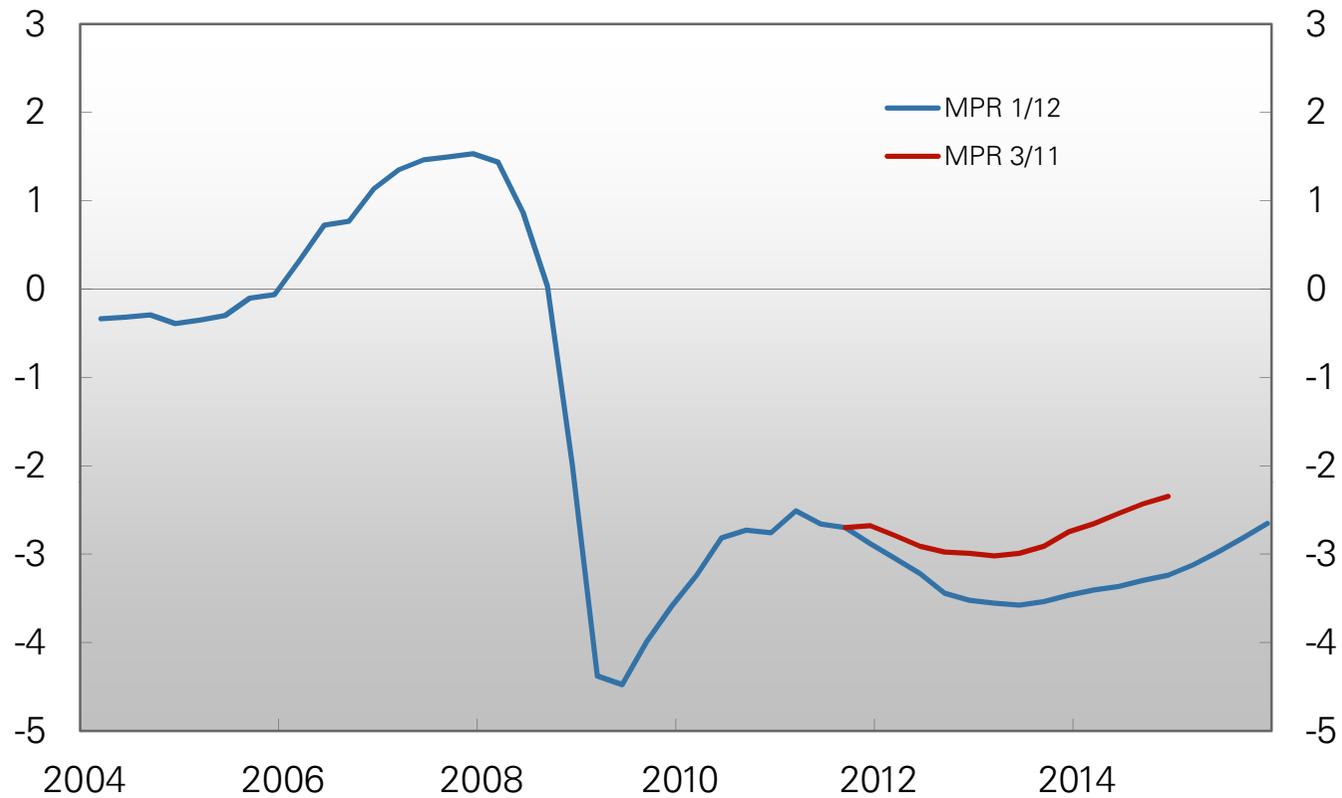


# Monetary Policy Report 1/12

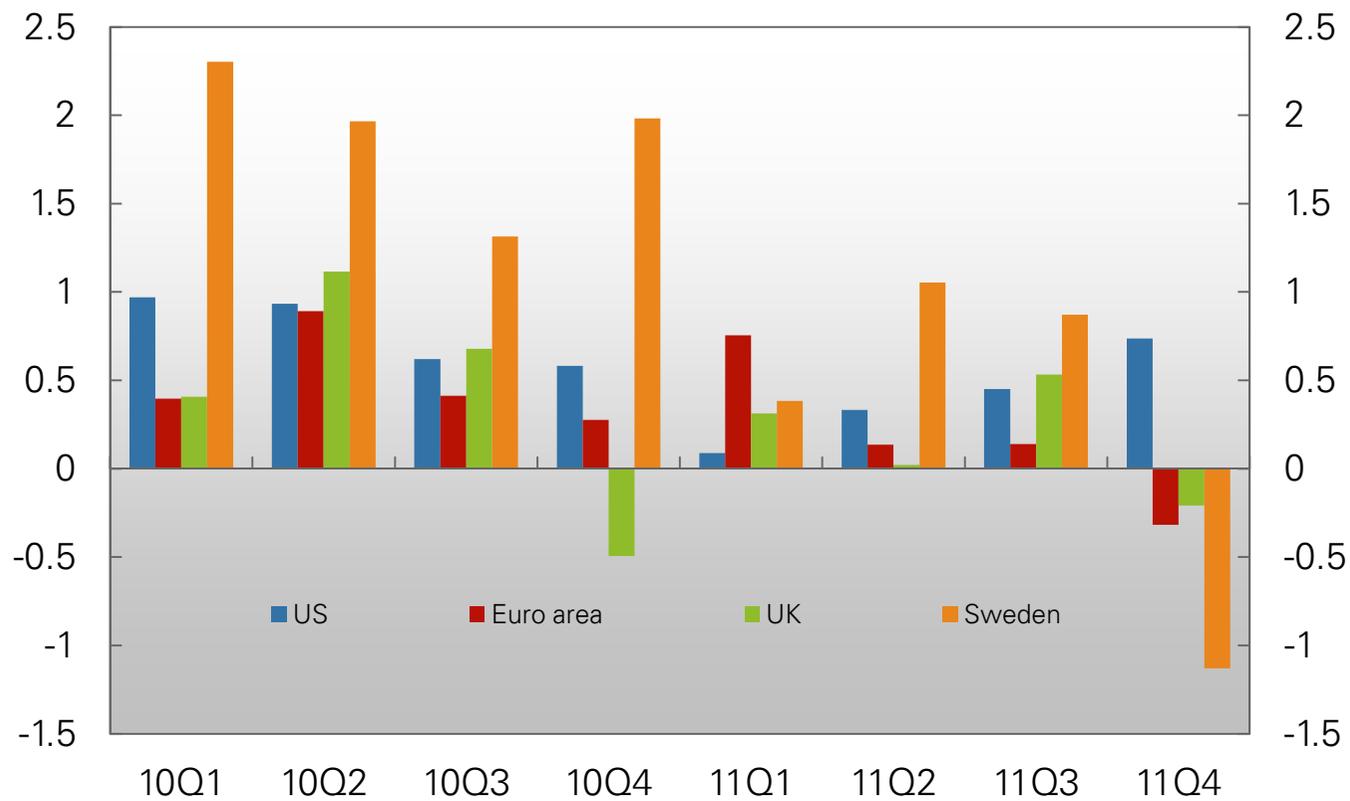
## Charts

Chart 1.1 Projected output gap<sup>1)</sup> for Norway's trading partners.  
Percent. 2004 Q1 – 2015 Q4



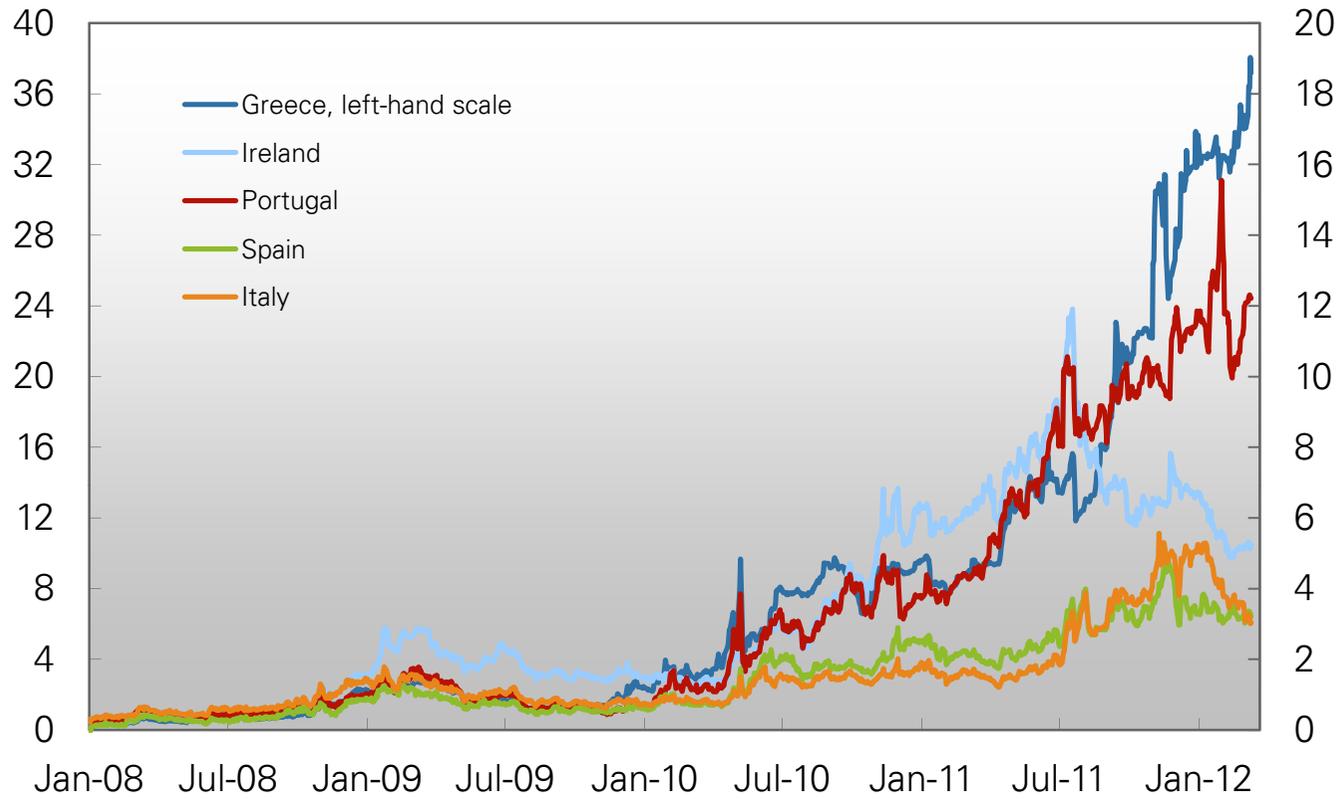
1) The output gap measures the percentage deviation between GDP and projected potential GDP for Norway's trading partners  
Sources: IMF, Thomson Reuters and Norges Bank

Chart 1.2 GDP growth for advanced economies.  
Quarterly change. Percent. 2010 Q1 – 2011 Q4



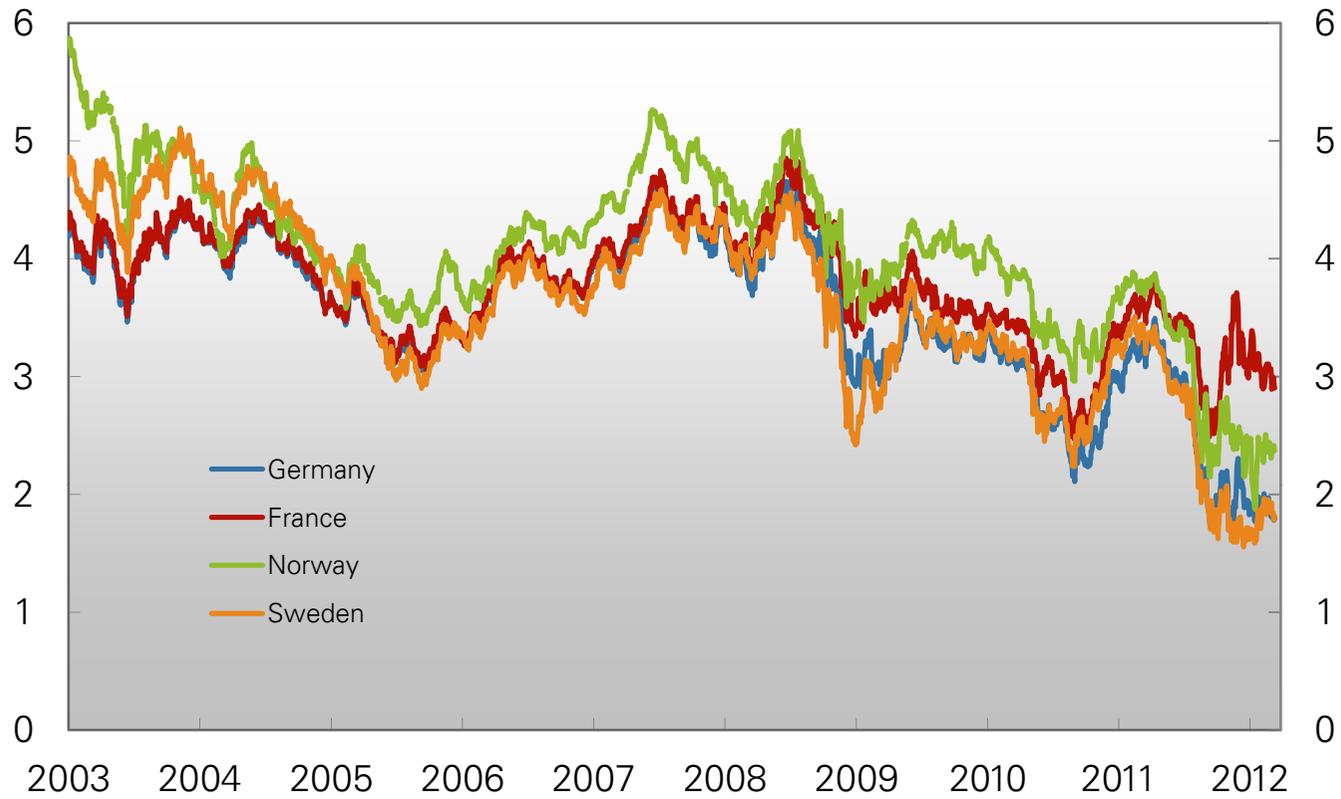
Source: Thomson Reuters

Chart 1.3 Yield spreads against German 10-year government bonds.  
Percentage points. 1 January 2008 – 9 March 2012



