Chart 1.1 GDP for trading partners. Volume.
Annual change. Percent. Export weights. 2005 – 2019[1]

Legend:
- Trading partners
- Advanced economies
- Emerging economies
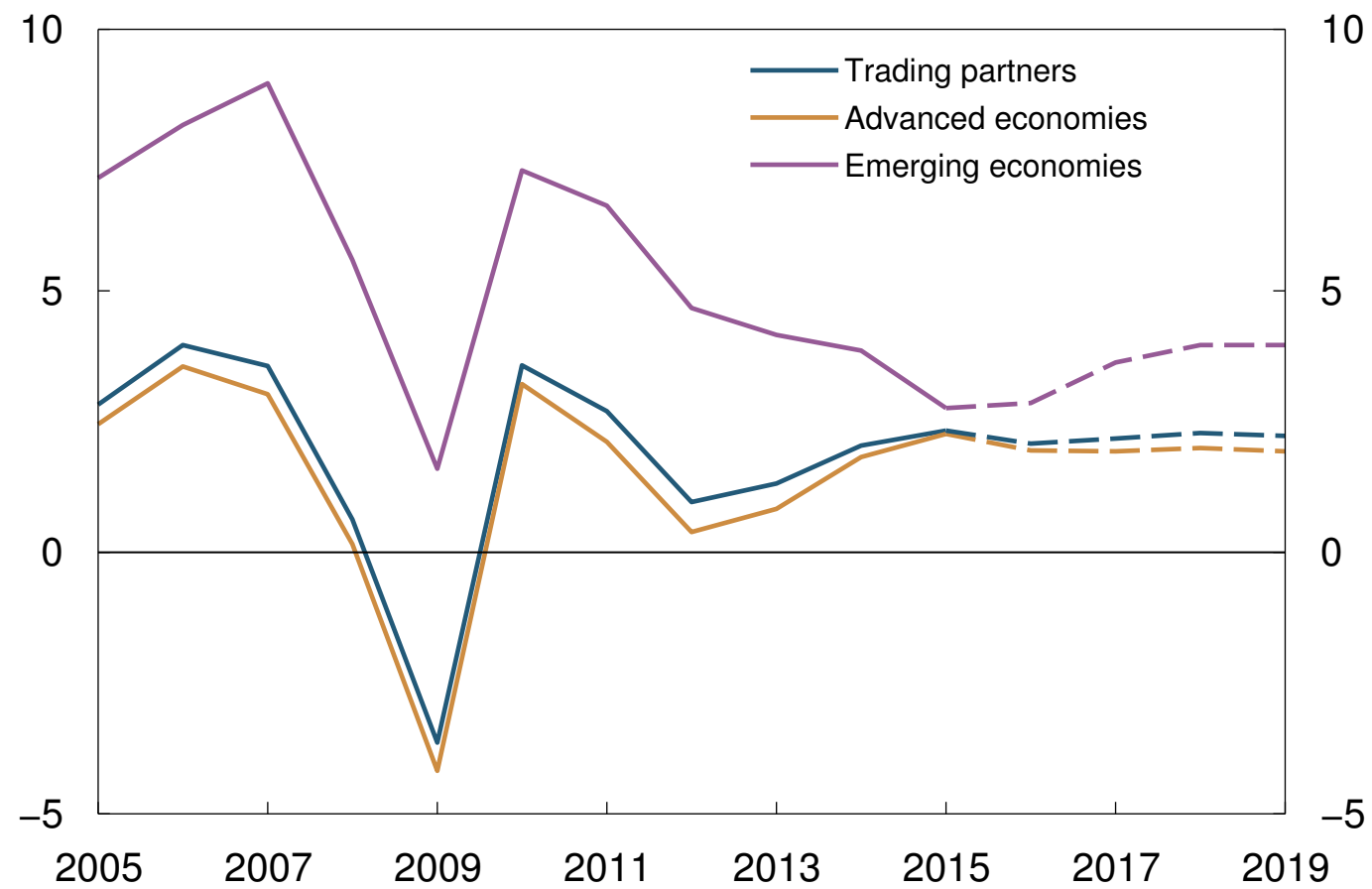
1) Projections for 2016 – 2019 (broken lines).
Sources: Thomson Reuters and Norges Bank

Chart 1.2 CPI for trading partners.
Annual change. Percent. Import weights. 2005 – 2019[1]

- Trading partners
- Advanced economies
- Emerging economies
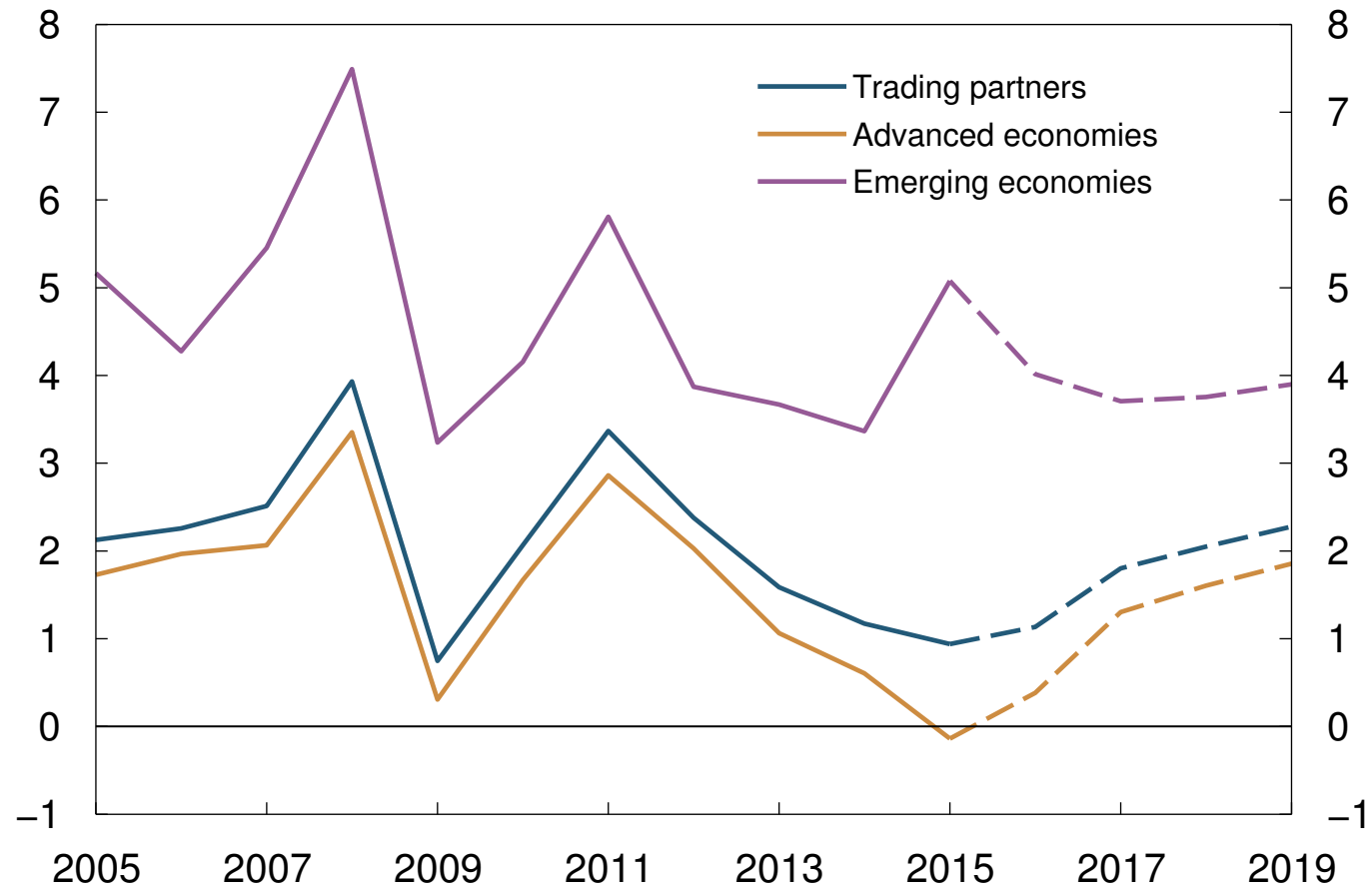
1) Projections for 2016 – 2019 (broken lines).
Sources: Thomson Reuters and Norges Bank

Chart 1.3 Crude oil and natural gas prices.
USD/barrel. January 2010 – December 2019 [1]
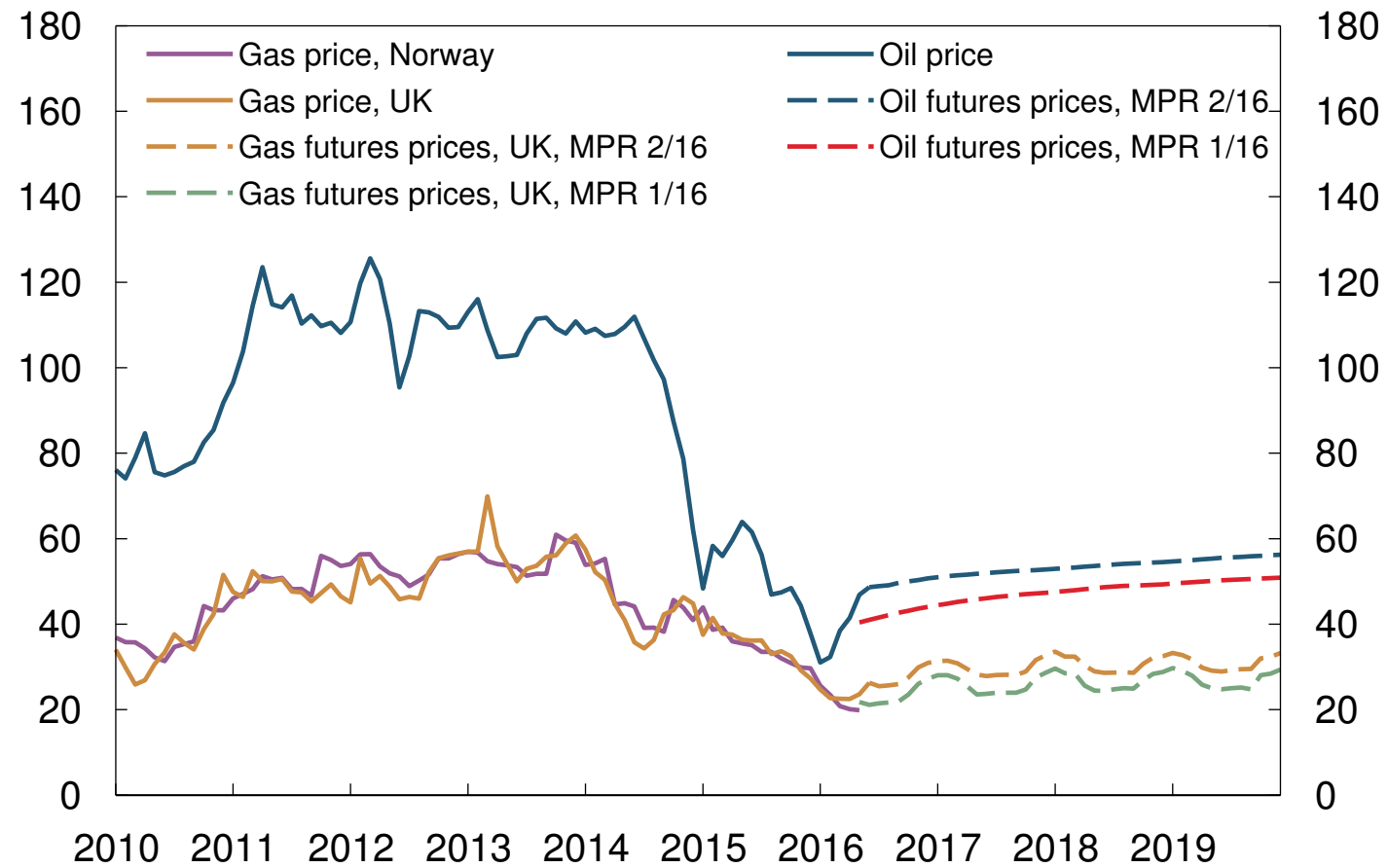
1) Futures prices (broken lines) for oil and UK gas are the average of futures prices in the period 7 – 11 March 2016 for MPR 1/16 and 13 June – 17 June 2016 for MPR 2/16.
Sources: Thomson Reuters, Statistics Norway and Norges Bank

Chart 1.4 Oil inventories in OECD countries.

Total oil inventories in number of days of consumption.[1]
January 2011 – April 2016
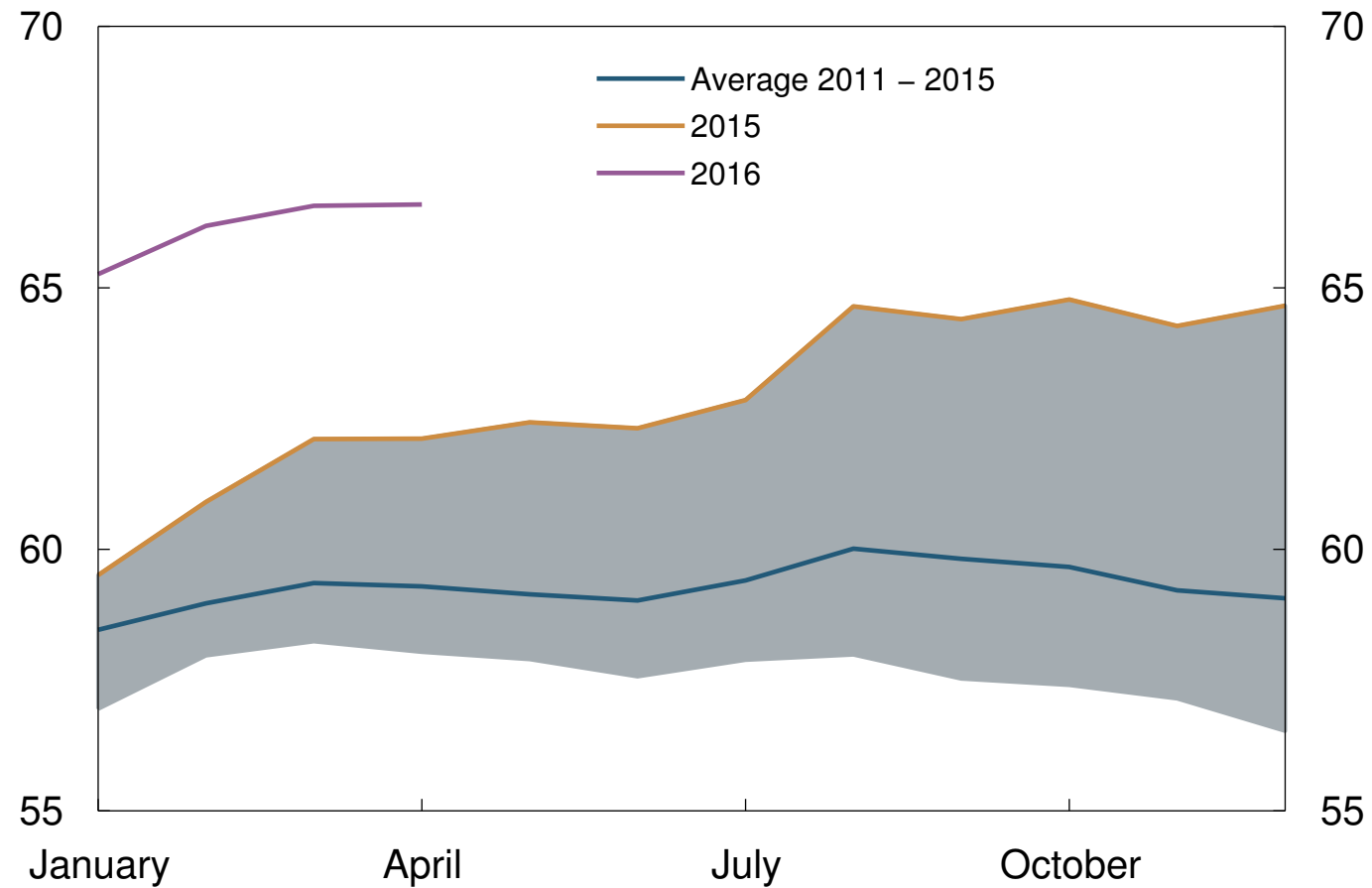
1) Days of consumption is calculated using average demand over the next three months. The grey band shows the interval between the highest and lowest level in the period 2011 – 2015.
Sources: IEA and Norges Bank

Chart 1.5 Policy rates and estimated forward rates at 11 March 2016 and 17 June 2016.[1] Percent. 1 January 2010 – 31 December 2019 [2]
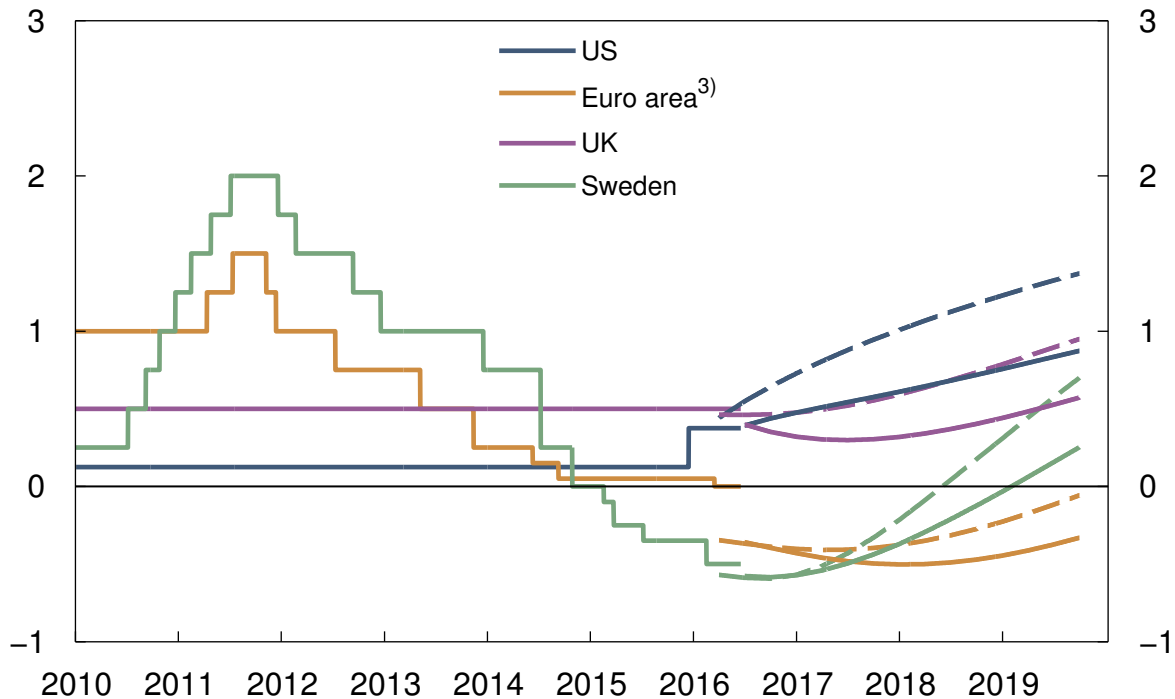

1) Broken lines show estimated forward rates at 11 March 2016. Solid lines show forward rates at 17 June 2016. Forward rates are based on Overnight Index Swap (OIS) rates.
2) Daily data from 1 January 2010 and quarterly data from 1 April 2016.
3) Eonia for the euro area from 2016 Q2.
Sources: Bloomberg, Thomson Reuters and Norges Bank

Chart 1.6 Money market rates for trading partners.[1]
Percent. 2010 Q1 – 2019 Q4 [2]
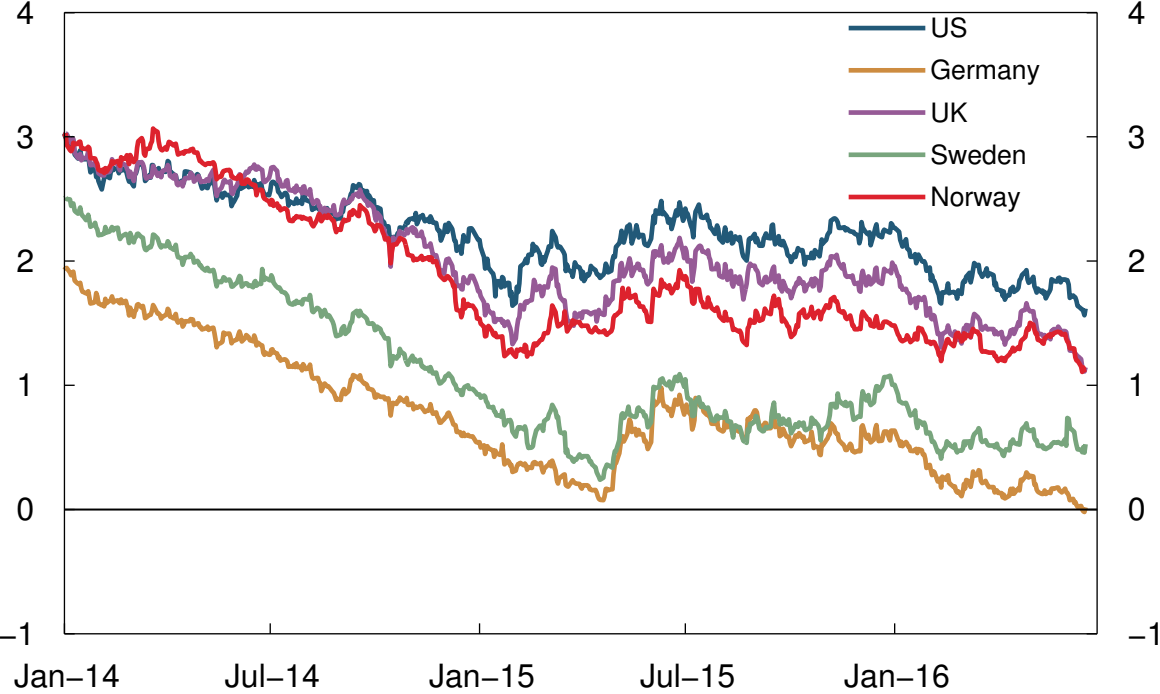

Legend:
- MPR 2/16
- MPR 1/16
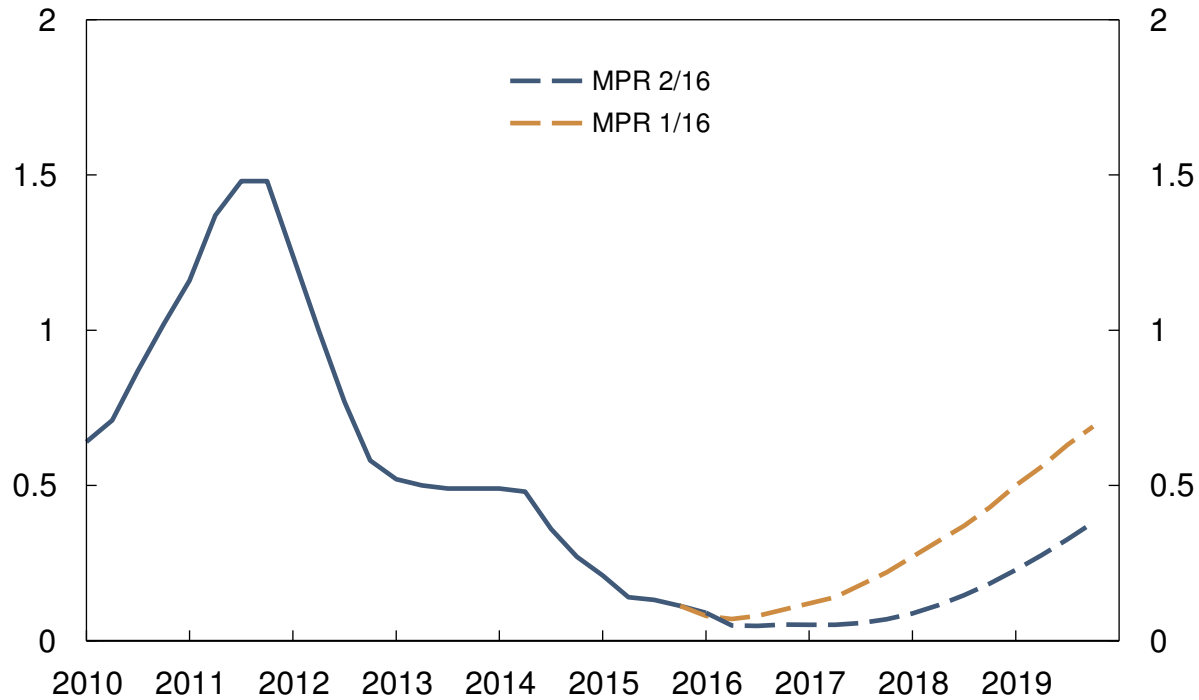
1) For information about the aggregate for trading partner interest rates, see *Norges Bank Papers* 2/2015.
2) Blue and orange broken lines show forward rates for 17 June 2016 and 11 March 2016, respectively.
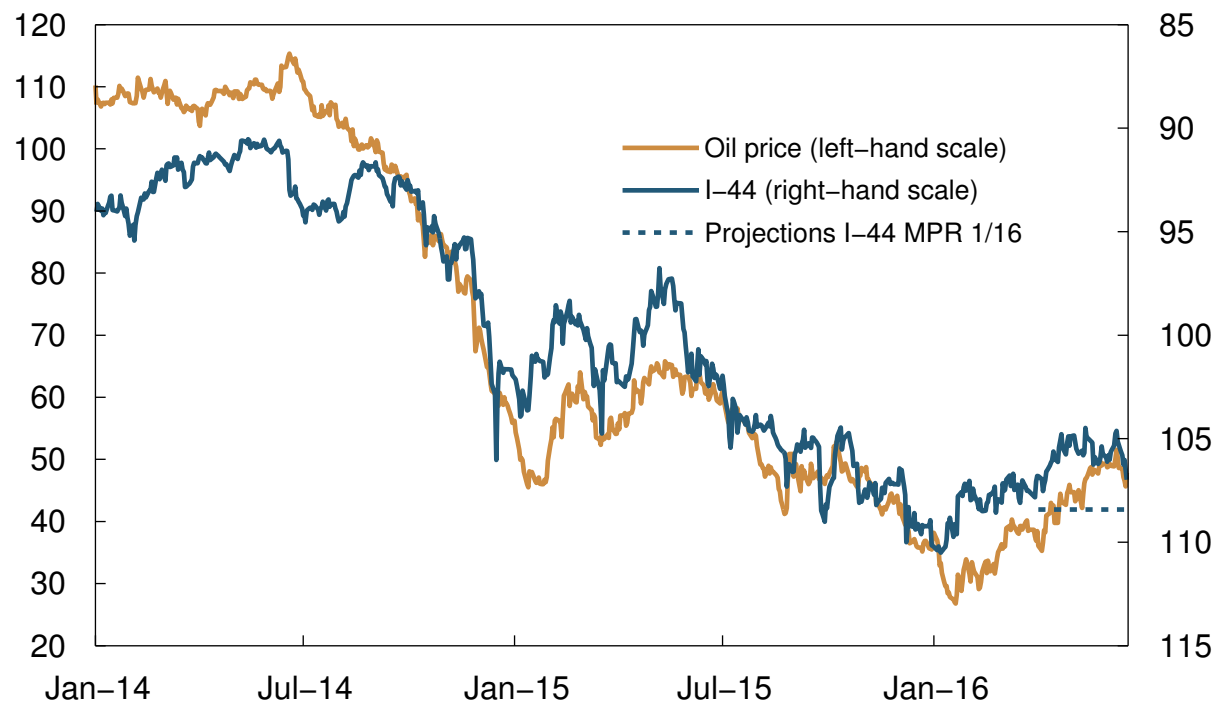Sources: Thomson Reuters and Norges Bank

Chart 1.7 Yields on 10–year government bonds.
Percent. 1 January 2014 – 17 June 2016

Source: Bloomberg

Chart 1.8 Oil price[1] and import−weighted exchange rate index (I−44)[2].
1 January 2014 − 17 June 2016

Oil price (left−hand scale)
I−44 (right−hand scale)
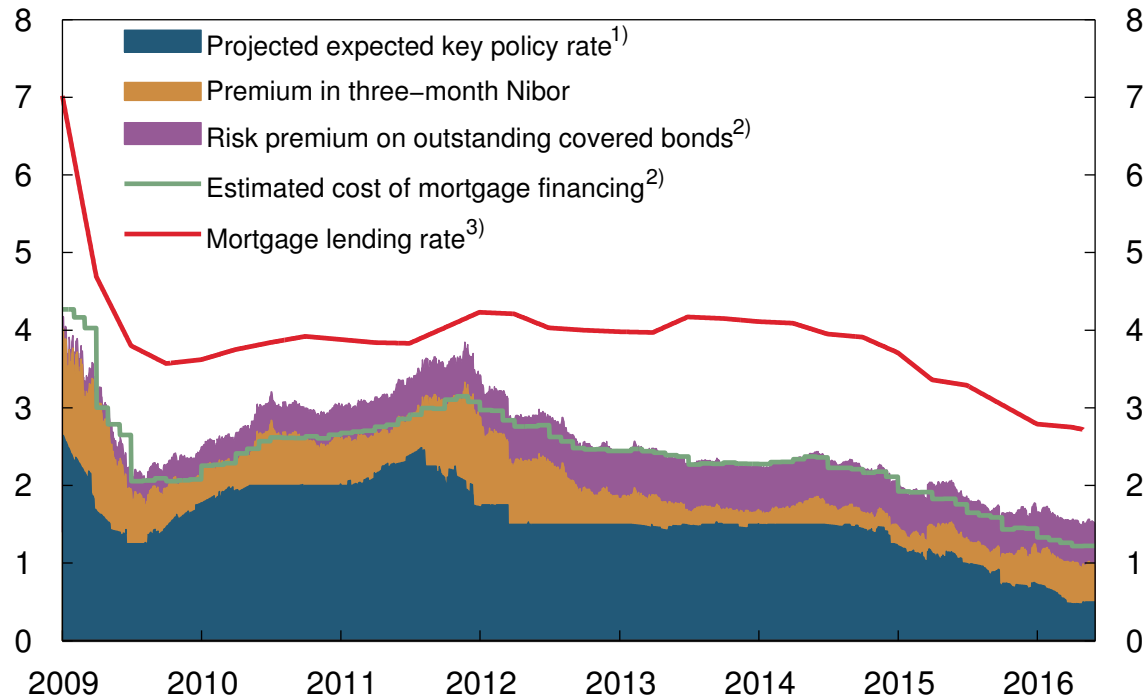Projections I−44 MPR 1/16

1) Brent blend. USD/barrel.
2) A positive slope denotes a stronger krone exchange rate.
Sources: Thomson Reuters and Norges Bank

Chart 1.9 Interest rates and funding costs for residential mortgages.
Percent. 1 January 2009 – 31 May 2016

Legend:
- Projected expected key policy rate[1]
- Premium in three−month Nibor
- Risk premium on outstanding covered bonds[2]
- Estimated cost of mortgage financing[2]
- Mortgage lending rate[3]

1) Projected expected key policy rate is derived from three−month Nibor and expresses average expected key policy rate for the next three months.
2) Monthly data.
3) Quarterly data including 2016 Q1. Monthly data for April 2016 from a selection of banks and covered bond mortgage companies. Banks and covered bond mortgage companies report mortgage rates on the last day of the quarter/month.
Sources: DNB Markets, Statistics Norway, Bloomberg, Stamdata and Norges Bank

Chart 1.10 Lending rates and funding costs for corporate loans.
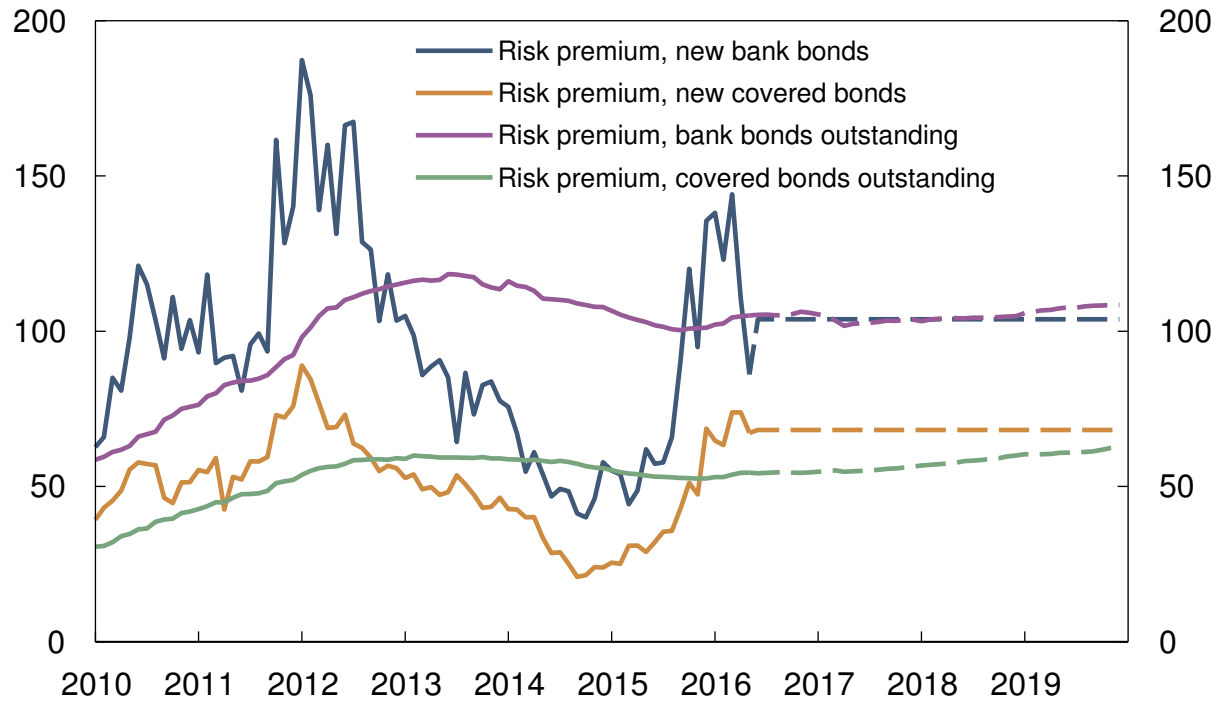Percent. 1 January 2009 – 31 May 2016
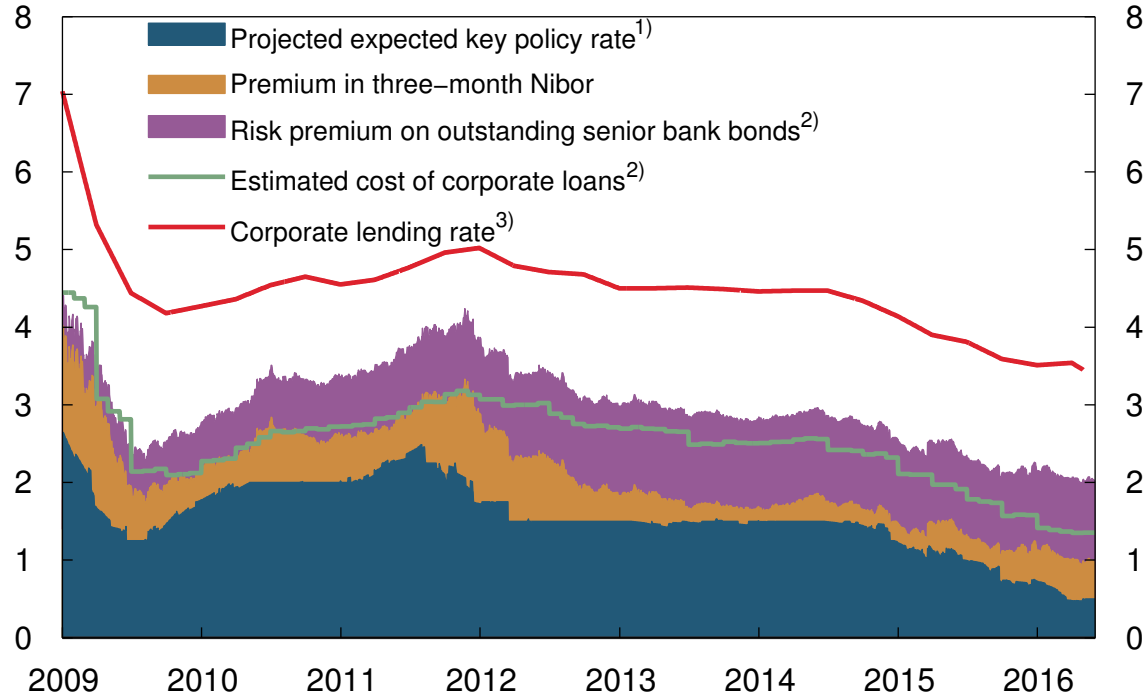
1) Projected expected key policy rate is derived from three–month Nibor and expresses average expected key policy rate for the next three months.
2) Monthly data.
3) Quarterly data including 2016 Q1. Monthly data for April 2016 from a selection of banks and covered bond mortgage companies. Banks and covered bond mortgage companies report mortgage rates on the last day of the quarter/month.
Sources: DNB Markets, Statistics Norway, Bloomberg, Stamdata and Norges Bank

Chart 1.11 Average risk premiums on new and outstanding bond debt for Norwegian banks. Spread to three−month Nibor. Basis points. January 2010 – December 2019[1]

Legend:
- Risk premium, new bank bonds
- Risk premium, new covered bonds
- Risk premium, bank bonds outstanding
- Risk premium, covered bonds outstanding

1) Projections for June 2016 – December 2019 (broken lines).
Sources: Stamdata, Bloomberg, DNB Markets and Norges Bank

Chart 1.12 Three−month Nibor spread.[1]
Five−day moving average. Percentage points. January 2010 − December 2019 [2]

Legend:
- Projections MPR 1/16
- Projections MPR 2/16
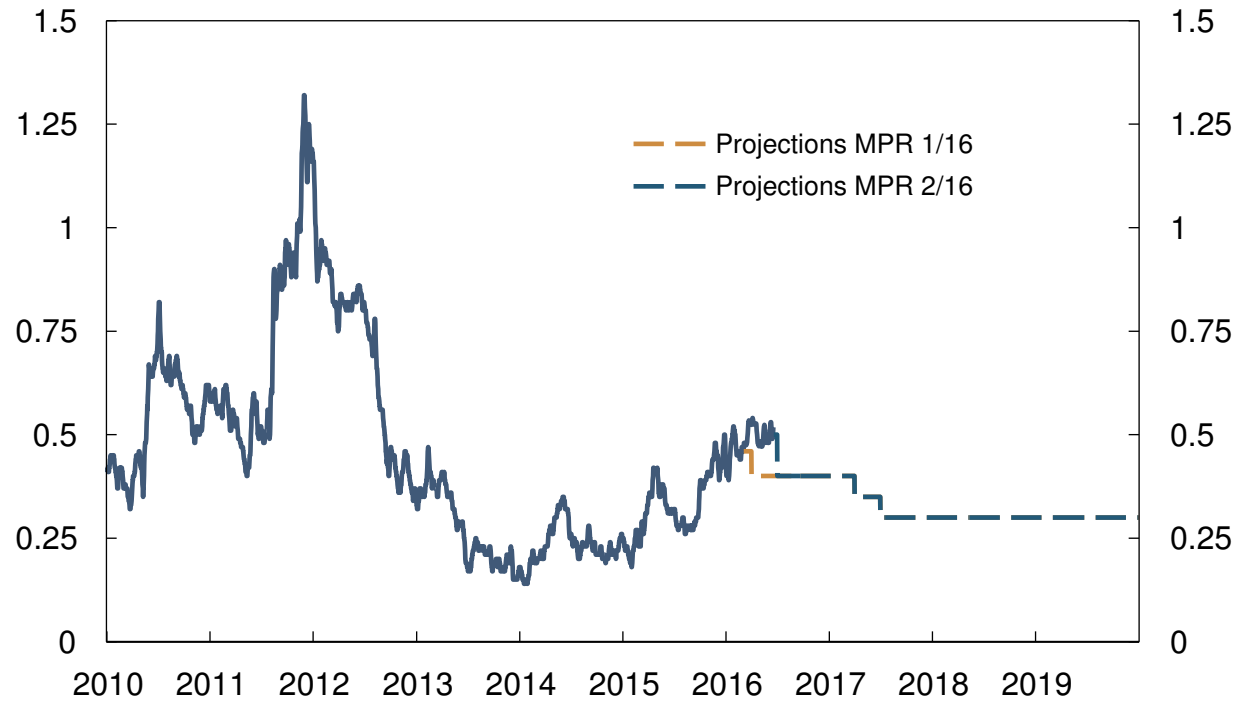
1) Norges Bank estimates of the difference between three−month Nibor and expected key policy rate.
2) Projections for 2016 Q2 − 2019 Q4 (broken lines).
Sources: Thomson Reuters and Norges Bank

