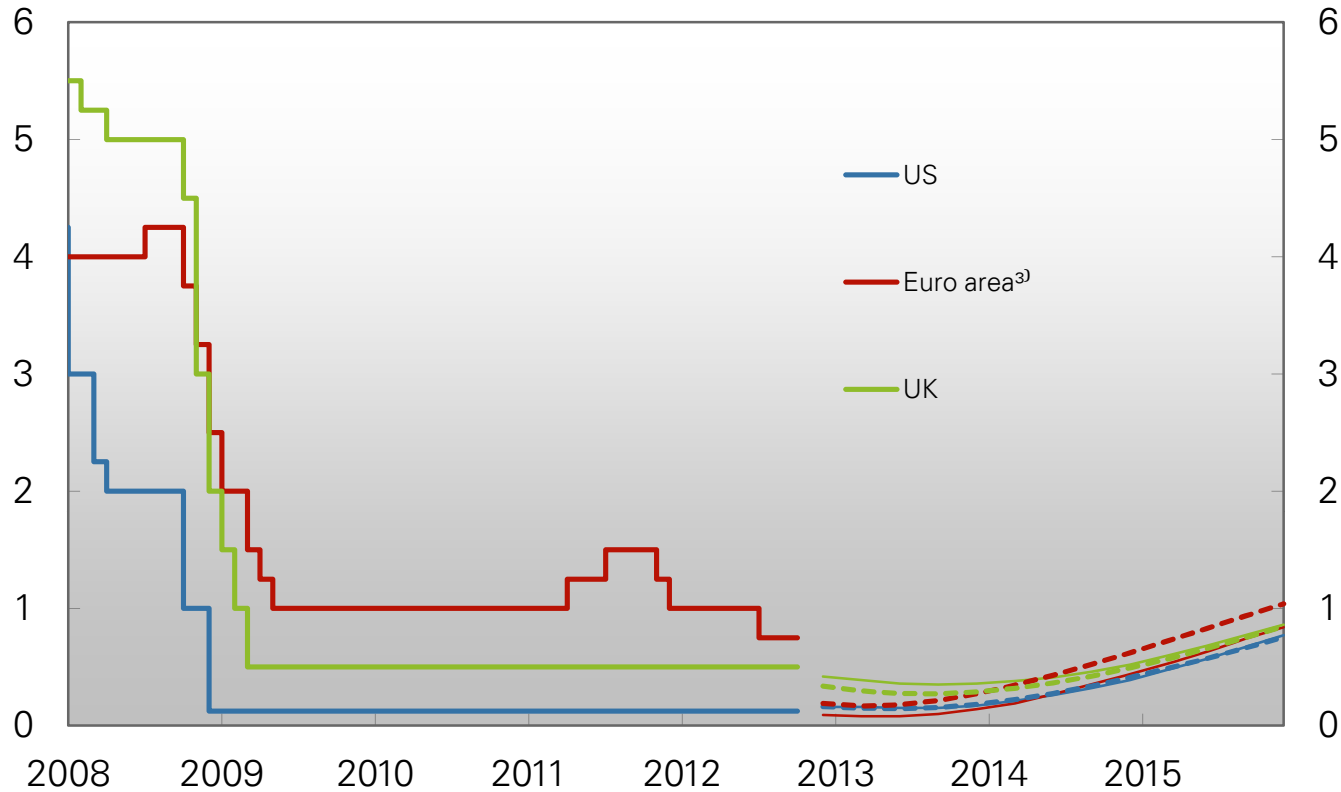


Monetary Policy Report 3/12

Charts

Chart 1.1 Key rates and estimated forward rates as at 15 June 2012 and 25 October 2012.¹⁾ Percent. 1 January 2008 – 31 December 2015²⁾



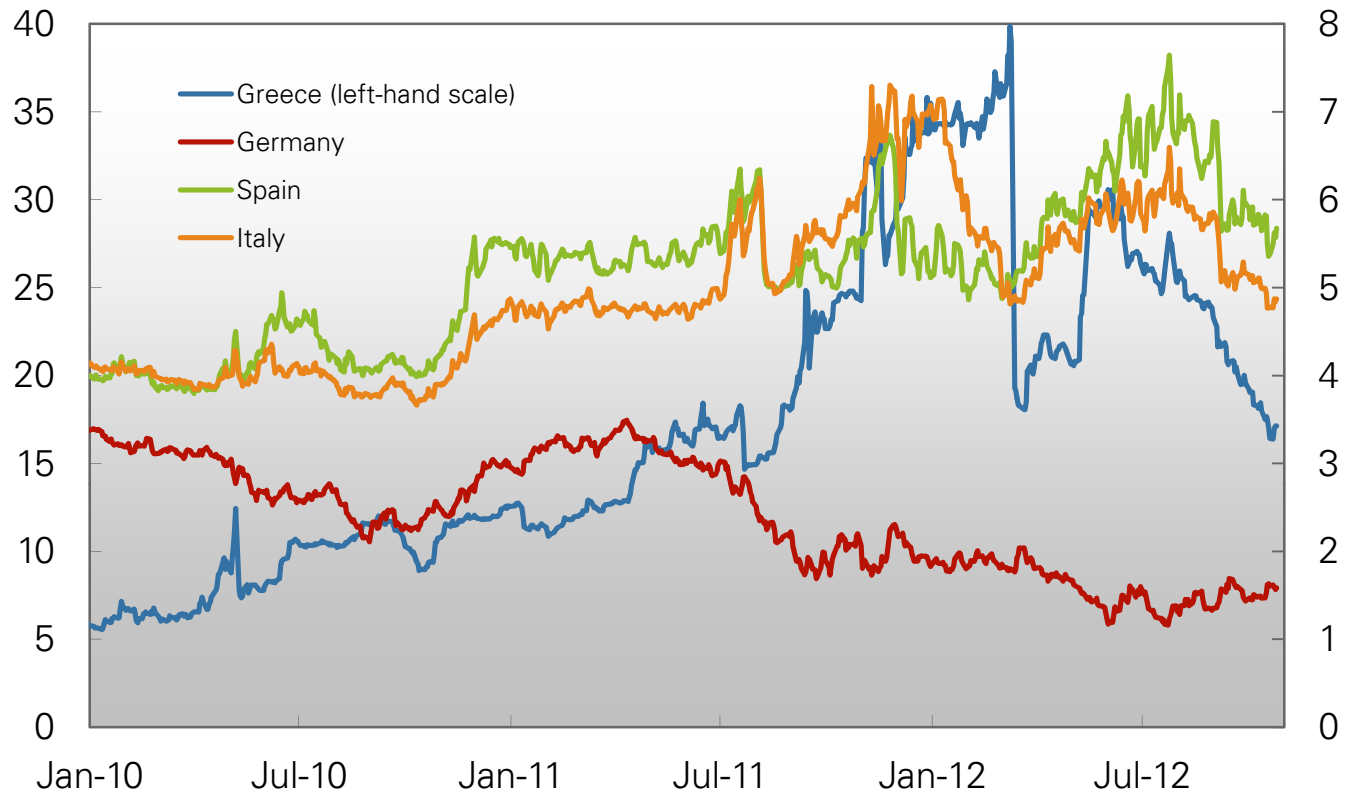
1) Broken lines show estimated forward rates as at 15 June 2012. Thin lines show forward rates as at 25 October 2012. Forward rates are based on Overnight Index Swap (OIS) rates

2) Daily figures from 1 January 2008 and quarterly figures from 2012 Q4

3) EONIA for euro area from 2012 Q4

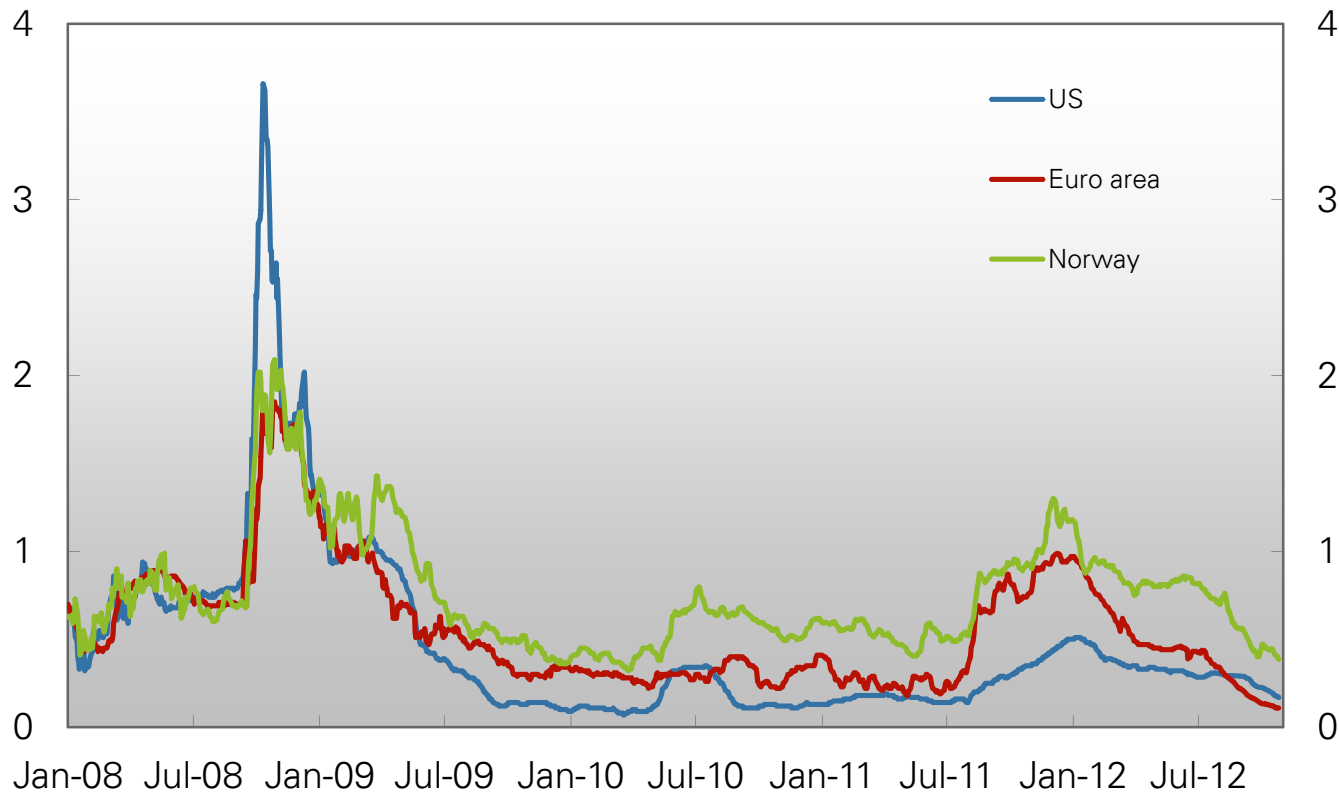
Sources: Bloomberg and Norges Bank

Chart 1.2 Yields on 10-year government bonds.
Percent. 1 January 2010 – 25 October 2012



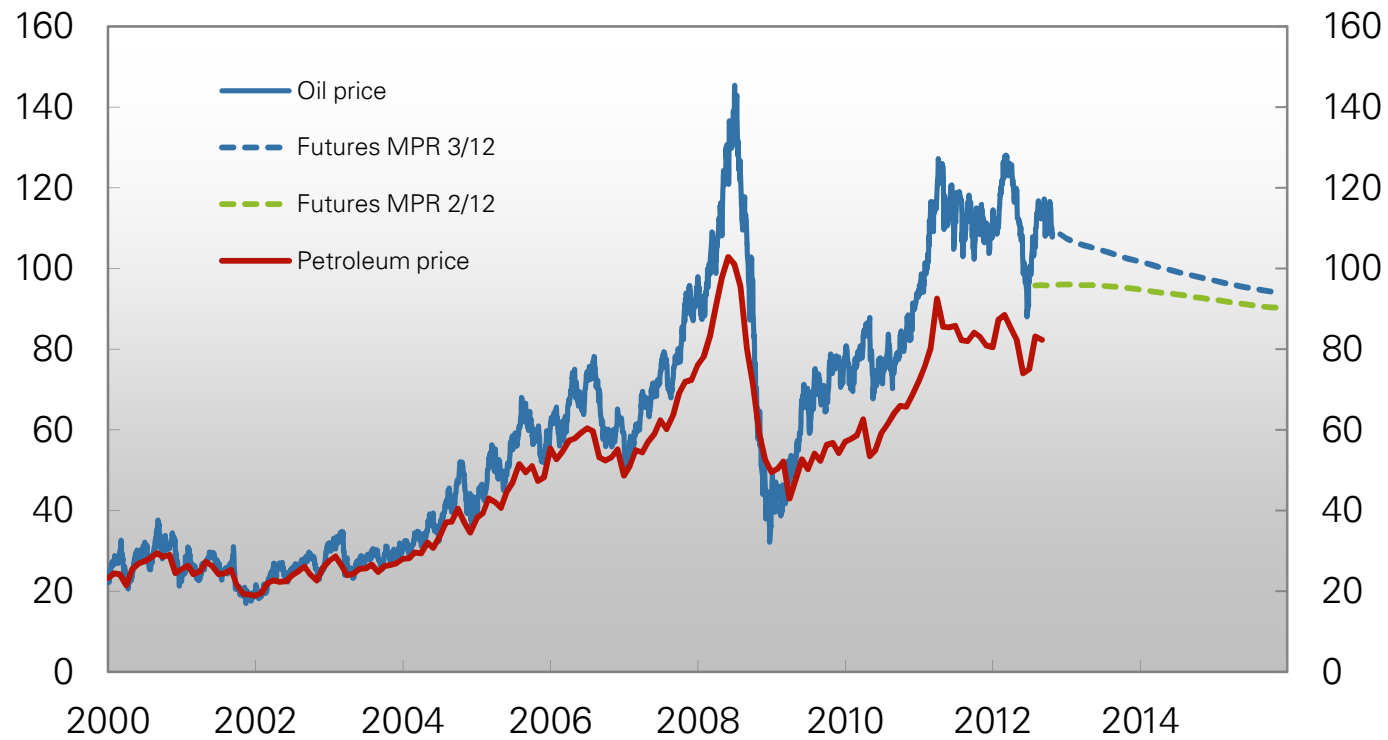
Source: Thomson Reuters

Chart 1.3 Difference between 3-month money market rate and expected key rates¹⁾. Percentage points. 5-day moving average.
1 January 2008 – 25 October 2012



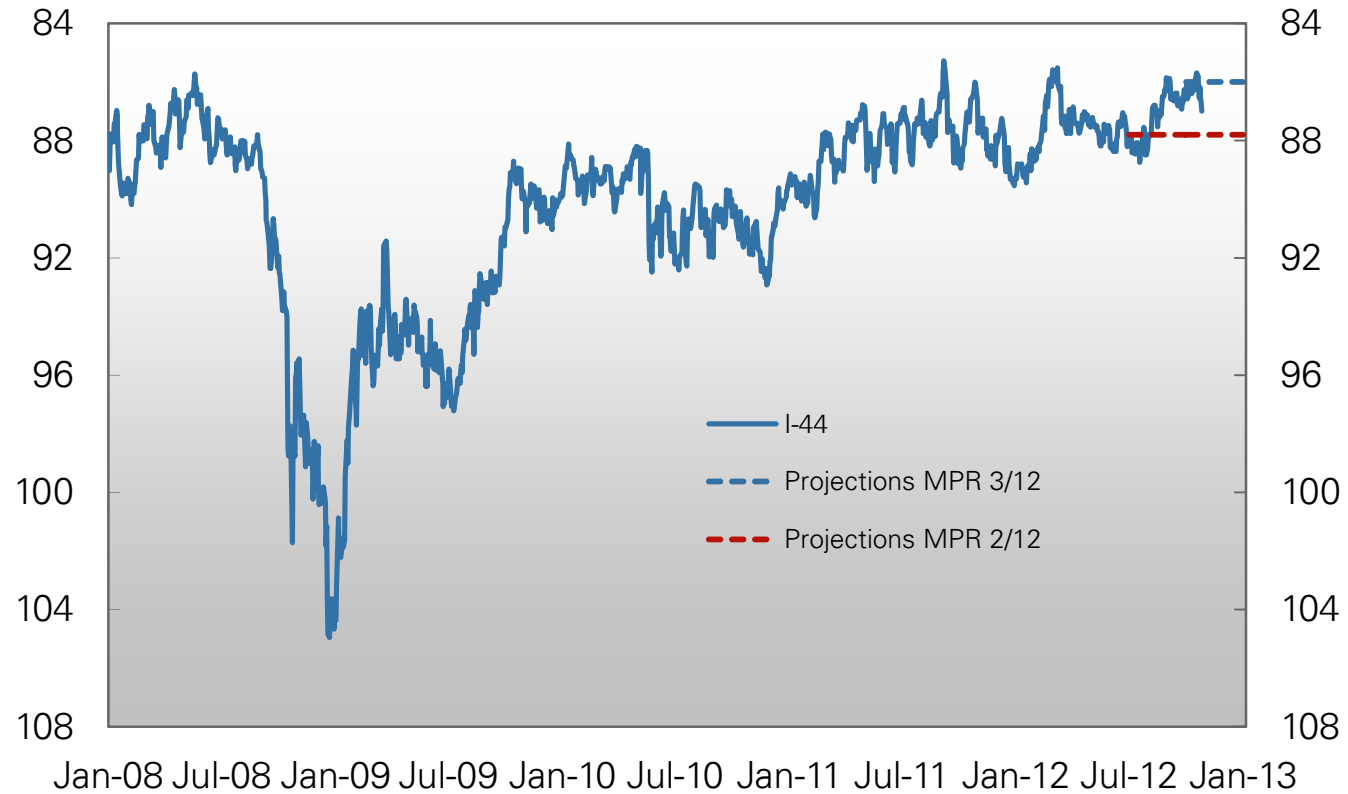
1) Expected key rates are derived from Overnight Index Swap (OIS) rates.
Norges Bank's projections for market participant's key rate expectations are used for Norway
Sources: Bloomberg, Thomson Reuters and Norges Bank

Chart 1.4 Oil price (Brent Blend) and prices for Norwegian petroleum exports¹⁾. USD/barrel. January 2000 – December 2015



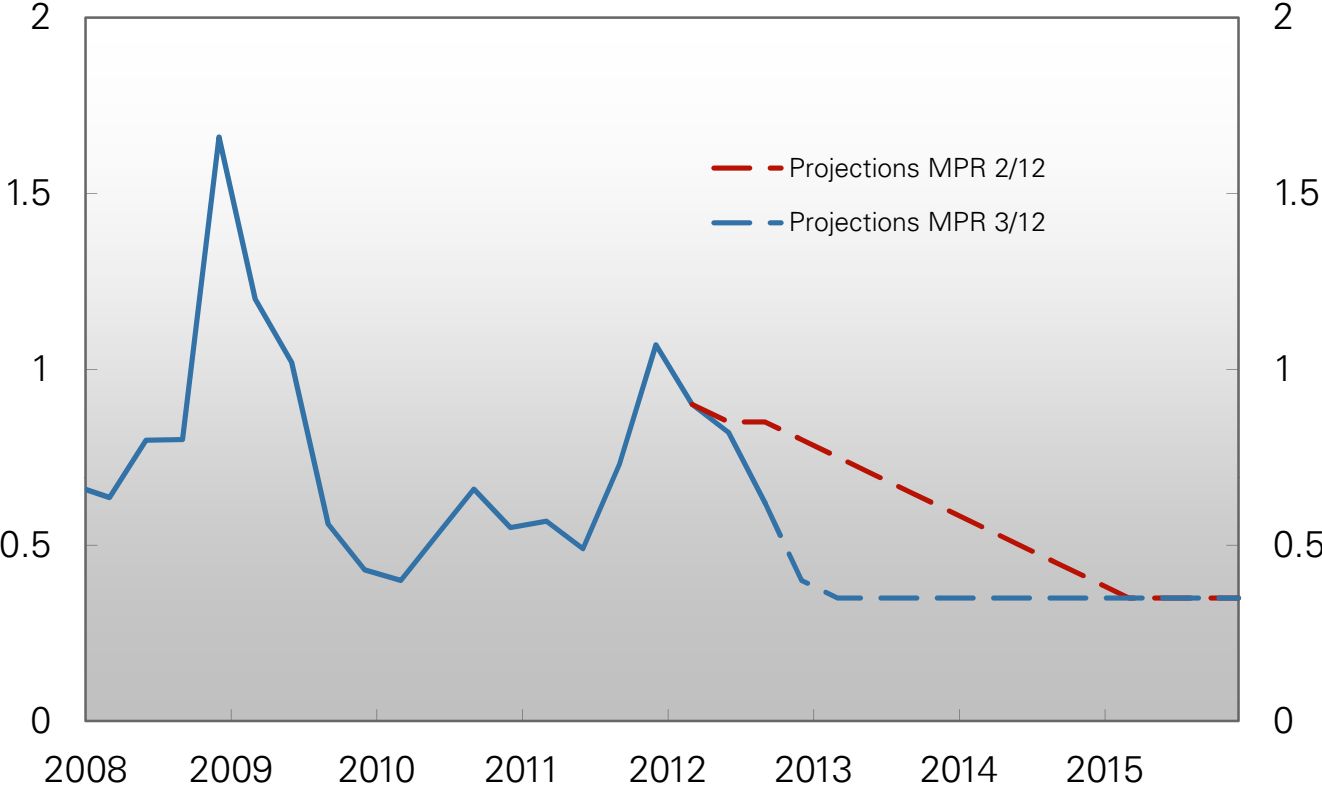
1) Weighted average of Norwegian crude oil and gas exports
Sources: Statistics Norway, Thomson Reuters and Norges Bank

Chart 1.5 Import-weighted exchange rate index (I-44)¹⁾.
January 2008 – December 2012



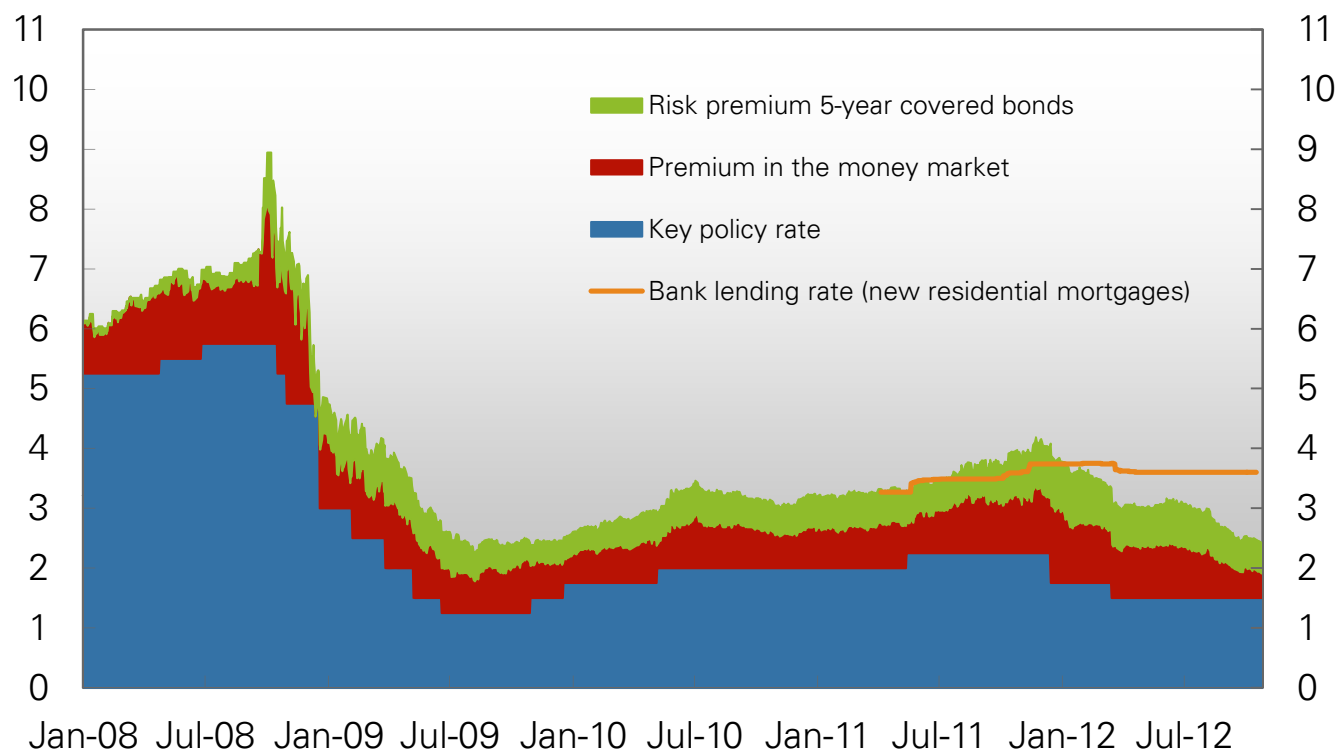
1) A positive slope denotes a stronger krone exchange rate
Source: Norges Bank

Chart 1.6 Difference between 3-month money market rate and expected key rates.¹⁾ Percentage points. 2008 Q1 – 2015 Q4



1) Norges Bank's projections from 2012 Q4
Sources: Thomson Reuters and Norges Bank

Chart 1.7 Key policy rate, premium in the money market¹⁾, risk premium 5-year covered bonds²⁾ and weighted average lending rate on new residential mortgages³⁾. Percent. 1 January 2008 – 25 October 2012



