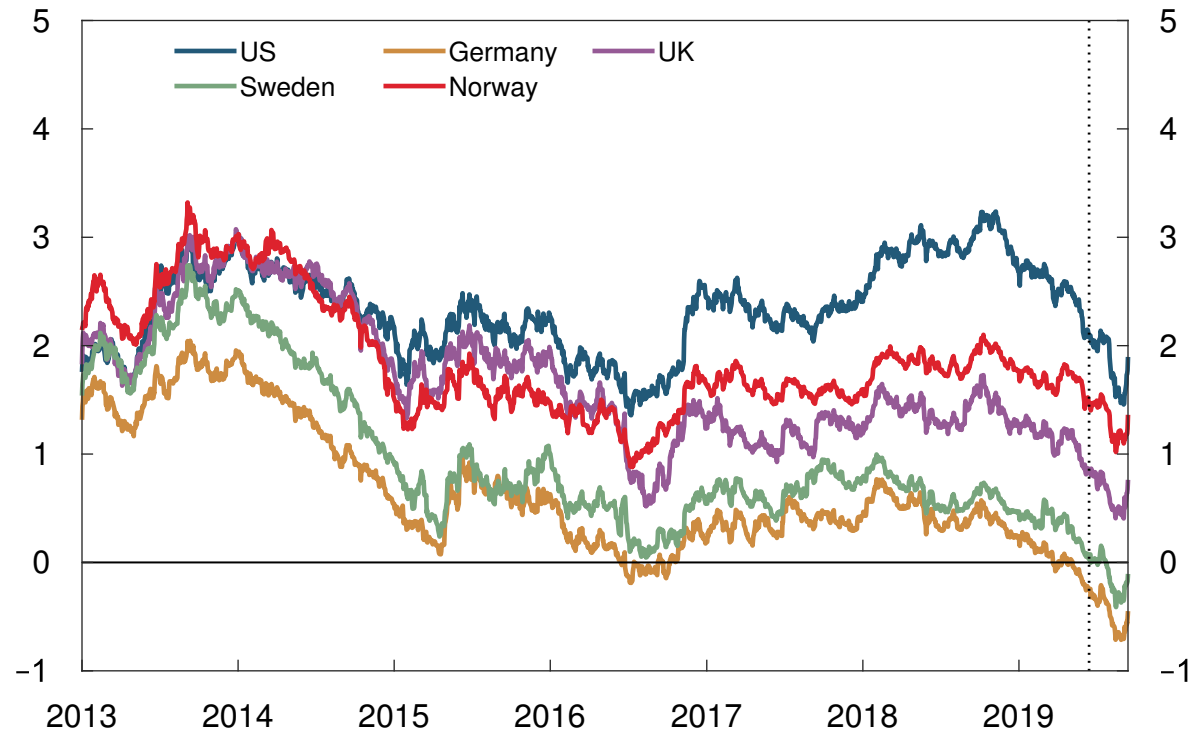
1) MPR 2/19 was based on information in the period up to 14 June 2019, indicated by the vertical line.
Source: Bloomberg

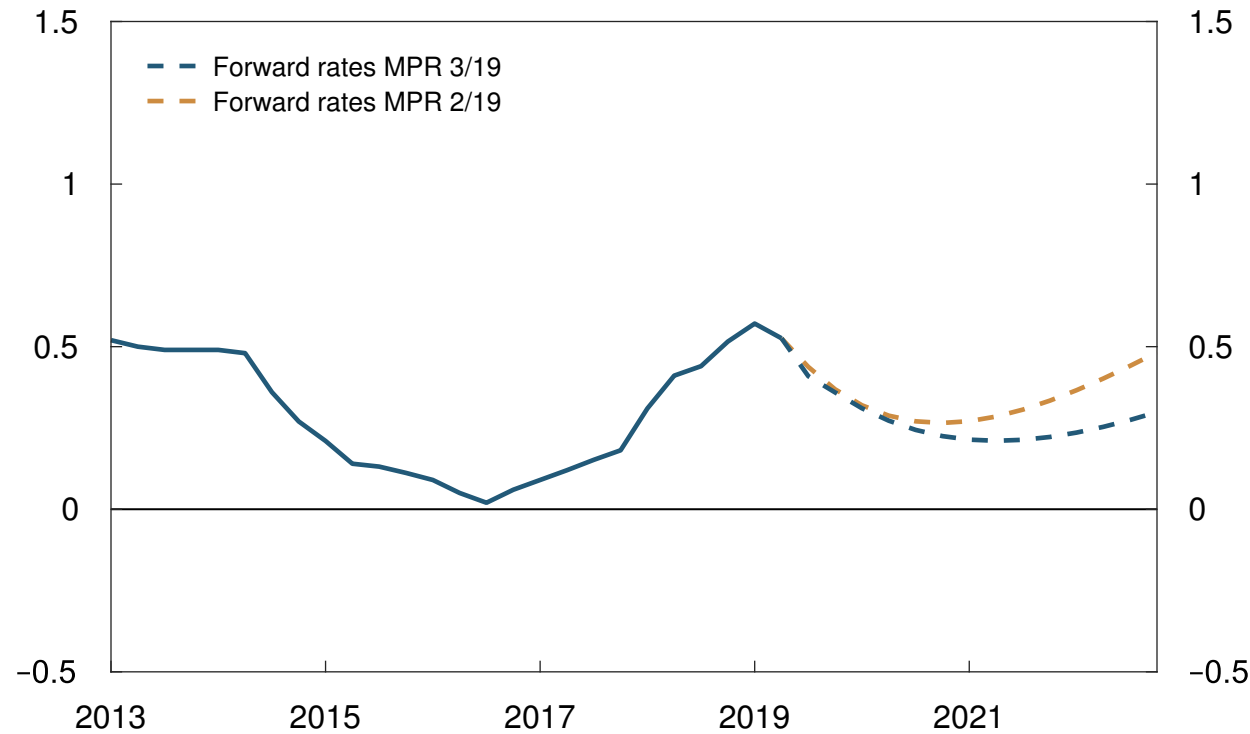Chart 2.4 Three-month money market rates for Norway's trading partners.[1]
Percent. 2013 Q1 – 2022 Q4[2]

- - - Forward rates MPR 3/19
- - - Forward rates MPR 2/19

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 14 June 2019 for MPR 2/19 and 13 September 2019 for MPR 3/19.
Sources: Thomson Reuters and Norges Bank

Chart 2.5 Equity prices in selected countries.[1]

Index. 2 January 2013 = 100. 2 January 2013 – 13 September 2019[2]
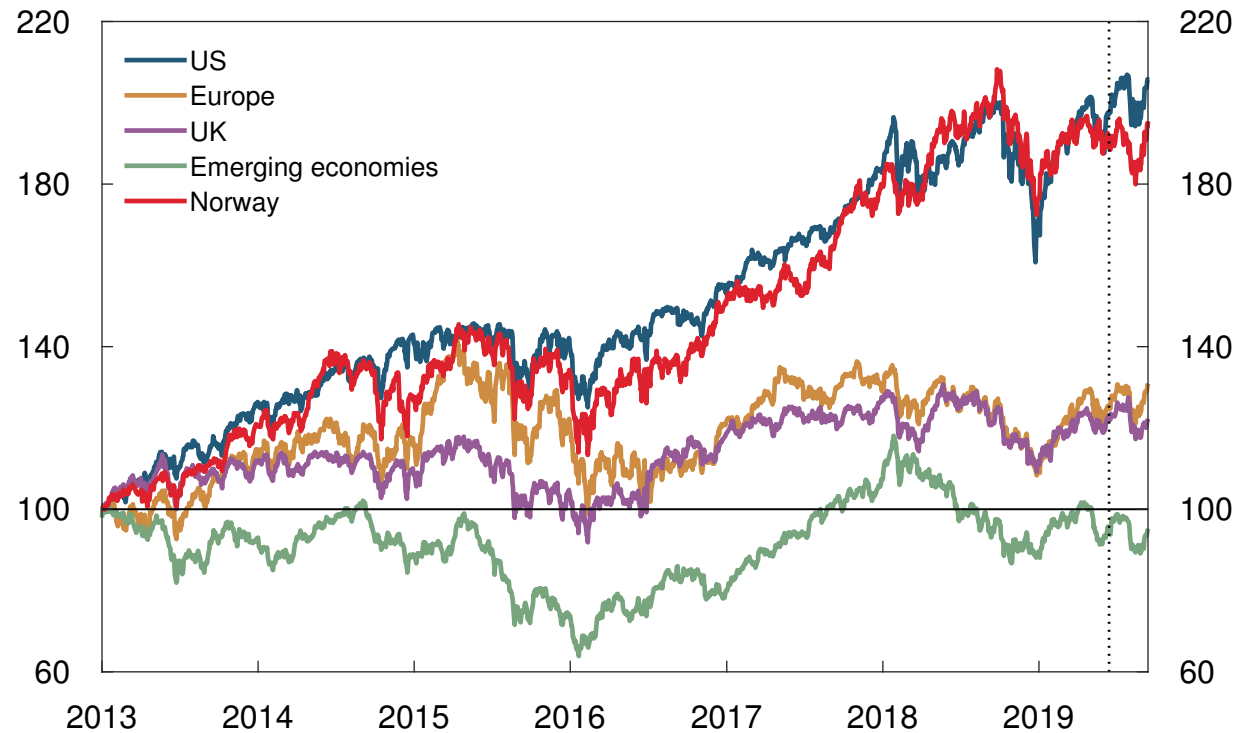
1) Standard and Poor's 500 Index (US). Euro Stoxx 50 Index (Europe).
Financial Times Stock Exchange 100 Index (UK). MSCI Emerging Markets Index (emerging economies).
Oslo Børs Benchmark Index (Norway). 2) MPR 2/19 was based on information in the period up
to 14 June 2019, indicated by the vertical line.
Source: Bloomberg

Chart 2.6 Planned investment[1] and investment in production equipment[2] in selected countries[3]. 2004 Q1 – 2019 Q2
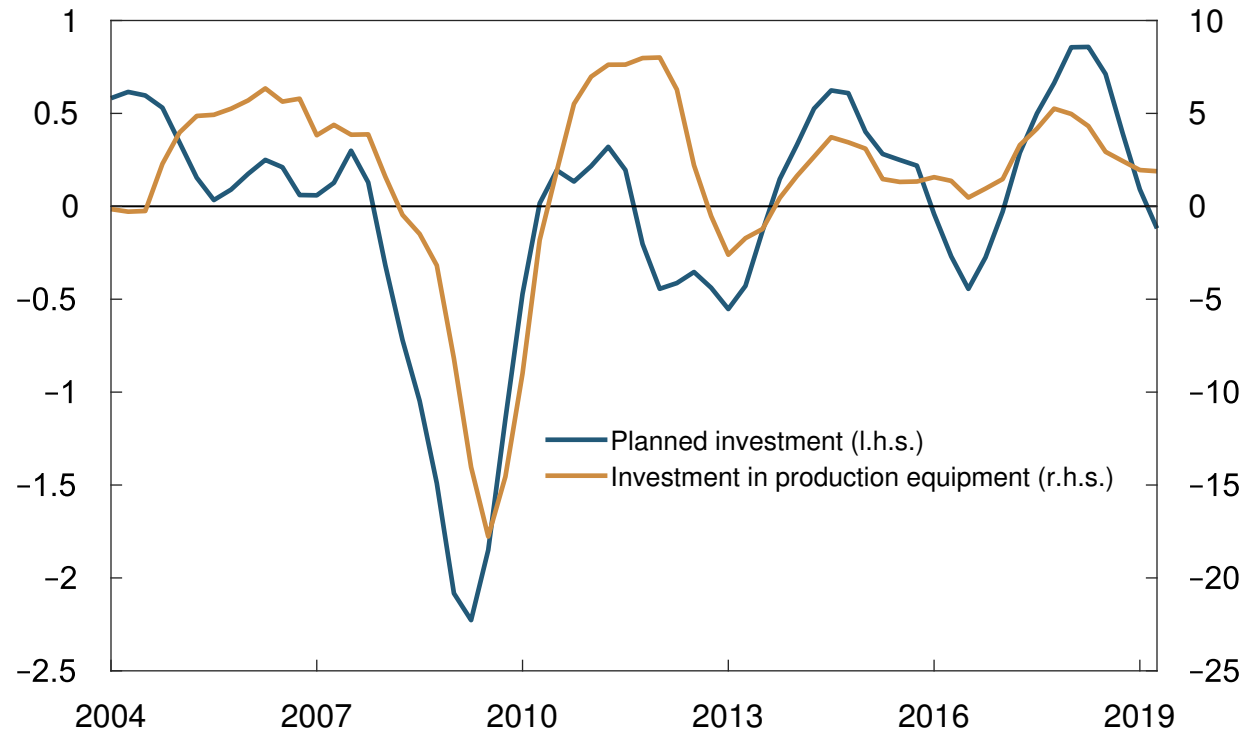
1) Survey data from respective countries. Normalised. Three-quarter moving average.
2) Three-quarter growth over previous three quarters. Percent. 3) GDP weights. US, euro area and Japan.
Sources: Thomson Reuters and Norges Bank

Chart 2.7 Imports for Norway's trading partners.[1]

Annual change. Percent. 2013 – 2022[2]

MPR 3/19
MPR 2/19
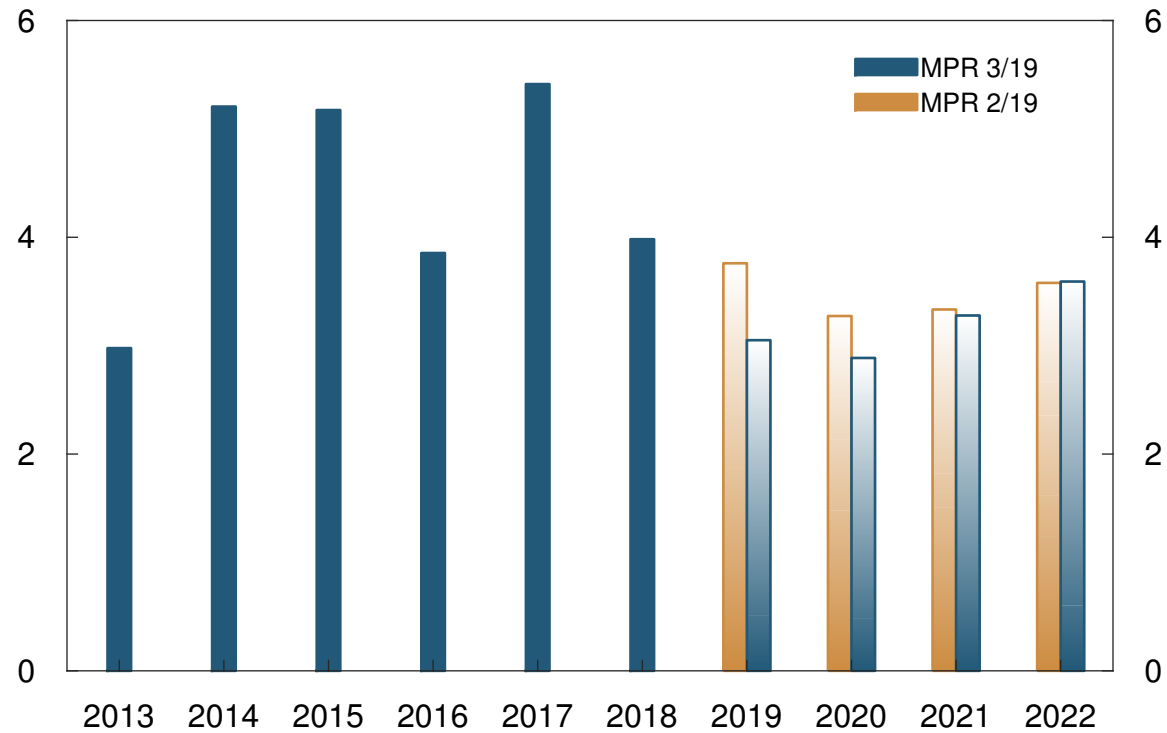
1) Export weights. 25 main trading partners. 2) Projections for 2019 – 2022.
Sources: Thomson Reuters and Norges Bank

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

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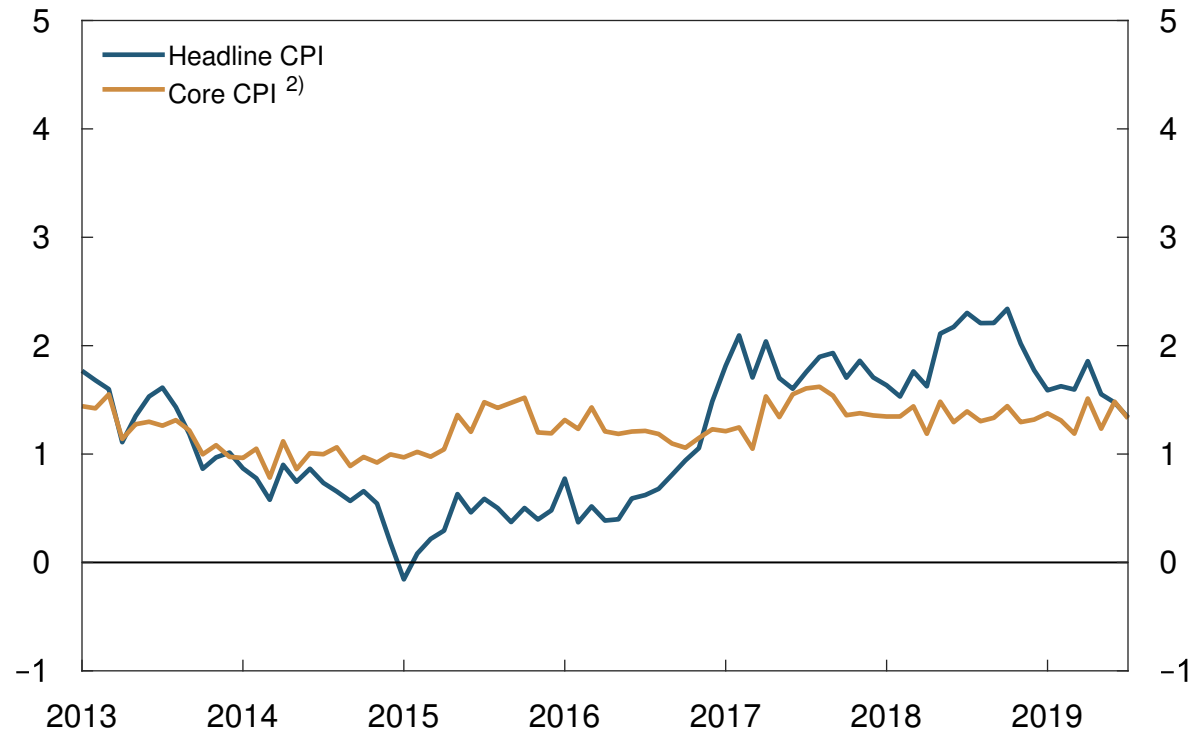
1) Import weights. US, euro area, UK and Sweden. **2)** US: excluding food and energy.
UK and euro area: excluding food, tobacco, alcohol and energy. Sweden: excluding energy.
Sources: Thomson Reuters and Norges Bank

Chart 2.9 Global economic policy uncertainty.[1]
Index.[2] January 2013 – August 2019
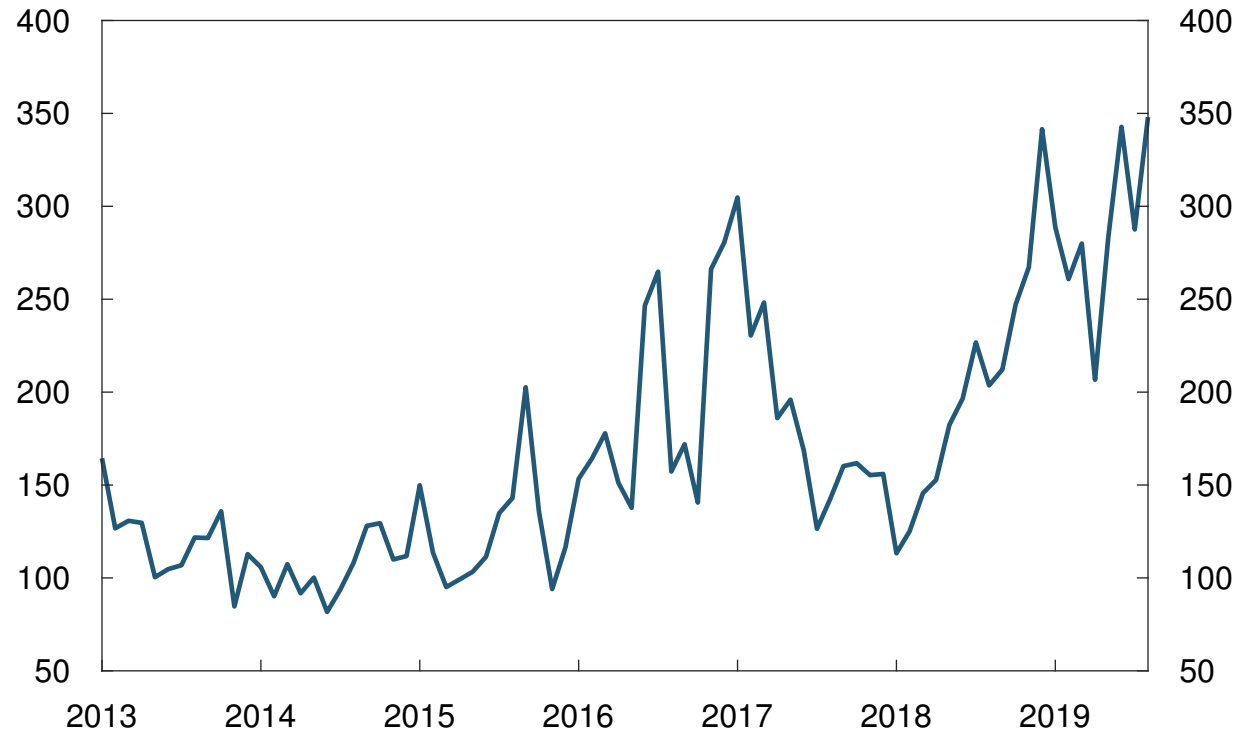
1) Indicator measuring the frequency of the word "uncertainty" connected to "economics" and "policy"
in news articles. 2) Weighted by PPP-adjusted GDP. A positive slope denotes greater uncertainty.
Source: policyuncertainty.com

Chart 2.10 PMI in the euro area.
Seasonally adjusted. Index.[1] January 2013 – August 2019
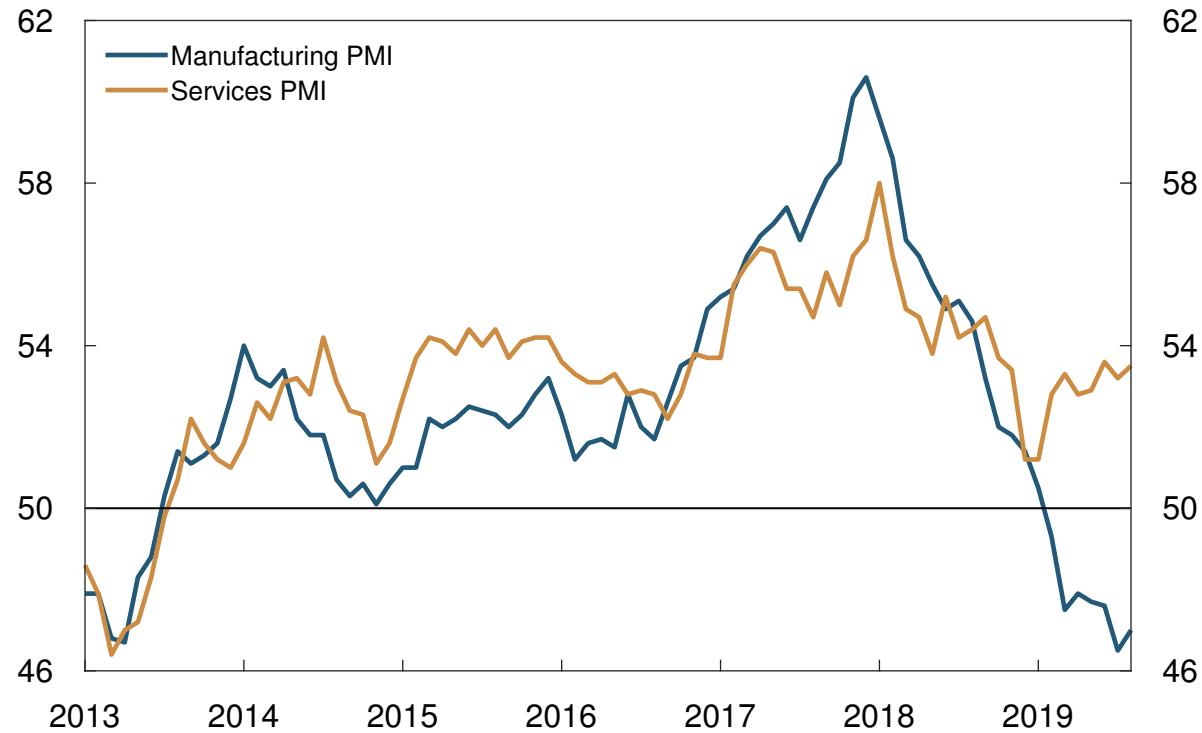
Chart 2.11 Exports in selected Asian economies.[1]
Twelve-month change.[2] Percent. January 2013 – August 2019[3]
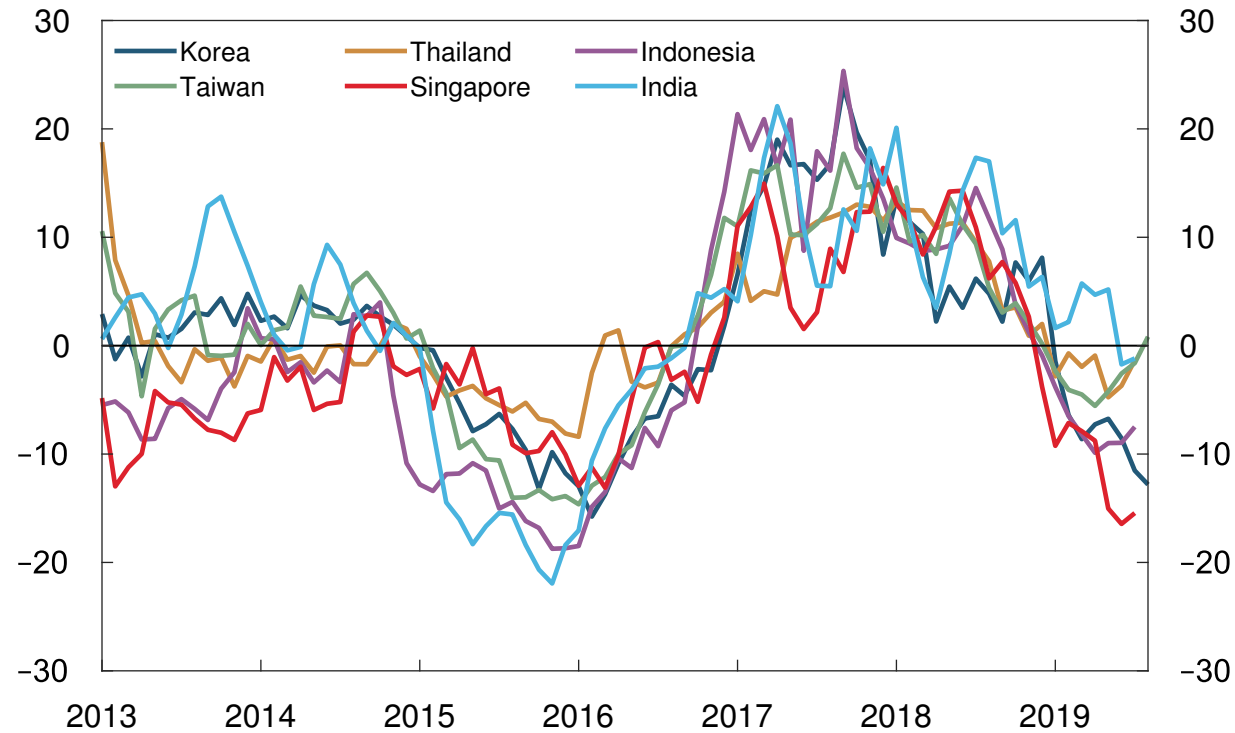
1) Singapore: domestic non-oil exports. Taiwan: excluding re-exports. 2) Three-month moving average.
3) Latest observation is August 2019 for Korea and Taiwan, July 2019 for the rest.
Sources: Thomson Reuters and Norges Bank