Chart 1.13 GDP for mainland Norway and regional network's indicator of output growth[1].
Four-quarter change. Percent. 2014 Q1 – 2016 Q3[2]

Legend:
- GDP, mainland Norway
- Regional network
- GDP projections from SAM[3]
- Projections MPR 2/16
- Projections MPR 1/16
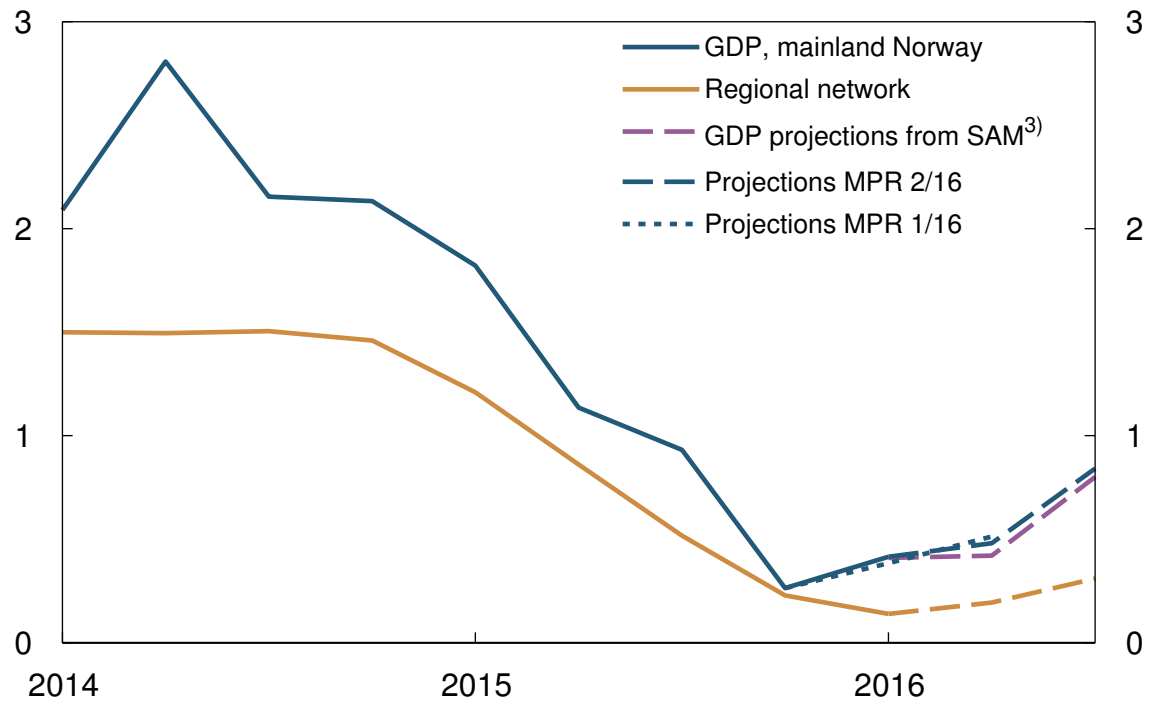
1) Based on output growth past three months (solid lines) and expected output growth
the next six months (broken lines).
2) Projections for 2016 Q2 – 2016 Q3.
3) System for Averaging short–term Models.
Sources: Statistics Norway and Norges Bank

Chart 1.14 Smoothed recession probabilities estimated using a monthly indicator model.[1]
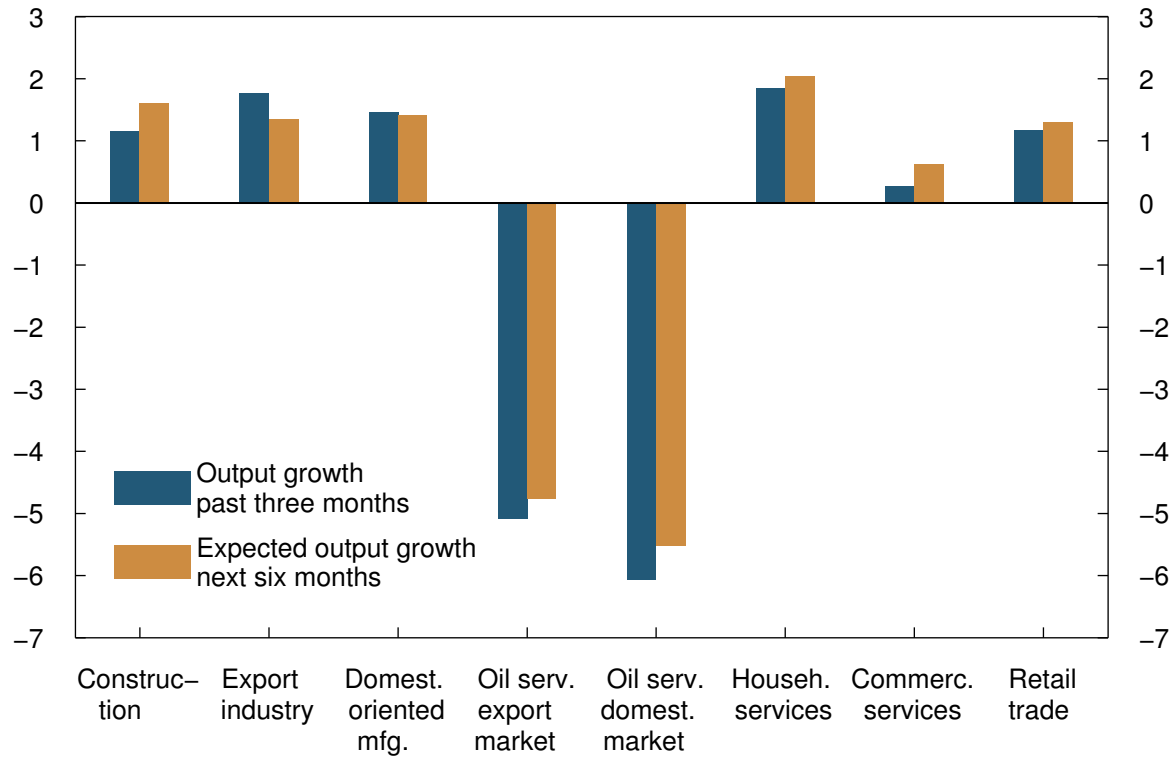Percent. February 1978 – April 2016
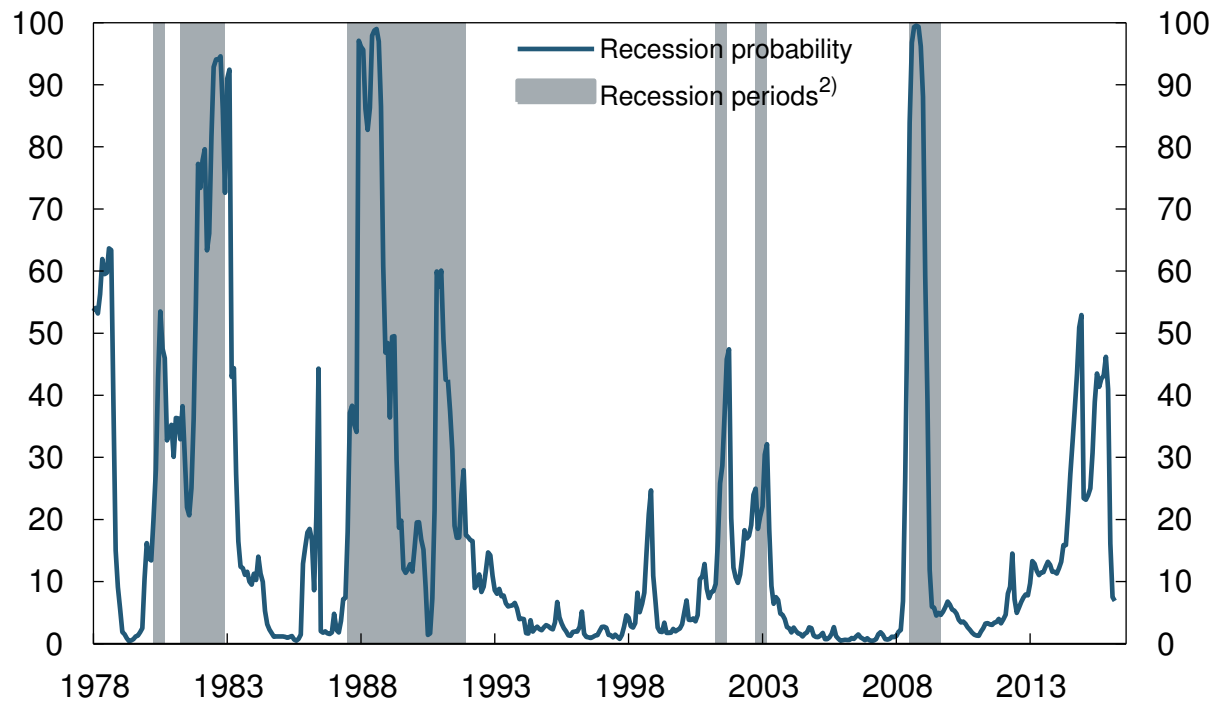
1) In a *Special Feature* in MPR 1/16, recession probabilities estimated in real time were represented.
For the latest month, the smoothed probability will also be a real–time probability.
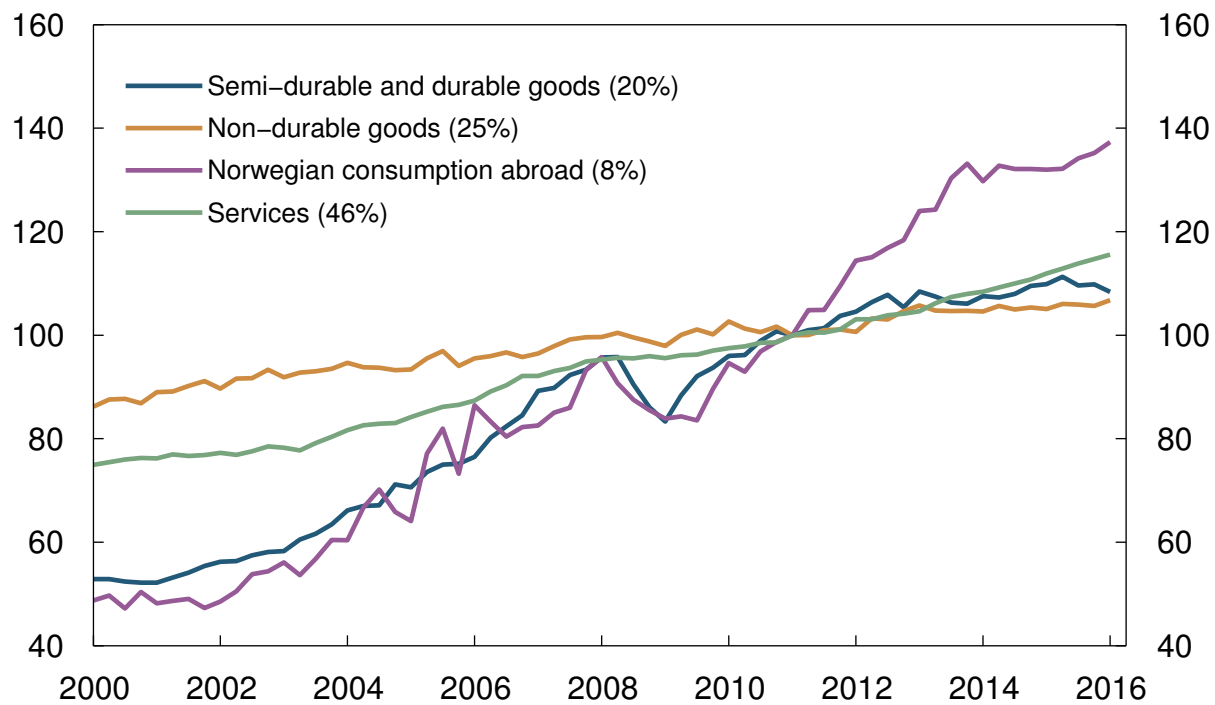2) Dated in Aastveit, Jore and Ravazzolo (2016).
Source: Norges Bank

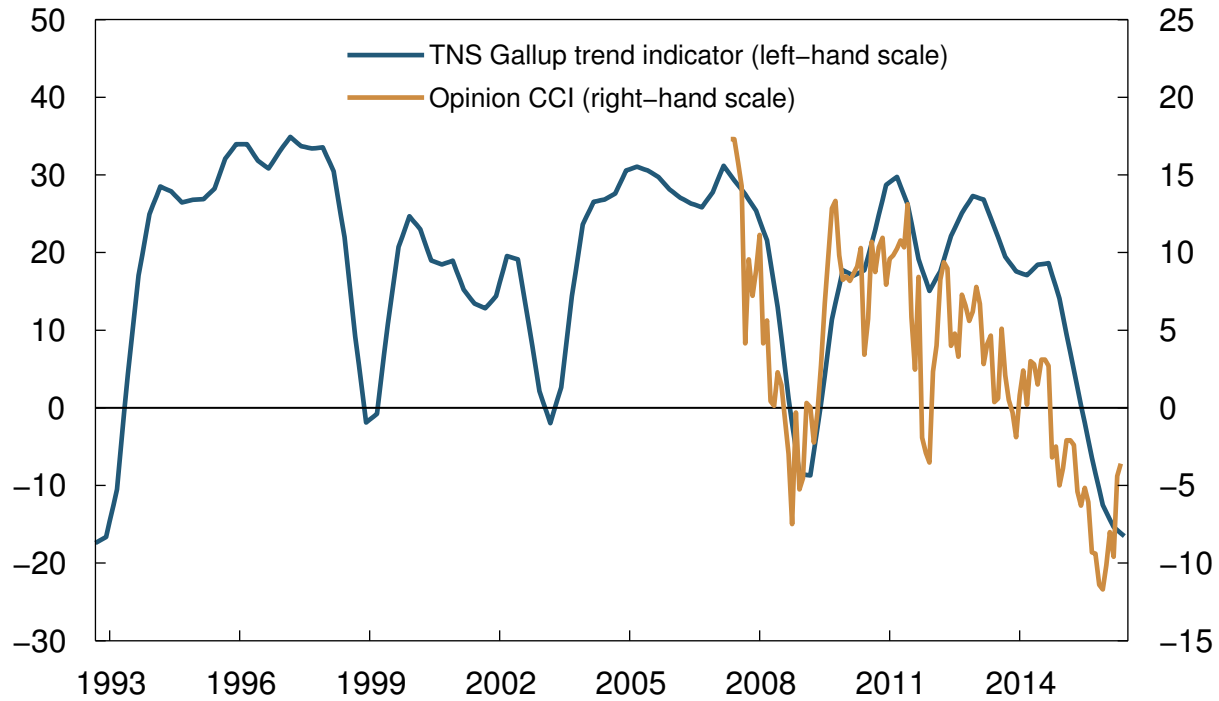Chart 1.15 Output growth in regional network.
Annualised. Percent. May 2016

Output growth
past three months

Expected output growth
next six months

Construc–
tion

Export
industry

Domest.
oriented
mfg.

Oil serv.
export
market

Oil serv.
domest.
market

Househ.
services

Commerc.
services

Retail
trade

Source: Norges Bank

Chart 1.16 Private consumption by component.[1]
Index. Seasonally adjusted. 2011 Q1 = 100. 2000 Q1 – 2016 Q1

- Semi–durable and durable goods (20%)
- Non–durable goods (25%)
- Norwegian consumption abroad (8%)
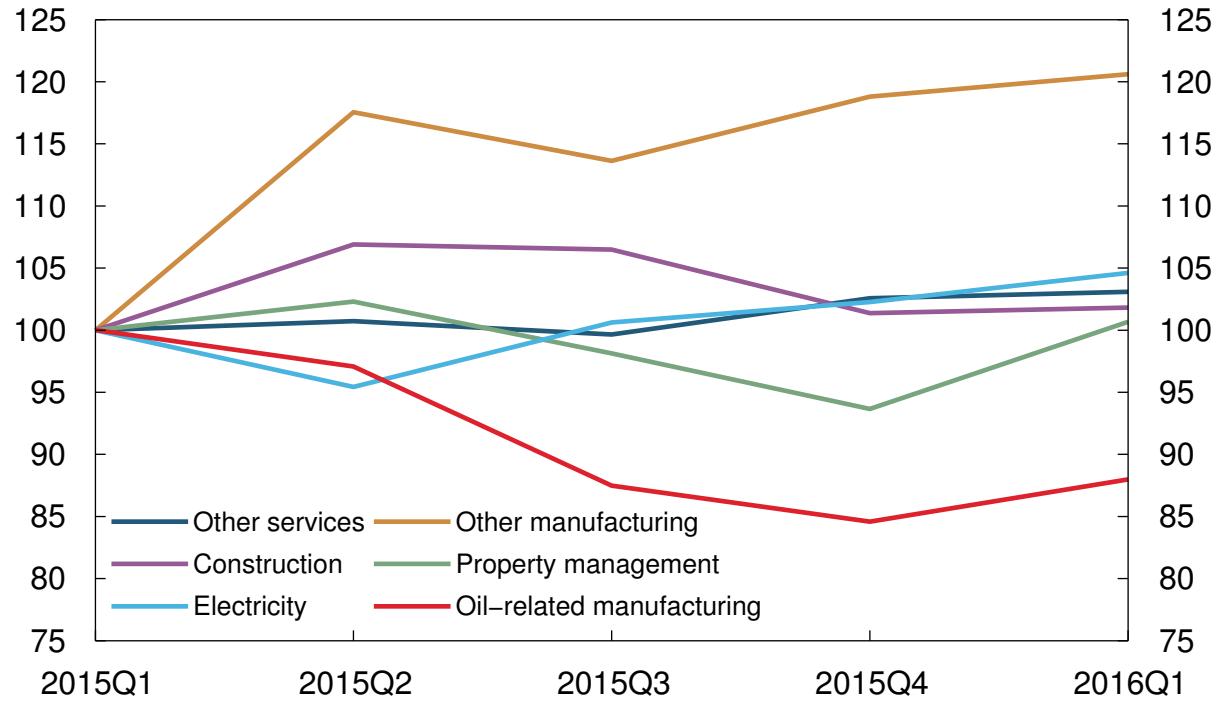- Services (46%)

1) Share of total consumption in brackets.
Source: Statistics Norway

Chart 1.17 Consumer confidence. Net values. TNS Gallup trend indicator for households, 1992 Q3 – 2016 Q2. Opinion CCI. May 2007 – May 2016


TNS Gallup trend indicator (left–hand scale)
Opinion CCI (right–hand scale)

Sources: TNS Gallup and Opinion

Chart 1.18 Investment by sector.
Seasonally adjusted. Constant prices. Index. 2015 Q1 = 100. 2015 Q1 – 2016 Q1

Other services
Other manufacturing
Construction
Property management
Electricity
Oil–related manufacturing

Chart 1.19 Regional network's indicator of annualised output growth past three months and expected output growth next six months.[1] Percent.[2] January 2005 – November 2016 [3]
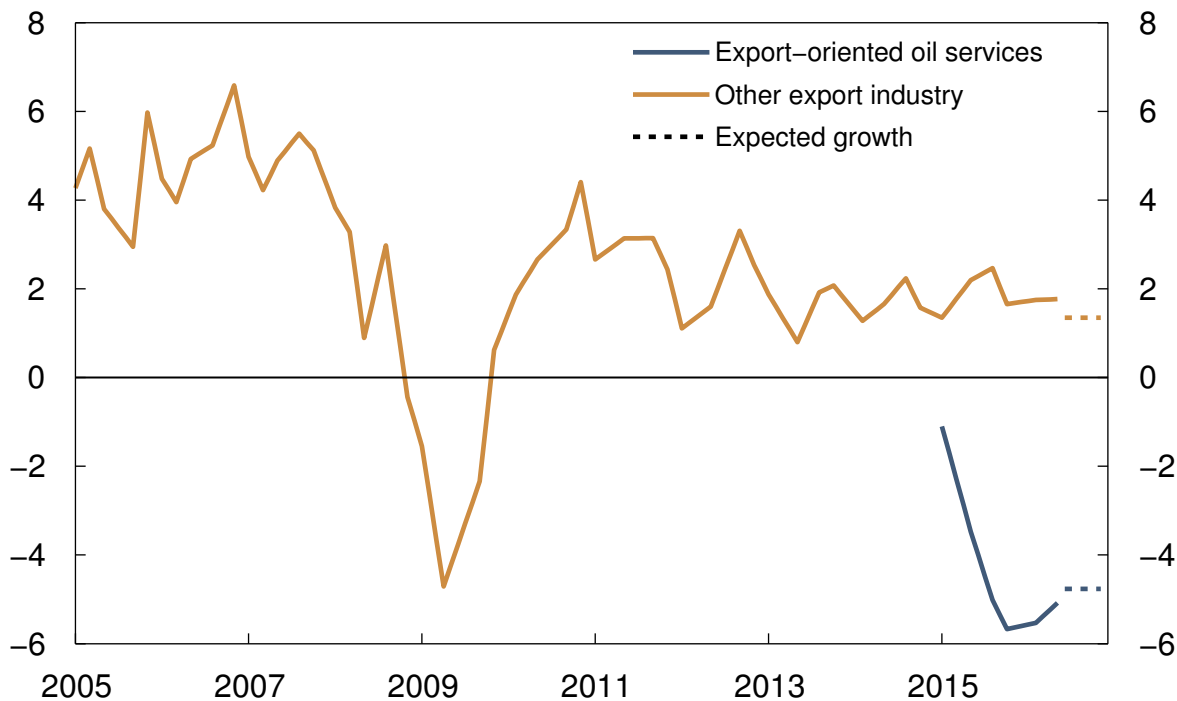

1) New sector classification results in a break in the series for the export industry from 2015.
2) The network uses an index from –5 to +5, where –5 indicates that production is expected to decline by 10% or more annualised. Several oil service enterprises expect production to decline by more than 10% in the next six months. This is not reflected in the chart due to the limitations of the index.
3) Reported growth to May 2016. Expected growth for May 2016 – November 2016.
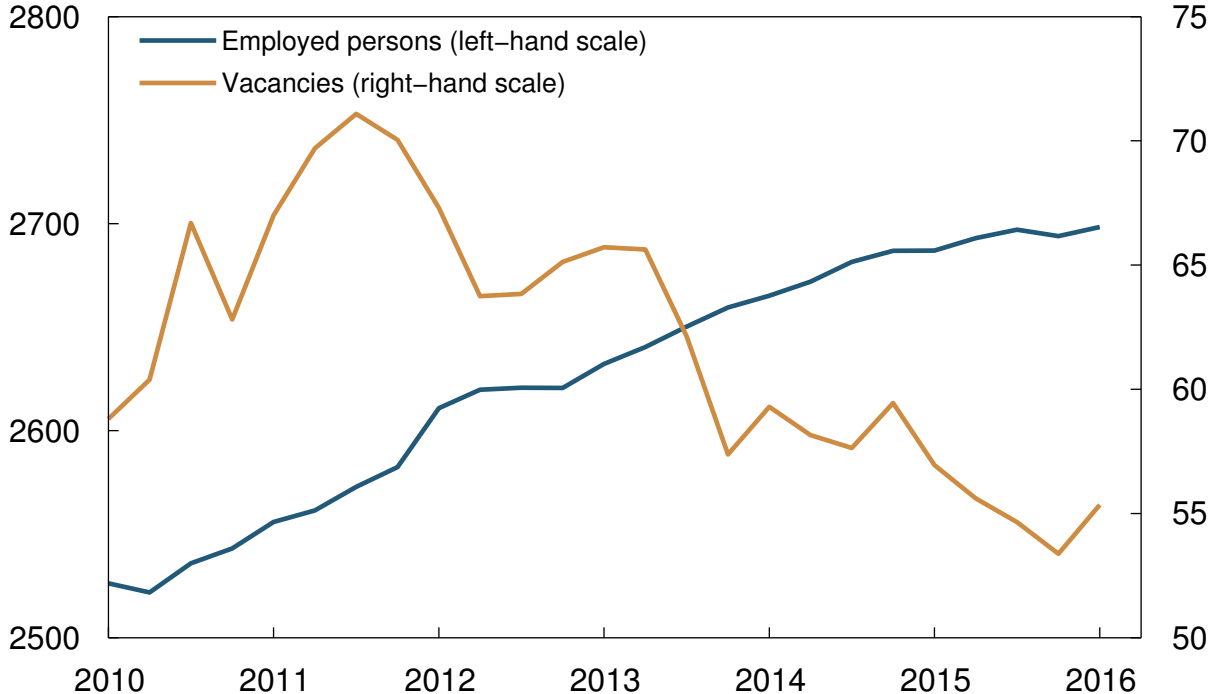Source: Norges Bank

Chart 1.20 Employment by sector.
Seasonally adjusted. Index. 2010 Q1=100. 2010 Q1 – 2016 Q1

— Public sector
— Particularly oil–related sectors[1]
— Other sectors
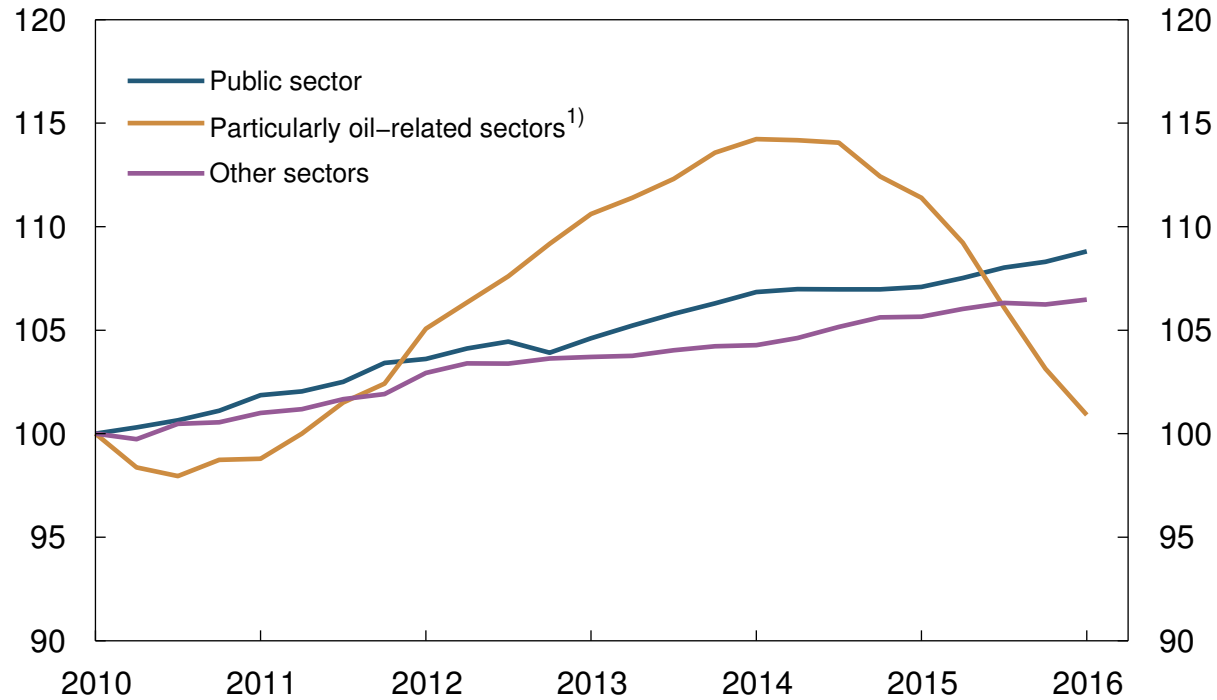
1) The category "particularly oil–related sectors" includes extraction of crude oil and natural gas,
including services, and the following industrial sectors: production of metal goods, electrical equipment
and machinery, shipbuilding and transport industry, repairs and installation of machinery and equipment.
In 2010 Q1 these sectors employed 166 000 people, 6% of all persons employed in the Norwegian economy.
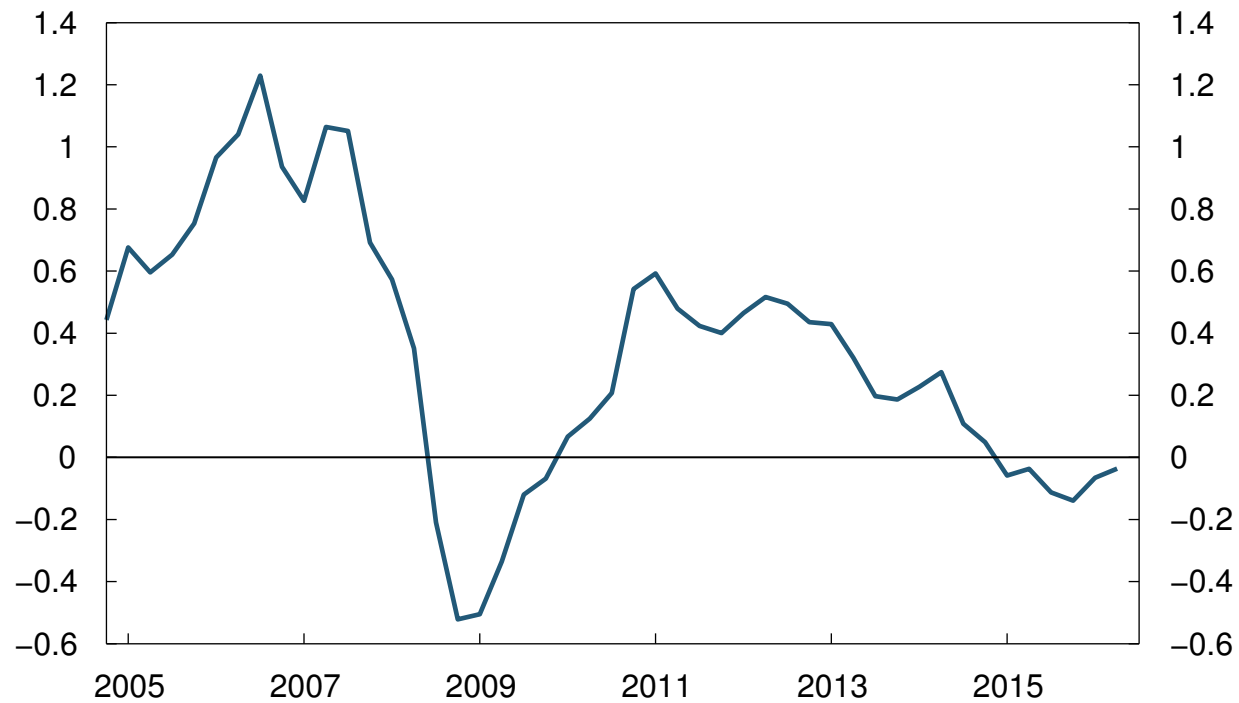Sources: Statistics Norway and Norges Bank

Chart 1.21 Number of vacancies and number of employed persons.
In 1000s of persons. Seasonally adjusted. 2010 Q1 – 2016 Q1

— Employed persons (left–hand scale)
— Vacancies (right–hand scale)

Chart 1.22 Regional network's indicator of expected change in employment next three months. Percent. 2004 Q4 – 2016 Q2

Chart 1.23 Unemployment as a share of the labour force. LFS[1] and NAV. Seasonally adjusted. Percent. January 2006 – September 2016 [2] [3]

LFS
NAV
NAV including employment schemes
Projections MPR 2/16
Projections MPR 1/16
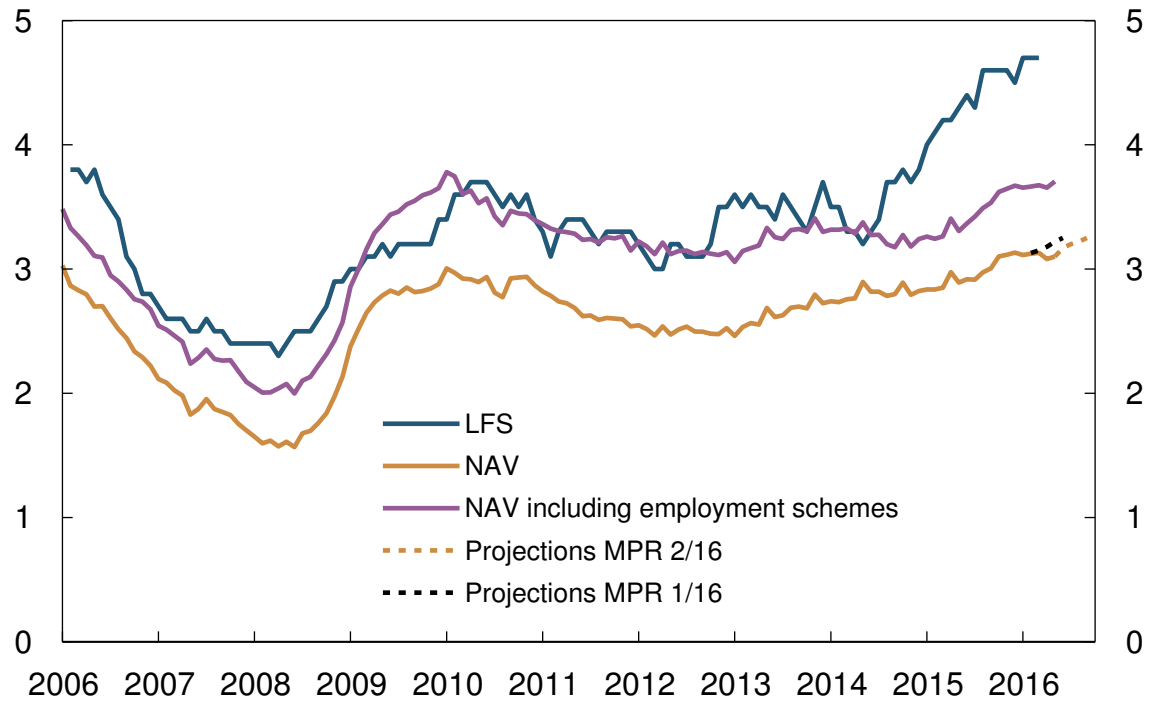
1) Labour Force Survey.
2) Projections for June 2016 – September 2016 (broken lines).
3) Latest observation March 2016 for LFS.
Sources: Statistics Norway, NAV and Norges Bank

Chart 1.24 Registered unemployment by county.
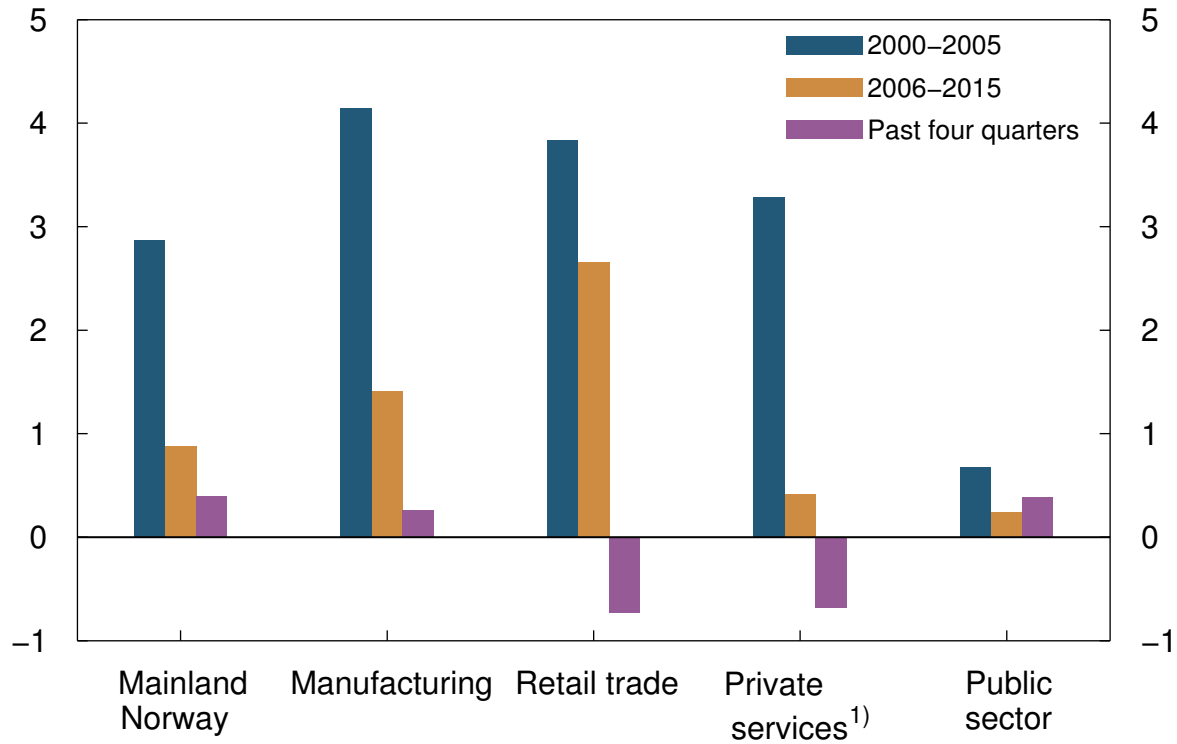Share of labour force. Seasonally adjusted. Percent. January 2005 – May 2016

Hordaland, Møre og Romsdal, Rogaland and Vest–Agder
Rest of Norway
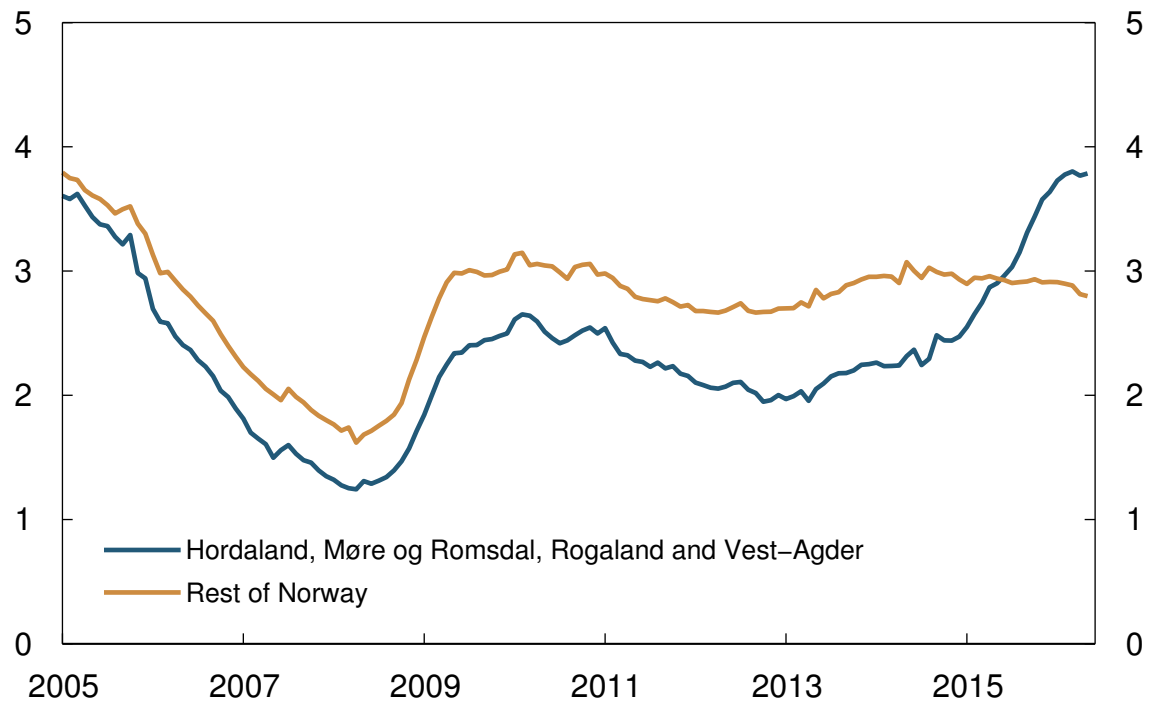
Sources: NAV and Norges Bank