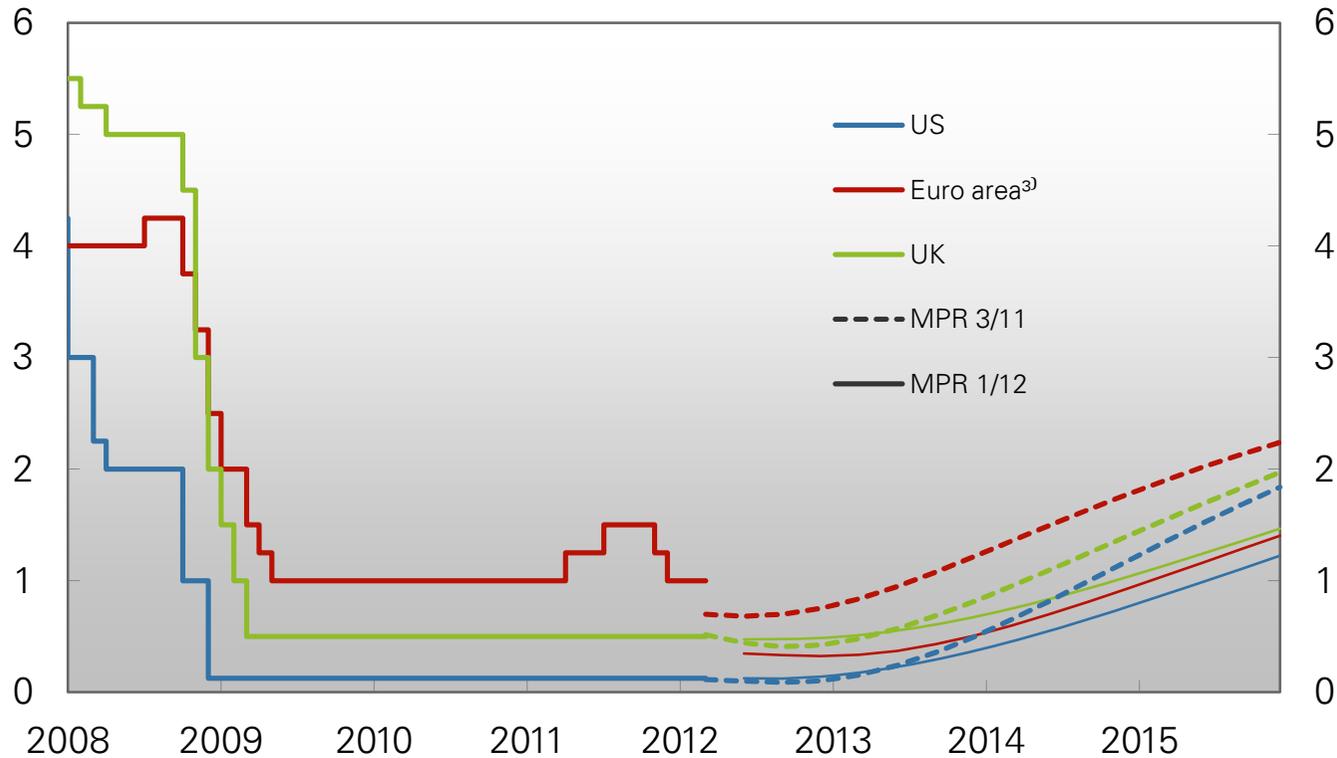
Source: Thomson Reuters

Chart 1.4 Yields on 10-year government bonds.  
Percent. 1 January 2003 – 9 March 2012



Source: Thomson Reuters

Chart 1.5 Key rates and estimated forward rates as at 13 October 2011 and 9 March 2012.<sup>1)</sup> Percent. 1 January 2008 – 31 December 2015<sup>2)</sup>



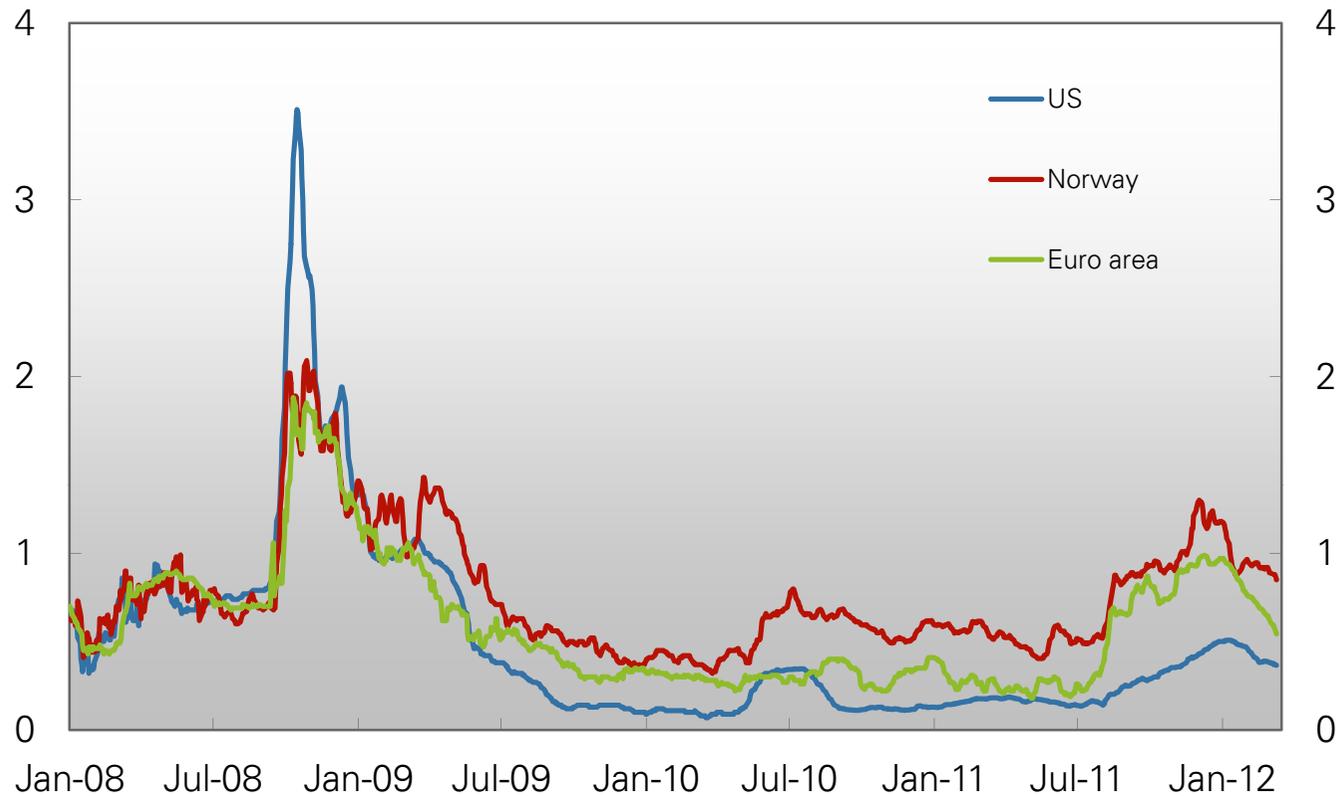
1) Broken lines show estimated forward rates as at 13 October 2011. Thin lines show forward rates as at 9 March 2012. Forward rates are based on Overnight Index Swap (OIS) rates

2) Daily figures from 1 January 2008 and quarterly figures from 2012 Q1

3) EONIA in euro area from 2012 Q1

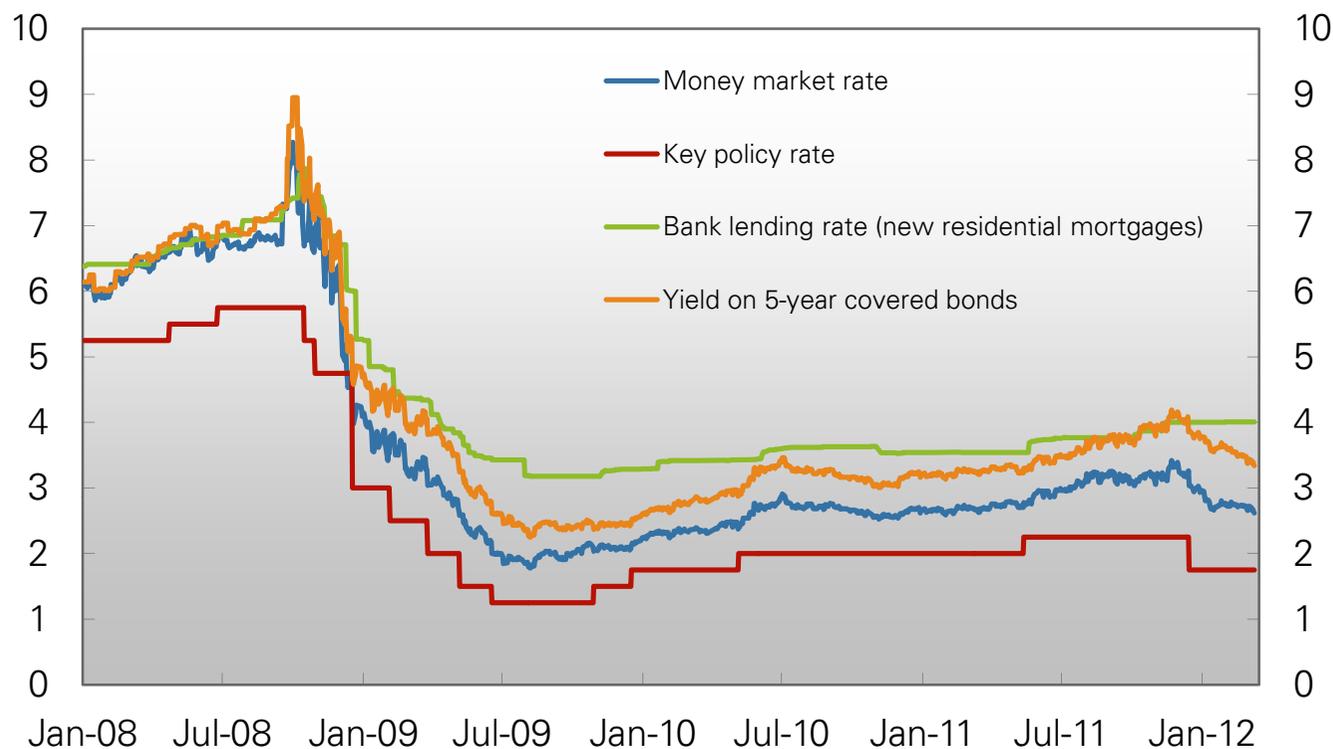
Sources: Bloomberg and Norges Bank

Chart 1.6 Difference between 3-month money market rate and expected key rates<sup>1)</sup>. Percentage points. 5-day moving average.  
1 January 2008 – 9 March 2012



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

Chart 1.7 Key policy rate, money market rate<sup>1)</sup>, yield on 5-year covered bonds<sup>2)</sup> and weighted average lending rate on new residential mortgages<sup>3)</sup>. Percent. 1 January 2008 – 9 March 2012



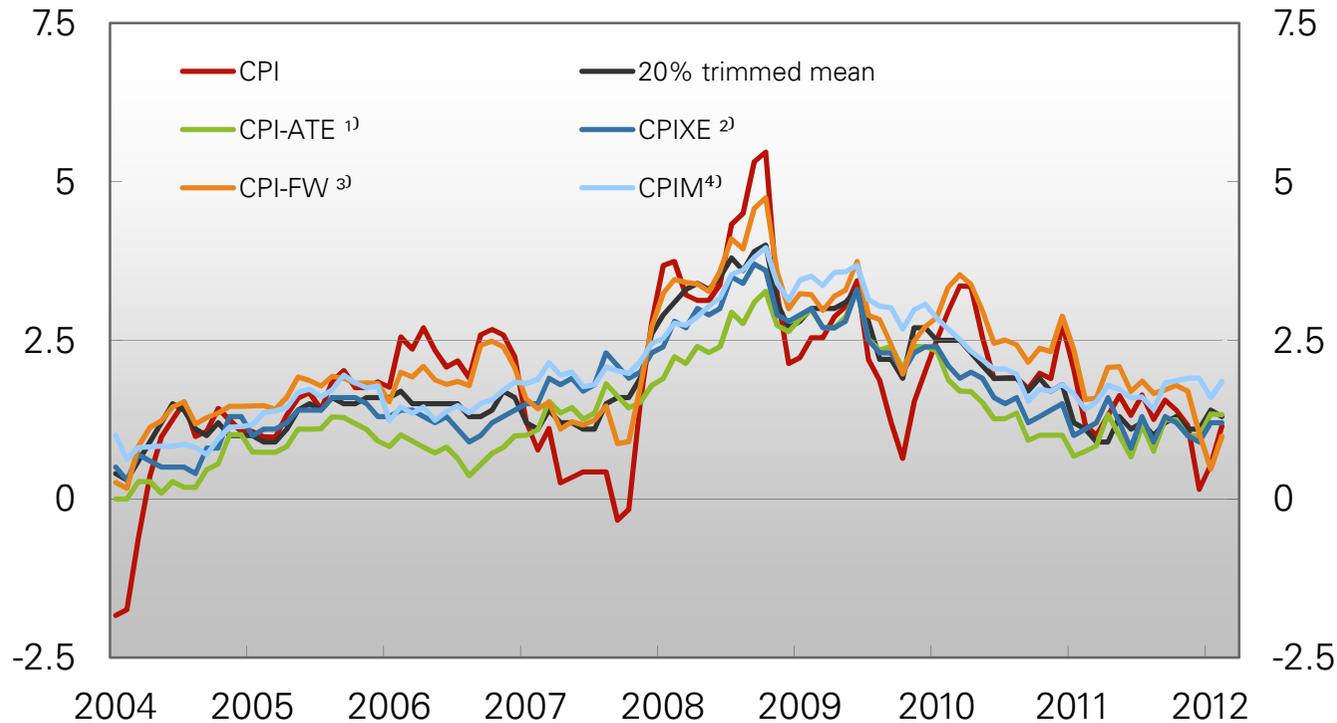
1) 3-month NIBOR (effective)

2) Sum of 3-month NIBOR and indicative credit spreads on 5-year covered bonds

3) Interest rate on new residential mortgages of NOK 1m 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 Consumer prices. 12-month change.  
Percent. January 2004 – February 2012



1) CPI adjusted for tax changes and excluding energy products

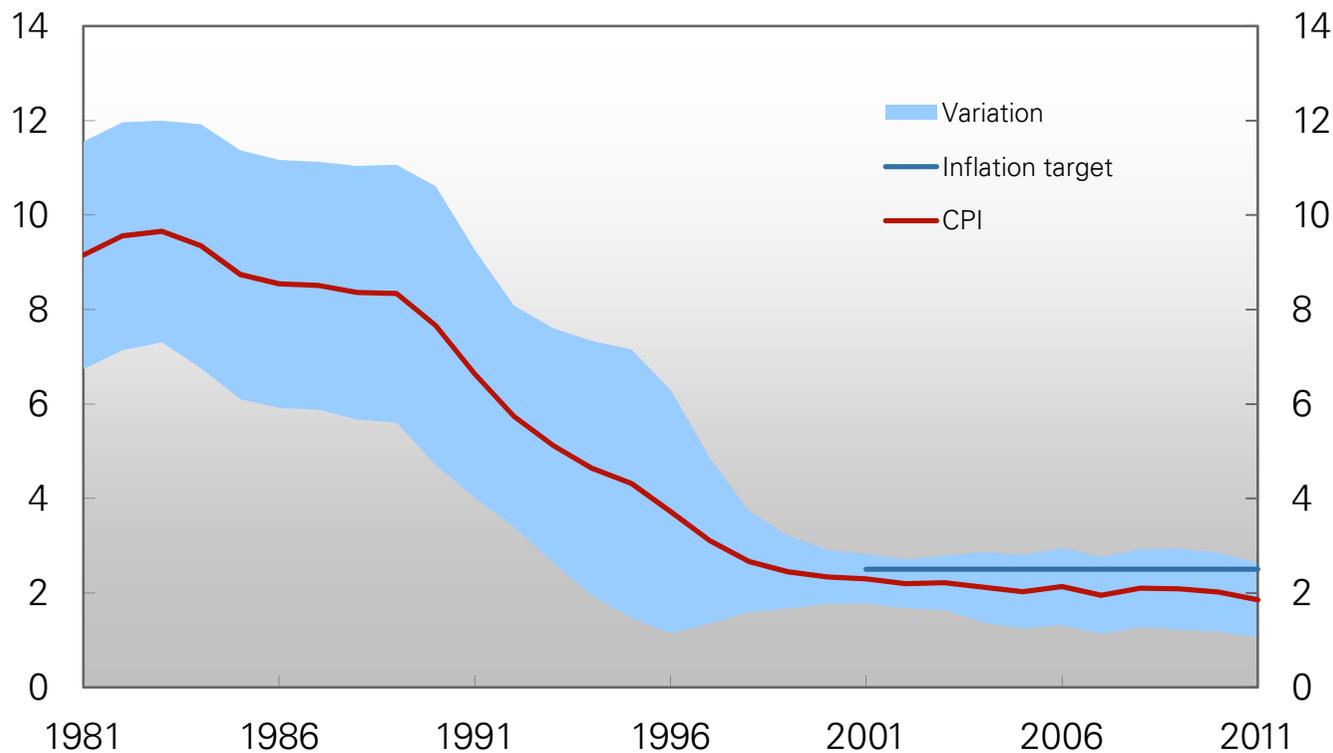
2) CPI adjusted for tax changes and excluding temporary changes in energy prices. Real time figures. See Norges Bank *Staff Memo* 7/2008 and 3/2009