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

Legend:
- Mortgage rate [2]
- Mortgage margin[3]
- Three-month money market rate [4]
- Projections MPR 3/19
- Projections MPR 2/19
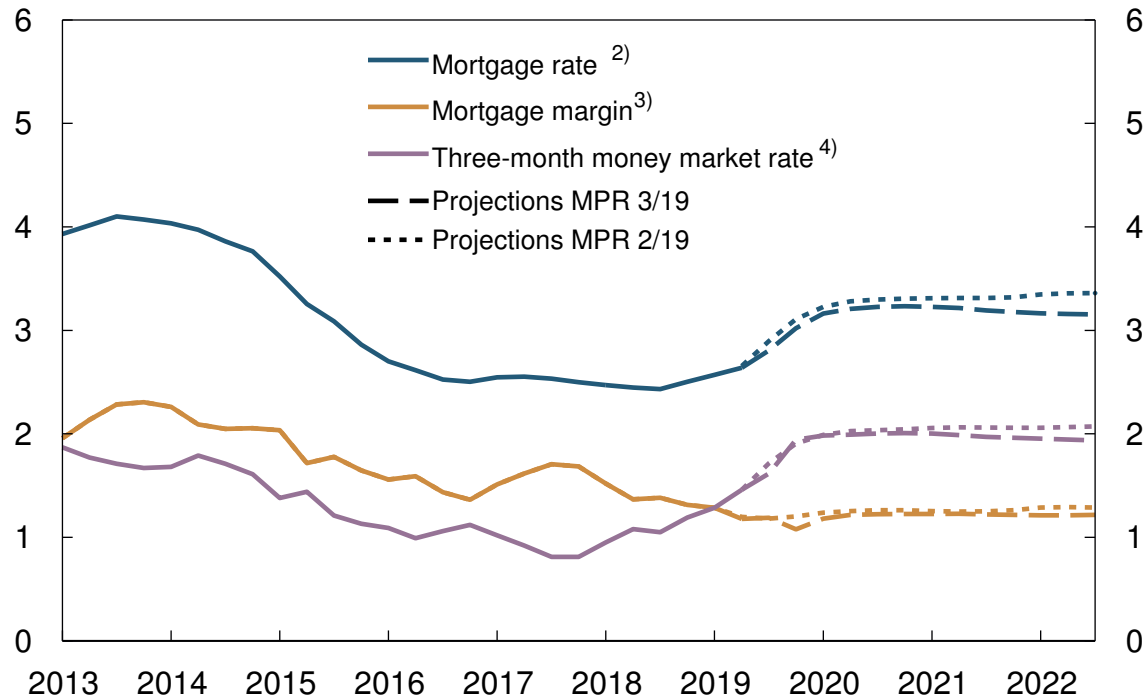
1) Projections for 2019 Q3 – 2022 Q3. **2)** Average interest rate on outstanding mortgage loans to households from the sample of banks included in Statistics Norway's monthly interest rate statistics.**3)** Difference between the mortgage lending rate and the three-month money market rate. **4)** Projections are calculated as a two quarters moving average of the policy rate plus the projected money market premium.
Sources: Statistics Norway, Thomson Reuters and Norges Bank

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

- - - - Projections MPR 3/19
- - - - Projections MPR 2/19
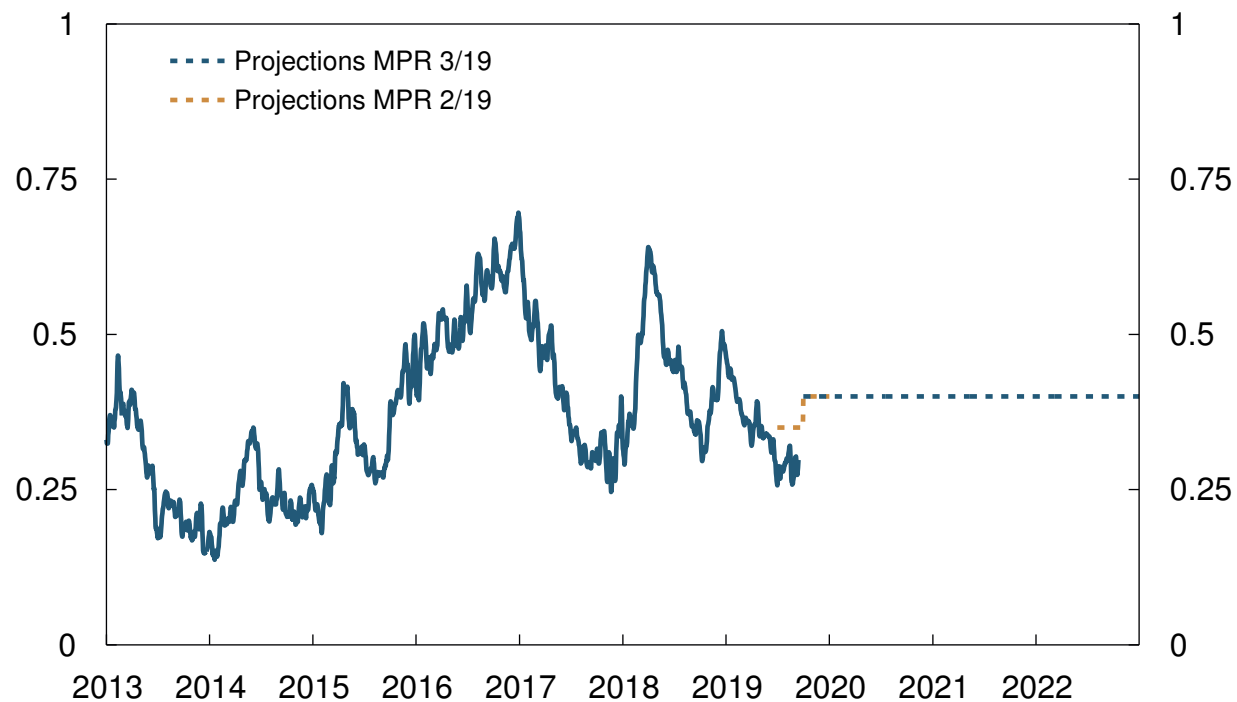
1) Norges Bank estimates of the difference between the three-month money market rate and the expected policy rate. **2)** Projections for 2019 Q3 – 2022 Q4.
Sources: Thomson Reuters and Norges Bank

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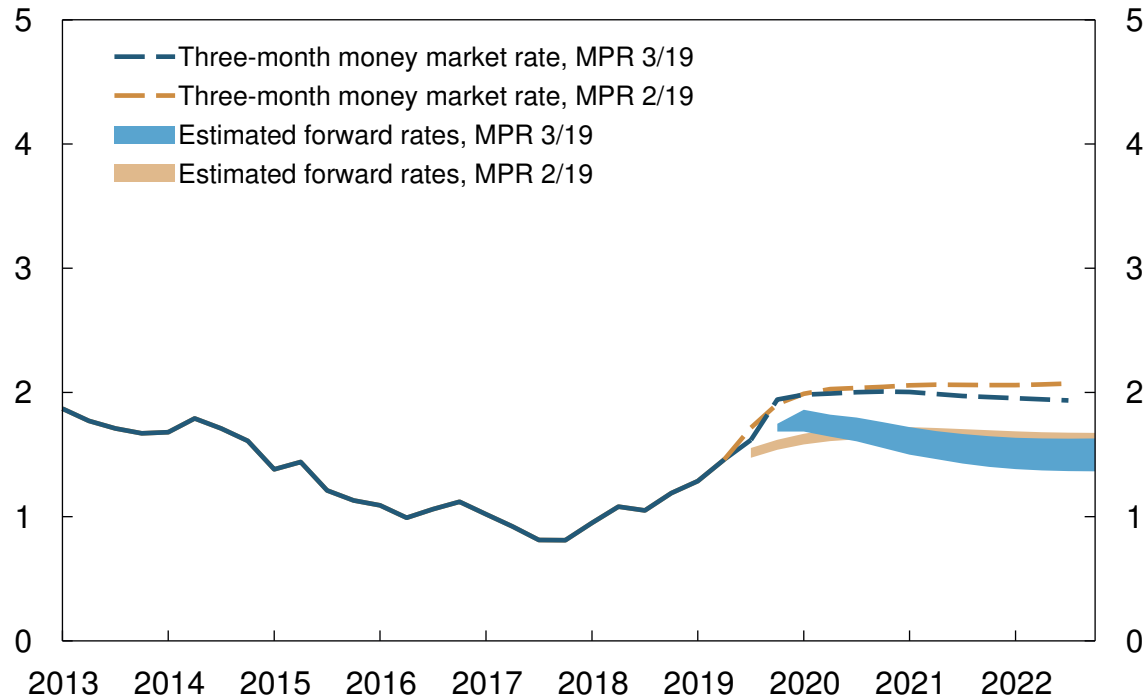Percent. 2013 Q1 – 2022 Q4 [3]

- - - Three-month money market rate, MPR 3/19
- - - Three-month money market rate, MPR 2/19
Estimated forward rates, MPR 3/19
Estimated forward rates, MPR 2/19

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

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

Five–year
Ten–year
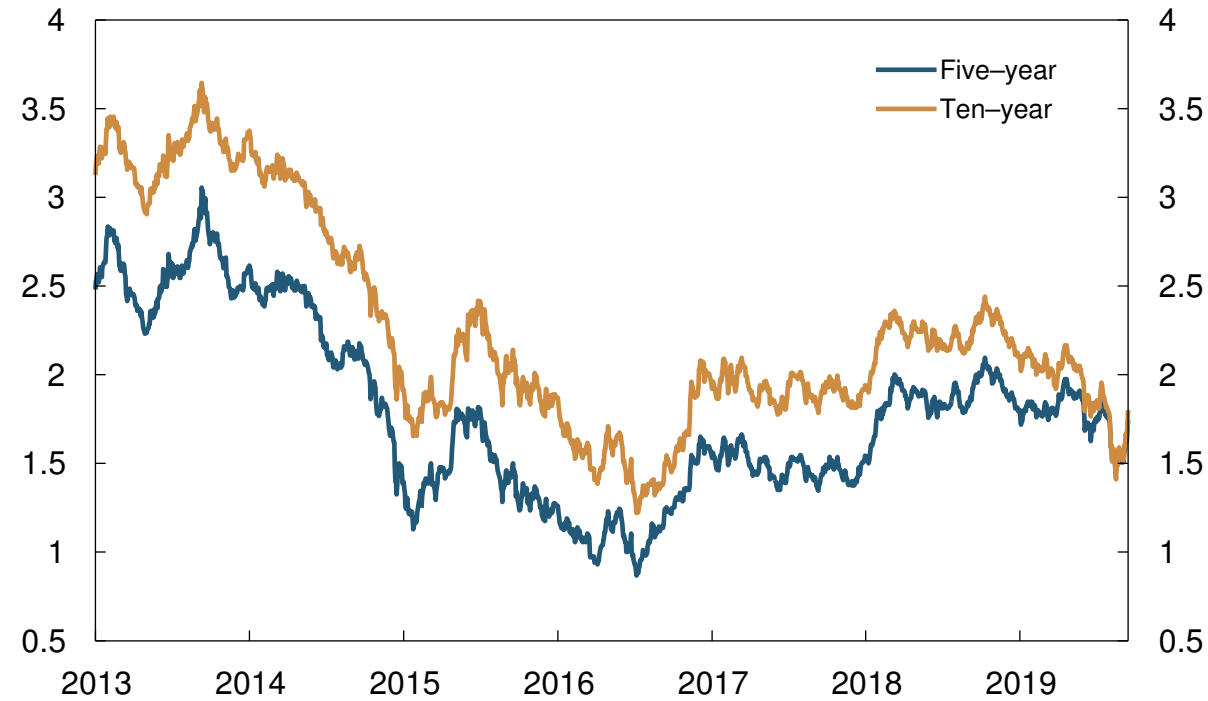
Source: Bloomberg

Chart 3.5 Import–weighted exchange rate index (I–44).[1]
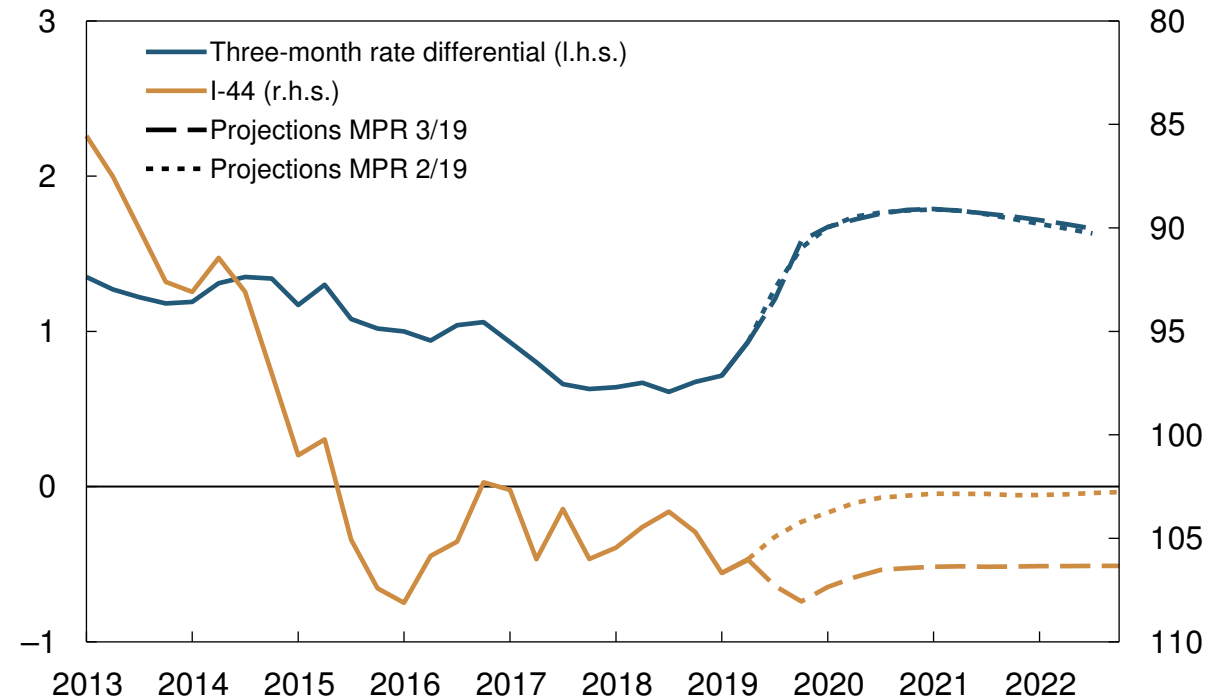**1 September 2018 – 13 September 2019**
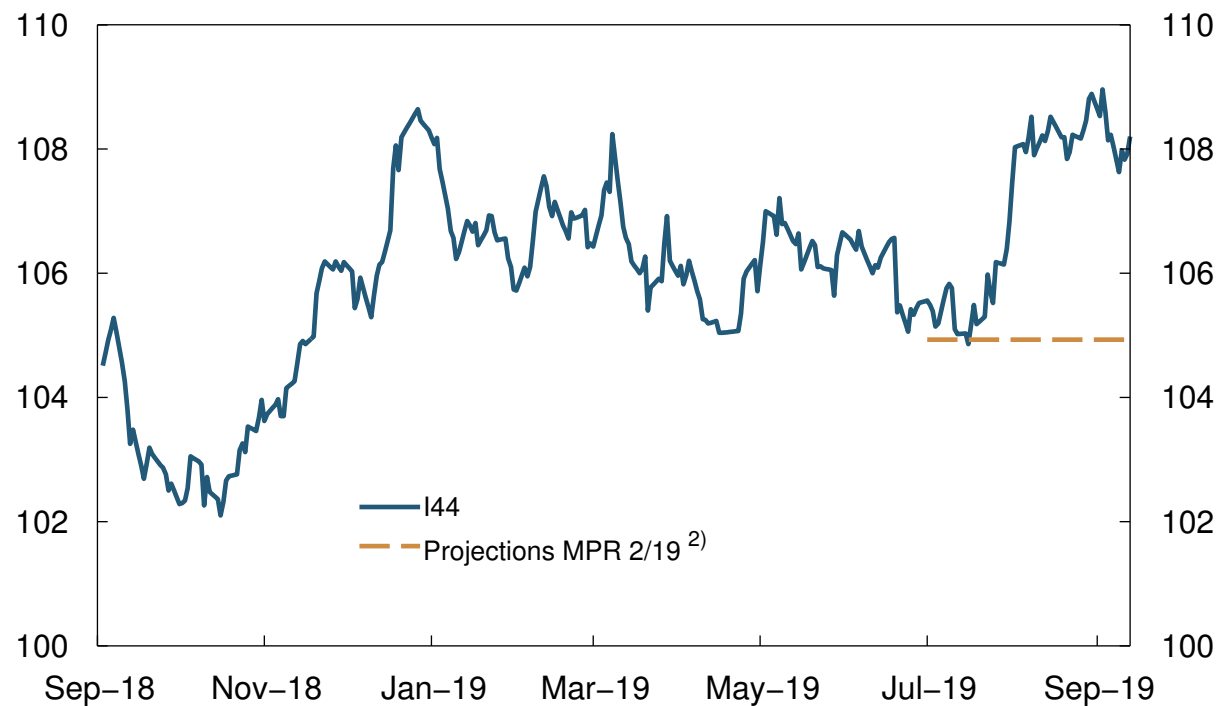
1) A positive slope denotes a weaker krone exchange rate. 2) Projection for the average in 2019 Q3.
Sources: Thomson Reuters and Norges Bank

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

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

Chart 4.1 GDP for mainland Norway. Seasonally adjusted. Percent.
Monthly growth and rolling three–month growth [1]. January 2018 – December 2019 [2]
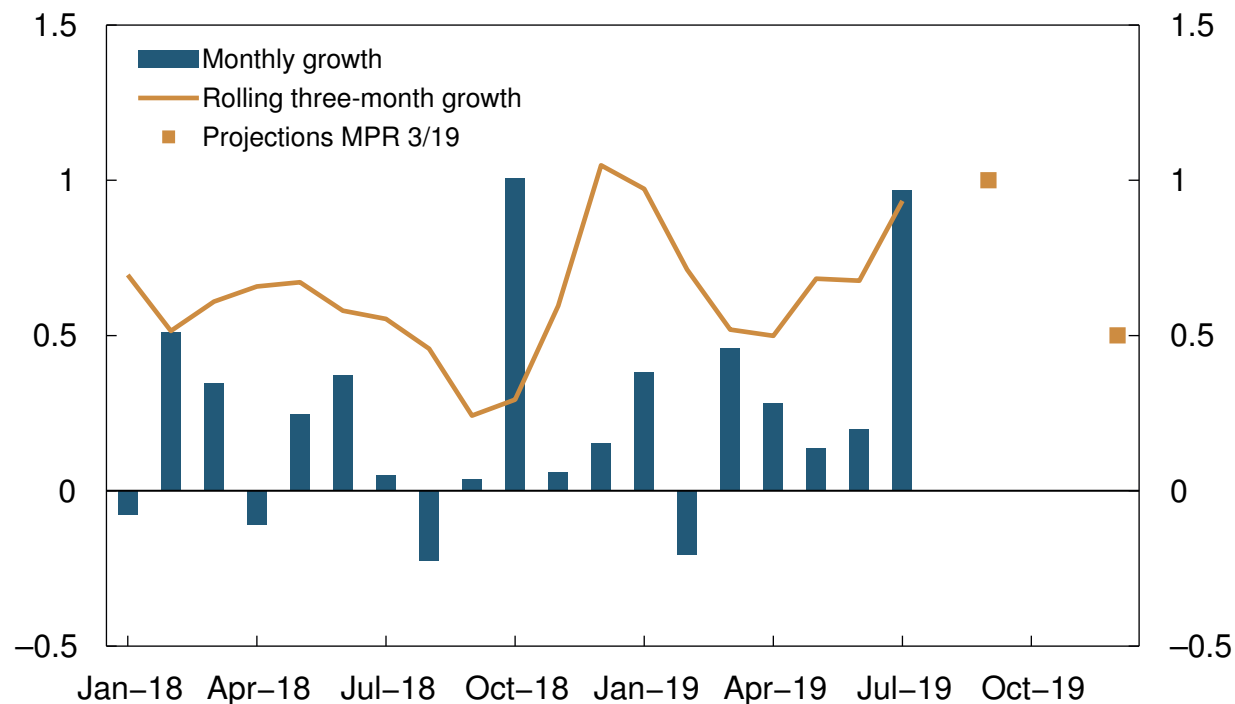
1) Growth the past three-month period compared with the previous three-month period. 2) Projections for September 2019 – December 2019.
Sources: Statistics Norway and Norges Bank

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

■ May 2019 – Previous 3 months
■ August 2019 – Previous 3 months
■ August 2019 – Next 6 months

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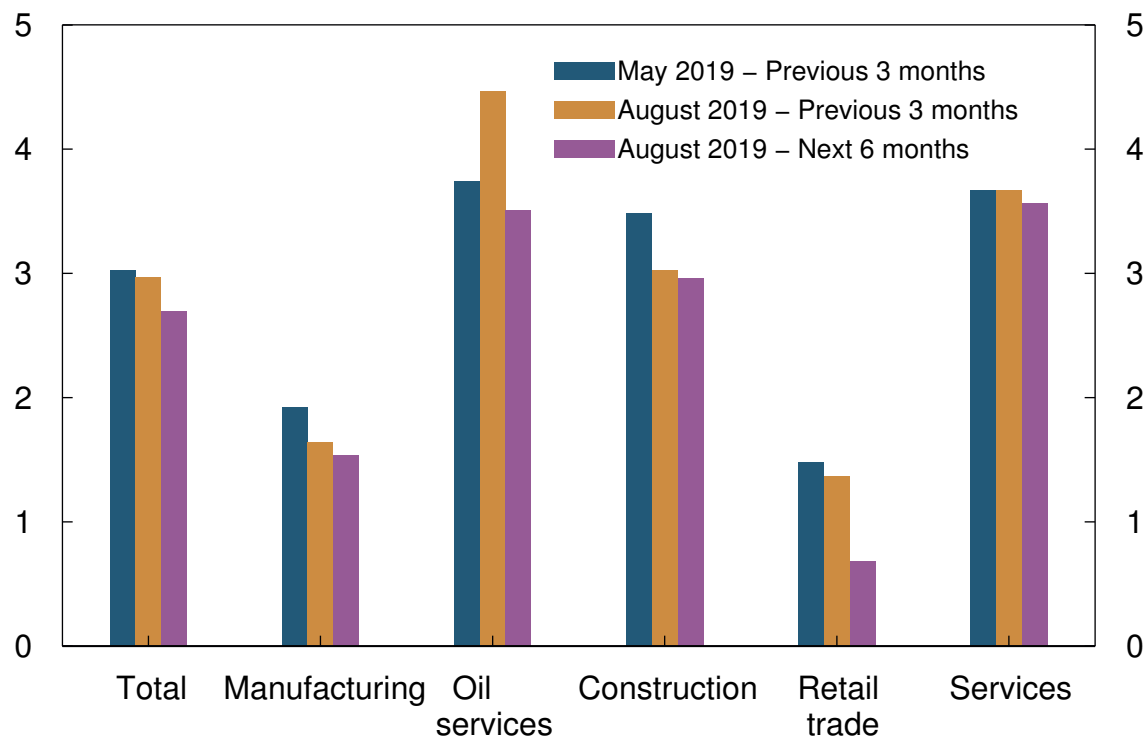
Source: Norges Bank