Chart 1.25 Capacity constraints and labour availability as reported by regional network.[1]
Percent. January 2005 – May 2016
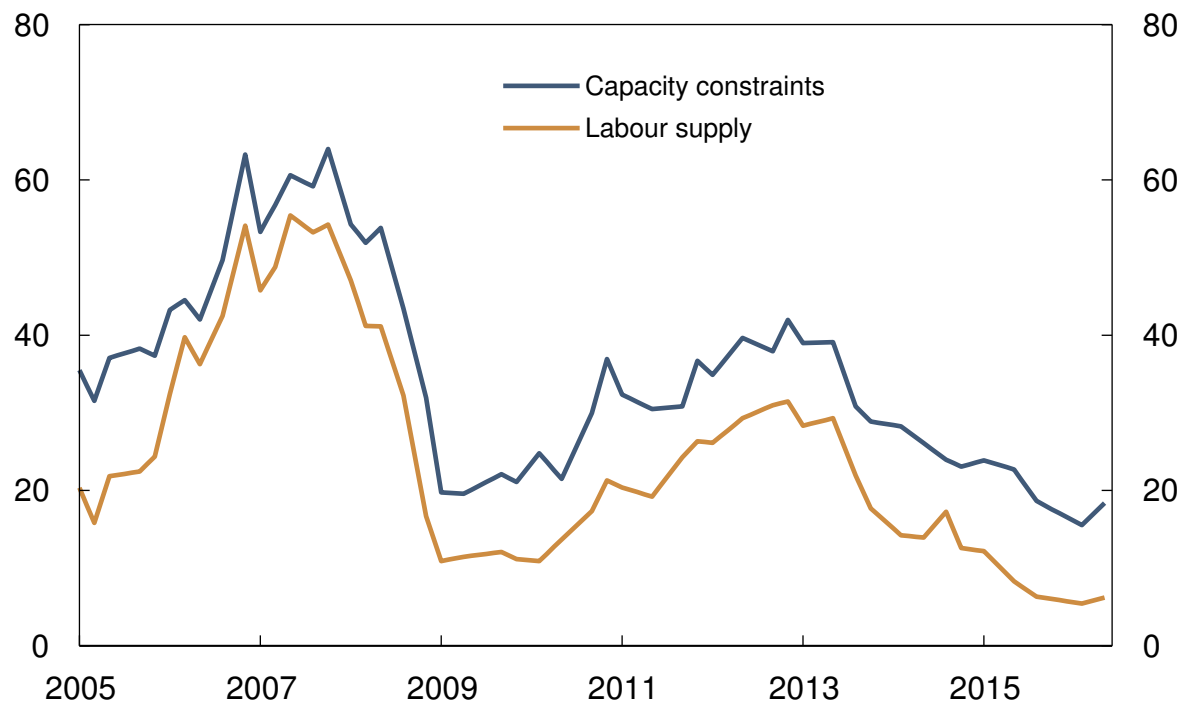
1) Share of contacts that will have some or considerable problems accommodating an increase in demand and the share of contacts reporting that production is constrained by labour supply.
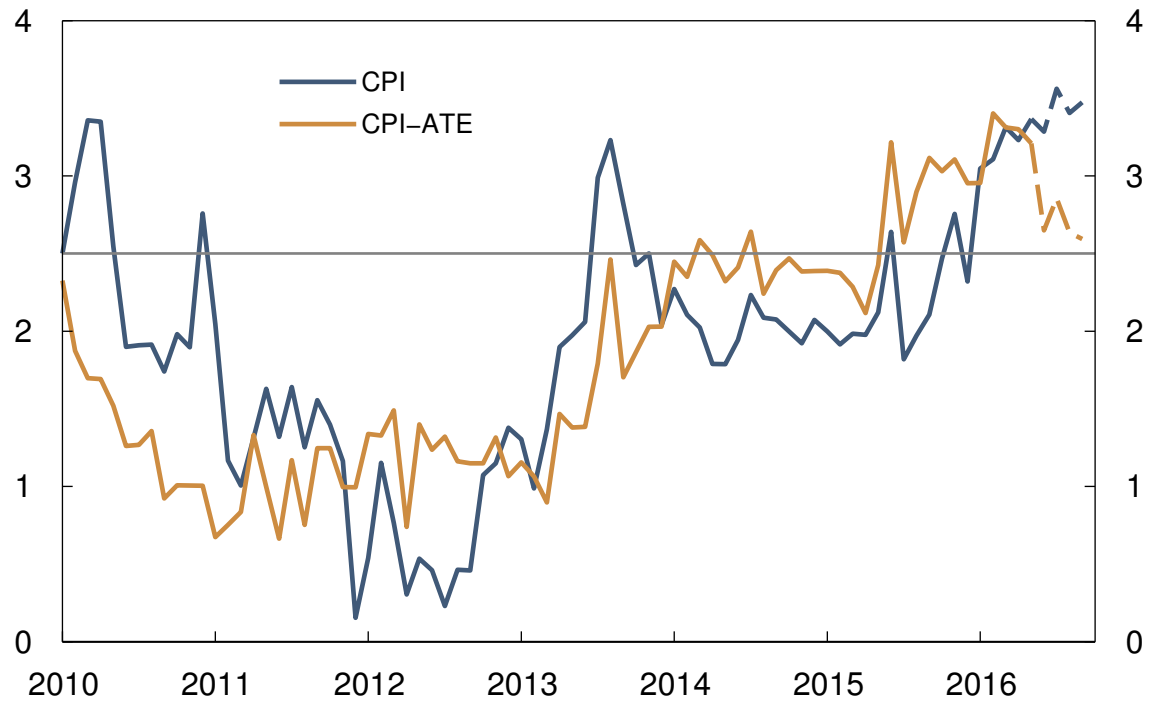Source: Norges Bank

Chart 1.26 Productivity growth in mainland Norway.
Average annual growth. Percent. 2000 Q1 – 2016 Q1

Legend:
- 2000–2005
- 2006–2015
- Past four quarters

X-axis: Mainland Norway, Manufacturing, Retail trade, Private services[1], Public sector

1) Except housing services and retail trade.
Source: Statistics Norway

Chart 1.27 CPI and CPI–ATE[1].
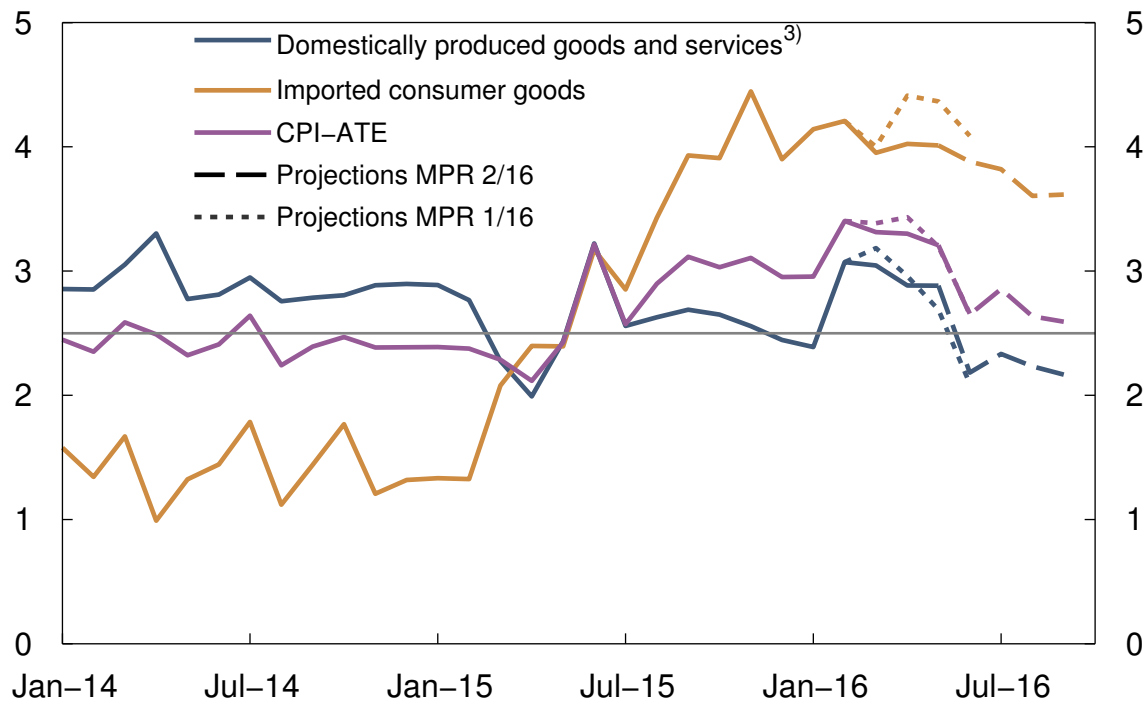Twelve–month change. Percent. January 2010 – September 2016[2]

1) CPI adjusted for tax changes and excluding energy products.
2) Projections for June 2016 – September 2016 (broken lines).
Sources: Statistics Norway and Norges Bank

Chart 1.28 CPI–ATE[1] in total and by supplier sector.
Twelve–month change. Percent. January 2014 – September 2016[2]

1) CPI adjusted for tax changes and excluding energy products.
2) Projections for June 2016 – September 2016 (broken lines).
3) Norges Bank's estimates.
Sources: Statistics Norway and Norges Bank

Chart 1.29 Indicator of external price impulses to imported consumer goods measured in foreign currency. Annual change. Percent. 2005 – 2016[1]
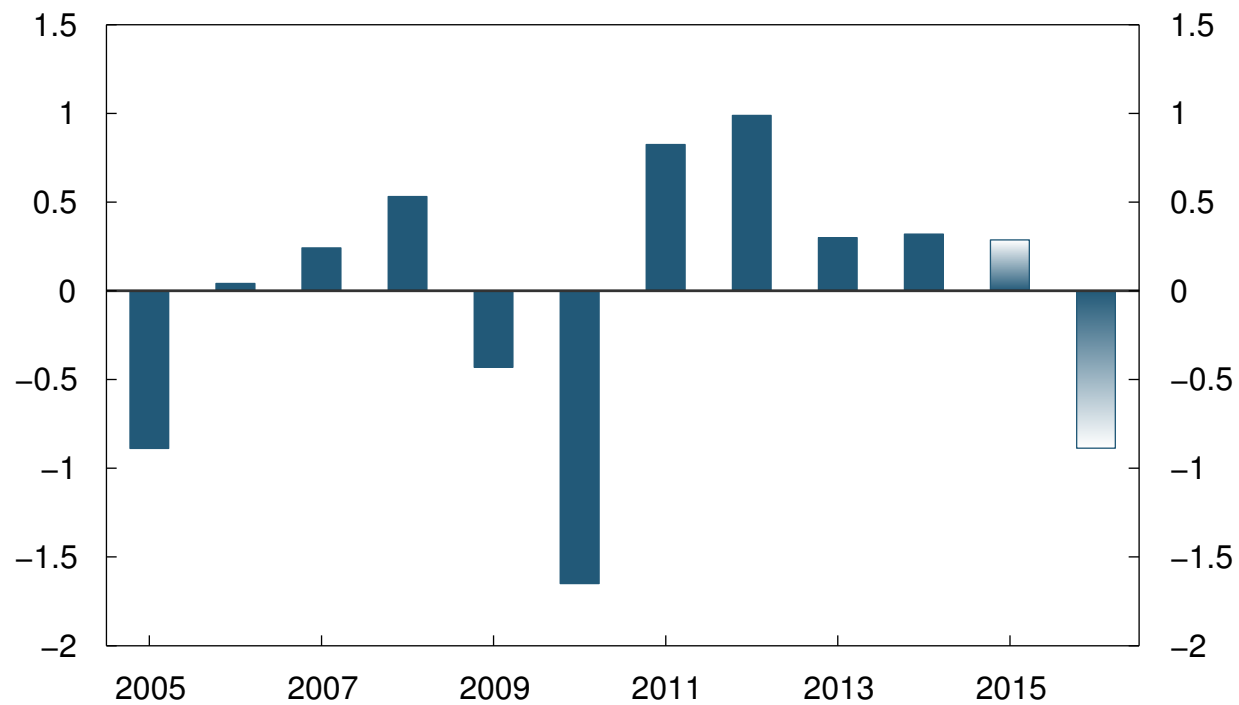
1) Projections for 2015 and 2016.
Source: Norges Bank

Chart 1.30 CPI–ATE[1]. Actual path, baseline scenario and projections from SAM with fan chart. Four–quarter change. Percent. 2014 Q1 – 2016 Q3[2]
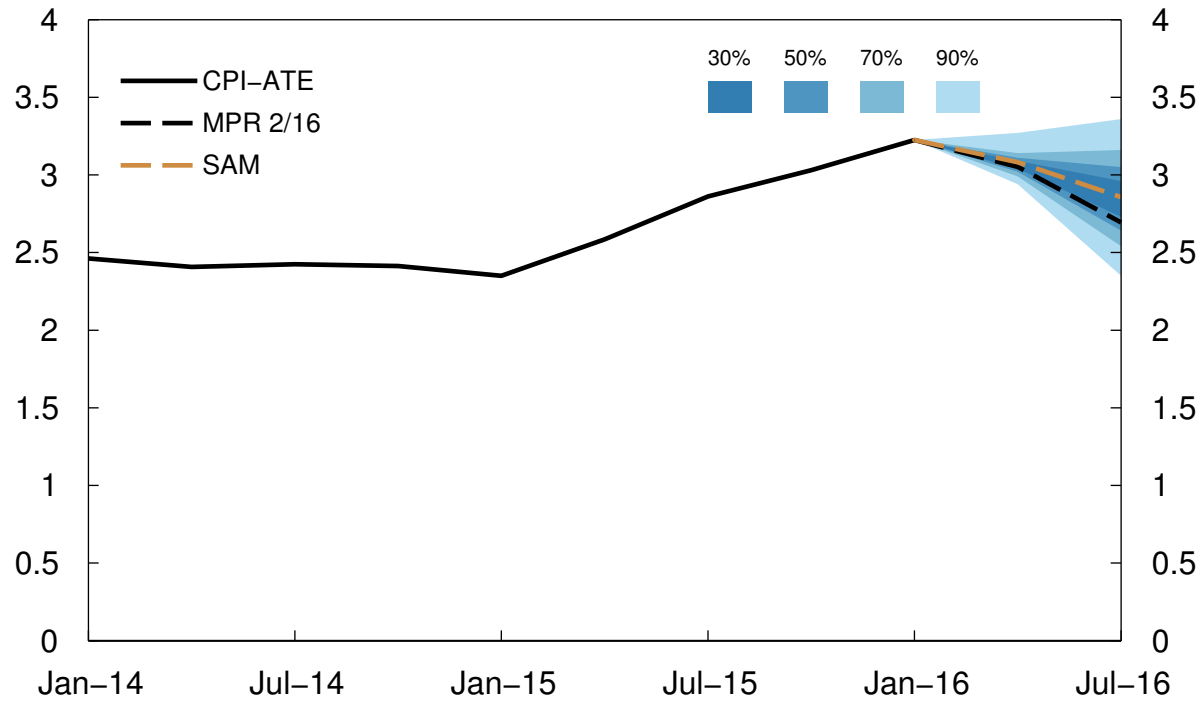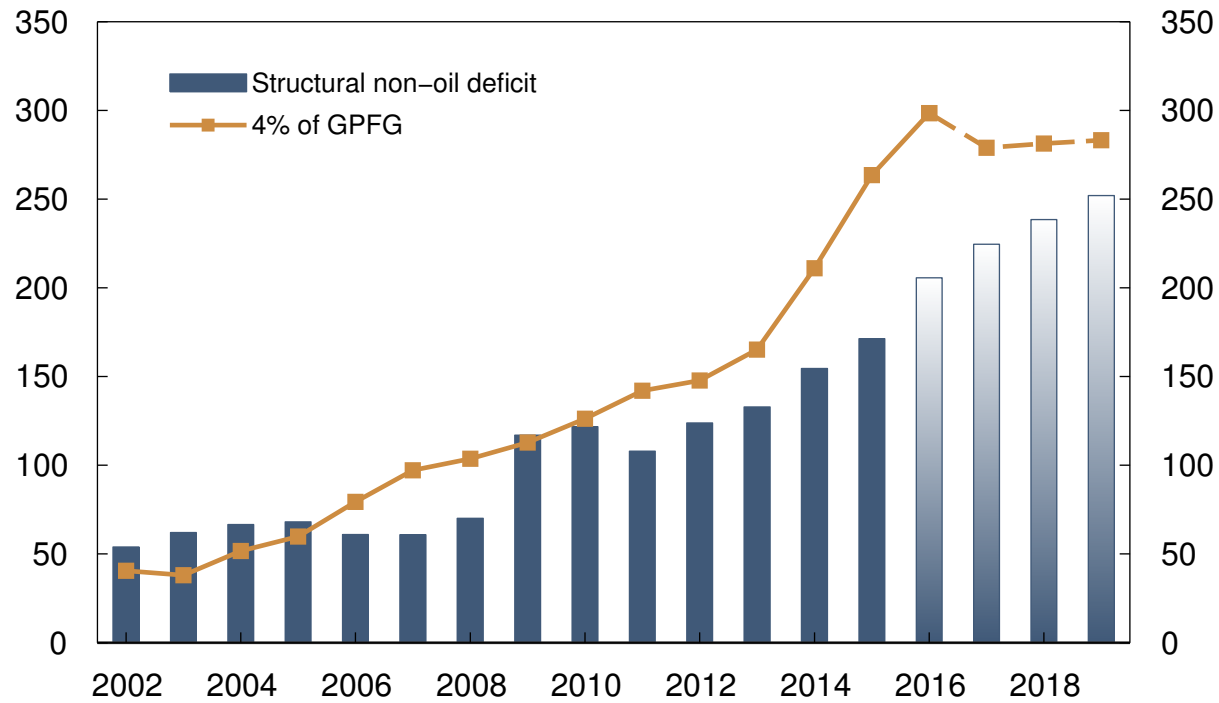

1) CPI adjusted for tax changes and excluding energy products.
2) Projections for 2016 Q2 – 2016 Q3 (broken lines).
Sources: Statistics Norway and Norges Bank

Chart 1.31 Structural non–oil deficit and 4% of the Government Pension
Fund Global (GPFG). Constant 2016 prices. In billions of NOK. 2002 – 2019[1]


- Structural non–oil deficit
- 4% of GPFG

1) Projections for 2016 – 2019.
Sources: Ministry of Finance and Norges Bank

Chart 1.32 Change in structural non–oil deficit.
Percent of trend GDP for mainland Norway. 2002 – 2016[1]

- Percent of trend GDP
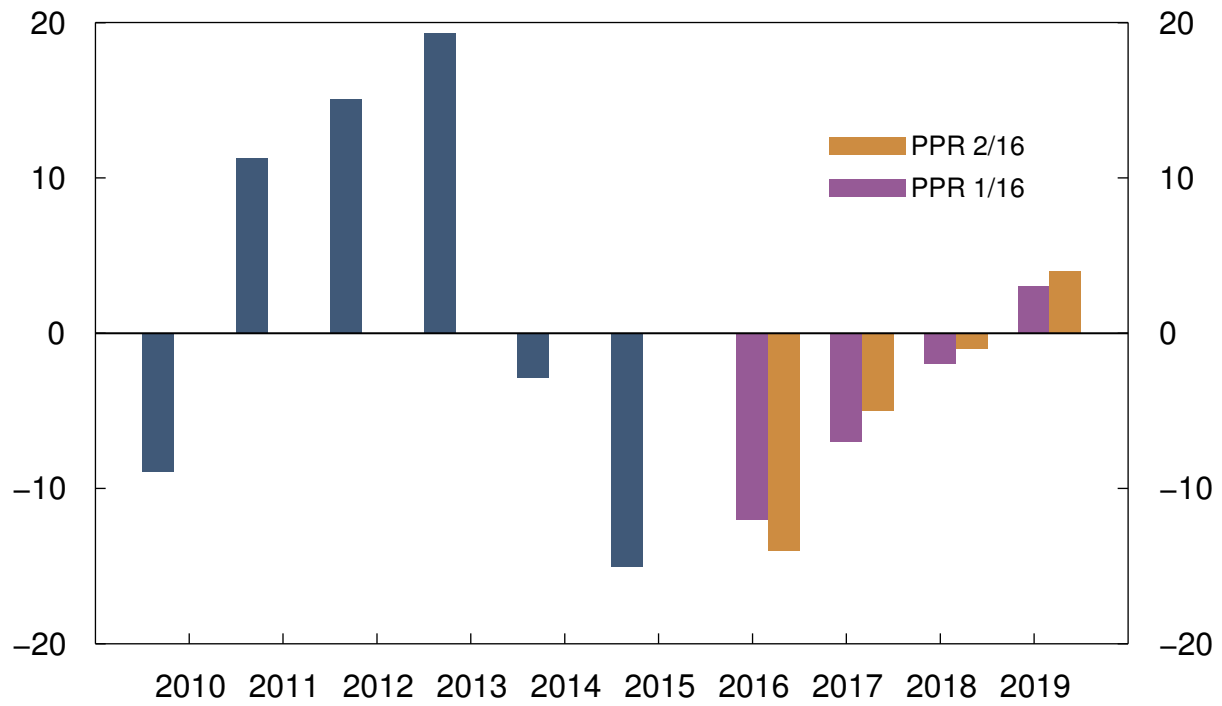- Change from MPR 1/16
- Average 2002–2015
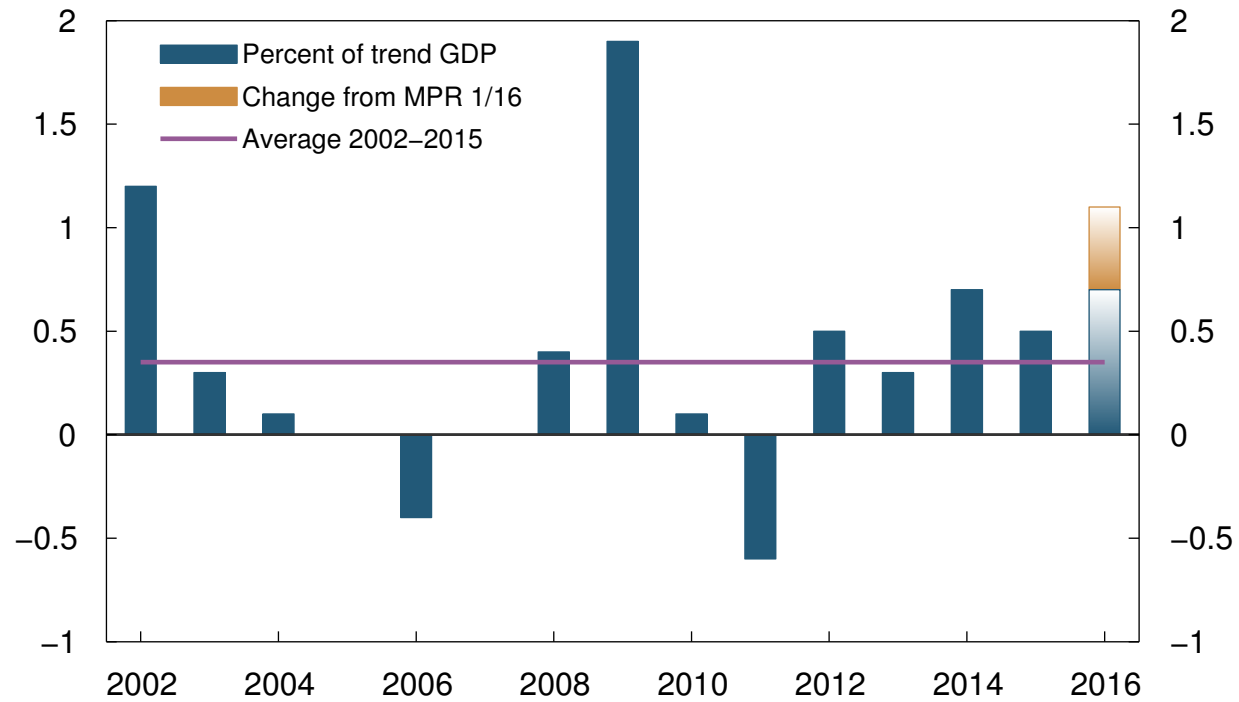
1) Projections for 2016.
Sources: Ministry of Finance and Norges Bank

Chart 1.33 Number of asylum applications received per month. January 2007 – May 2016
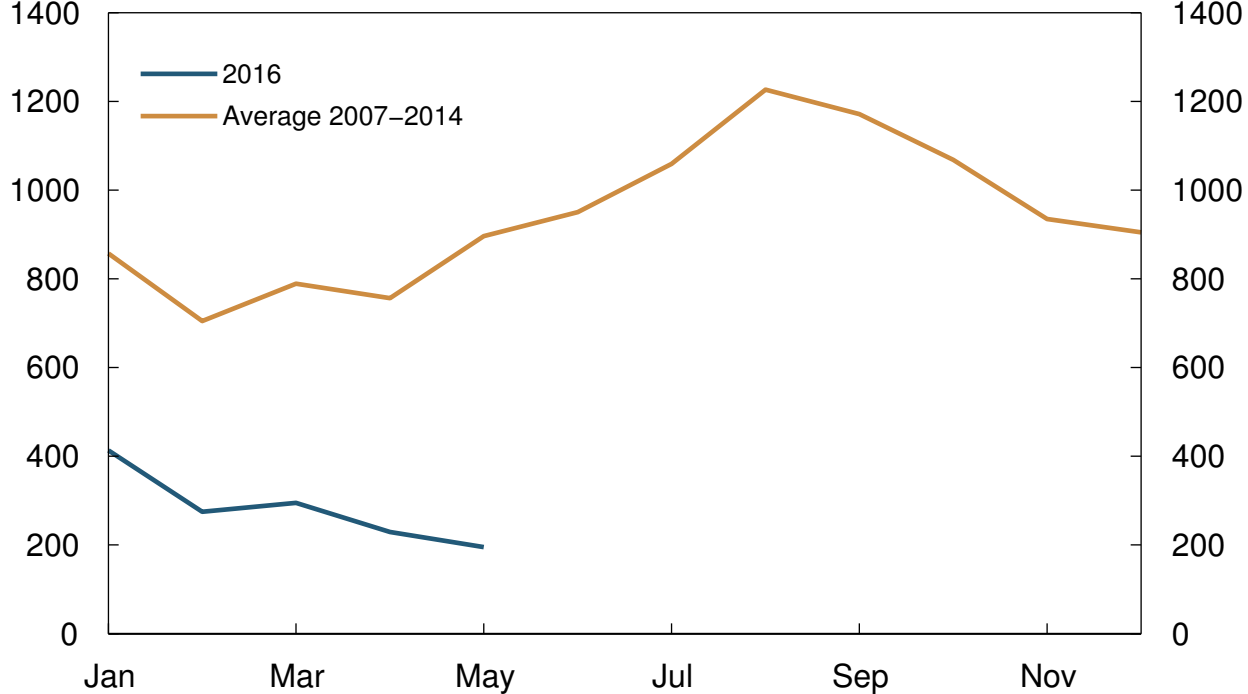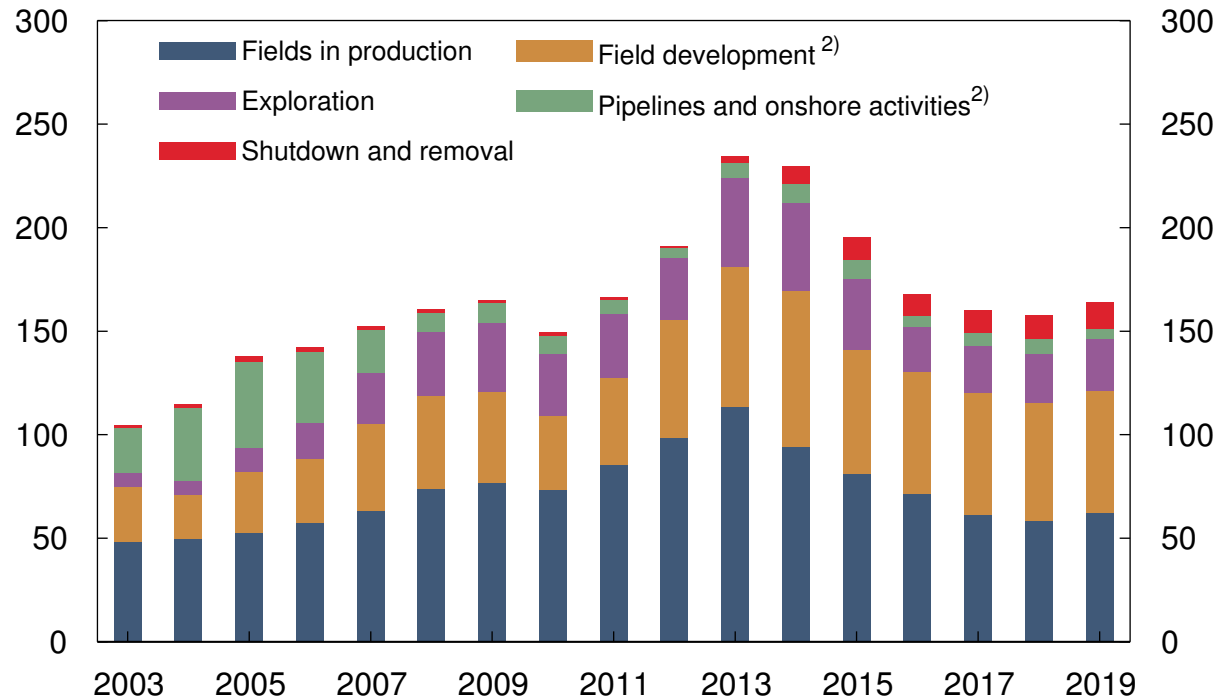
Chart 1.34 Petroleum investment.
Volume. Annual change. Percent. 2010 – 2019[1]

PPR 2/16
PPR 1/16

1) Projections for 2016 – 2019.
Sources: Statistics Norway and Norges Bank

Chart 1.35 Petroleum investment.
Constant 2016 prices. In billions of NOK. 2003 – 2019 [1]

- Fields in production
- Field development [2]
- Exploration
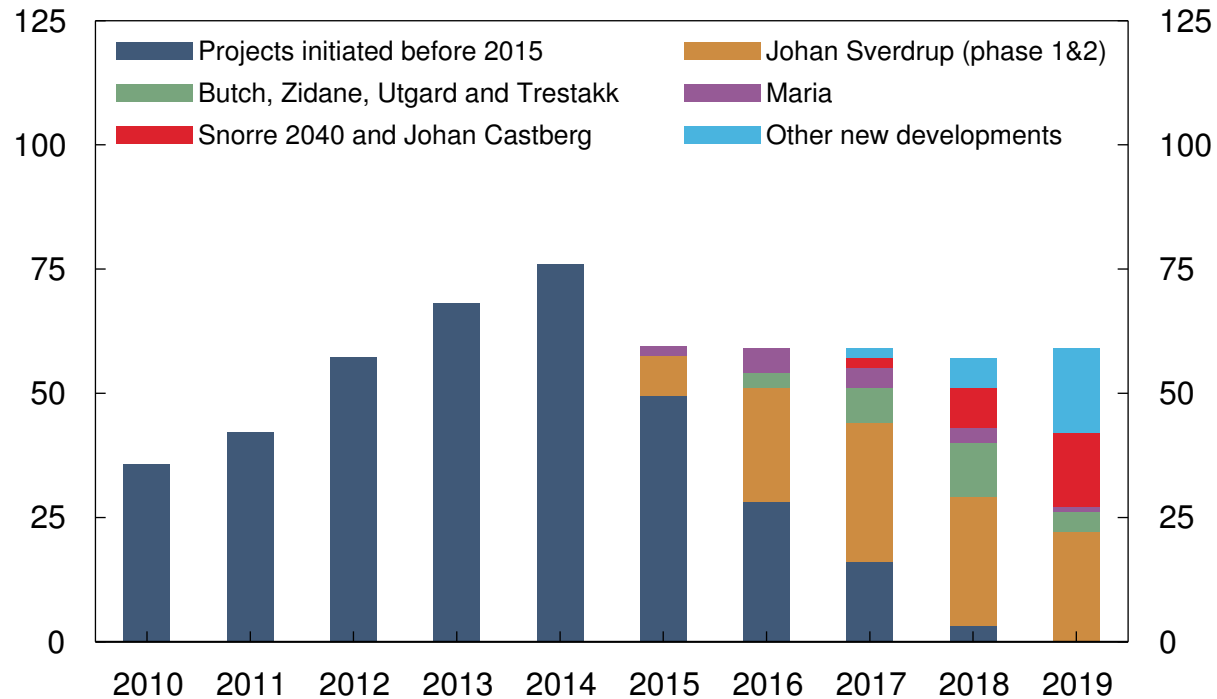- Pipelines and onshore activities [2]
- Shutdown and removal

1) Projections for 2016 – 2019. Figures for 2003 – 2015 are from the investment intentions survey by
Statistics Norway and deflated by the price index for petroleum investment in the national accounts.
The index is projected to be unchanged from 2015 to 2016.
2) Expenses for pipelines for the Johan Sverdrup development are included in the estimates for
pipeline transport and onshore activities.
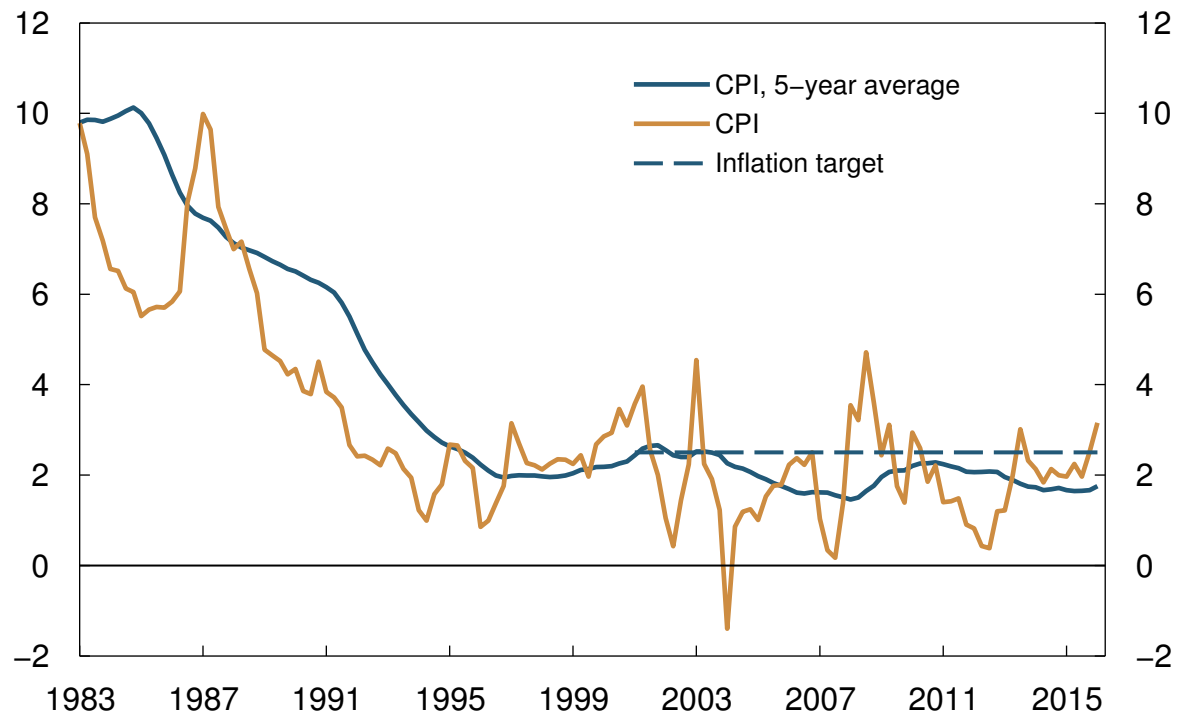Sources: Statistics Norway and Norges Bank

Chart 1.36 Field development.
Constant 2016 prices. In billions of NOK. 2010 – 2019[1]

1) Projections for 2016 – 2019 and for the breakdown of investment in 2015. Figures for total development investments for 2010 – 2015 are from the investment intentions survey by Statistics Norway and 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, the investment intention survey by Statistics Norway and current information about development investments. Expenses for pipelines for the Johan Sverdrup development are included in the estimates for pipeline transport and onshore activities. Sources: Statistics Norway and Norges Bank

Chart 2.1 Consumer price index.
Four–quarter change. Percent. 1983 Q1 – 2016 Q1



Sources: Statistics Norway and Norges Bank

Chart 2.2 Expected consumer price inflation 2 and 5 years ahead.[1]
Percent. 2003 Q1 – 2016 Q2

— Expected inflation 2 years ahead
— Expected inflation 5 years ahead
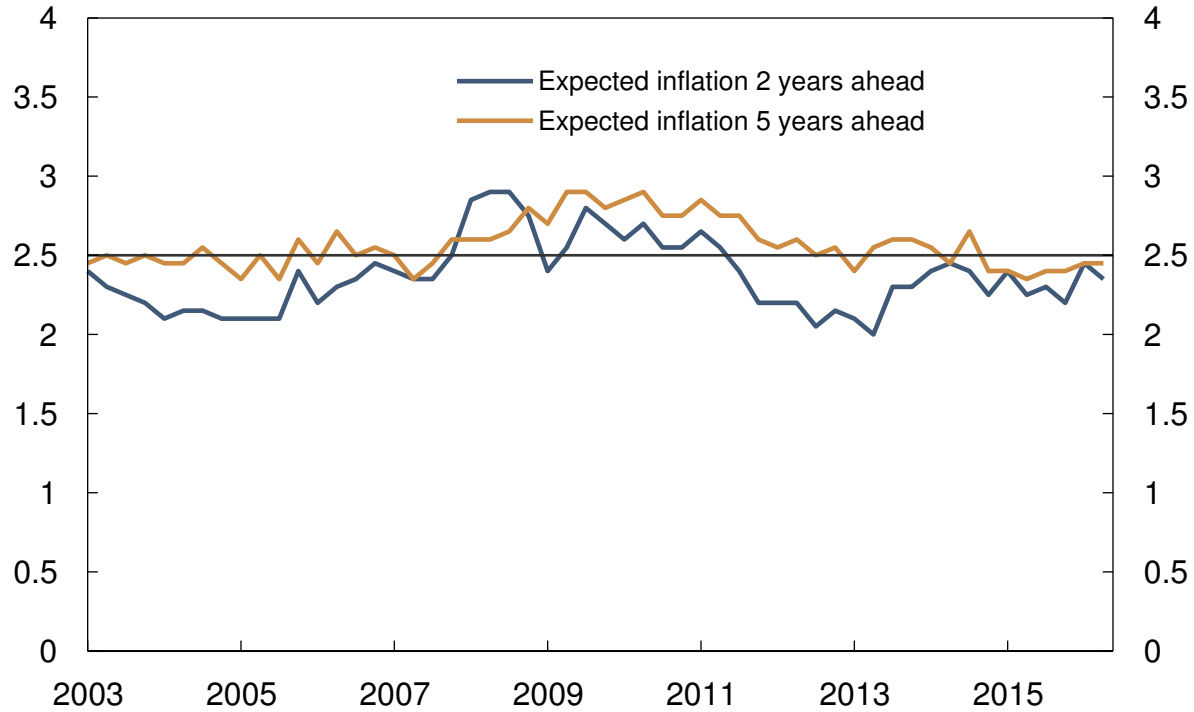
1) Average of expectations of employer/employee organisations and economists in the financial industry and academia.
Sources: Epinion and Norges Bank