3) CPI adjusted for frequency of price changes. See Norges Bank *Economic commentaries* 7/2009

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

Sources: Statistics Norway and Norges Bank

Chart 1.9 Inflation. Moving 10-year average<sup>1)</sup> and variation<sup>2)</sup> in CPI<sup>3)</sup>.  
Percent. 1981 – 2011



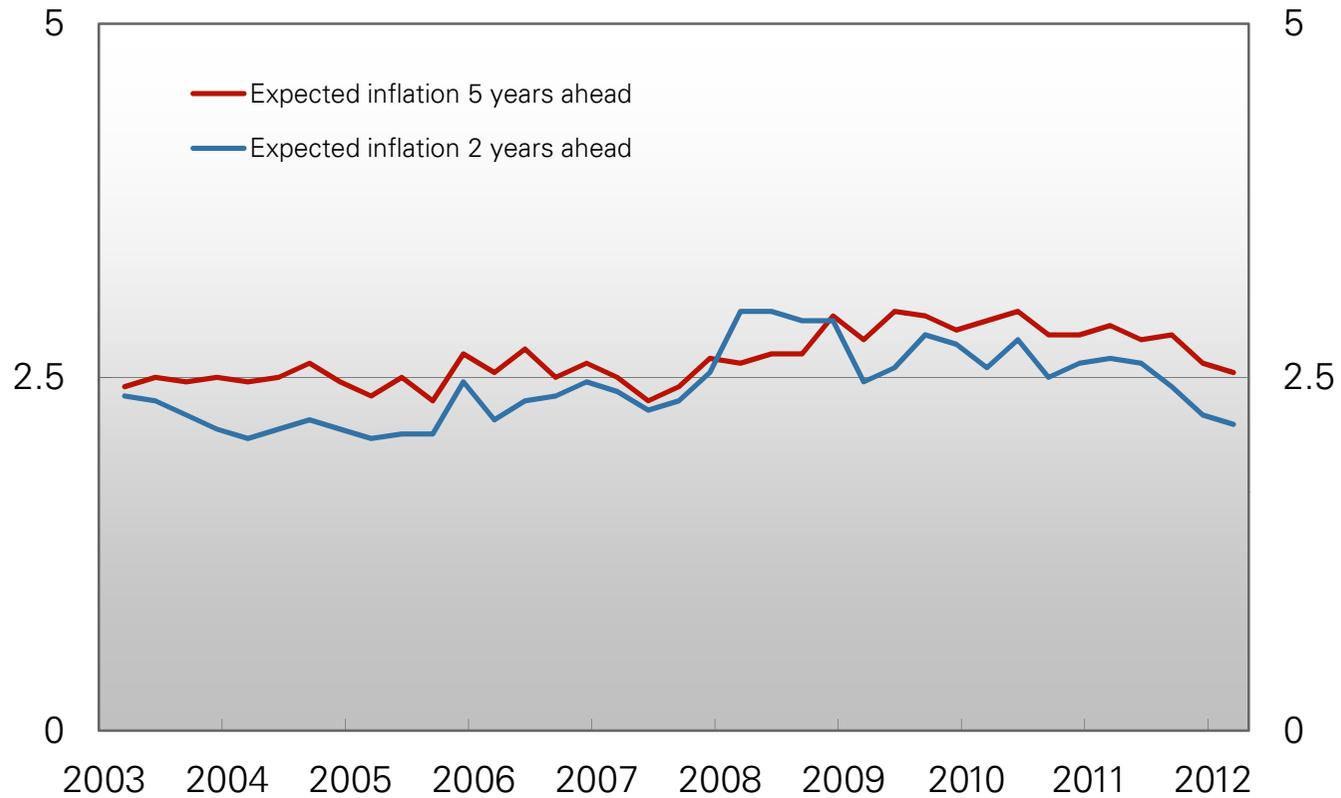
1) The moving average is calculated 10 years back

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

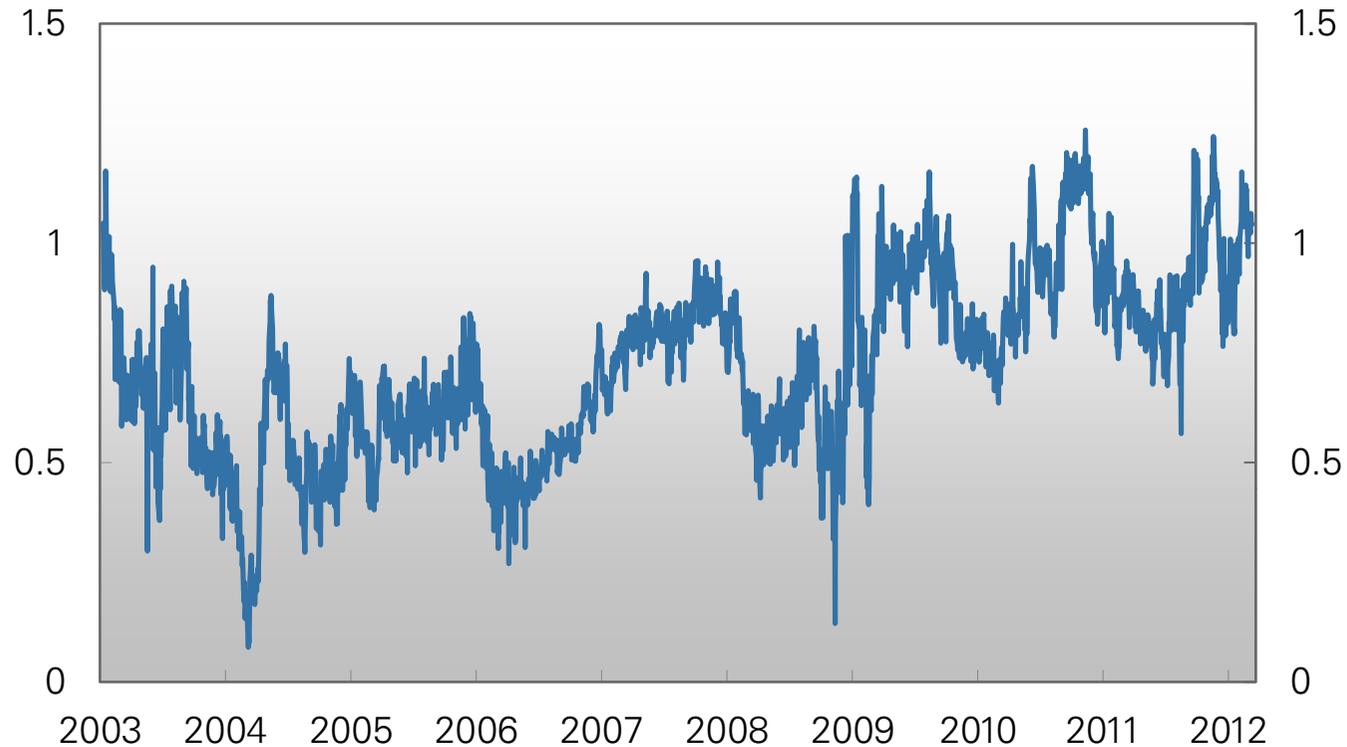
Chart 1.10 Expected consumer price inflation 2 and 5 years ahead.<sup>1)</sup>  
Percent. 2003 Q1 – 2012 Q1



1) Average of expectations of employer/employee organisations and economists  
(financial industry experts and academia)

Sources: TNS Gallup and Perduco

Chart 1.11 Five-year forward rate<sup>1)</sup> differential 5 years ahead between Norway and the euro area.<sup>2)</sup> Percentage points. 1 January 2003 – 9 March 2012

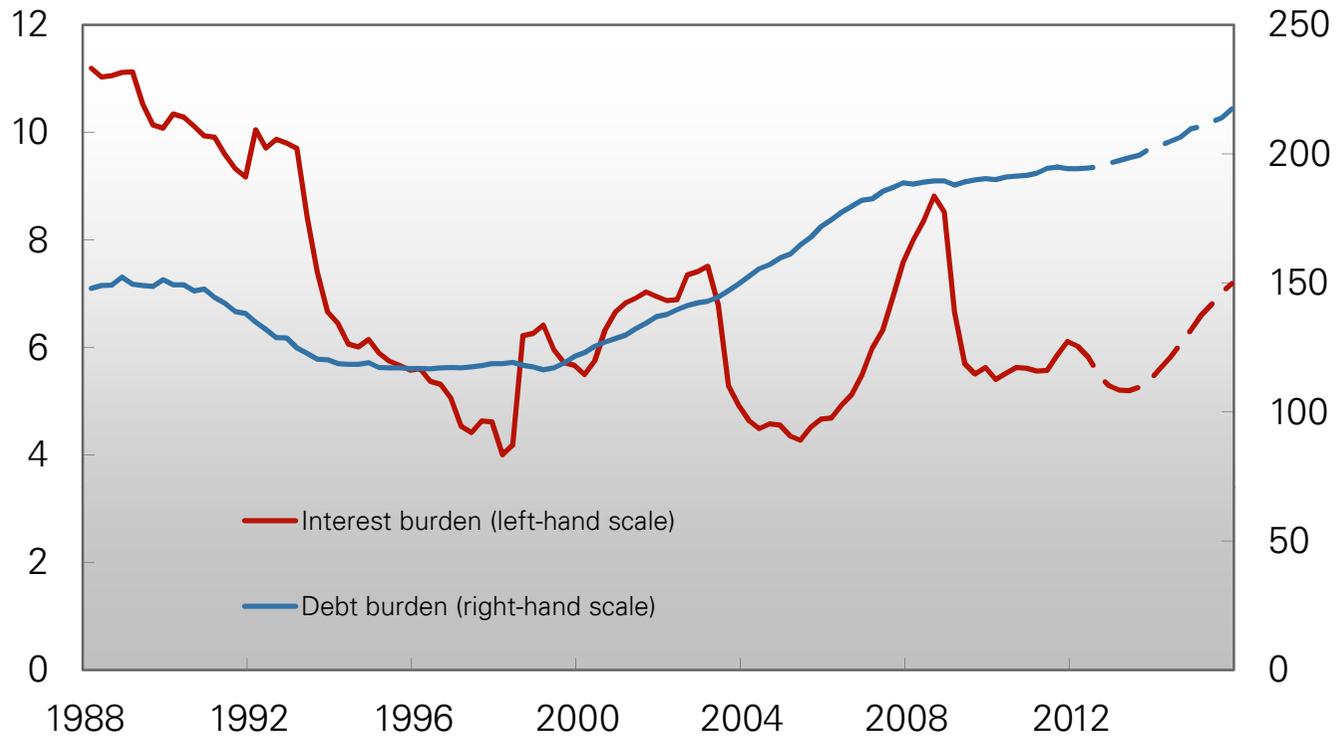


1) Based on swap rates

2) Expected inflation can be derived from the long-term interest rate differential. Due to a higher inflation target in Norway, the long-term interest rate differential will normally be 0.5 – 1 percentage point, depending on risk premium. This level may indicate that long-term inflation expectations are close to target.

Sources: Thomson Reuters and Norges Bank

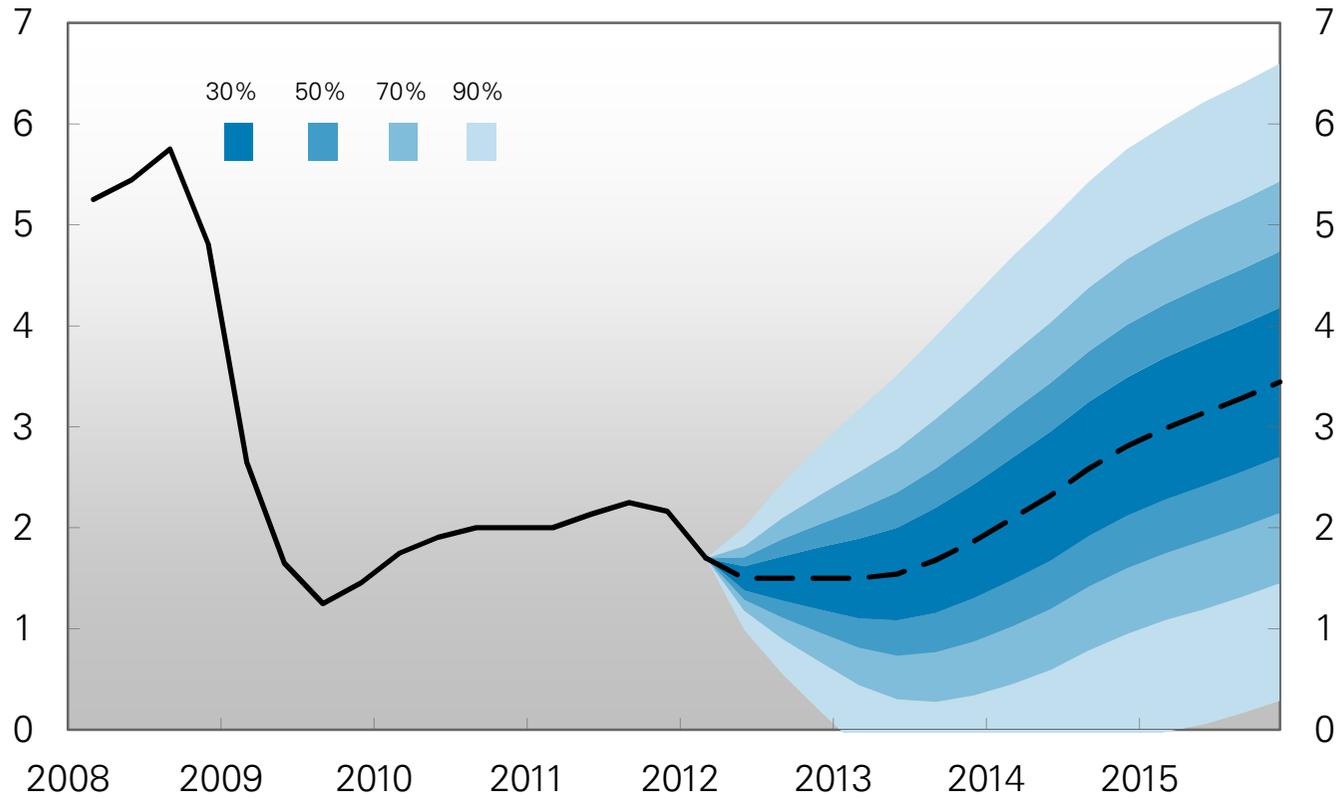
Chart 1.12 Household debt burden<sup>1)</sup> and interest burden<sup>2)</sup>.  
 Percent. Quarterly figures. 1988 Q1 – 2015 Q4