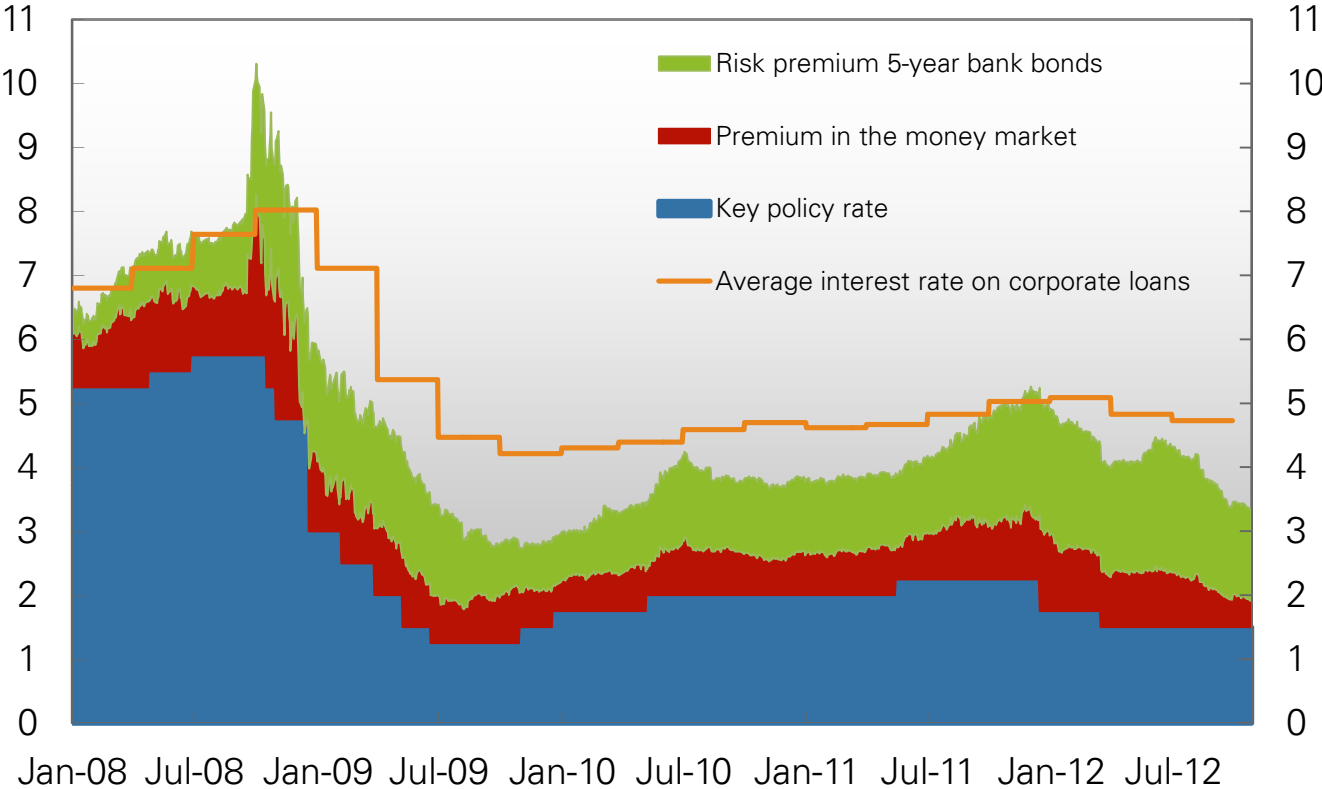
1) 3-month NIBOR (effective)

2) Indicative risk premium on 5-year covered bonds

3) Nominal interest rate on new residential mortgages of NOK 2m within 60% of purchase price with variable interest rate. Figures for the 20 largest banks, weighted according to market share

Sources: Norsk familieøkonomi AS, DnB Nor Markets, Statistics Norway and Norges Bank

Chart 1.8 Key policy rate, premium in the money market rate¹⁾, risk premium on 5-year bank bonds²⁾ and average interest rate on corporate loans.
 Percent. 1 January 2008 – 25 October 2012

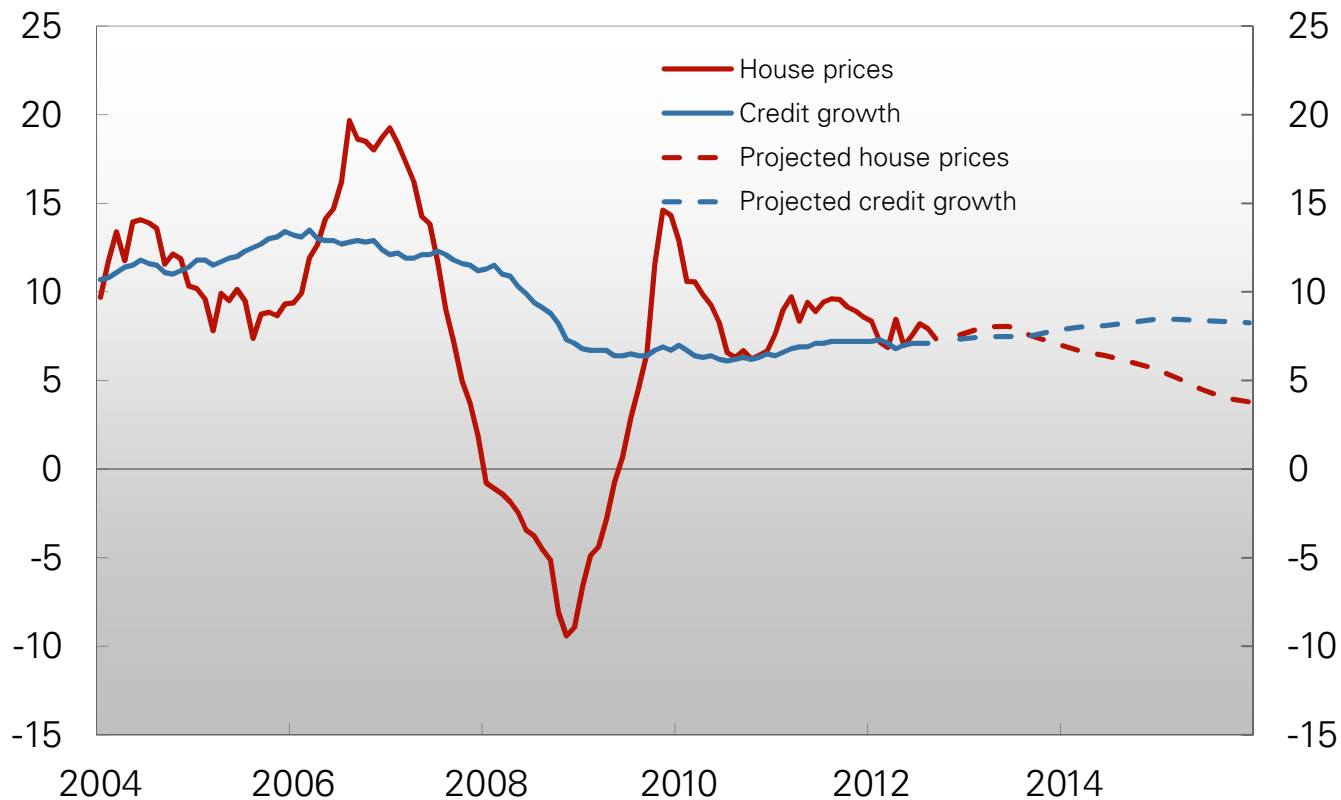


1) 3-month NIBOR (effective)

2) Indicative risk premium in 5-year bank bonds

Sources: DNB Markets, Statistics Norway and Norges Bank

Chart 1.9 Credit growth¹⁾ and house prices.
 12-month change. Percent. January 2004 – December 2015²⁾

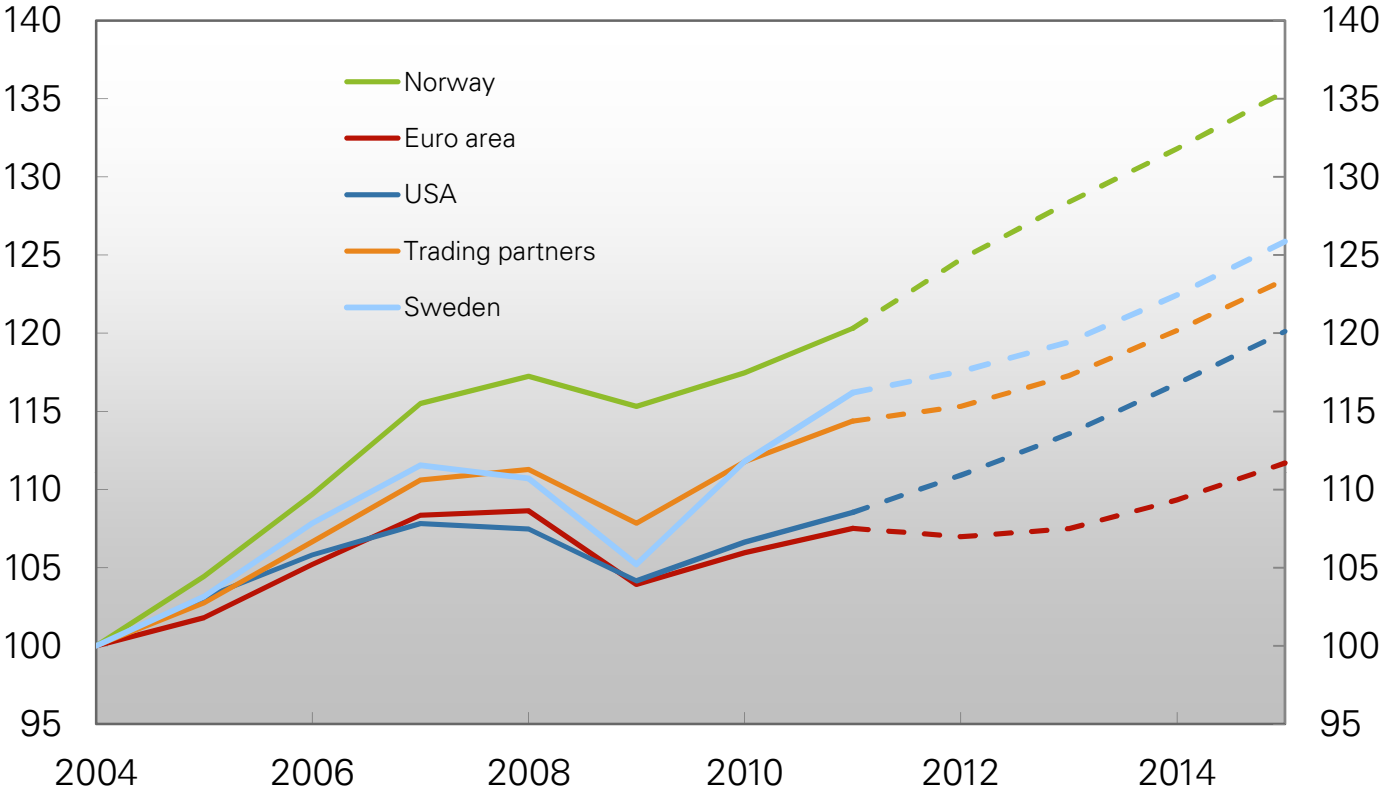


1) From January 1 2012 the Norwegian standard for institutional sector grouping was changed. For credit growth this implies a break in the series from March 2012

2) House prices up to and including September, credit growth up to and including August. Projections to 2015 Q4, where debt growth is change in inventory

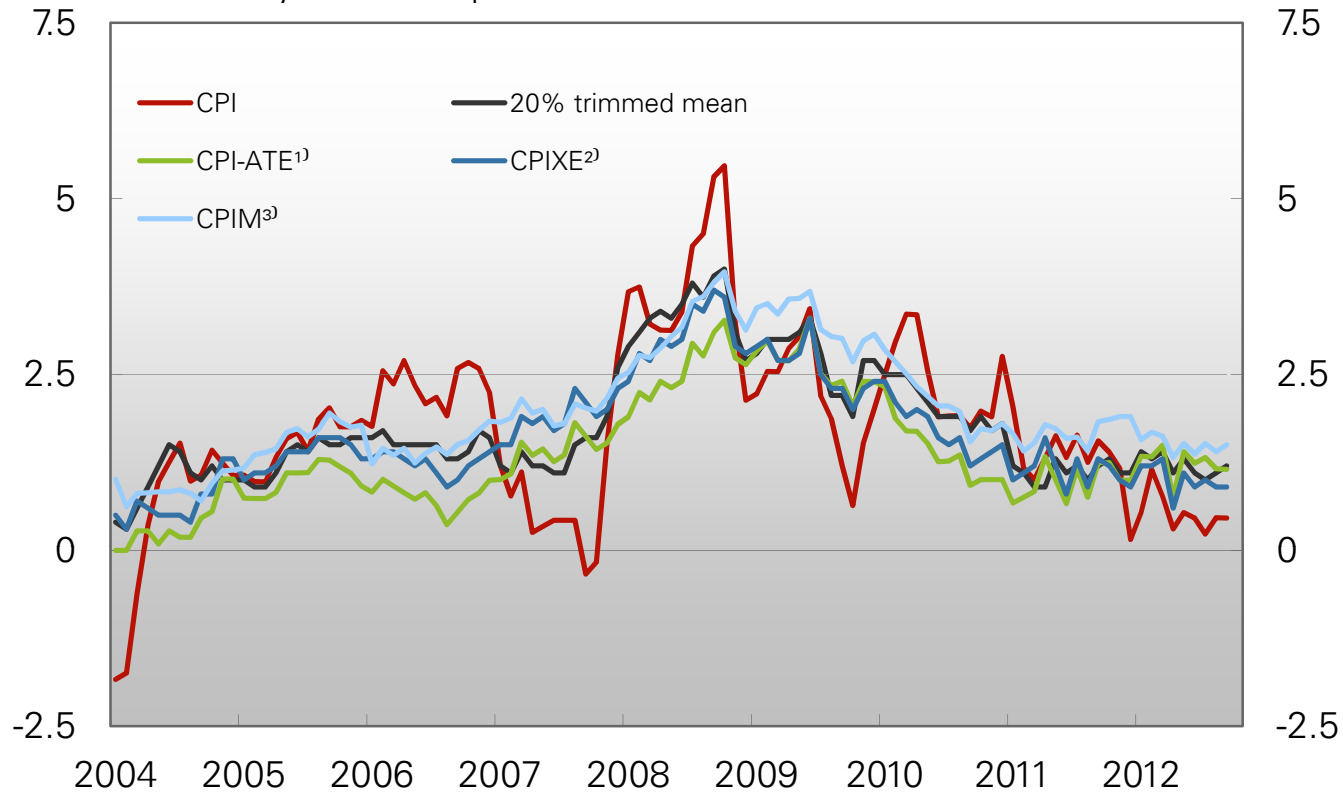
Sources: Statistics Norway, the real estate sector (NEF, EFF, Finn.no and ECON Pöyry) and Norges Bank

Chart 1.10 GDP for Mainland Norway and selected trading partners.
Index. 2004 = 100. 2004 – 2015



Sources: Thomson Reuters and Norges Bank

Chart 1.11 Consumer prices. 12-month change.
Percent. January 2004 – September 2012



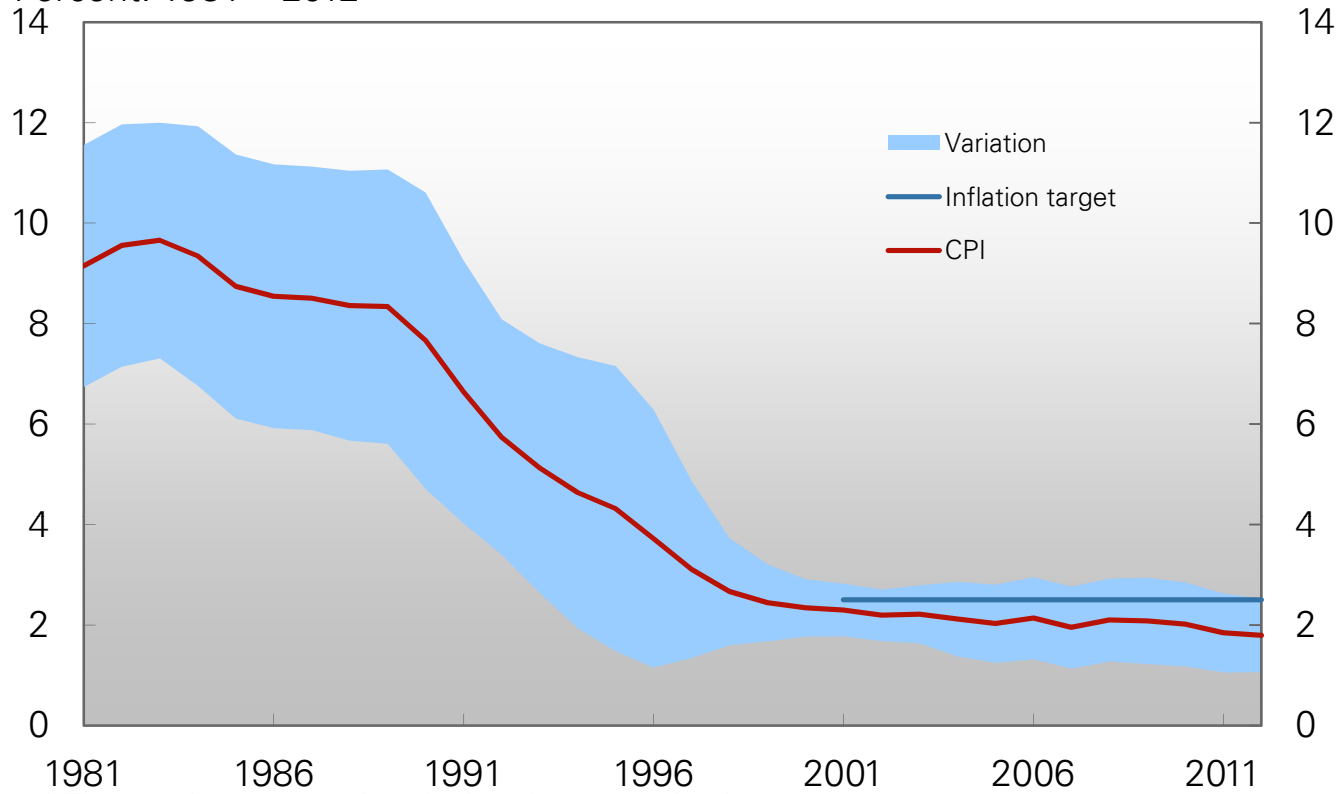
1) CPI adjusted for tax changes and excluding energy products

2) CPI adjusted for tax changes and excluding temporary changes in energy prices. Real time figures. See Norges Bank *Staff Memo* 7/2008 and 3/2009

3) Model-based indicator of underlying inflation. See Norges Bank *Economic Commentaries* 5/2010

Sources: Statistics Norway and Norges Bank

Chart 1.12 Inflation. Moving 10-year average¹⁾ and variation²⁾ in CPI³⁾.
Percent. 1981 – 2012



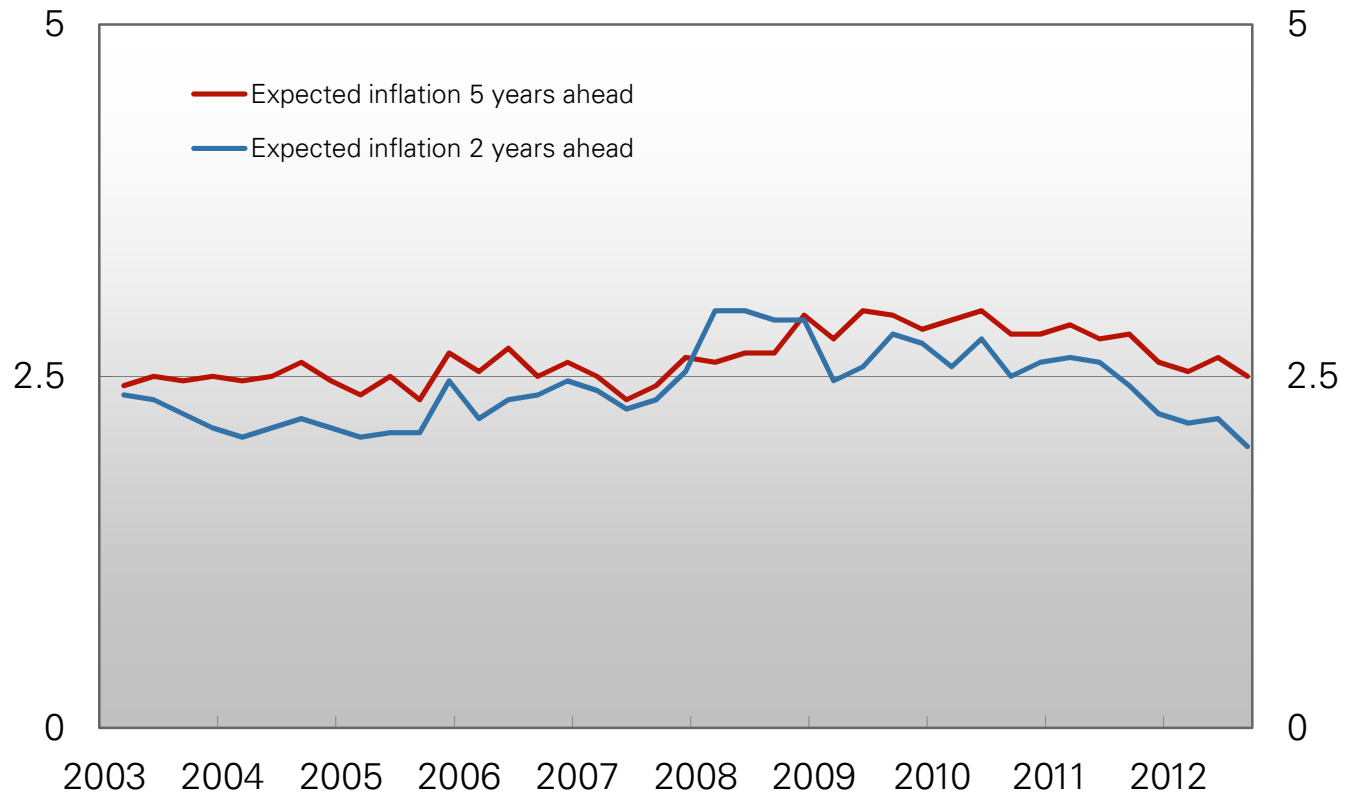
1) The moving average is calculated 10 years back

2) The band around the CPI is the variation in the CPI adjusted for tax changes and excluding energy products in the average period, measured by +/- one standard deviation

3) Estimate based on CPI projections in this *Report*

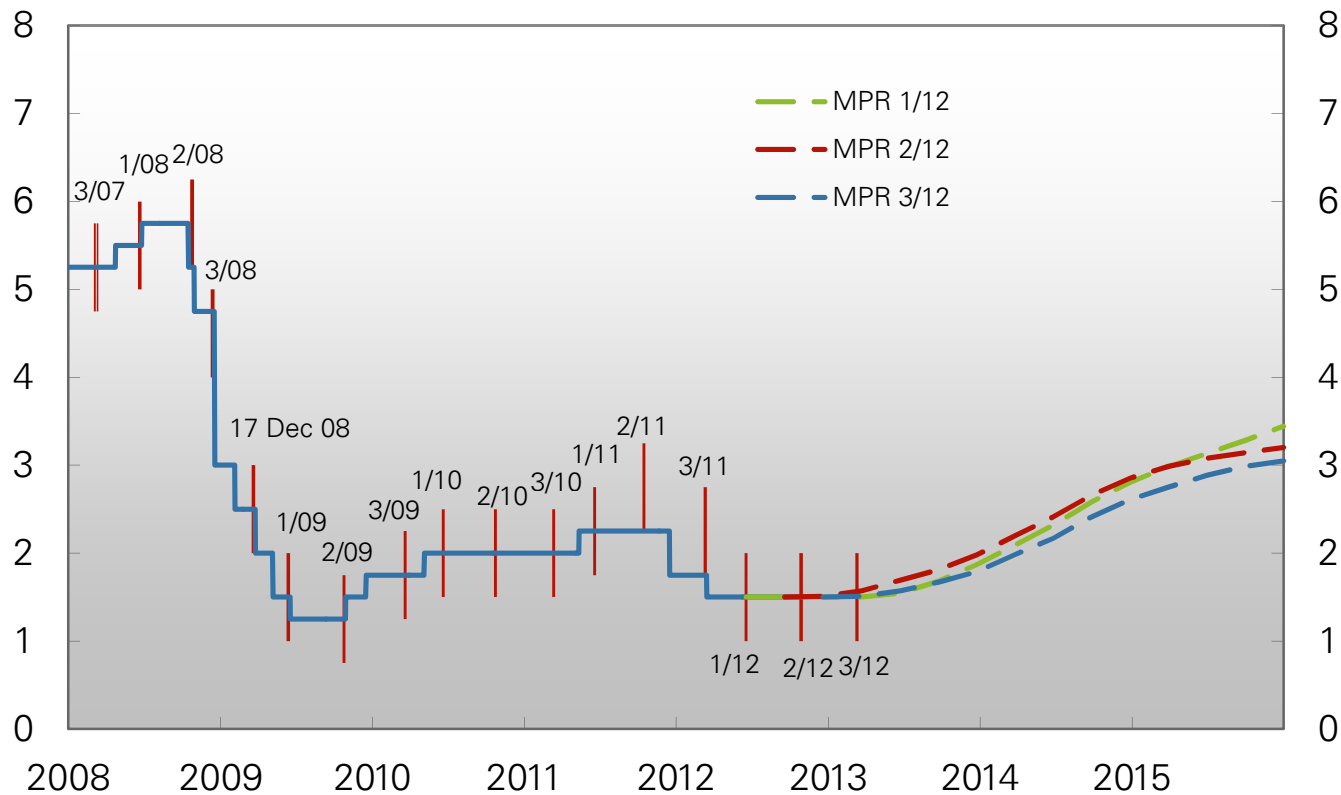
Sources: Statistics Norway and Norges Bank