Chart 2.3 Regional network's indicator for annualised
output growth past three months and expected output growth next six months.
Percent. January 2005 – November 2016[1]
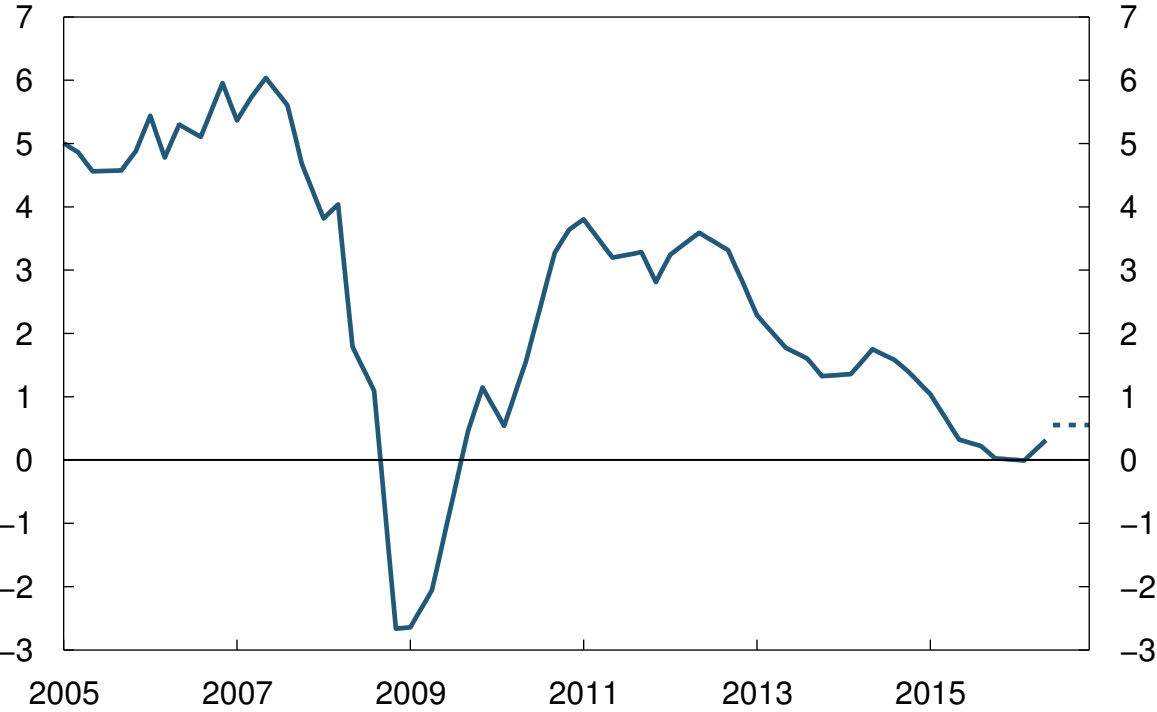
1) Reported growth to May 2016. Expected growth for May 2016 – November 2016 (broken line).
Source: Norges Bank

Chart 2.4a Projected key policy rate in the baseline scenario with fan chart.[1]
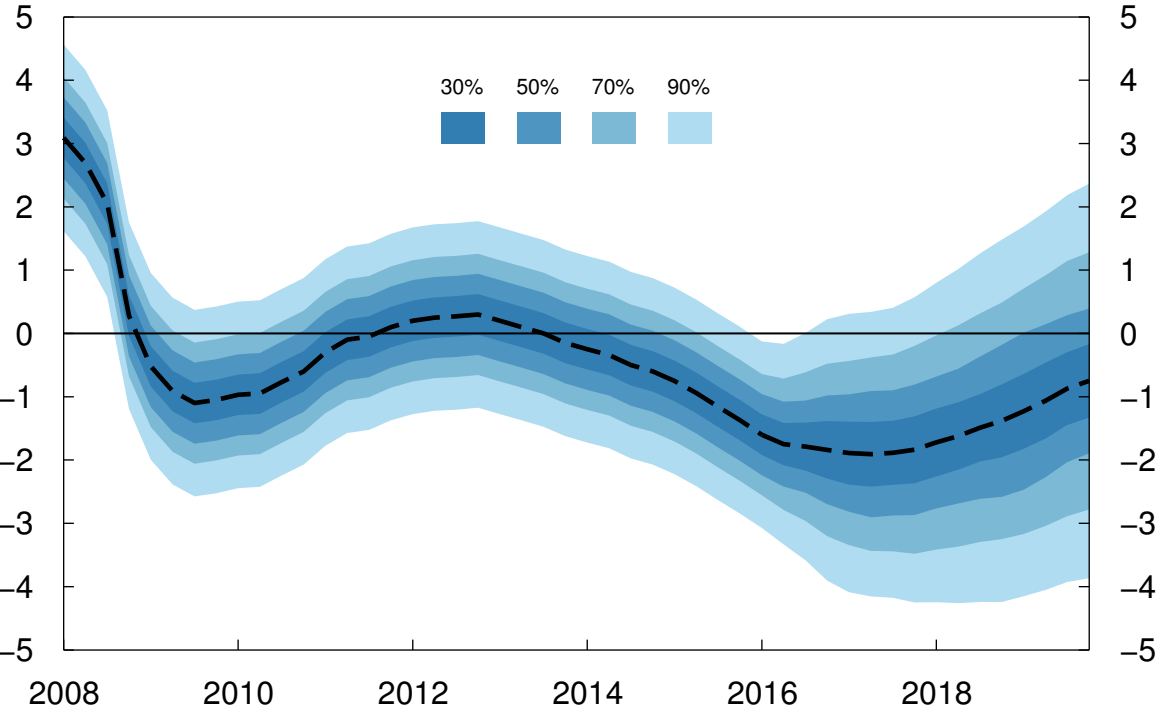Percent. 2008 Q1 – 2019 Q4 [2]
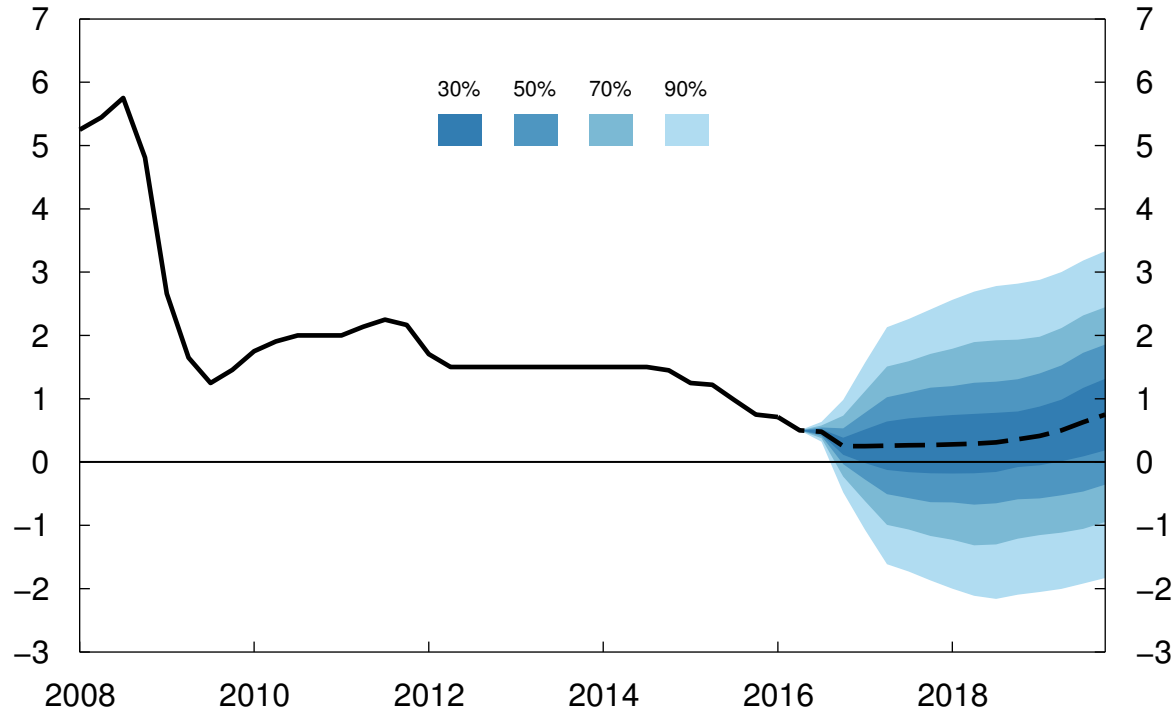
1) The fan charts are based on historical experience and stochastic simulations in our main macroeconomic model, NEMO. The fan chart for the key policy rate does not take into account that a lower bound for the interest rate exists.
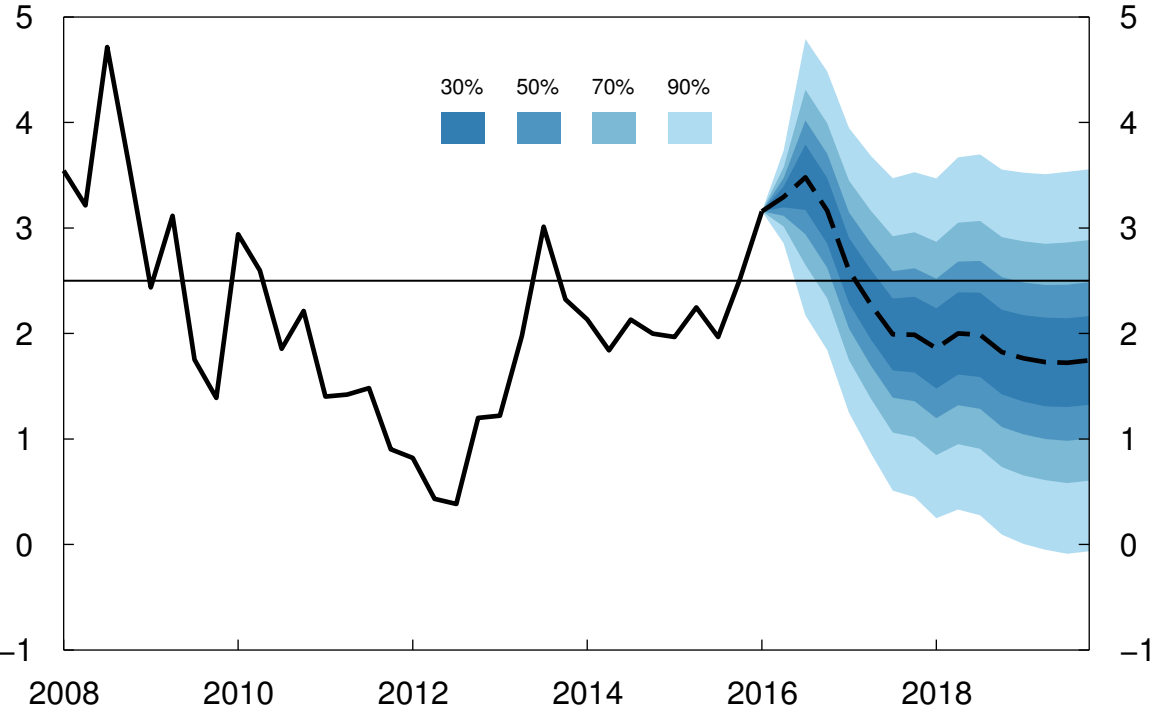2) Projections for 2016 Q2 – 2019 Q4 (broken line).
Source: Norges Bank

Chart 2.4b Projected output gap[1] in the baseline scenario with fan chart.
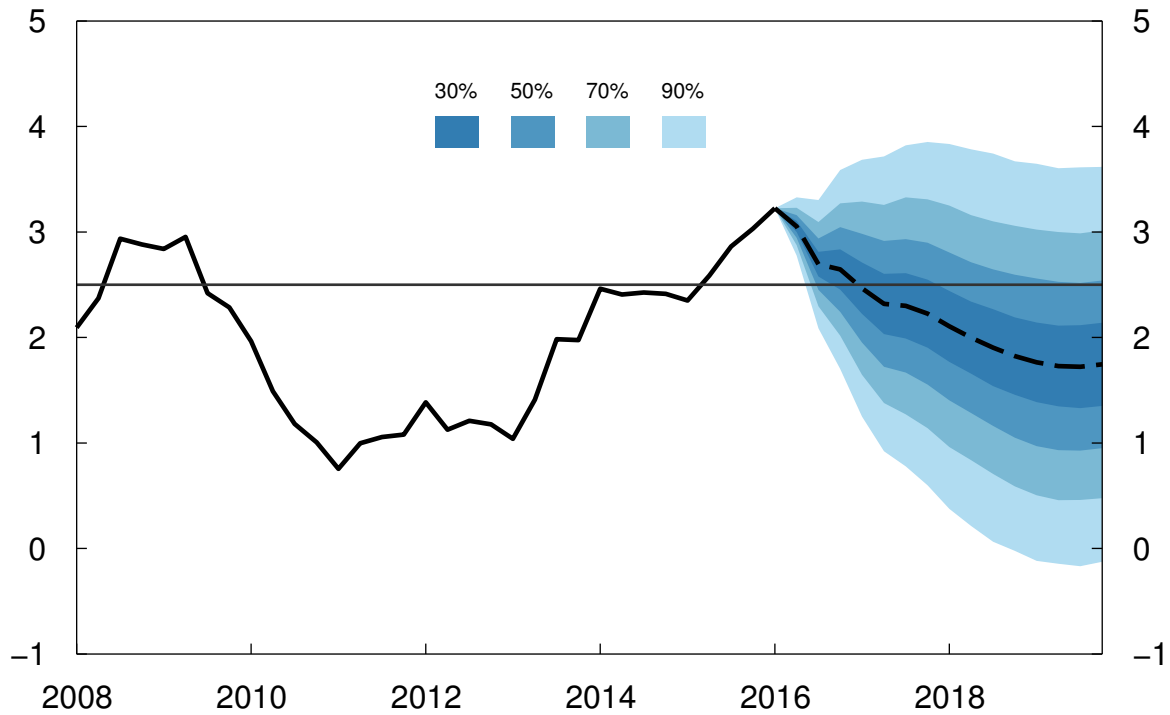Percent. 2008 Q1 – 2019 Q4

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

Chart 2.4c Projected CPI in the baseline scenario with fan chart.
Four–quarter change. Percent. 2008 Q1 – 2019 Q4 [1]

Chart 2.4d Projected CPI–ATE[1] in the baseline scenario with fan chart.
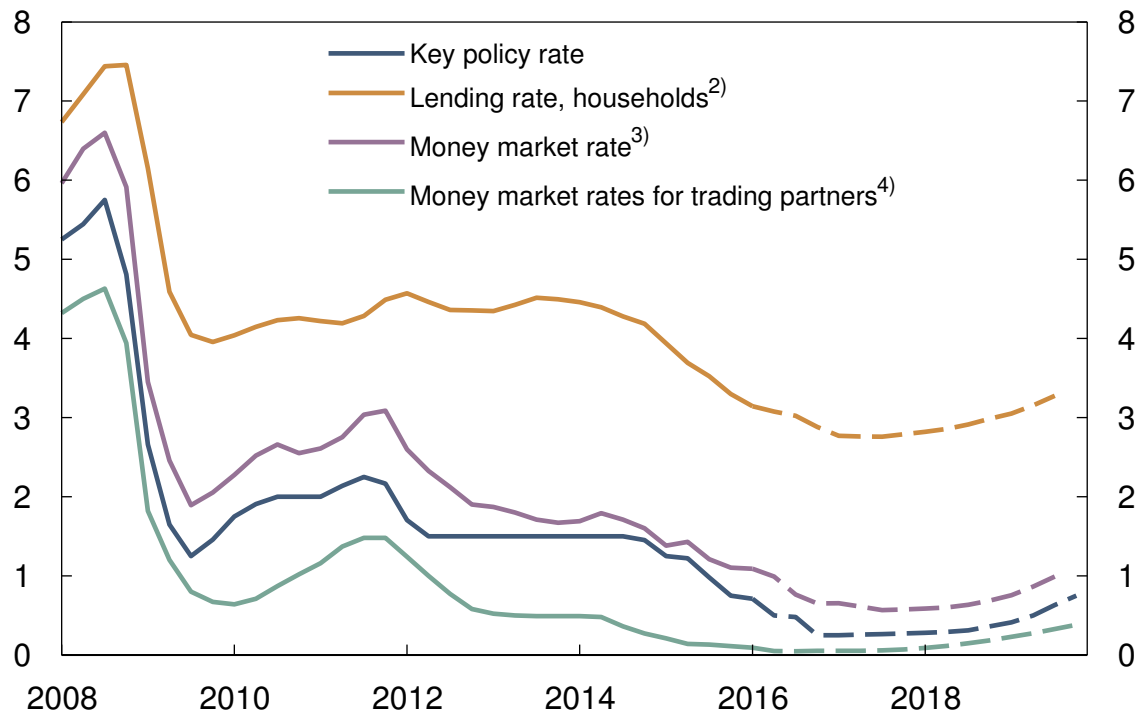Four–quarter change. Percent. 2008 Q1 – 2019 Q4[2]

1) CPI adjusted for tax changes and excluding energy products.
2) Projections for 2016 Q2 – 2019 Q4 (broken line).
Sources: Statistics Norway and Norges Bank

Chart 2.5 Interest rates in the baseline scenario.
Percent. 2008 Q1 – 2019 Q4 [1]

Legend:
- Key policy rate
- Lending rate, households[2]
- Money market rate[3]
- Money market rates for trading partners[4]

1) Projections for 2016 Q2 – 2019 Q4 (broken lines).
2) Average interest rate on all loans to households from banks and covered bond companies.
3) Key policy rate in the baseline scenario plus premiums in the Norwegian money market.
The calculations are based on the assumption that announced interest rate changes are priced into the money market.
4) The aggregate for trading partner interest rates is described in *Norges Bank Memo* 2/2015.
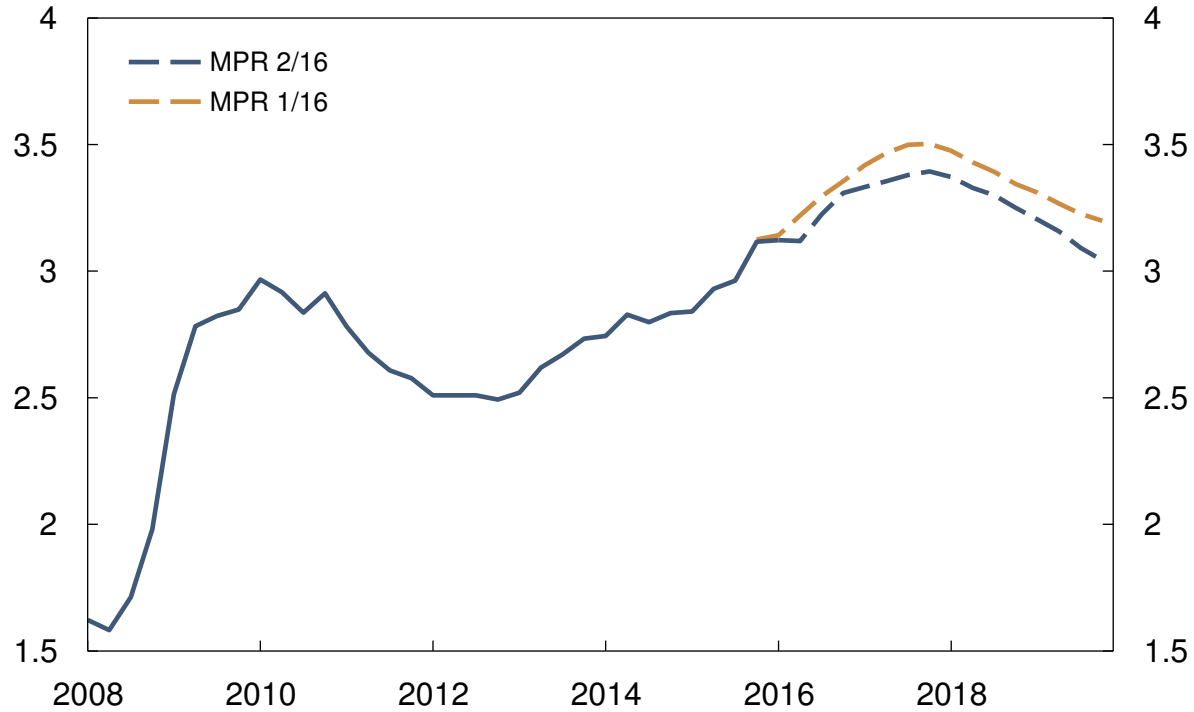Sources: Statistics Norway, Thomson Reuters and Norges Bank

Chart 2.6 GDP for mainland Norway.
Annual change. Percent. 2008 – 2019[1]

MPR 2/16
MPR 1/16
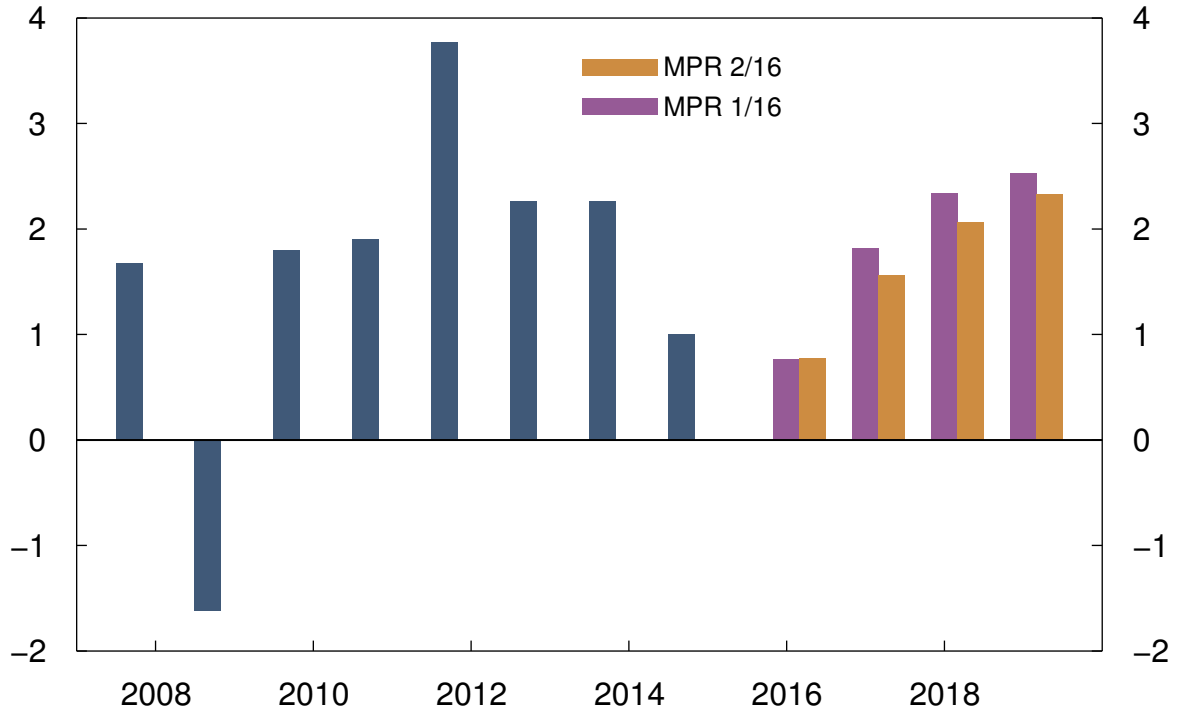
1) Projections for 2016 – 2019
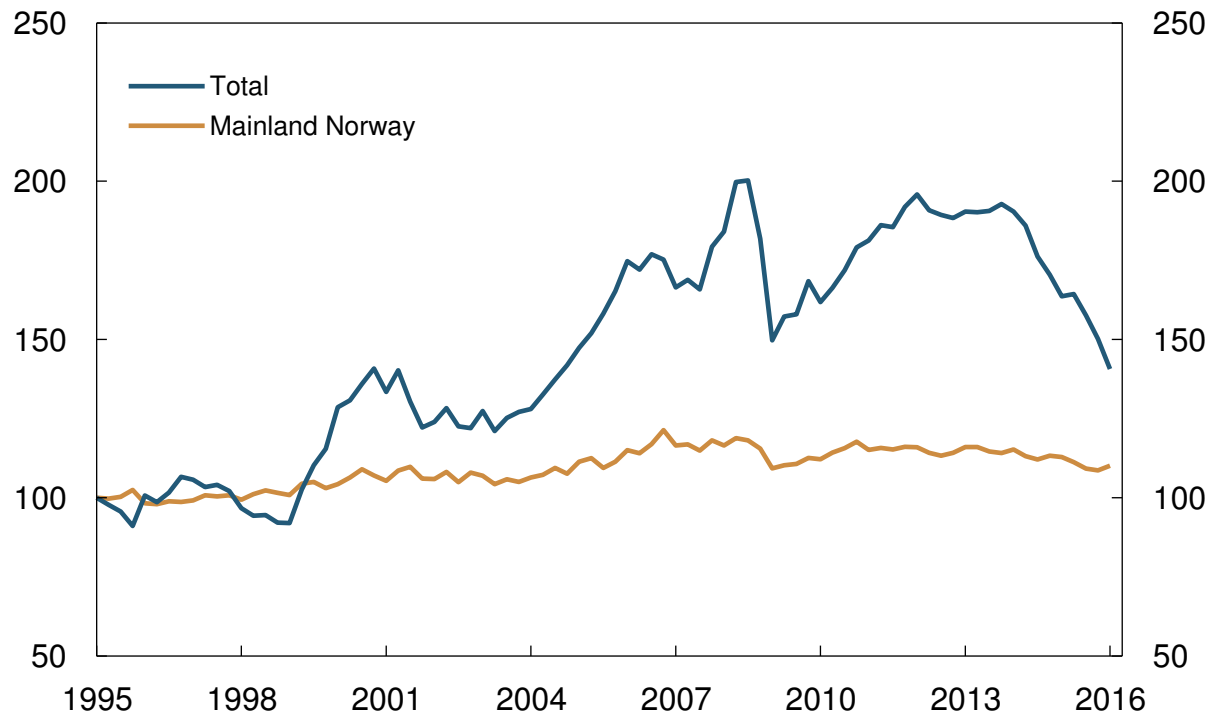Sources: Statistics Norway and Norges Bank

Chart 2.7 Registered unemployment as a percentage of the labour force.
Seasonally adjusted. Percent. 2008 Q1 – 2019 Q4 [1]

1) Projections for 2016 Q2 – 2019 Q4 (broken lines).
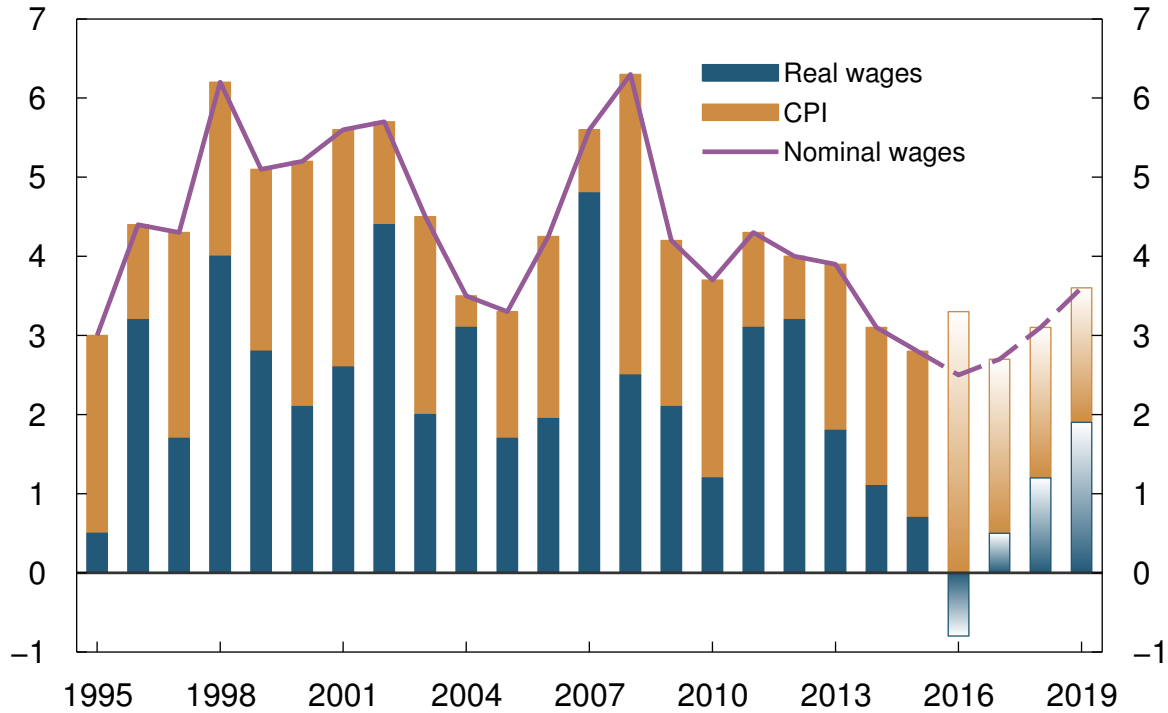Sources: NAV, Statistics Norway and Norges Bank

Chart 2.8 Terms of trade.
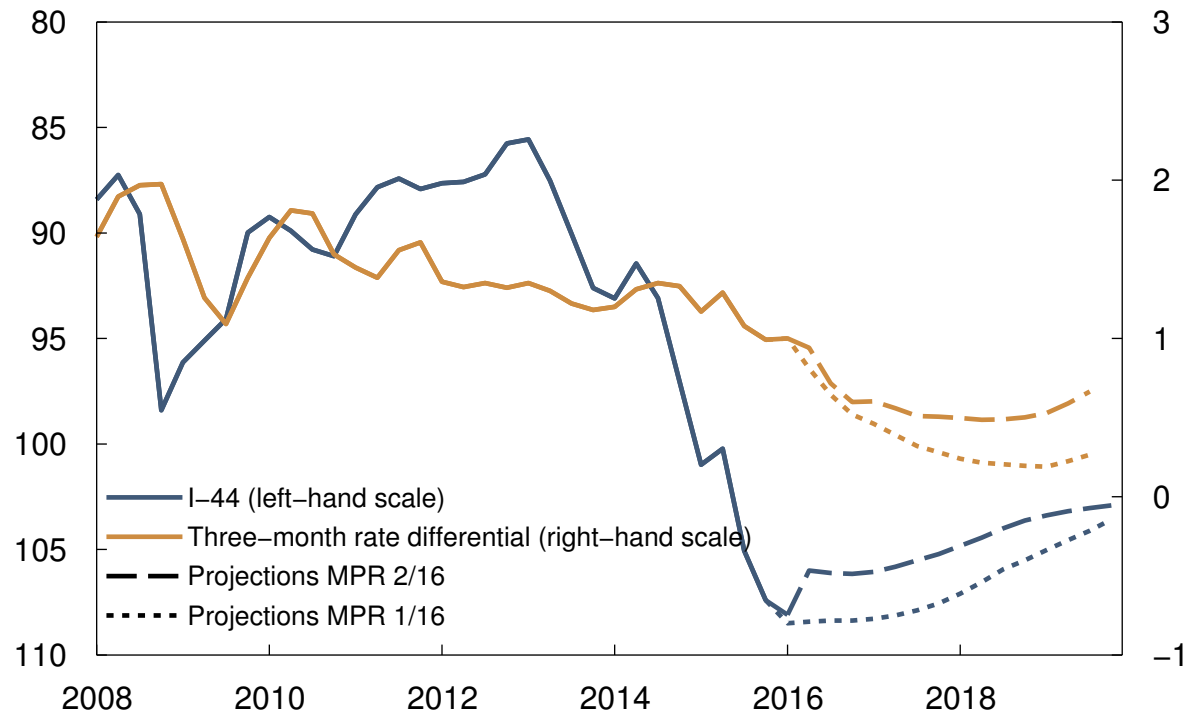Seasonally adjusted. Index. 1995 Q1=100. 1995 Q1 – 2016 Q1

Sources: Statistics Norway and Norges Bank

Chart 2.9 Wages.
Annual change. Percent. 1995 – 2019[1]

1) Projections for 2016 – 2019.
Sources: Statistics Norway, TBU and Norges Bank

Chart 2.10 Three−month money market rate differential between Norway[1] and trading partners[2] and import−weighted exchange rate index (I−44)[3]. 2008 Q1 − 2019 Q4[4]

- I−44 (left−hand scale)
- Three−month rate differential (right−hand scale)
- — — Projections MPR 2/16
- ⋯⋯⋯ Projections MPR 1/16

1) Key policy rate in the baseline scenario plus premiums in the Norwegian money market. The calculations are based on the assumption that announced interest rate changes are priced into the money market.
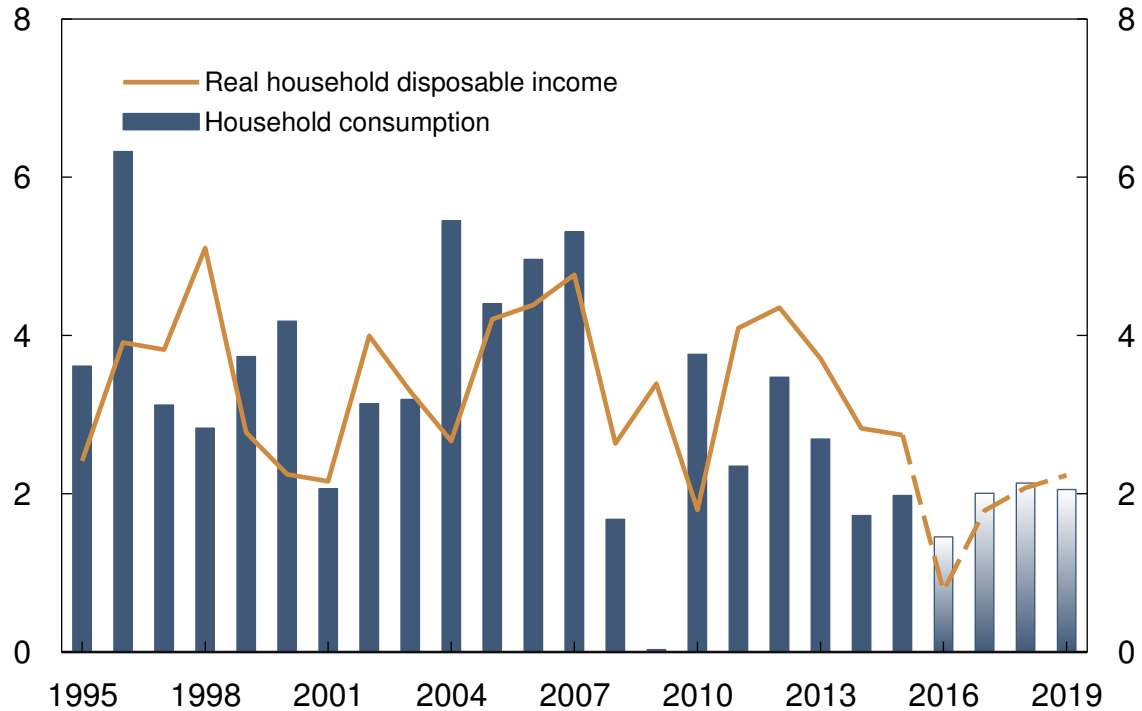2) Forward rates for trading partners at 17 June 2016.
3) A positive slope denotes a stronger krone exchange rate.
4) Projections for 2016 Q2 − 2019 Q4 (broken lines).
Sources: Thomson Reuters and Norges Bank

Chart 2.11 Household consumption[1] and real disposable income[2].
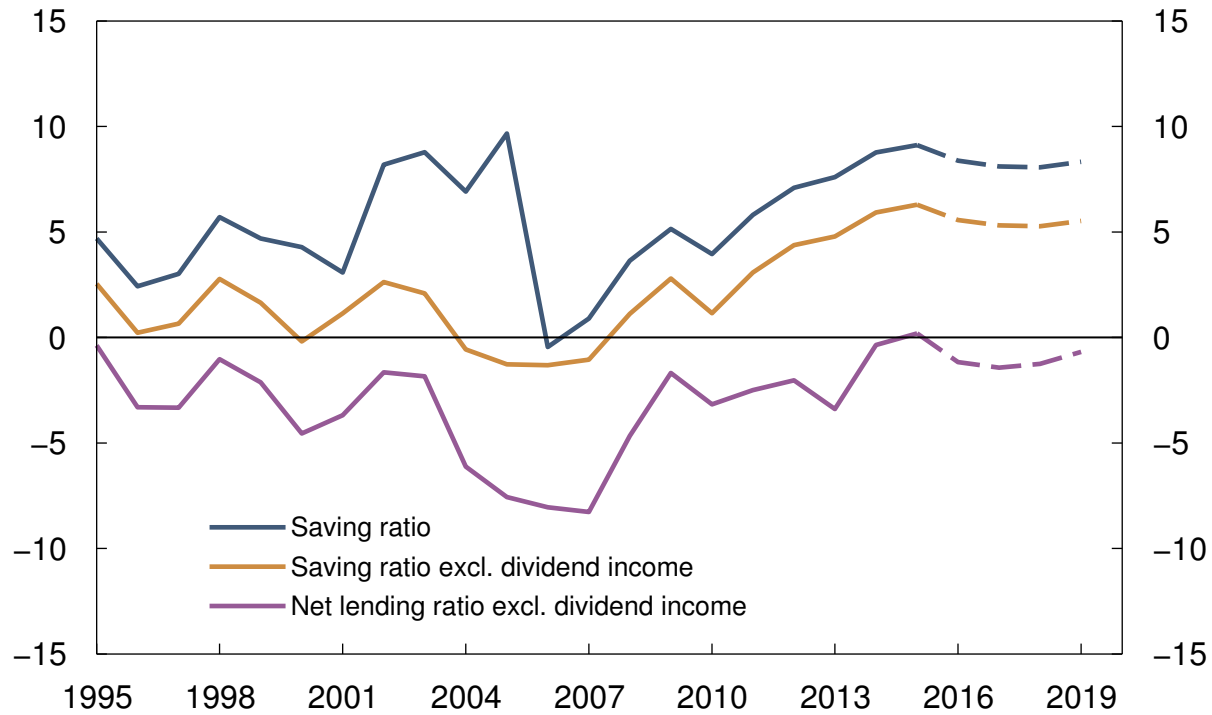Annual change. Percent. 1995 – 2019[3]

1) Includes consumption for non–profit organisations. Volume.
2) Excluding dividend income. Including income for non–profit organisations. Deflated by CPI.
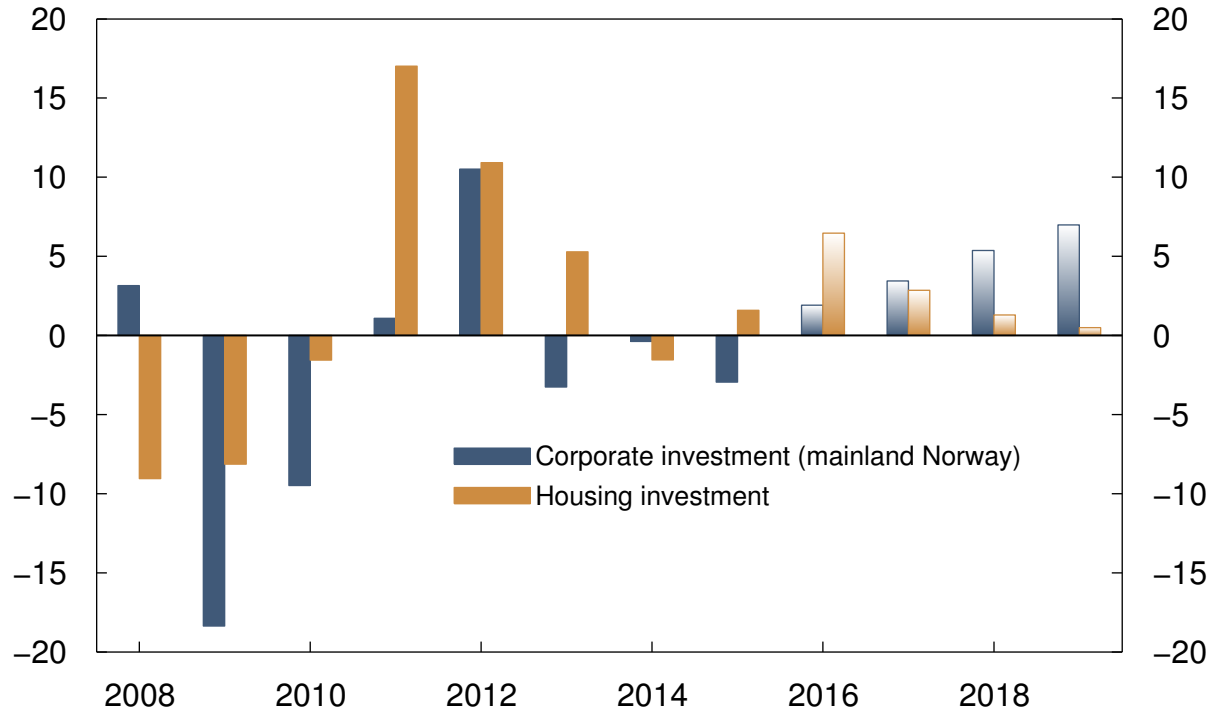3) Projections for 2016 – 2019.
Sources: Statistics Norway and Norges Bank