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

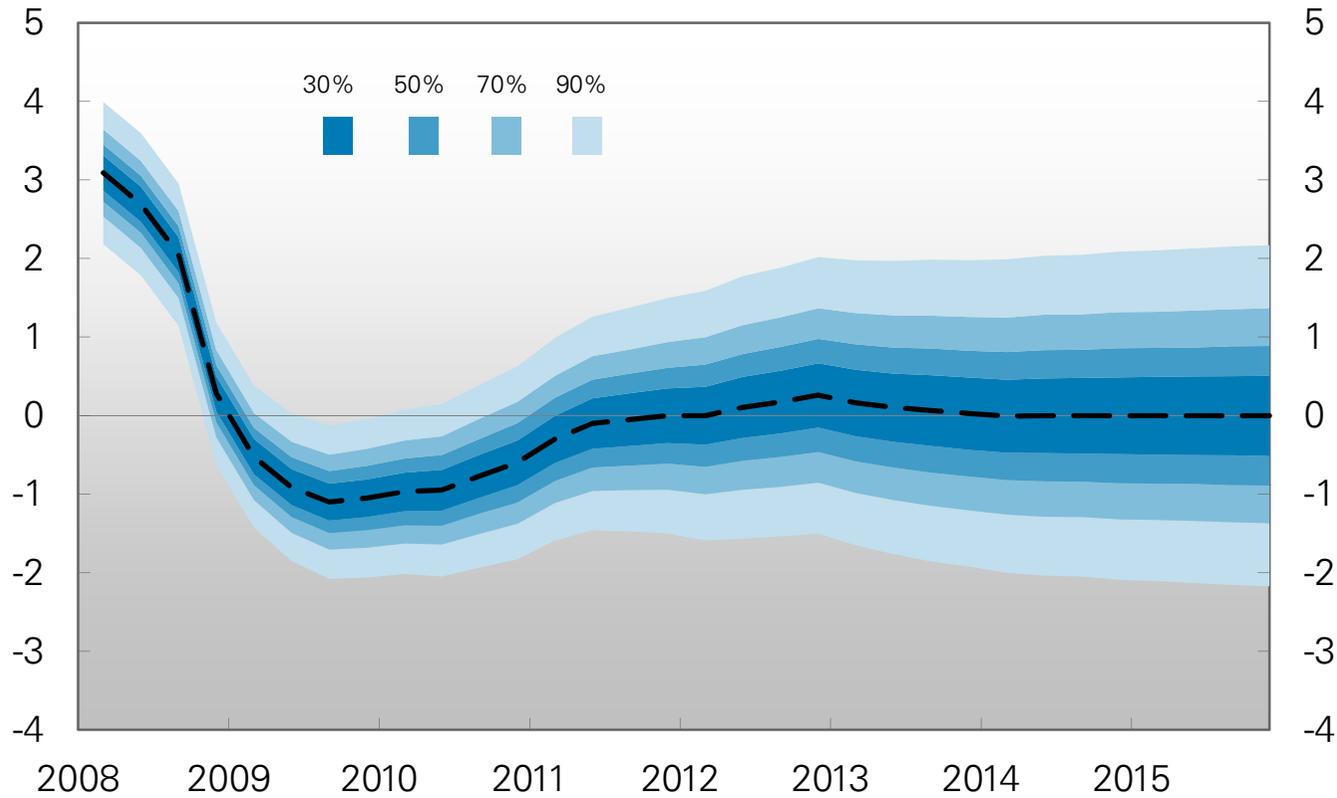
Sources: Statistics Norway and Norges Bank

Chart 1.13a Projected key policy rate in the baseline scenario with probability distribution. Percent. 2008 Q1– 2015 Q4



Source: Norges Bank

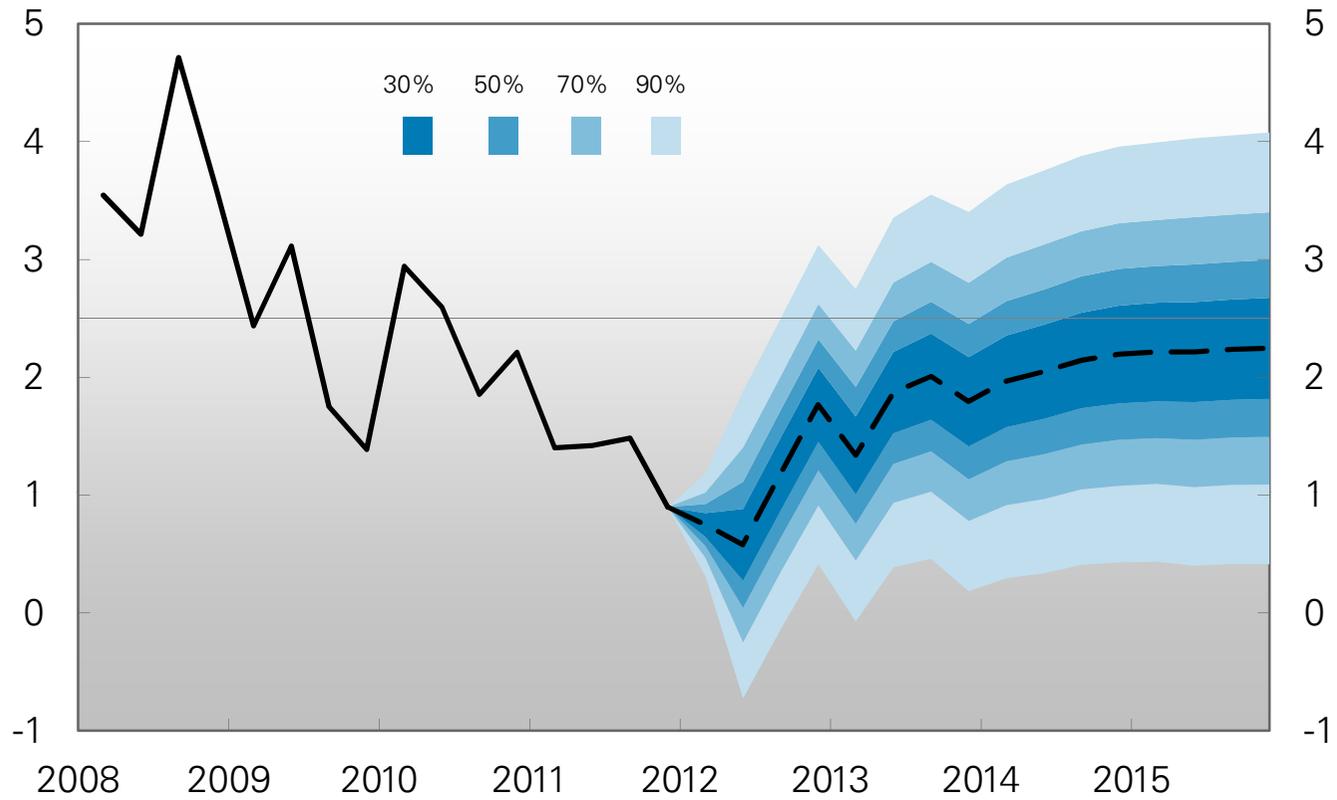
Chart 1.13b Projected output gap<sup>1)</sup> in the baseline scenario with probability distribution. Percent. 2008 Q1 – 2015 Q4



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

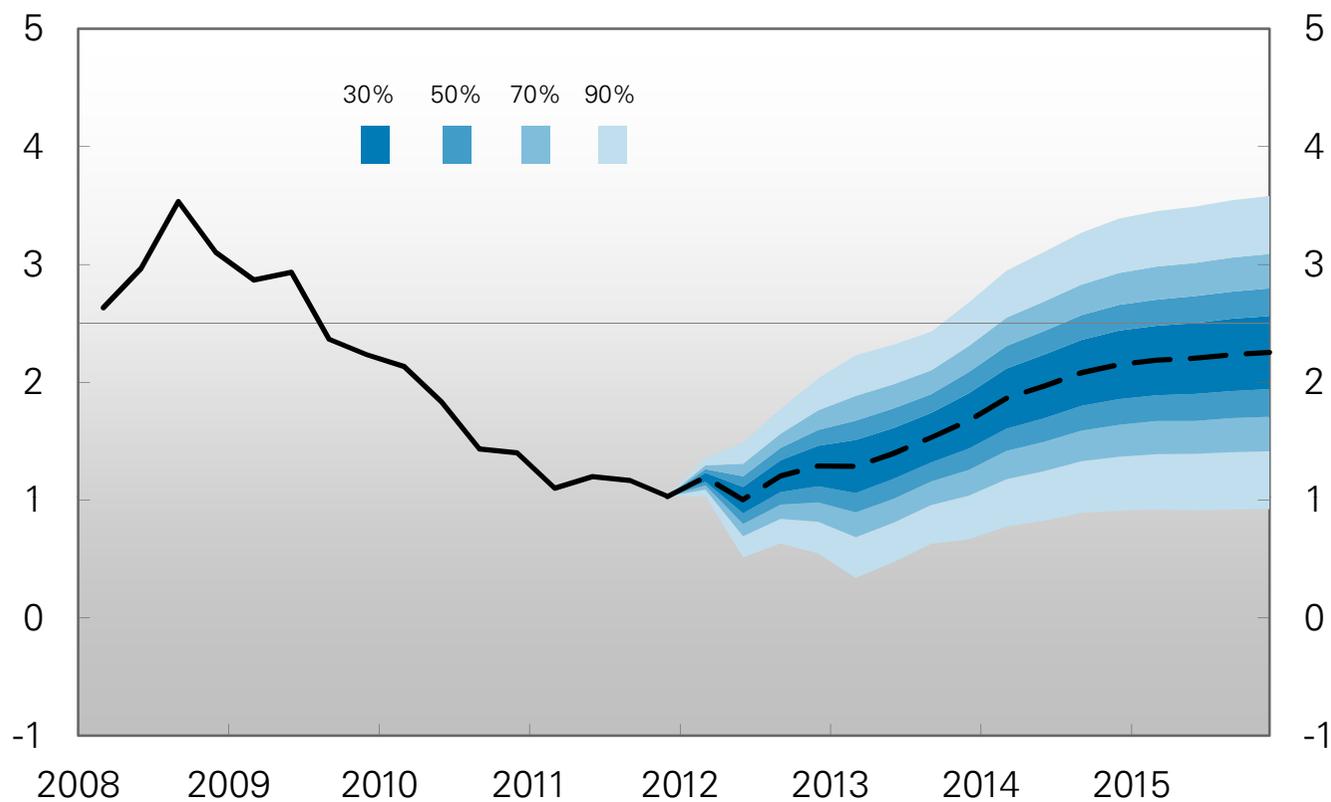
Source: Norges Bank

Chart 1.13c Projected CPI in the baseline scenario with probability distribution. Four-quarter change. Percent. 2008 Q1 – 2015 Q4



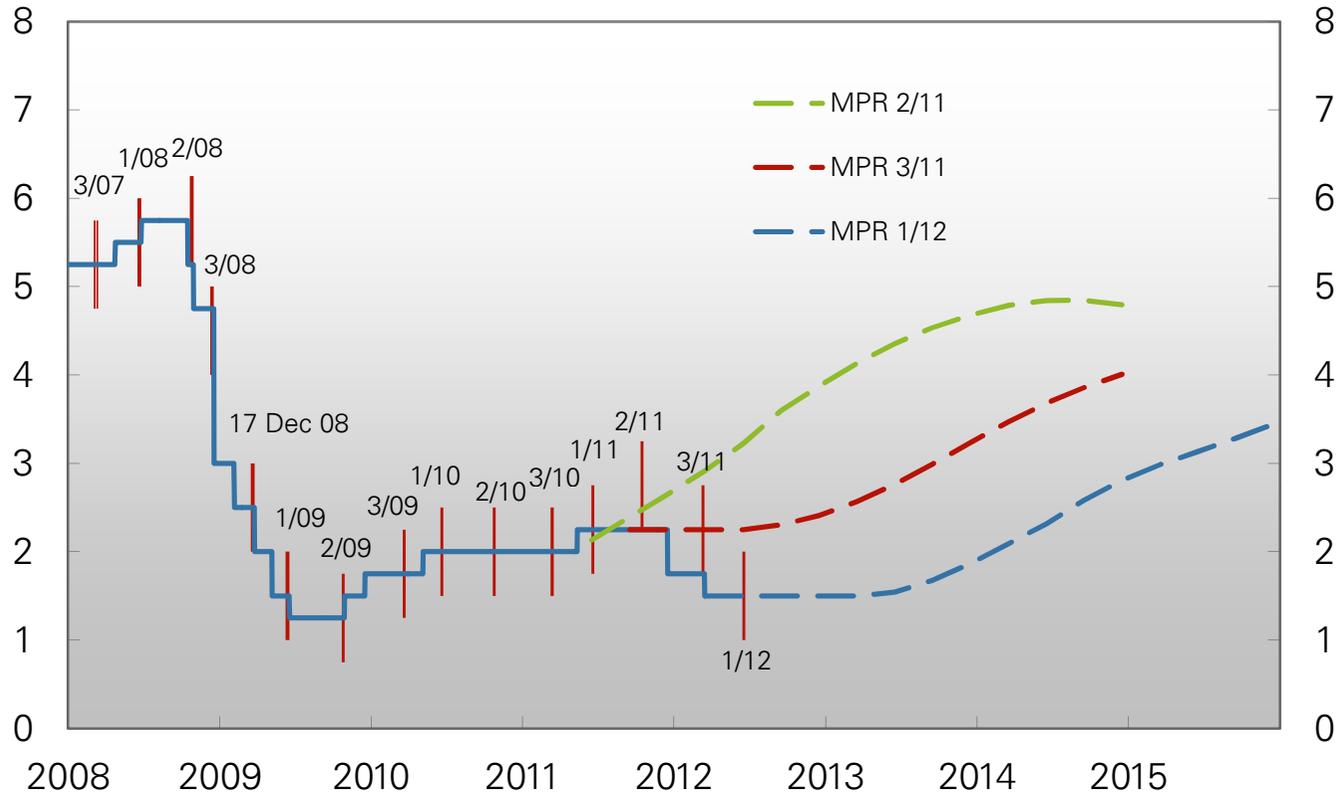
Sources: Statistics Norway and Norges Bank

Chart 1.13d Projected CPIXE<sup>1)</sup> in the baseline scenario with probability distribution. Four-quarter change. Percent. 2008 Q1 – 2015 Q4