Chart 1.13 Expected consumer price inflation 2 and 5 years ahead.¹⁾
Percent. 2003 Q1 – 2012 Q3



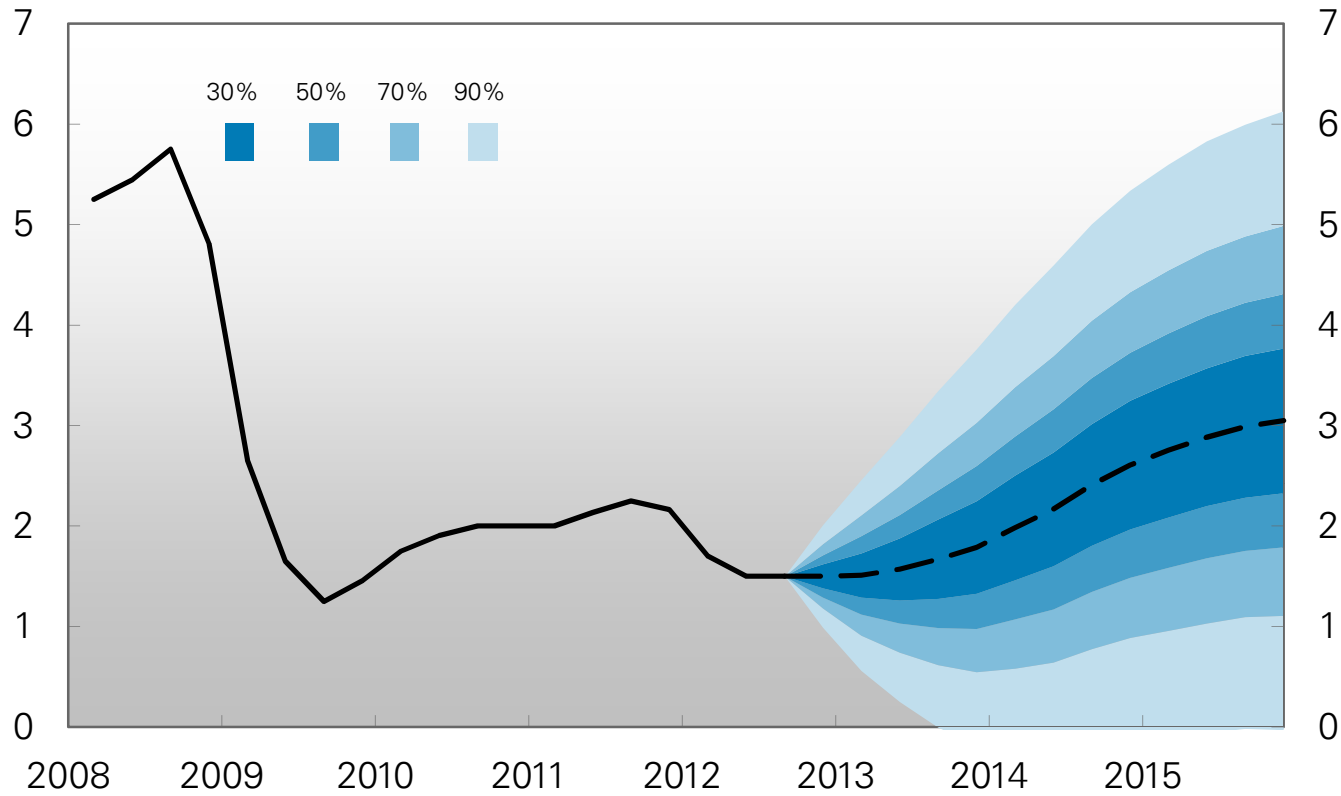
1) Average of expectations of employer/employee organisations and economists in the financial industry and academia
Sources: TNS Gallup and Opinion Perduco

Chart 1.14 Interval for the key policy rate at the end of each strategy period, actual developments and projected key policy rate in the baseline scenario. Percent. January 2008 – December 2015



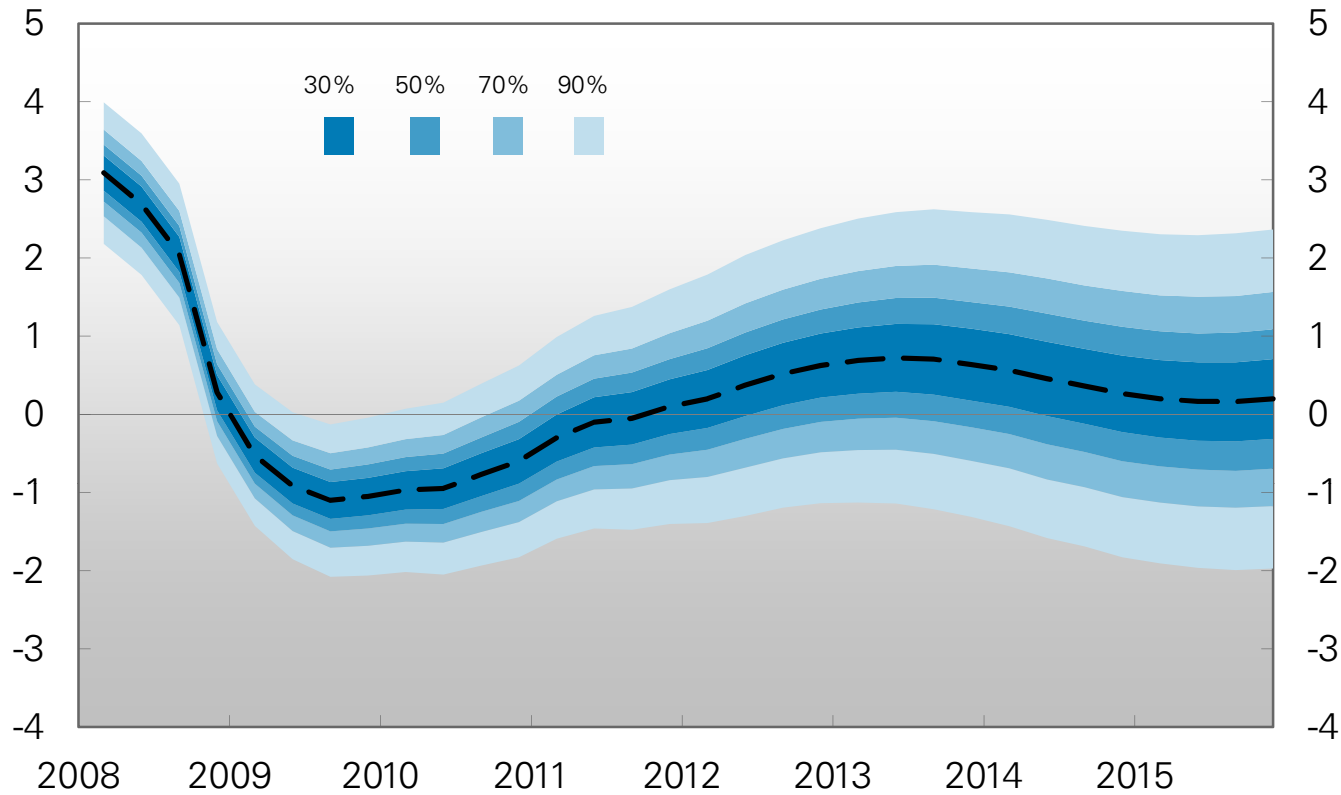
Source: Norges Bank

Chart 1.15a Projected key policy rate in the baseline scenario with probability distribution. Percent. 2008 Q1– 2015 Q4



Source: Norges Bank

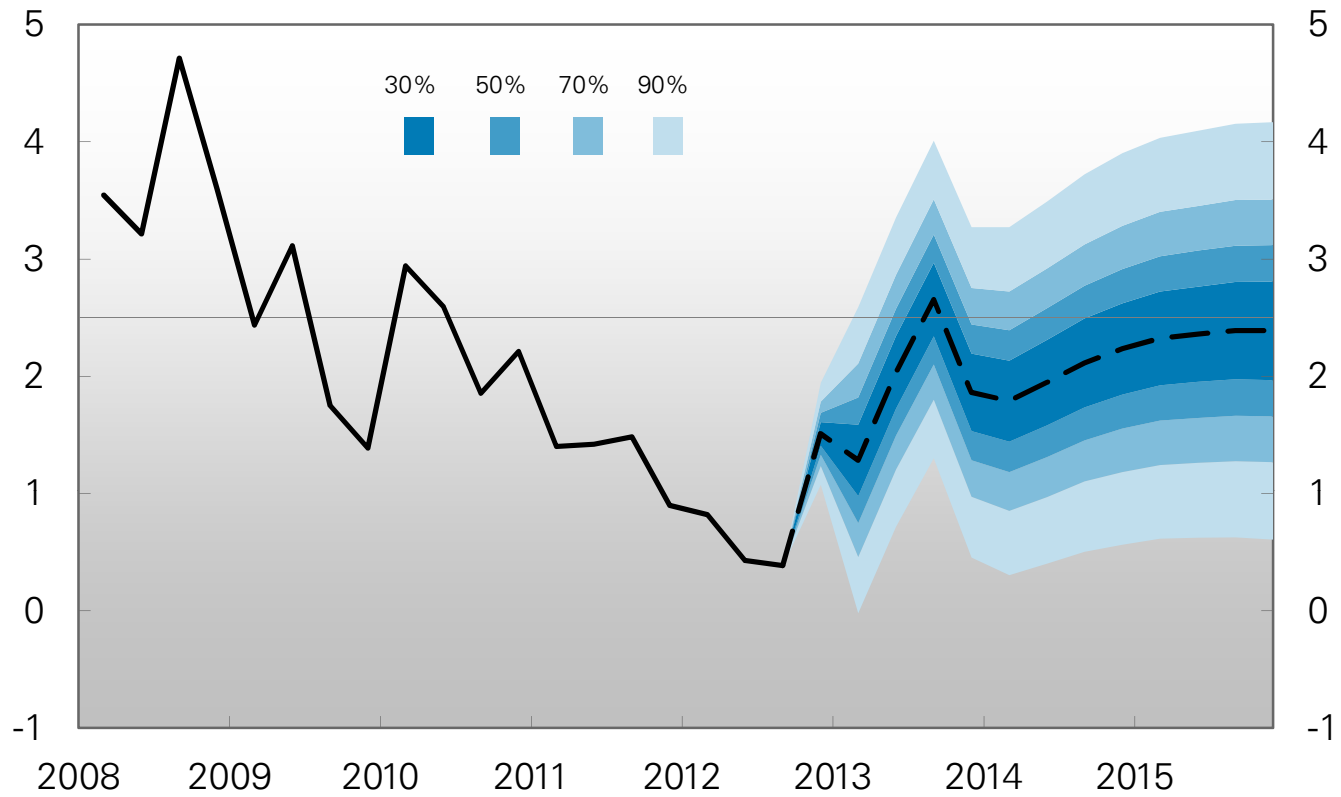
Chart 1.15b Projected output gap¹⁾ in the baseline scenario with probability distribution. Percent. 2008 Q1 – 2015 Q4



1) The output gap measures the percentage deviation between mainland GDP and projected potential mainland GDP

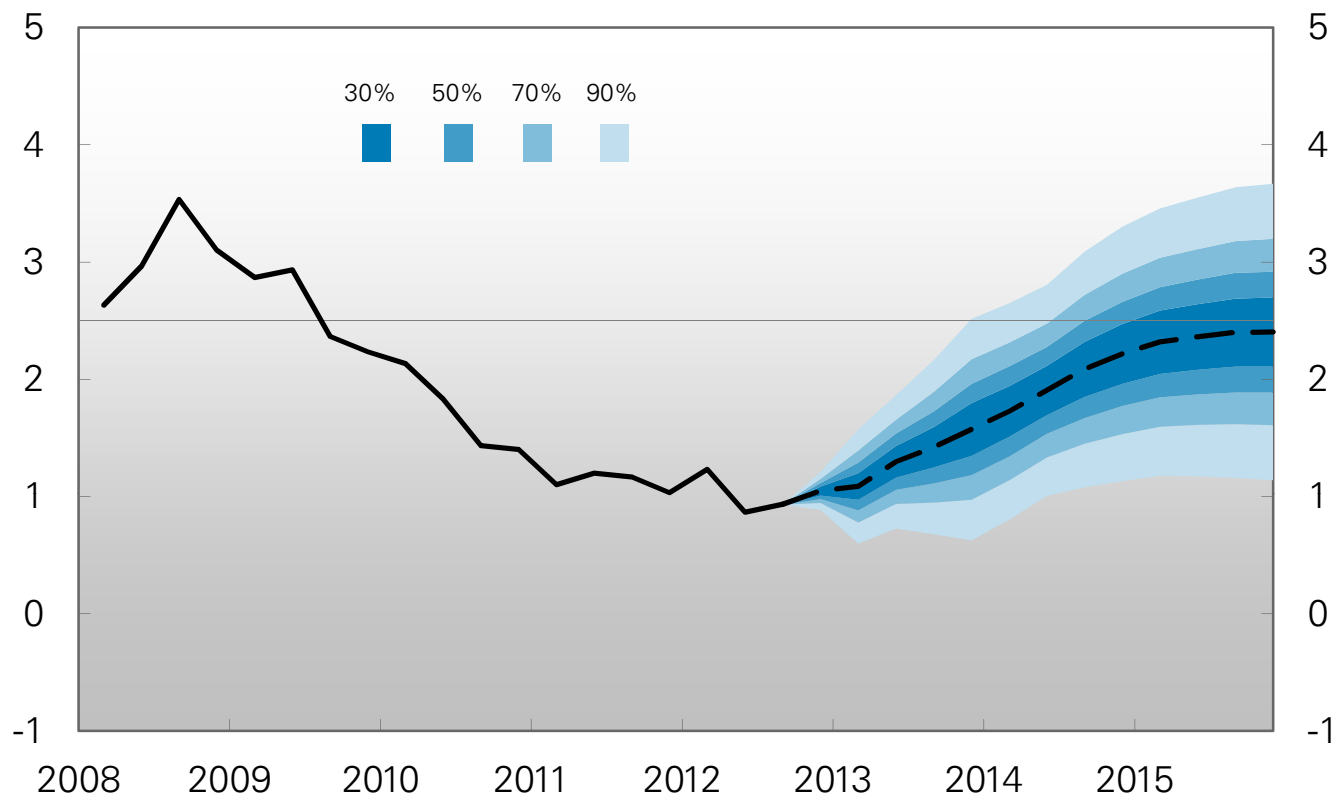
Source: Norges Bank

Chart 1.15c Projected CPI in the baseline scenario with probability distribution. Four-quarter change. Percent. 2008 Q1 – 2015 Q4



Sources: Statistics Norway and Norges Bank

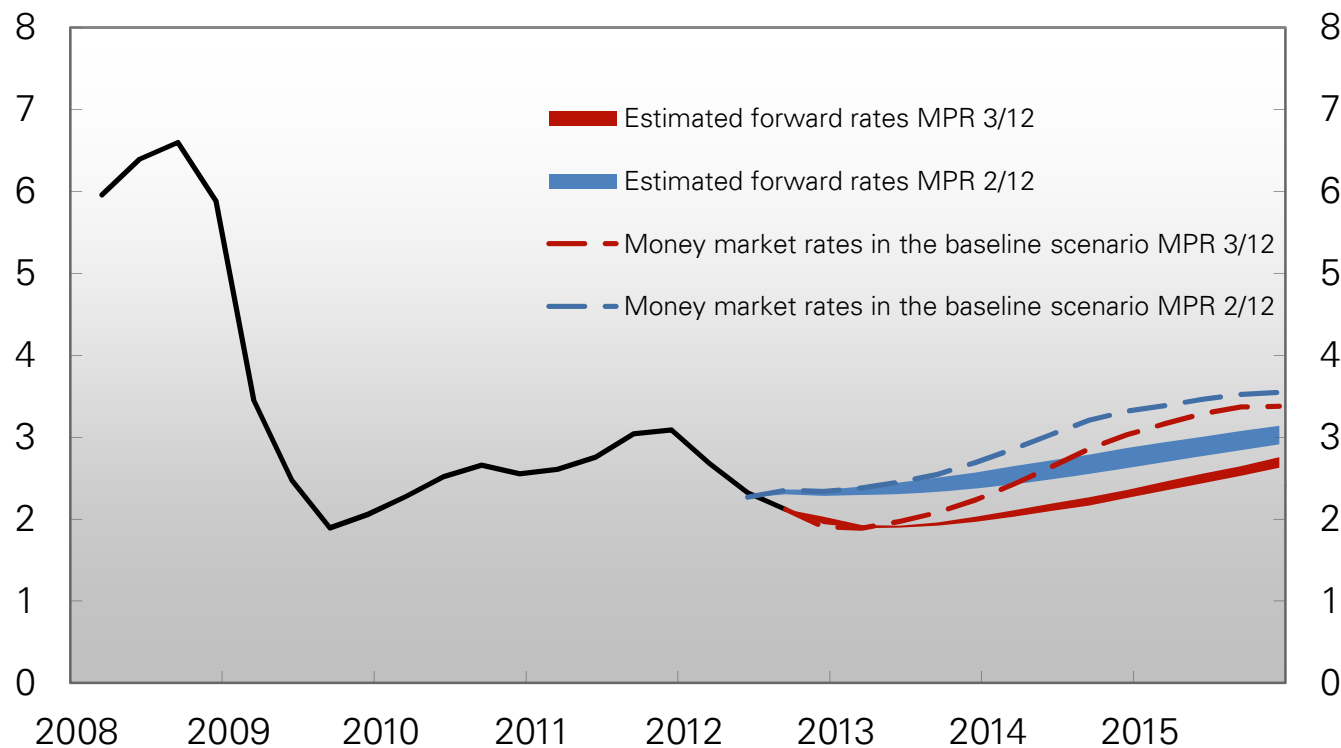
Chart 1.15d Projected CPIXE¹⁾ in the baseline scenario with probability distribution. Four-quarter change. Percent. 2008 Q1 – 2015 Q4



1) CPI adjusted for tax changes and excluding temporary changes in energy prices. As from August 2008, the CPIXE is a real-time series. See Norges Bank *Staff Memo* 7/2008 and 3/2009

Source: Norges Bank

Chart 1.16 Three-month money market rates in the baseline scenario¹⁾ and estimated forward rates²⁾. Percent. 2008 Q1 – 2015 Q4

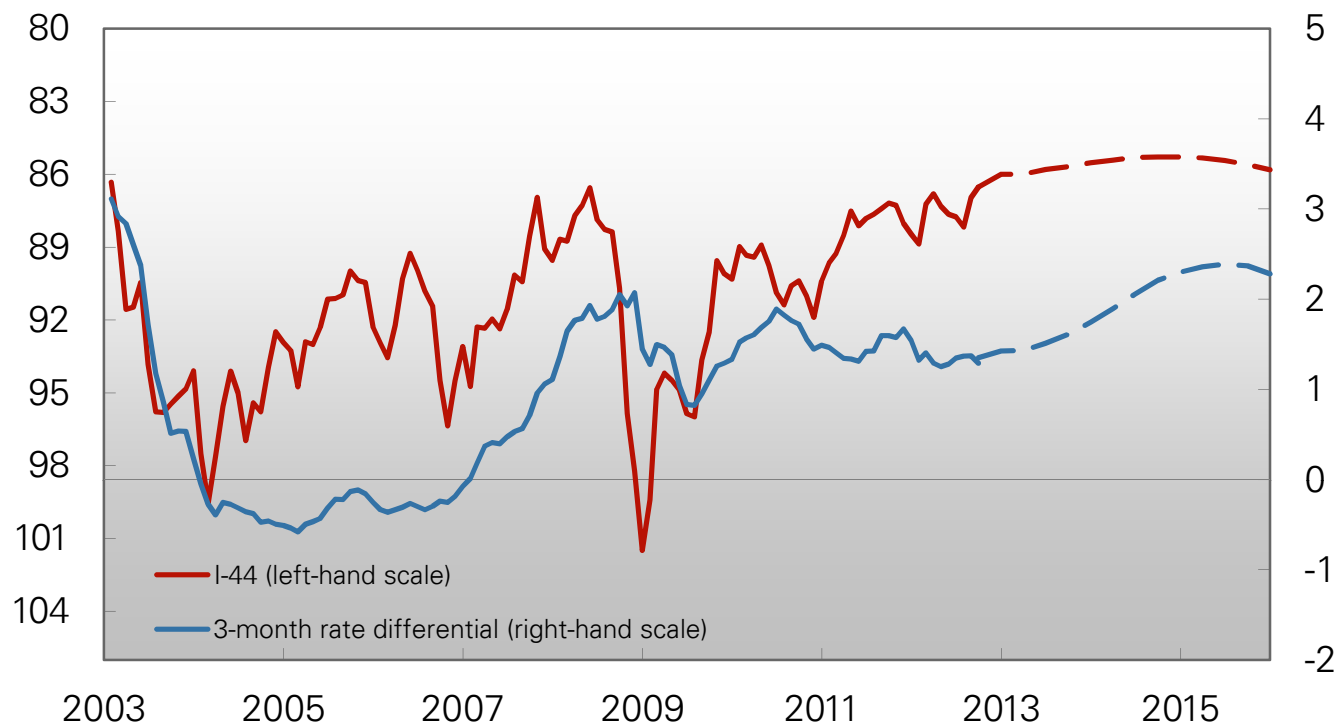


1) Key policy rate in the baseline scenario plus premiums in the Norwegian money market. The calculations are based on the assumption that announced interest rate changes are priced into the money market.