Chart 2.12 Household saving and net lending as a share of disposable income.
Percent. 1995 – 2019 [1]

Saving ratio
Saving ratio excl. dividend income
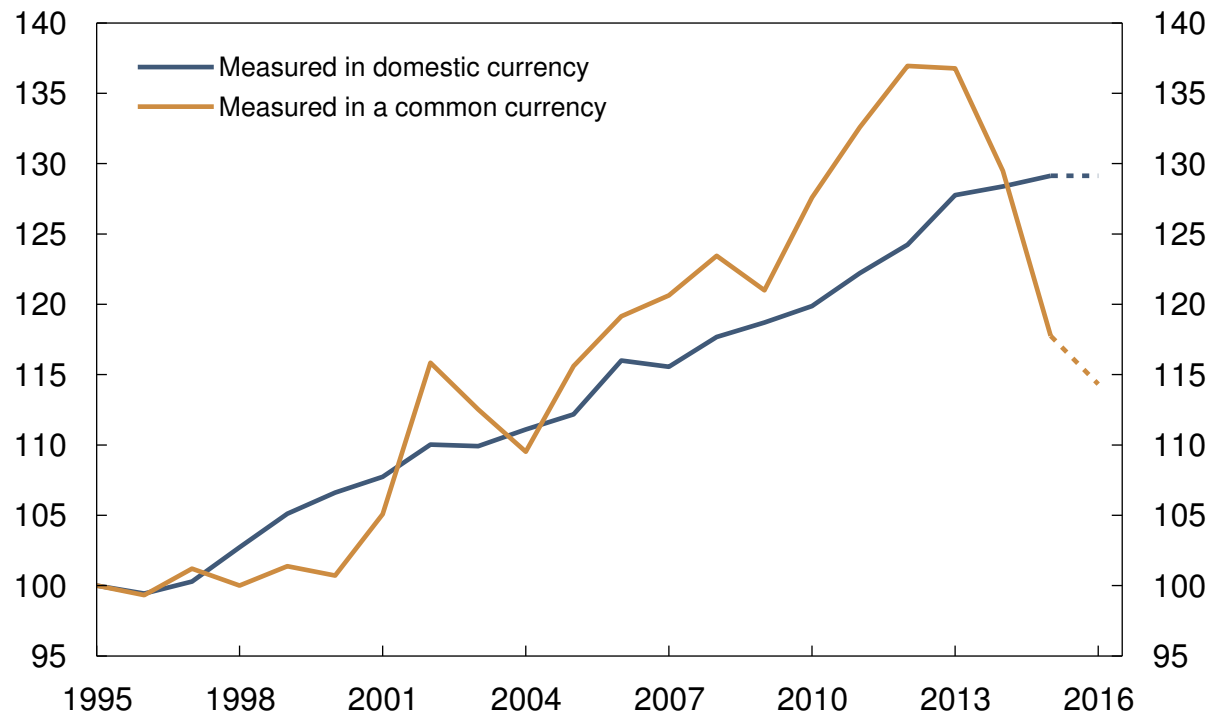Net lending ratio excl. dividend income

1) Projections for 2016 – 2019 (broken lines).
Sources: Statistics Norway and Norges Bank

Chart 2.13 Private investment.
Annual change. Percent. 2008 – 2019[1]

Corporate investment (mainland Norway)
Housing investment

1) Projections for 2016 – 2019.
Sources: Statistics Norway and Norges Bank

Chart 2.14 Norwegian labour costs relative to trading partners' labour costs.[1]
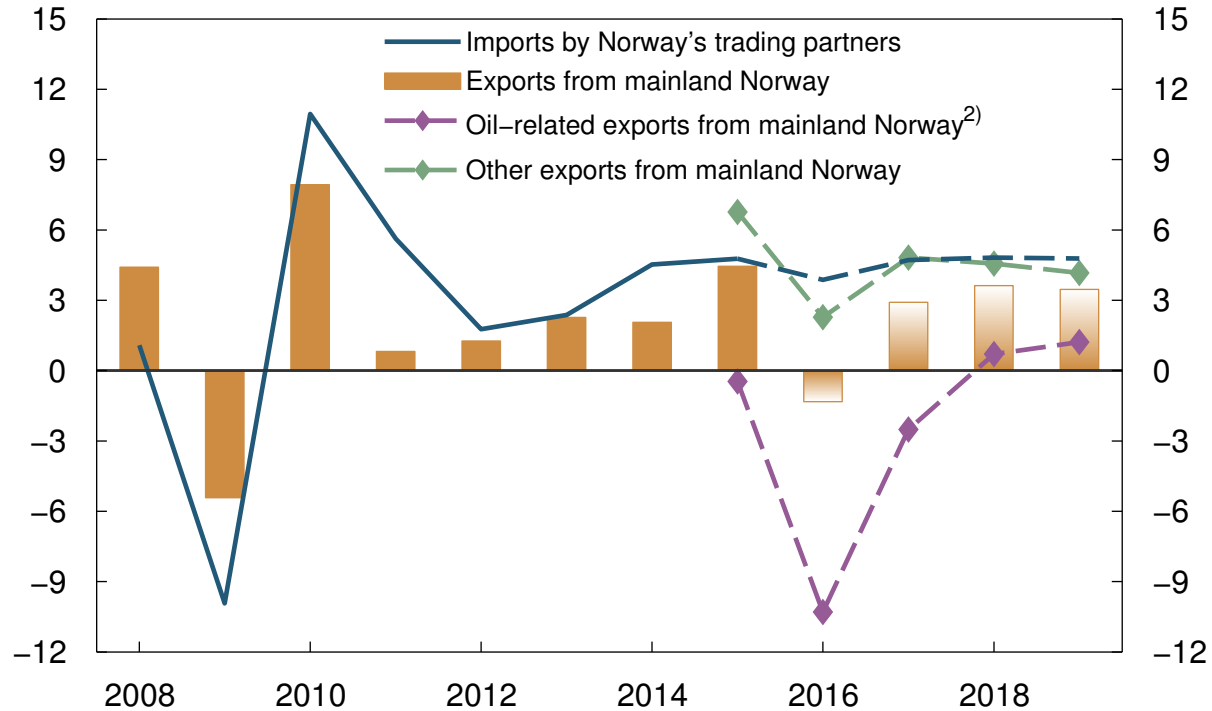Index. 1995=100. 1995 – 2016 [2]

1) Hourly labour costs in manufacturing.
2) Projections for 2016 (broken lines).
Sources: Statistics Norway, TBU and Norges Bank

Chart 2.15 Exports from mainland Norway and imports by Norway's trading partners. Annual change. Percent. 2008 – 2019[1]


1) Projections for 2016 – 2019.
2) Groups of goods and services in the national accounts where the oil service sector accounts for a considerable share of exports.
Sources: Thomson Reuters, Statistics Norway and Norges Bank

Chart 2.16 Three−month money market rate in the baseline scenario[1] and estimated forward rates[2]. Percent. 2008 Q1 − 2019 Q4

Legend:
- – – Money market rate in the baseline scenario, MPR 2/16
- – – Money market rate in the baseline scenario, MPR 1/16
- Estimated forward rates, MPR 2/16
- Estimated forward rates, MPR 1/16
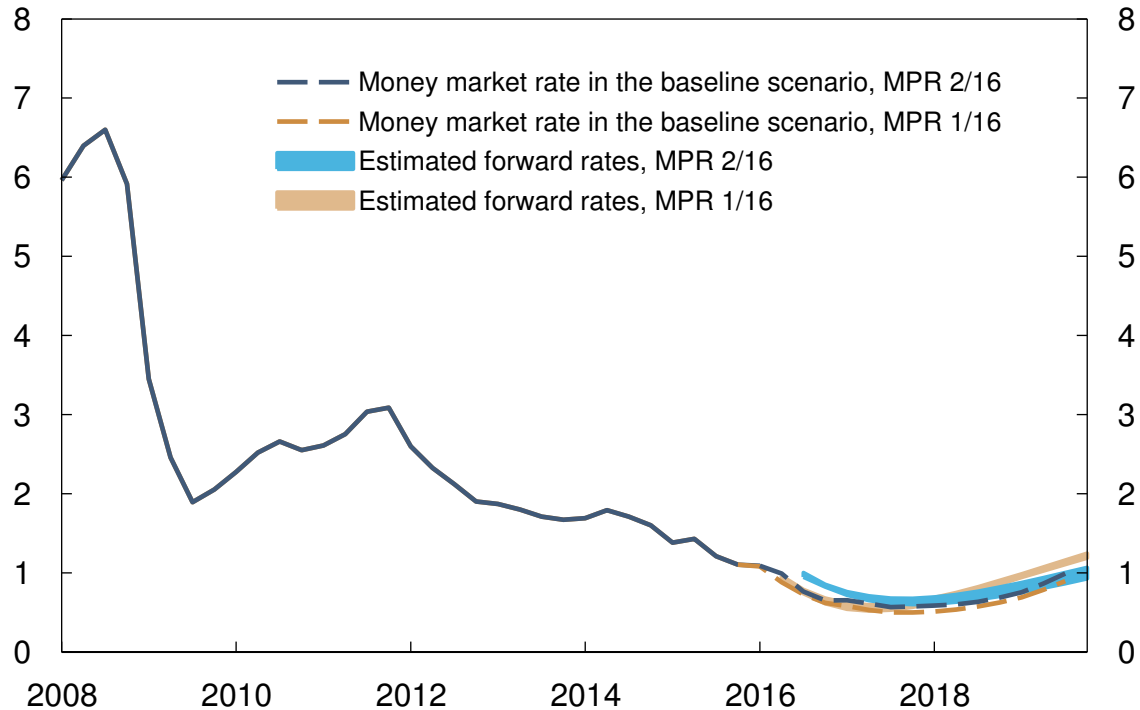
1) Key policy rate in the baseline scenario plus Norwegian money market premiums. The calculations are based on the assumption that announced interest rate changes are priced into the money market.
2) Forward rates are based on money market rates and interest rate swaps. The orange and blue bands show the highest and lowest rates in the period 29 February − 11 March 2016 and 6 − 17 June 2016, respectively.
Sources: Thomson Reuters and Norges Bank

Chart 2.17 Key policy rate and interest rate path that follows from
Norges Bank's average pattern of interest rate setting.[1]
Percent. 2004 Q1 – 2016 Q3

— Key policy rate in baseline scenario
  90% confidence interval
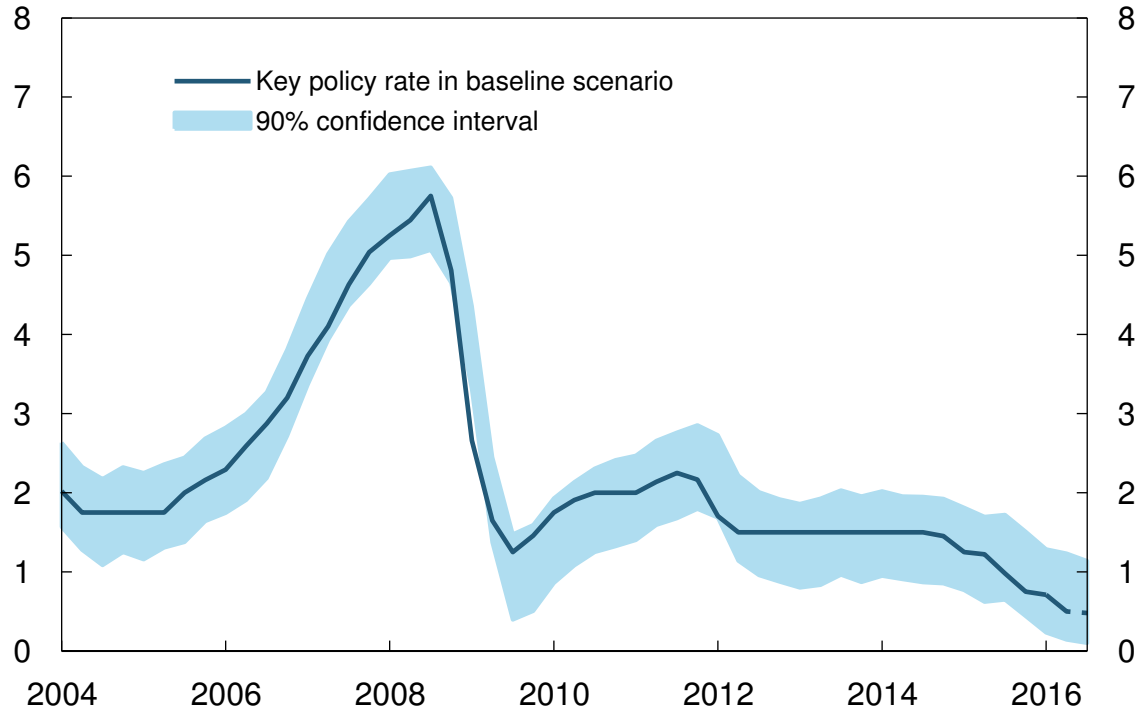
1) Interest rate movements are explained by developments in inflation, mainland GDP growth,
wage growth and three−month money market rates among trading partners, as well as the interest rate
in the preceding period. The equation is estimated over the period 1999 Q1 – 2016 Q1. See *Norges
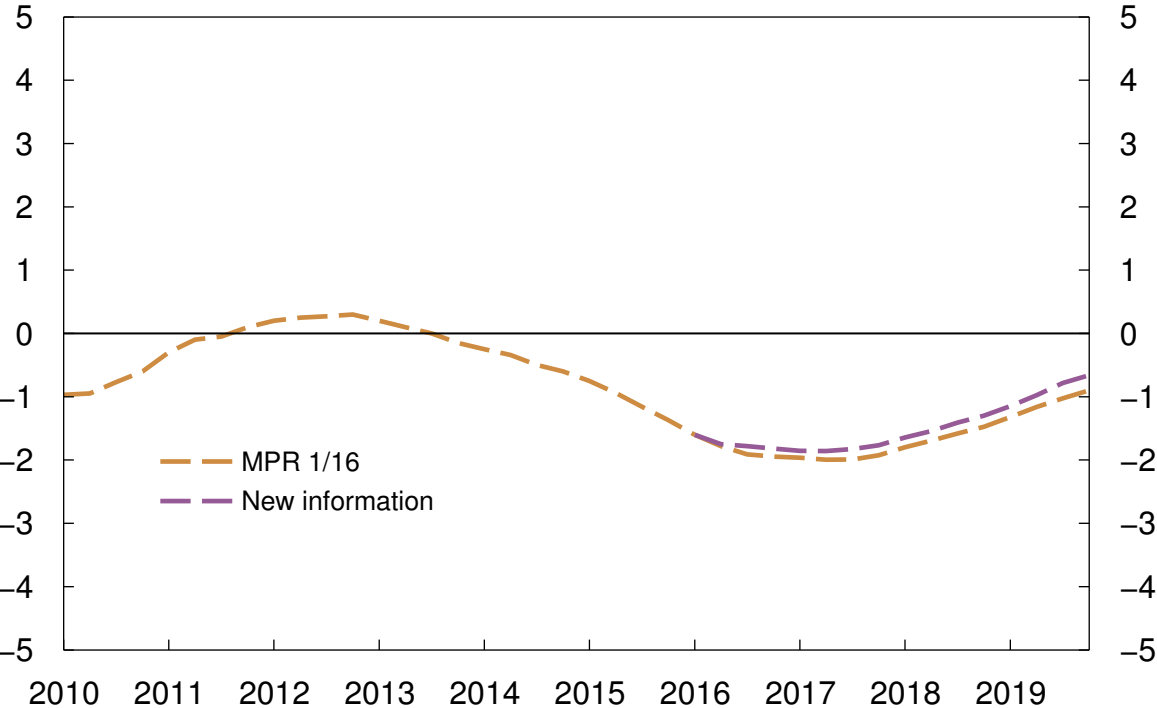Bank Staff Memo* 3/2008 for further discussion.
Source: Norges Bank

Chart 2.18a Key policy rate in the baseline scenario from MPR 1/16.
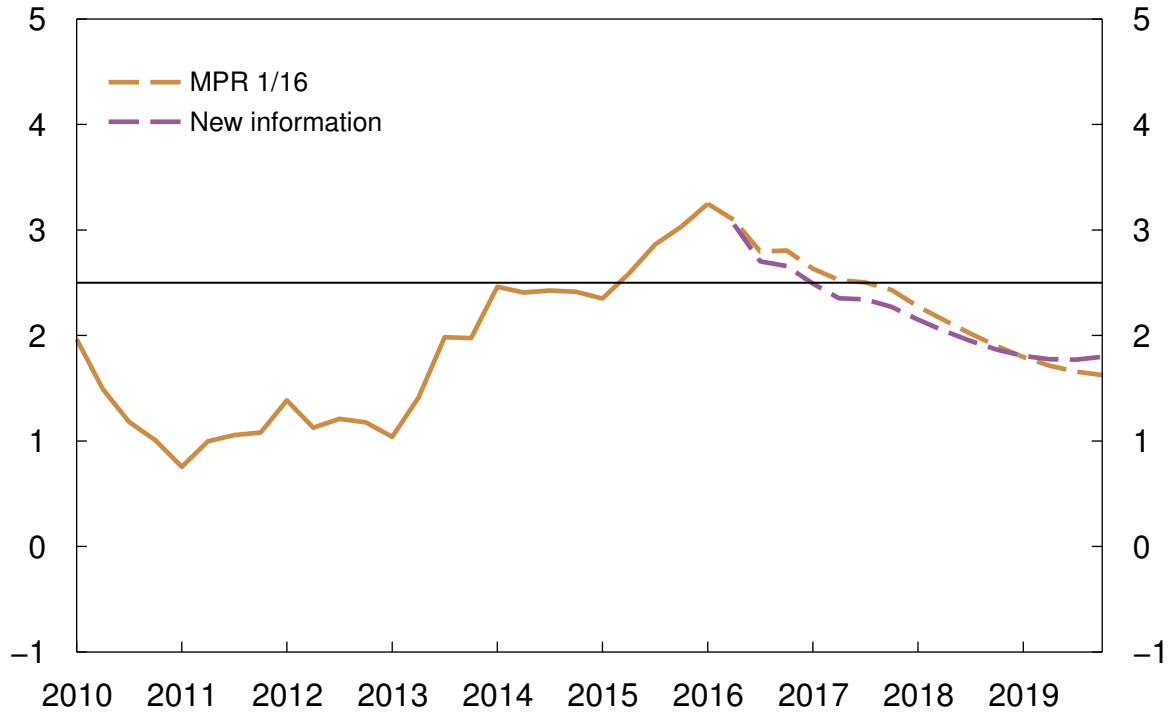Percent. 2010 Q1 – 2019 Q4
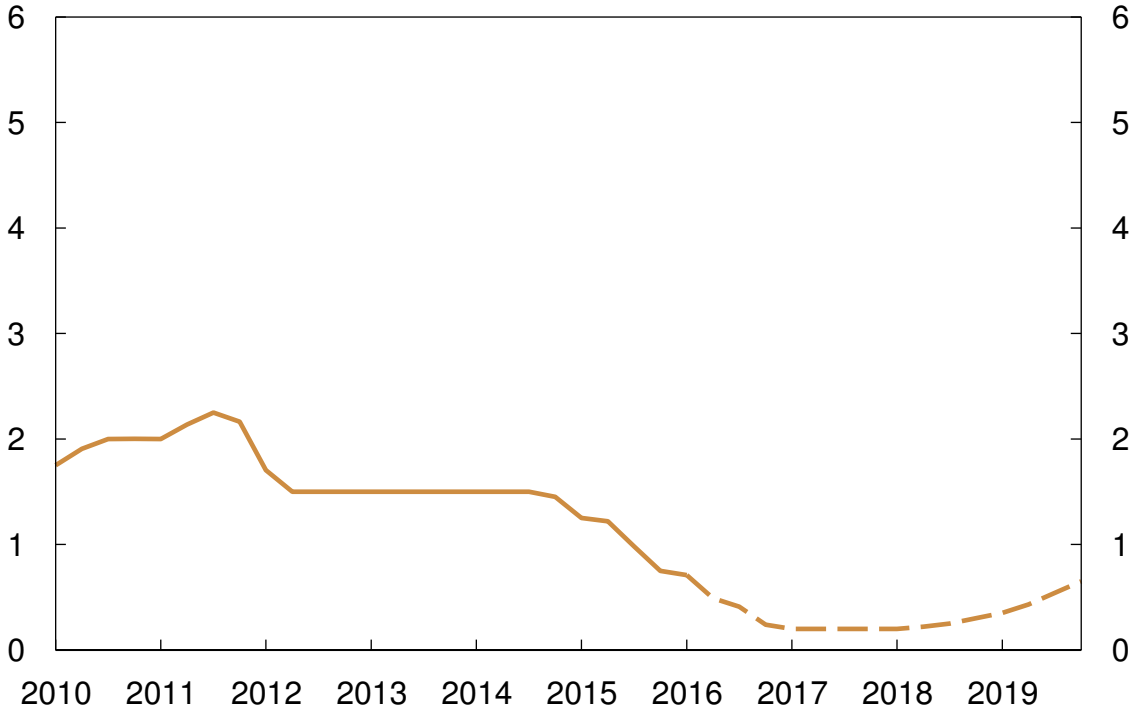
Chart 2.18b Projected output gap. From MPR 1/16 and with new information, but conditional on the key policy rate in the baseline scenario from MPR 1/16. Percent. 2010 Q1 – 2019 Q4

MPR 1/16
New information

Source: Norges Bank

Chart 2.18c CPI–ATE[1]. From MPR 1/16 and with new information,
but conditional on the key policy rate in the baseline scenario from MPR 1/16.
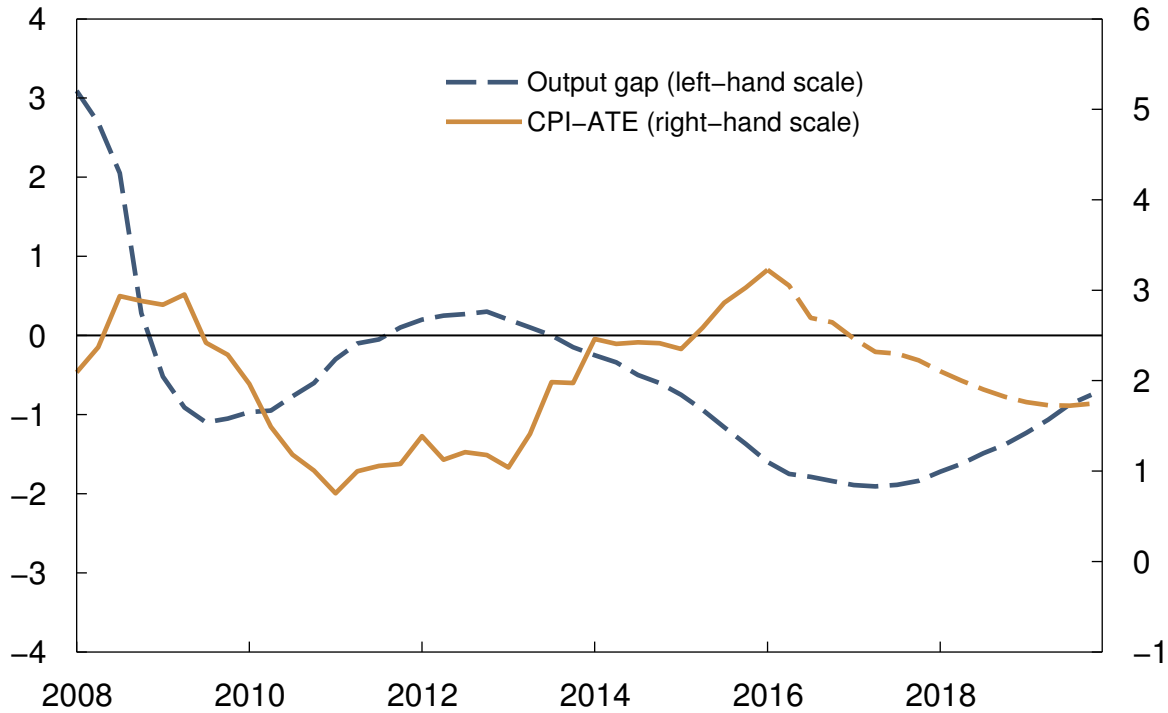Percent. 2010 Q1 – 2019 Q4 [2]

1) CPI adjusted for tax changes and excluding energy products.
2) Projections for 2016 Q2 – 2019 Q4.
Sources: Statistics Norway and Norges Bank

Chart 2.19 Inflation[1] and projected output gap in the baseline scenario.
Percent. 2008 Q1 – 2019 Q4

Output gap (left–hand scale)
CPI–ATE (right–hand scale)

1) CPI adjusted for tax changes and excluding energy products. Projections for
2016 Q2 – 2019 Q4 (broken line).
Sources: Statistics Norway and Norges Bank
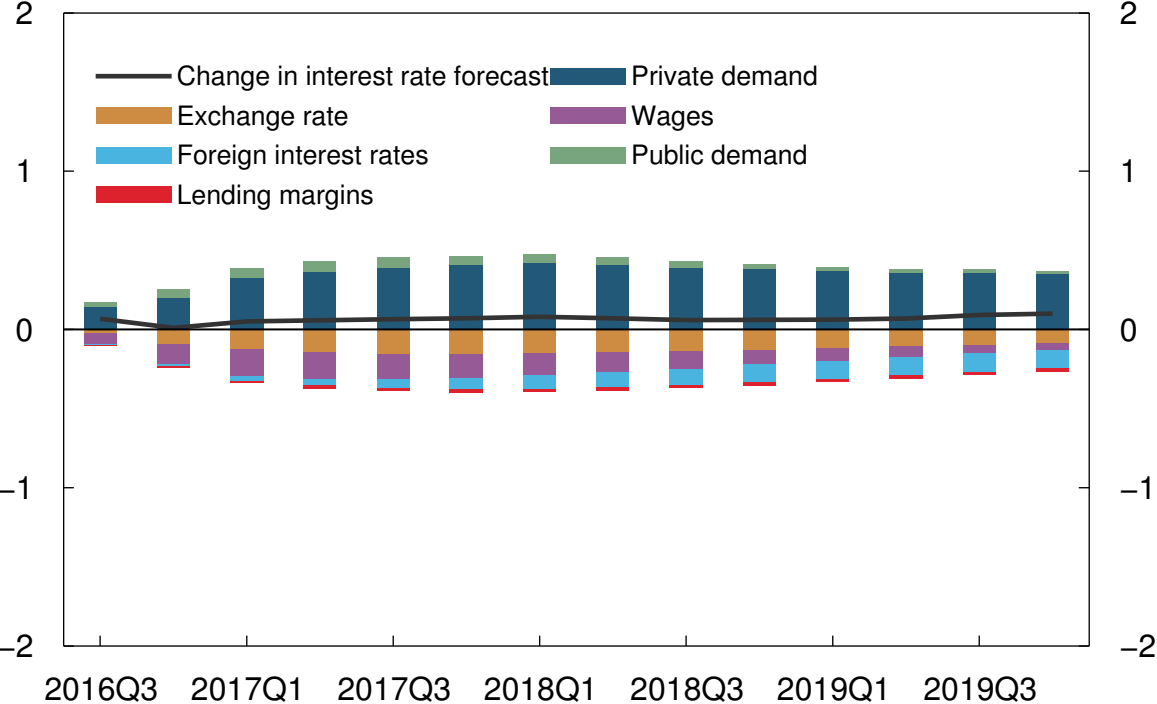
Chart 2.20 Key policy rate.
Percent. 2008 Q1 – 2019 Q4[1]

- - - MPR 2/16
- - - MPR 1/16
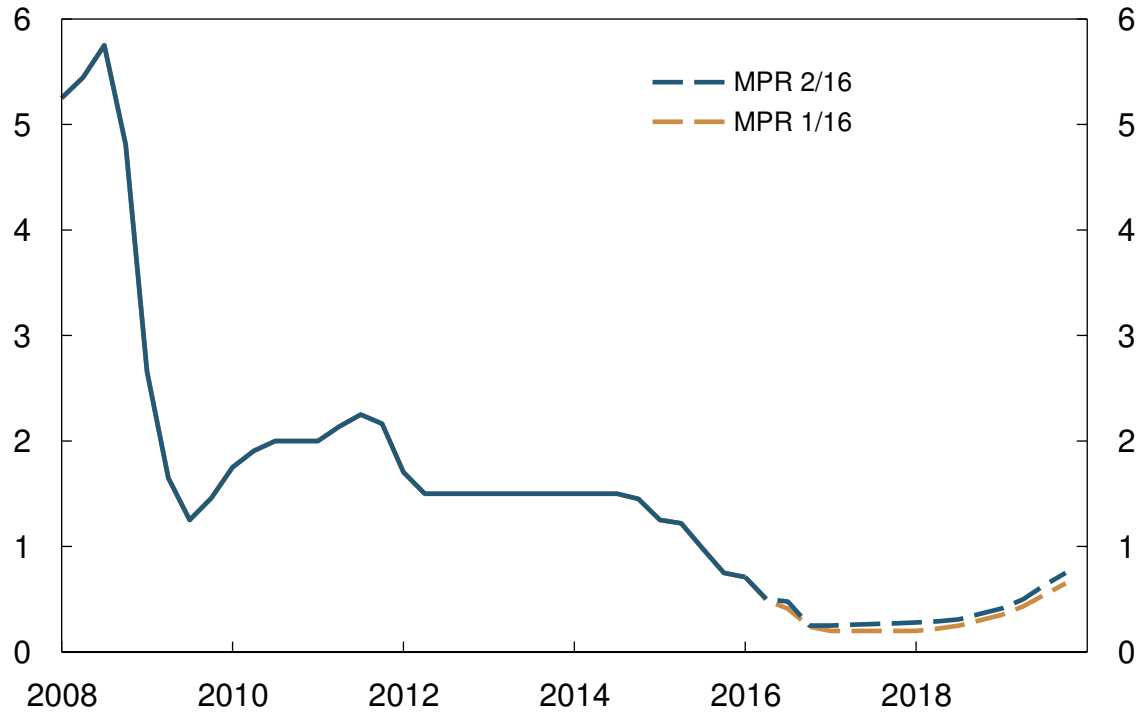
1) Projections for 2016 Q2 – 2019 Q4 (broken lines).
Source: Norges Bank

Chart 2.21 Factors behind changes in the interest rate forecast since MPR 1/16. Cumulative contribution. Percentage points. 2016 Q3 – 2019 Q4

Legend:
— Change in interest rate forecast
■ Private demand
■ Exchange rate
■ Wages
■ Foreign interest rates
■ Public demand
■ Lending margins

Source: Norges Bank

Chart 3.1 Total credit[1] mainland Norway as a share of mainland GDP.
Percent. 1976 Q1 – 2016 Q1
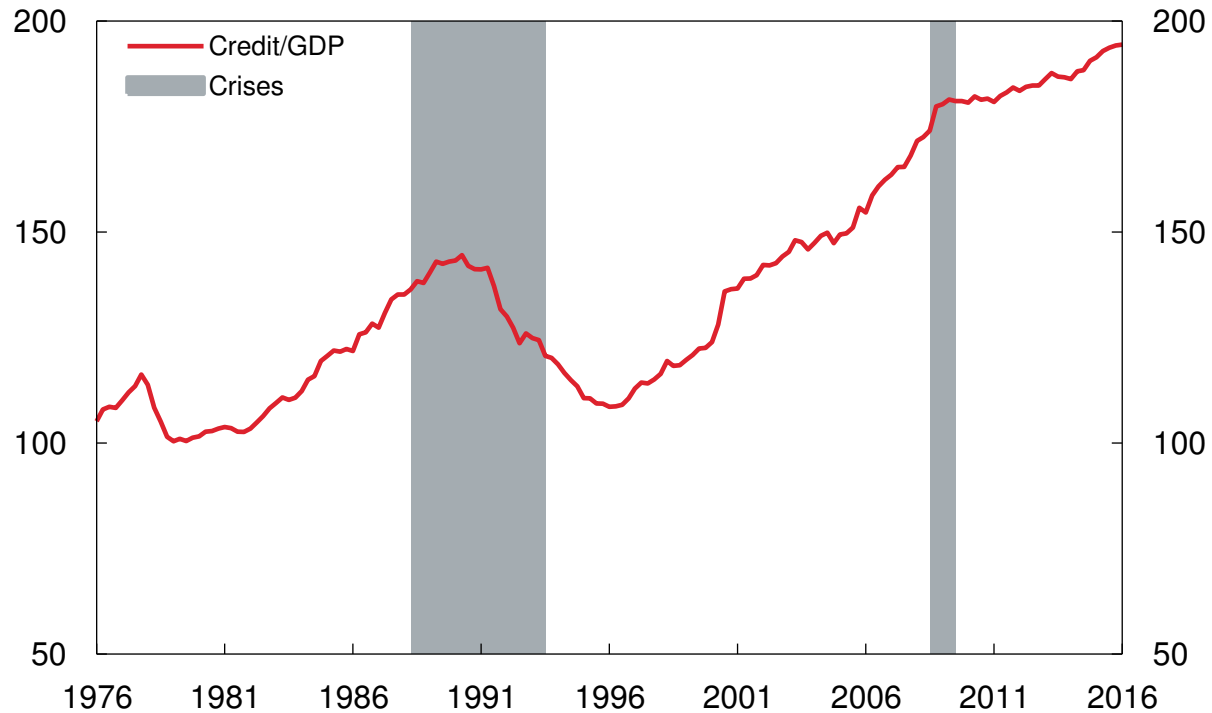
1) The sum of C2 households and C3 non–financial enterprises for mainland Norway (all non–financial enterprises pre–1995). C3 non–financial enterprises comprises C2 non–financial enterprises and foreign debt for mainland Norway.
Sources: Statistics Norway, IMF and Norges Bank

Chart 3.2 Debt held by households and non–financial enterprises and mainland GDP. Four–quarter change.[1] Percent. 2000 Q1 – 2016 Q1
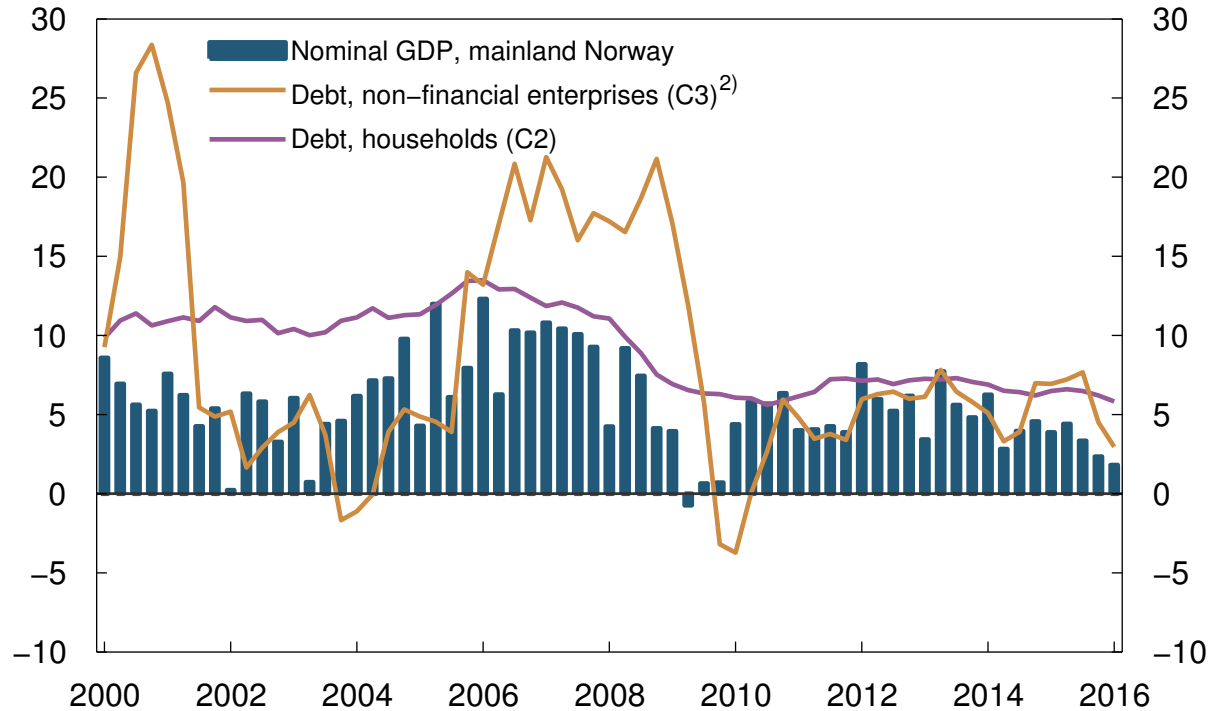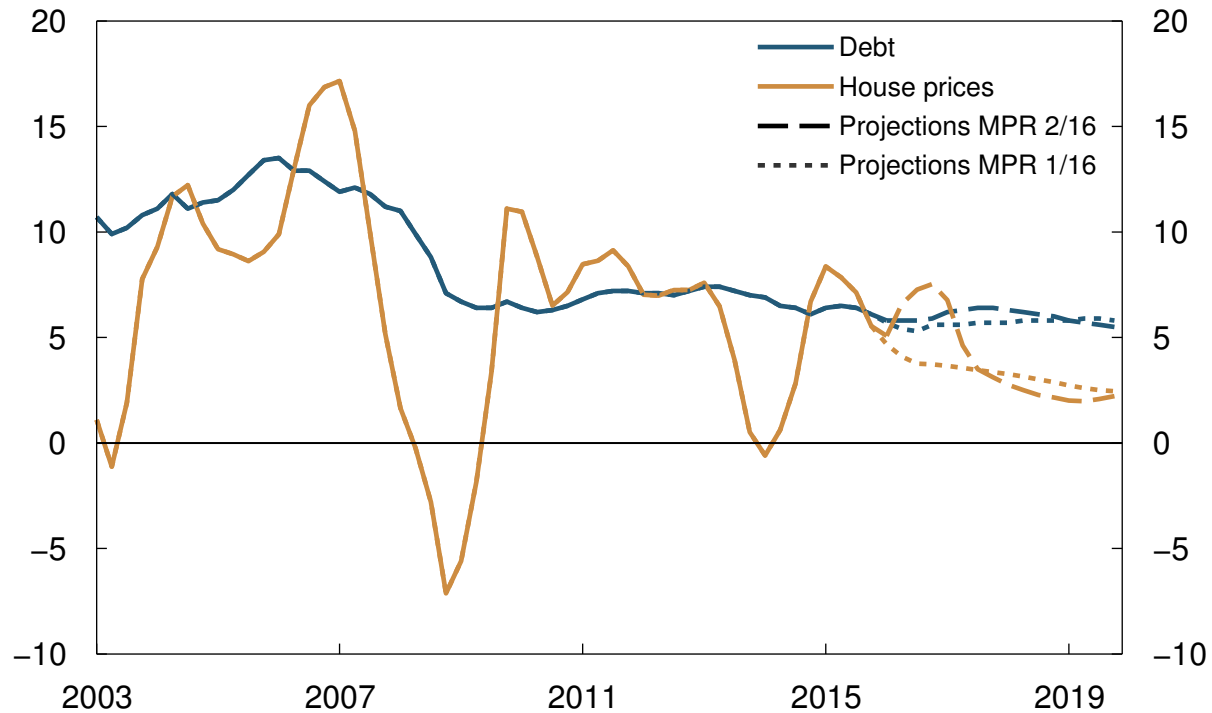

1) Estimated based on stock of debt at the end of the quarter.
2) Sum of C2 non–financial enterprises and foreign debt for mainland Norway.
Sources: Statistics Norway and Norges Bank