Chart 4.3 Consumer confidence. Net values. Kantar TNS trend indicator for households. 2013 Q1 – 2019 Q3. Opinion consumer confidence index (CCI). January 2013 – August 2019
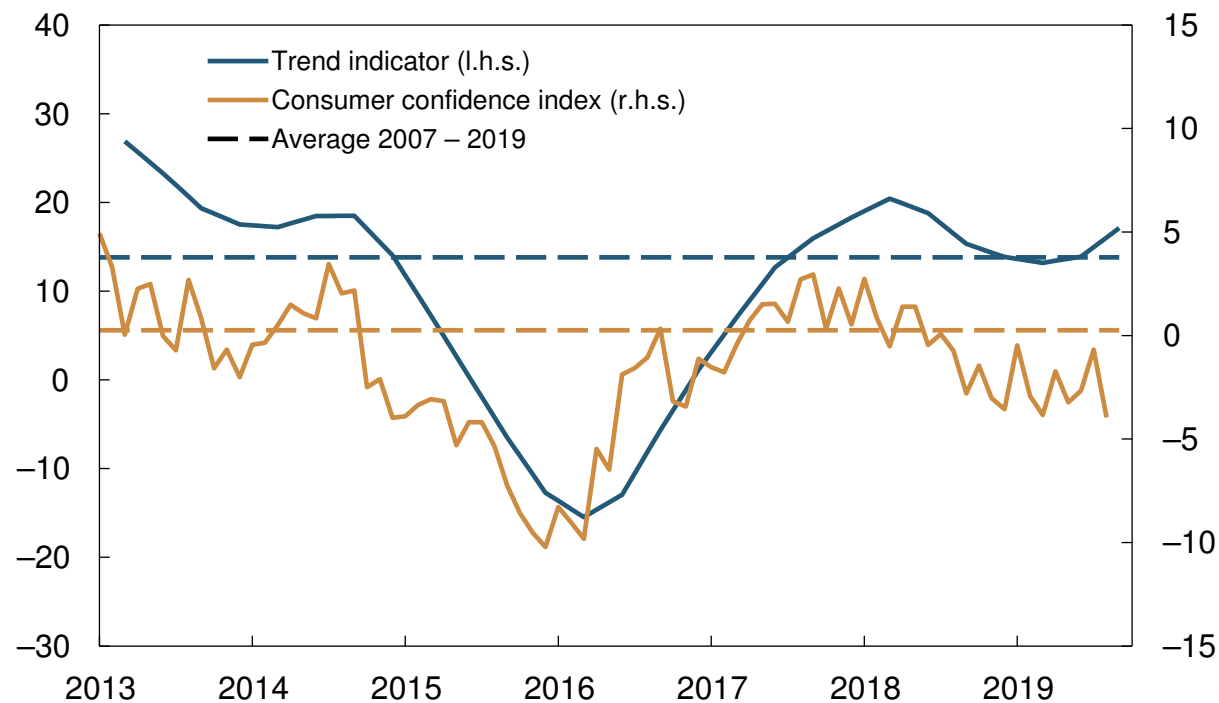
Sources: ForbrukerMeteret™ from Opinion, Kantar TNS and Norges Bank

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

Legend:
- Projections MPR 3/19
- Projections MPR 2/19
- Real disposable income
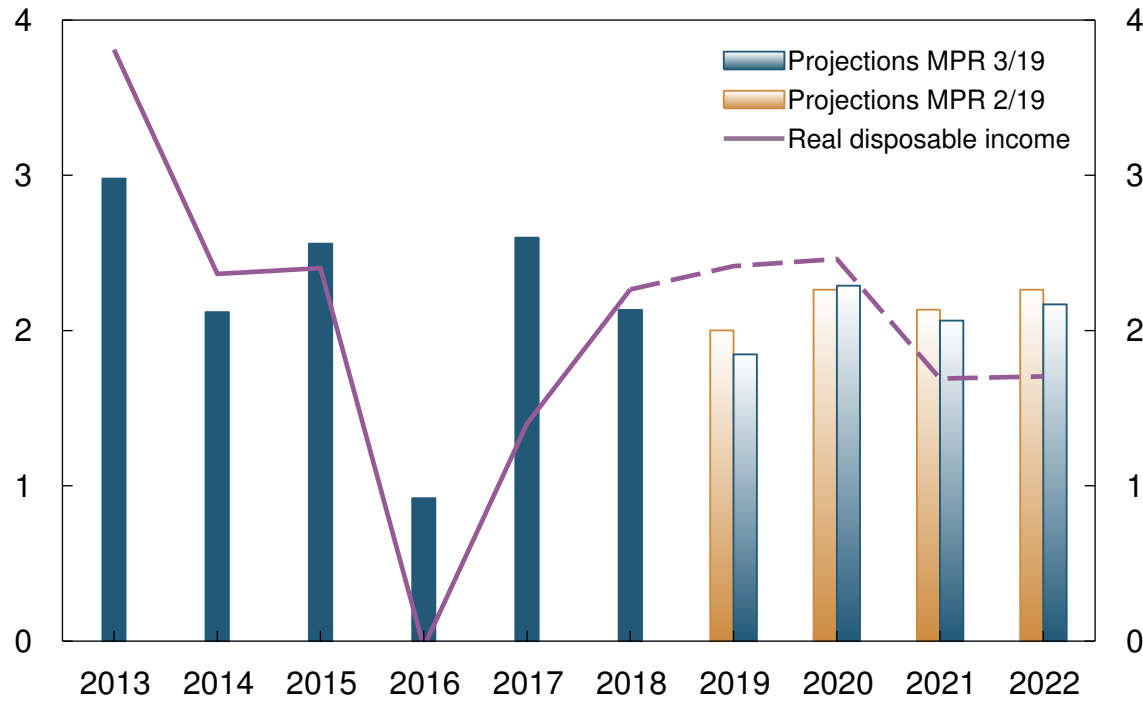
1) Working-day adjusted. 2) Excluding dividend income. 3) Includes non-profit organisations.
4) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Chart 4.5 Household saving and net lending.
Share of disposable income. Percent. 1980 – 2022[1]
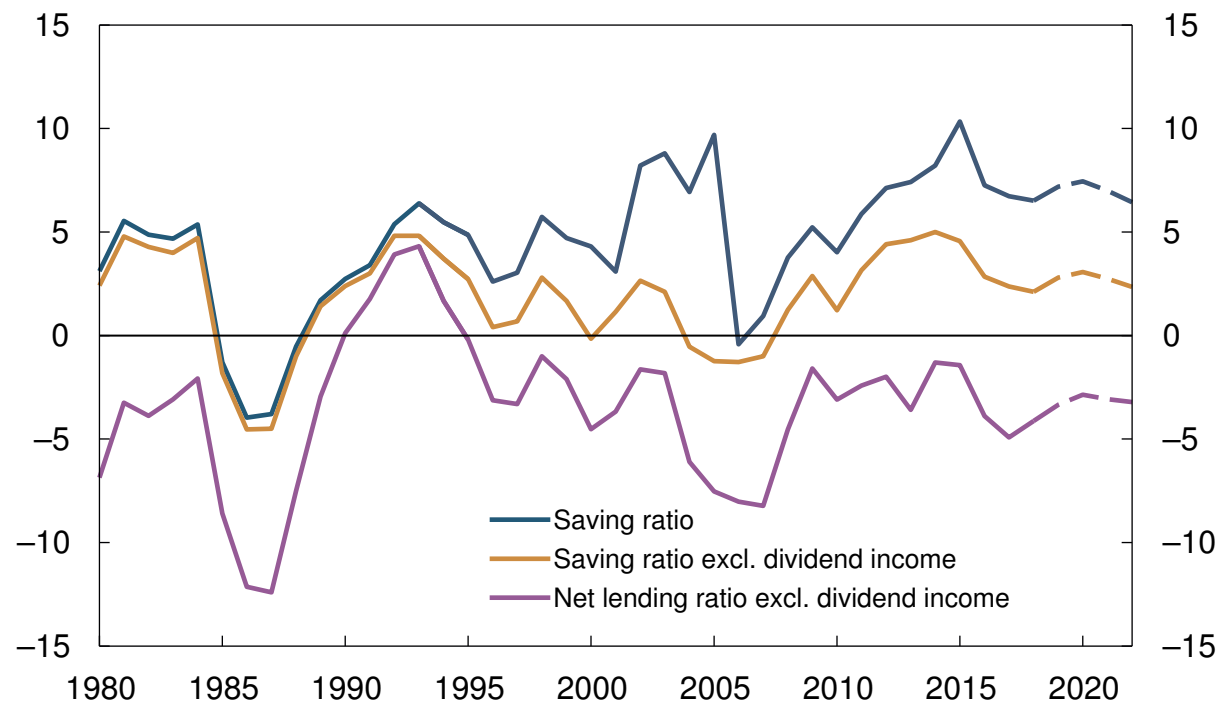
1) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

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

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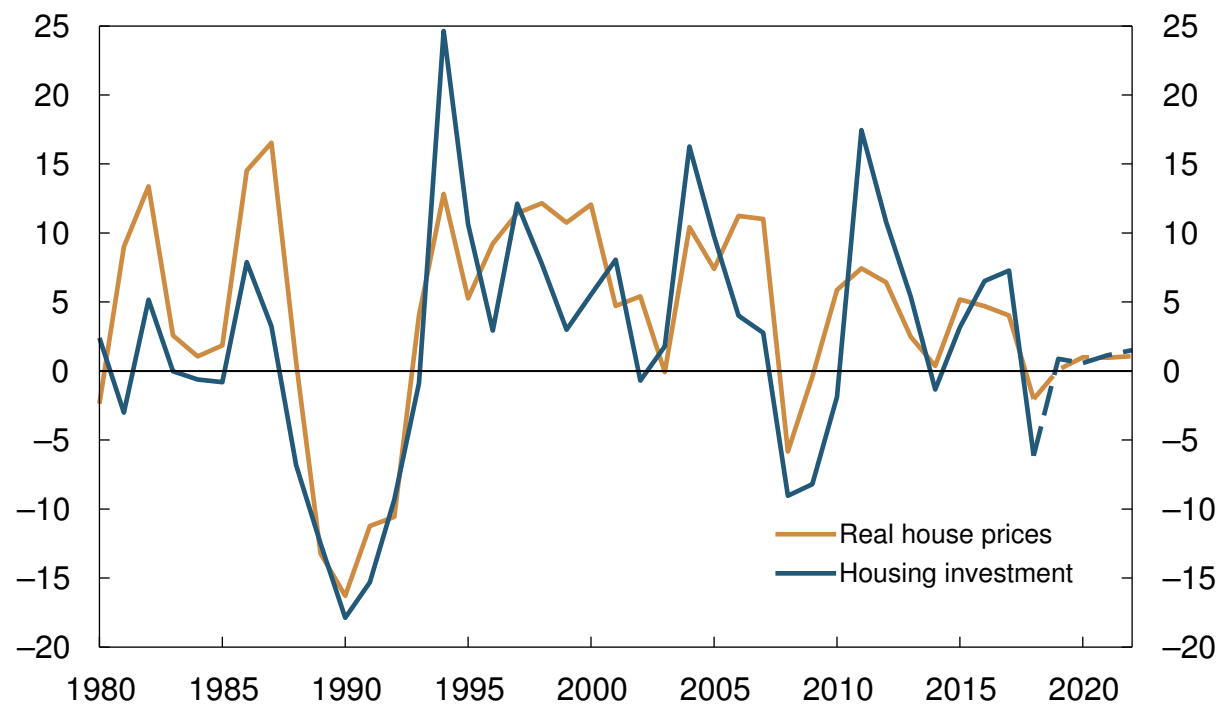
1) Working-day adjusted. **2)** Deflated by the CPI. **3)** Projections for 2019 – 2022.
Sources: Eiendomsverdi, Finn.no, Norwegian Association of Real Estate Agents (NEF), Real Estate Norway,
Statistics Norway and Norges Bank

Chart 4.7 Mainland business investment[1]. Share of GDP for mainland Norway.
Percent. 1980 – 2022 [2]
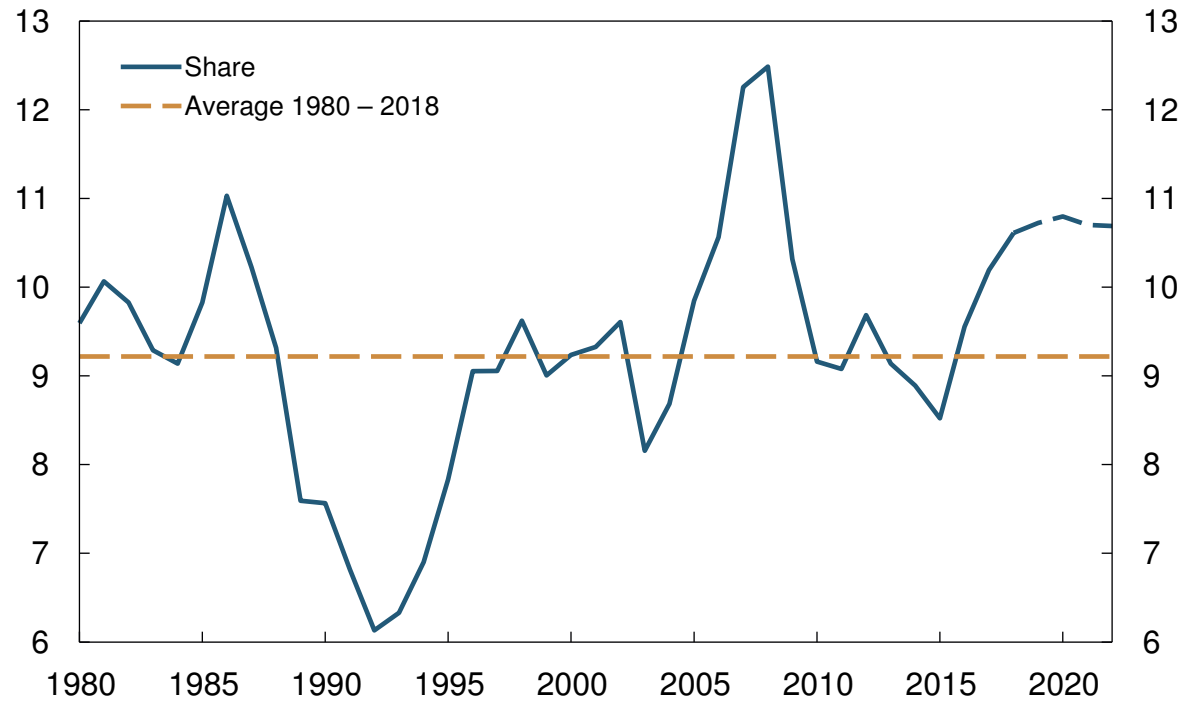
—— Share
– – Average 1980 – 2018

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

Chart 4.8 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 investments
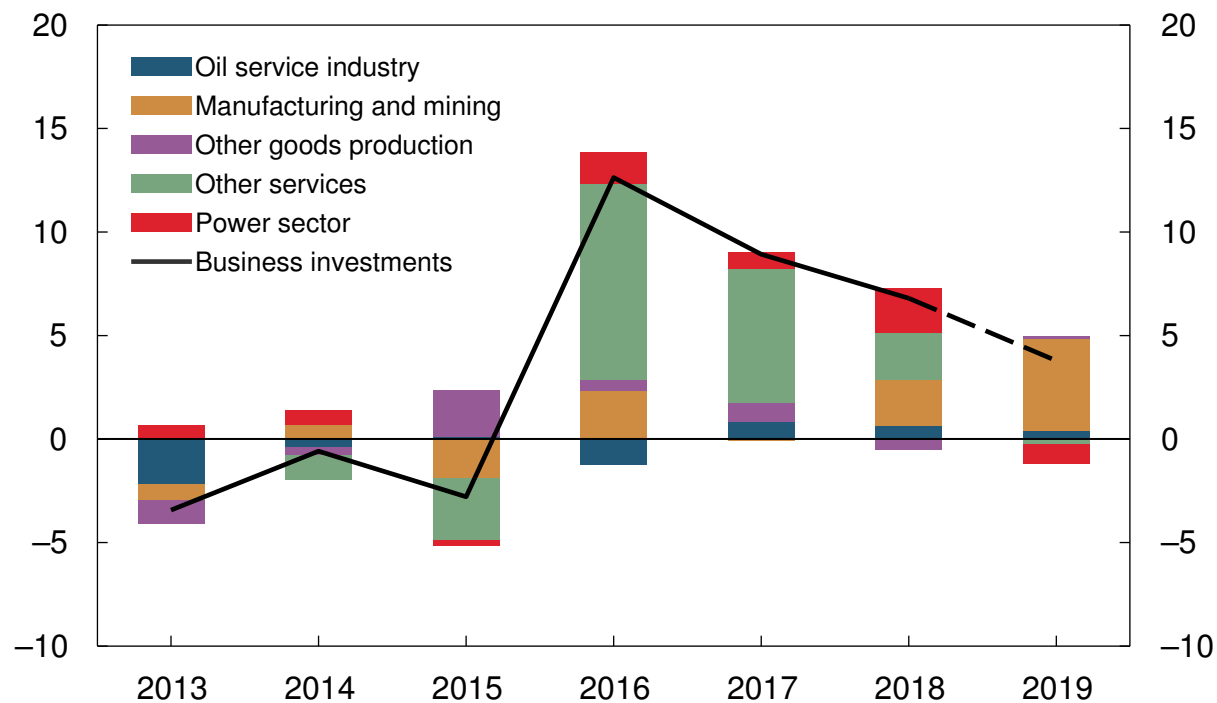
1) Working–day adjusted. **2)** Projection for 2019.
Sources: Statistics Norway and Norges Bank

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

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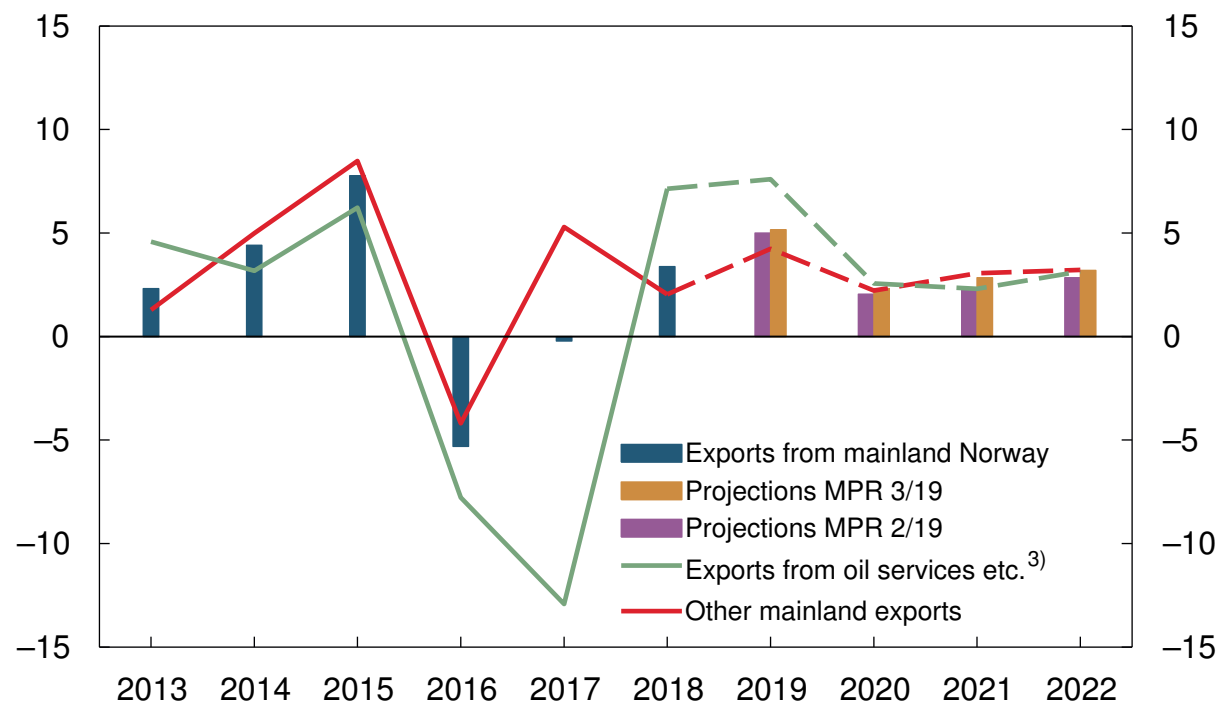
1) Working-day adjusted. **2)** Projections for 2019 – 2022. **3)** Groups of goods and services in the national accounts where the oil service industry accounts for a considerable share of exports.
Sources: Statistics Norway and Norges Bank

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

Total for all sectors
Oil-related industries
Construction
Retail trade and auto repair
Other sectors
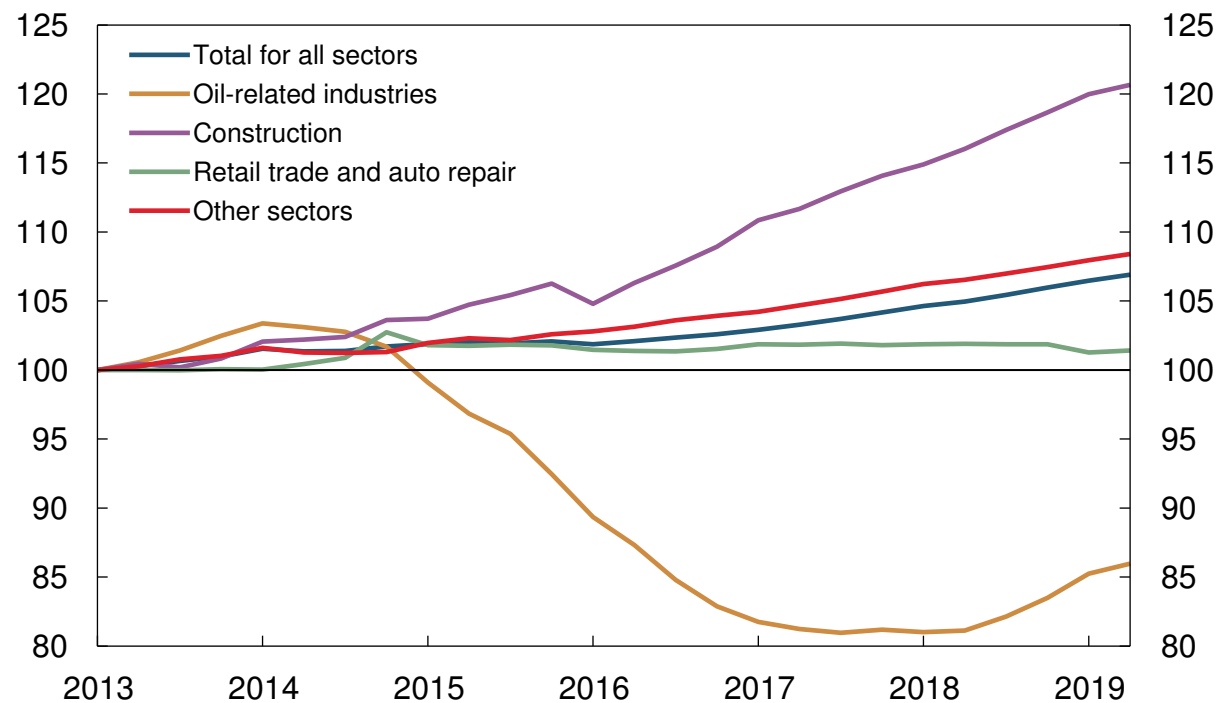
Sources: Statistic Norway and Norges Bank

Chart 4.11 Expected employment.[1] Regional Network. Quarterly change.
Seasonally adjusted. Percent. Norges Bank's expectations survey.
Diffusion index.[2] 2013 Q1 – 2019 Q3
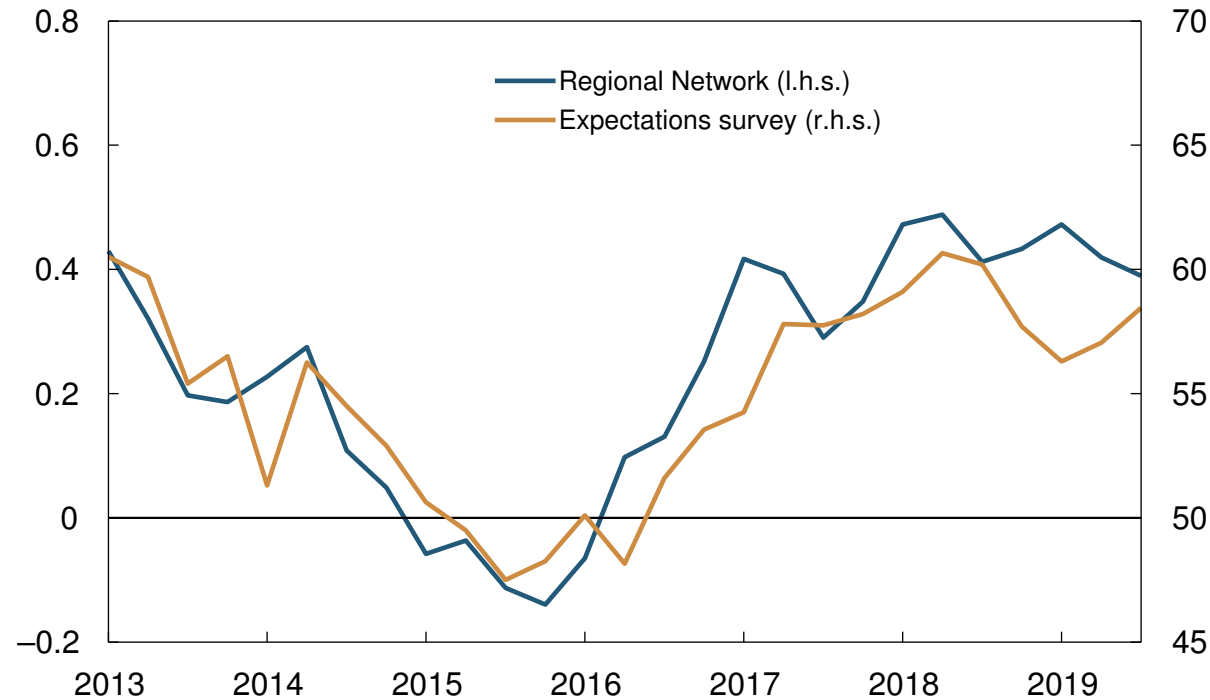
1) Expected change in employment next three months. **2)** Share of business leaders expecting "more employees" in their own firm in the following 12 months + 1/2 * share expecting "unchanged number of employees".
Sources: Epinion and Norges Bank

Chart 4.12 Job vacancies. Share of the total number of jobs.
Seasonally adjusted. Percent. 2013 Q1 – 2019 Q2
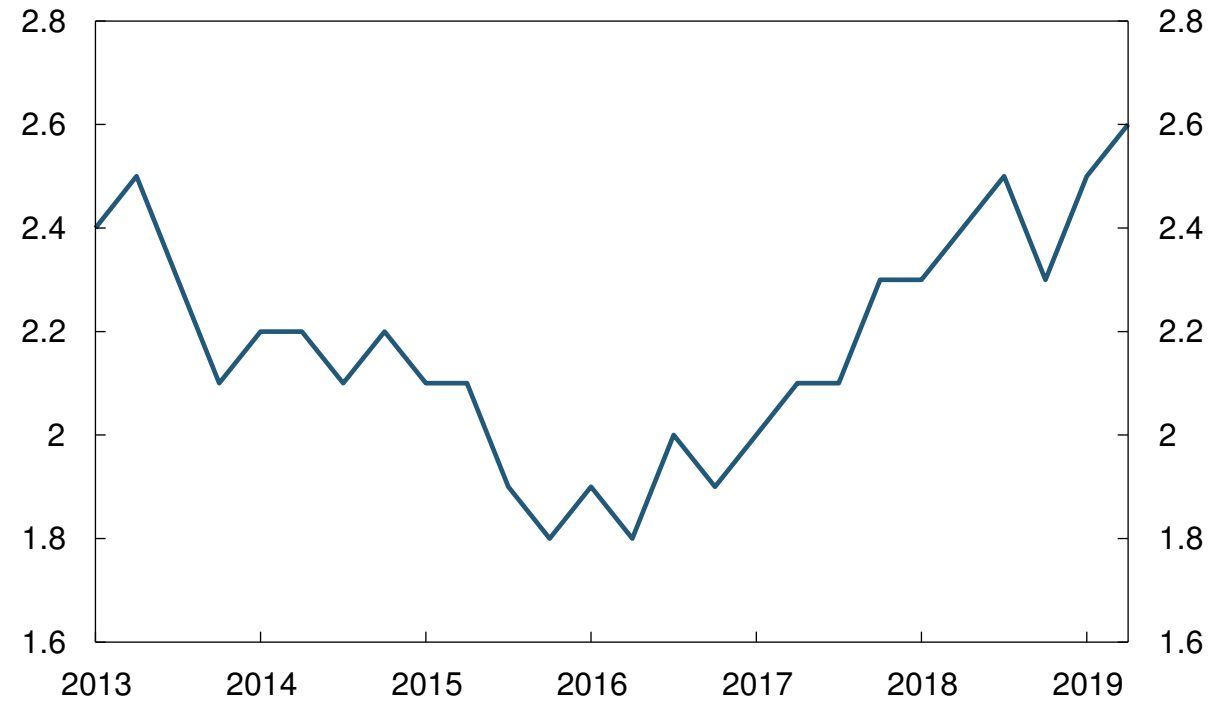
Chart 4.13 Unemployment benefit recipients[1] and registered unemployment. Share of labour force. Seasonally adjusted. Percent. January 2007 – December 2019 [2]