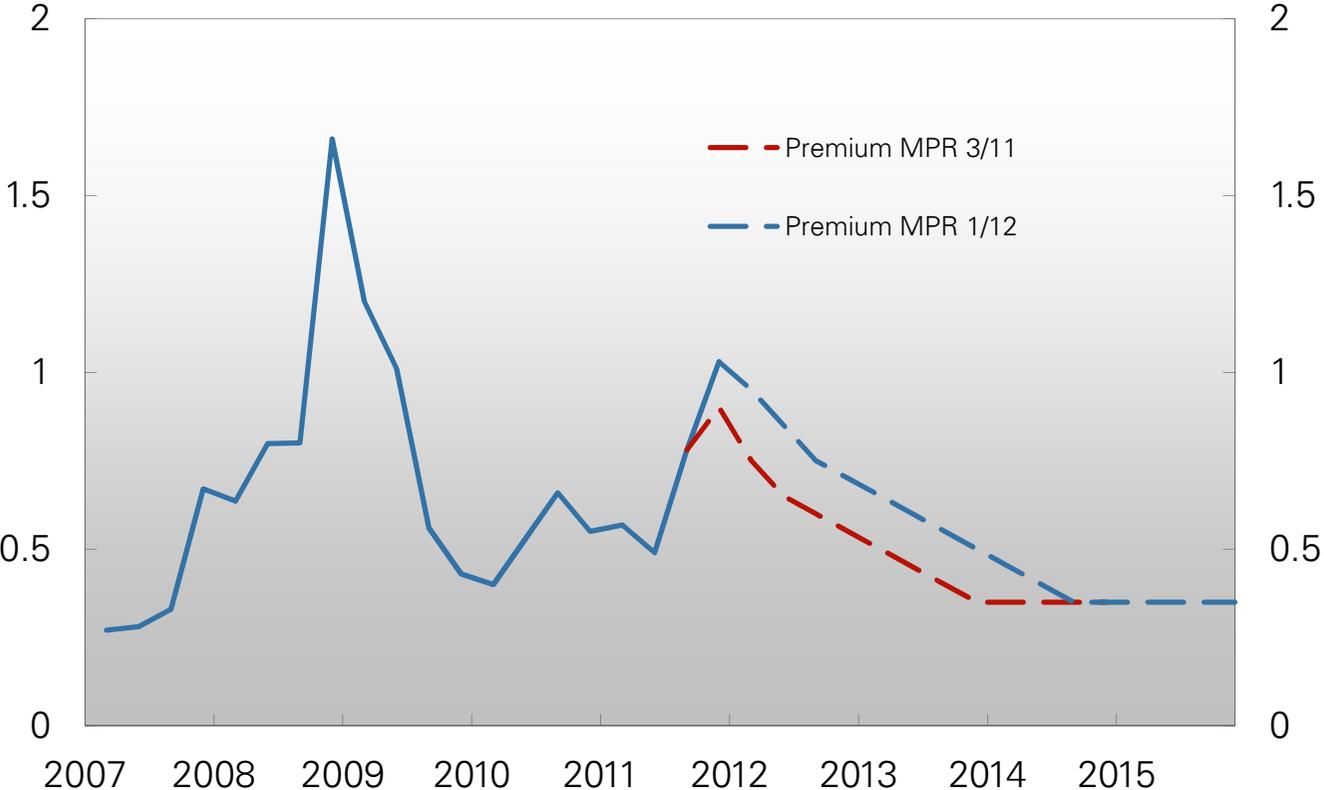
1) CPI adjusted for tax changes and excluding temporary changes in energy prices.  
 As from August 2008, the CPIXE is a real time series. See Norges Bank  
*Staff Memo 7/2008 and 3/2009*  
 Source: Norges Bank

Chart 1.14 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



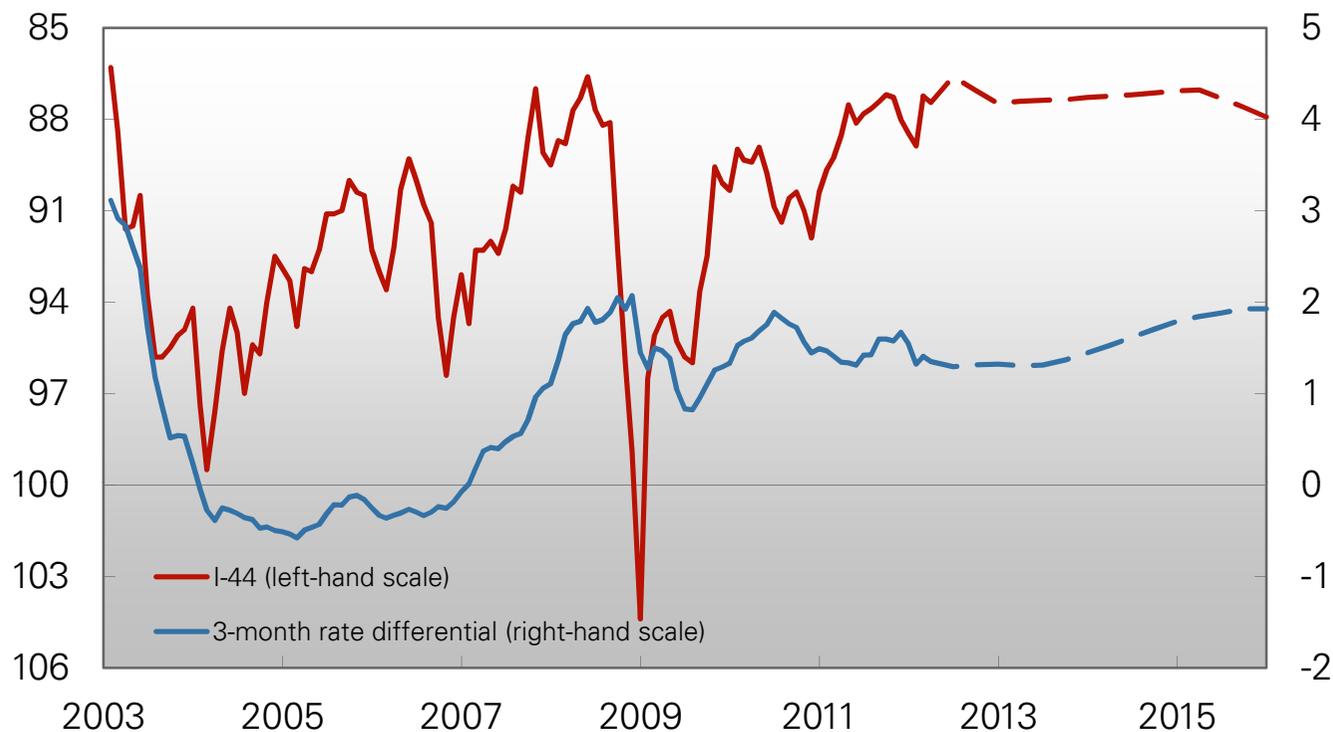
Source: Norges Bank

Chart 1.15 Difference between 3-month money market rate and expected key rates.<sup>1)</sup> Percentage points. 2007 Q1 – 2015 Q4



1) Norges Bank's projections from 2012 Q1  
Source: Norges Bank

Chart 1.16 Three-month money market rate differential between Norway<sup>1)</sup> and trading partners and the import-weighted exchange rate index (I-44)<sup>2)</sup>. January 2003 – December 2015<sup>3)</sup>



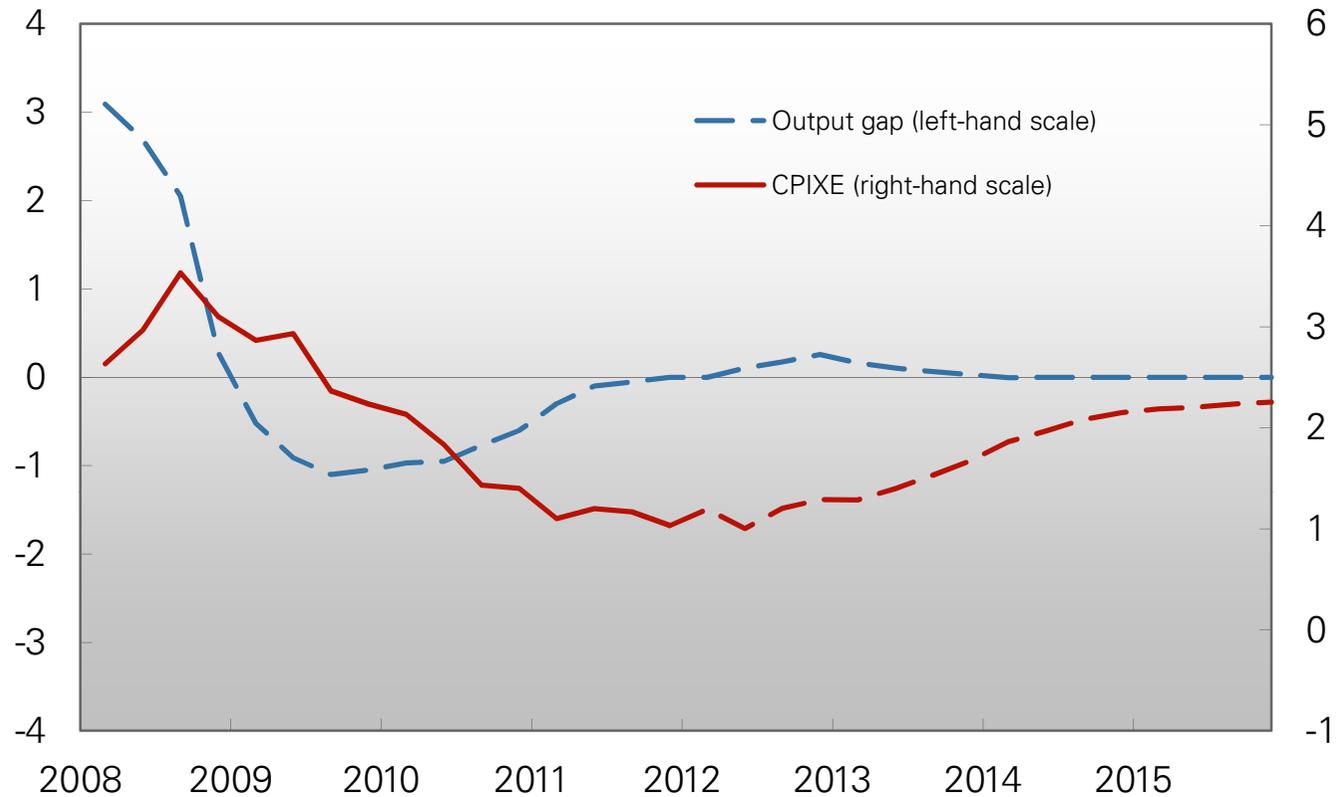
1) Key policy rate in the baseline scenario plus premiums in the Norwegian money market. The calculations are based on the assumption that announced interest rate changes are priced into the money market

2) A positive slope denotes a stronger krone exchange rate

3) Monthly figures from January 2003 and Norges Bank projections from 2012 Q1

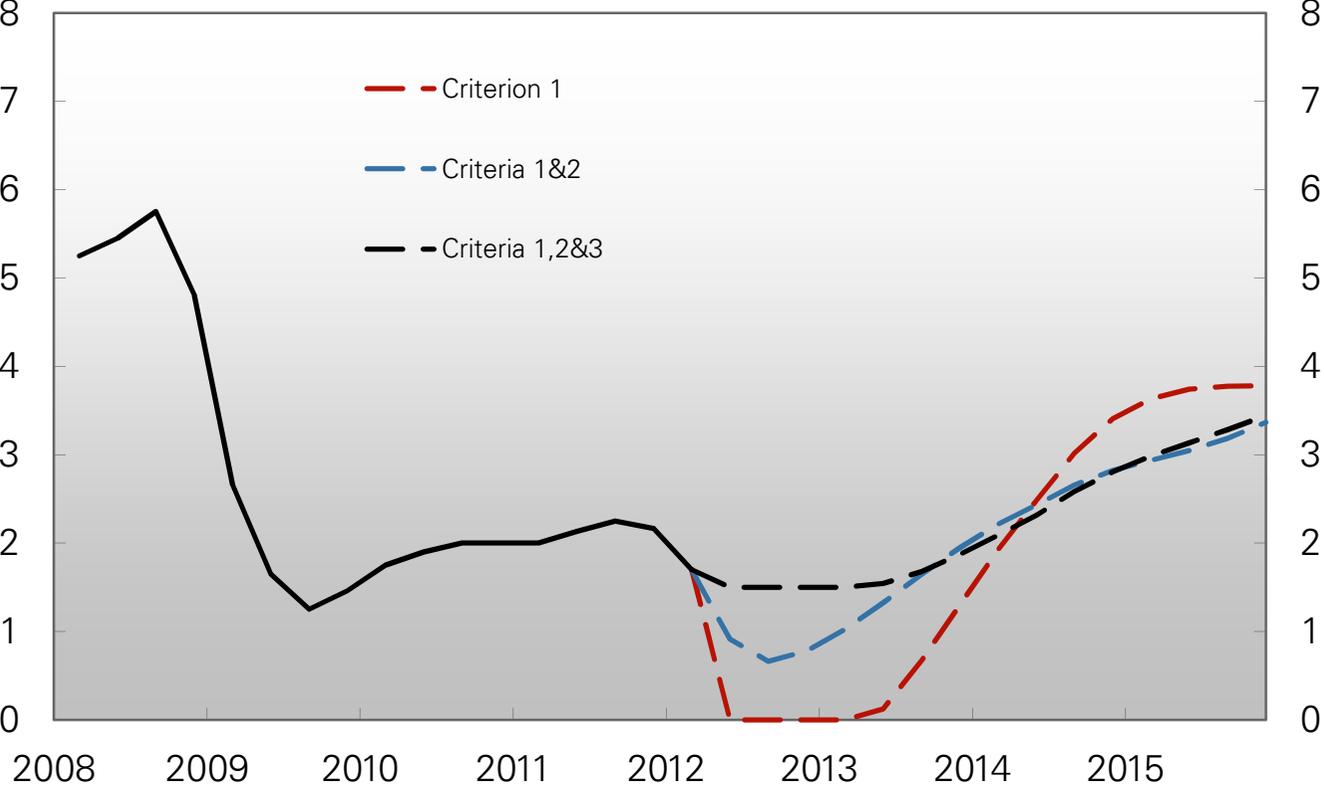
Sources: Thomson Reuters and Norges Bank

Chart 1.17 Projected inflation<sup>1)</sup> and output gap in the baseline scenario.  
Percent. 2008 Q1 – 2015 Q4



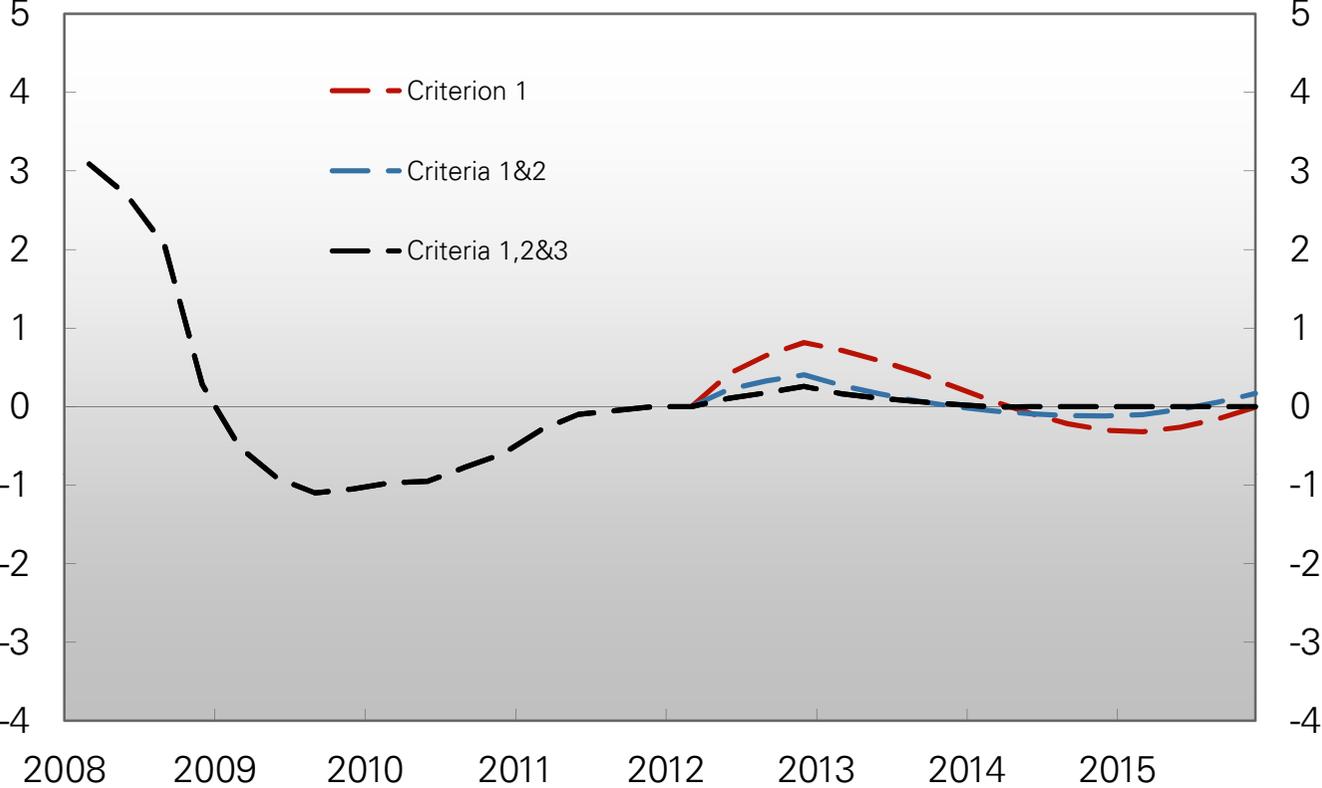
1) CPIXE: CPI adjusted for tax changes and excluding temporary changes in energy prices.  
As from August 2008, the CPIXE is a real time series. See Norges Bank *Staff Memo*  
7/2008 and 3/2009  
Source: Norges Bank