Chart 3.3 Household debt[1] and house prices.
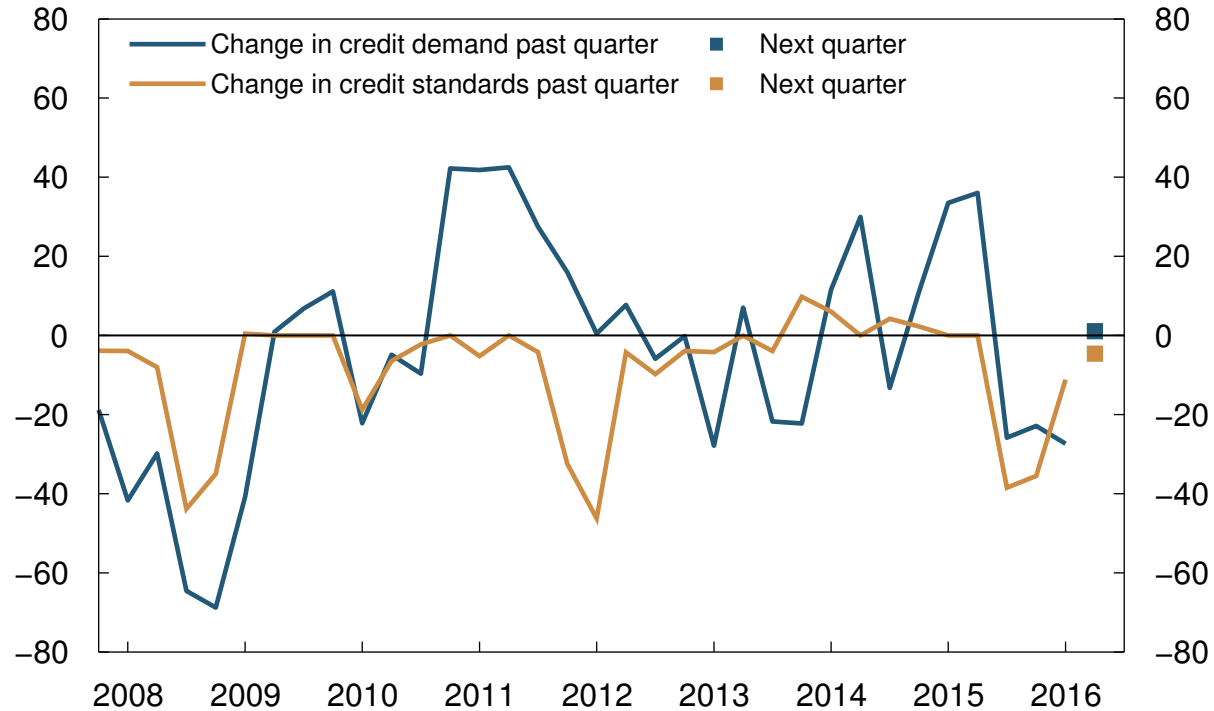Four–quarter change. Percent. 2003 Q1 – 2019 Q4 [2]

1) Domestic credit to households (C2).
2) Projections for 2016 Q2 – 2019 Q4 (broken lines).
Sources: Statistics Norway, Real Estate Norway, Eiendomsverdi, Finn.no and Norges Bank

Chart 3.4 Change in credit demand and banks' credit standards past quarter and expected change next quarter.[1] Households. 2007 Q4 – 2016 Q1

- Change in credit demand past quarter
- Next quarter
- Change in credit standards past quarter
- Next quarter

1) Negative values denote lower demand or tighter credit standards.
Source: Norges Bank's lending survey

Chart 3.5 Household debt ratio[1], debt service ratio and interest burden.[2]
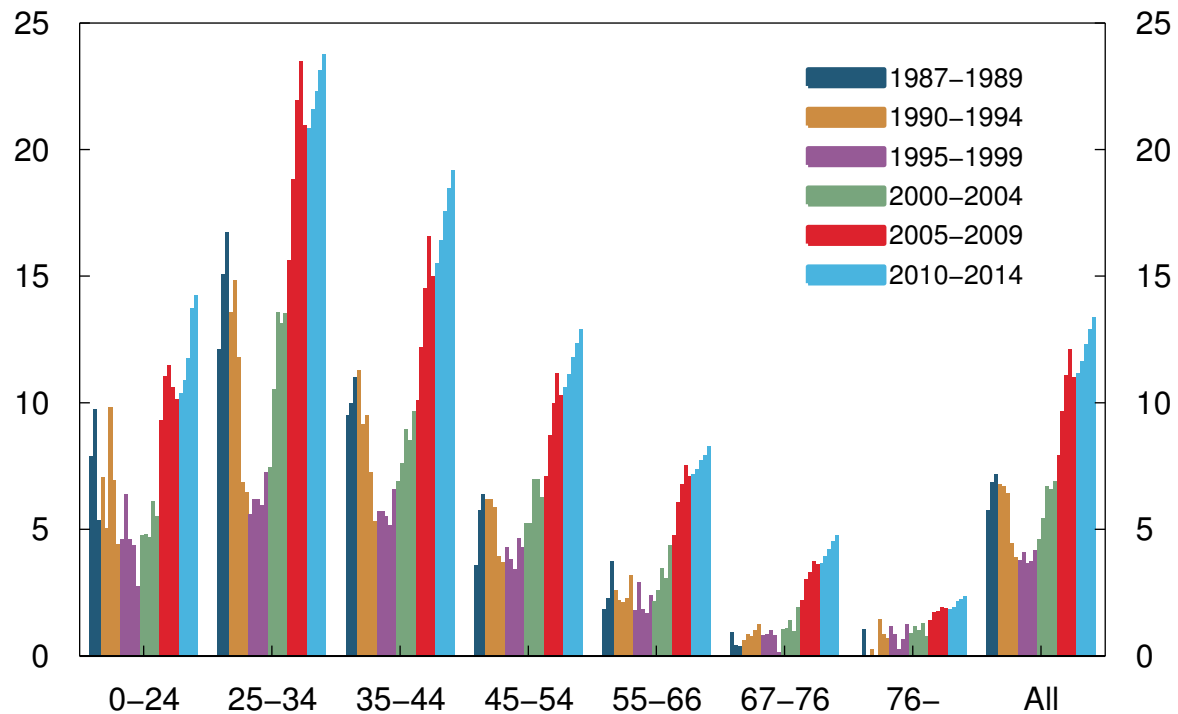Percent. 1987 Q1 – 2019 Q4 [3]
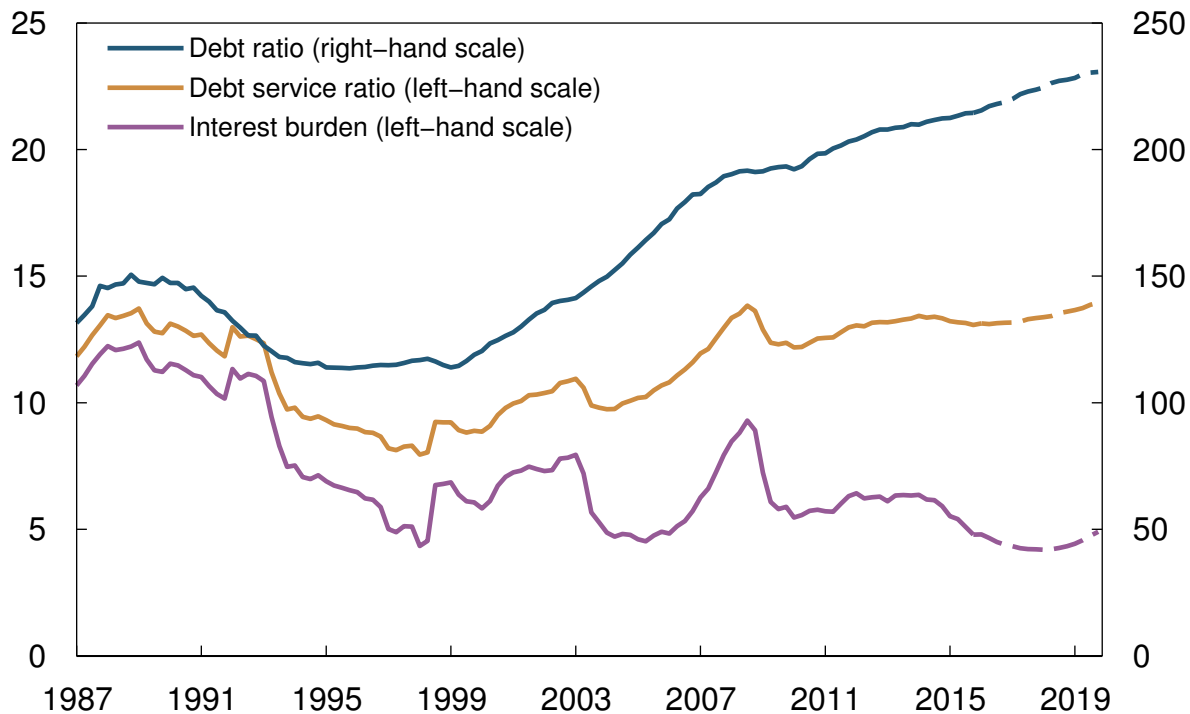
1) Loan debt as a percentage of disposable income adjusted for estimated reinvested
dividend income for 2003 – 2005 and redemption/reduction of equity capital for 2006 Q1 – 2012 Q3.
2) The debt service ratio and interest burden are calculated as interest expenses
as a percentage of disposable income adjusted for estimated reinvested dividend income
for 2003 – 2005 and redemption/reduction of equity capital 2006 Q1 – 2012 Q3 plus interest
expenses. The debt service ratio also includes estimated principal payments on an 18–year mortgage.
3) Projections for 2016 Q1 – 2019 Q4 (broken lines).
Sources: Statistics Norway and Norges Bank

Chart 3.6 Share of households with a ratio of debt to disposable income of more than 500% by age of primary wage-earner. Percent

Legend:
- 1987–1989
- 1990–1994
- 1995–1999
- 2000–2004
- 2005–2009
- 2010–2014

X-axis categories: 0–24, 25–34, 35–44, 45–54, 55–66, 67–76, 76–, All

Sources: Statistics Norway and Norges Bank

Chart 3.7 Share of approved mortgages with a loan–to–value (LTV) ratio of more than 85%, liquidity shortfall[1] and interest–only terms.[2] Percent
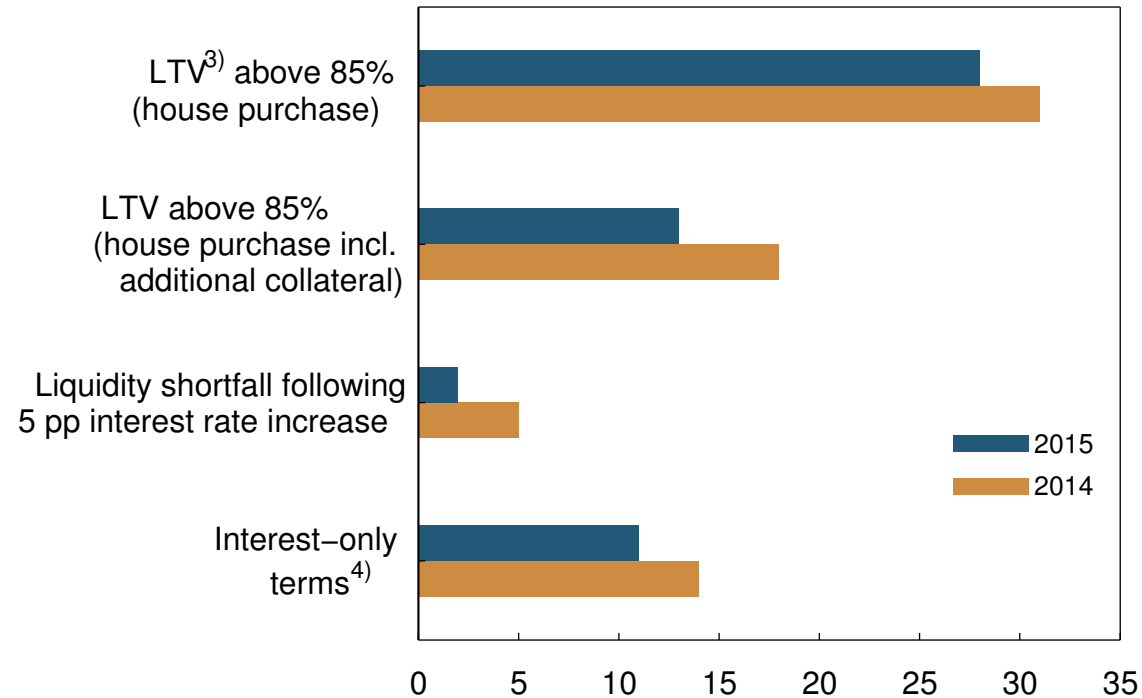
1) Loans where the borrower's income is not sufficient to service debt and cover normal living expenses.
2) Data from Finanstilsynets' mortgage loan survey, which comprises about 8000 new mortgages and home equity lines of credit approved between 1 August and 30 September.
3) Loan to value ratio.
4) All mortgages. In the regulation there is an amortisation requirement for loans with an LTV above 70%.
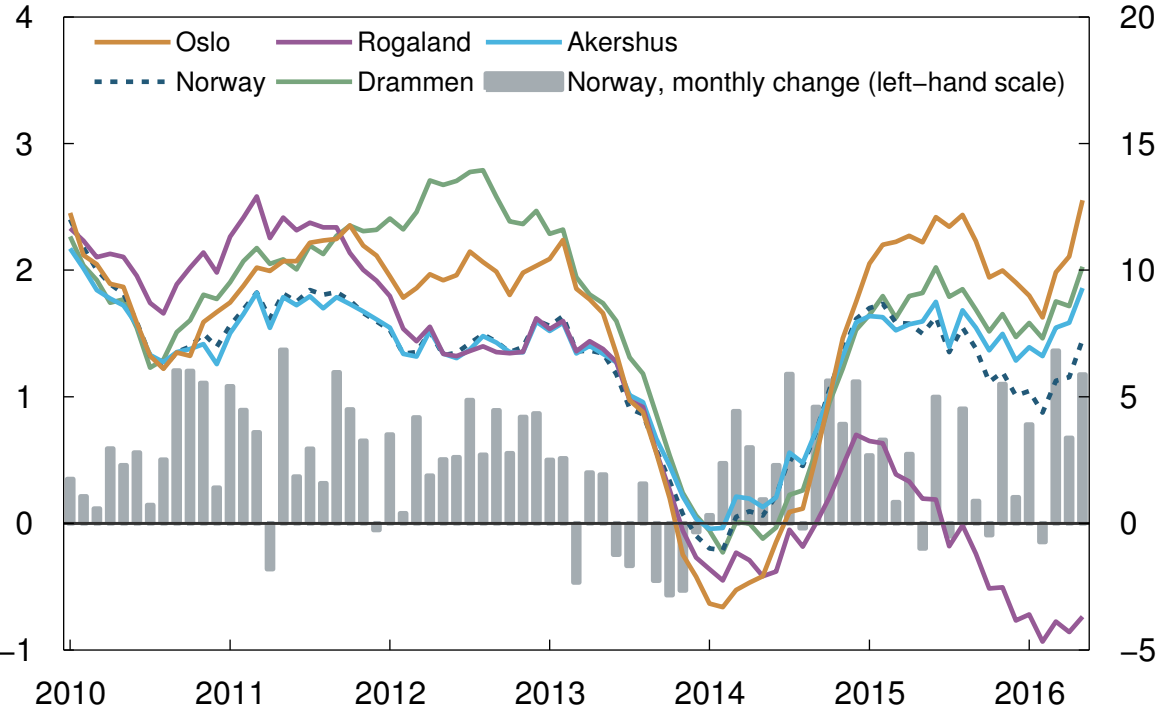Source: Finanstilsynet

Chart 3.8 House prices relative to disposable income.
Indexed. 1998 Q4 = 100. 1979 Q1 – 2016 Q1
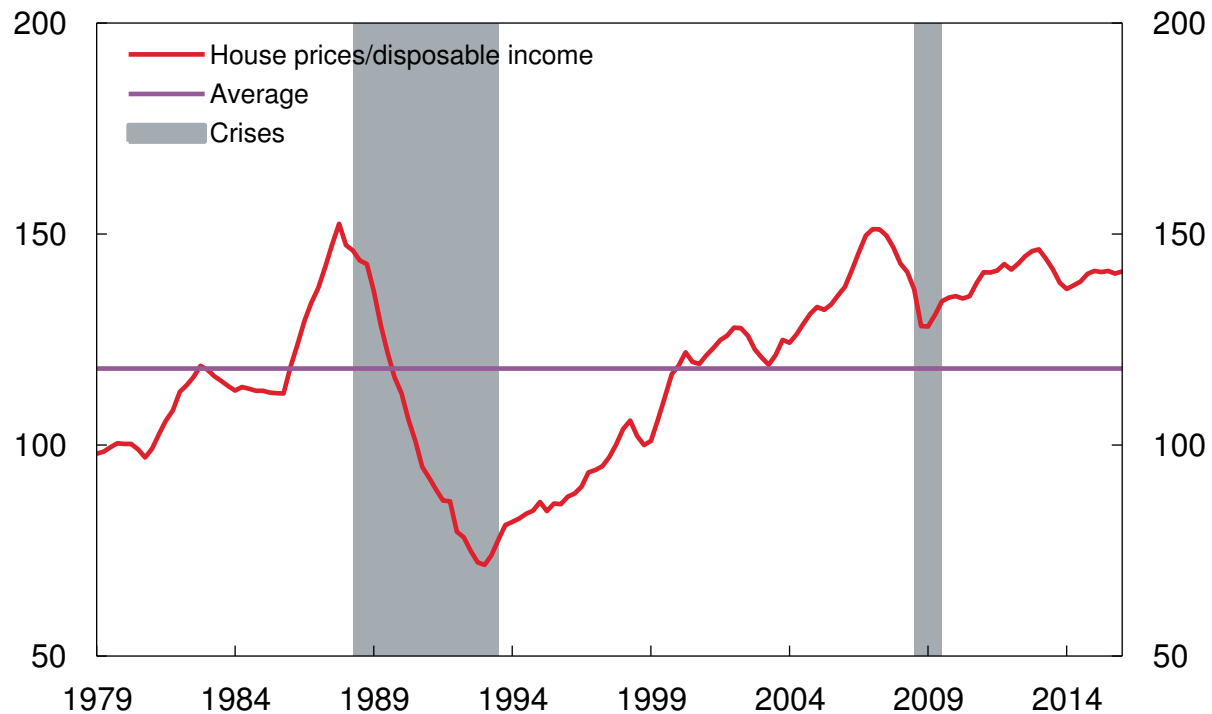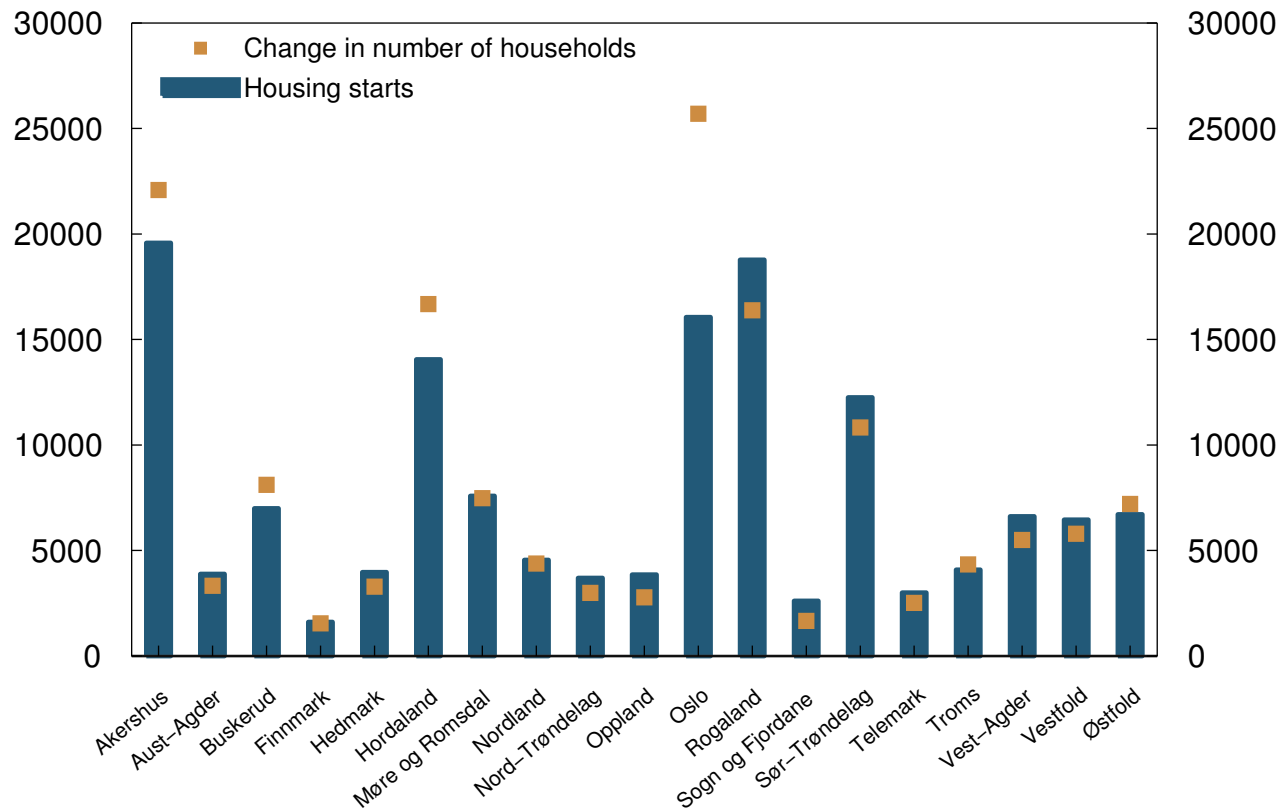

Legend:
- House prices/disposable income
- Average
- Crises

Chart 3.9 House prices. Twelve–month change and seasonally adjusted monthly
change. Percent. January 2010 – May 2016

Sources: Real Estate Norway, Finn.no and Eiendomsverdi

Chart 3.10 Number of housing starts[1] and changes in number of households[2] per county from 1 January 2011 to end–2015

- Change in number of households
- Housing starts

Akershus, Aust–Agder, Buskerud, Finnmark, Hedmark, Hordaland, Møre og Romsdal, Nordland, Nord–Trøndelag, Oppland, Oslo, Rogaland, Sogn og Fjordane, Sør–Trøndelag, Telemark, Troms, Vest–Agder, Vestfold, Østfold

1) Number of building permits as registered by municipalities in each county. Conversions of existing buildings not included.
2) Projected number of households at 31 December 2015. The series are break–adjusted for the changes made to the statistical structure in 2013.
Source: Statistics Norway

Chart 3.11 Real commercial real estate prices.[1]
Indexed. 1998 = 100. 1981 Q2 – 2016 Q1

Legend:
- Real commercial real estate prices
- Average
- Crises
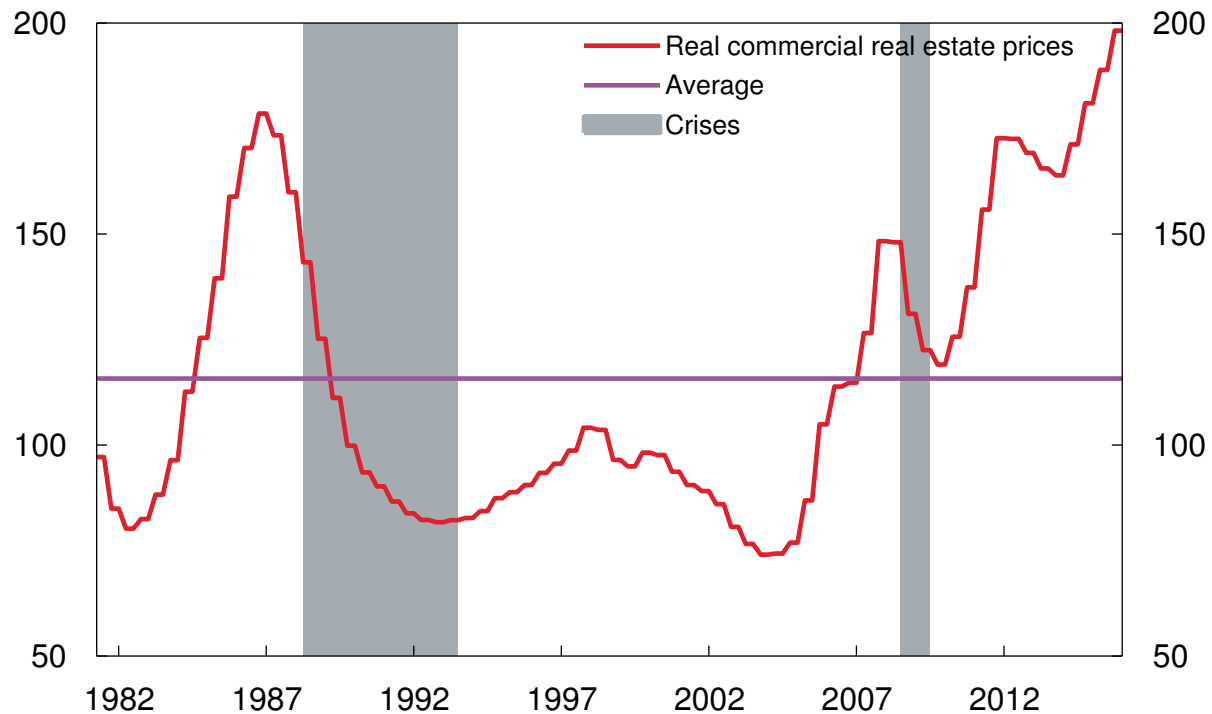
1) Estimated sales prices for centrally located high–standard office premises in Oslo deflated by the GDP deflator for mainland Norway.
Sources: Dagens Næringsliv, OPAK, Statistics Norway and Norges Bank

Chart 3.12 Office values. Selected cities.
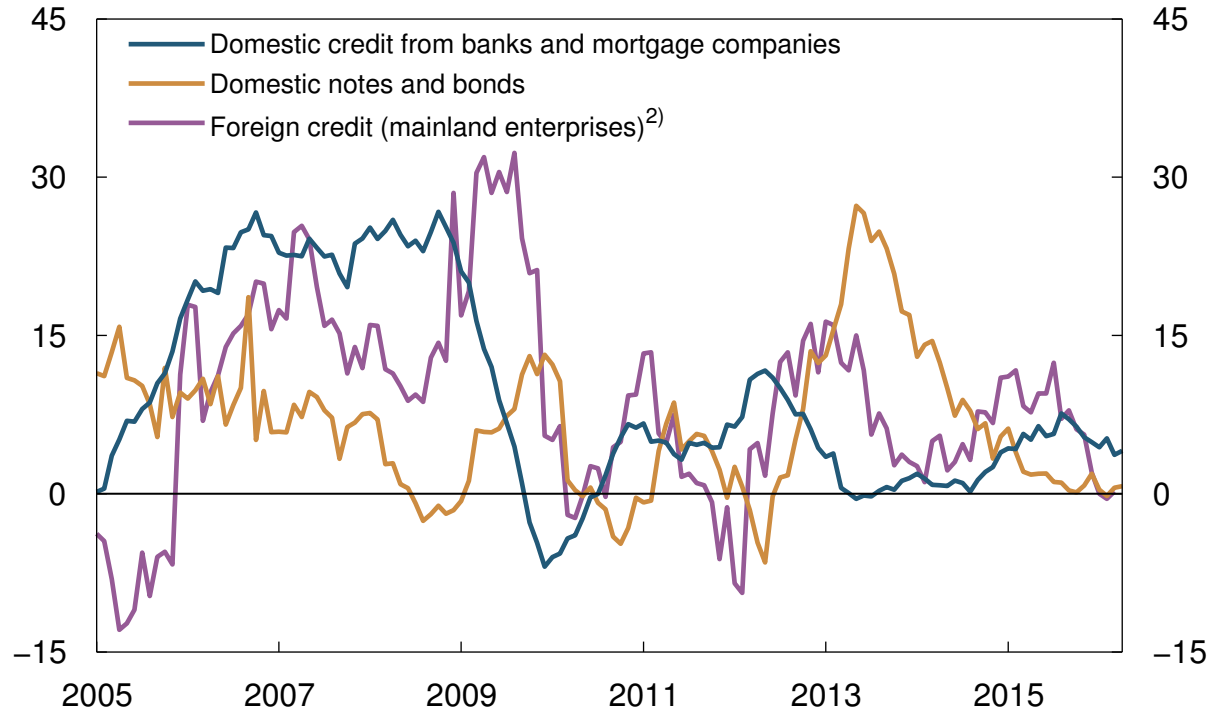Index. 2003 = 100. 2003 – 2015
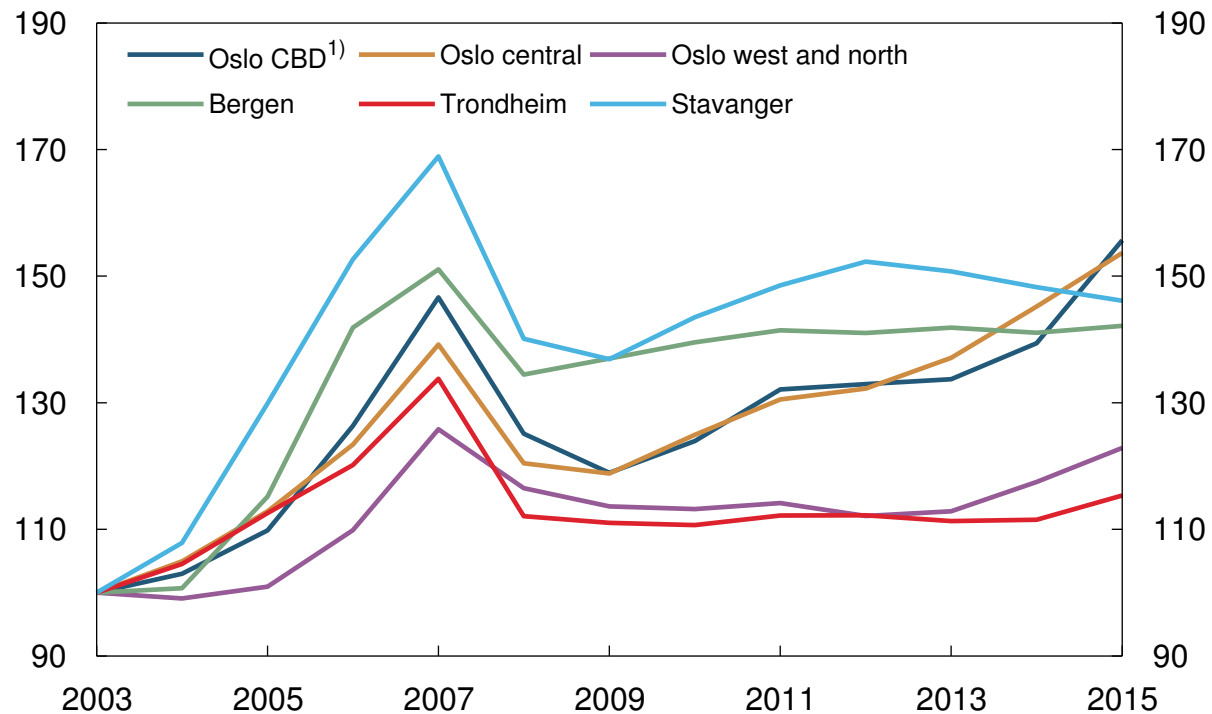
1) CBD stands for Central Business District.
Source: Investment Property Databank (IPD)

Chart 3.13 Total credit to non–financial enterprises. Transactions.
Mainland Norway. Twelve–month change. Percent. January 2011 – April 2016

Domestic debt
Domestic and foreign debt[1]
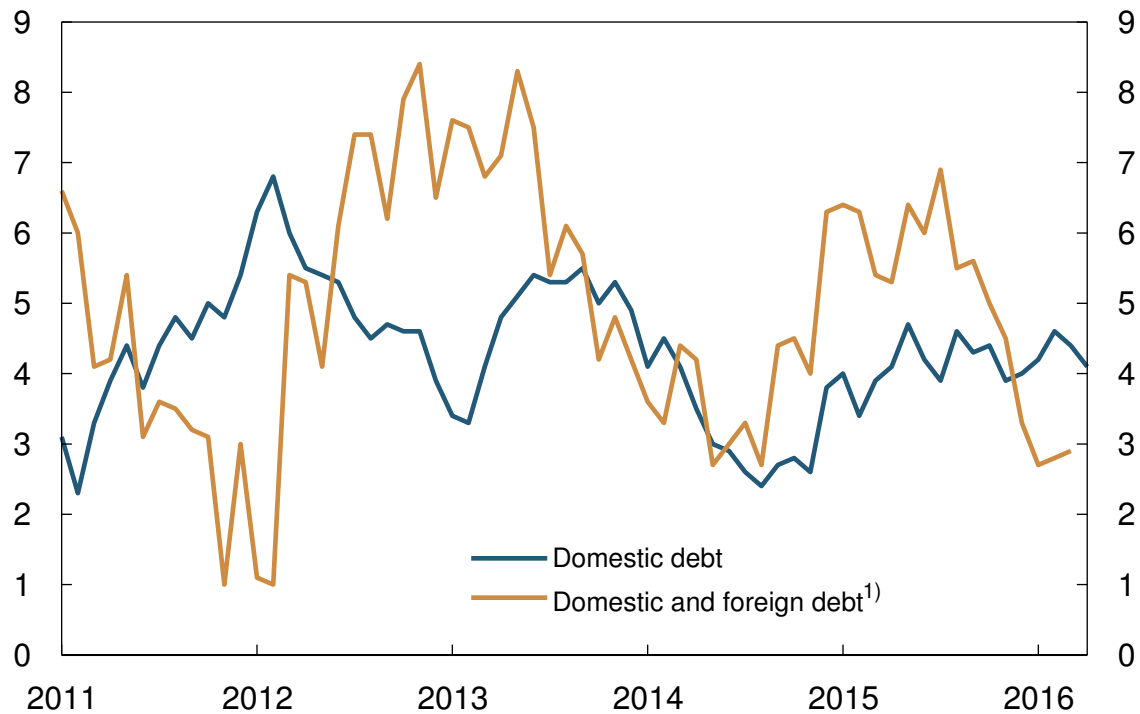
1) To end–March 2016.
Source: Statistics Norway

Chart 3.14 Credit from selected funding sources to Norwegian non–financial enterprises. Twelve–month change.[1] Percent. January 2005 – April 2016

Legend:
- Domestic credit from banks and mortgage companies
- Domestic notes and bonds
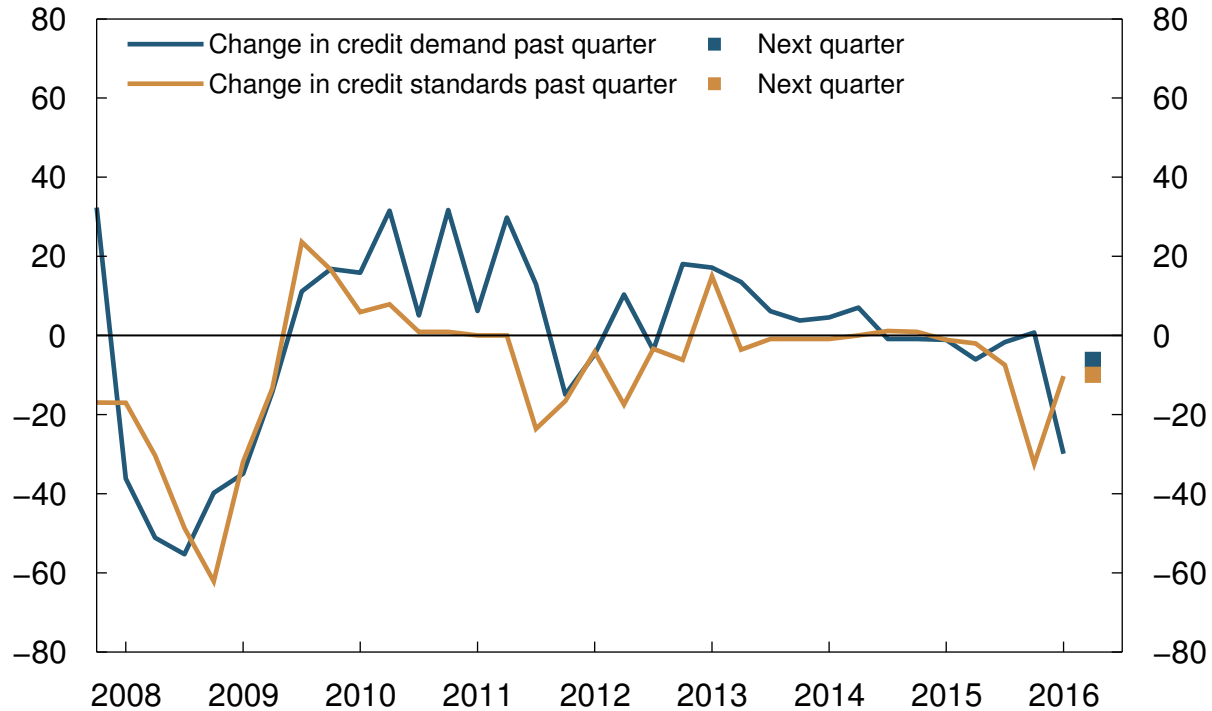- Foreign credit (mainland enterprises)[2]

1) Estimated based on stock of debt.
2) Change based on transactions. To end–March 2016.
Sources: Statistics Norway and Norges Bank

Chart 3.15 Changes in credit demand and banks' credit standards past quarter, and expected change next quarter.[1] Enterprises. 2007 Q4 – 2016 Q1

— Change in credit demand past quarter   ■ Next quarter
— Change in credit standards past quarter   ■ Next quarter

1) Negative values denote lower demand or tighter credit standards.
Source: Norges Bank's lending survey

Chart 3.16 Debt–servicing capacity[1] for listed companies[2].
Percent. 2003 Q1 – 2016 Q1
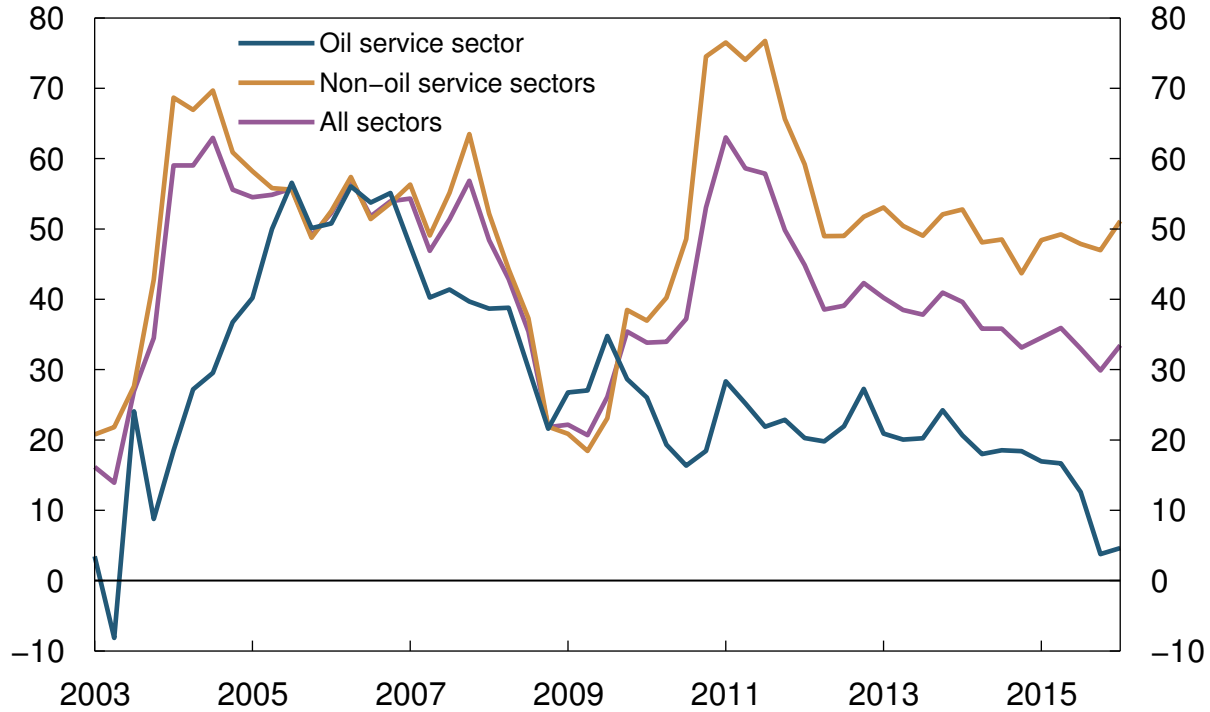
1) Pre–tax profit plus depreciation and amortisation for the previous four quarters as a percentage of net–interest bearing debt.
2) Norwegian non–financial companies listed on Oslo Børs, excluding oil and gas extraction. Norsk Hydro is excluded to end–2007 Q3.
Sources: Bloomberg and Norges Bank