2) Forward rates are based on money market rates and interest rate swaps. The blue and red bands show the highest and lowest forward rates in the period 4 June – 15 June 2012 and 11 October – 25 October

Sources: Thomson Reuters and Norges Bank

Chart 1.17 Three-month money market rate differential between Norway¹⁾ and trading partners and the import-weighted exchange rate index (I-44)²⁾. January 2003 – December 2015³⁾



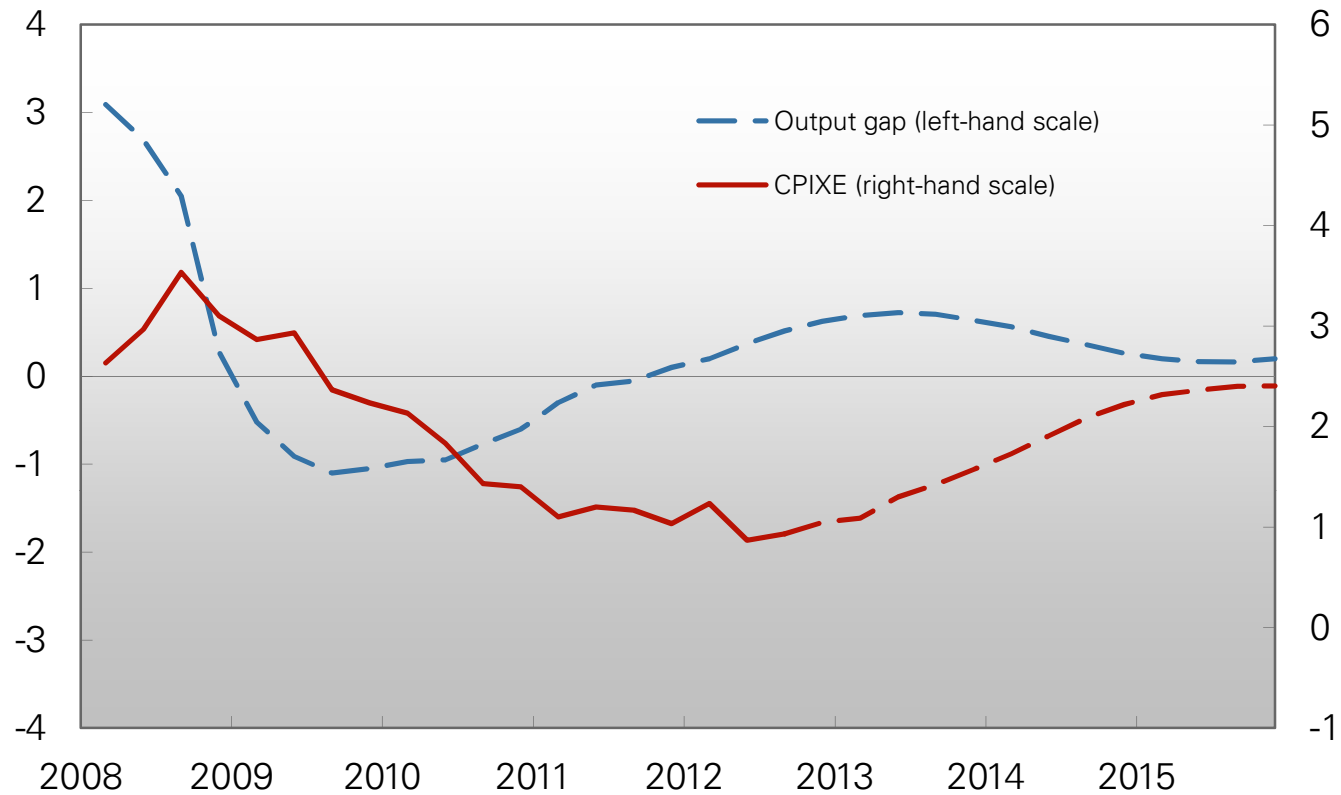
1) Key policy rate in the baseline scenario plus premiums in the Norwegian money market. The calculations are based on the assumption that announced interest rate changes are priced into the money market

2) A positive slope denotes a stronger krone exchange rate

3) Monthly figures from January 2003 and Norges Bank projections from 2012 Q4

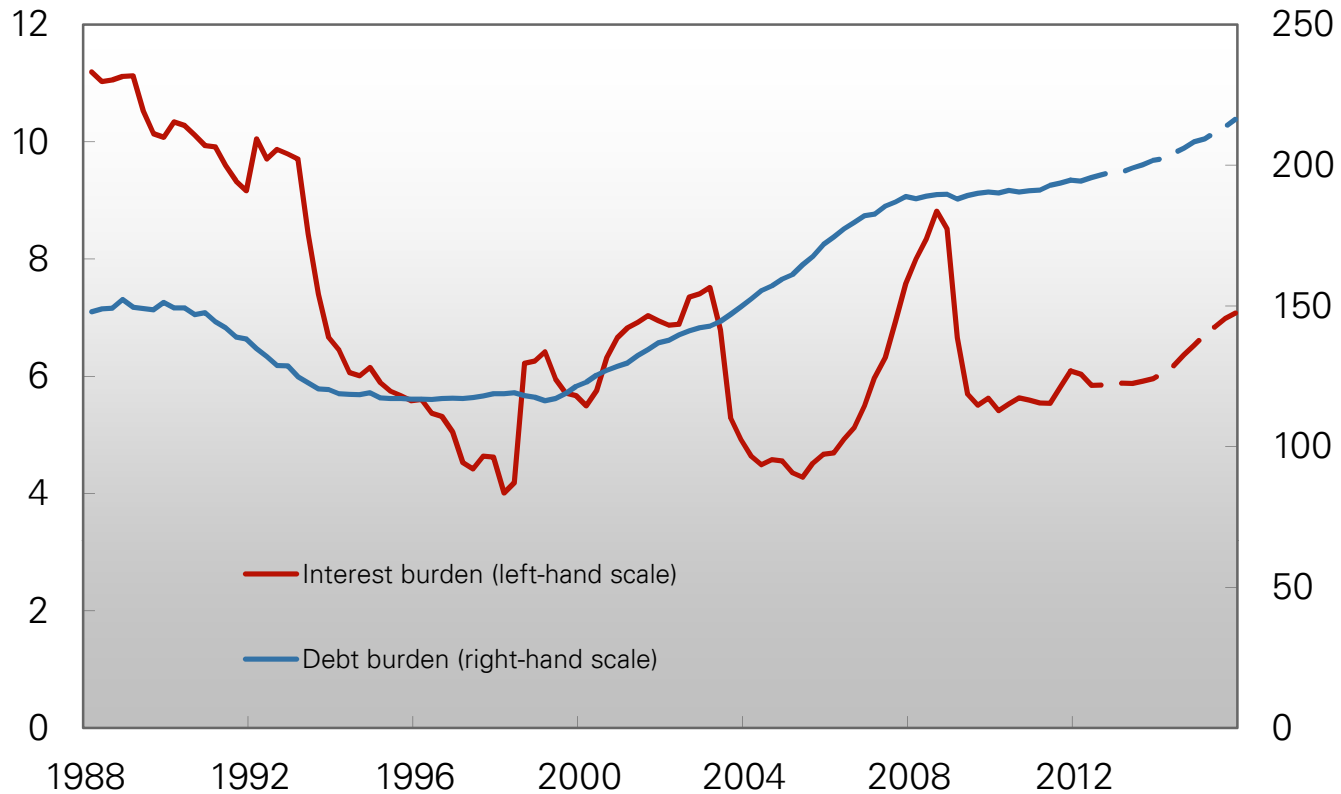
Sources: Thomson Reuters and Norges Bank

Chart 1.18 Projected inflation¹⁾ and output gap in the baseline scenario.
Percent. 2008 Q1 – 2015 Q4



1) CPIXE: CPI adjusted for tax changes and excluding temporary changes in energy prices.
As from August 2008, the CPIXE is a real-time series. See Norges Bank *Staff Memo*
7/2008 and 3/2009
Source: Norges Bank

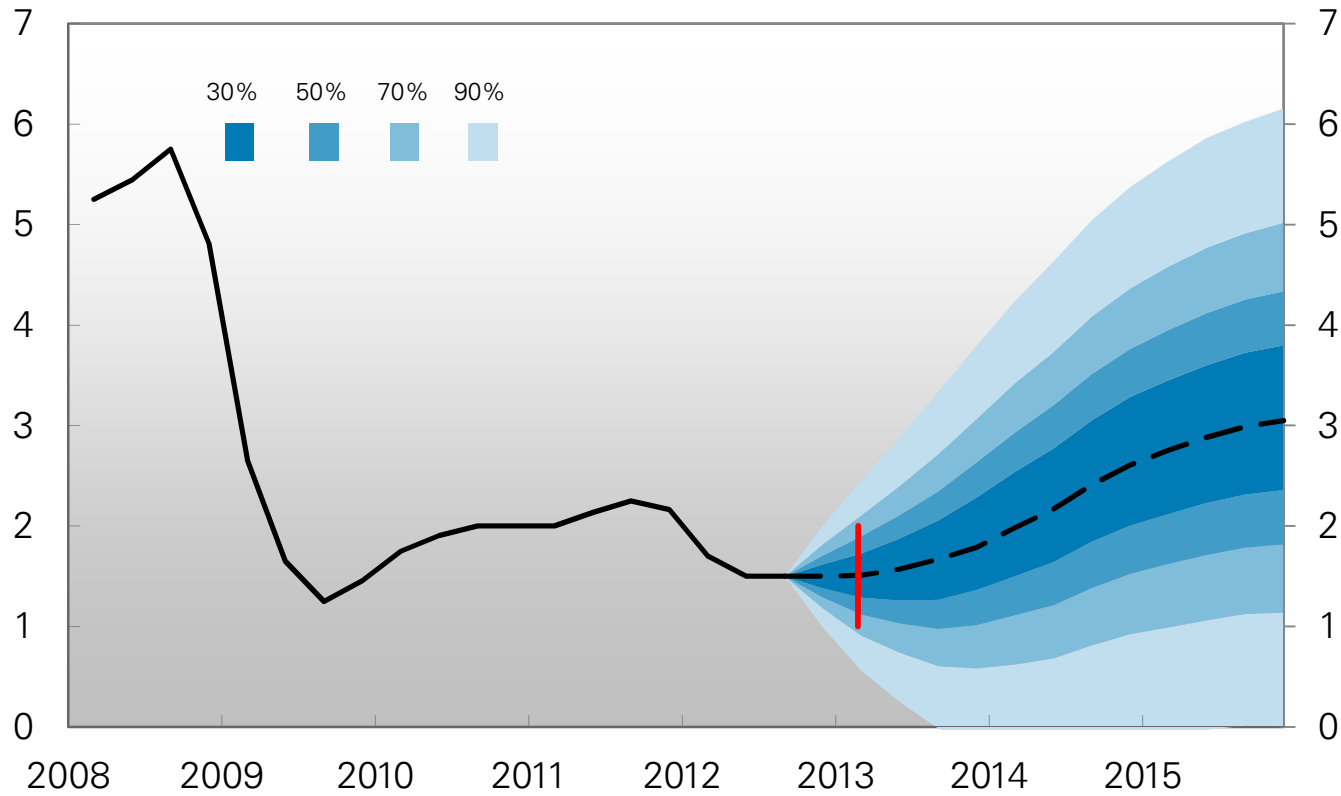
Chart 1.19 Household debt burden¹⁾ and interest burden²⁾.
 Percent. Quarterly figures. 1988 Q1 – 2015 Q4



1) Loan debt as a percentage of disposable income adjusted for estimated reinvested dividends for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2015
 2) Interest expenses after tax as a percentage of disposable income adjusted for estimated reinvested dividends for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2015 plus interest expenses

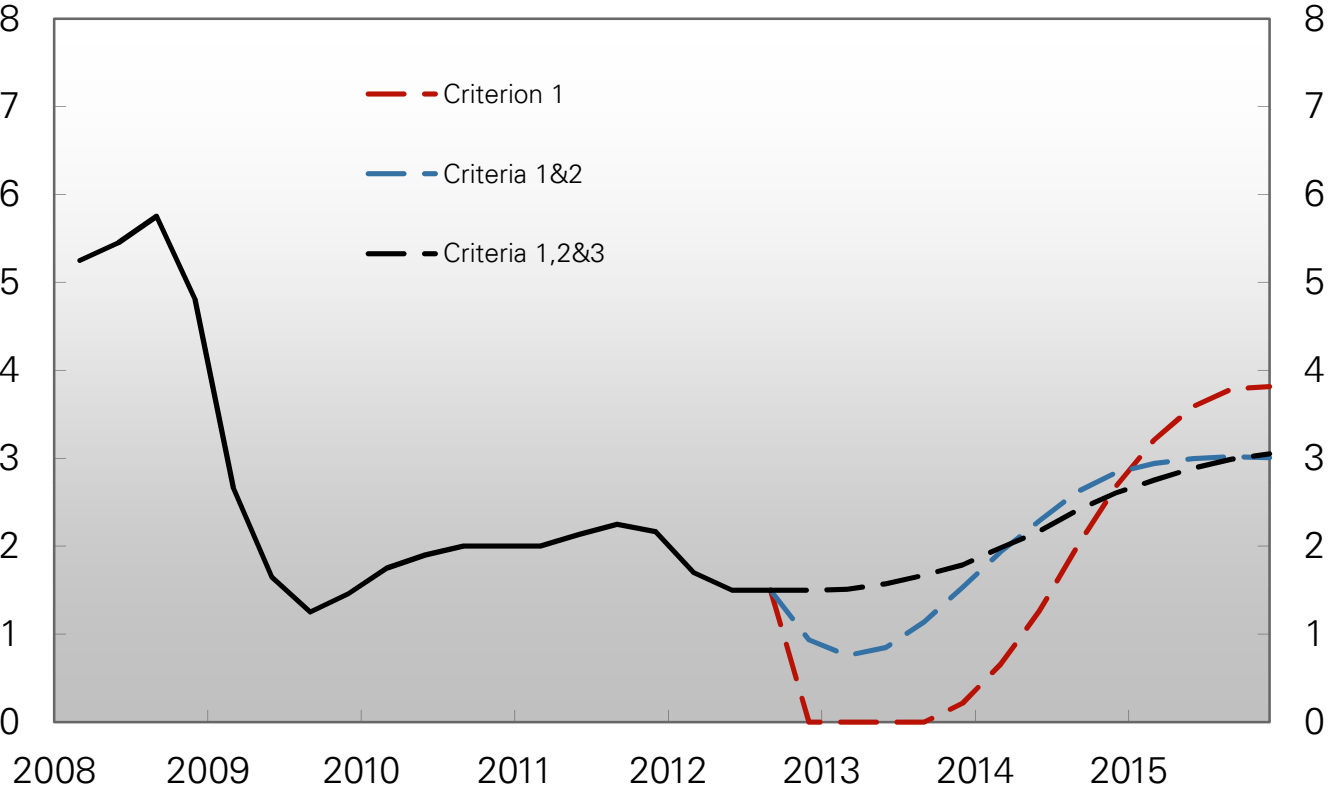
Sources: Statistics Norway and Norges Bank

Chart 1.20 Projected key policy rate in the baseline scenario with probability distribution. Percent. 2008 Q1– 2015 Q4



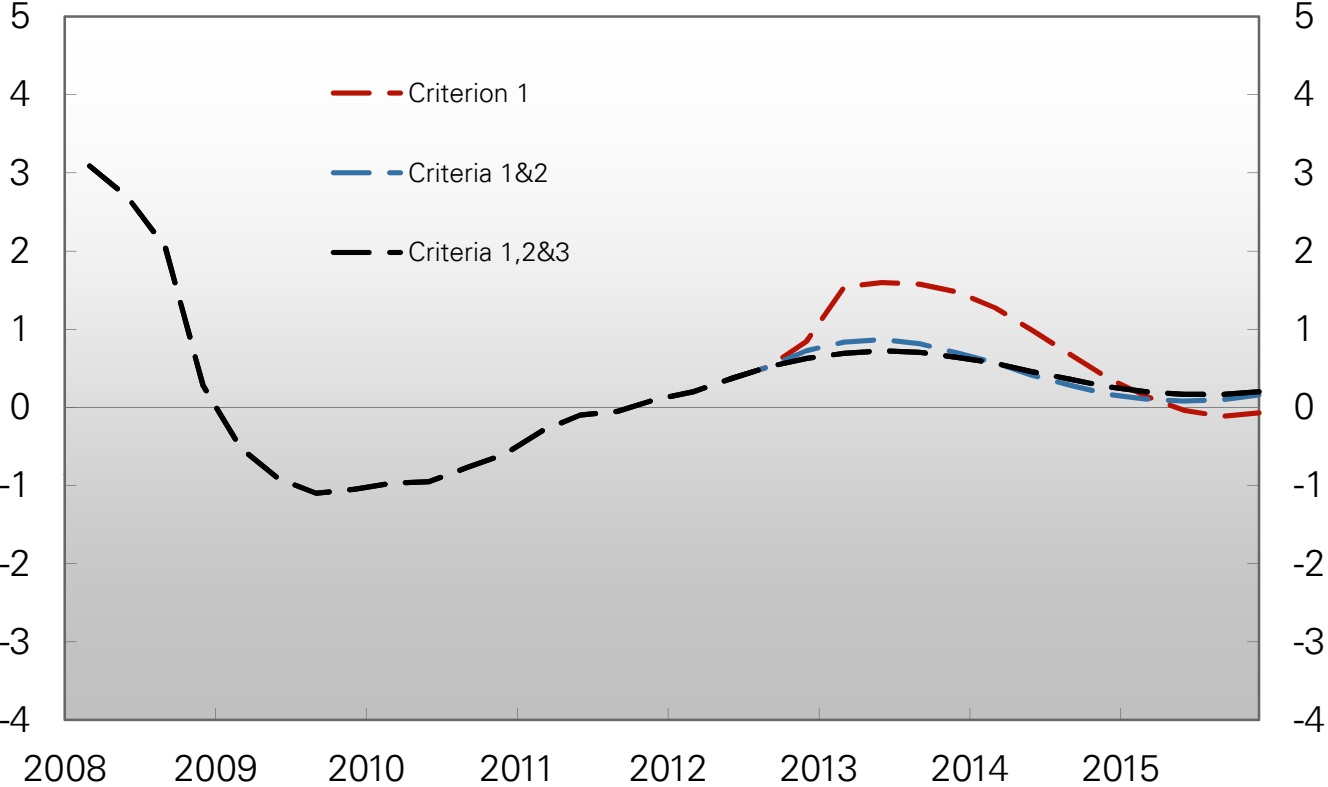
Source: Norges Bank

Chart 1.21a Key policy rate. Percent. 2008 Q1 – 2015 Q4



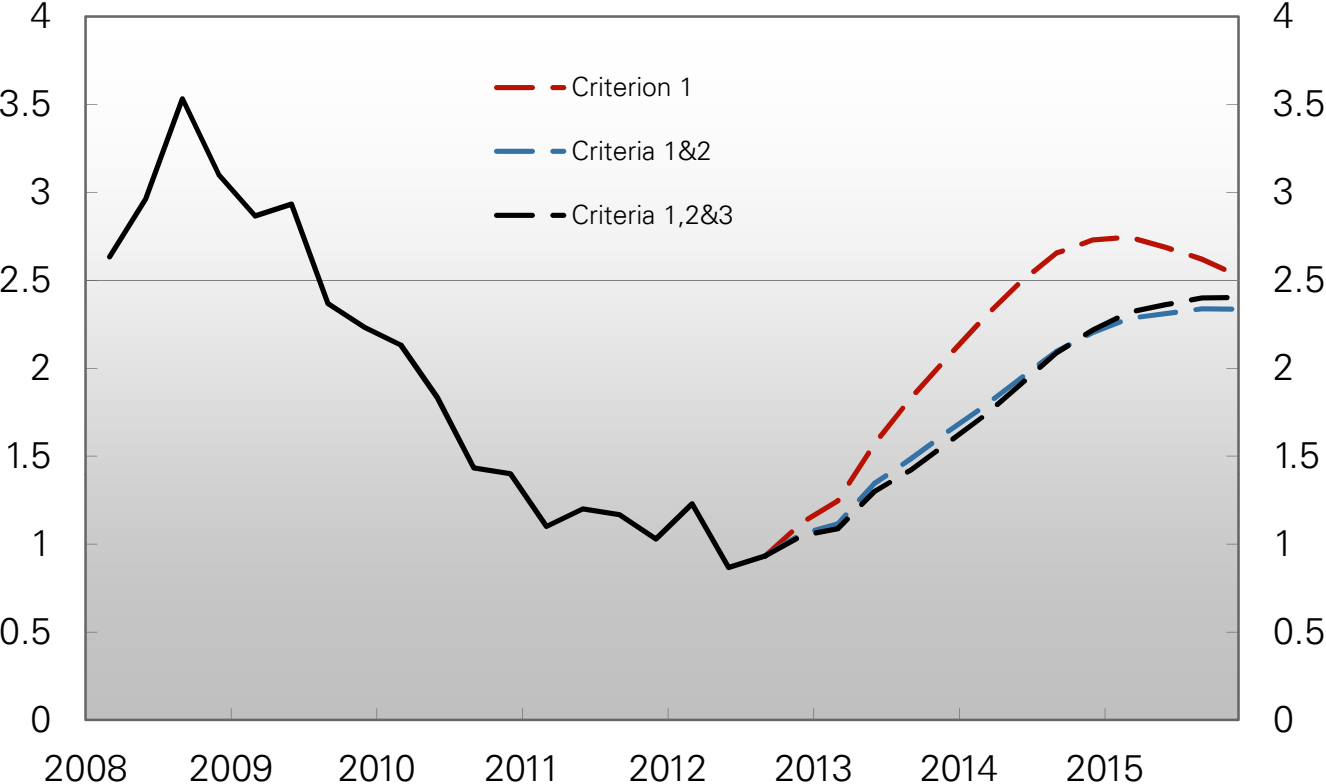
Source: Norges Bank

Chart 1.21b Output gap. Percent. 2008 Q1 – 2015 Q4



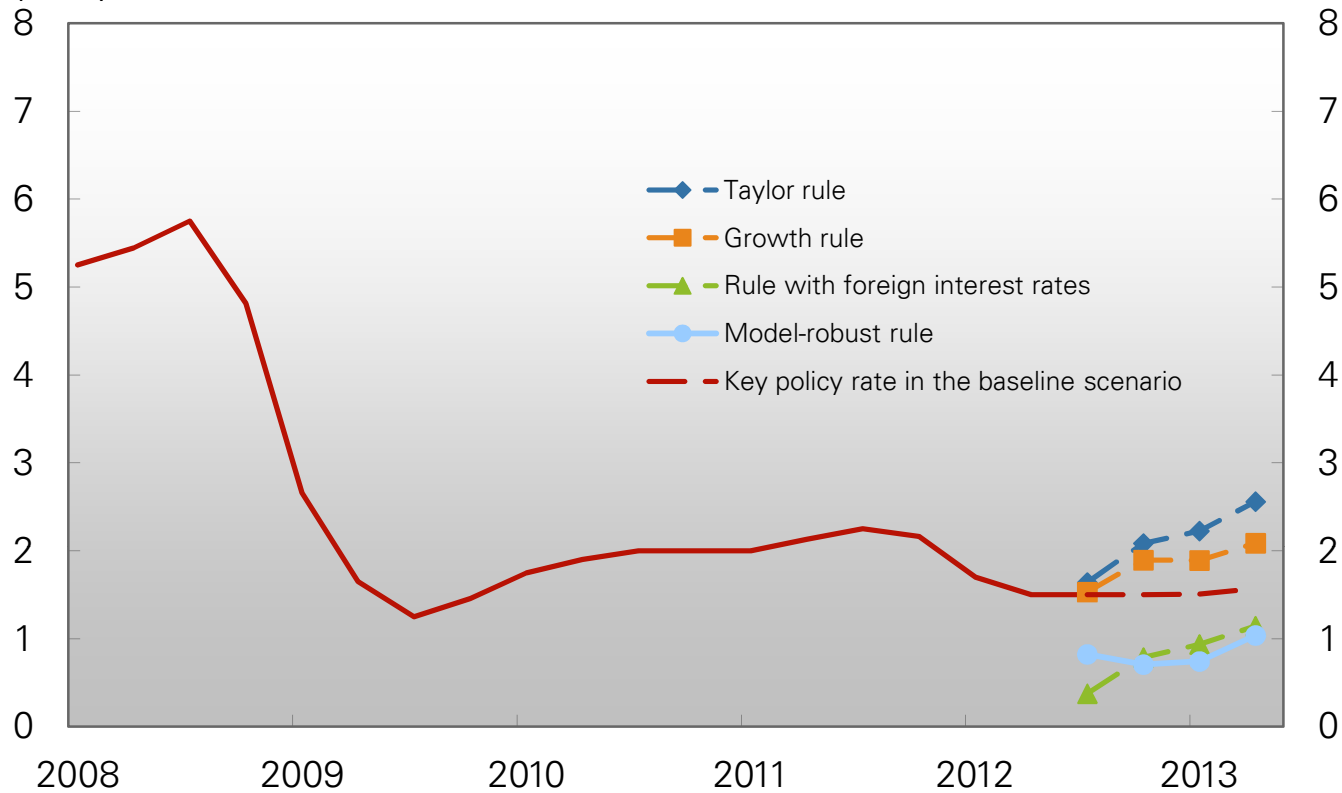
Source: Norges Bank

Chart 1.21c CPIXE¹⁾. Four-quarter change. Percent. 2008 Q1 – 2015 Q4



1) CPI adjusted for tax changes and excluding temporary changes in energy prices.
 As from August 2008, the CPIXE is a real-time series. See Norges Bank Staff Memo 7/2008 and 3/2009
 Source: Norges Bank

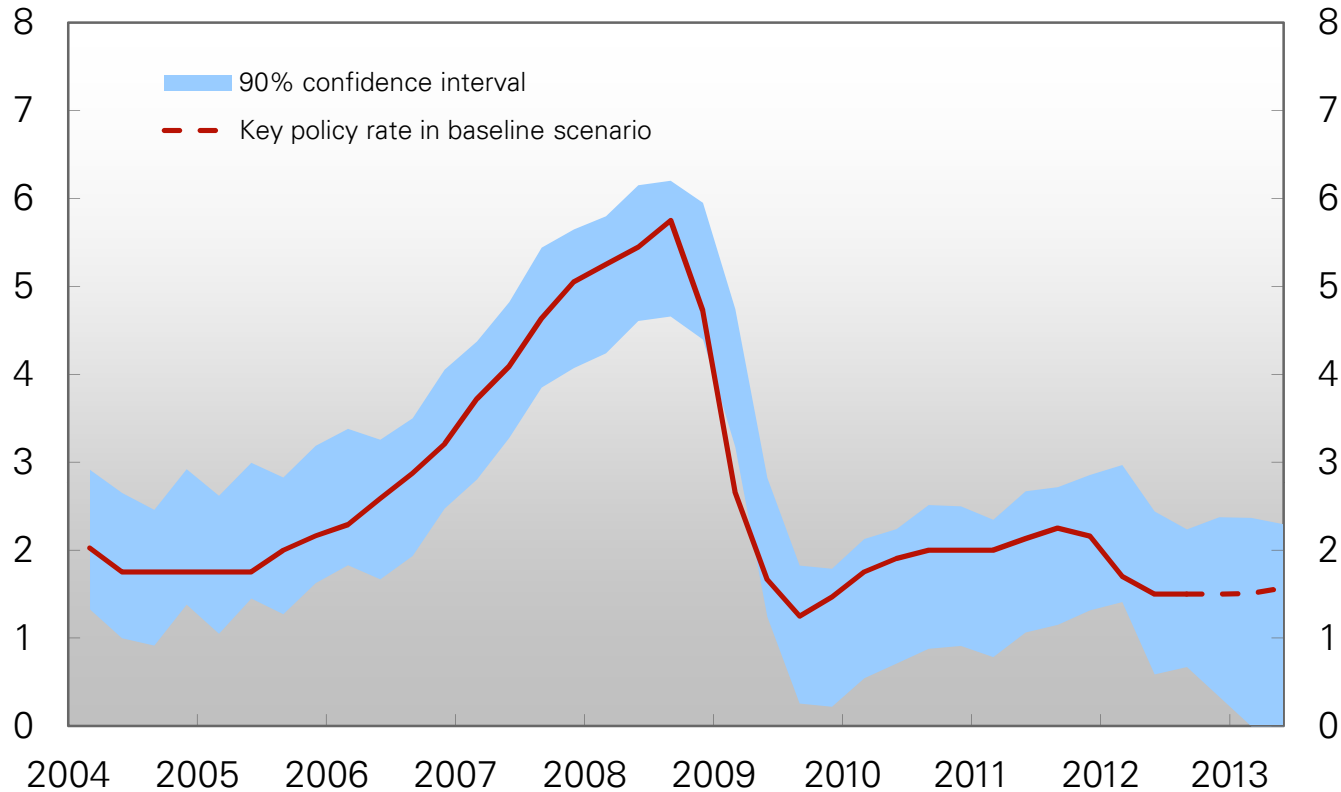
Chart 1.22 Key policy rate and calculations based on simple monetary policy rules.¹⁾ Percent. 2008 Q1 – 2013 Q2