- Recipients of unemployment benefits
- Fully unemployed
- Projections MPR 3/19
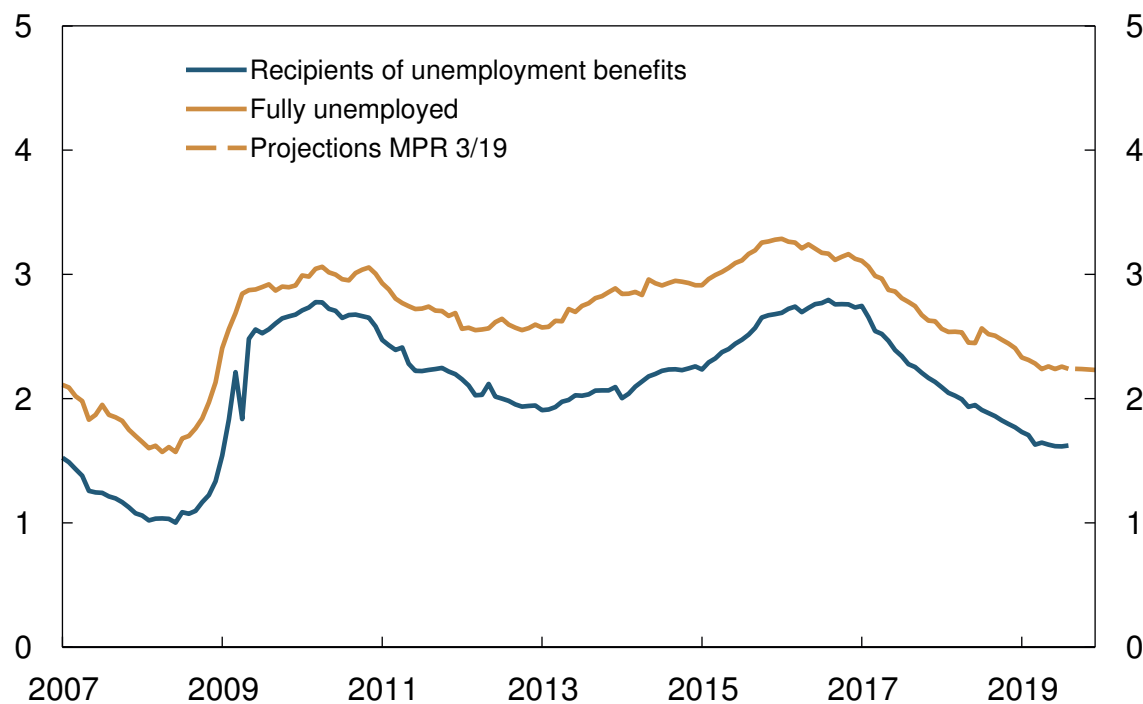
1) Approximately half of the fully unemployed receive unemployment benefits. Some partly unemployed persons and labour market programme participants are also eligible for unemployment benefits.
2) Projections for September 2019 – December 2019.
Sources: Norwegian Labour and Welfare Administration (NAV) and Norges Bank

Chart 4.14 Output gap estimates.[1] Percent. 2009 Q1 – 2019 Q2
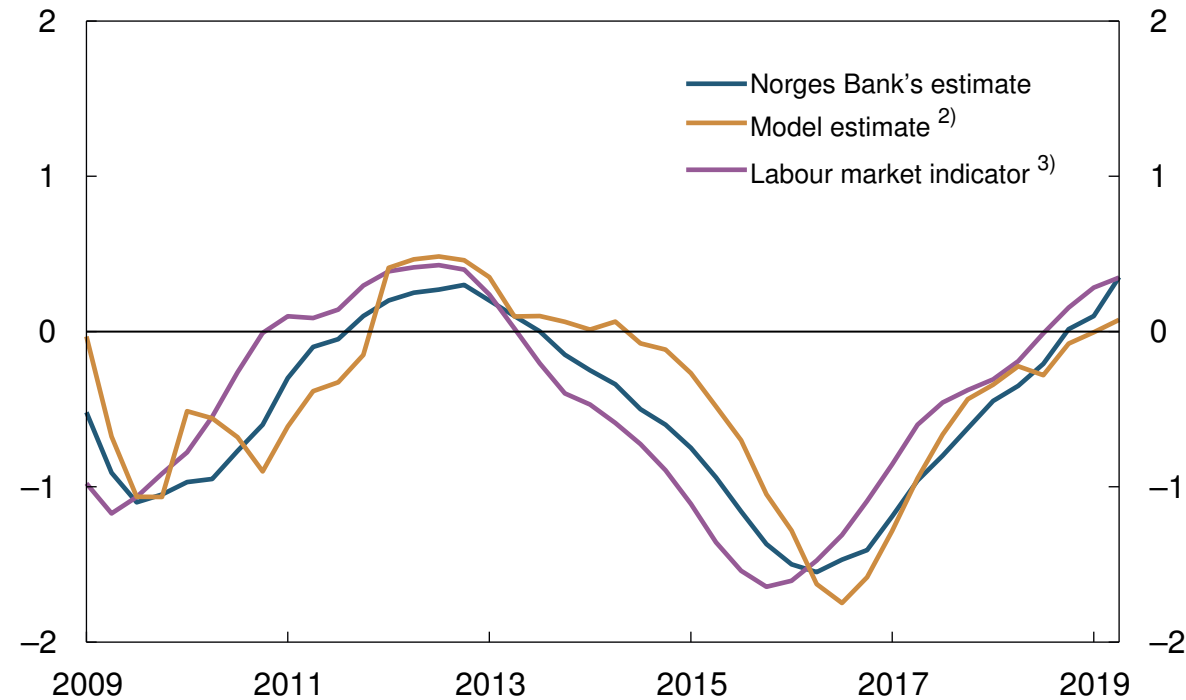
1) The output gap measures the percentage difference between mainland GDP and estimated potential mainland GDP. **2)** See box on page 34 in *Monetary Policy Report* 4/17. **3)** An indicator of the output gap based on the labour market. See Hagelund, K., F. Hansen and Ø. Robstad (2018) "Model estimates of the output gap". *Staff Memo* 4/2018. Norges Bank, for more detail.
Source: Norges Bank

Chart 4.15 Capacity utilisation[1] and labour supply constraints[2] as reported by the Regional Network. Percent. January 2005 – August 2019
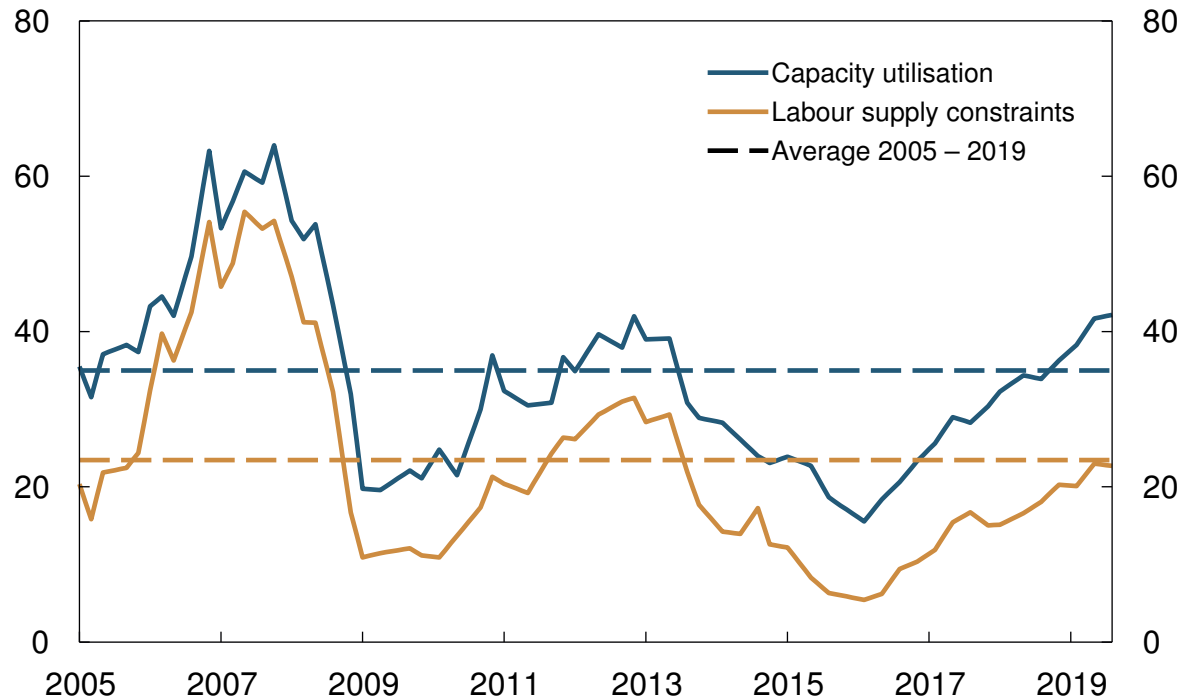
1) Share of contacts that will have some or considerable problems accommodating an increase in demand. **2)** Share of contacts reporting that output is being constrained by labour supply. Only enterprises reporting full capacity utilisation are asked about labour supply, but the series shows the share of all the contacts in the interview round. The municipal and hospital sector does not respond to the question of capacity utilisation but still responds to the question of labour supply.
Source: Norges Bank

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

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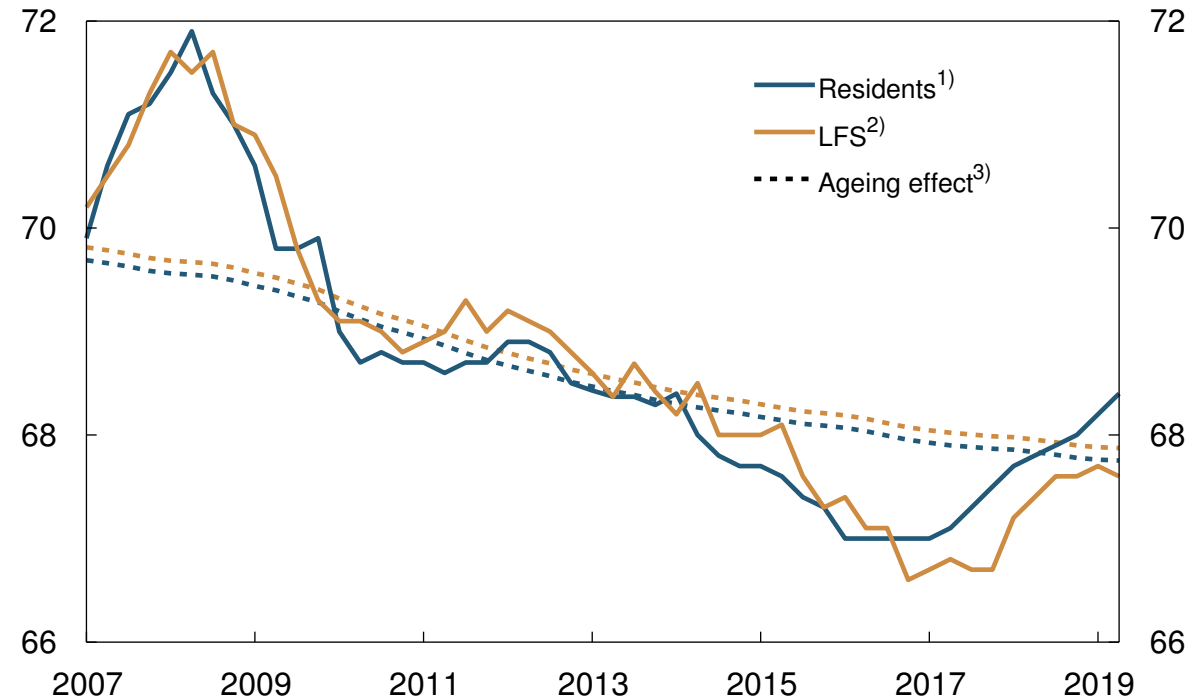
1) Employment (QNA) minus non–resident workers (register data). The series for non–resident workers has been adjusted back in time owing to breaks in the series in 2015. 2) Labour Force Survey. 3) Employment share if the employment share for each five–year age cohort had remained unchanged at 2013–levels.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

Chart 4.17 Productivity. Mainland GDP per employee.
Annual change. 1995 – 2019[1]
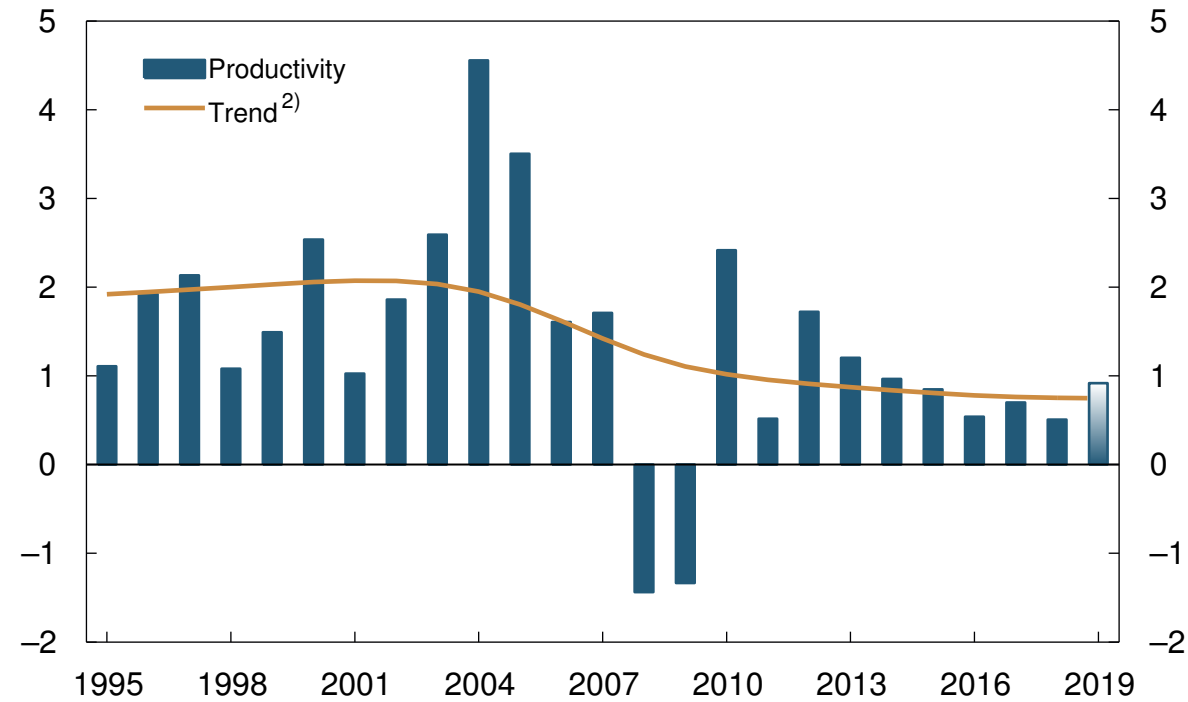
1) Projection for 2019. **2)** Estimated with a Hodrick-Prescott filter with lambda = 100.
Sources: Statistics Norway and Norges Bank

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

Legend:
- Output gap (l.h.s)
- Domestically produced goods and services in the CPI-ATE (r.h.s.)
- Projections MPR 3/19
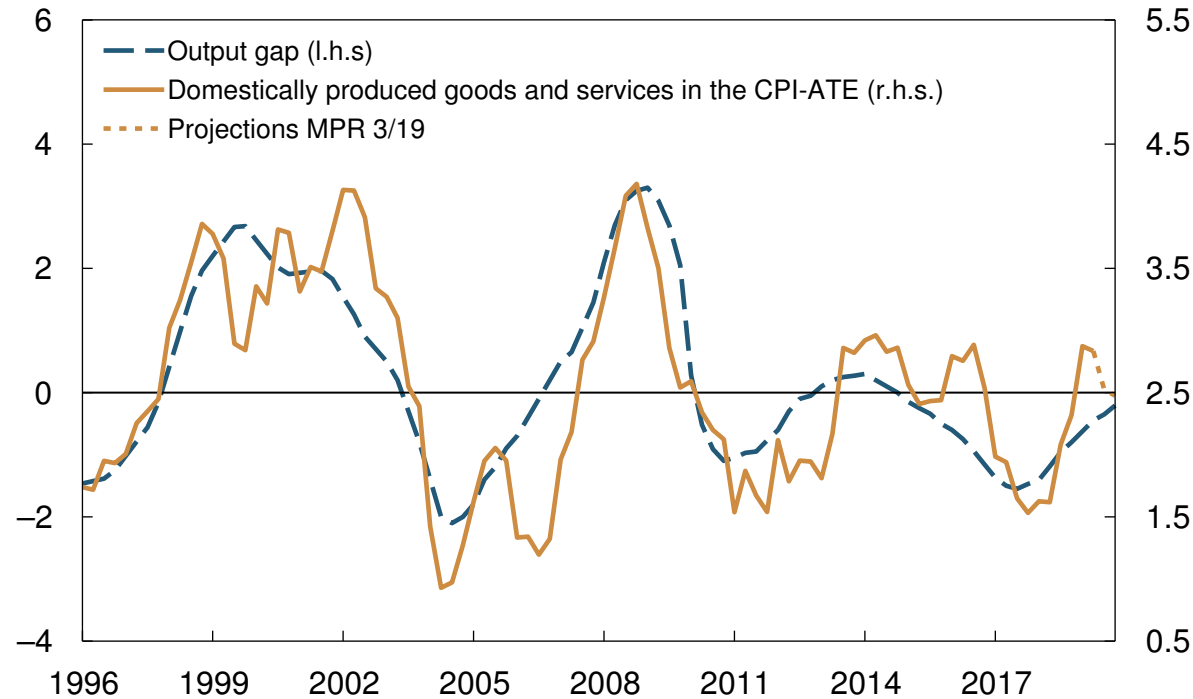
1) CPI adjusted for tax changes and excluding energy products. **2)** Norges Bank's estimates. 1996 Q1 – 2019 Q2. Projections for 2019 Q3 – 2019 Q4. **3)** The output gap is measured as the percentage difference between mainland GDP and estimated potential mainland GDP. The gap is lagged by five quarters and shows data for 1994 Q4 – 2018 Q3.
Sources: Statistics Norway and Norges Bank

Chart 4.19 Imported consumer goods in the CPI–ATE [1] and international inflationary impulses in NOK. Four–quarter change. 1996 Q1 – 2019 Q4 [2]
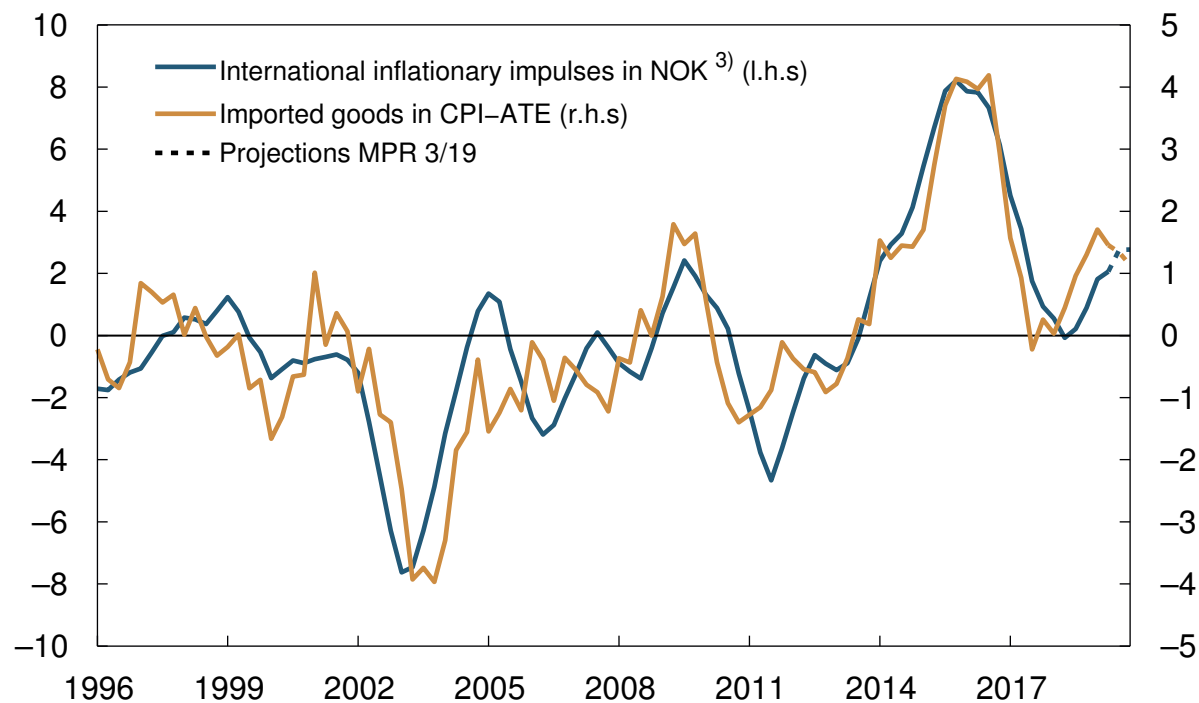
Legend:
- International inflationary impulses in NOK [3] (l.h.s)
- Imported goods in CPI–ATE (r.h.s)
- Projections MPR 3/19

1) CPI adjusted for tax changes and excluding energy products. **2)** Projections for 2019 Q3 – 2019 Q4.
3) Simple average for the past eight quarters.
Sources: Statistics Norway, Thomson Reuters and Norges Bank
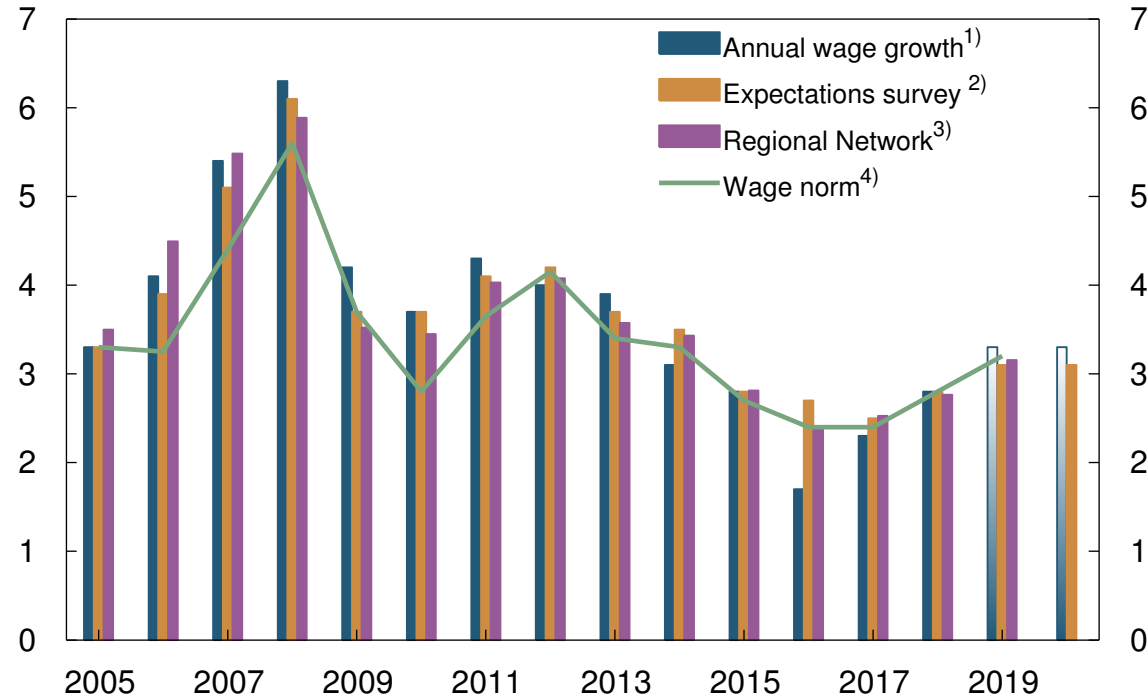
Chart 4.20 Wages, wage norm and wage expectations.
Annual change. Percent. 2005 – 2020