Chart 3.17 Return on equity for Norwegian banks.[1]
Percent. 2008 Q2 – 2016 Q1
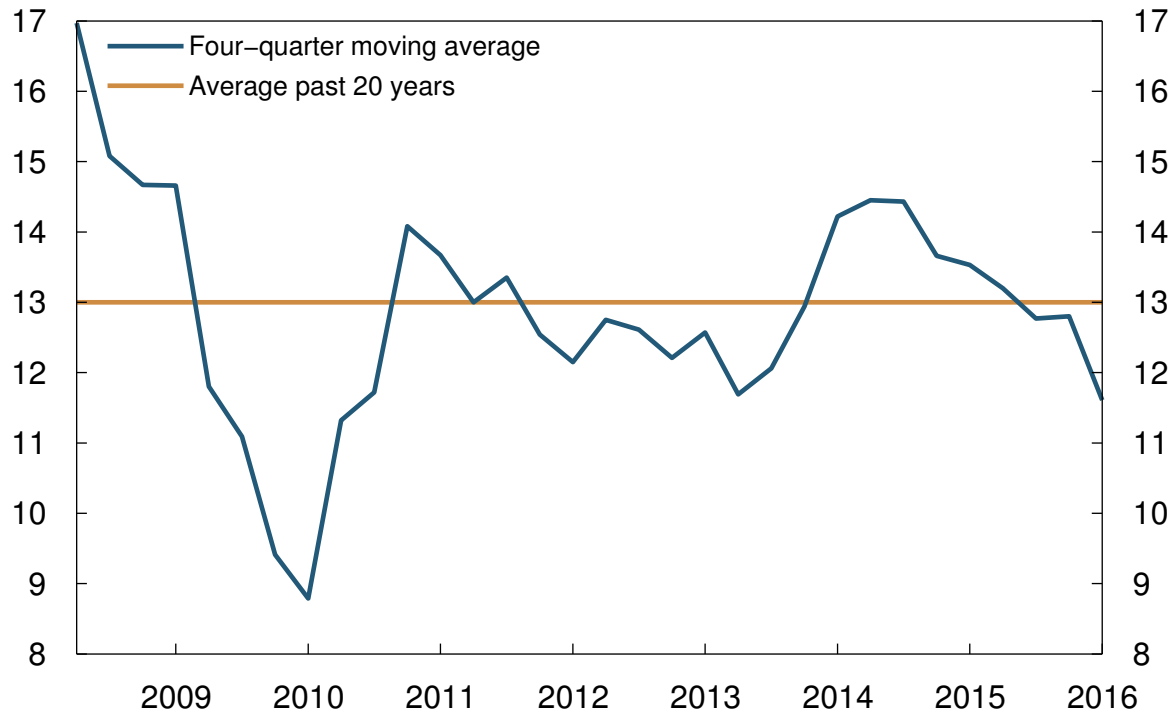
1) Calculated as weighted average for seven large Norwegian banks: DNB Bank, Nordea Bank Norge,
SpareBank 1 SR–Bank, Sparebanken Vest, SpareBank 1 SMN, Sparebanken Sør and SpareBank 1 Nord–Norge
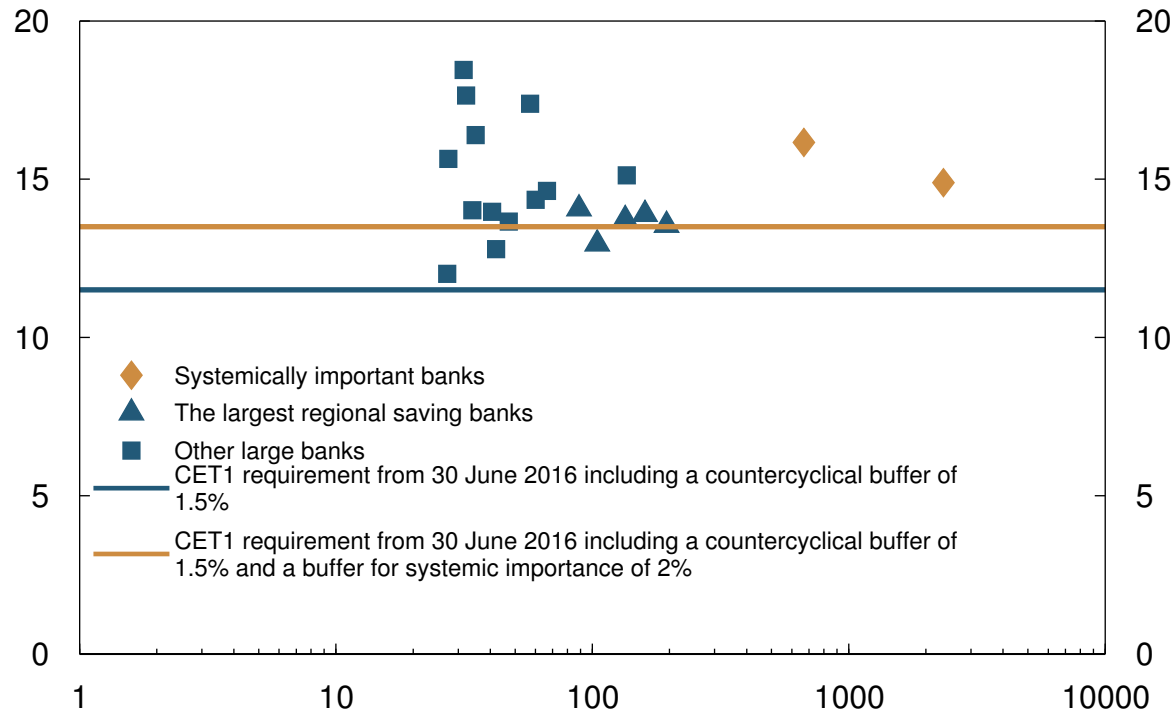(excluding Sparebanken Sør to end–December 2013).
Sources: Banking groups' quarterly and annual reports and Norges Bank

Chart 3.18 Banks'[1] loan losses as a share of gross lending.
Percent. Annualised. 1987 Q1 – 2016 Q1
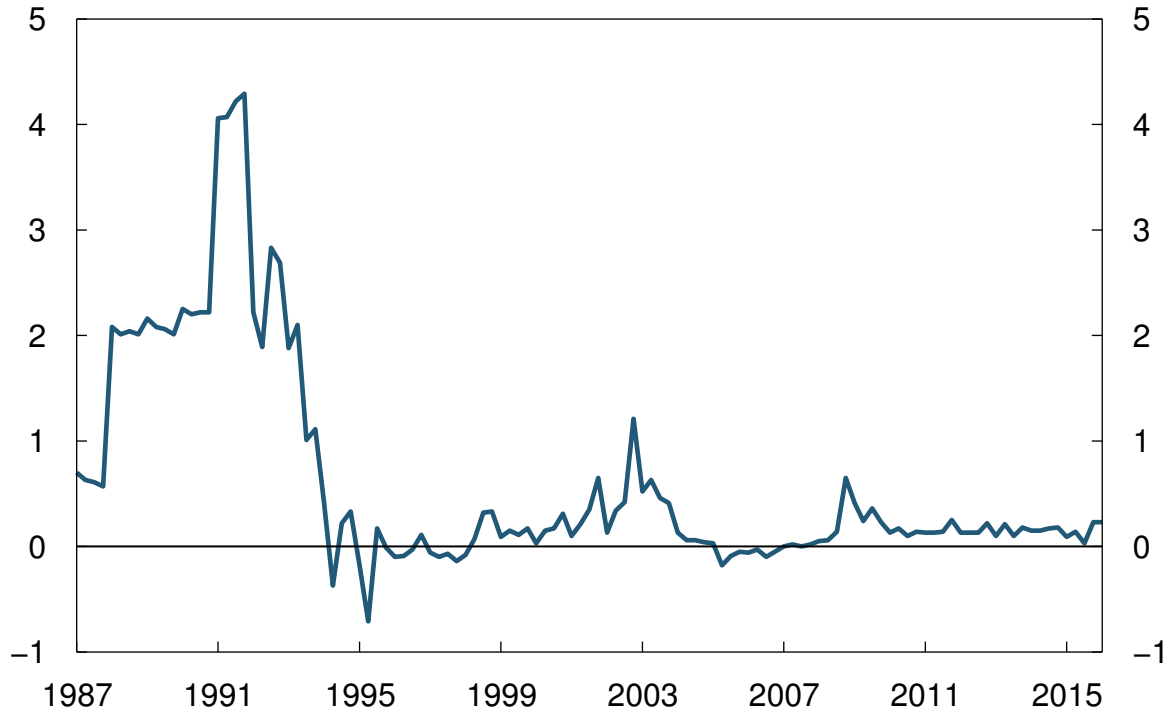
1) All banks and mortgage companies in Norway.
Source: Norges Bank

Chart 3.19 Banking groups'[1] Common Equity Tier 1 (CET1) capital ratios[2].
Percent. Total assets:[3] In billions of NOK. At 31 March 2016

◆ Systemically important banks

▲ The largest regional saving banks

■ Other large banks

CET1 requirement from 30 June 2016 including a countercyclical buffer of 1.5%

CET1 requirement from 30 June 2016 including a countercyclical buffer of 1.5% and a buffer for systemic importance of 2%
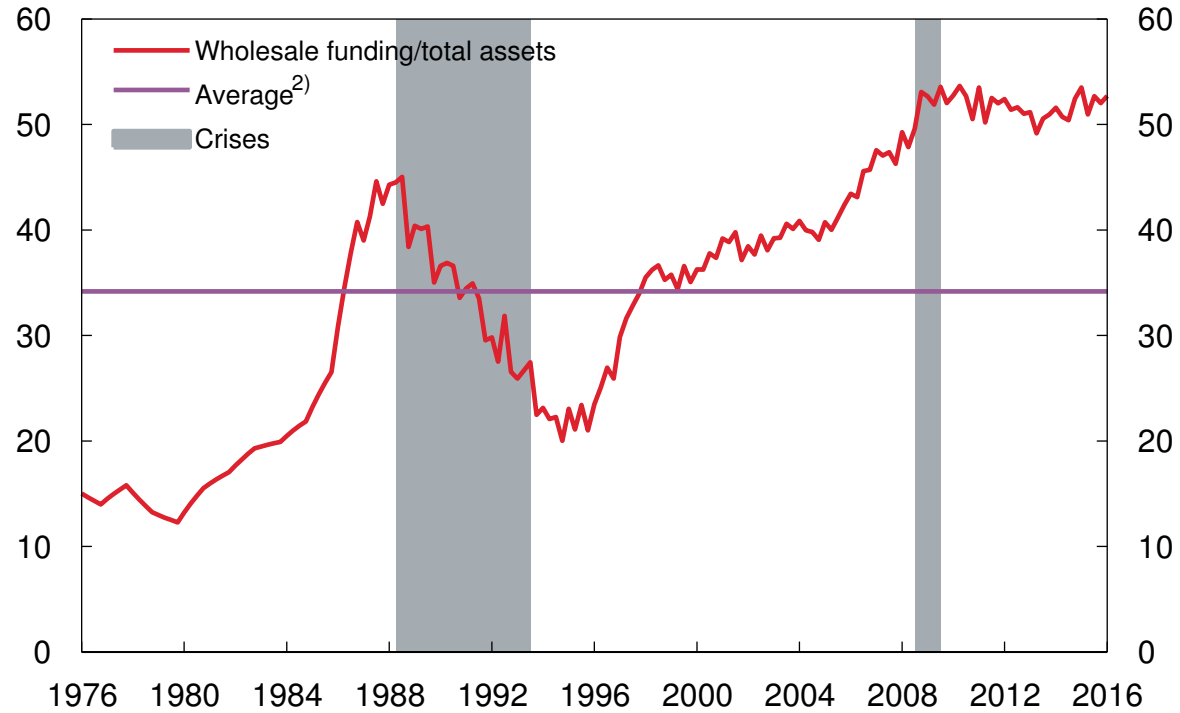
1) Banking groups with total assets in excess of NOK 25bn, excluding branches of foreign banks in Norway.
2) Including interim profits.
3) Logarithmic scale.
Sources: Banking groups' quarterly reports and Norges Bank

Chart 3.20 Banks'[1] wholesale funding as a share of total assets.
Percent. 1976 Q1 – 2016 Q1

- Wholesale funding/total assets
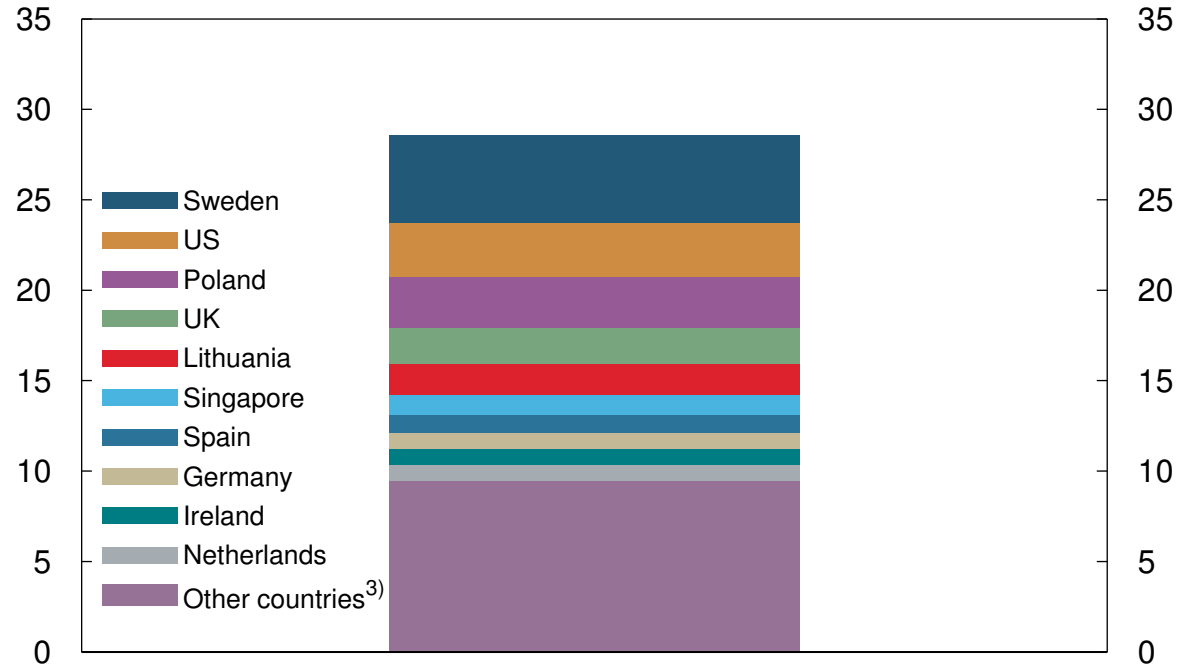- Average[2]
- Crises

1) All banks and covered bond mortgage companies in Norway, excluding branches and subsidiaries of foreign banks.
2) Estimated based on data since 1975 Q4.
Source: Norges Bank

Chart 3.21 Norwegian banks'[1] foreign exposures[2].
Percent. At 30 September 2015

Legend:
- Sweden
- US
- Poland
- UK
- Lithuania
- Singapore
- Spain
- Germany
- Ireland
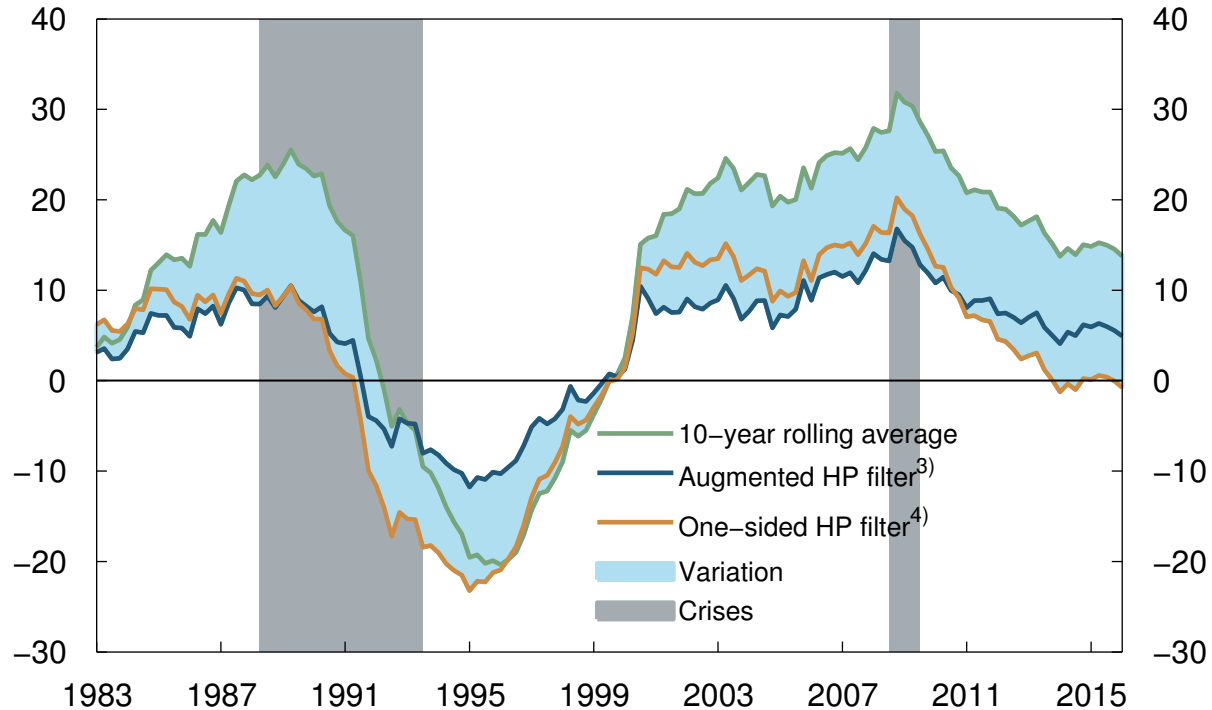- Netherlands
- Other countries[3]

1) IRB banks only.
2) Share of credit risk in total risk–weighted assets.
3) Risk–weighted assets below 0.9%.
Source: Finanstilsynet

Chart 3.22a Credit gap. Total credit[1] mainland Norway as a share of mainland GDP. Deviation from estimated trends.[2] Percentage points. 1983 Q1 – 2016 Q1

1) The sum of C2 households and C3 non–financial enterprises for mainland Norway (all non–financial enterprises pre–1995). C3 non–financial enterprises comprises C2 non–financial enterprises and foreign debt for mainland Norway.
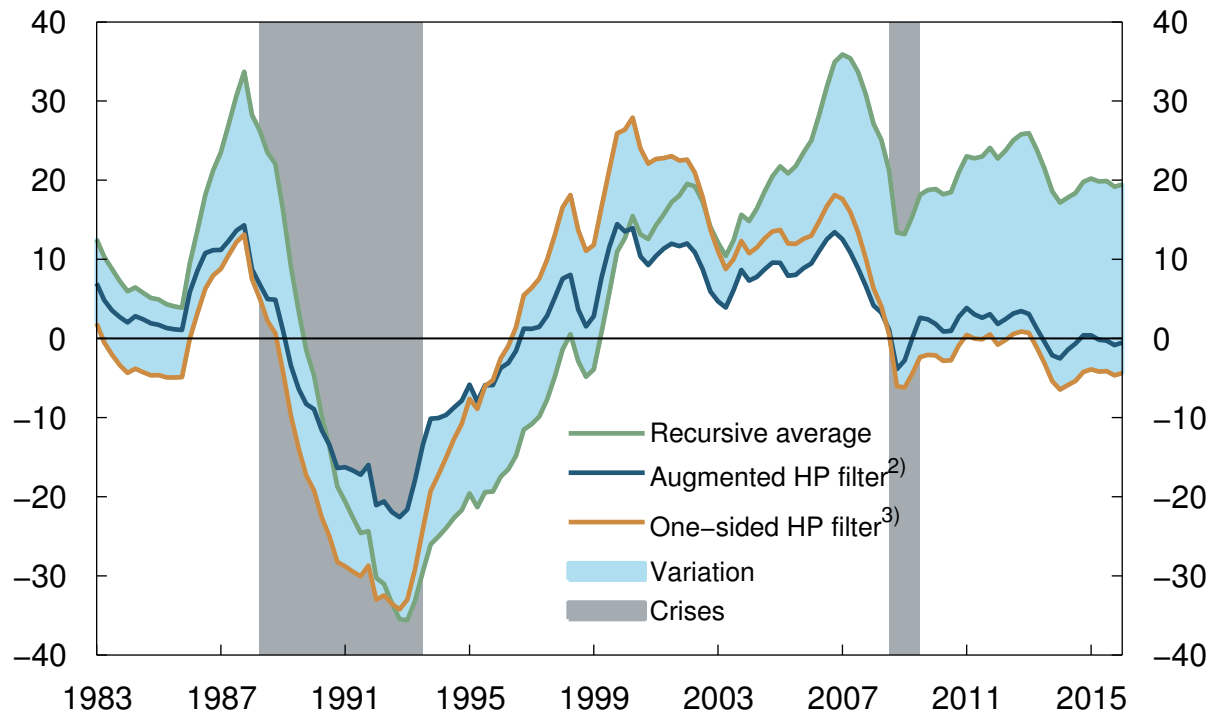2) The trends are estimated based on data since 1975 Q4.
3) One–sided Hodrick–Prescott filter estimated on data augmented with a simple projection. Lambda = 400 000.
4) One–sided Hodrick–Prescott filter. Lambda = 400 000.
Sources: Statistics Norway, IMF and Norges Bank

Chart 3.22b House price gap. House prices relative to disposable income.
Deviation from estimated trends.[1] Percent. 1983 Q1 – 2016 Q1

Legend:
- Recursive average
- Augmented HP filter[2]
- One-sided HP filter[3]
- Variation
- Crises

1) The trends are estimated based on data since 1978 Q4.
2) One–sided Hodrick–Prescott filter estimated on data augmented with a simple projection. Lambda = 400 000.
3) One–sided Hodrick Prescott filter. Lambda = 400 000.
Sources: Statistics Norway, Real Estate Norway, Norwegian Association of Real Estate Agents (NEF),
Finn.no, Eiendomsverdi and Norges Bank

Chart 3.22c Commercial real estate price gap. Real commercial real estate prices[1] as deviation from estimated trends.[2] Percent. 1983 Q1 – 2016 Q1
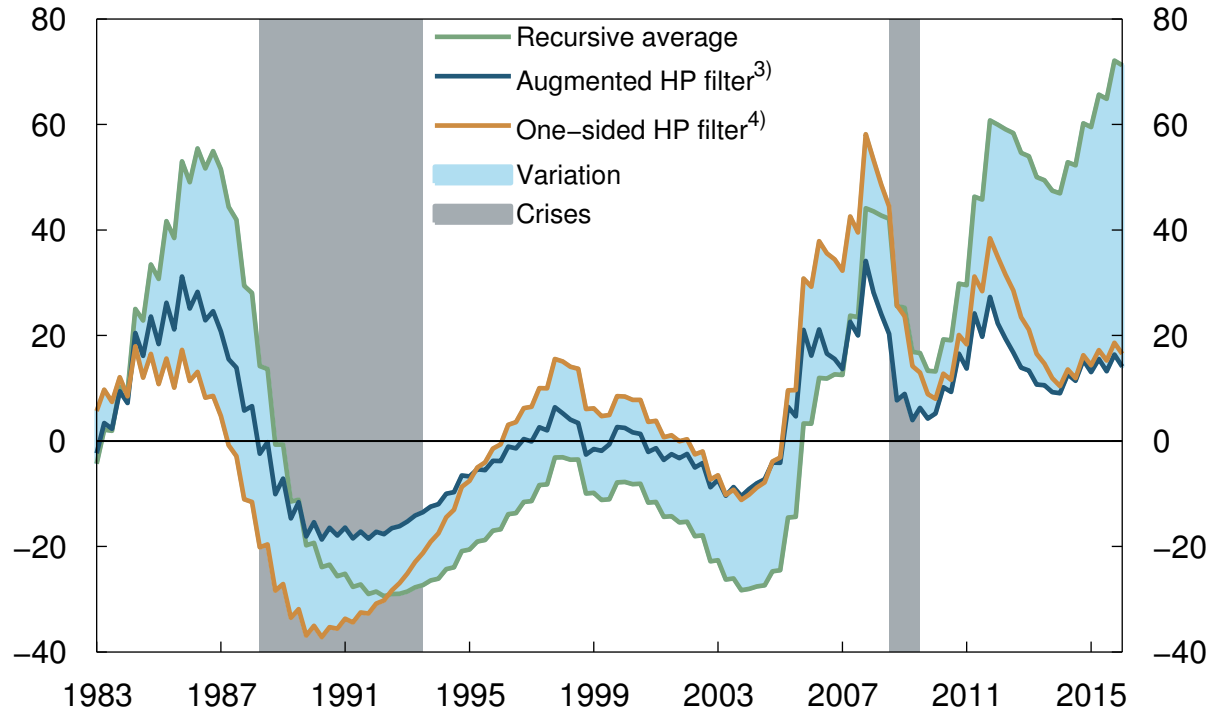
1) Estimated market prices for high–standard office premises in Oslo deflated by the GDP deflator for mainland Norway.
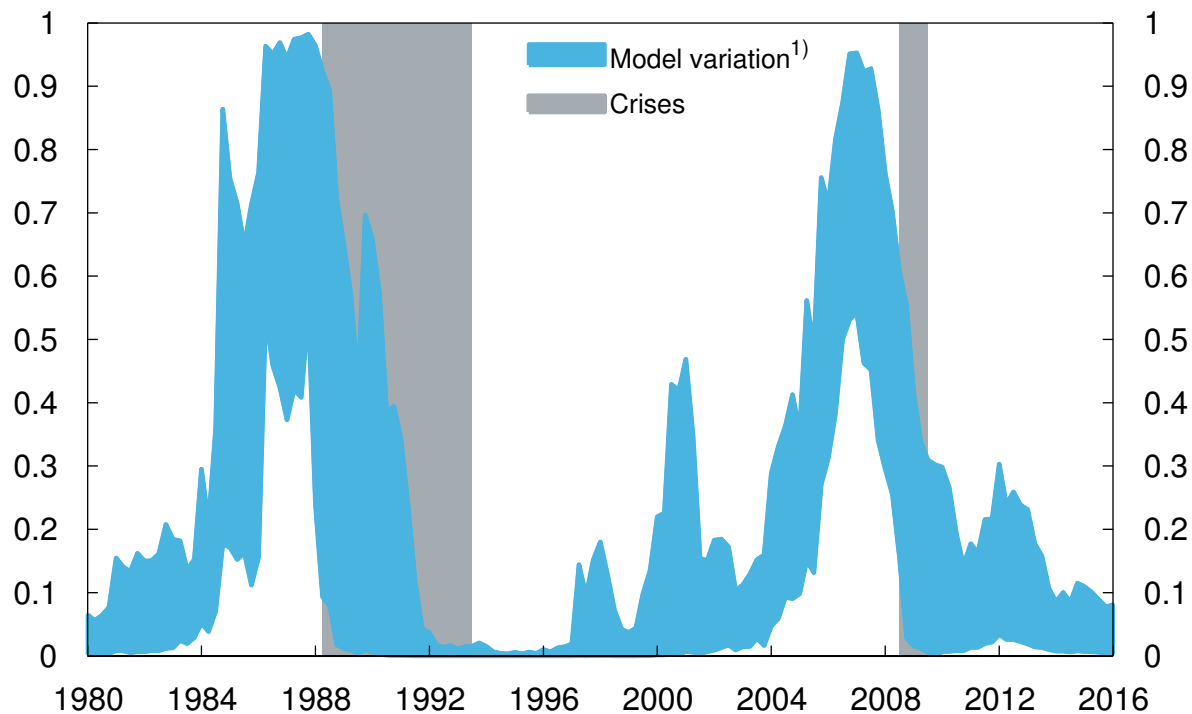2) The trends are estimated based on data since 1981 Q2.
3) One–sided Hodrick–Prescott filter estimated on data augmented with a simple projection. Lambda = 400 000.
4) One–sided Hodrick–Prescott filter. Lambda = 400 000.
Sources: Dagens Næringsliv, OPAK, Statistics Norway and Norges Bank

Chart 3.22d Wholesale funding gap. Banks[1] wholesale funding as a share of total assets. Deviation from estimated trends.[2] Percentage points. 1983 Q1 – 2016 Q1
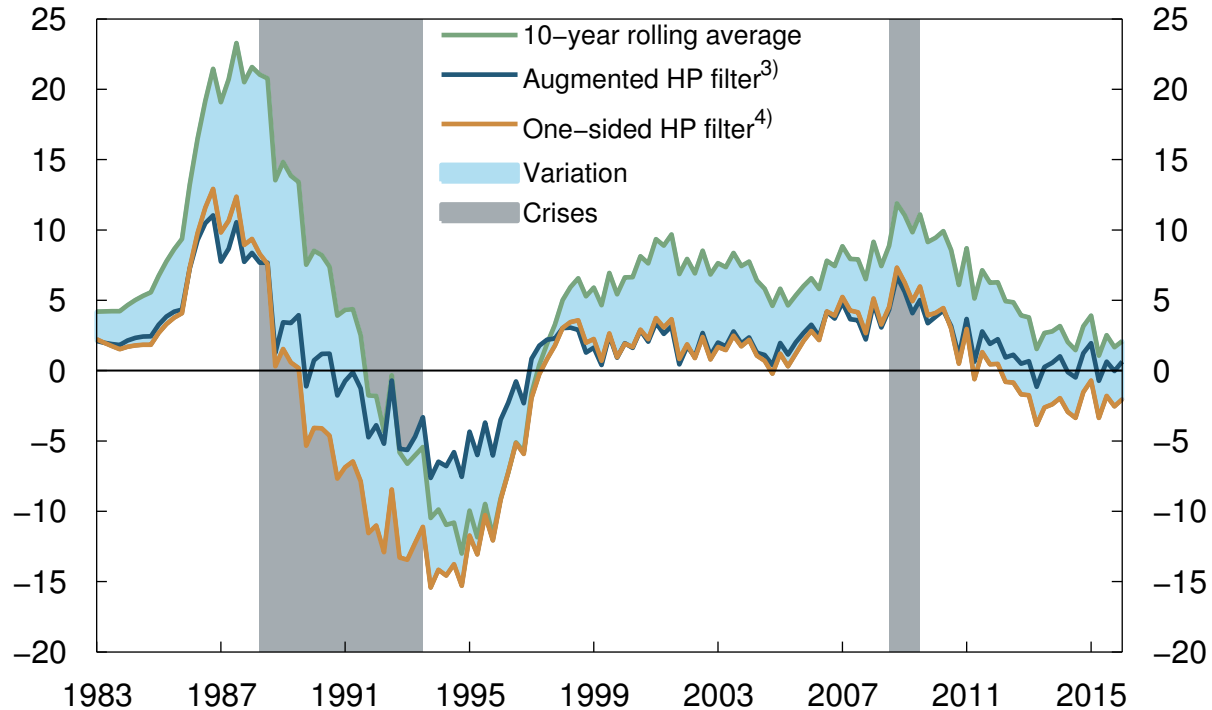
- 10–year rolling average
- Augmented HP filter[3]
- One–sided HP filter[4]
- Variation
- Crises

1) All banks and covered bond mortgage companies in Norway excluding branches and subsidiaries of foreign banks.
2) The trends are estimated based on data since 1975 Q4.
3) One–sided Hodrick–Prescott filter estimated on data augmented with a simple projection. Lambda = 400 000.
4) One–sided Hodrick–Prescott filter. Lambda = 400 000.
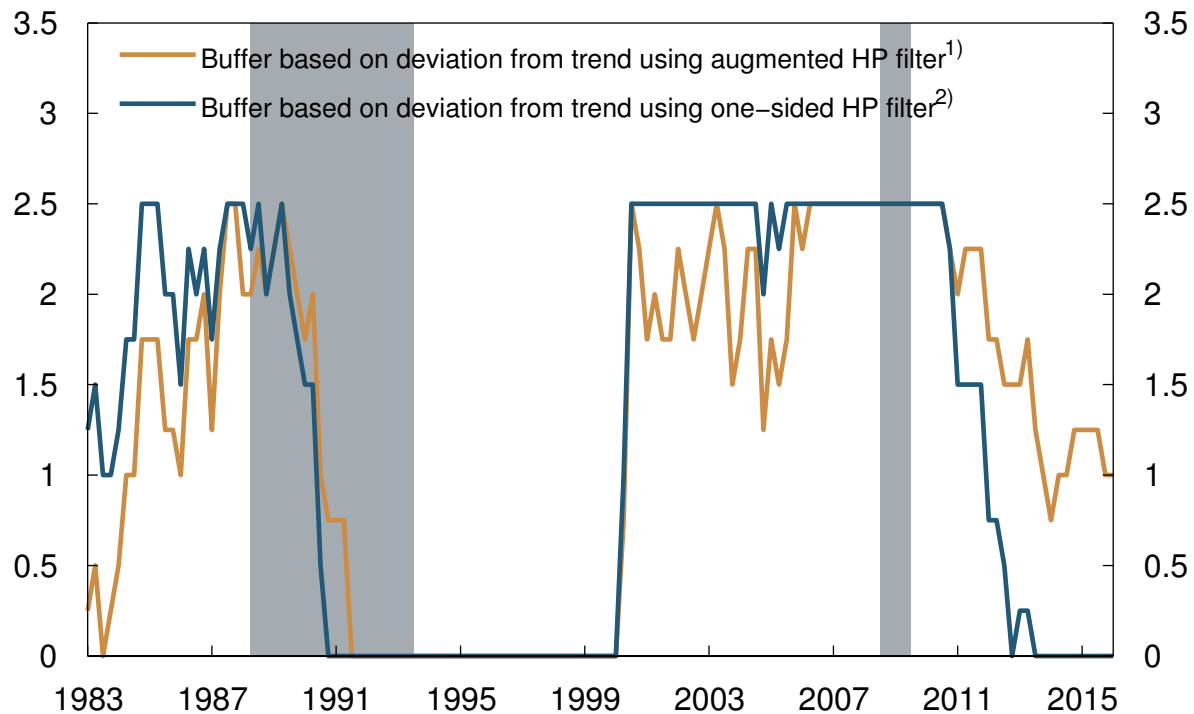Source: Norges Bank

Chart 3.23 Estimated crisis probabilities from various model specifications.
1980 Q1 – 2016 Q1

1) Model variation is represented by the highest and lowest crisis probability based on different model specifications and trend calculations.
Source: Norges Bank

Chart 3.24 Reference rates for the countercyclical capital buffer under alternative trend estimates. Percent. 1983 Q1 – 2016 Q1


Buffer based on deviation from trend using augmented HP filter[1]

Buffer based on deviation from trend using one−sided HP filter[2]

1) One−sided Hodrick−Prescott filter estimated on data augmented with a simple projection. Lambda = 400 000.
2) One−sided Hodrick−Prescott filter. Lambda = 400 000.
Sources: Statistics Norway, IMF and Norges Bank

Chart 1 Contribution to GDP growth in the US.
Percentage points. 2010 Q1 – 2016 Q1
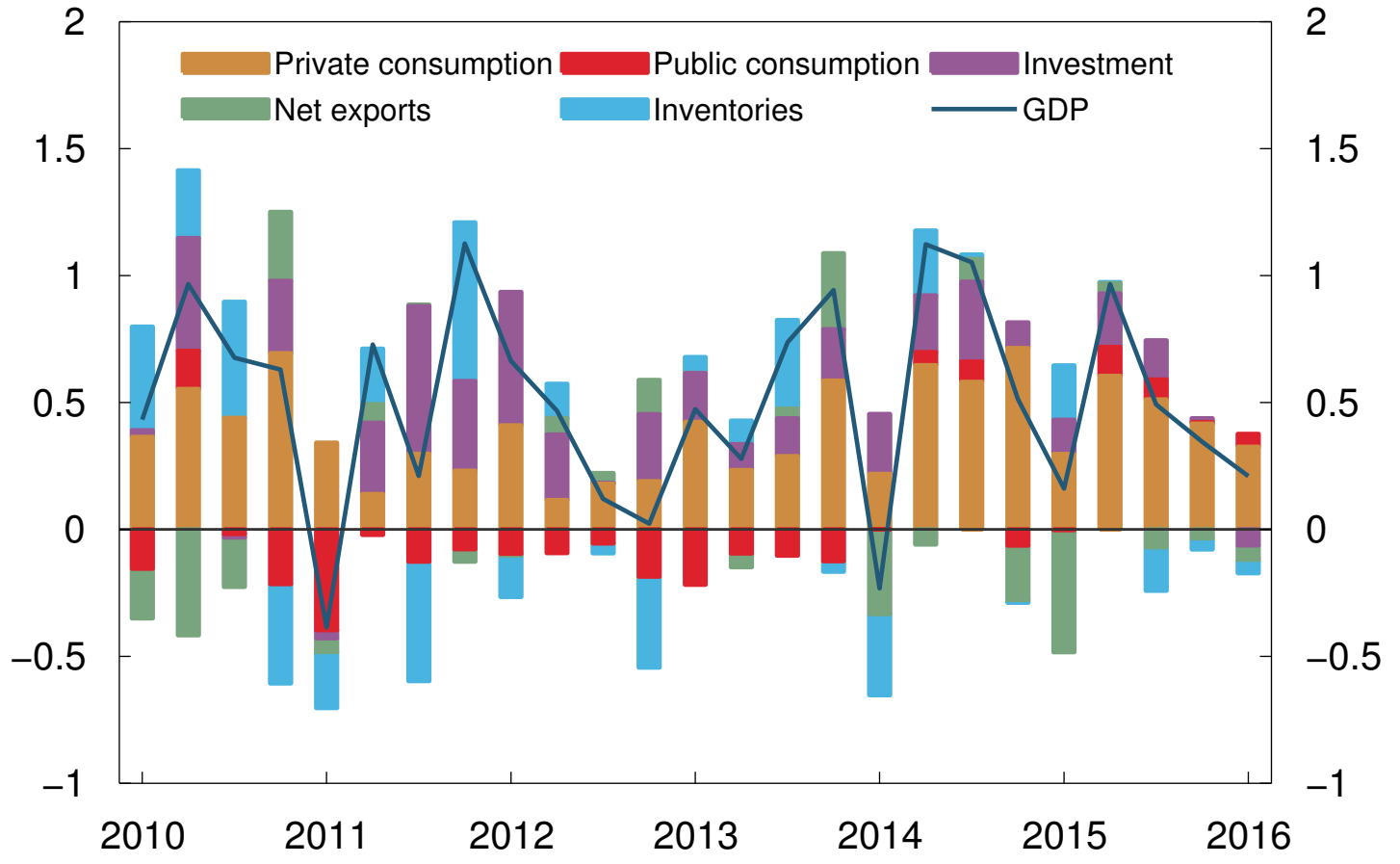
Chart 2 Euro area. Financial conditions index. [1]
Non–financial corporate investment.
Four–quarter change. Percent. February 2003 – April 2016