1) The calculations are based on Norges Bank's projections for the output gap, growth gap, consumer prices and 3-month money market rates among trading partners. To ensure comparability with the key policy rate, the simple rules are adjusted for risk premiums in 3-month money market rates

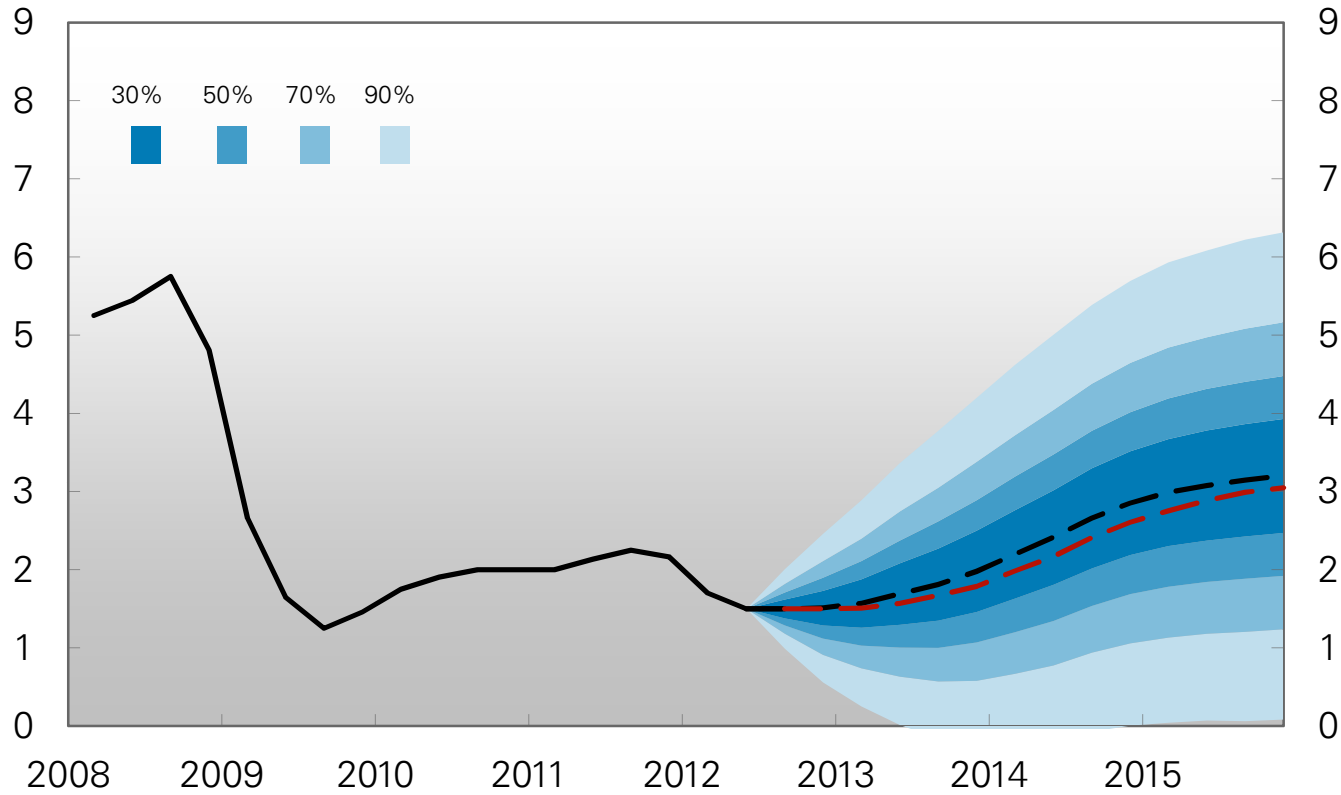
Source: Norges Bank

Chart 1.23 Key policy rate and interest rate developments that follow from Norges Bank's average pattern of interest rate setting.¹⁾
 Percent. 2004 Q1 – 2013 Q2



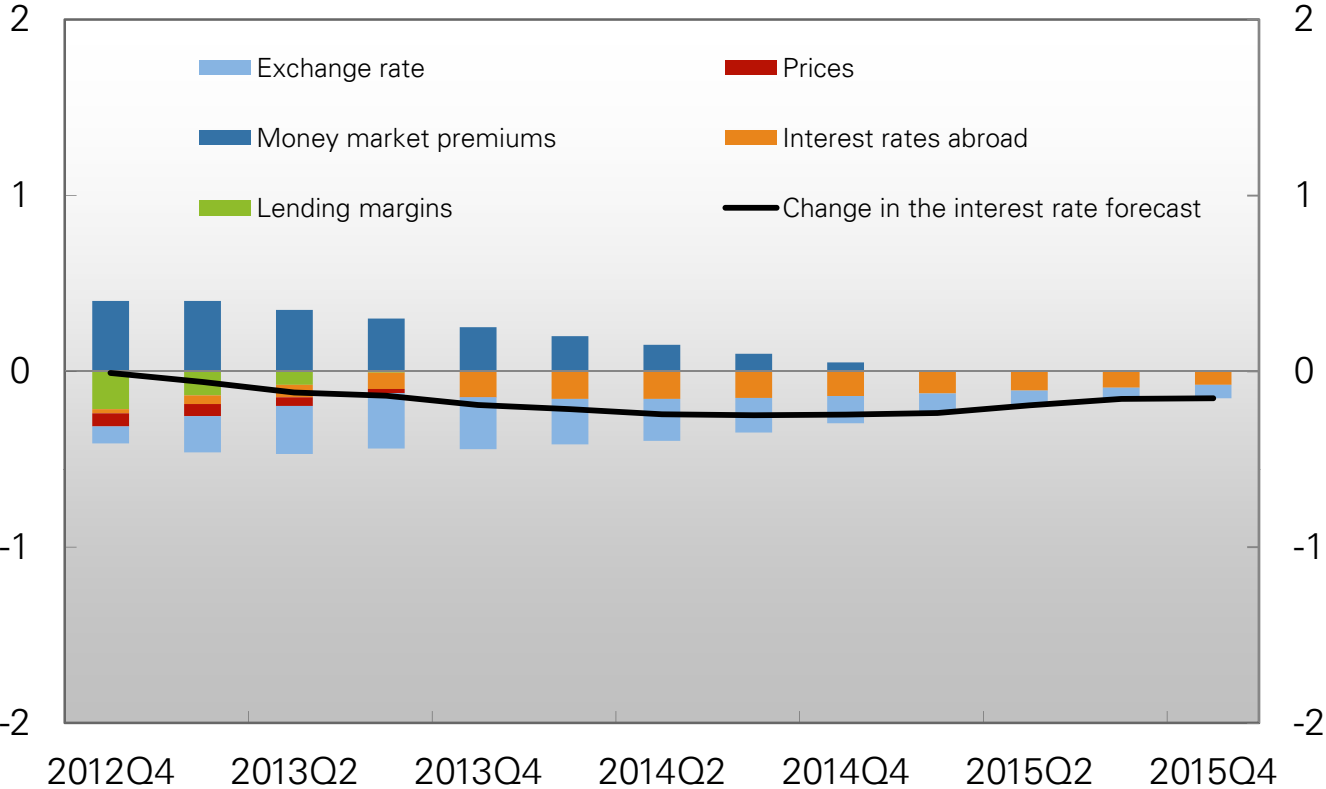
1) Interest rate movements are explained by developments in inflation, mainland GDP growth, wage growth and 3-month money market rates among trading partners. The equation is estimated over the period 1999 Q1 – 2012 Q2. See *Staff Memo 3/2008* for further discussion
 Source: Norges Bank

Chart 1 Key policy rate in the baseline scenario in MPR 2/12 with probability distribution and key policy rate in the baseline scenario in MPR 3/12 (red line). Percent. 2008 Q1 – 2015 Q4



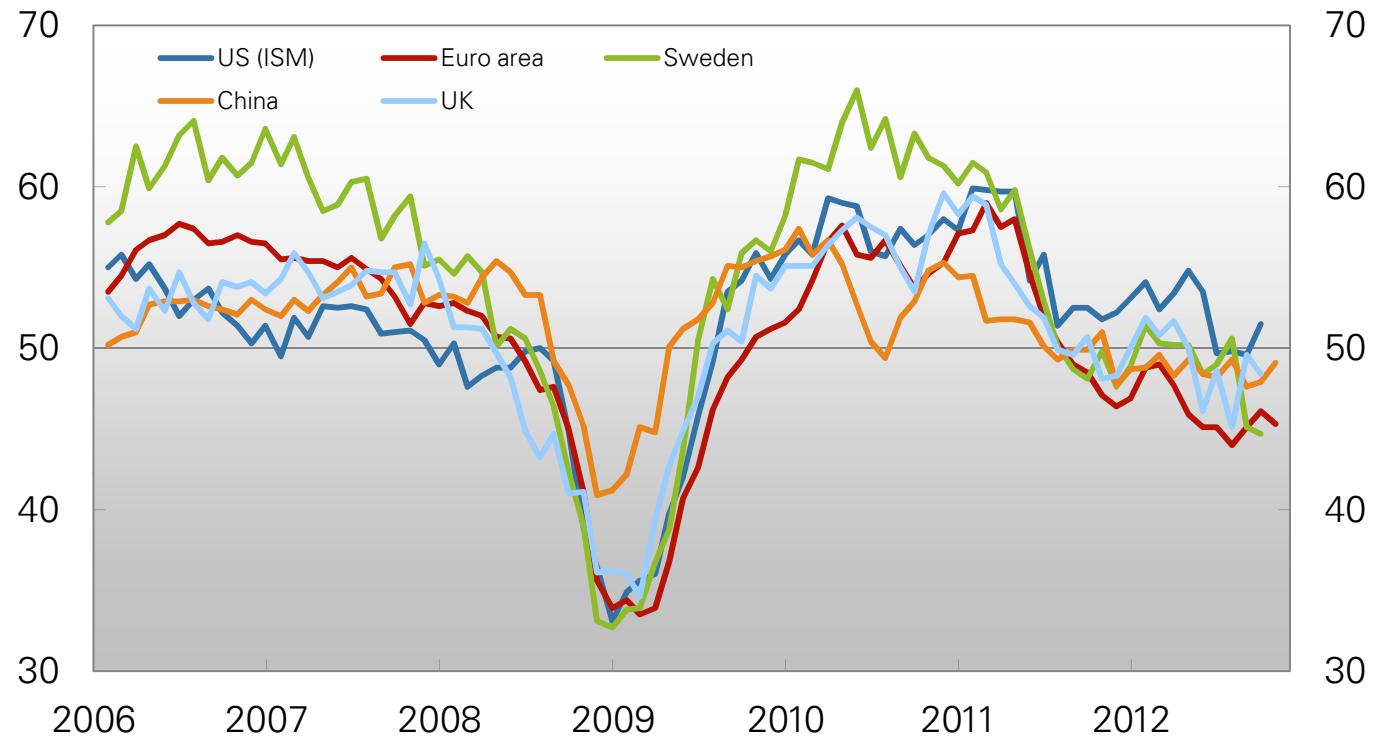
Source: Norges Bank

Chart 2 Factors behind changes in the interest rate forecast since MPR 2/12.
 Accumulated contribution. Percentage points. 2012 Q4 – 2015 Q4



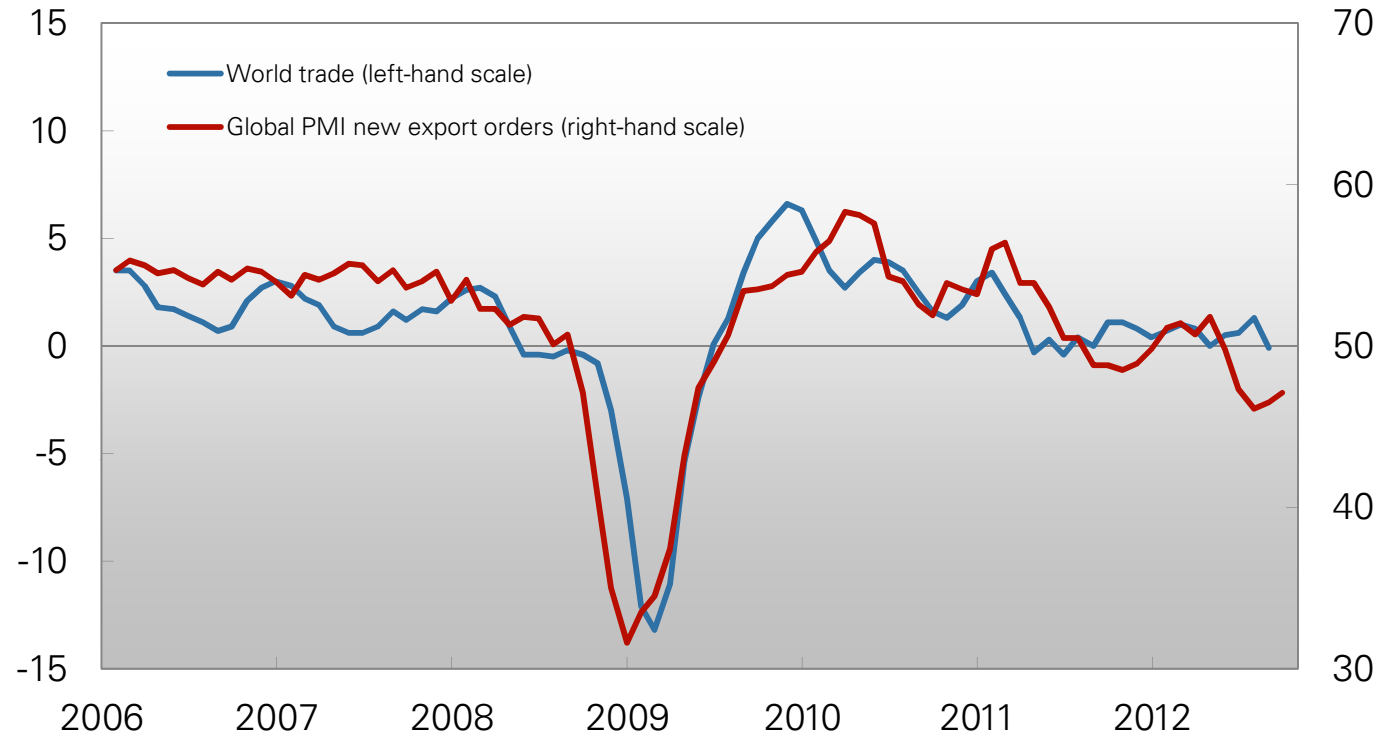
Source: Norges Bank

Chart 2.1 Manufacturing PMIs. Diffusion index centred around 50.
January 2006 – October 2012



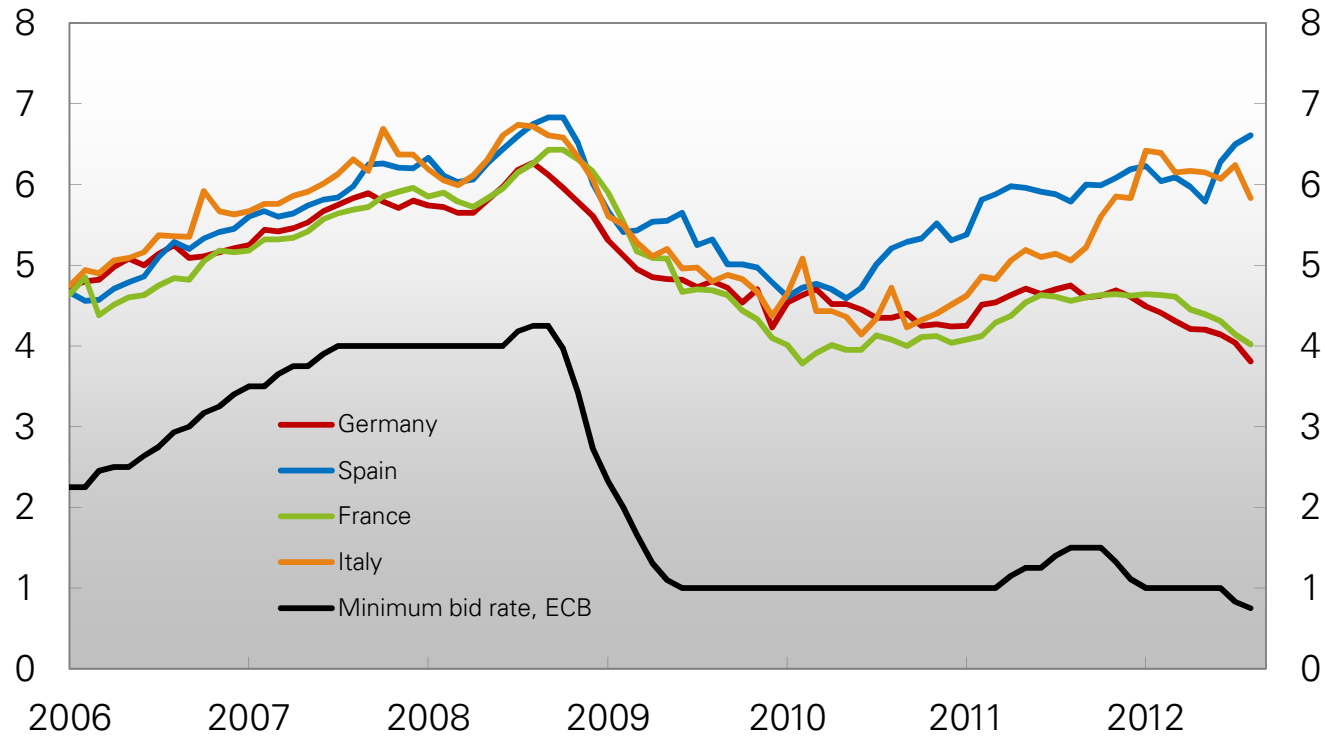
Source: Thomson Reuters

Chart 2.2 Growth in world trade and indicator of global exports. World trade: Three-month moving average. Past three months over previous three months. Percent. Global PMI export orders: Diffusion index centred around 50. January 2006 – September 2012



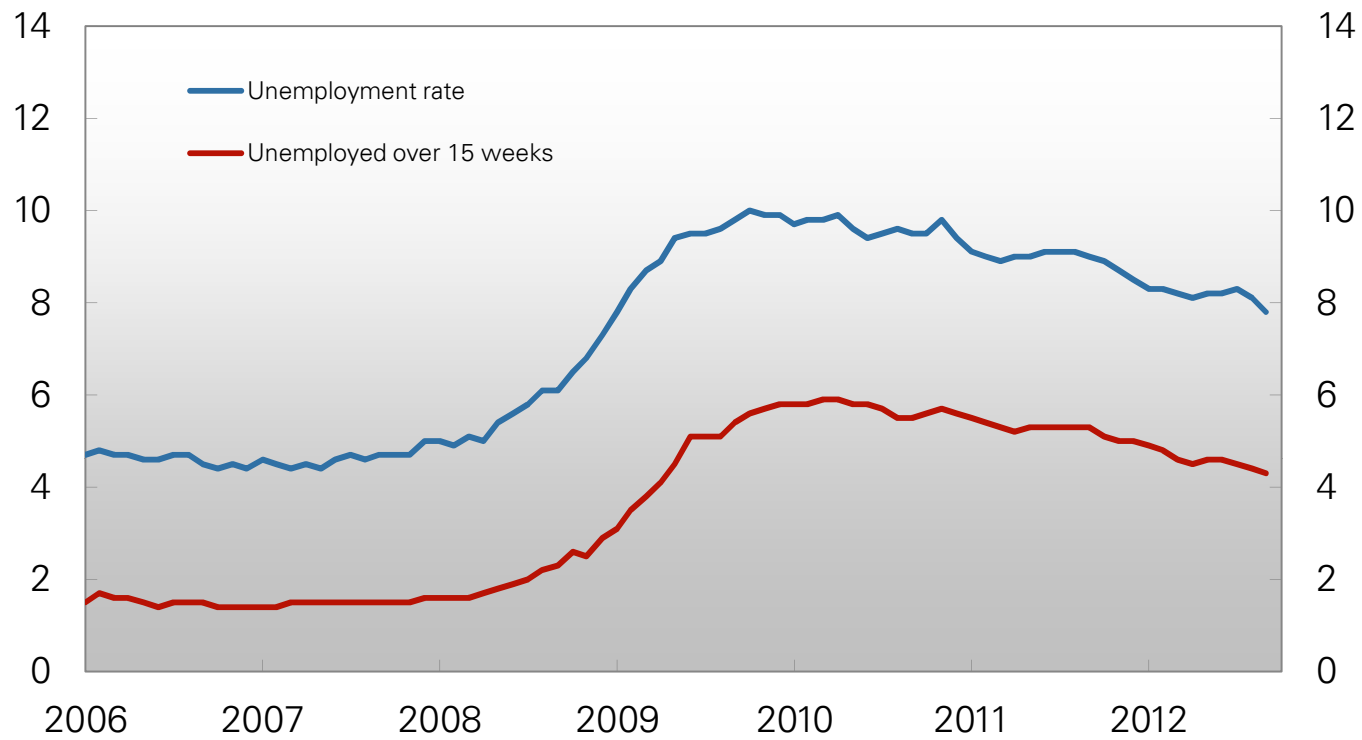
Source: Thomson Reuters

Chart 2.3 Interest rate on new business loans to non-financial corporations. Loans up to EUR 1m. Maturity between 1 and 5 years. Key policy rate. Monthly figures. Percent. January 2006 - August 2012



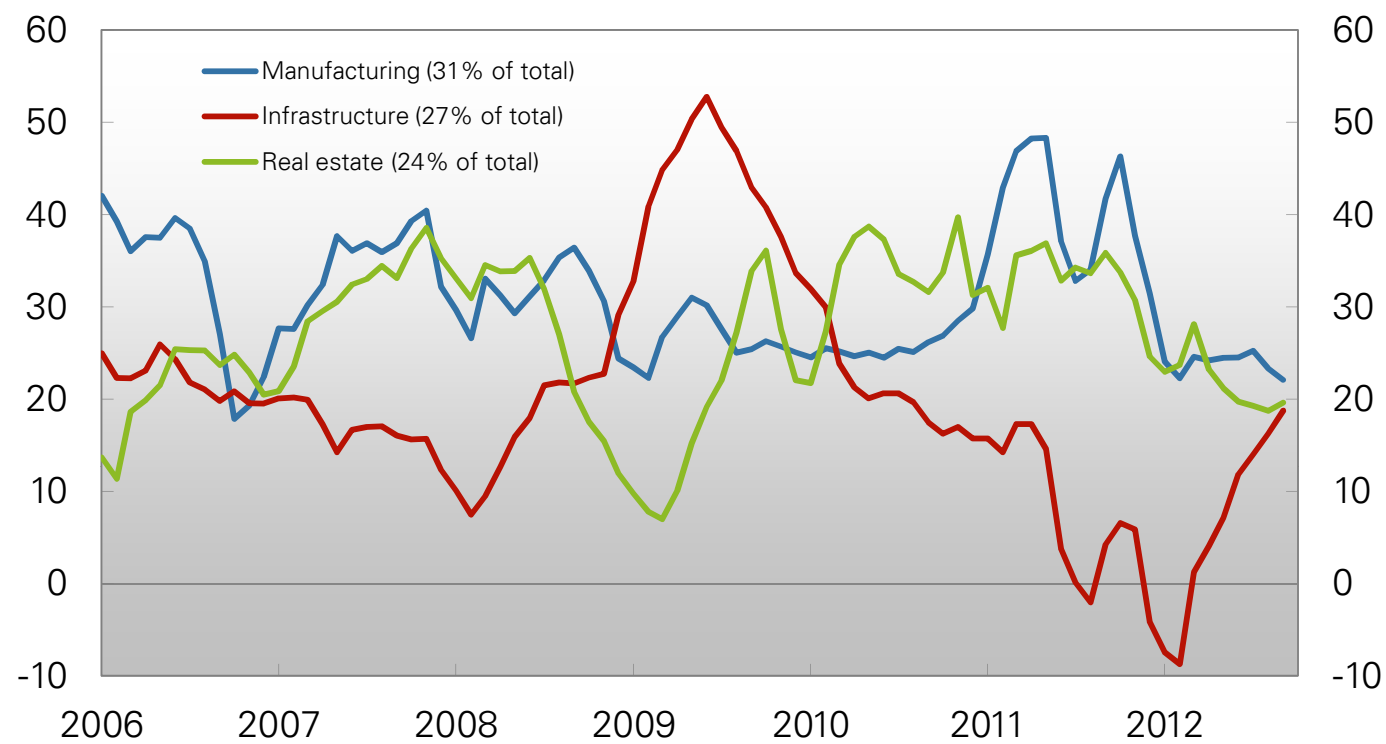
Source: ECB

Chart 2.4 US unemployment. Percent of labour force. January 2006 – September 2012