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

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

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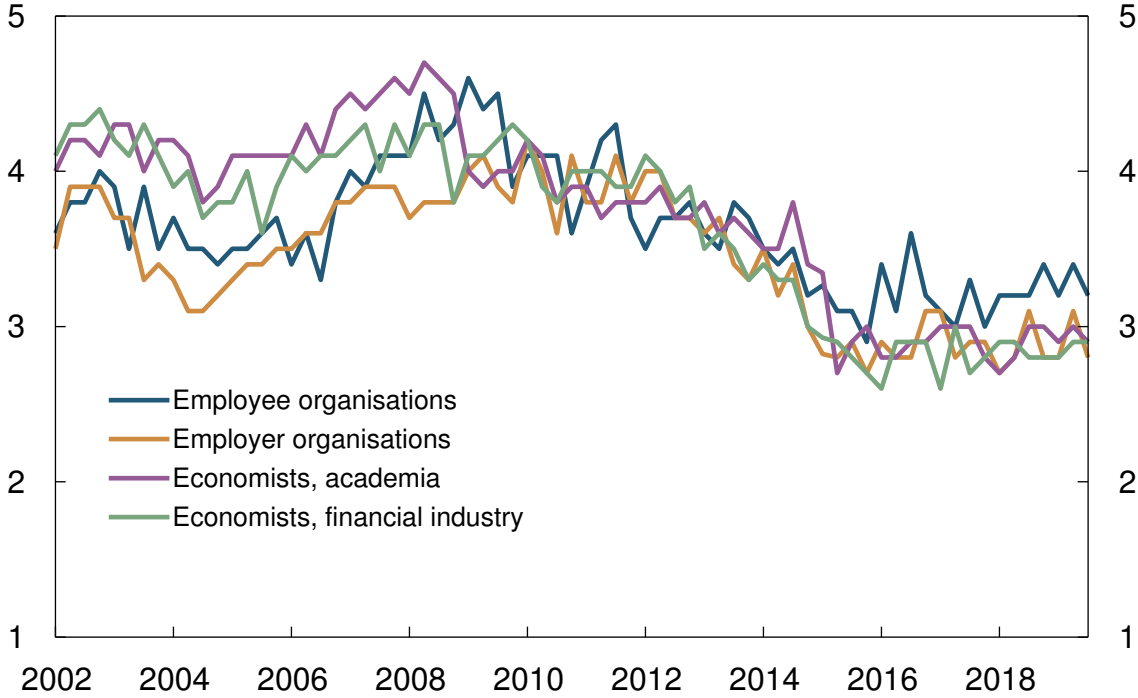
Sources: Epinion, Kantar TNS and Opinion

Chart 4.22 Labour cost share for mainland Norway.[1] Percent. 1980 – 2022[2]
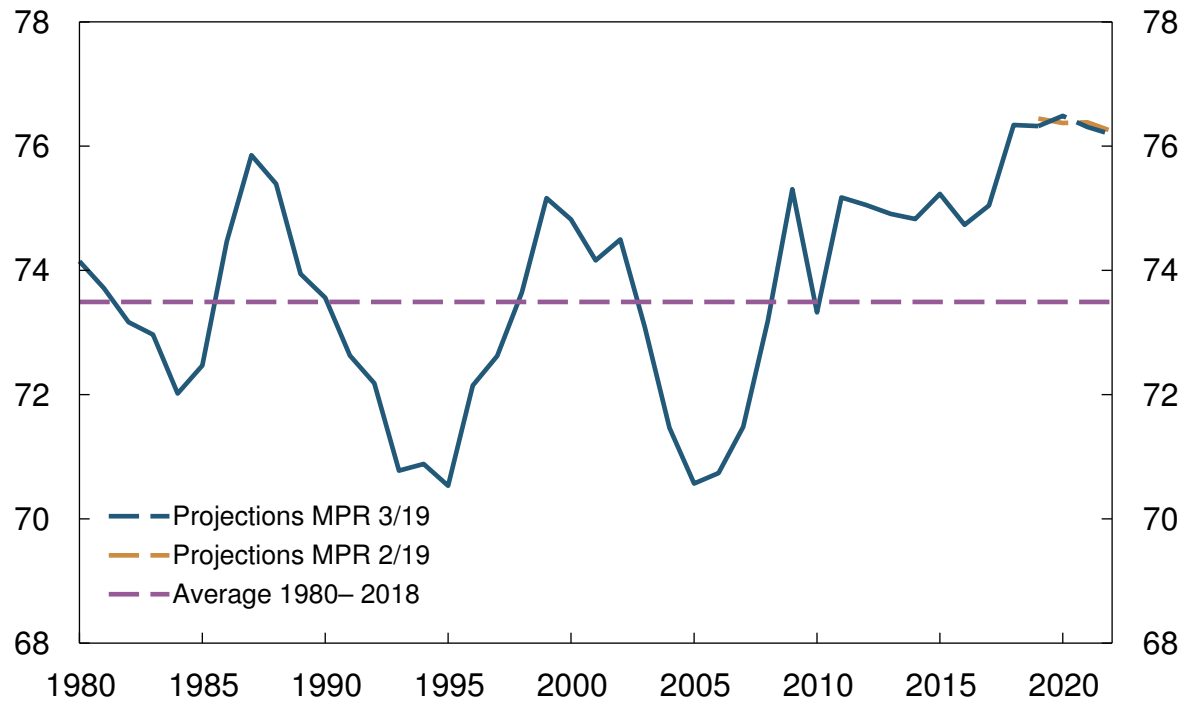
1) Labour costs as a proportion of factor income. 2) Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

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

– – Forecasts from SAM
– – Projections MPR 3/19

30% 50% 70% 90%
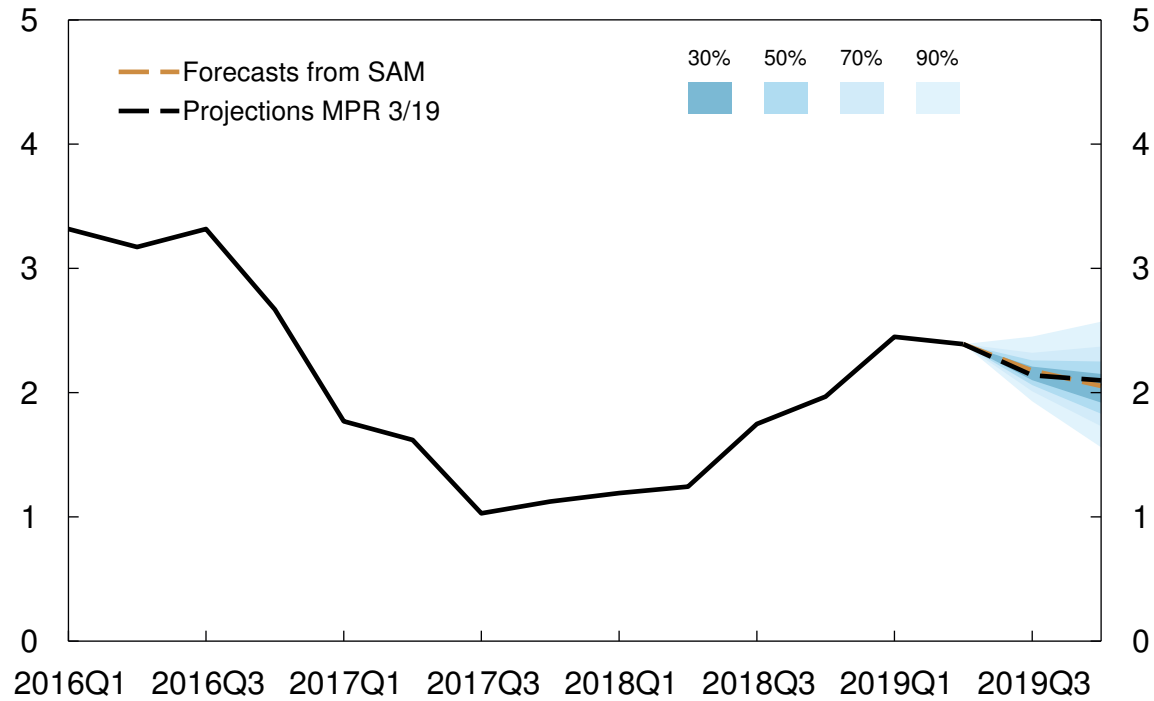
1) CPI adjusted for tax changes and excluding energy products. **2)** System for Averaging short-term Models.
3) Projections for 2019 Q3 – 2019 Q4.
Sources: Statistics Norway and Norges Bank

Chart 4.24 CPI and CPI-ATE[1]. Annual change. Percent. 2013 – 2022 [2]
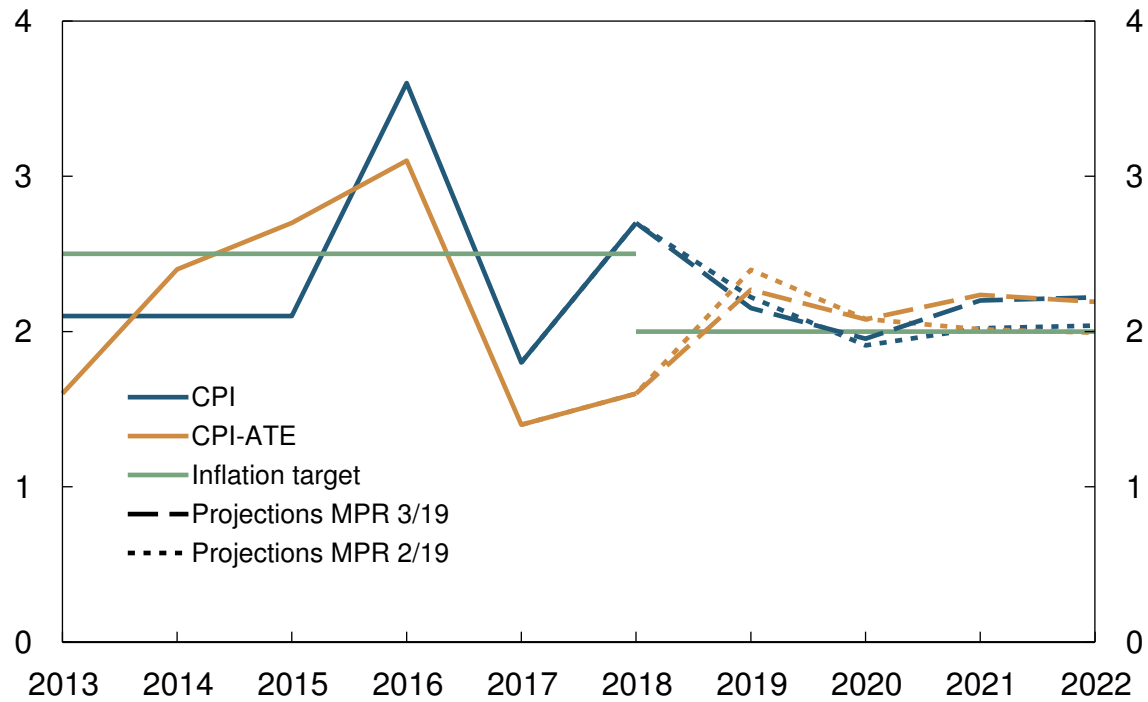
1) CPI adjusted for tax changes and excluding energy products. **2)** Projections for 2019 – 2022.
Sources: Statistics Norway and Norges Bank

Chart 4.25 Domestically produced goods and services and imported consumer goods in CPI-ATE[1]. Four–quarter change. Percent. 2013 Q1 – 2022 Q4[2]
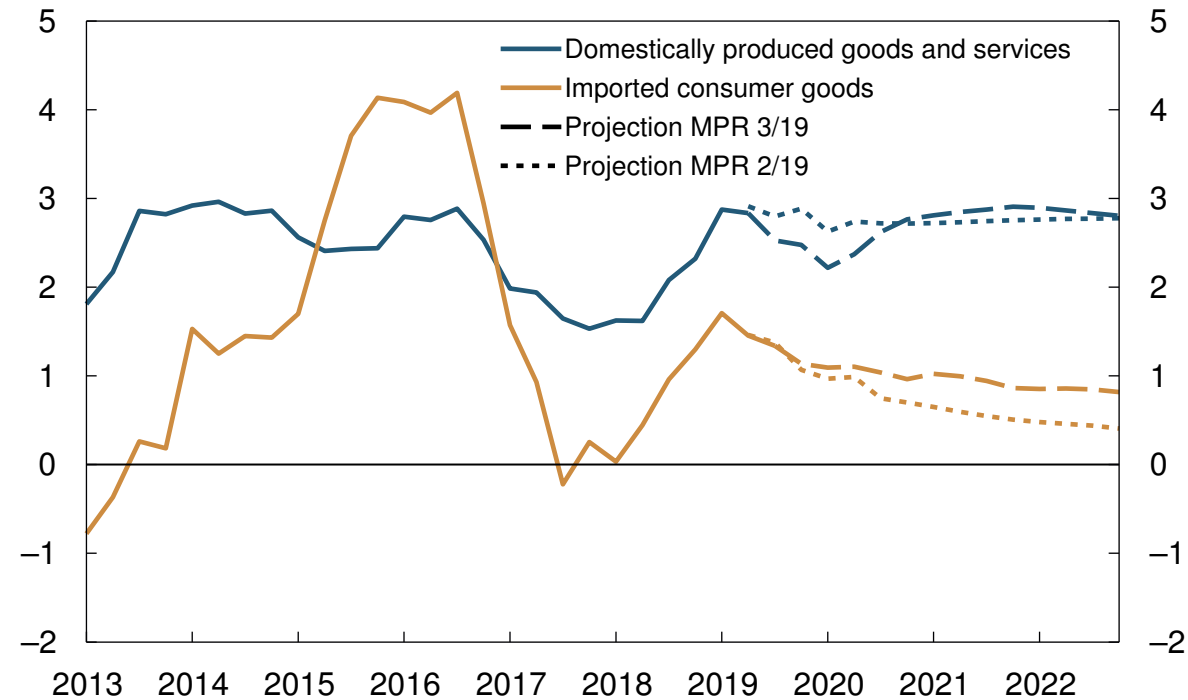
Domestically produced goods and services
Imported consumer goods
– – Projection MPR 3/19
···· Projection MPR 2/19

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

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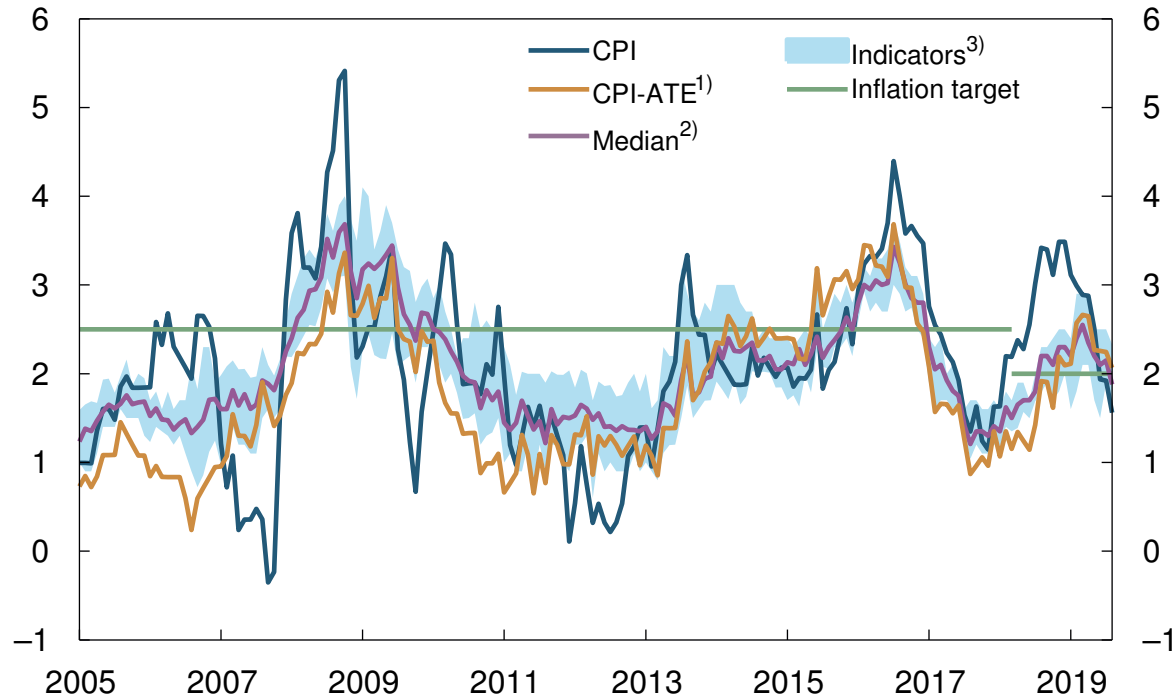
1) The CPI adjusted for tax changes and excluding energy products. **2)** Median of the CPIM, CPIXE, 20% trimmed mean, weighted median, CPI-XV and CPI common. **3)** The band shows the highest and lowest values for the CPIM, CPIXE, 20% trimmed mean, weighted median, CPI-XV and CPI common.
Sources: Statistics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

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

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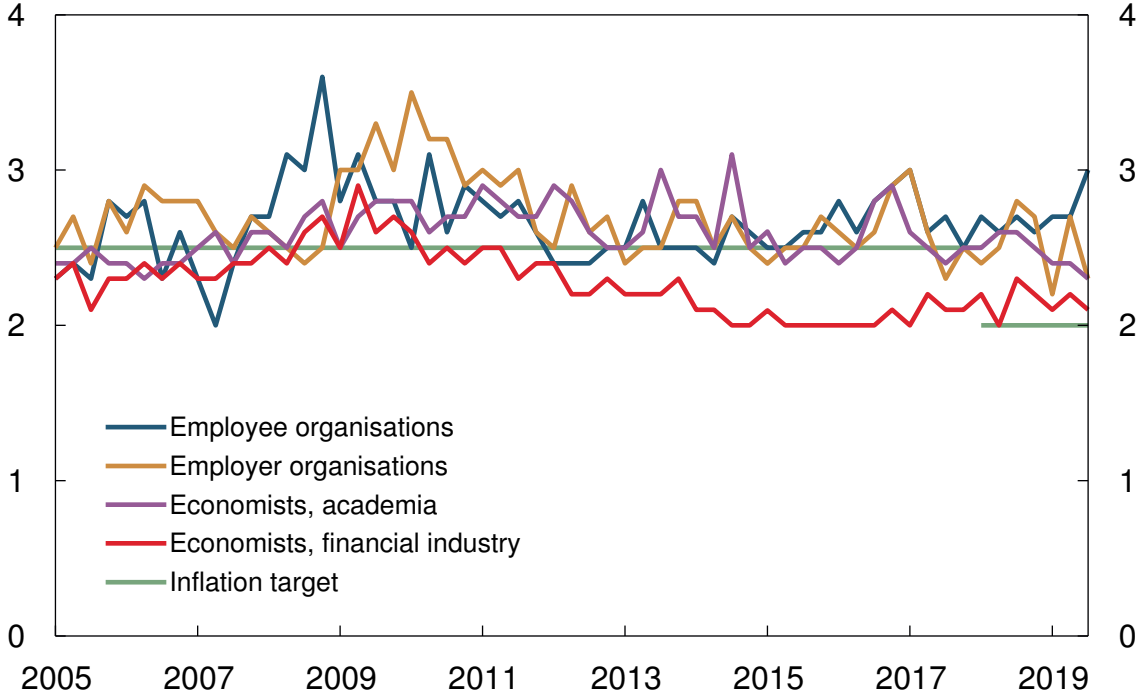
Sources: Epinion, Kantar TNS and Opinion

Chart 4.C Structural non-oil deficit and 3% of the GPFG[1].
Share of trend GDP for mainland Norway. Percent. 2013 – 2022 [2]
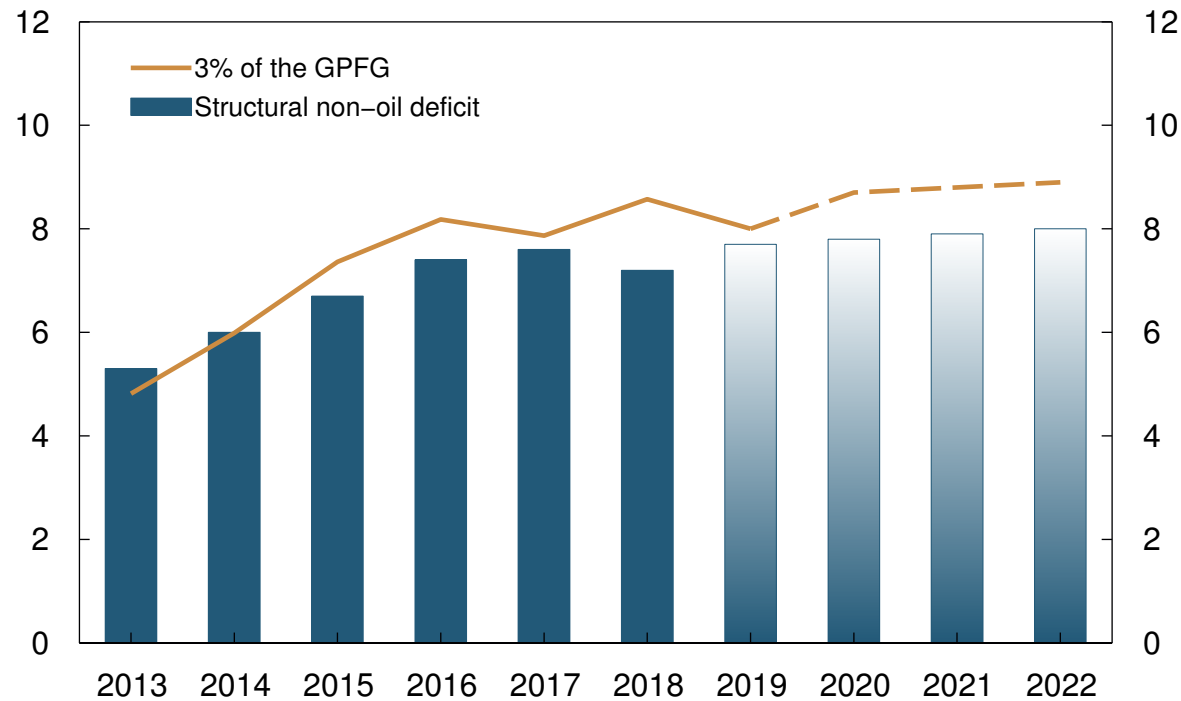
1) Government Pension Fund Global. **2)** Projections for 2019 – 2022.
Sources: Ministry of Finance and Norges Bank

Chart 4.D Public sector demand [1]. Annual change. Percent. 2013 – 2022[2]
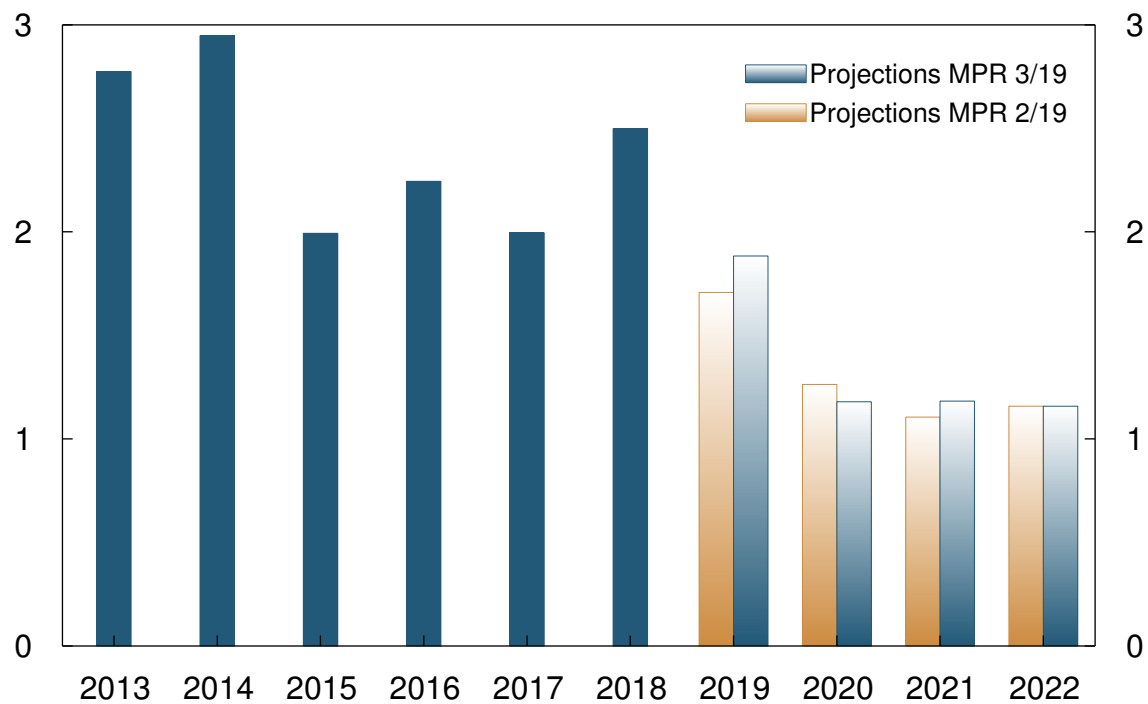
Projections MPR 3/19
Projections MPR 2/19

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]
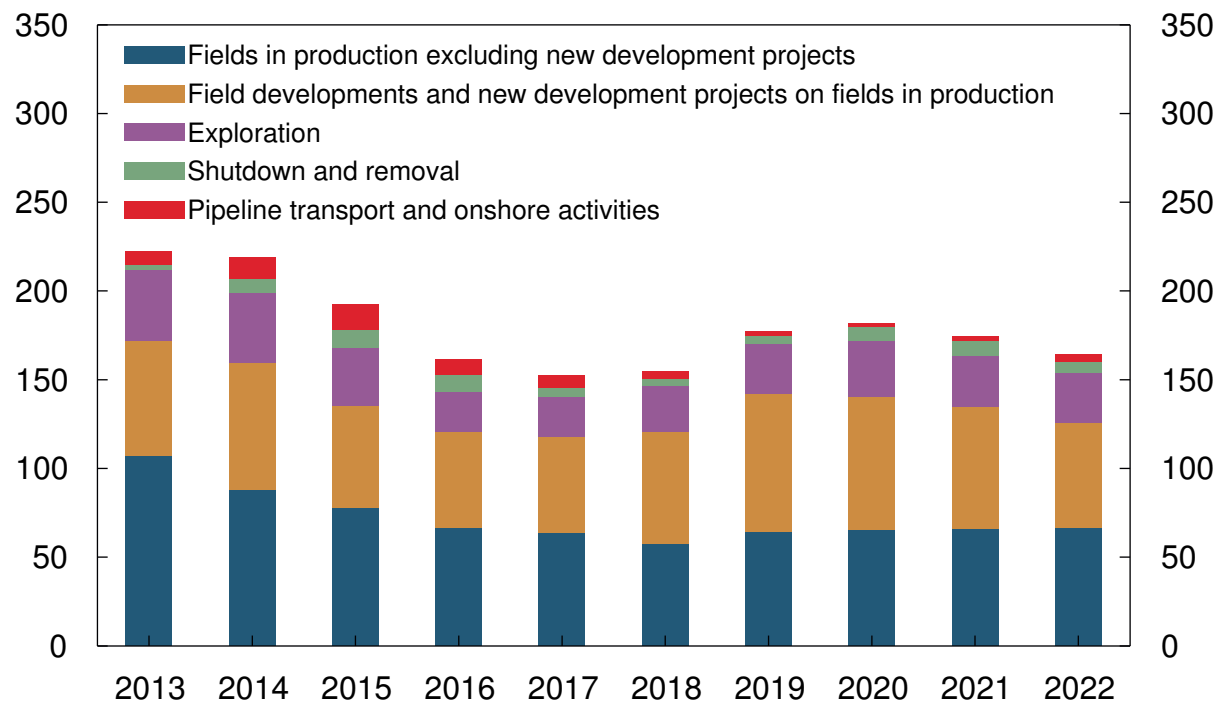
Legend:
- Fields in production excluding new development projects
- Field developments and new development projects on fields in production
- Exploration
- Shutdown and removal
- Pipeline transport and onshore activities