— Corporate investment (left–hand scale)
— Financial conditions index (right–hand scale)
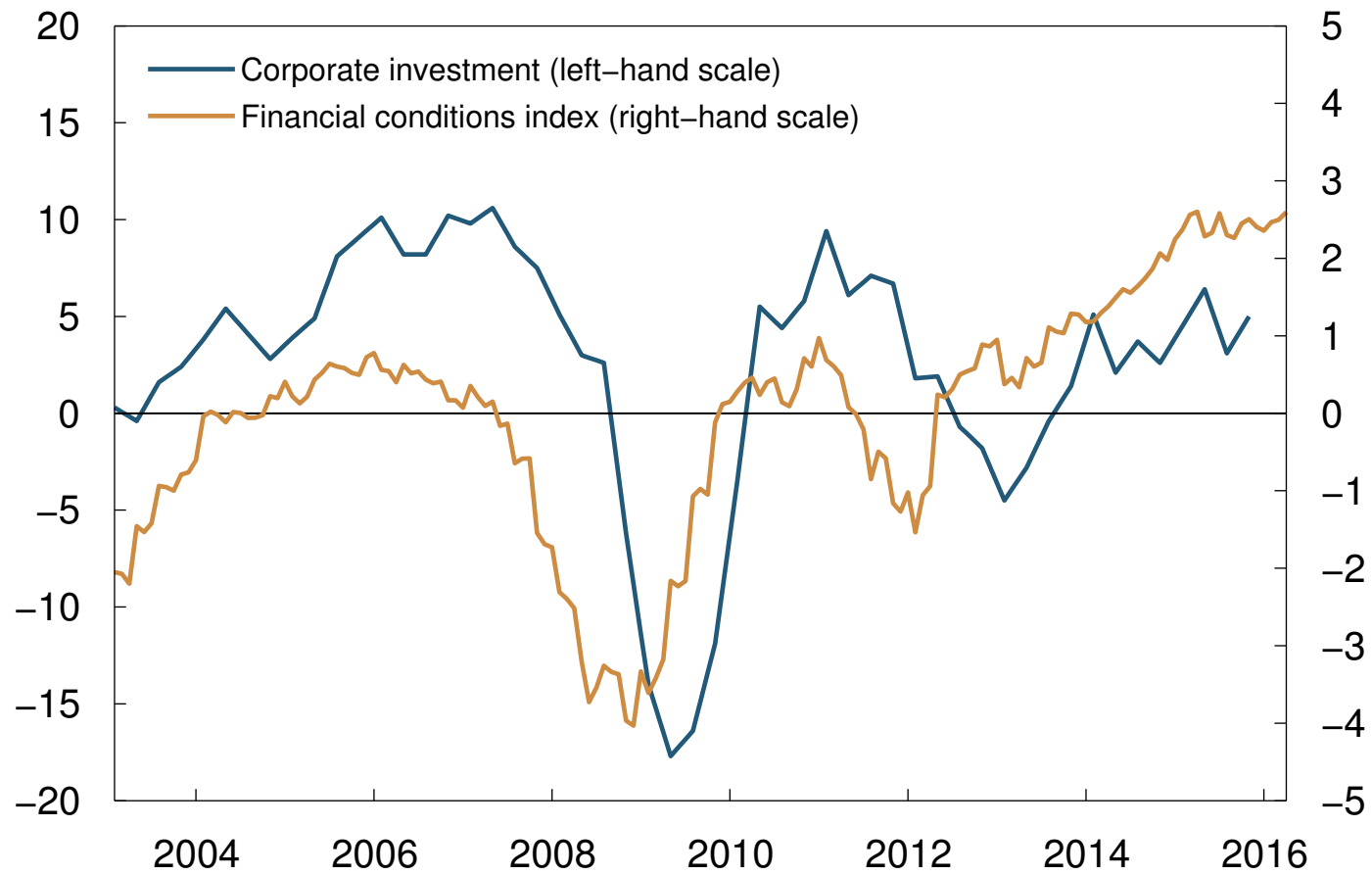
1) Index constructed by Norges Bank, based on ECB Working Paper 1541.
Sources: Thomson Reuters and Norges Bank

Chart 3 Unemployment rate. Seasonally adjusted.
Percent. January 2005 – April 2016 [1]

Germany
Netherlands
France
Italy
Spain
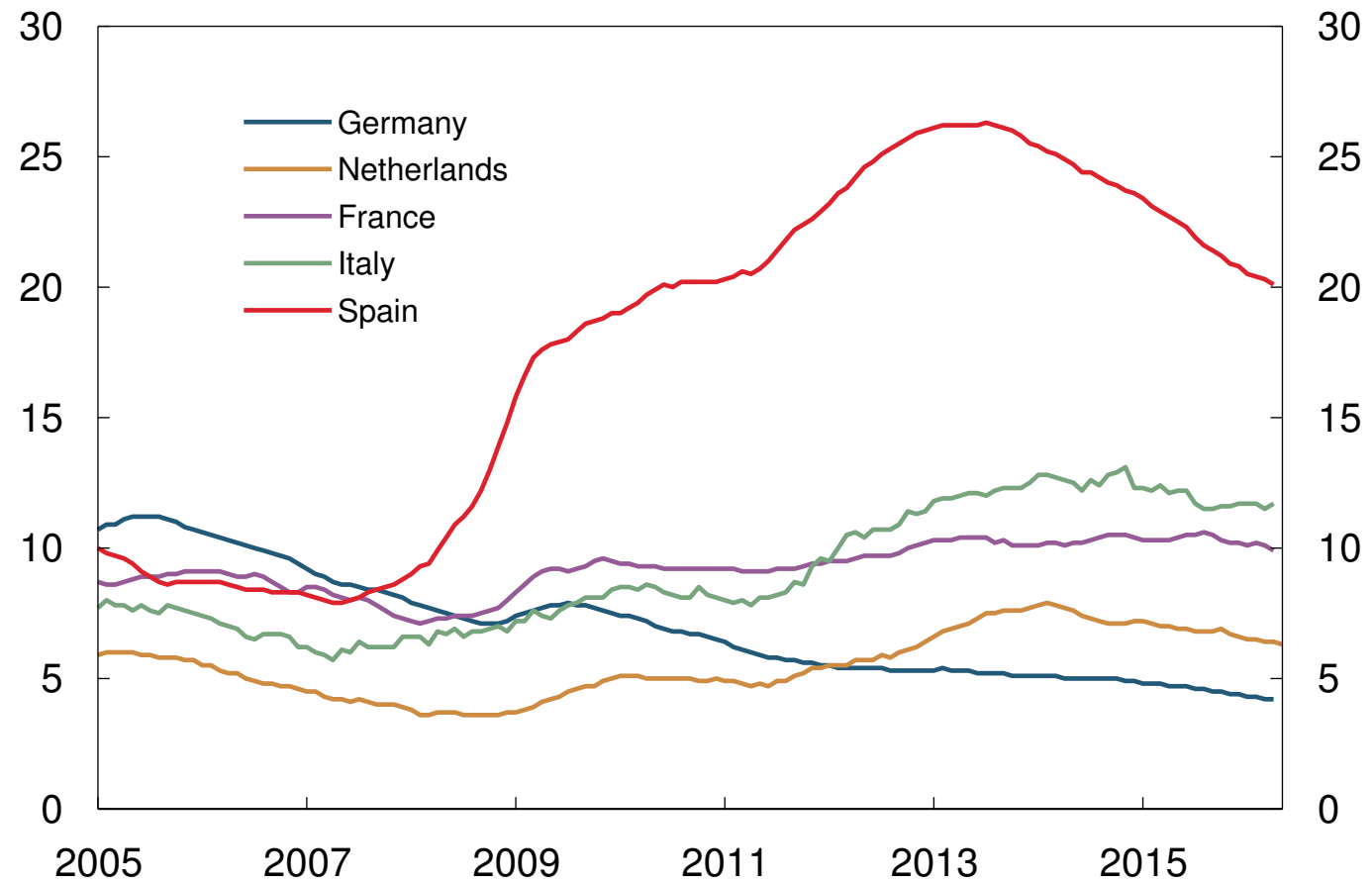
1) For the Netherlands the latest observation is May 2016.
Source: Thomson Reuters

Chart 4 UK GDP. Four–quarter change. Percent.
PMI for manufacturing and services. Three–month moving average.
January 2005 – June 2016

GDP (left–hand scale)
PMI Manufacturing (right–hand scale)
PMI Services (right–hand scale)
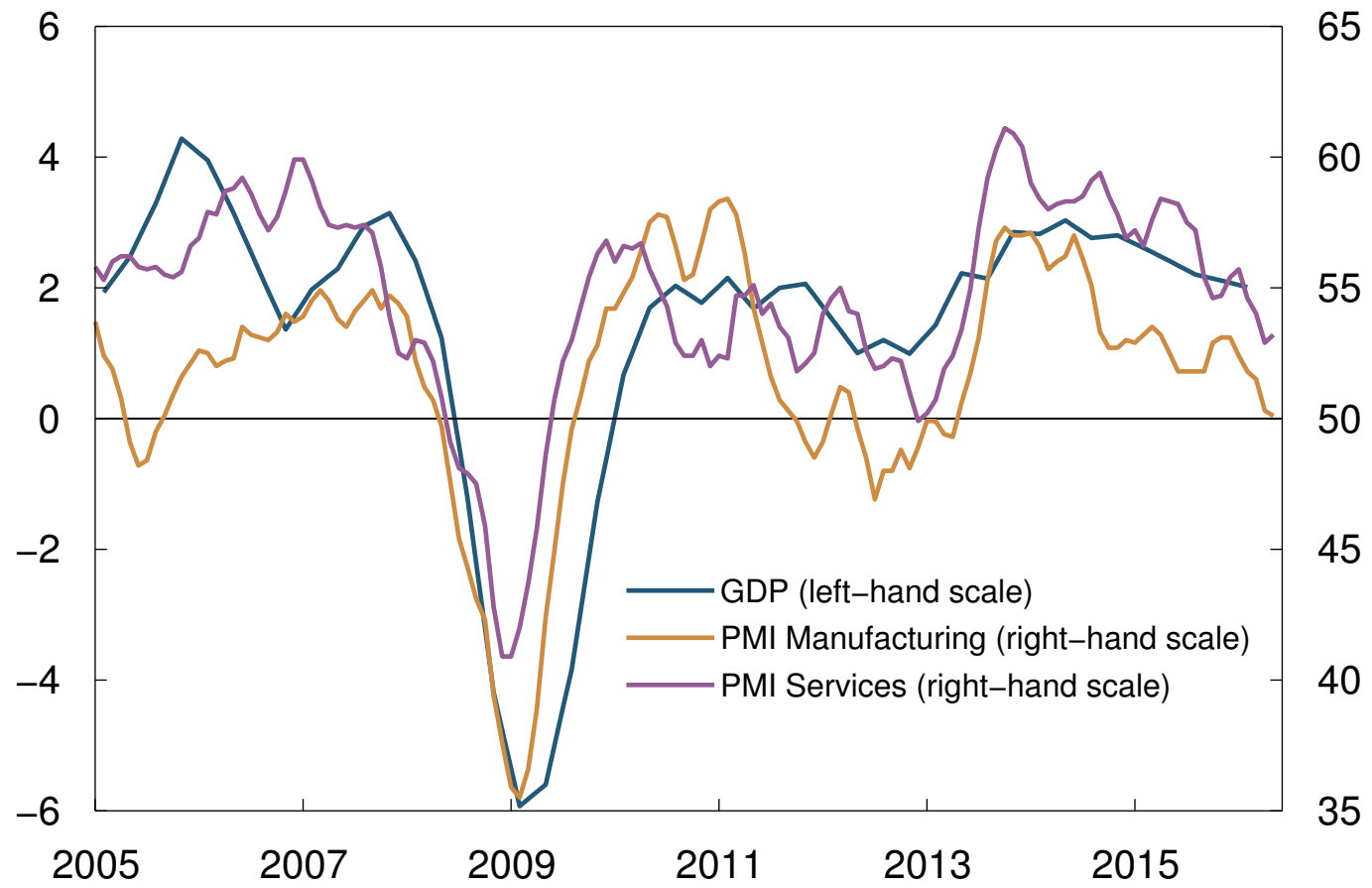
Source: Thomson Reuters

Chart 5 GDP and imports for Sweden.
Volume. Four–quarter change. Percent. 2005 Q1 – 2016 Q1

GDP (left–hand scale)   Import (right–hand scale)
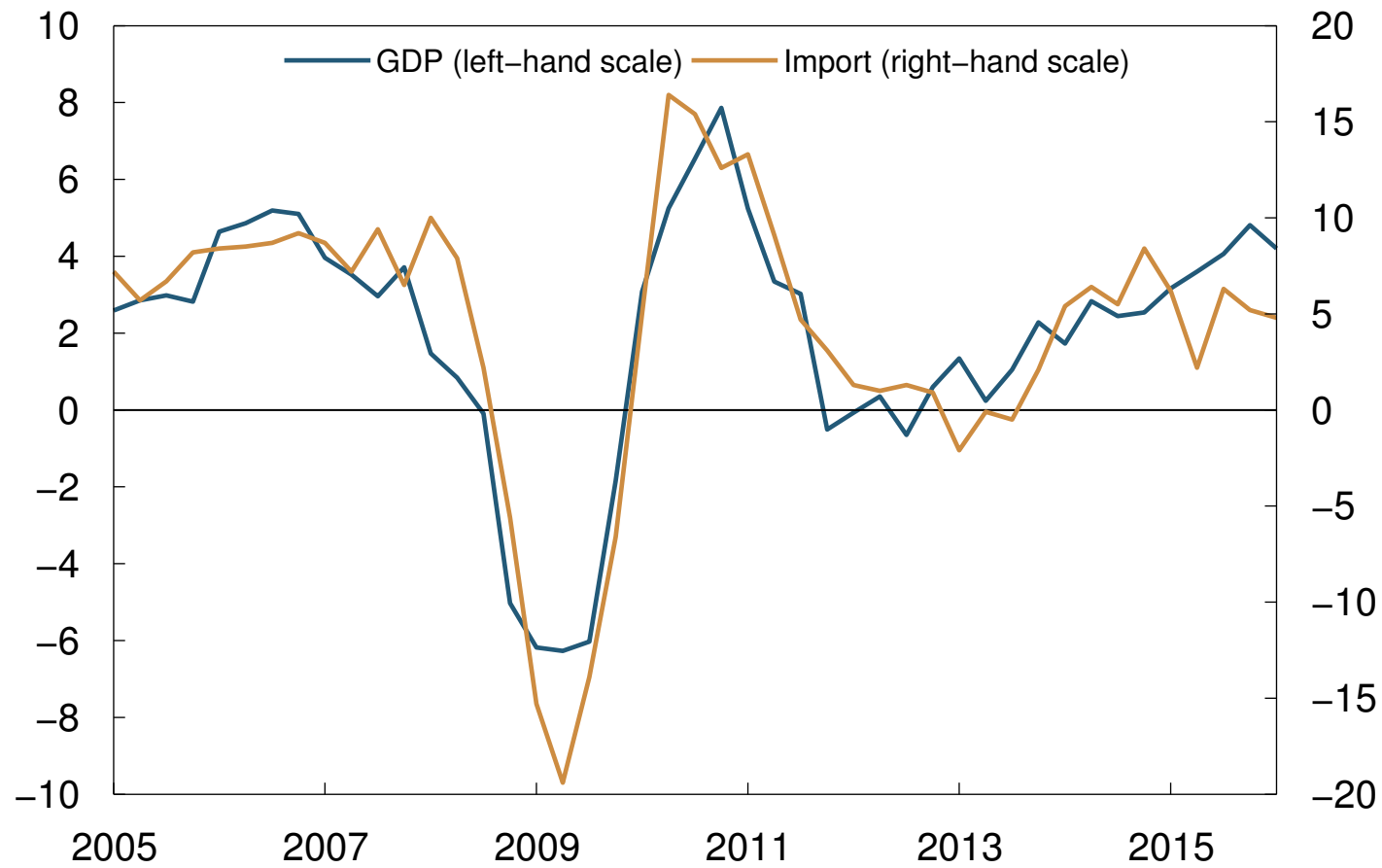
Chart 6 China. Contribution to GDP growth.
Annual change. Percentage points. 2009 – 2016[1]
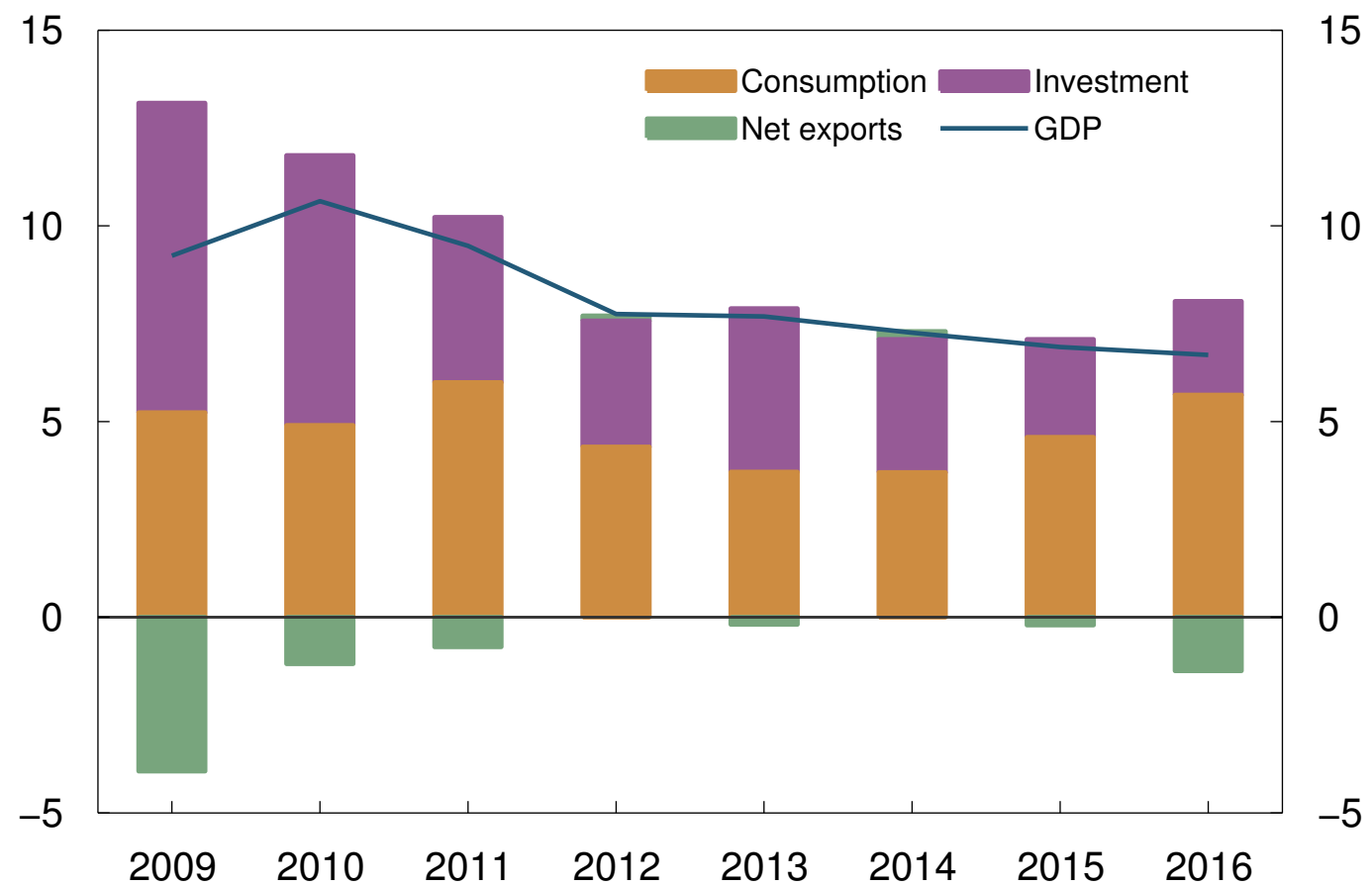
Chart 7 China. Profit in the manufacturing sector.
Twelve–month change. Percent. Three–month moving average.
March 2012 – April 2016

All enterprises
Private enterprises
State–owned enterprises
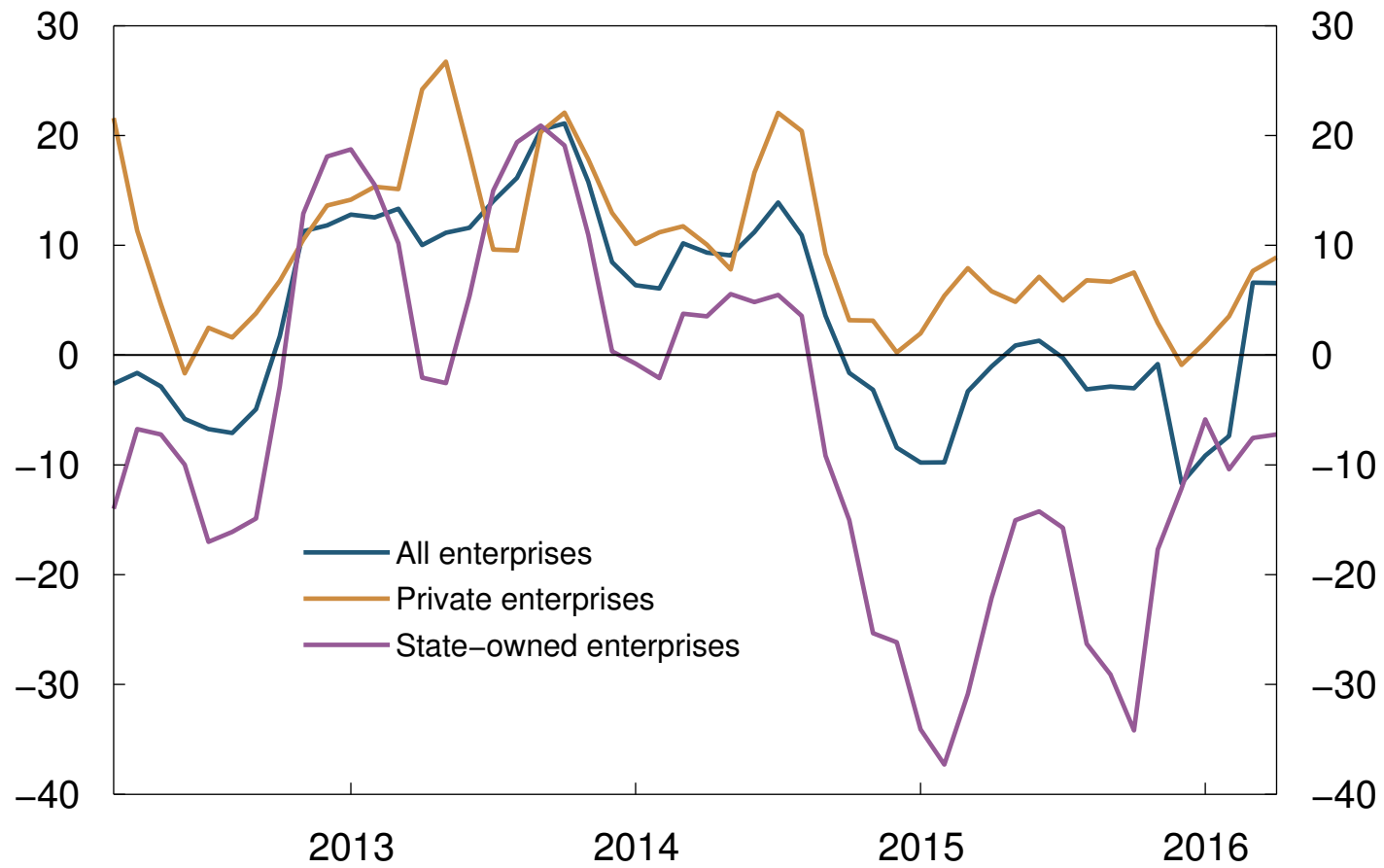
Source: CEIC

Chart 1 Growth in GDP in mainland Norway per hour worked. Actual and trend. Percent. 1995 – 2019[1]
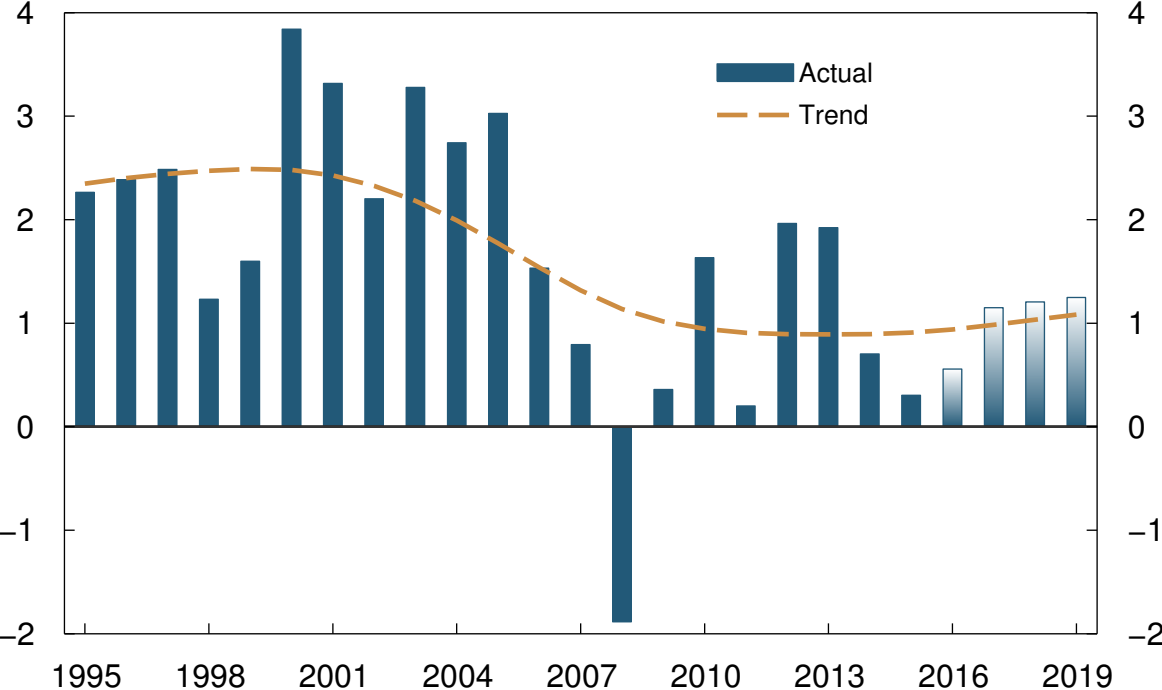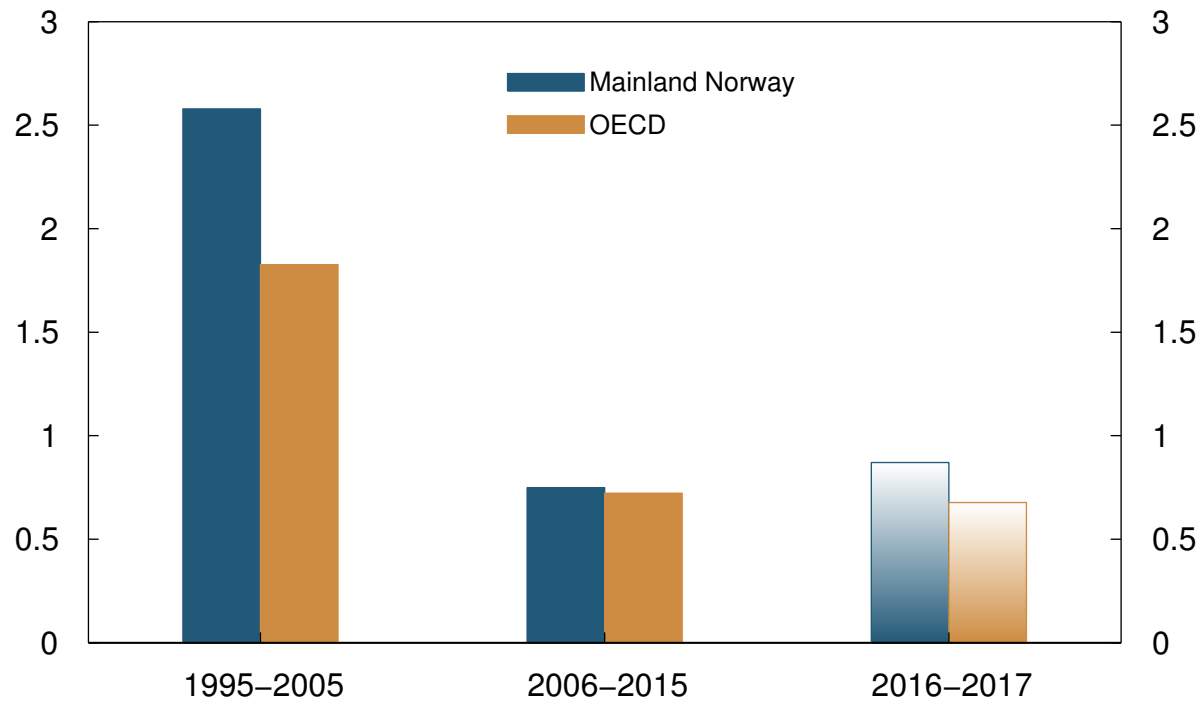

1) Projections for 2016 – 2019.
Source: Statistics Norway and Norges Bank

Chart 2 GDP growth for mainland Norway. Yearly average. Contributions from labour supply, total factor productivity and capital intensity. Percent. 1995 – 2019[1]

Total productivity growth {

- Total factor productivity
- Capital intensity
- Labour supply
- Average GDP growth
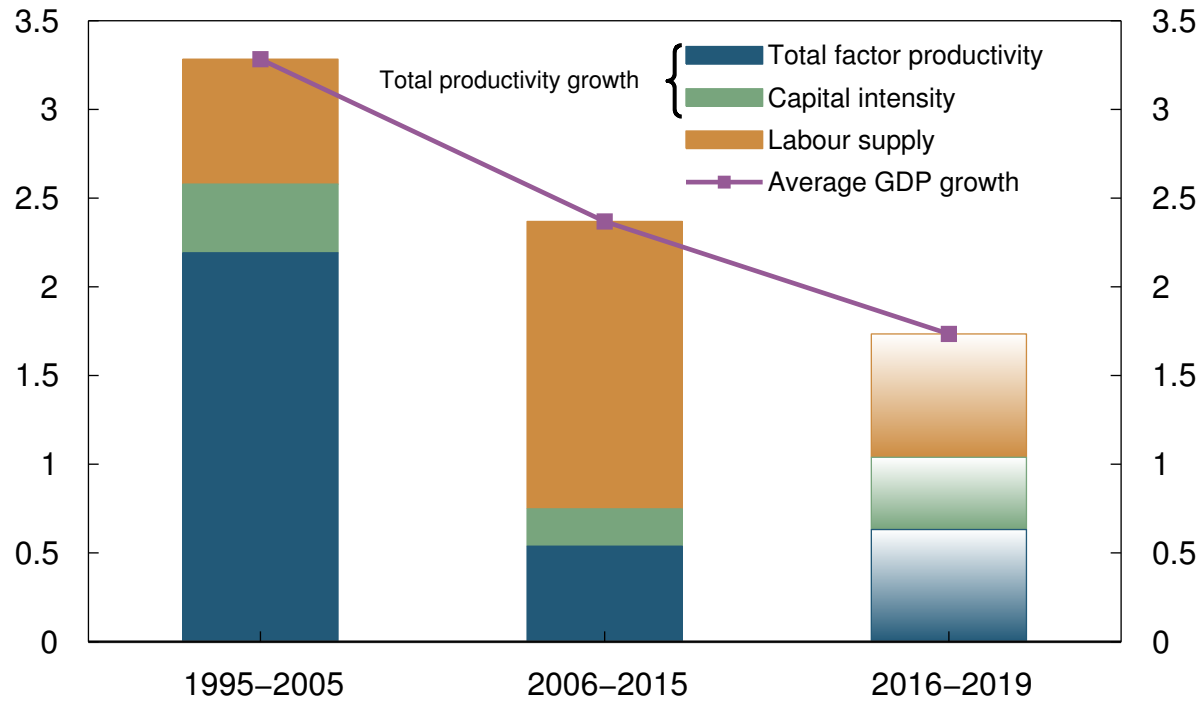
1) Projections for 2016 – 2019.
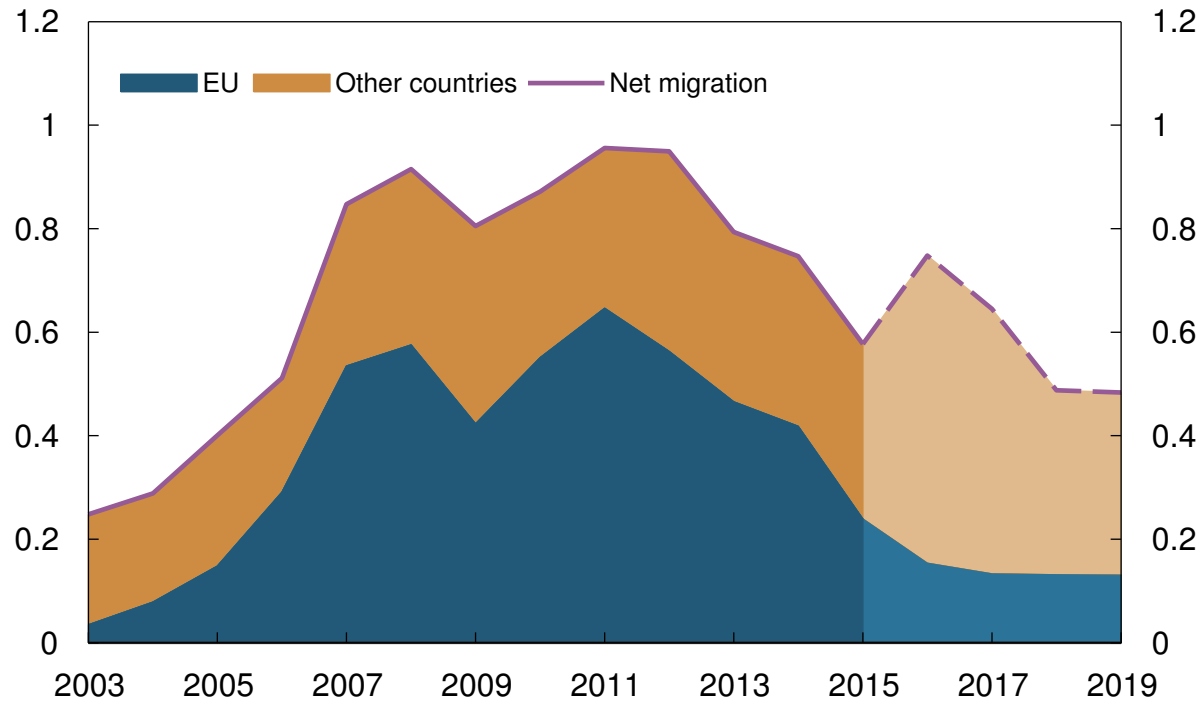Sources: Statistics Norway and Norges Bank

Chart 3 Productivity growth in OECD and Norway. Percent. 1995 – 2017[1]

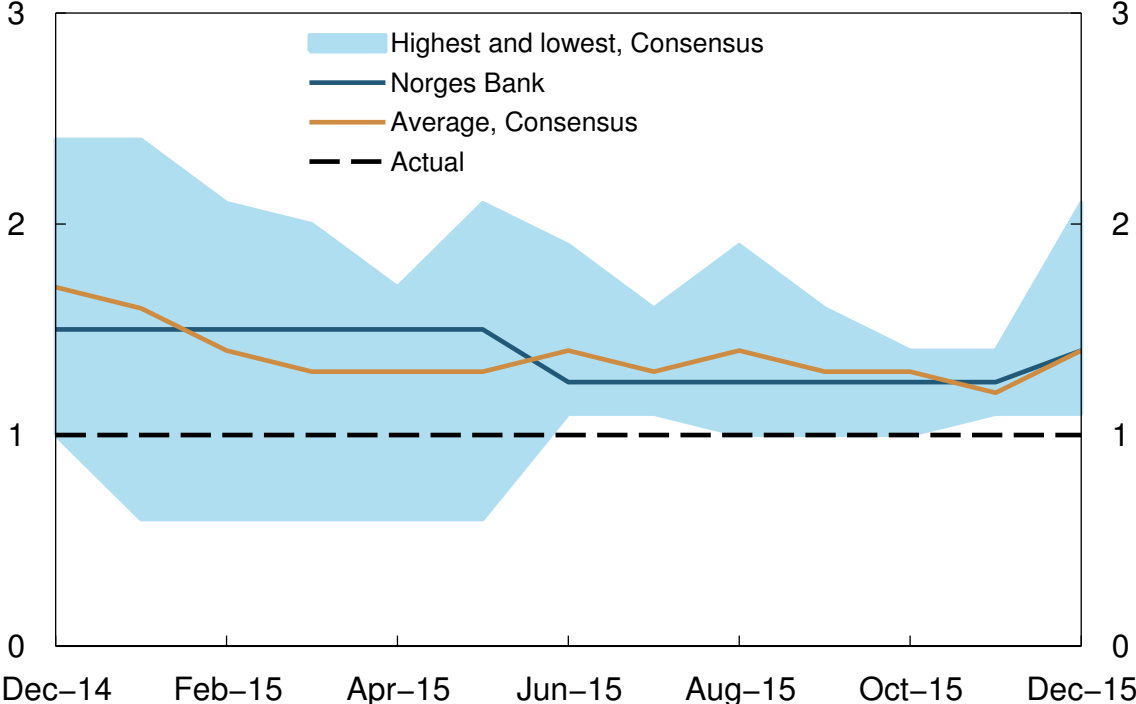1) Projections for 2016 – 2017.
Sources: OECD, Statistics Norway and Norges Bank

Chart 4 Population growth due to immigration. By nationality.
Percent. 2003 – 2019[1]

1) Projections for 2016 – 2019.
Sources: Statistics Norway and Norges Bank

Chart 1 GDP for mainland Norway. Projected and actual path 2015.
Percent. December 2014 – December 2015

Sources: Consensus Economics, Statistics Norway and Norges Bank

Chart 2 Projections and actual CPI–ATE for 2015.
Percent. December 2014 – December 2015

Legend:
- Highest and lowest, others[1]
- Norges Bank
- Average, others[1]
- Actual
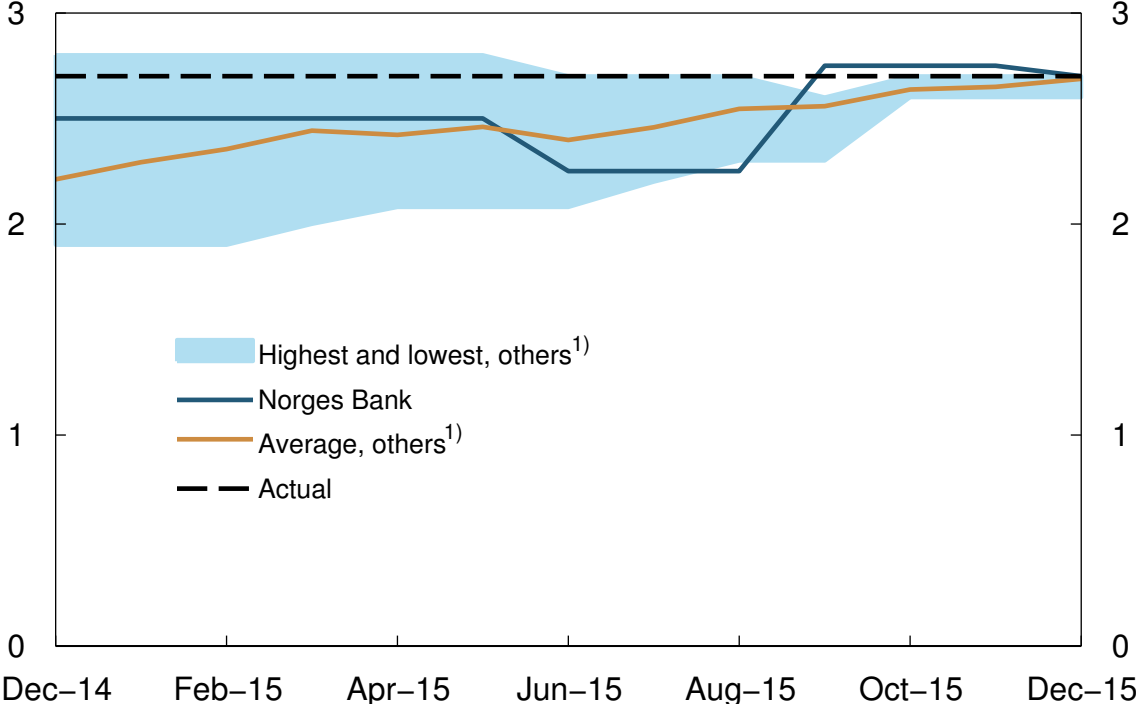
1) Danske Bank, DNB, Handelsbanken, Ministry of Finance, Nordea, SEB and Statstics Norway.
Sources: Other institutions and Norges Bank