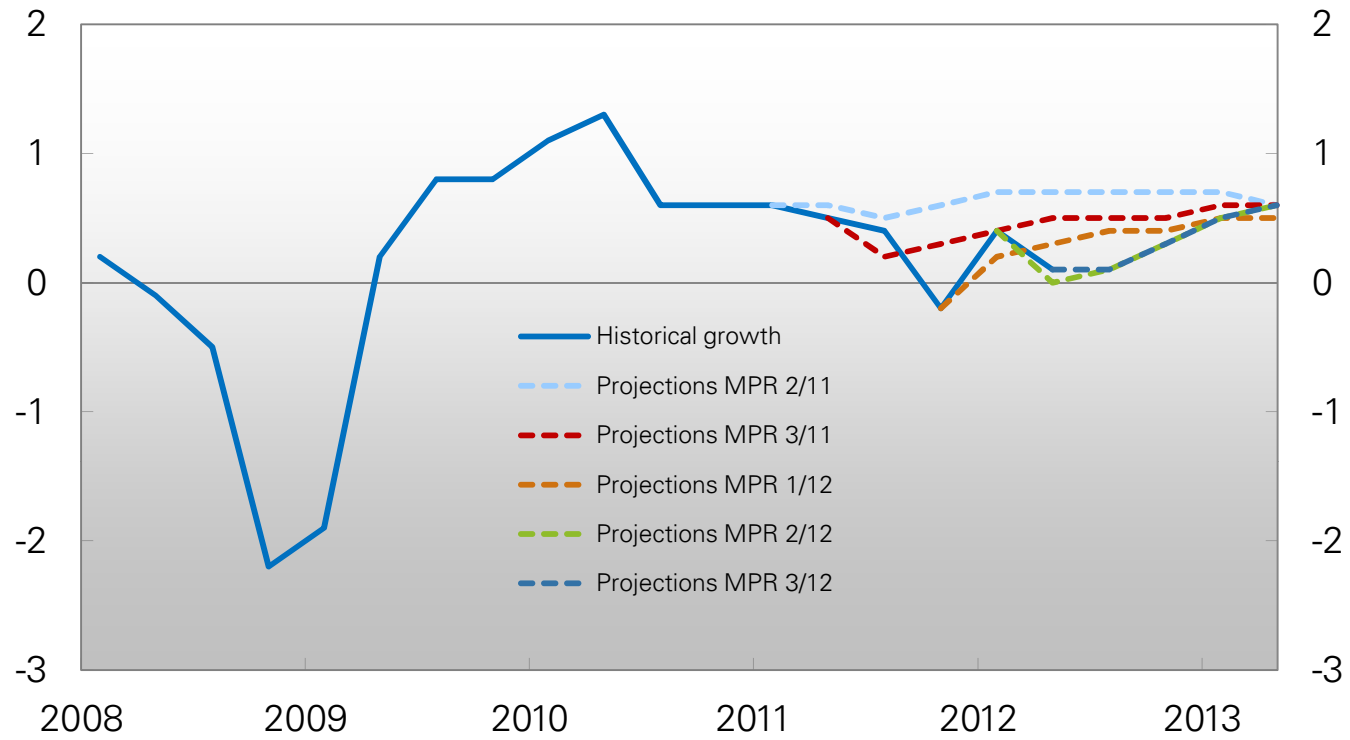
Source: Thomson Reuters

Chart 2.5 Fixed asset investment in China. Value. Three-month moving average. 12-month change. Percent. January 2006 - September 2012



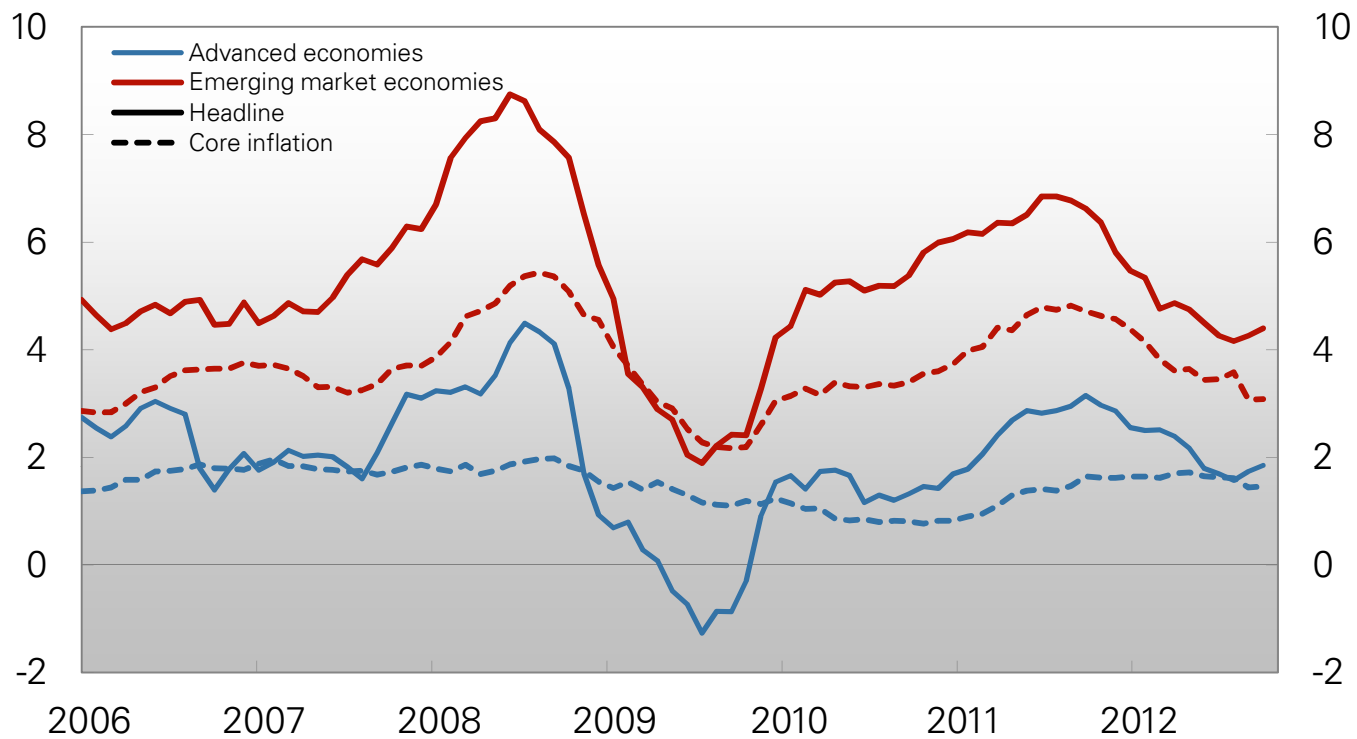
Sources: CEIC and Norges Bank

Chart 2.6 Quarterly GDP growth trading partners. Historical numbers and projections given at different points in time. Percent. 2008 Q1 – 2013 Q2



Sources: Thomson Reuters and Norges Bank

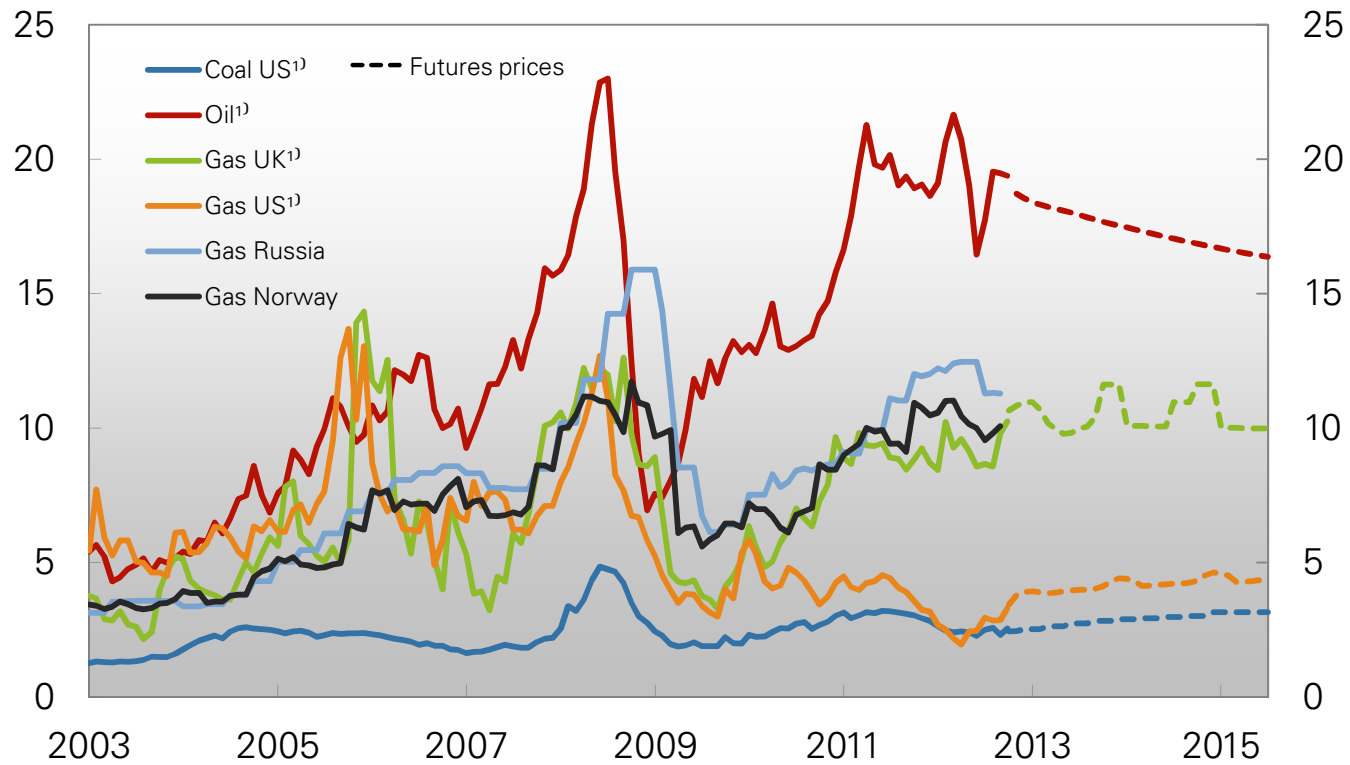
Chart 2.7 Consumer prices in advanced economies and emerging markets.¹⁾
12-month change. Percent. January 2006 – September 2012



1) GDP-weighted (PPP). Advanced economies: Australia, Canada, euro area, Japan, UK and US. Emerging markets: Argentina, Brazil, India, Indonesia, China, Mexico, Russia, South Africa, South Korea and Turkey.

Sources: CEIC, IMF, Thomson Reuters and Norges Bank

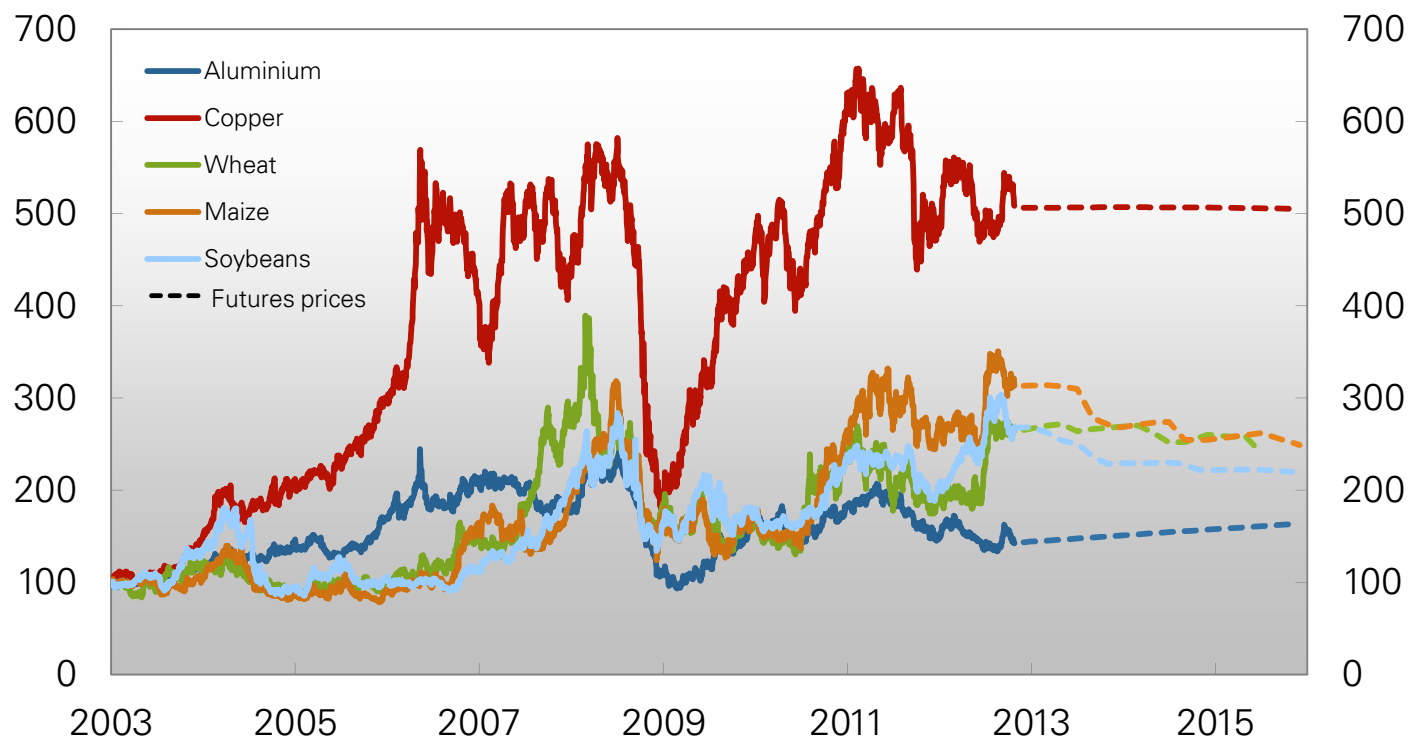
Chart 2.8 Prices for coal, crude oil and natural gas. USD per MMBTU.
 Monthly figures. January 2003 – August 2015



1) For October 2012, calculated as daily average

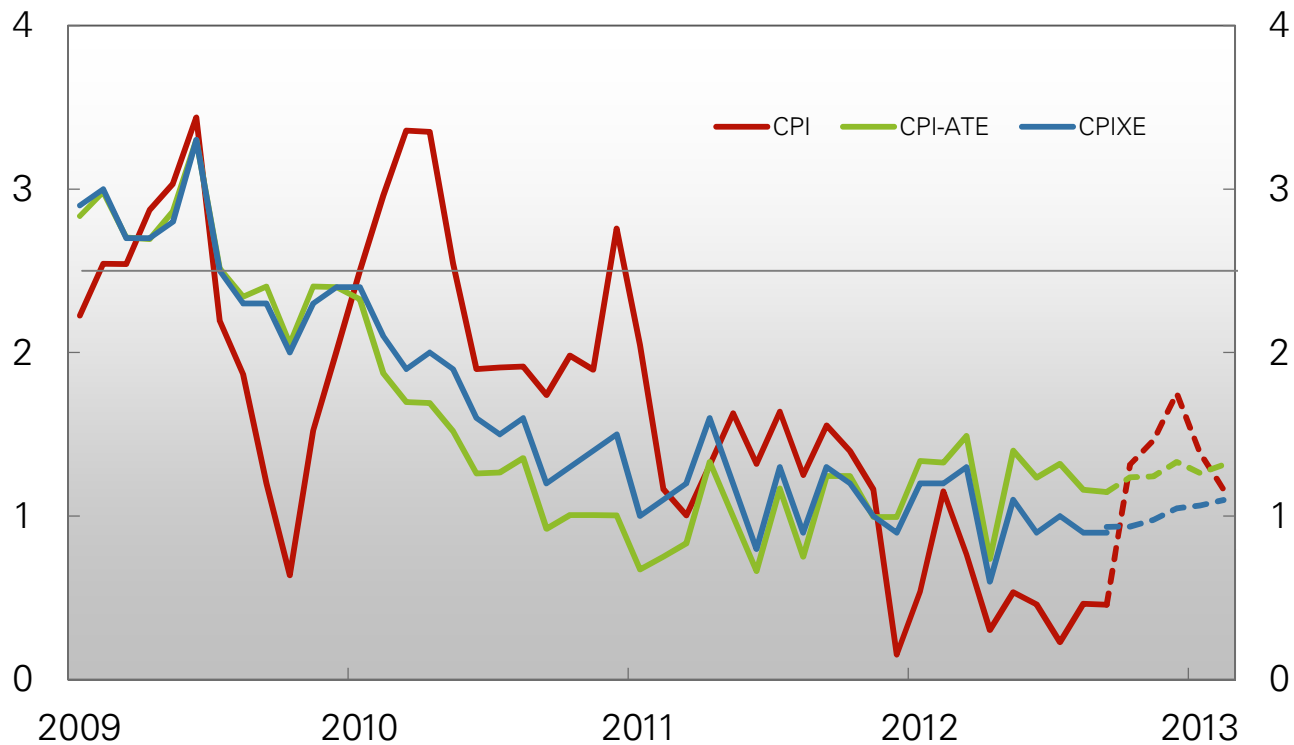
Sources: IMF, Thomson Reuters, Statistics Norway and Norges Bank

Chart 2.9 Commodity prices. USD. Index, January 2003 = 100.
Daily figures. January 2003 – December 2015



Sources: CME Group, ICE and Thomson Reuters

Chart 2.10 CPI, CPI-ATE¹⁾ and CPIXE²⁾. 12-month change. Percent.
 January 2009 – February 2013³⁾



1) CPI adjusted for tax changes and excluding energy products

2) CPI adjusted for tax changes and excluding temporary changes in energy prices.

Real-time figures. See Norges Bank *Staff Memo* 7/2008 and 3/2009

3) Projections for October 2012 – February 2013 (broken lines)

Sources: Statistics Norway and Norges Bank

Chart 2.11 CPI-ATE¹⁾. Total and by supplier sector.
12-month change. Percent. January 2009 – February 2013²⁾



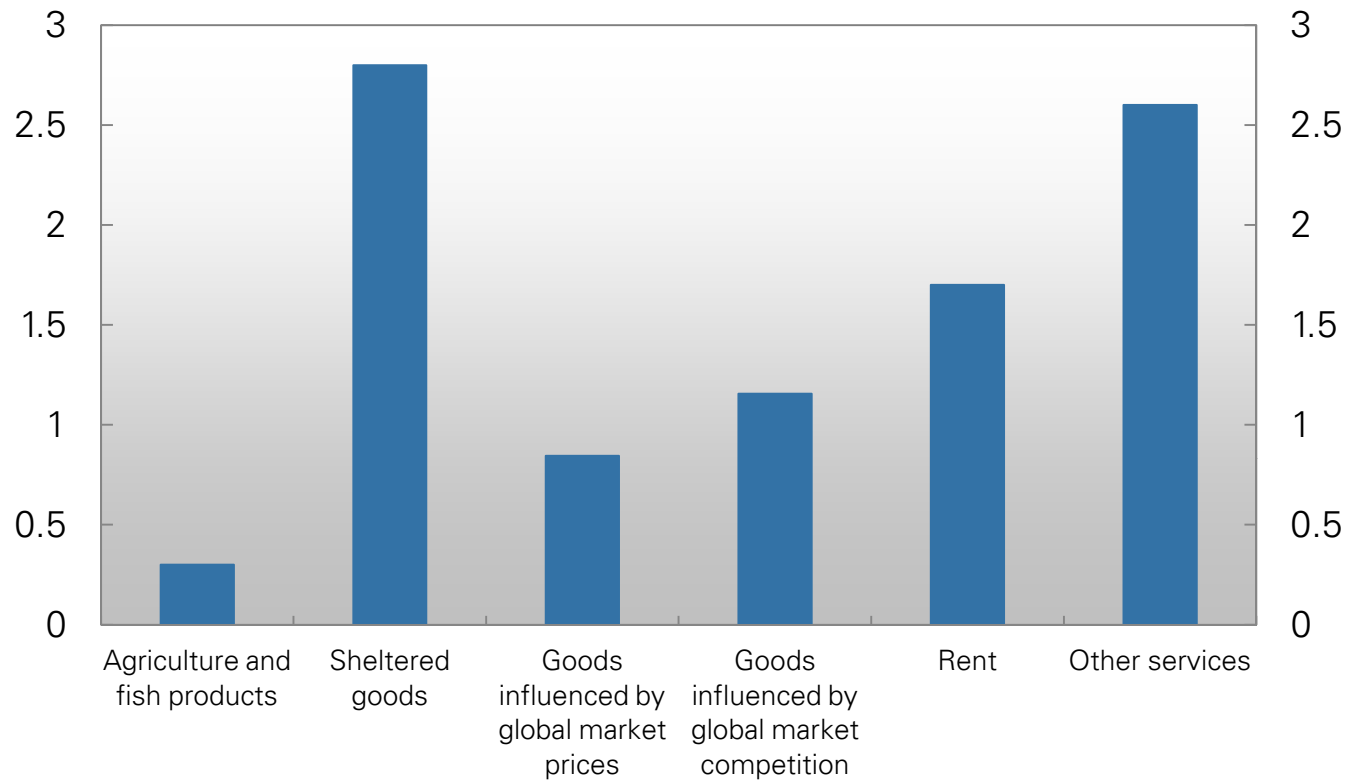
1) CPI adjusted for tax changes and excluding energy products

2) Projections for October 2012 – February 2013 (broken lines)

3) Norges Bank's estimates

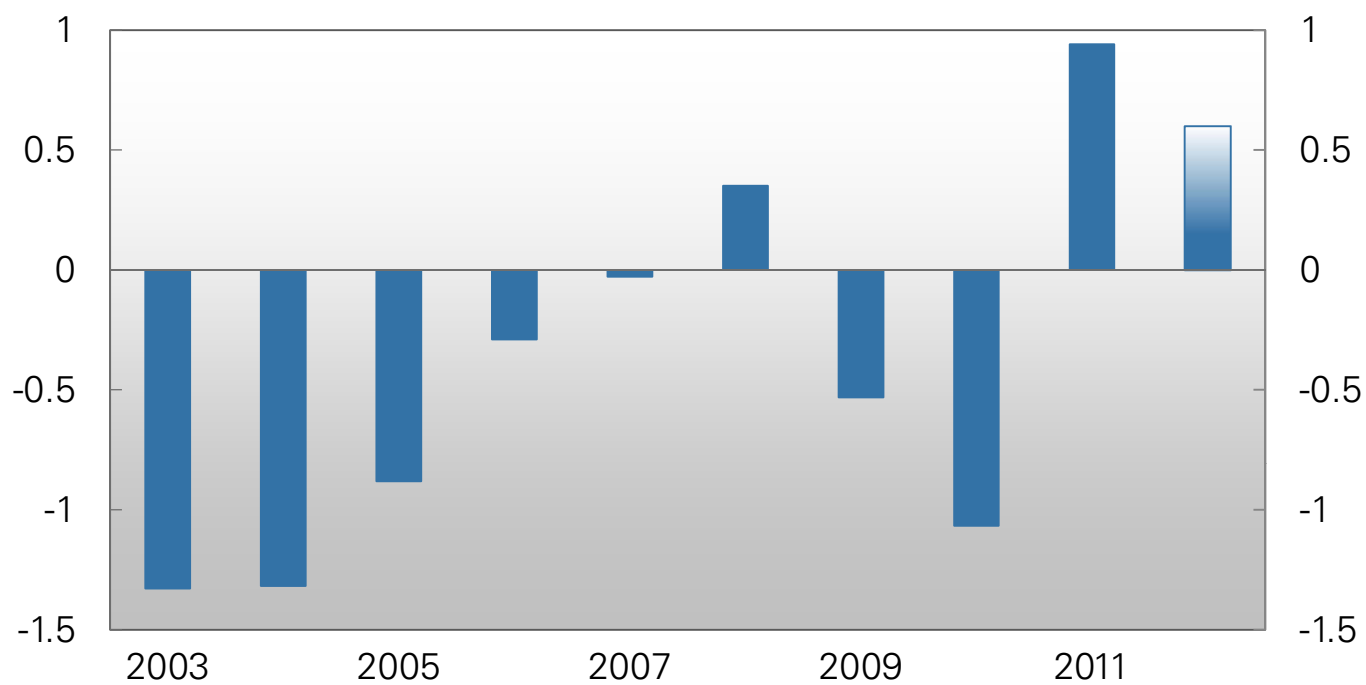
Sources: Statistics Norway and Norges Bank

Chart 2.12 CPI-ATE. Domestically produced goods and services. Average 12-month change. Percent. January – September 2012



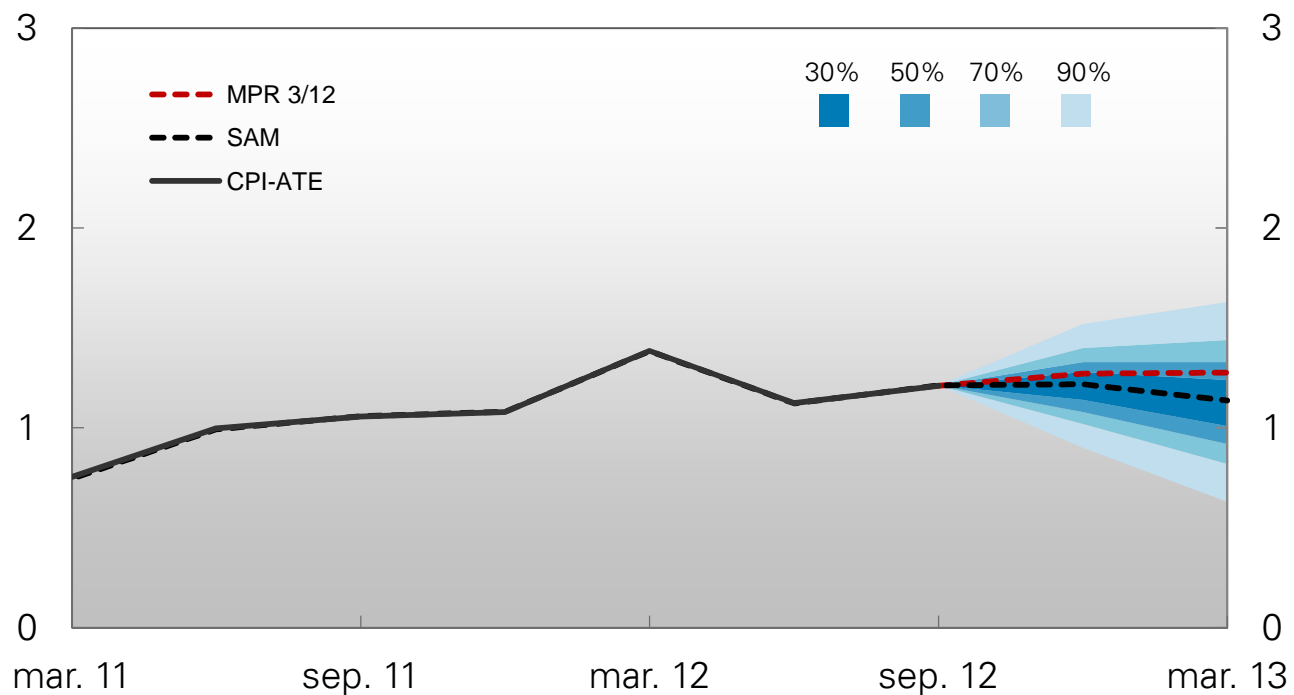
Source: Statistics Norway

Chart 2.13 Indicator of external price impulses to imported consumer goods measured in foreign currency. Annual change. Percent. 2003 – 2012¹⁾