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]
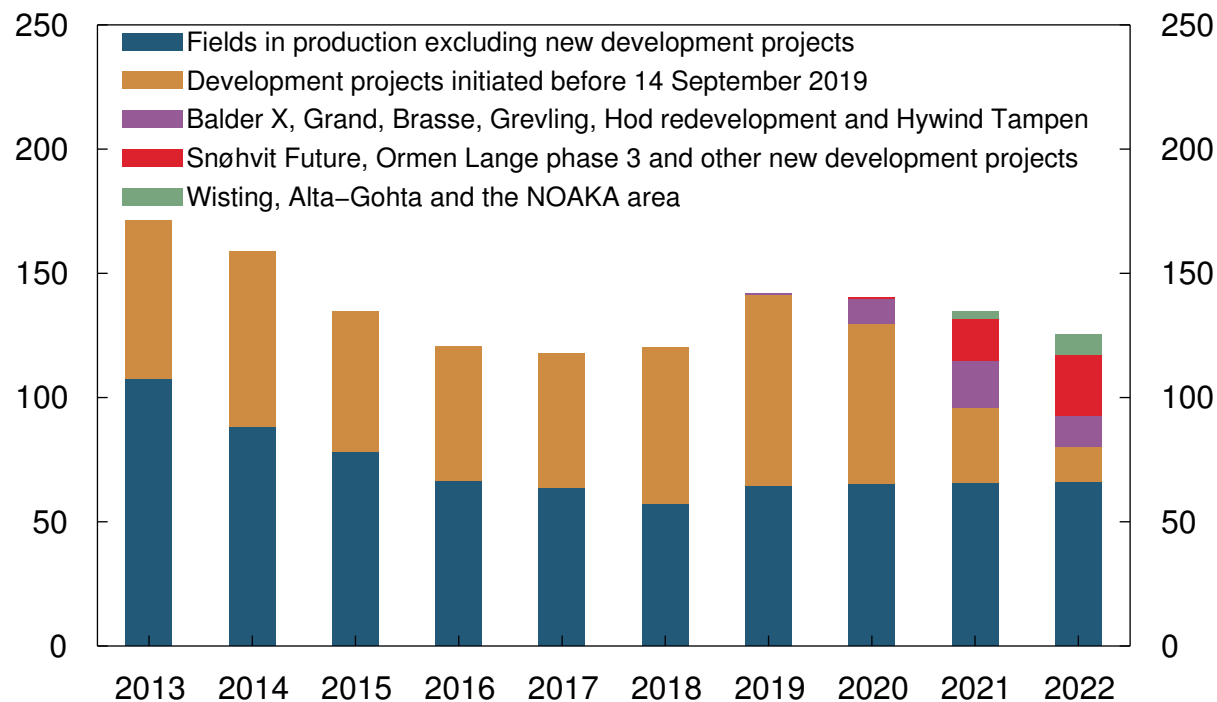
Legend:
- Fields in production excluding new development projects
- Development projects initiated before 14 September 2019
- Balder X, Grand, Brasse, Grevling, Hod redevelopment and Hywind Tampen
- Snøhvit Future, Ormen Lange phase 3 and other new development projects
- Wisting, Alta–Gohta and the NOAKA area

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.
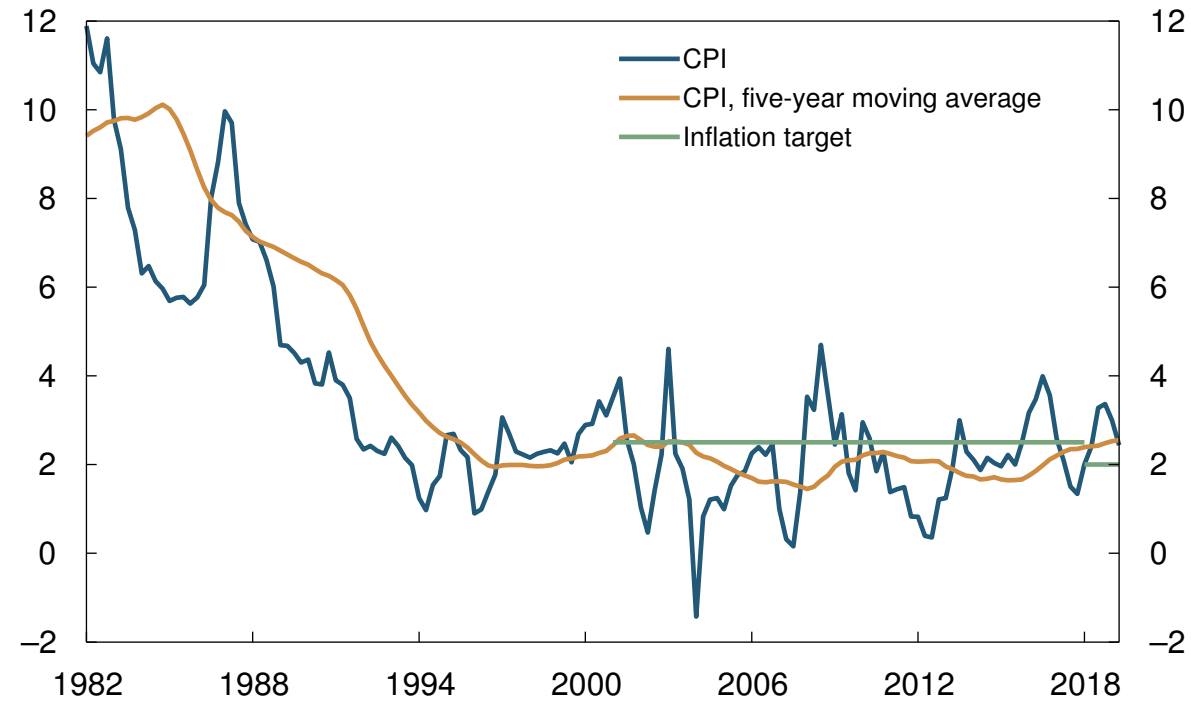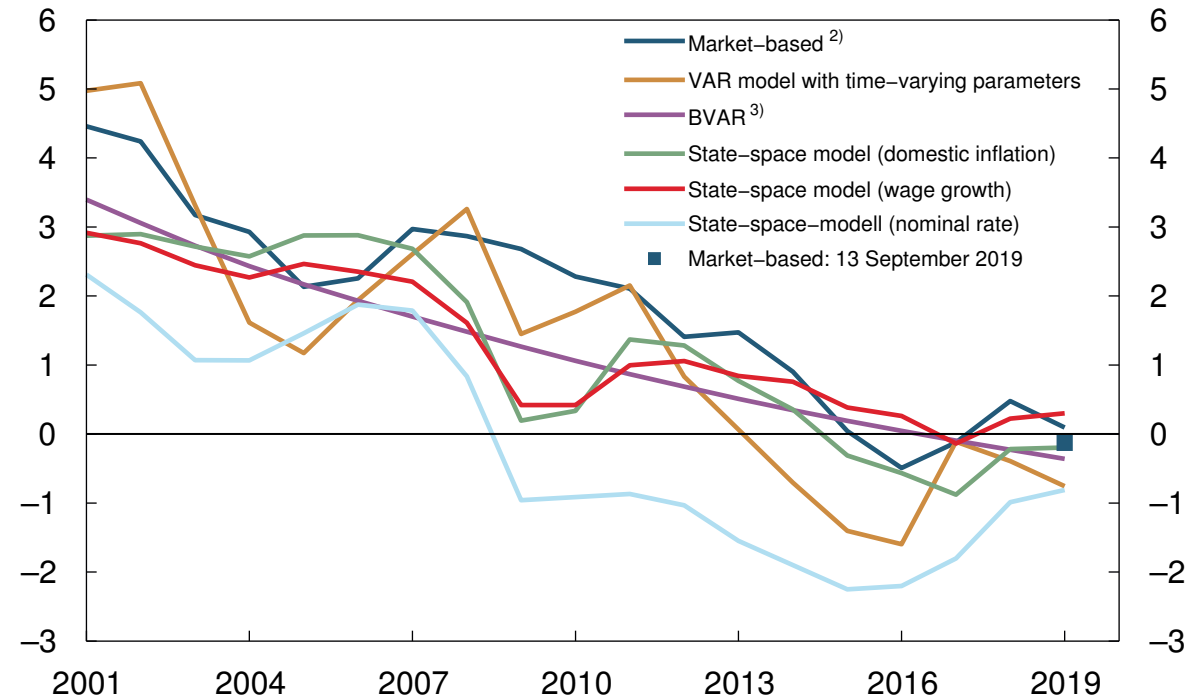Sources: Statistics Norway and Norges Bank

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

Sources: Statistics Norway and Norges Bank

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

Legend:
- Market−based [2]
- VAR model with time−varying parameters
- BVAR [3]
- State−space model (domestic inflation)
- State−space model (wage growth)
- State−space−modell (nominal rate)
- Market−based: 13 September 2019

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

Chart 5.3 Three-month money market rate and real interest rates [1].
Percent. 2005 Q1 – 2019 Q2 [2]
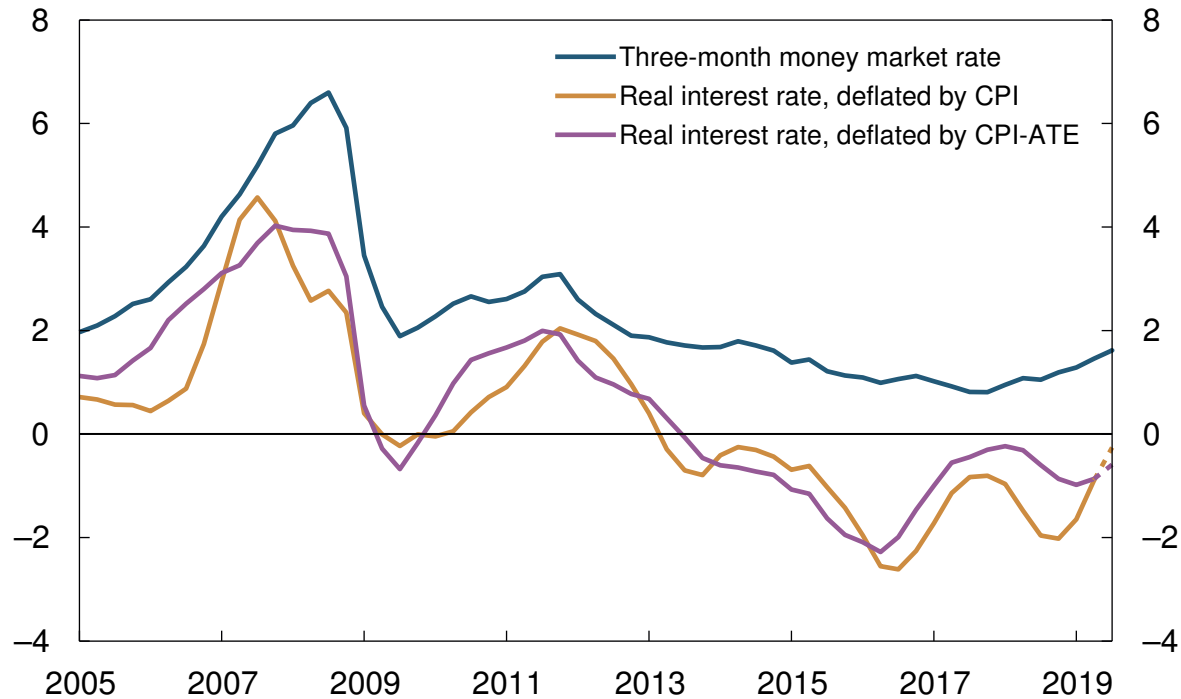
Legend:
- Three-month money market rate
- Real interest rate, deflated by CPI
- Real interest rate, deflated by CPI-ATE

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

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

- - - Projections MPR 3/19
- - - Projections MPR 2/19
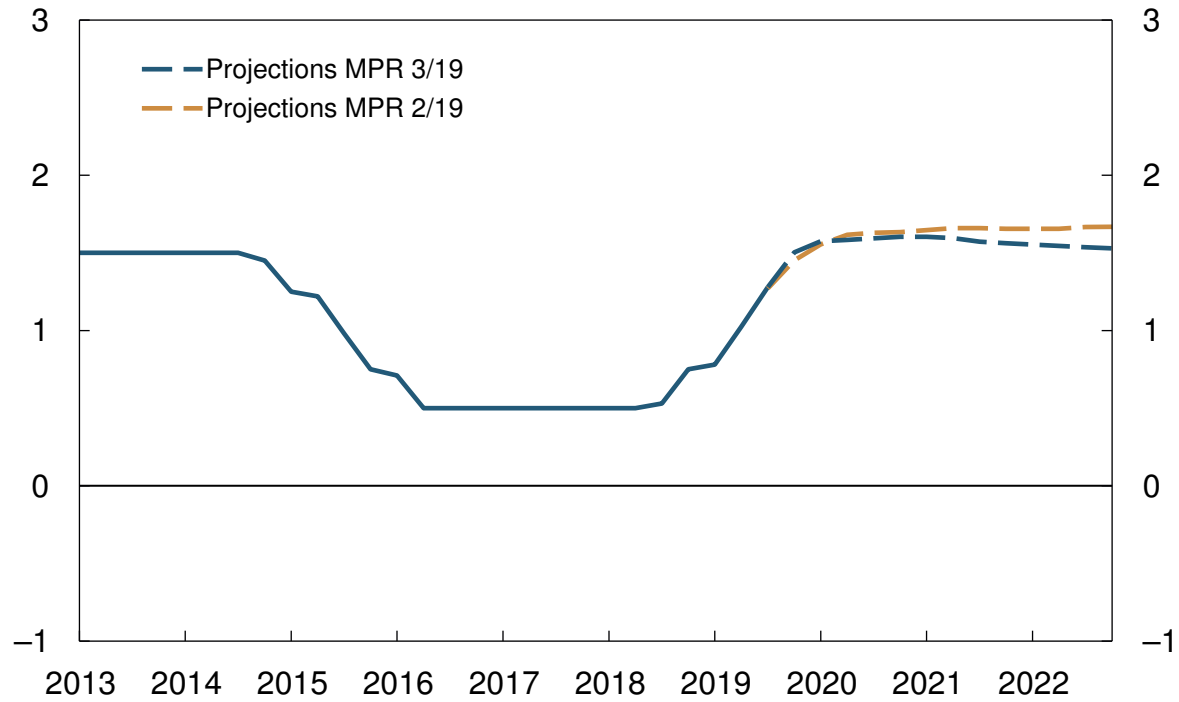
1) Projections for 2019 Q3 – 2022 Q4.
Source: Norges Bank

Chart 5.5 Real interest rate.[1] Percent. 2013 Q1 − 2022 Q3 [2]
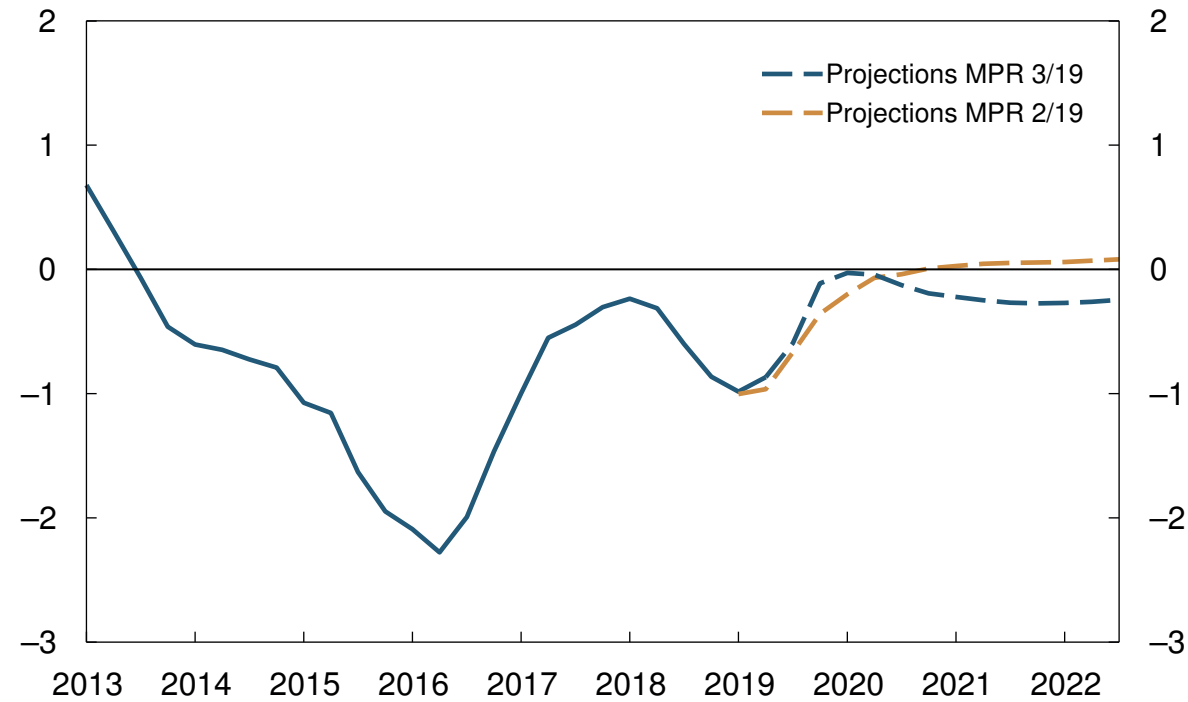
- - Projections MPR 3/19
- - Projections MPR 2/19

**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 Q2 − 2022 Q3.
Sources: Statistics Norway and Norges Bank

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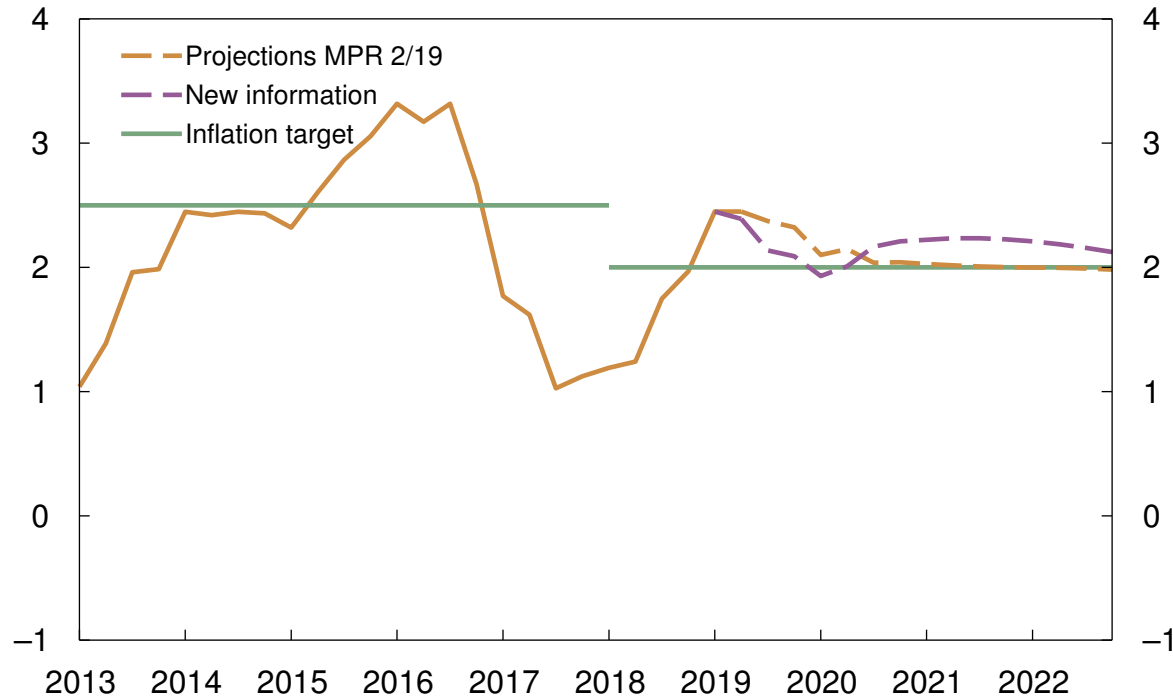
- - - Projections MPR 2/19
- - - New information
—— Inflation target

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

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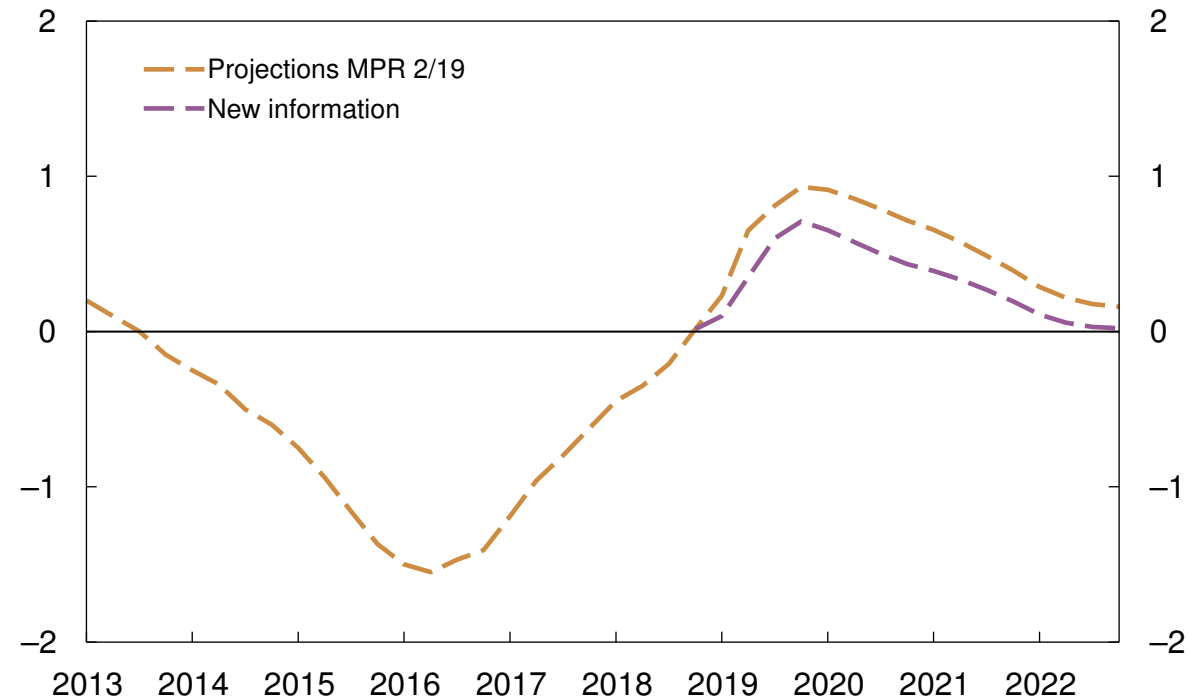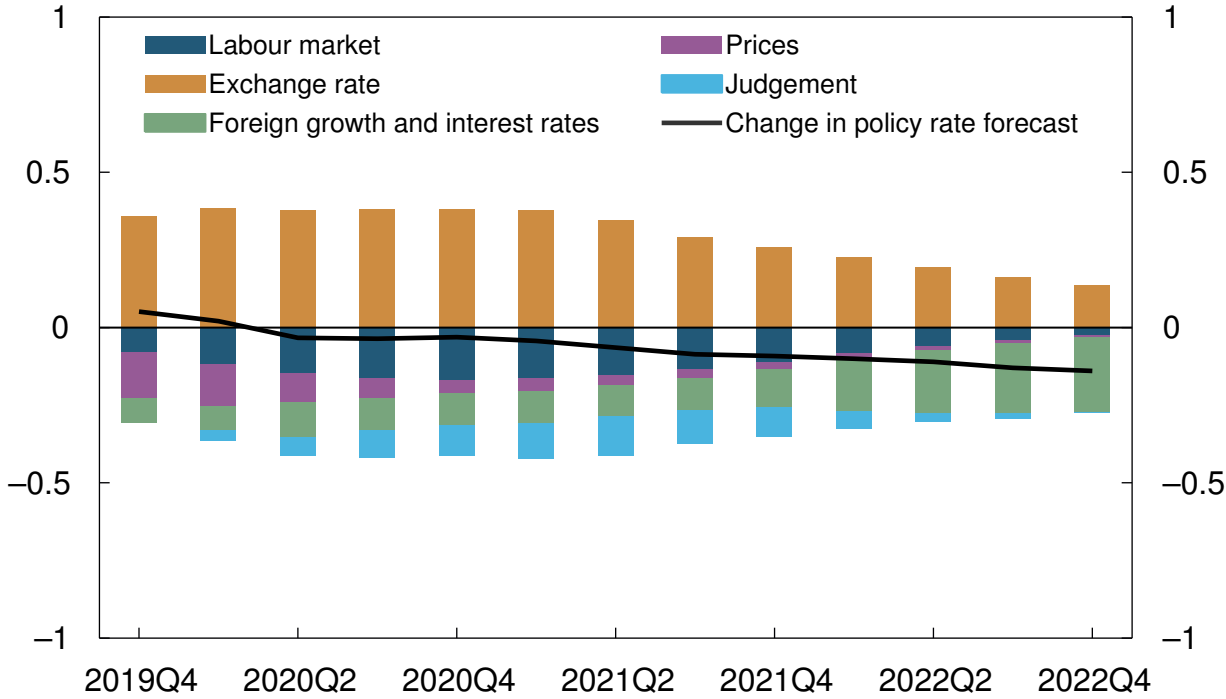