Chart 1.18a Key policy rate. Percent. 2008 Q1 – 2015 Q4



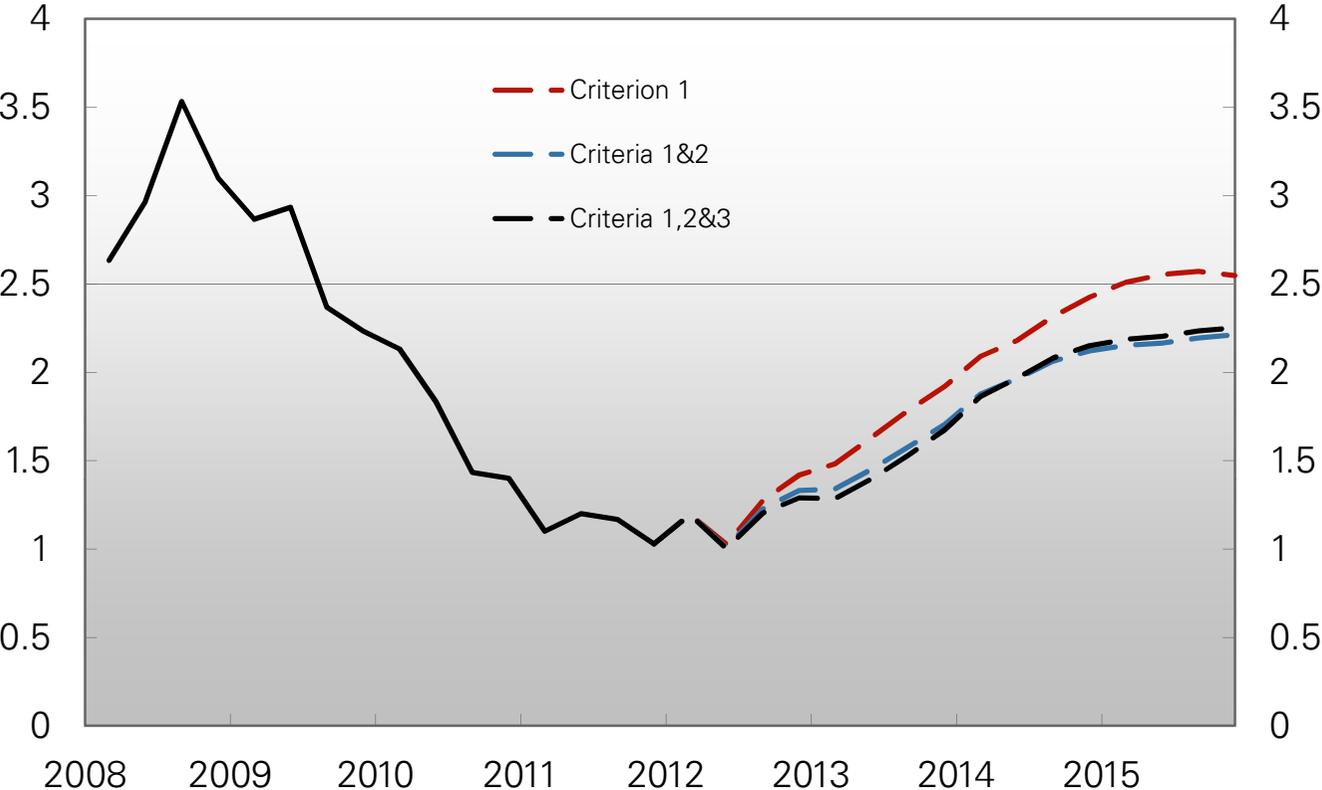
Source: Norges Bank

Chart 1.18b Output gap. Percent. 2008 Q1 – 2015 Q4



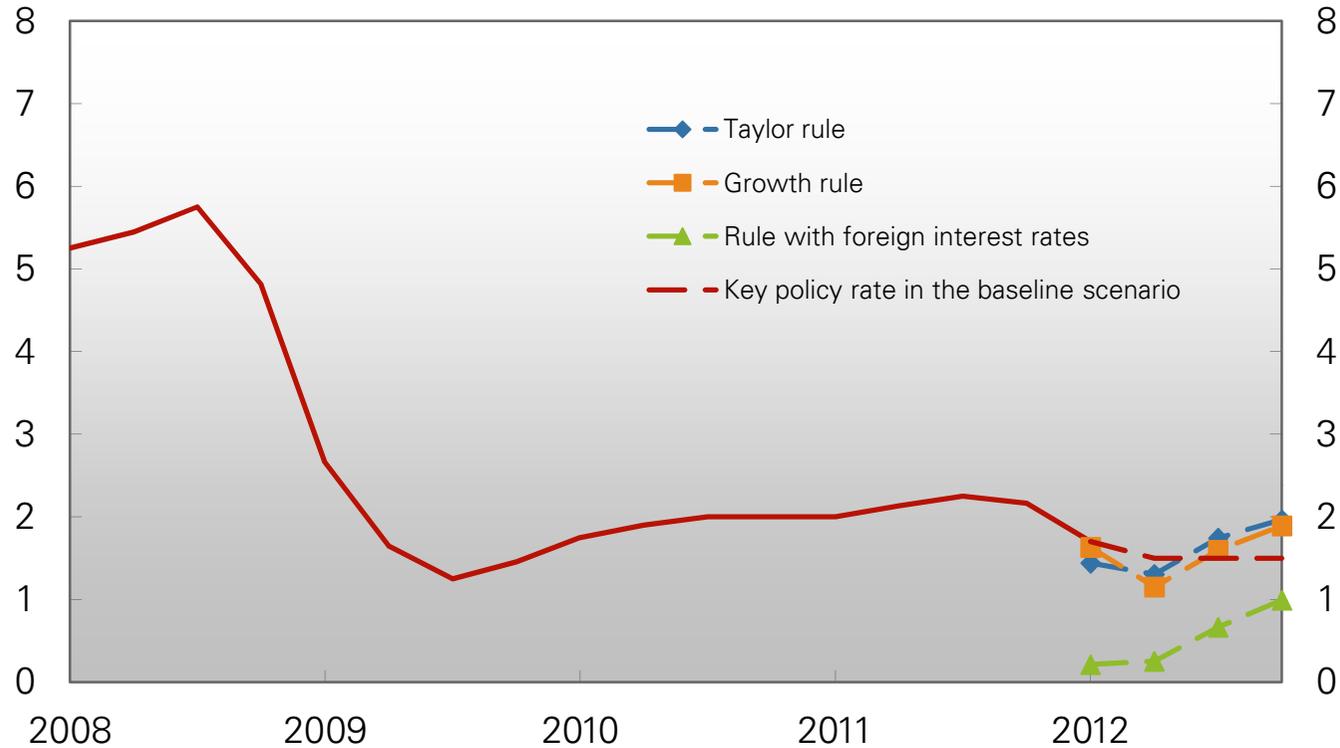
Source: Norges Bank

Chart 1.18c CPIXE<sup>1)</sup>. 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

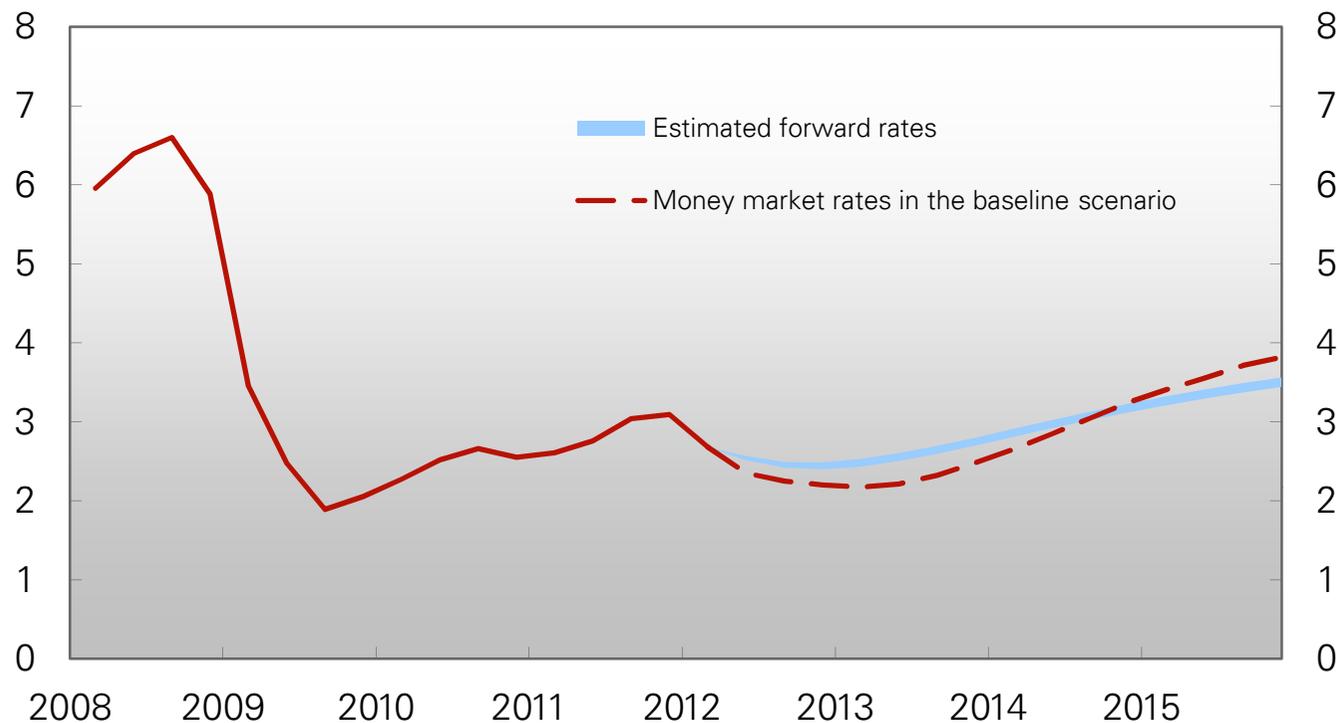
Chart 1.19 Key policy rate and calculations based on simple monetary policy rules.<sup>1)</sup> Percent. 2008 Q1 – 2012 Q1



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 1.20 Three-month money market rates in the baseline scenario<sup>1)</sup> and estimated forward rates<sup>2)</sup>. Percent. 2008 Q1 – 2015 Q4

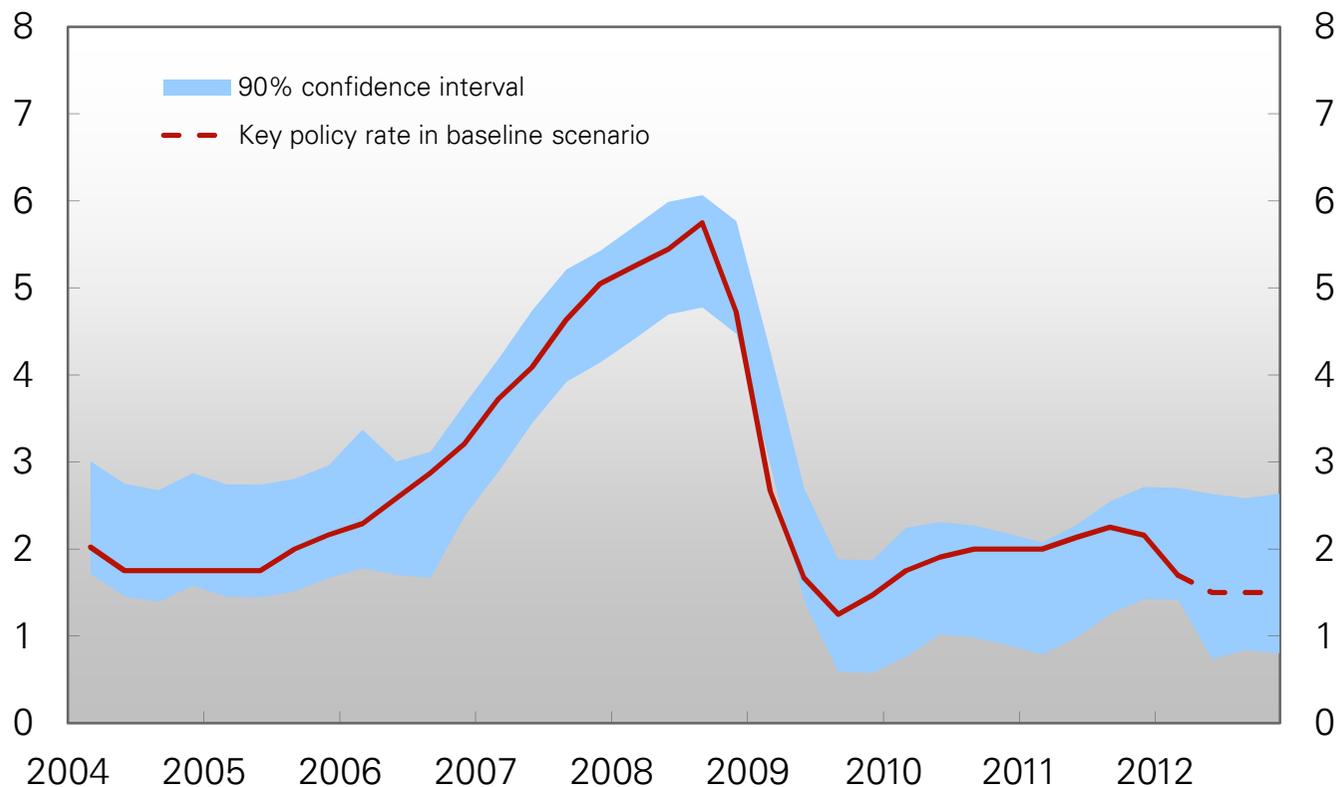


1) Key policy rate in the baseline scenario plus premiums in the Norwegian money market. The calculations are based on the assumption that announced interest rate changes are priced into the money market.