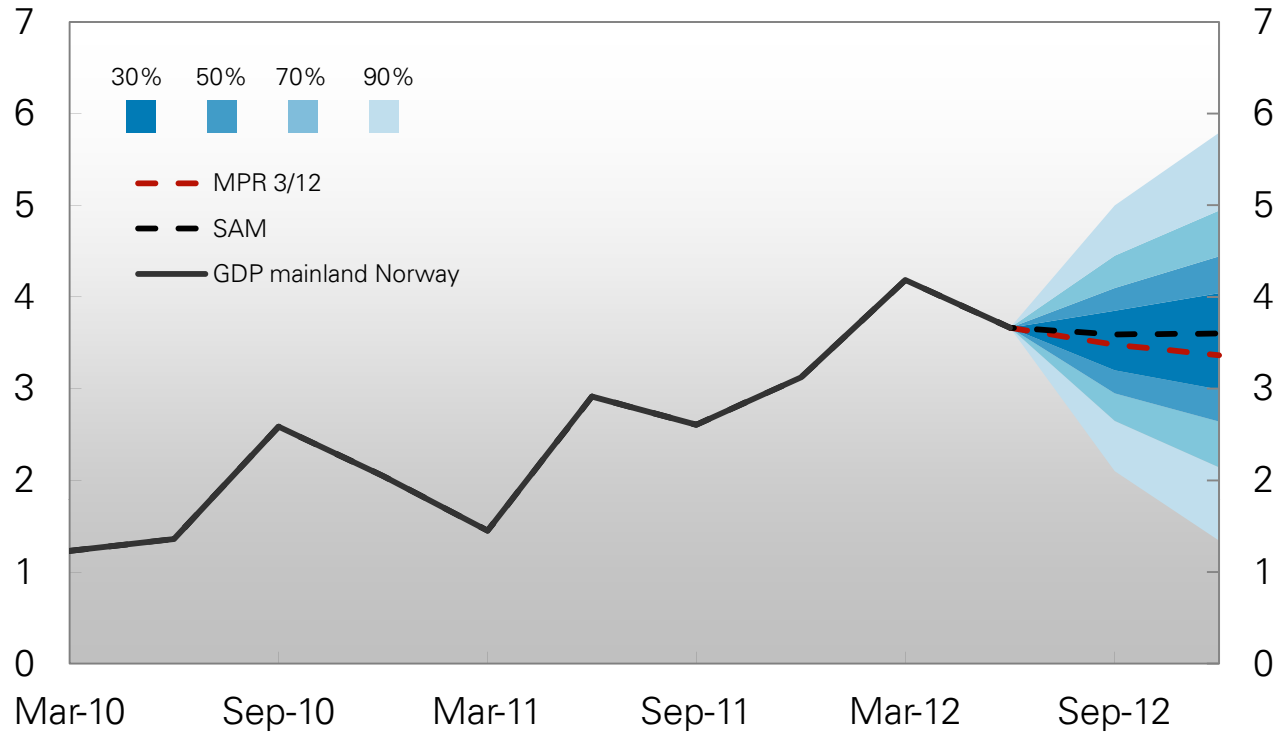
1) Projections for 2012
Source: Norges Bank

Chart 2.14 CPI-ATE¹⁾. Actual figures, baseline scenario and projections from SAM^{2,3)} with fan chart. Four-quarter change. Percent. 2011 Q1 – 2013 Q1⁴⁾



- 1) CPI adjusted for tax changes and excluding energy products
 - 2) System for averaging short-term models
 - 3) Projections from SAM is based on information up until 30 October
 - 4) Projections for 2012 Q4 – 2013 Q1 (broken lines)
- Sources: Statistics Norway and No

Chart 2.15 GDP mainland Norway. Actual figures, baseline scenario and projections from SAM^{1,2)} with fan chart. Four-quarter change. Volume. Seasonally adjusted. Percent. 2010 Q1 – 2012 Q4³⁾



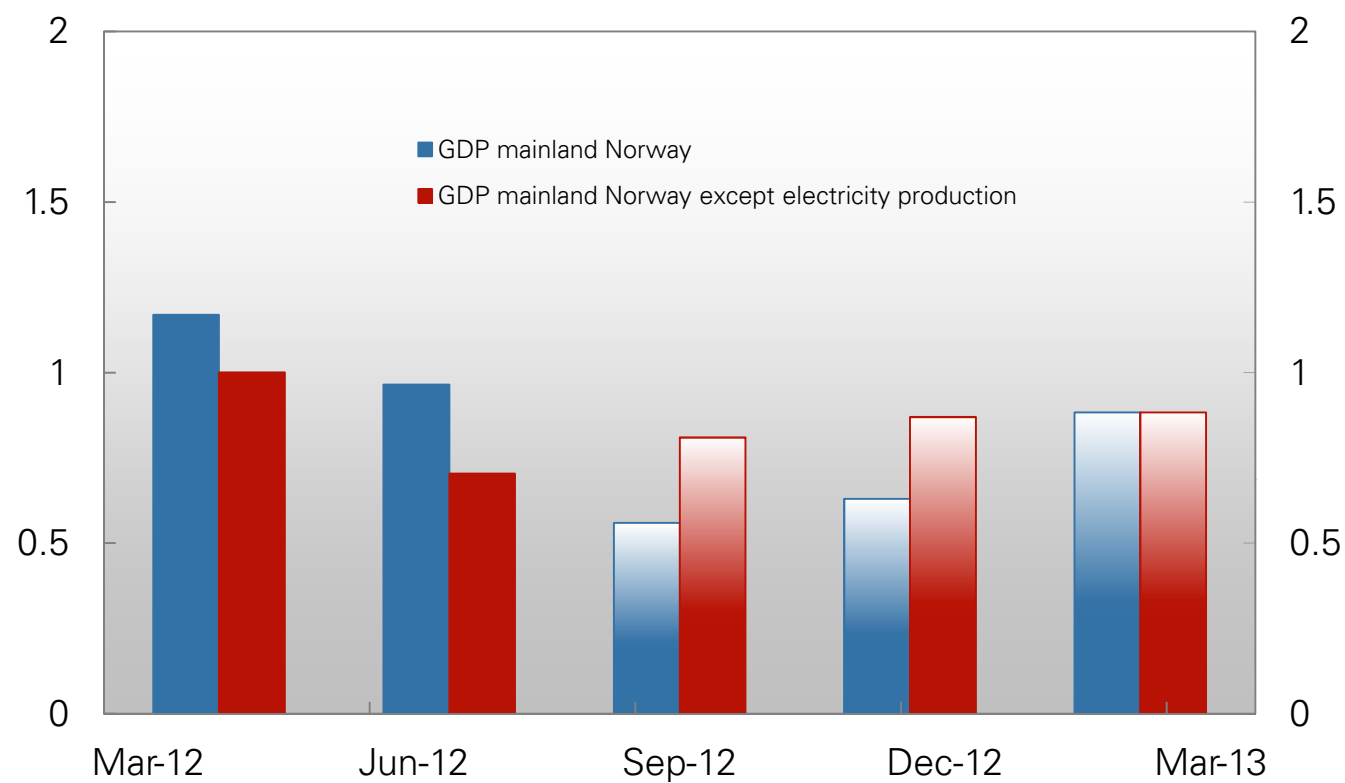
1) System for averaging short-term models

2) Projections from SAM is based on information up until 30 October

3) Projections for 2012 Q3 – 2012 Q4 (broken lines)

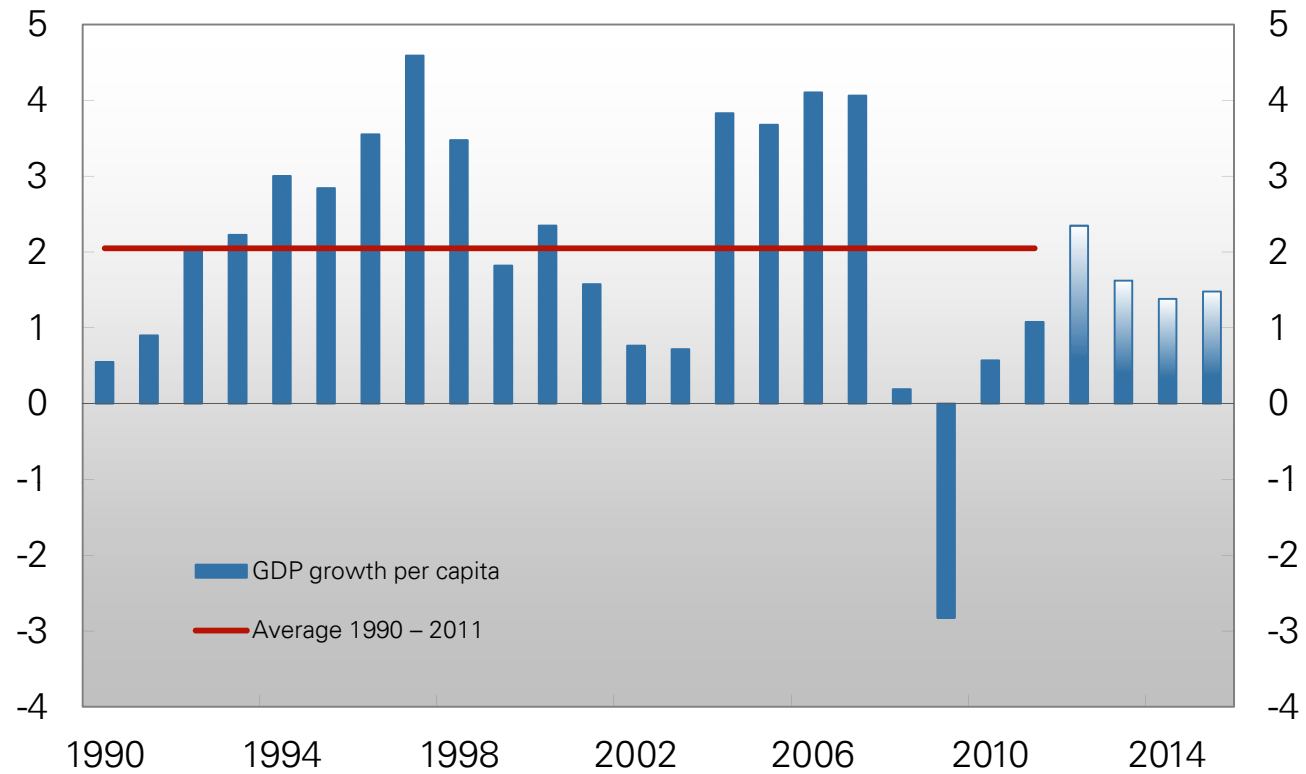
Sources: Statistics Norway and Norges Bank

Chart 2.16 GDP mainland Norway. Quartely change. Percent.
2012 Q1 – 2013 Q1¹⁾



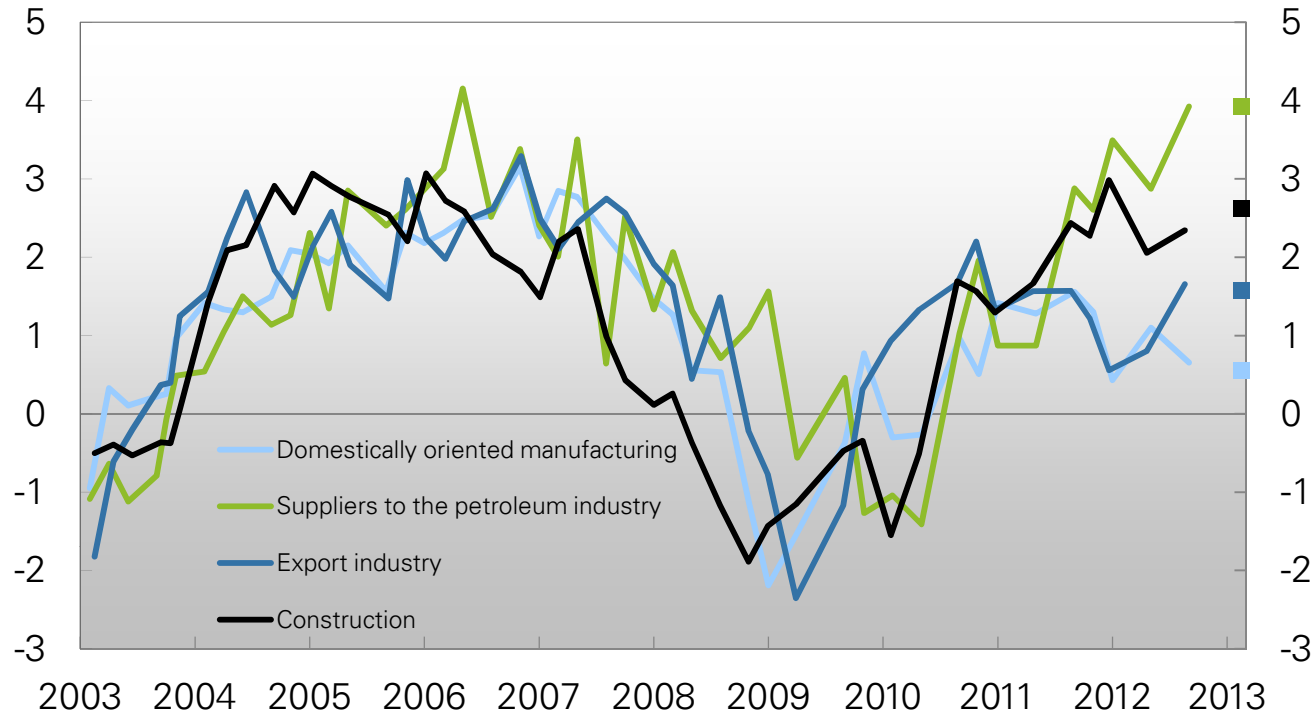
1) Projections for 2012 Q3 – 2013 Q1
Sources: Statistics Norway and Norges Bank

Chart 2.17 GDP mainland Norway per capita. Annual change. Percent.
1990 – 2015¹⁾



1) Projections for 2012 – 2015
Sources: Statistics Norway and Norges Bank

Chart 2.18 Change in production past three months and expected change in production next six months. Index¹⁾. February 2003 – March 2013²⁾

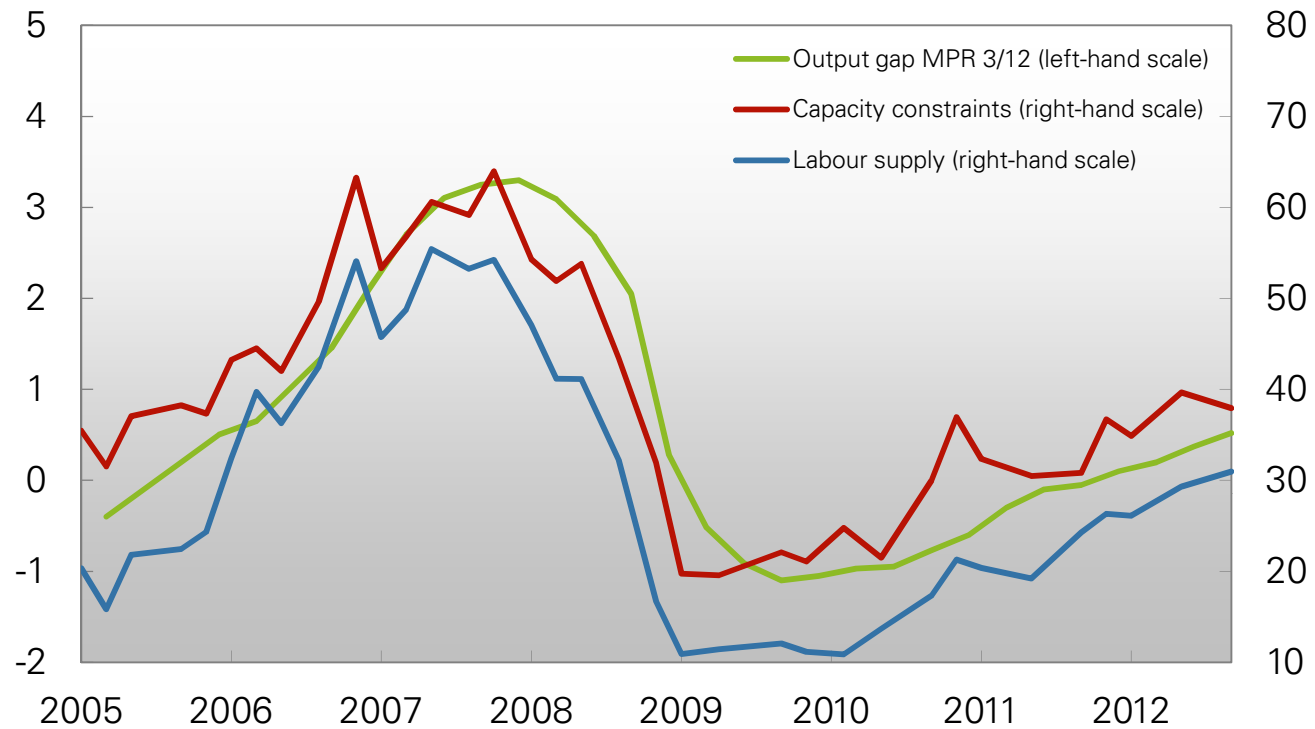


1) The scale runs from -5 to +5, where -5 denotes a sharp fall and +5 denotes strong growth. See article "Norges Bank's regional network: fresh and useful information" in *Economic Bulletin 2/2009* for further information

2) Latest observation in the Regional network is September 2012

Source: Norges Bank

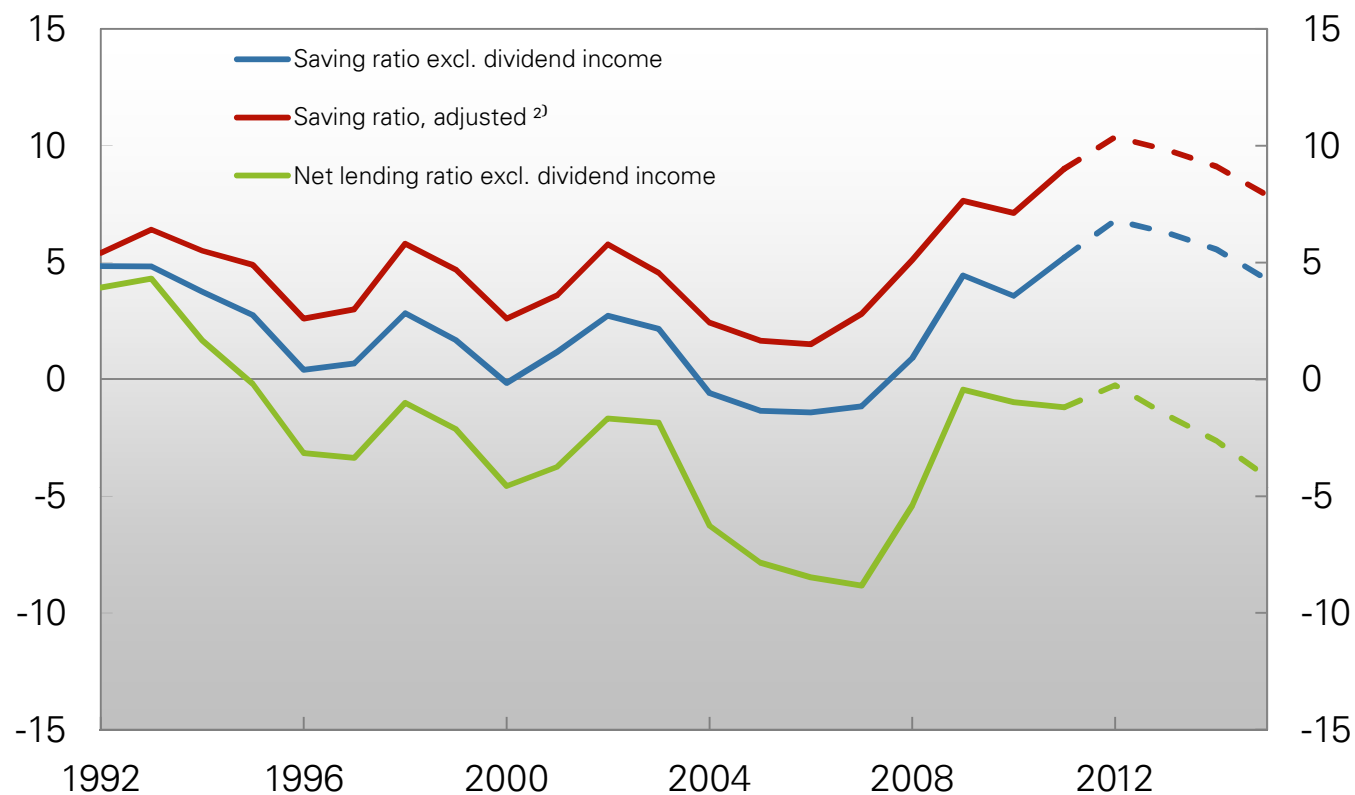
Chart 2.19 Capacity constraints and labour supply¹⁾ reported by the Regional network and estimated output gap. Percent. 2005 Q1 – 2012 Q3



1) Share of contacts that will have some or considerable problems accommodating an increase in demand and the share of contacts where production is constrained by labour supply

Source: Norges Bank

Chart 2.20 Household saving and net lending as a share of disposable income. Percent. 1992 – 2015¹⁾

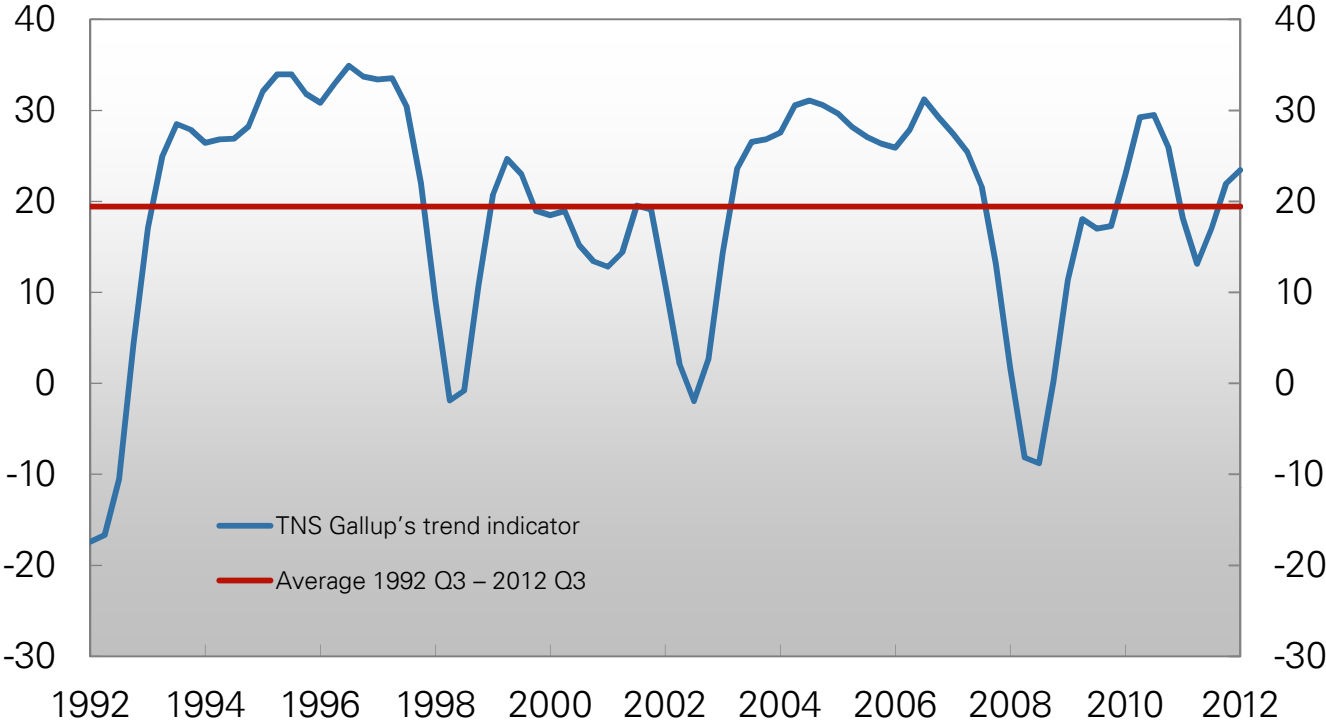


1) Projections for 2012 – 2015 (broken lines)

2) Adjusted for estimated reinvested dividend income for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2015