- – – Projections MPR 2/19
- – – New information

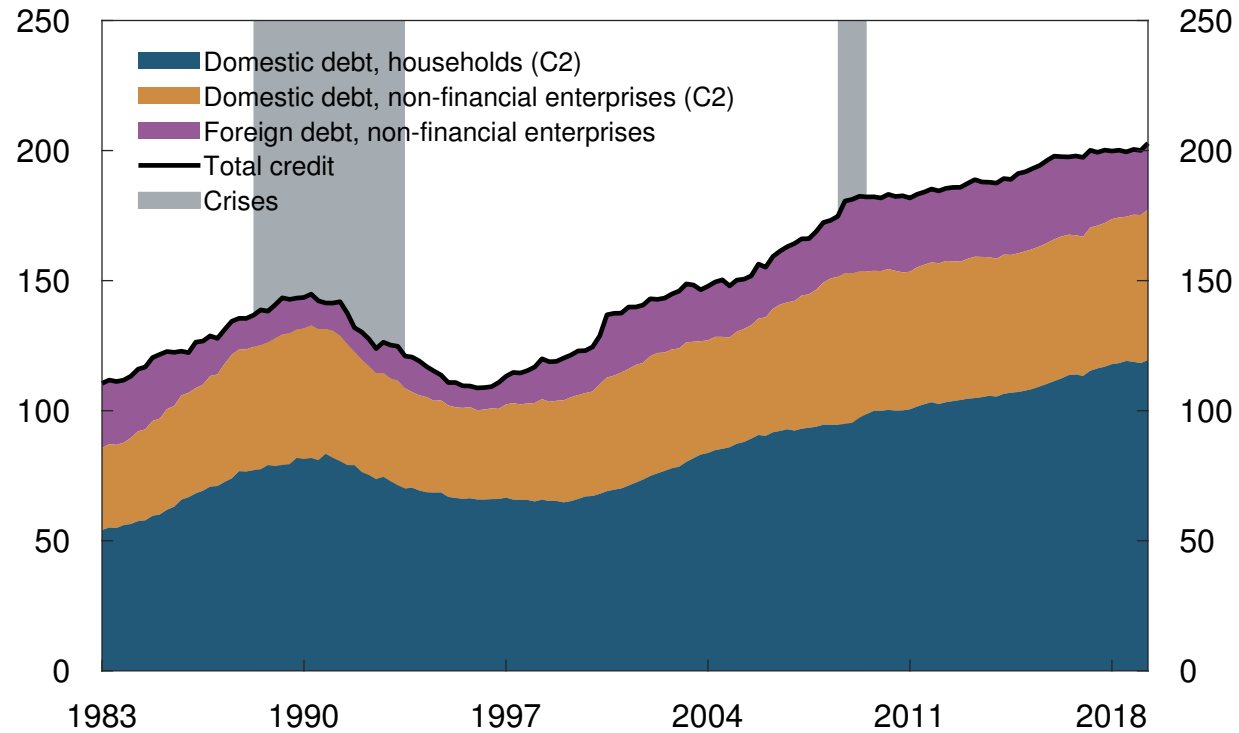**1)** The output gap measures the percentage deviation between mainland GDP and estimated potential mainland GDP.
Source: Norges Bank

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

Legend:
- Labour market
- Exchange rate
- Foreign growth and interest rates
- Prices
- Judgement
- Change in policy rate forecast

Source: Norges Bank

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

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

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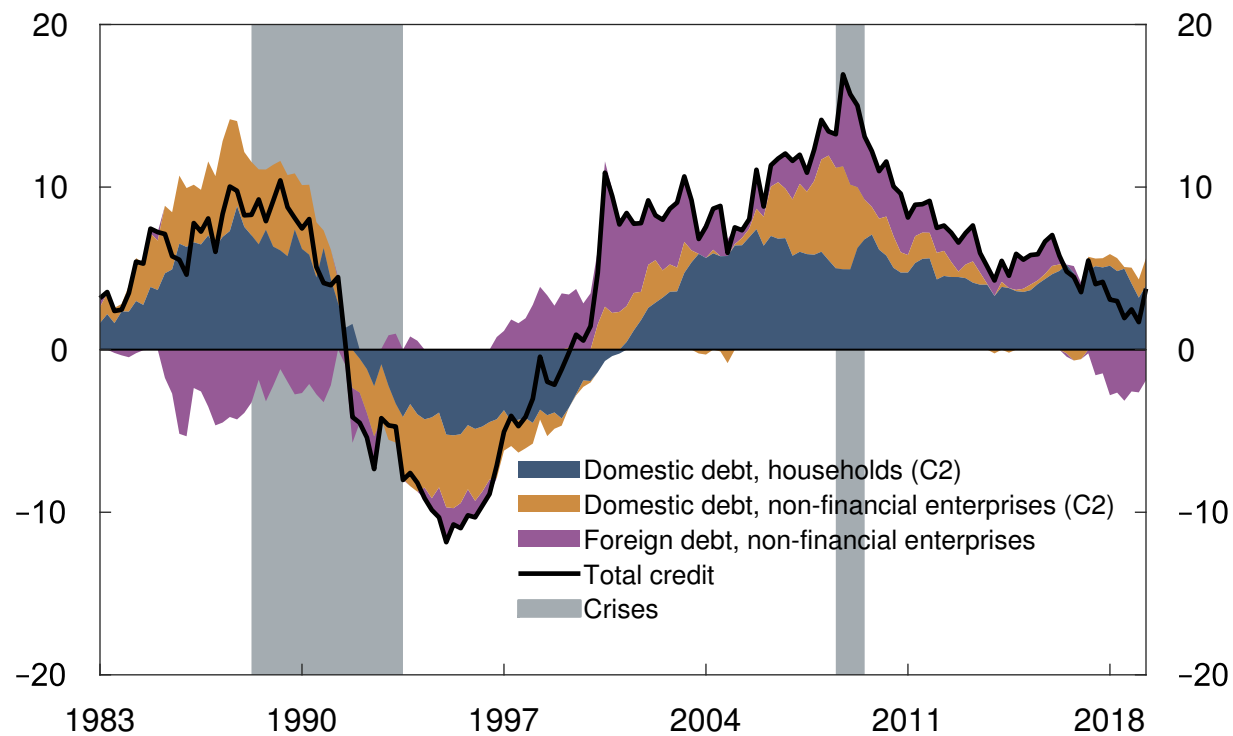
Sources: IMF, Statistics Norway and Norges Bank

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

- Debt ratio (left-hand scale)
- Debt service ratio (right-hand scale)
- Interest burden (right-hand scale)
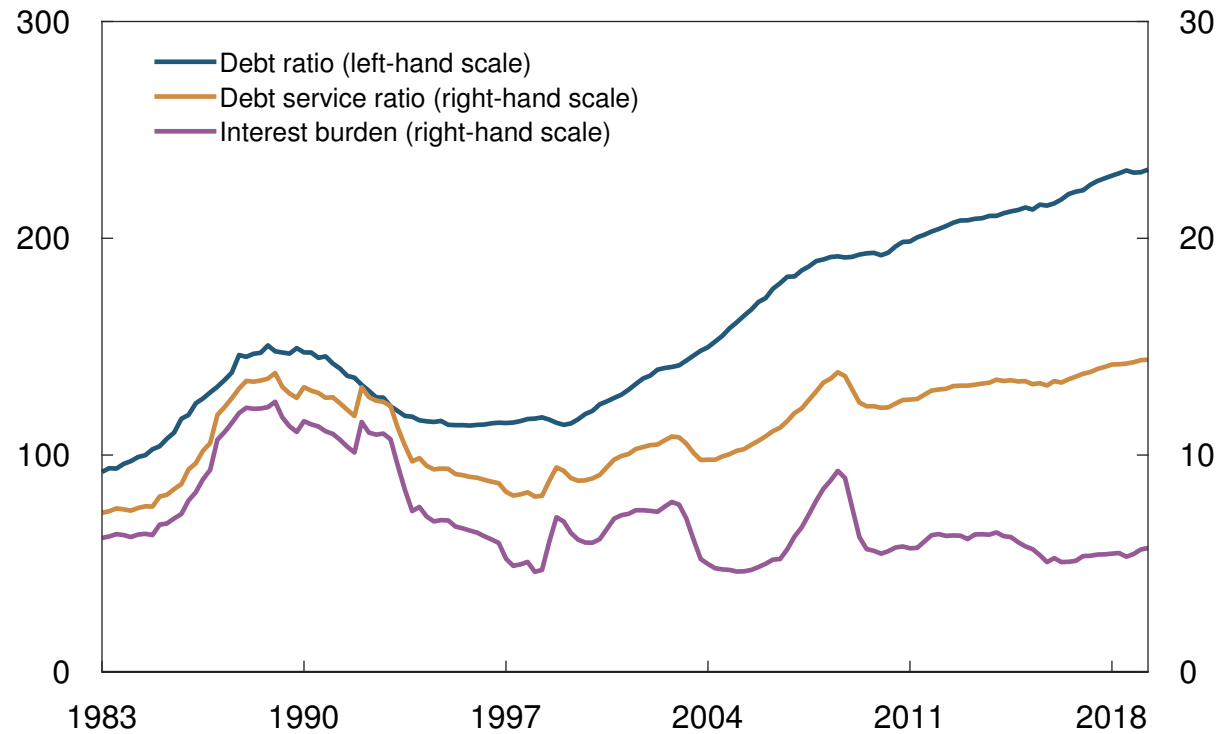
1) Loan debt as a percentage of disposable income. **2)** Interest expenses and estimated principal payments as a percentage of disposable income plus interest expenses. **3)** Interest expenses as a percentage of disposable income plus interest expenses. **4)** Projection for disposable income for 2019 Q2.
Sources: Statistics Norway and Norges Bank

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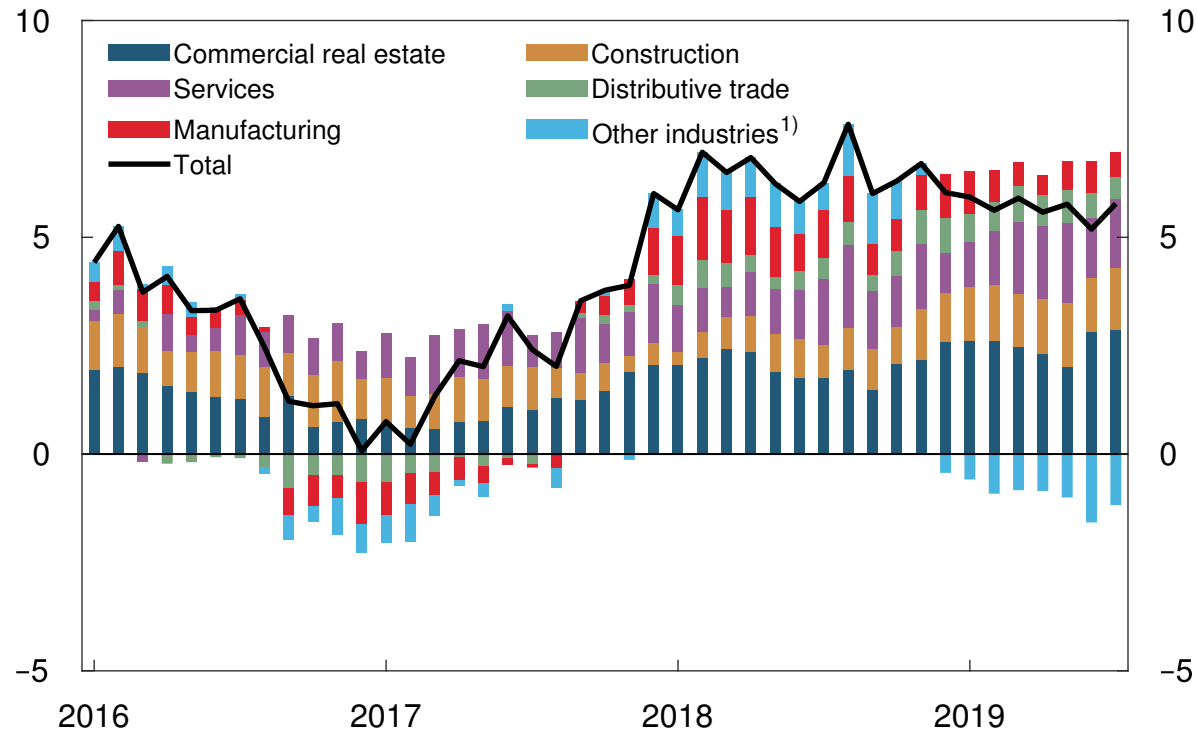
January 2014 – December 2019 [1]

Households
Non-financial enterprises
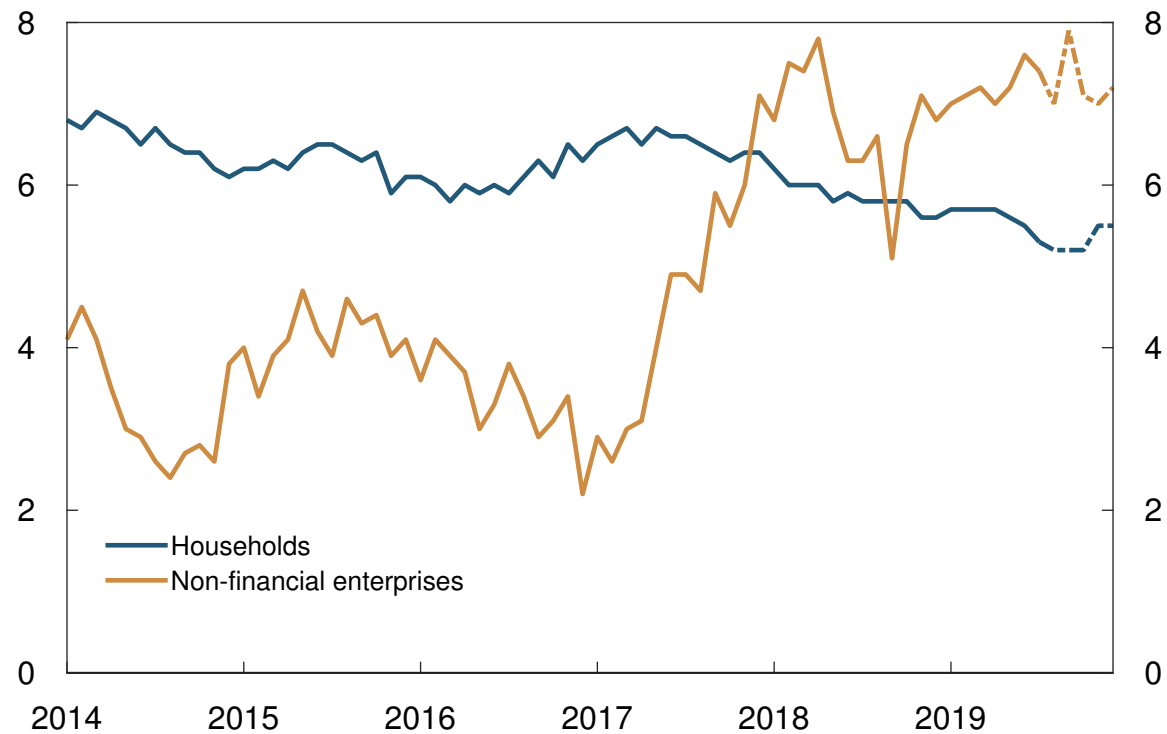
1) Projections for August 2019 – December 2019.
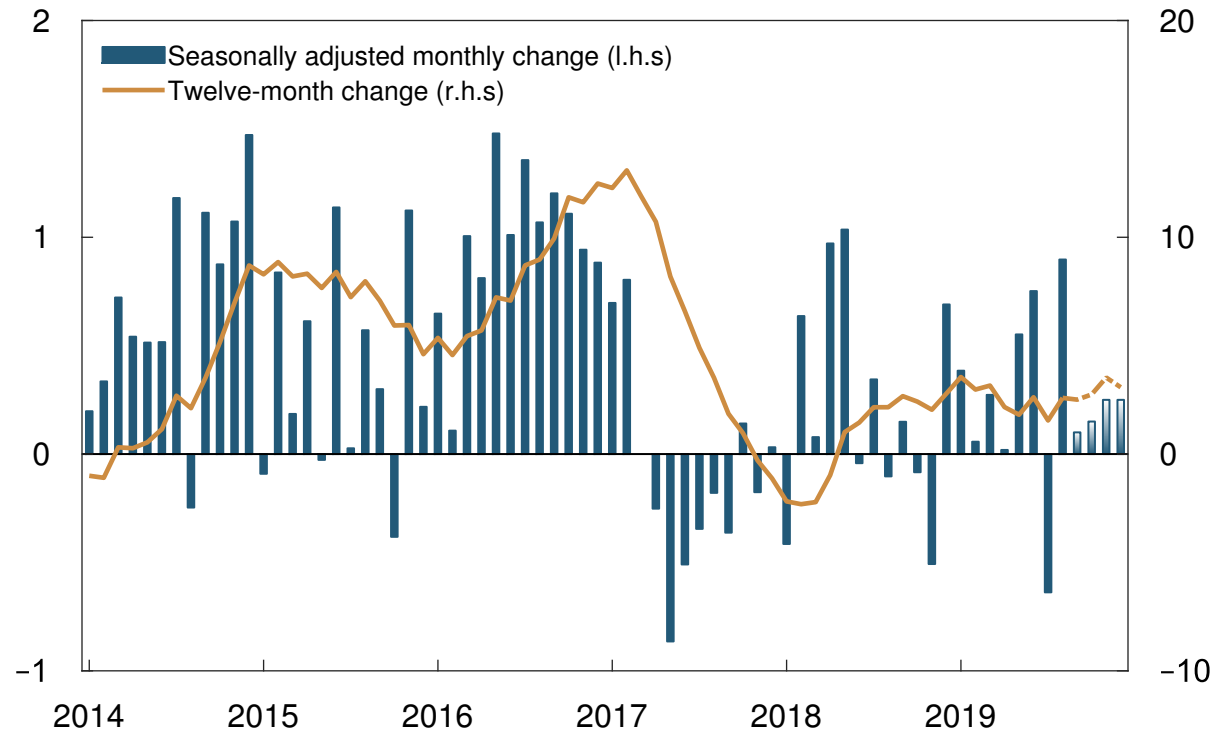Sources: Statistics Norway and Norges Bank

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

Legend:
- Commercial real estate
- Construction
- Services
- Distributive trade
- Manufacturing
- Other industries[1]
- Total

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

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

■ Seasonally adjusted monthly change (l.h.s)
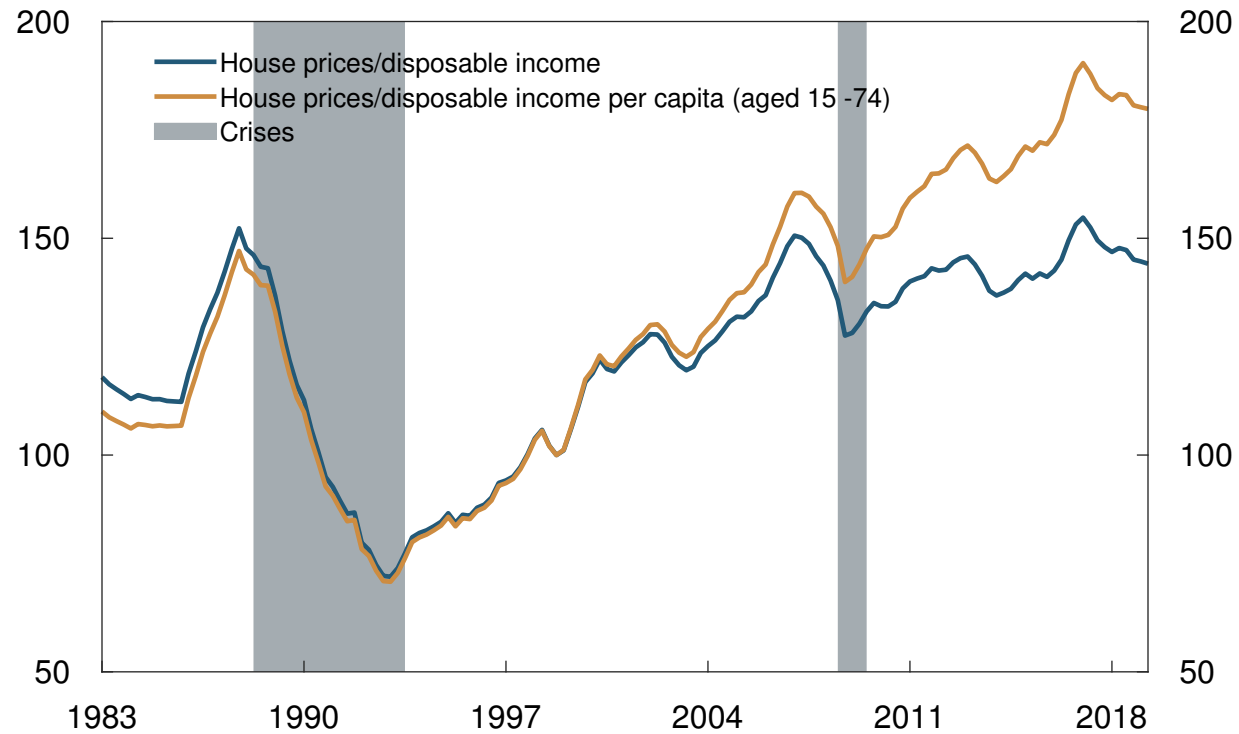— Twelve-month change (r.h.s)

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

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

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

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

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

2019
Average 2010 - 2018
Max/Min. 2010 - 2018
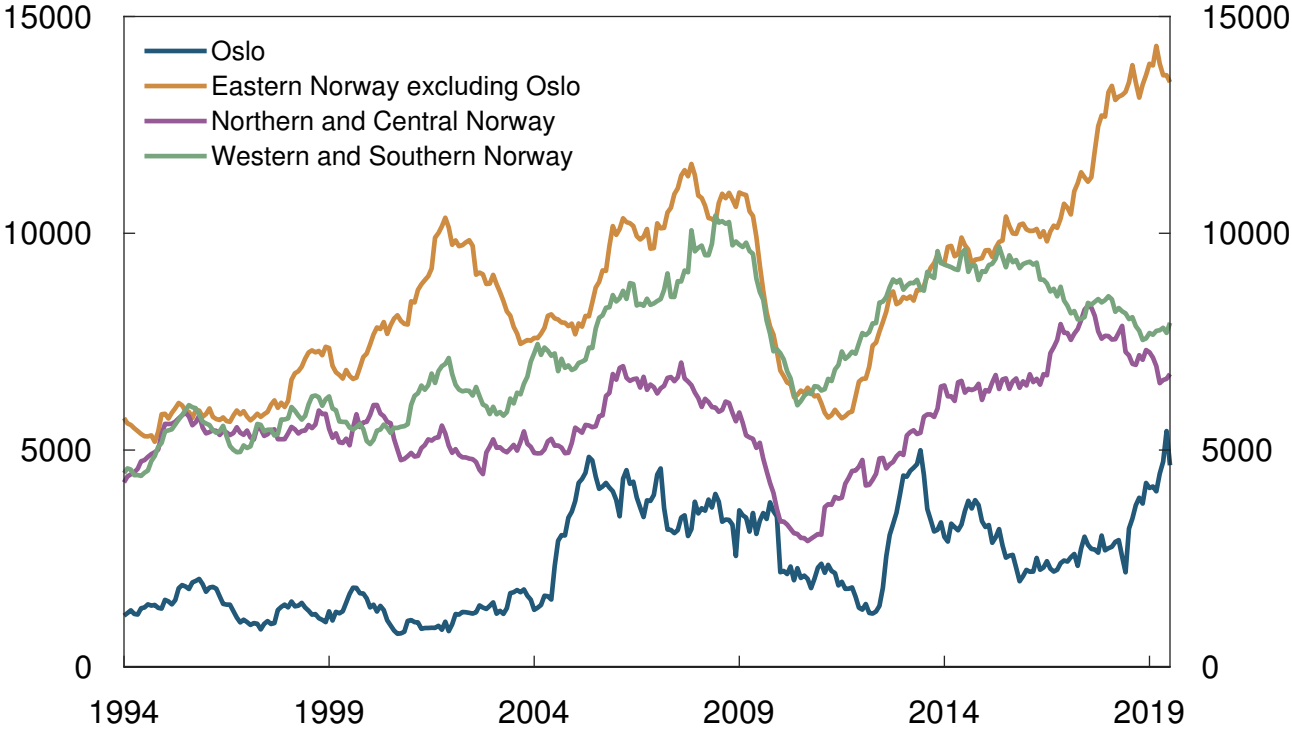
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
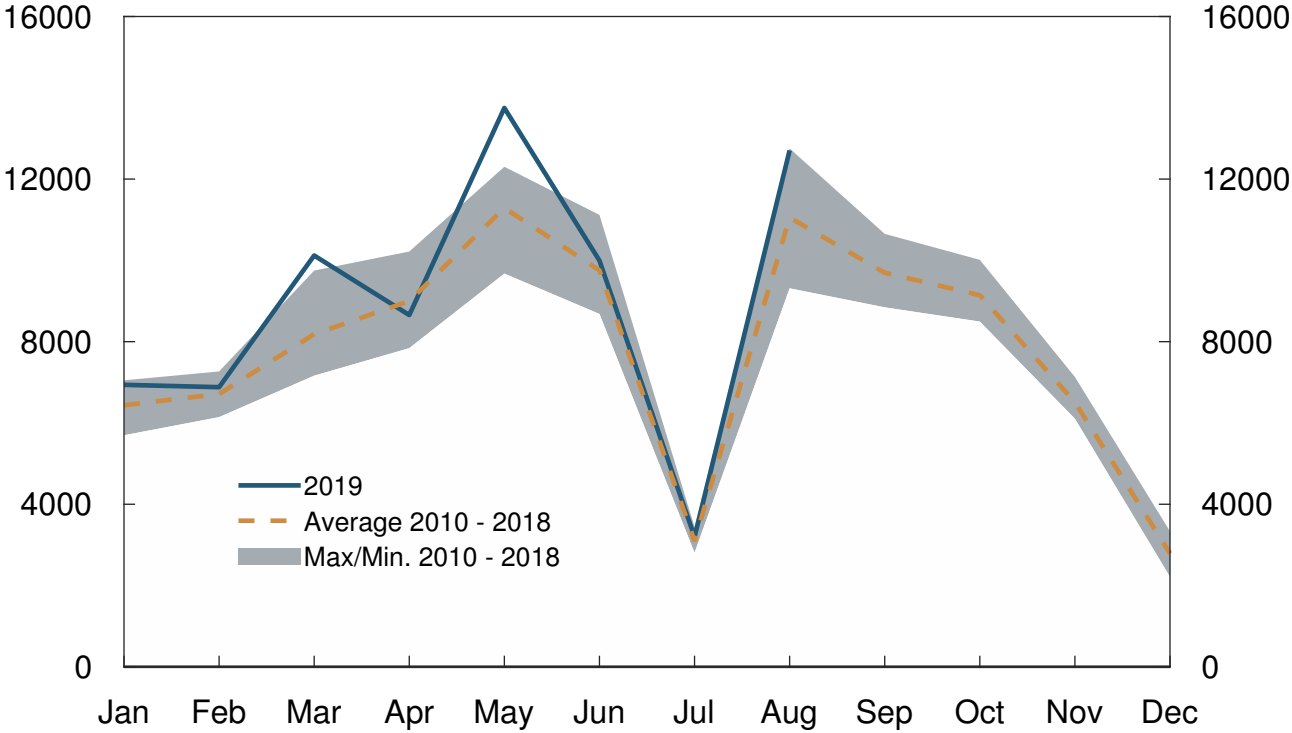
Sources: Eiendomsverdi, Finn.no and Real Estate Norway