2) Forward rates are based on money market rates and interest rate swaps. The blue band shows the highest and lowest forward rates in the period 27 February – 9 March 2012

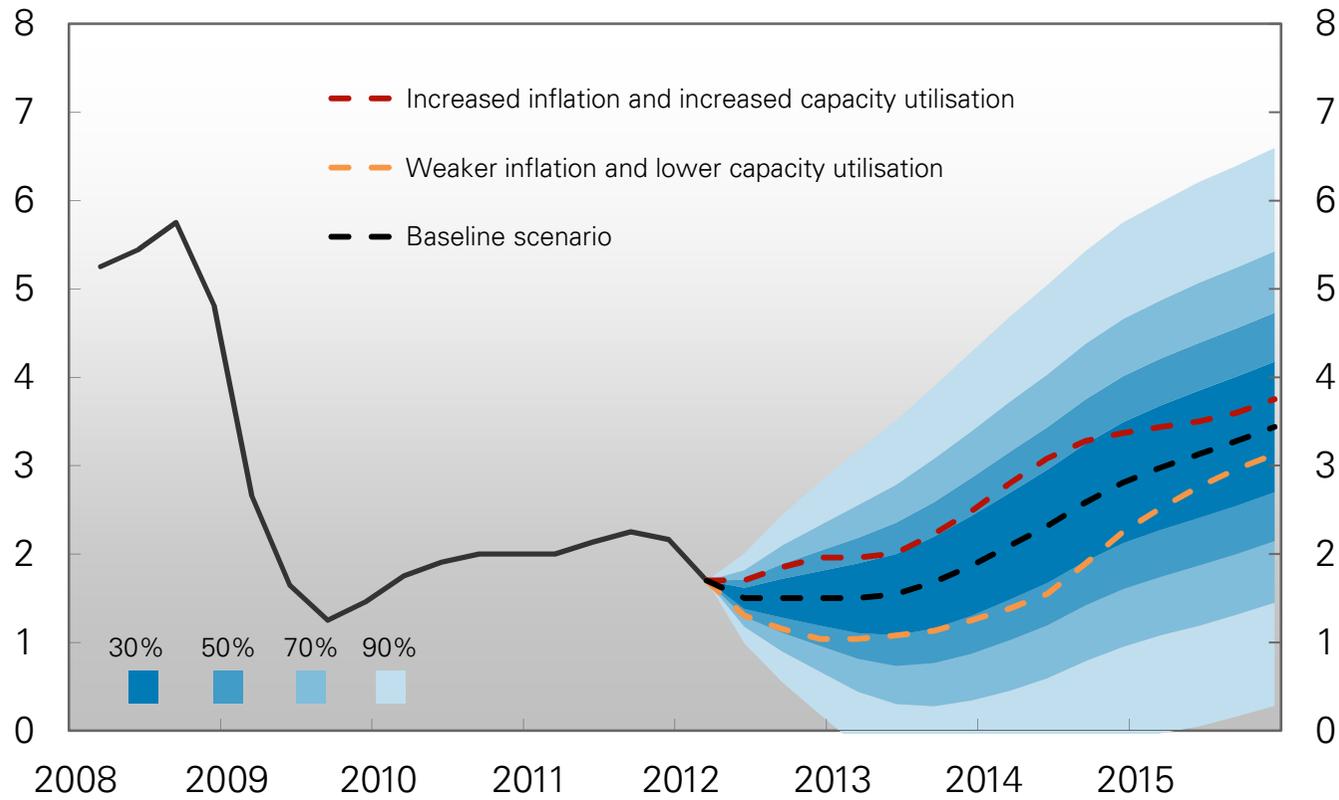
Sources: Thomson Reuters and Norges Bank

Chart 1.21 Key policy rate and interest rate developments that follow from Norges Bank's average pattern of interest rate setting.<sup>1)</sup>  
 Percent. 2004 Q1 – 2012 Q4



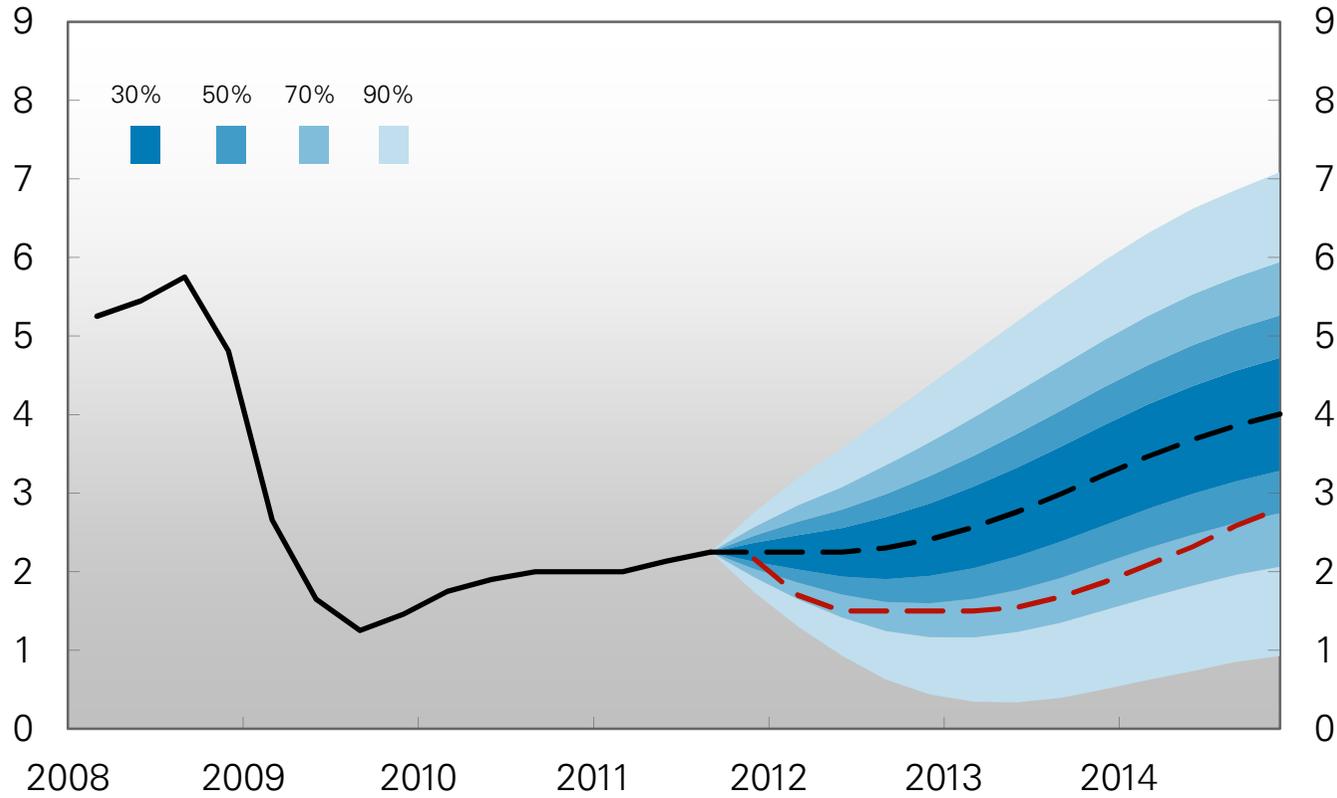
1) Interest rate movements are explained by developments in inflation, mainland GDP growth, wage growth and 3-month money market rates among trading partners. The equation is estimated over the period 1999 Q1 – 2011 Q4. See *Staff Memo 3/2008* for further discussion  
 Source: Norges Bank

Chart 1.22 Key policy rate in the baseline scenario and in the alternative scenarios. Percent. 2008 Q1 – 2015 Q4



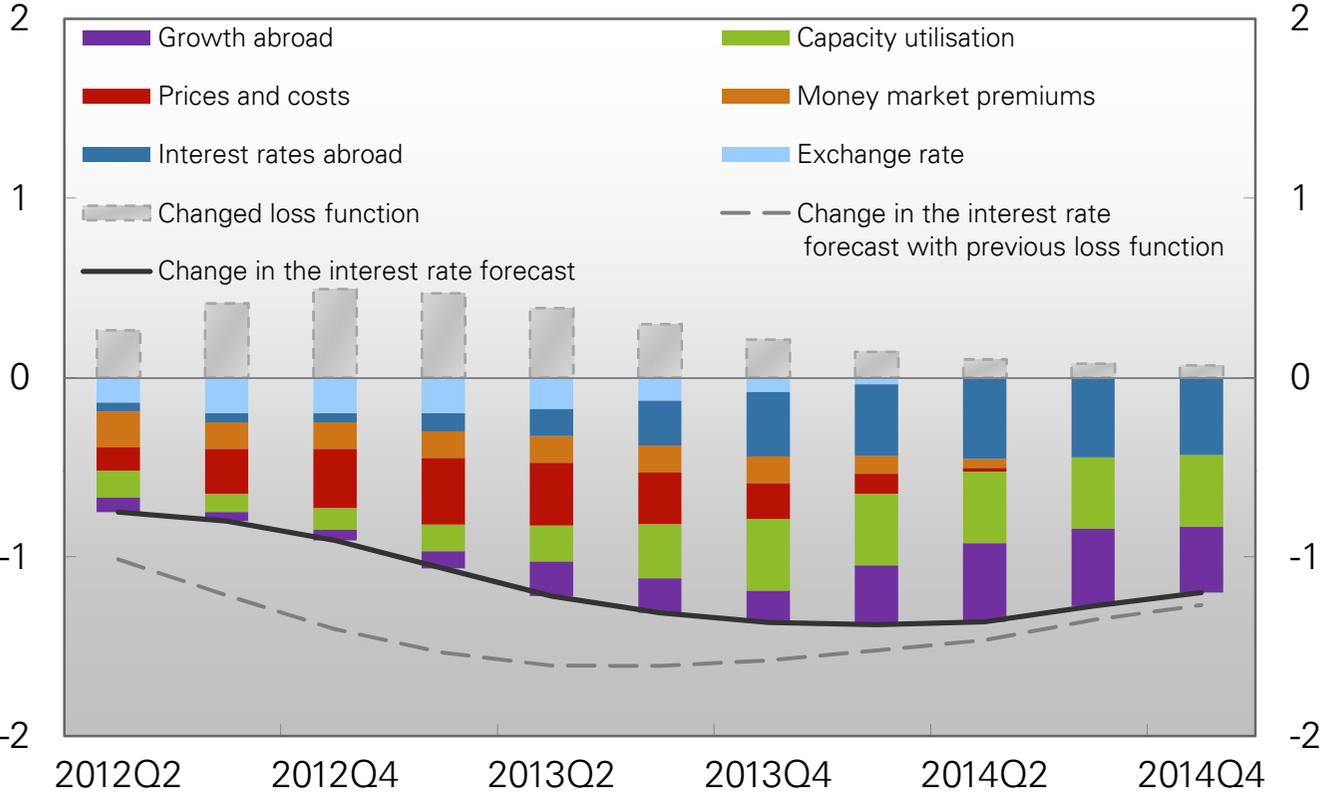
Source: Norges Bank

Chart 1 Key policy rate in the baseline scenario in MPR 3/11 with probability distribution and key policy rate in the baseline scenario in MPR 1/12 (red line). Per cent. 2008 Q1 – 2014 Q4



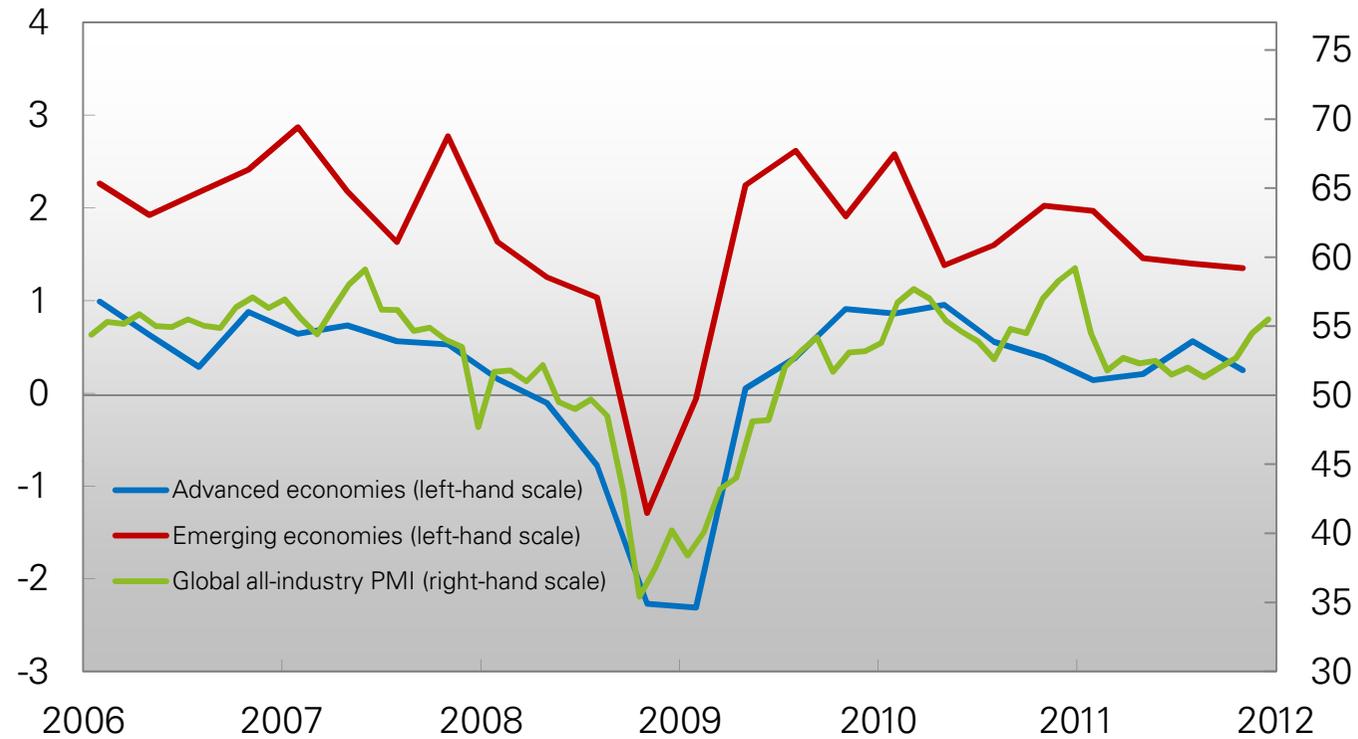
Source: Norges Bank

Chart 2 Factors behind changes in the interest rate forecast since MPR 3/11. Accumulated contribution. Percentage points. 2011 Q4 – 2014 Q4



Source: Norges Bank

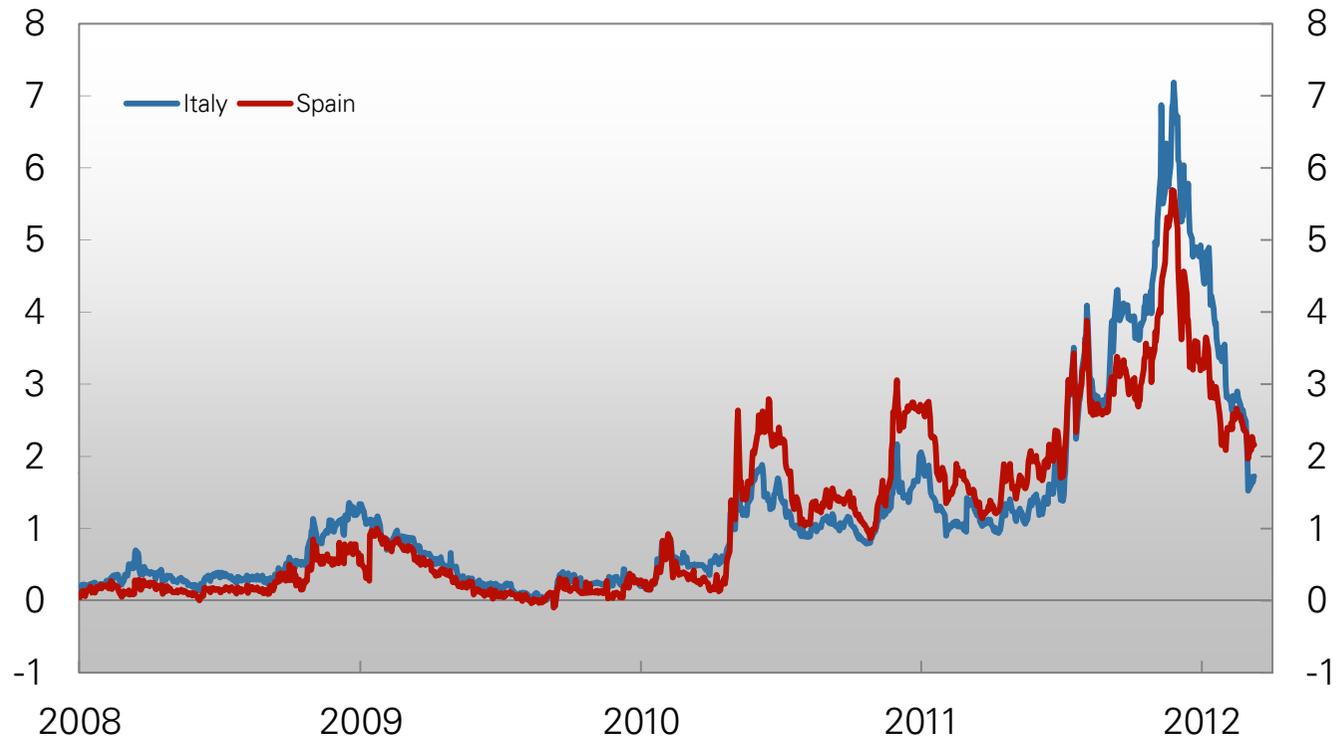
Chart 2.1 GDP in advanced economies and emerging markets<sup>1)</sup> and global all-industry PMI. GDP: quarterly growth, in per cent, 2006 Q1 – 2011 Q4. PMI: diffusion index centered around 50, January 2006 - February 2012



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.