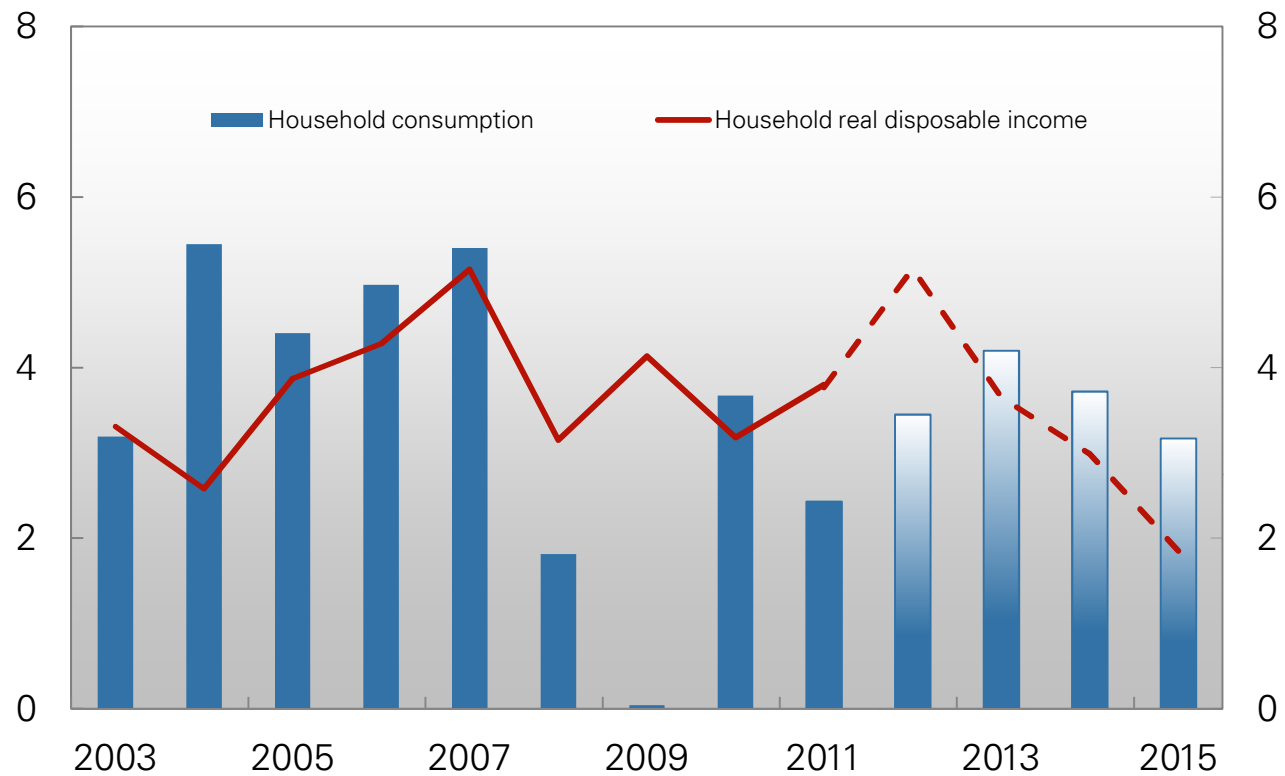
Sources: Statistics Norway and Norges Bank

Chart 2.21 TNS Gallup's trend indicator for households.
Seasonally adjusted. Net figures. 1992 Q3 – 2012 Q4



Source: TNS Gallup

Chart 2.22 Household consumption¹⁾ and real disposable income²⁾.
Annual change. Percent. 2003 – 2015³⁾



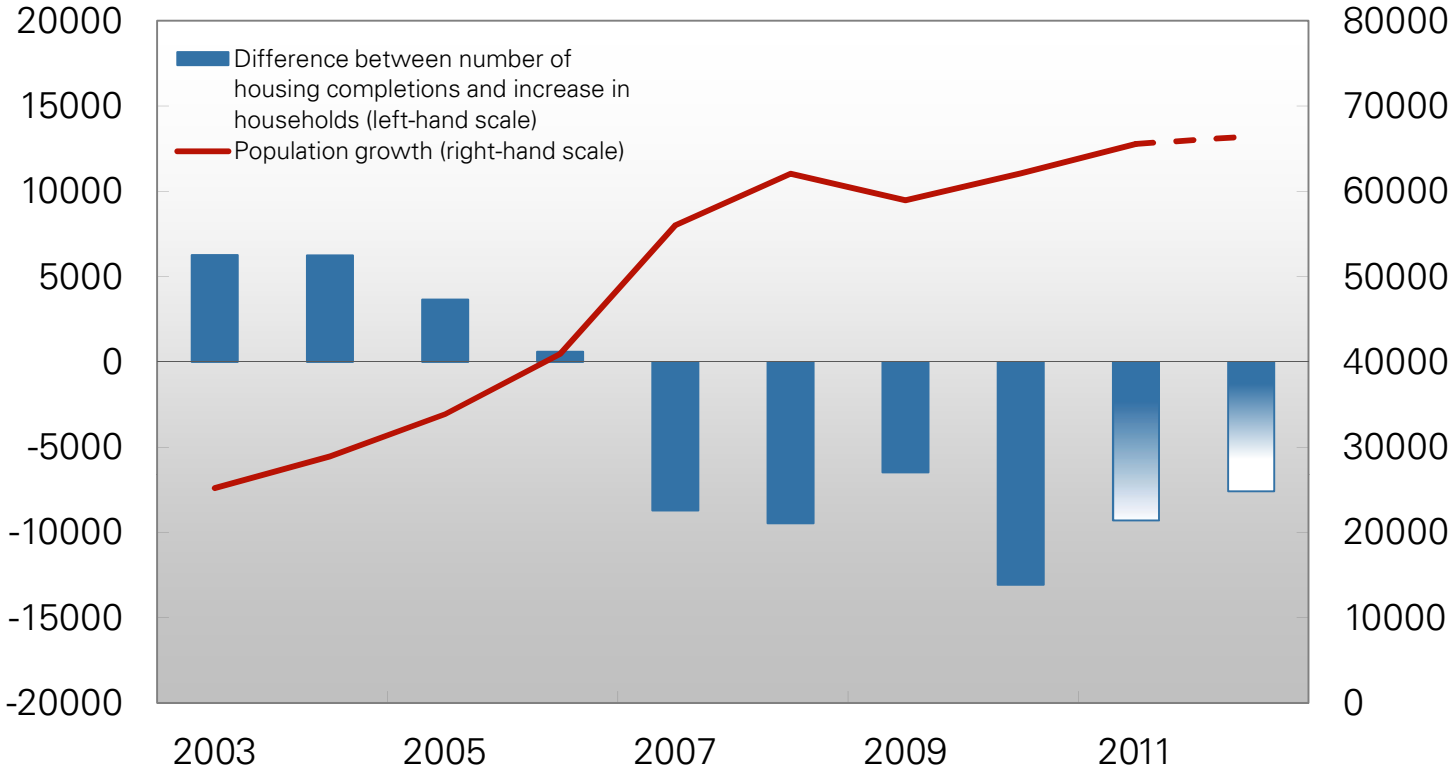
1) Includes consumption among non-profit organisations. Volume

2) Excluding dividend income. Including income in non-profit organisations

3) Projections for 2012 – 2015 (broken line)

Sources: Statistics Norway and Norges Bank

Chart 2.23 Difference between number of housing completions and increase in households¹⁾, and population growth²⁾. 2003 – 2012

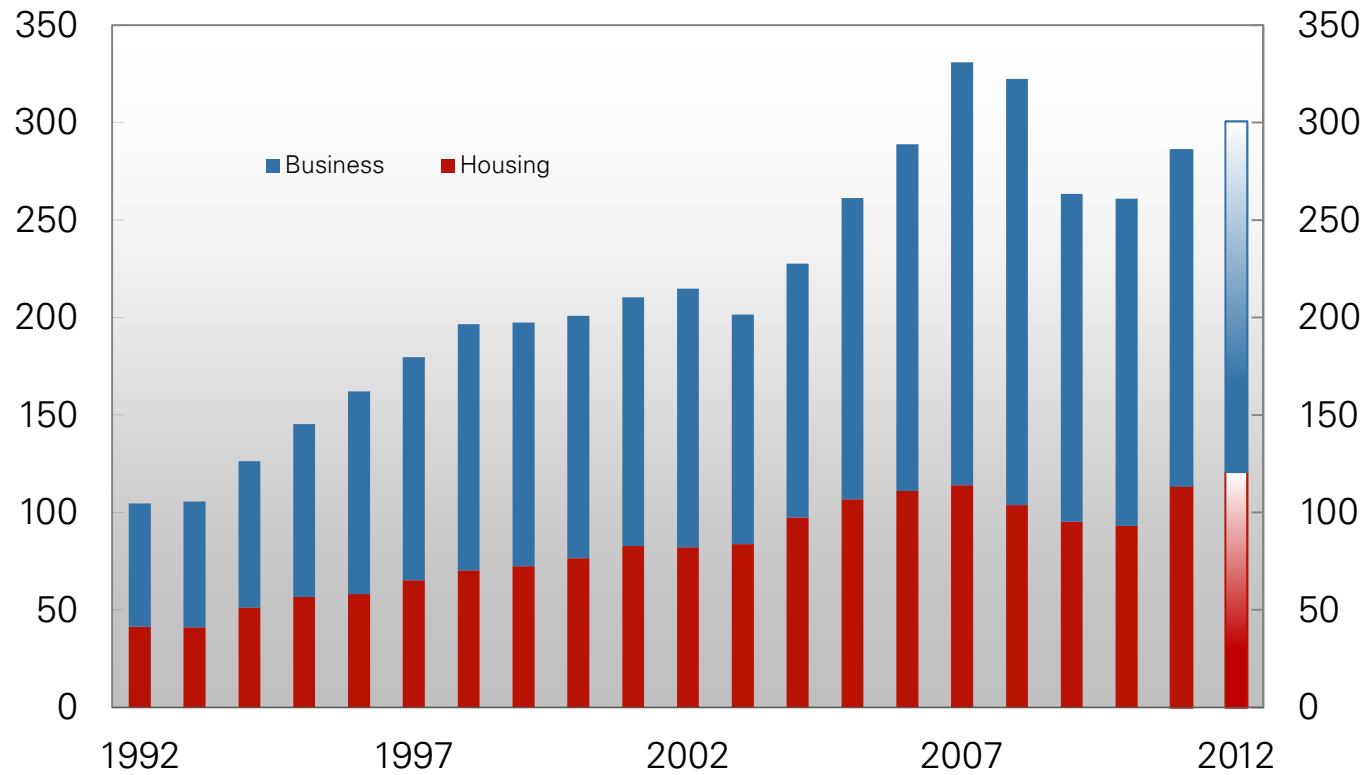


1) Projections for 2011 and 2012

2) Projections for 2012

Sources: Statistics Norway and Norges Bank

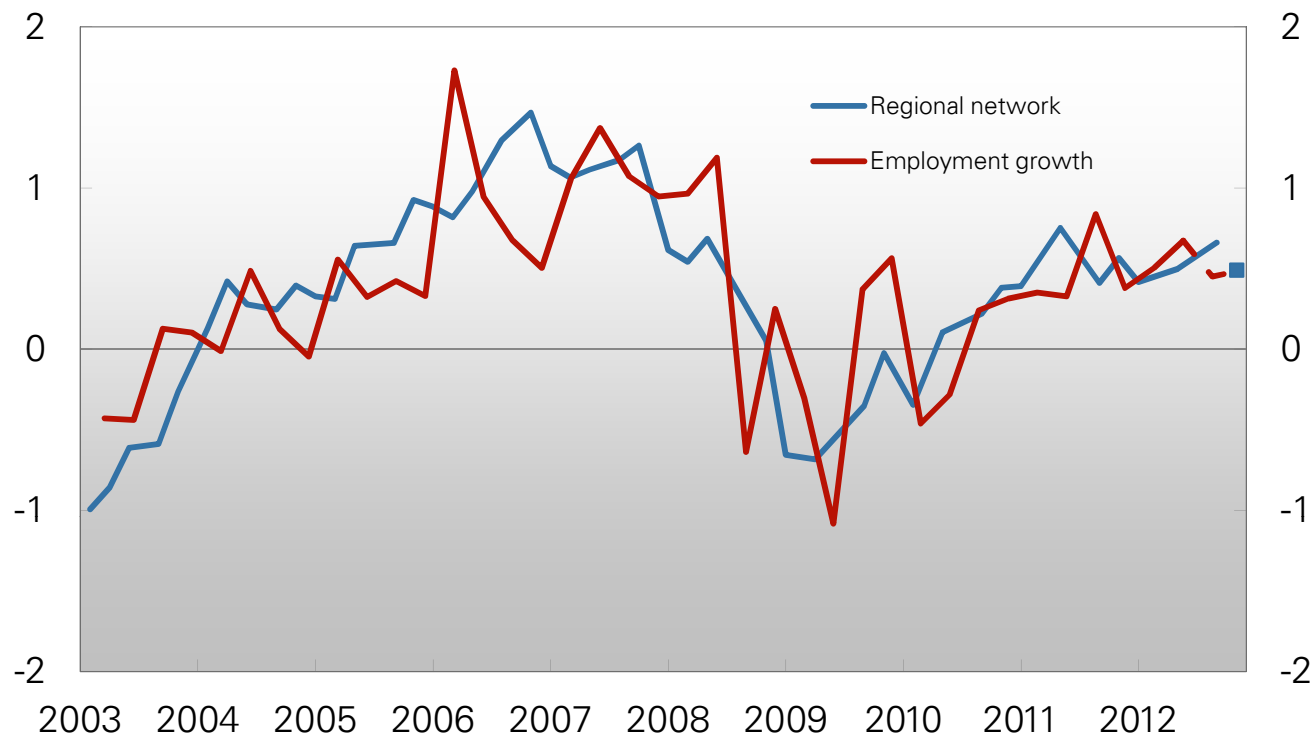
Chart 2.24 Investment in mainland Norway excluding public sector.
 Constant 2009 prices. In billions of NOK. 1992 – 2012¹⁾



1) Projections for 2012

Sources: Statistics Norway and Norges Bank

Chart 2.25 Employment¹⁾ and Norges Bank's regional network's indicator of change in employment and expected change in employment next three months. Percent. 2003 Q1 – 2012 Q4²⁾



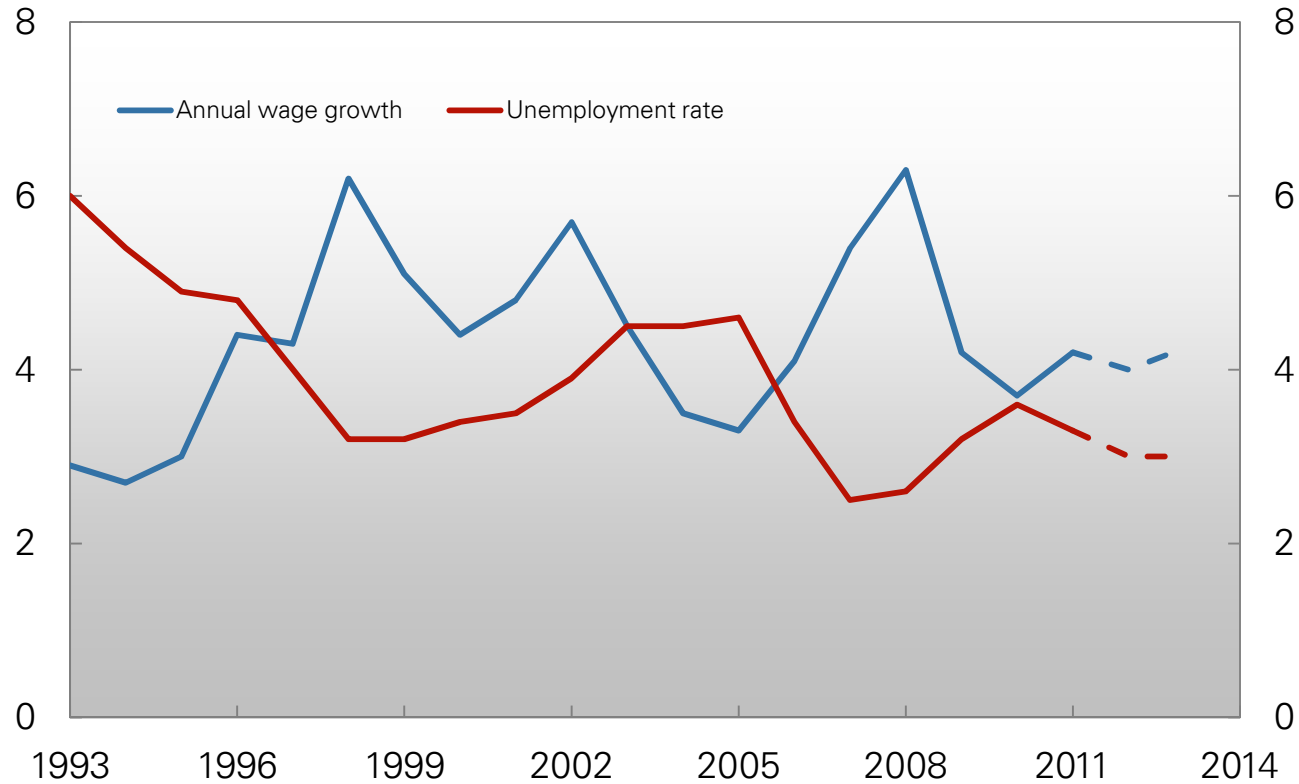
1) Seasonally adjusted quarterly change in Quarterly National Accounts

2) Latest observation in the Regional network is September 2012.

Latest observation in the Quarterly National Accounts is 2012 Q2, projections for 2012 Q3 – 2012 Q4 (broken line)

Sources: Statistics Norway and Norges Bank

Chart 2.26 Annual wage growth¹⁾ and LFS unemployment. Per cent.
1993 – 2013²⁾

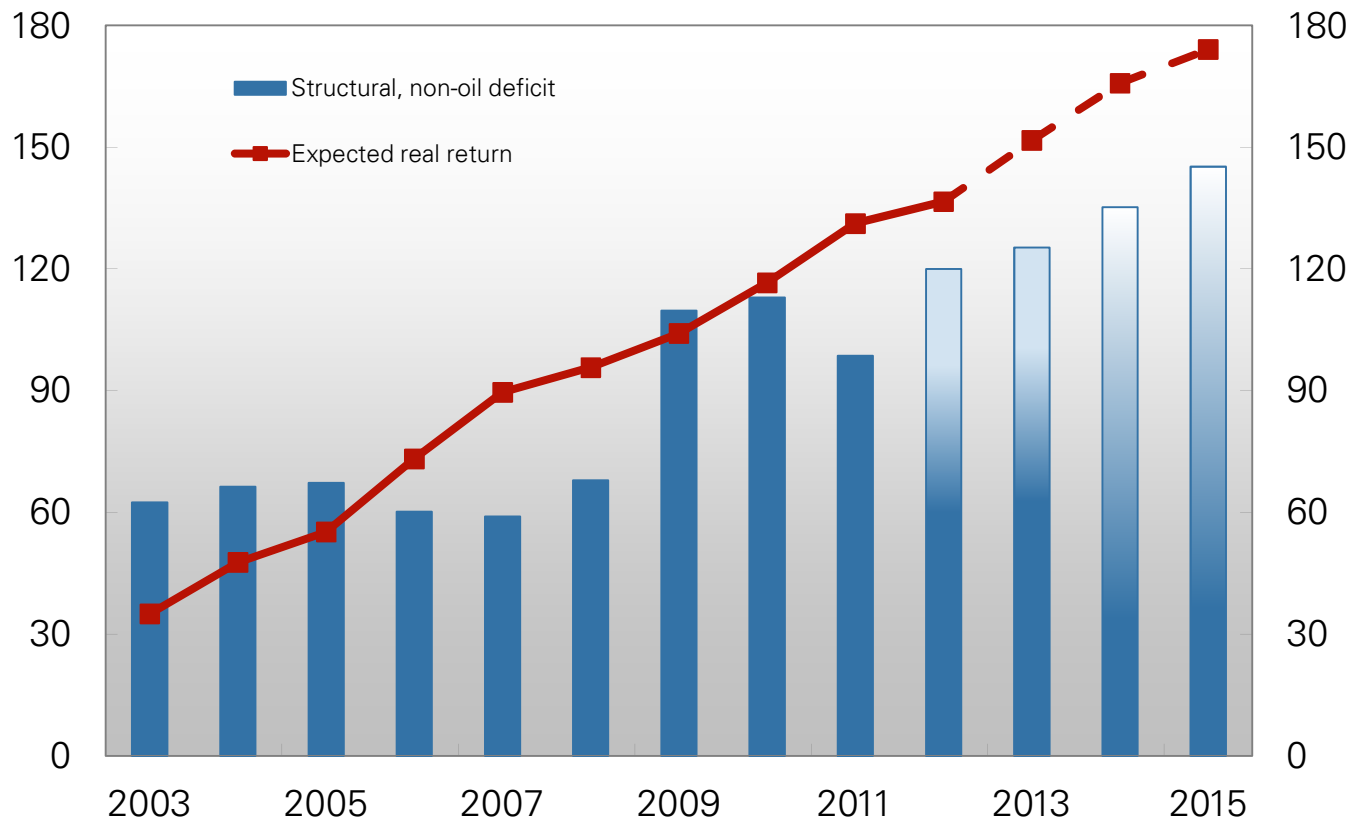


1) Including estimated costs of increase in number of vacation days and introduction of mandatory occupational pensions

2) Projections for 2012 – 2013 (broken lines)

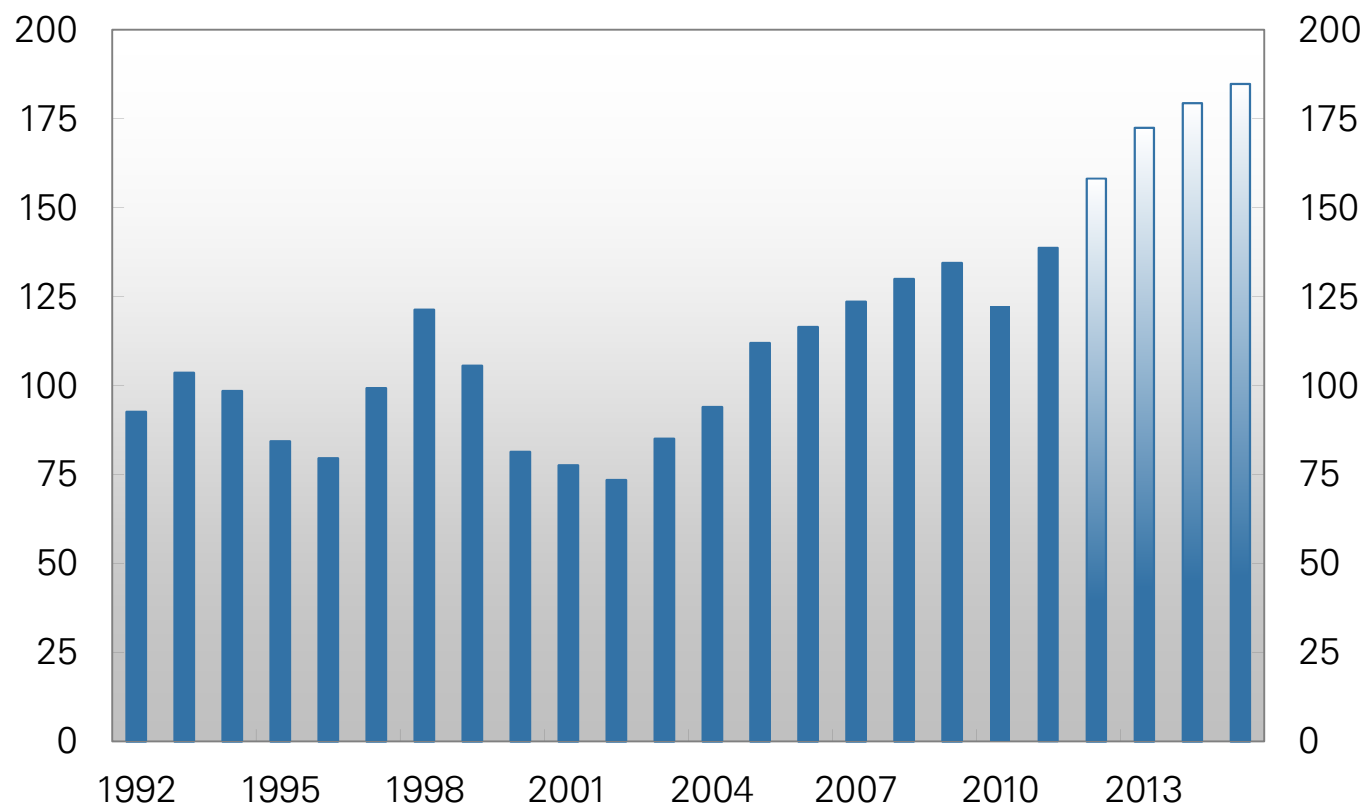
Sources: Statistics Norway, Technical Reporting Committee on Income Settlements and Norges Bank

Chart 2.27 Structural non-oil deficit and expected real return on the Government Pension Fund Global. Constant 2013 prices. In billions of NOK. 2003 – 2015¹⁾



1) Projections for 2012 – 2015
Sources: Ministry of Finance and Norges Bank

Chart 2.28 Petroleum investment. Constant 2009 prices. In billions of NOK.
1992 – 2015¹⁾



1) Projections for 2012 – 2015

Sources: Statistics Norway and Norges Bank