Chart 6.9 Housing starts and completions, annual change in number of households.
2005 – 2020[1]
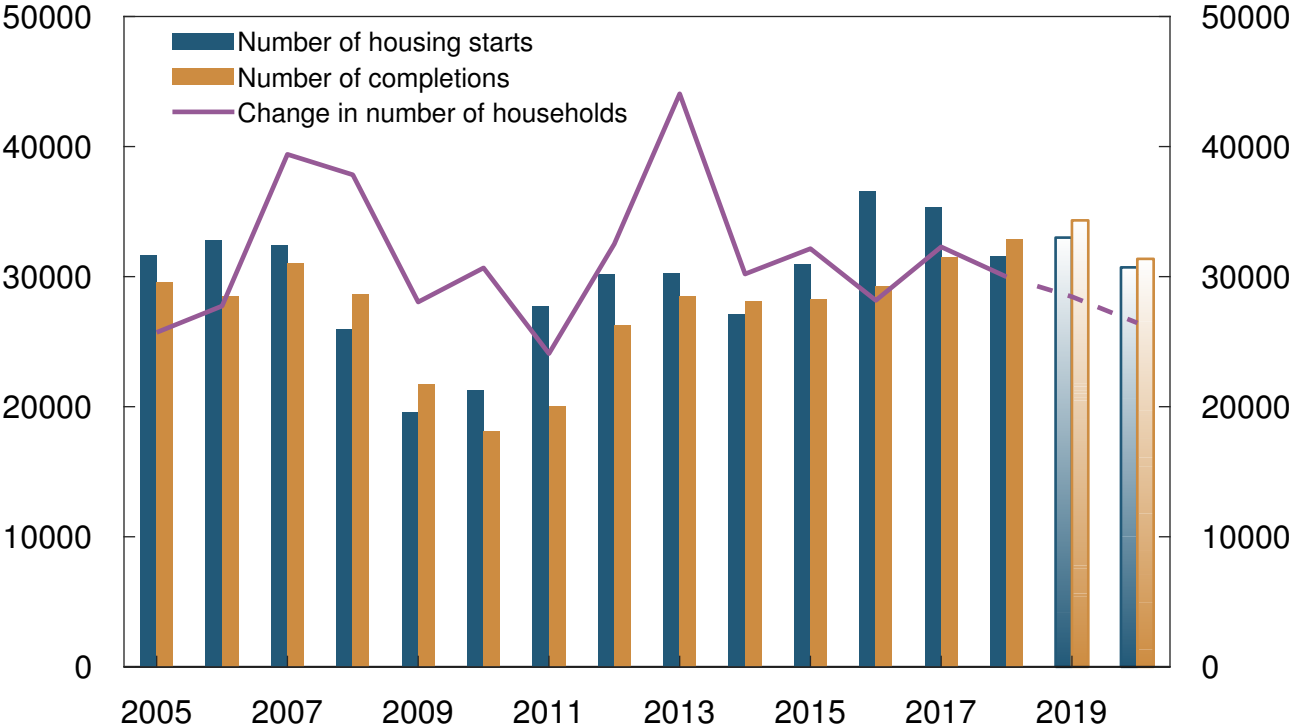
1) Projections for 2019 and 2020.
Sources: Statistics Norway and Norges Bank

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

Sources: Statistics Norway and Norges Bank

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

Rise in number of homes

Rise in number of households

Class 1 excluding Oslo

Class 3

Class 2

Class 4

Oslo
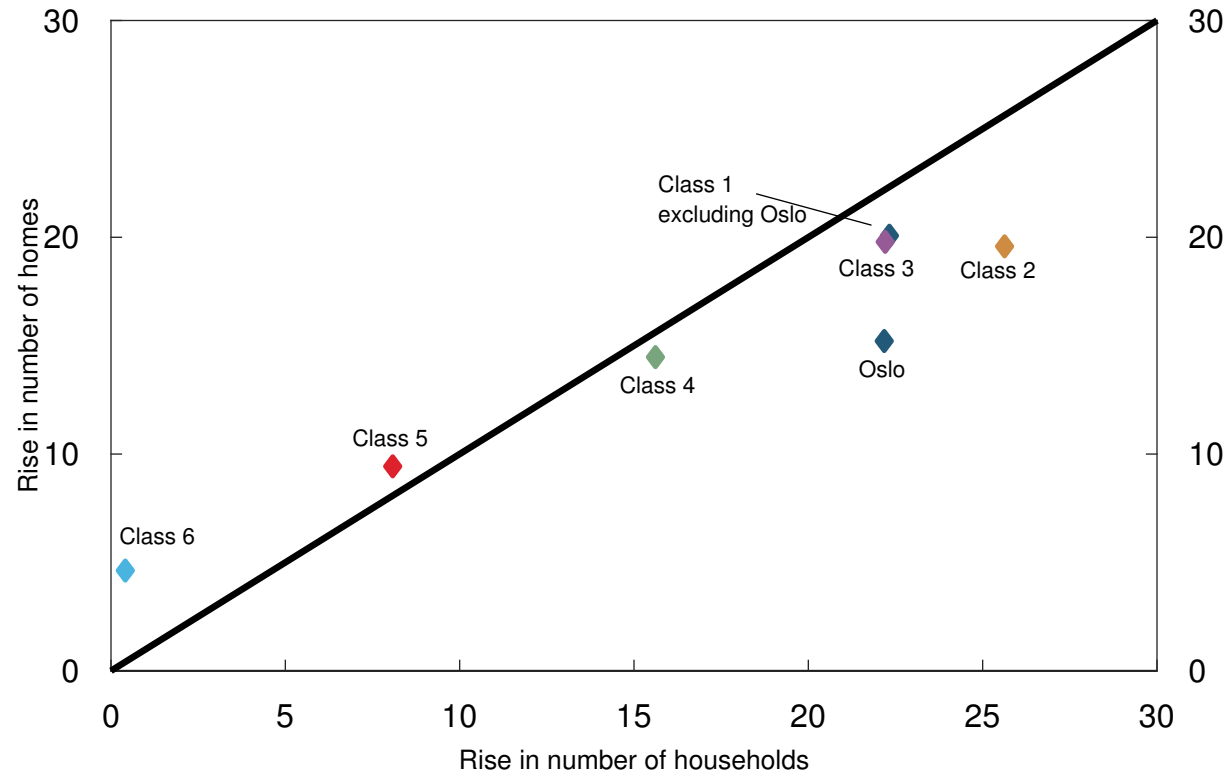
Class 5

Class 6

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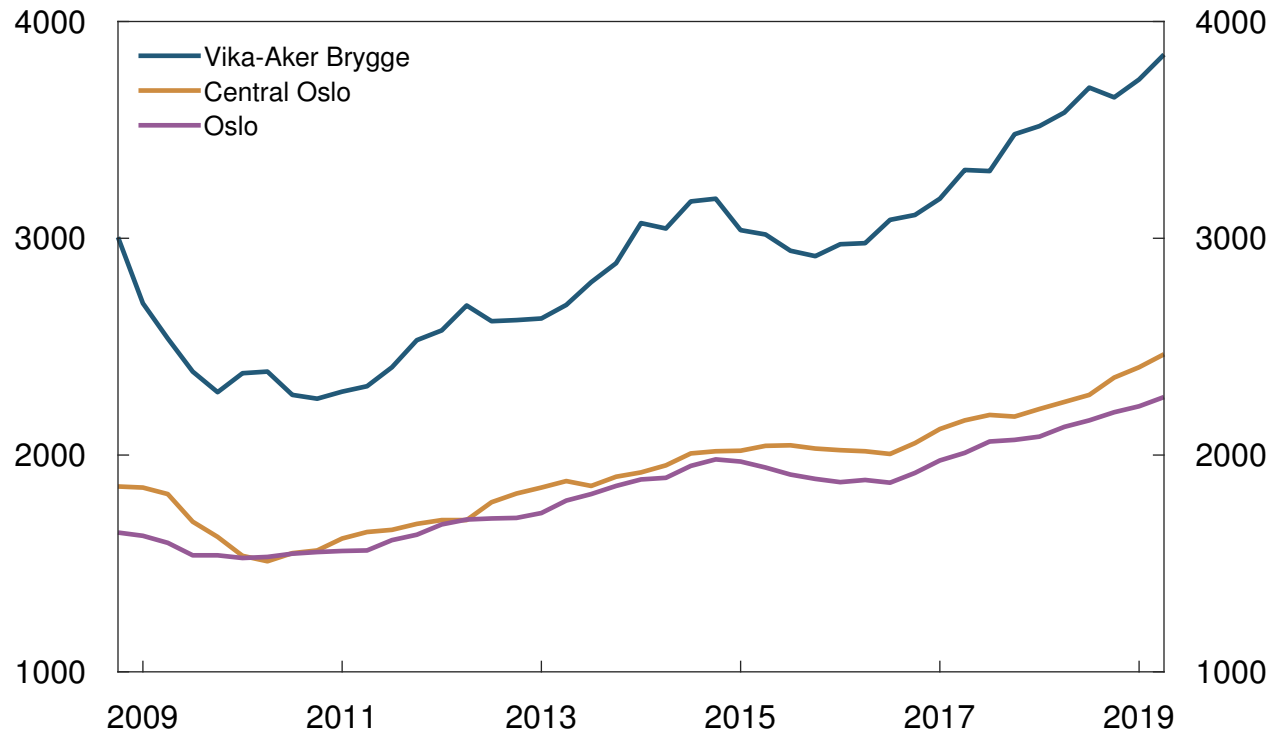Sources: Statistics Norway and Norges Bank

Chart 6.12 Real commercial real estate prices.[1]
Index. 1998 = 100. 1983 Q1 – 2019 Q2
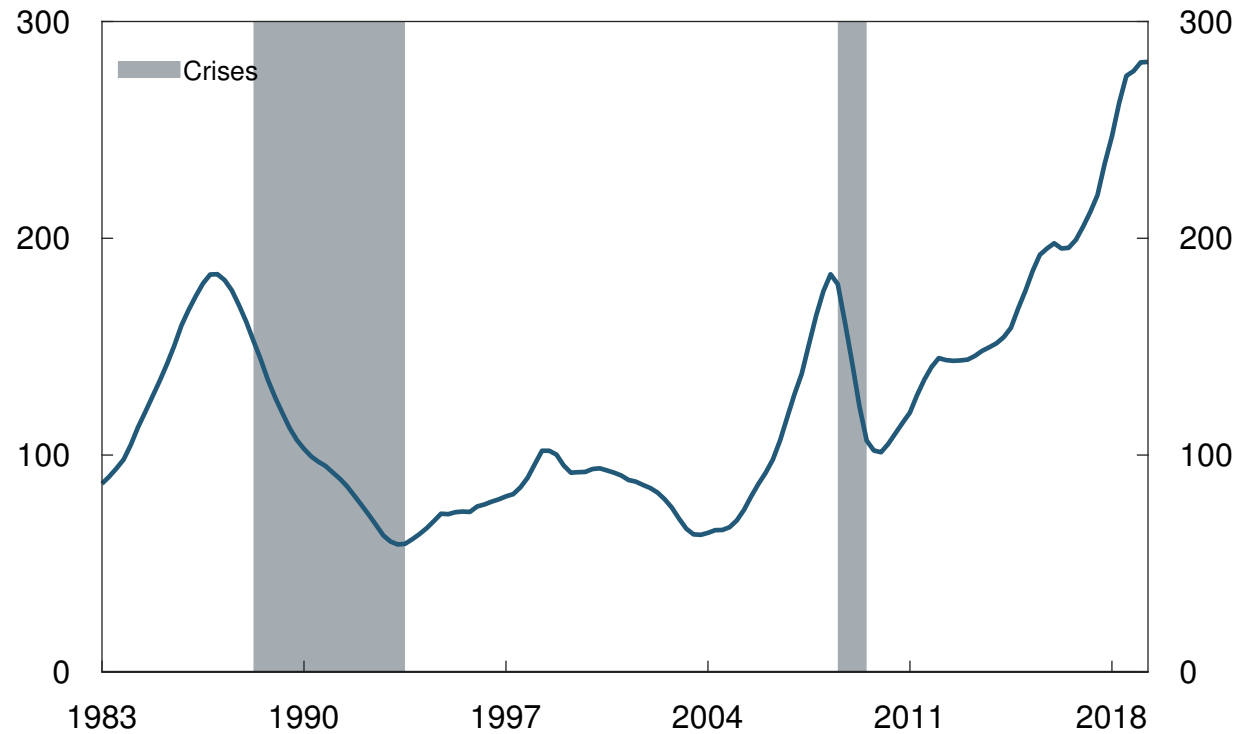
1) Estimated real selling prices per square metre for prime office space in Oslo. Deflated by GDP deflator for mainland Norway. Average selling price for the previous four quarters.
Sources: CBRE, Dagens Næringsliv, OPAK, Statistics Norway and Norges Bank

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

Vika-Aker Brygge
Central Oslo
Oslo

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

■ Quarterly return on equity (annualised)
— Four-quarter moving average
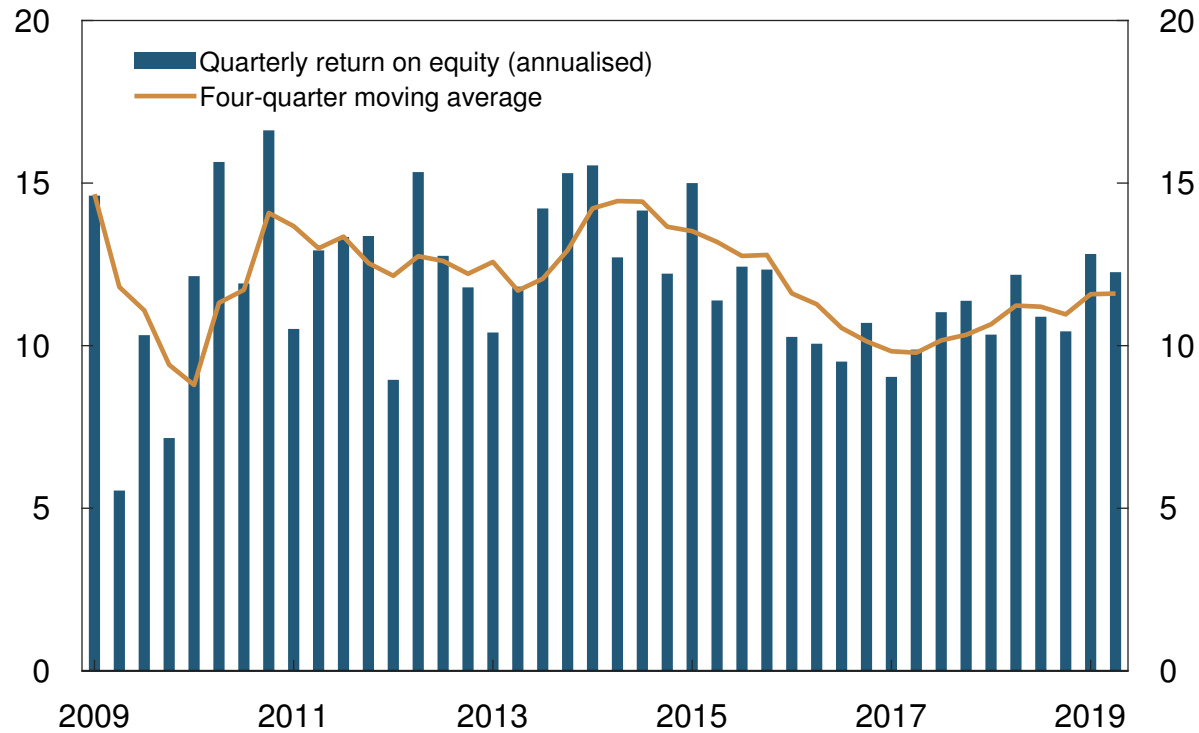
Sources: Banks' quarterly reports and Norges Bank

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

Legend:
- CET1 capital ratio
- Banks' long-term capital targets

Data labels:
- 2011: 9.3
- 2012: 10.4
- 2013: 11.4
- 2014: 12.4
- 2015: 14.0
- 2016: 15.5
- 2017: 15.9
- 2018: 16.0
- 2019 Q2: 16.2
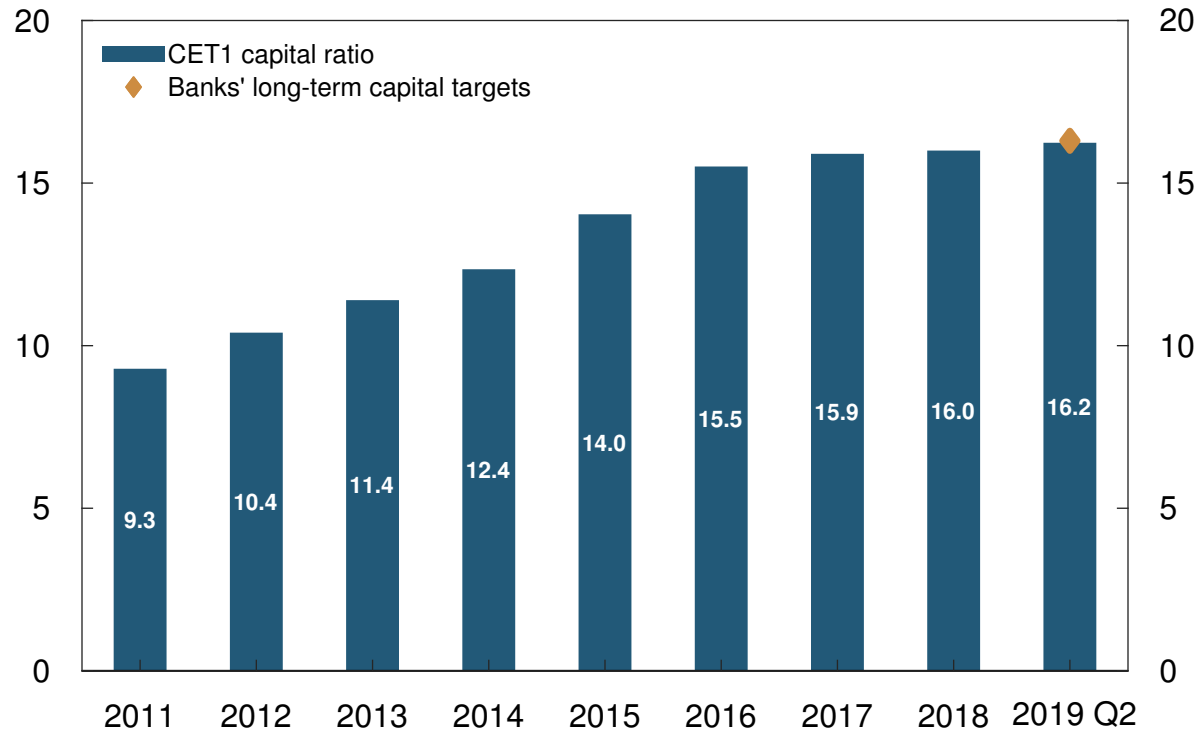
Sources: Banks' quarterly reports and Norges Bank

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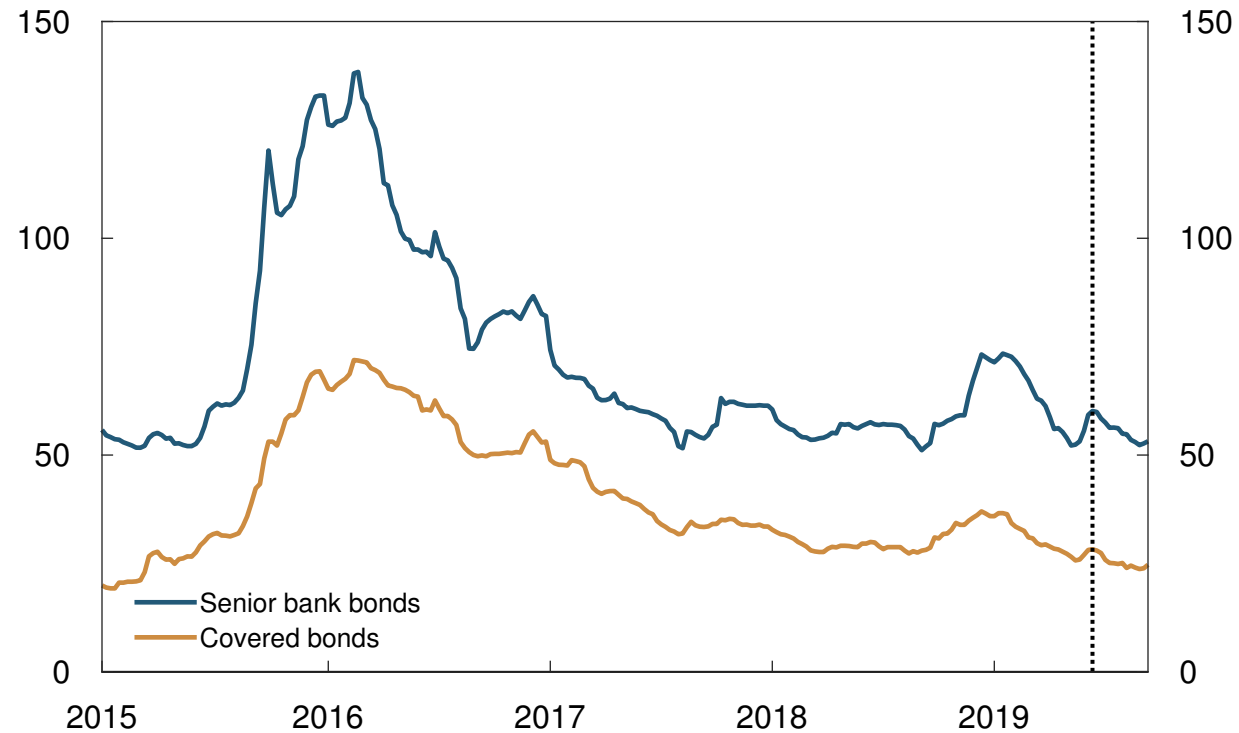
Senior bank bonds

Covered bonds

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

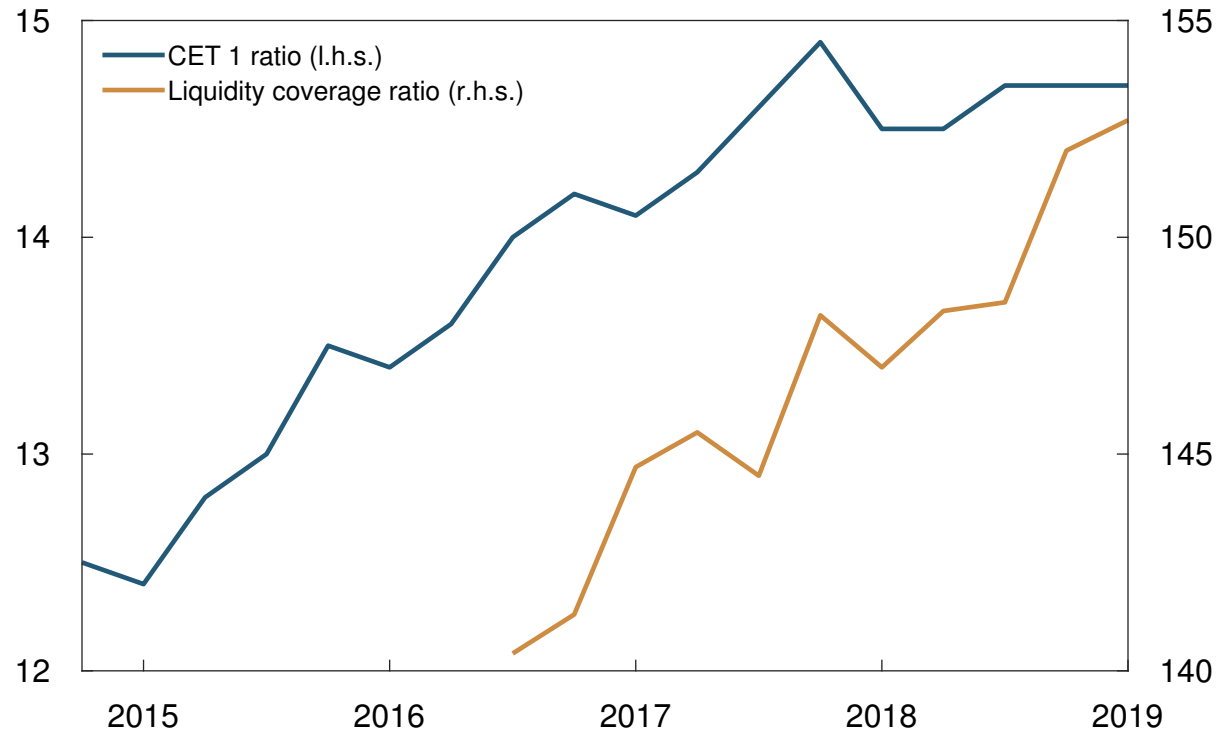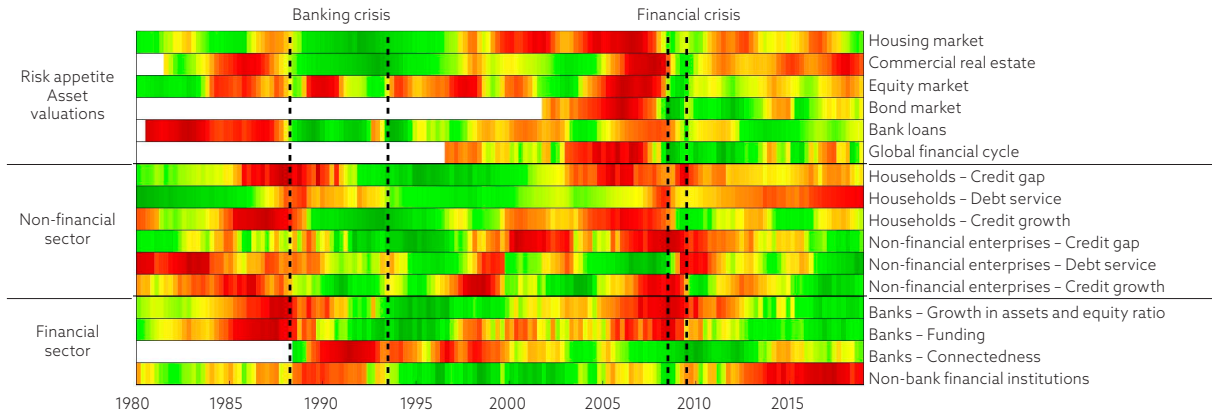Chart 6.17 Capital and liquidity coverage ratios in the EU banking system. Weighted average. Percent. 2014 Q4 – 2019 Q1

CET 1 ratio (l.h.s.)
Liquidity coverage ratio (r.h.s.)

Source: EBA

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 – Credit gap
- Households – Debt service
- Households – Credit growth
- Non-financial enterprises – Credit gap
- 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