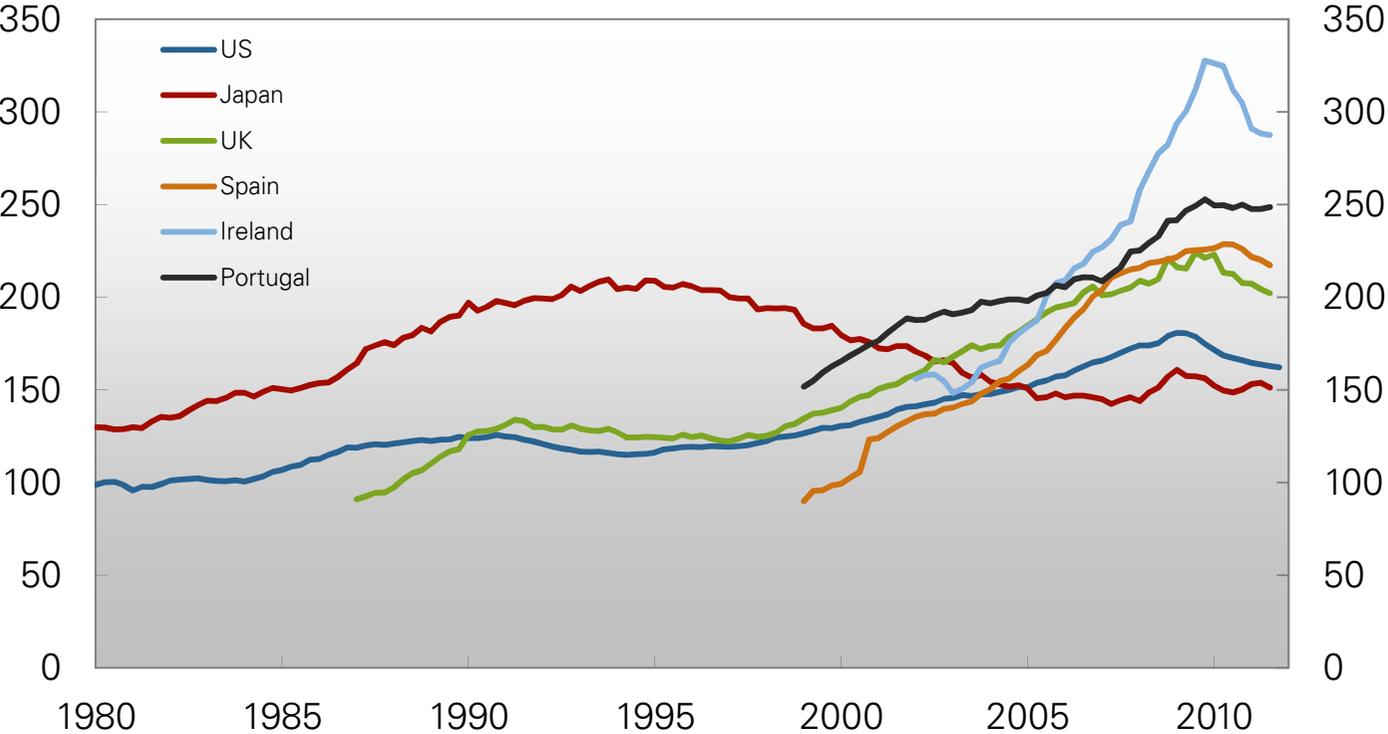
Sources: IMF, Thomson Reuters, Bloomberg and Norges Bank

Chart 2.2 Yield spreads against German 2-year government bonds. Percentage points. January 1 2008 – March 9 2012



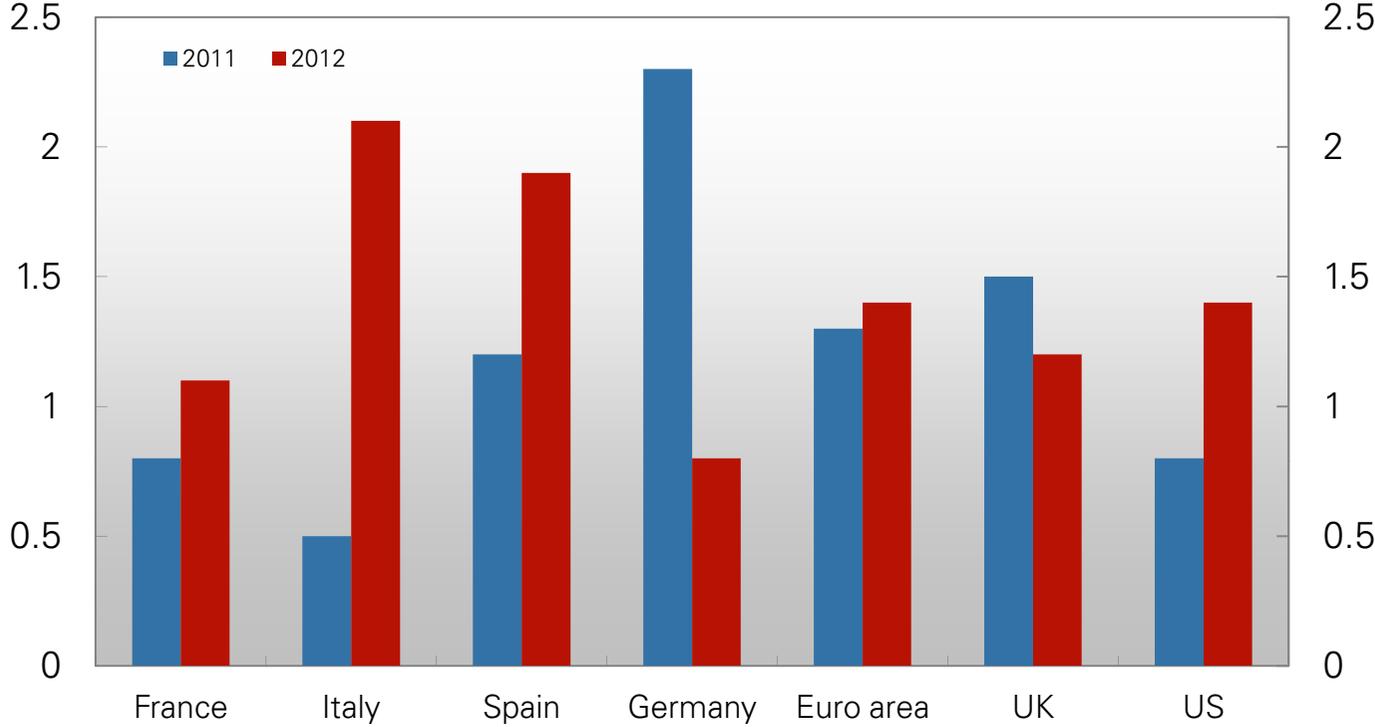
Source: Thomson Reuters

Chart 2.3 Non-financial private sector gross debt<sup>1)</sup>. As a percentage of GDP.  
 1980 Q1 – 2011 Q3<sup>2)</sup>



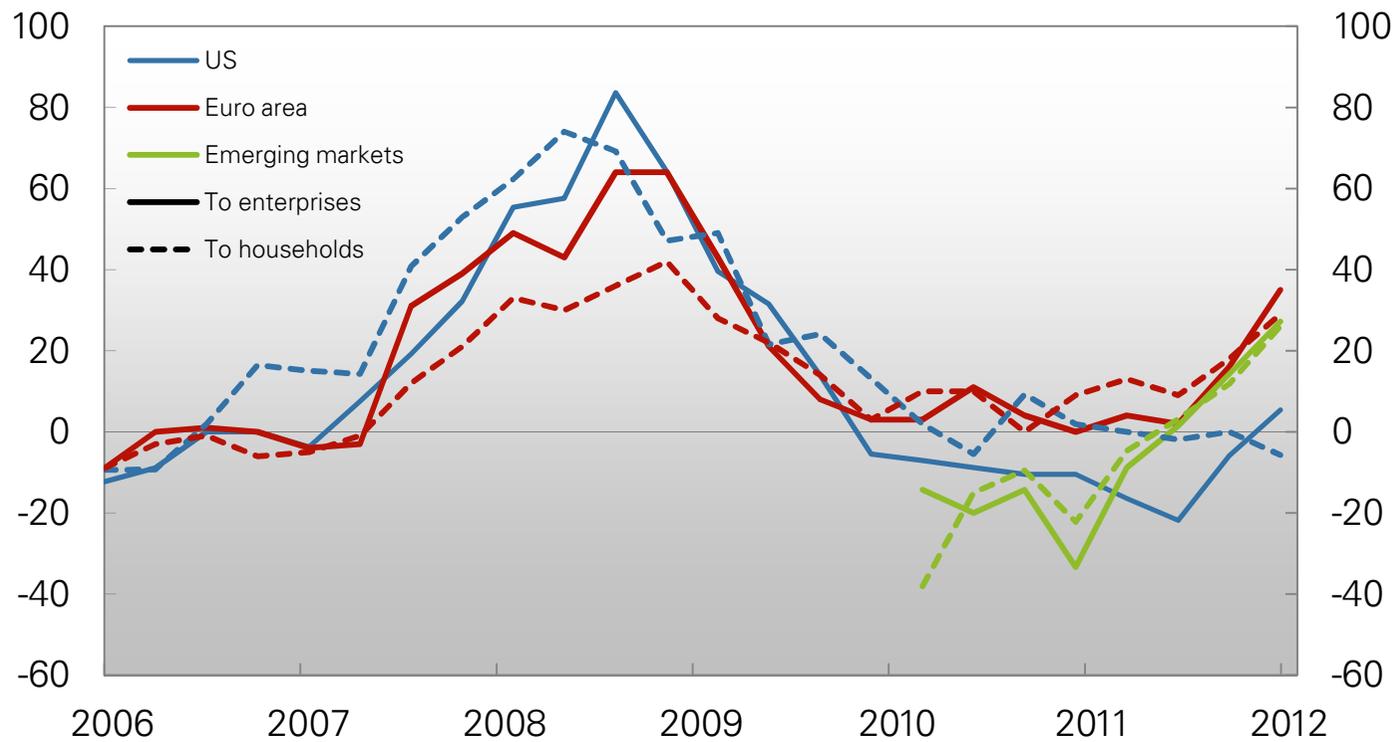
1) Figures for Ireland, Portugal and Spain include debt in public non-financial corporations.  
 2) US to end 2011 Q4  
 Sources: ECB, Thomson Reuters and Norges Bank

Chart 2.4 Fiscal tightening. Change in structural budget balance (as a percentage of GDP) from one year earlier. Percentage points



Source: IMF

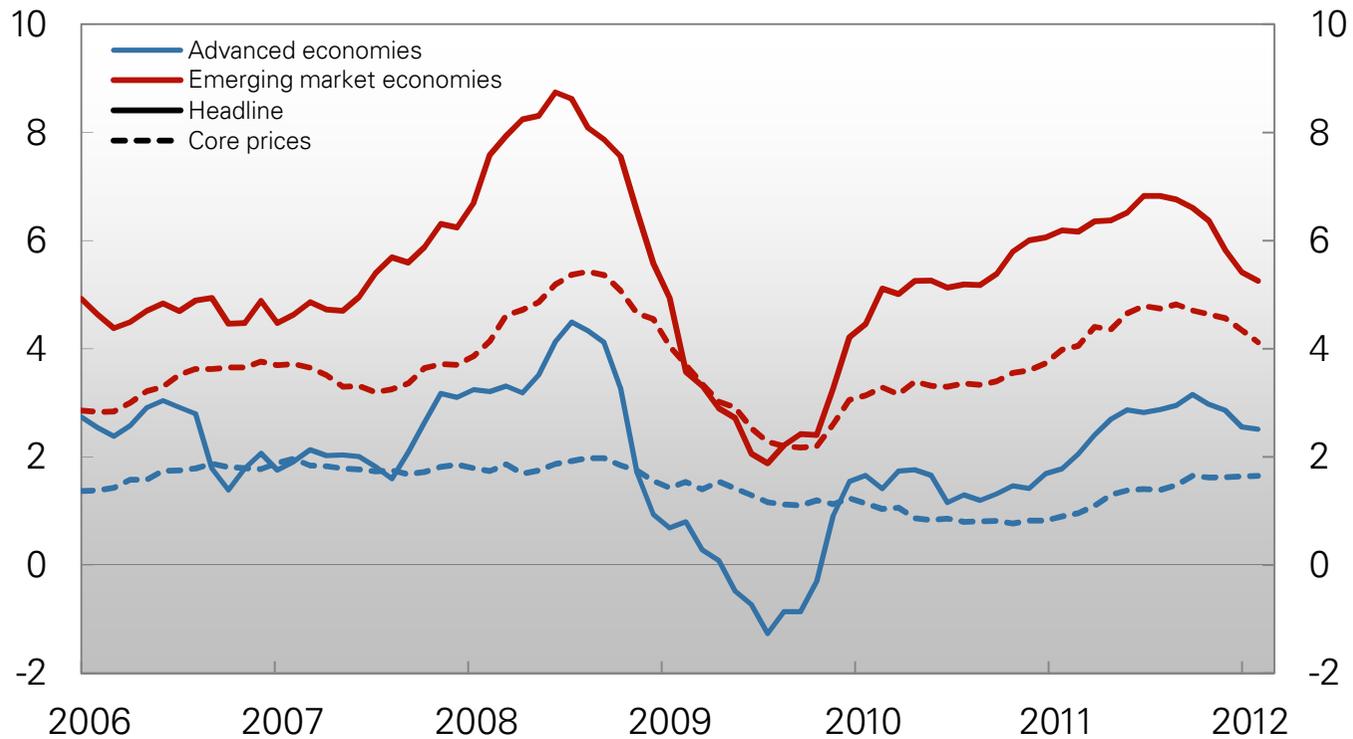
Chart 2.5 Bank lending conditions. Net balance<sup>1)</sup>.  
2006 Q1 – 2012 Q4



1) Values above 0 indicate tighter lending conditions

Sources: Thomson Reuters, Institute of International Finance and Norges Bank

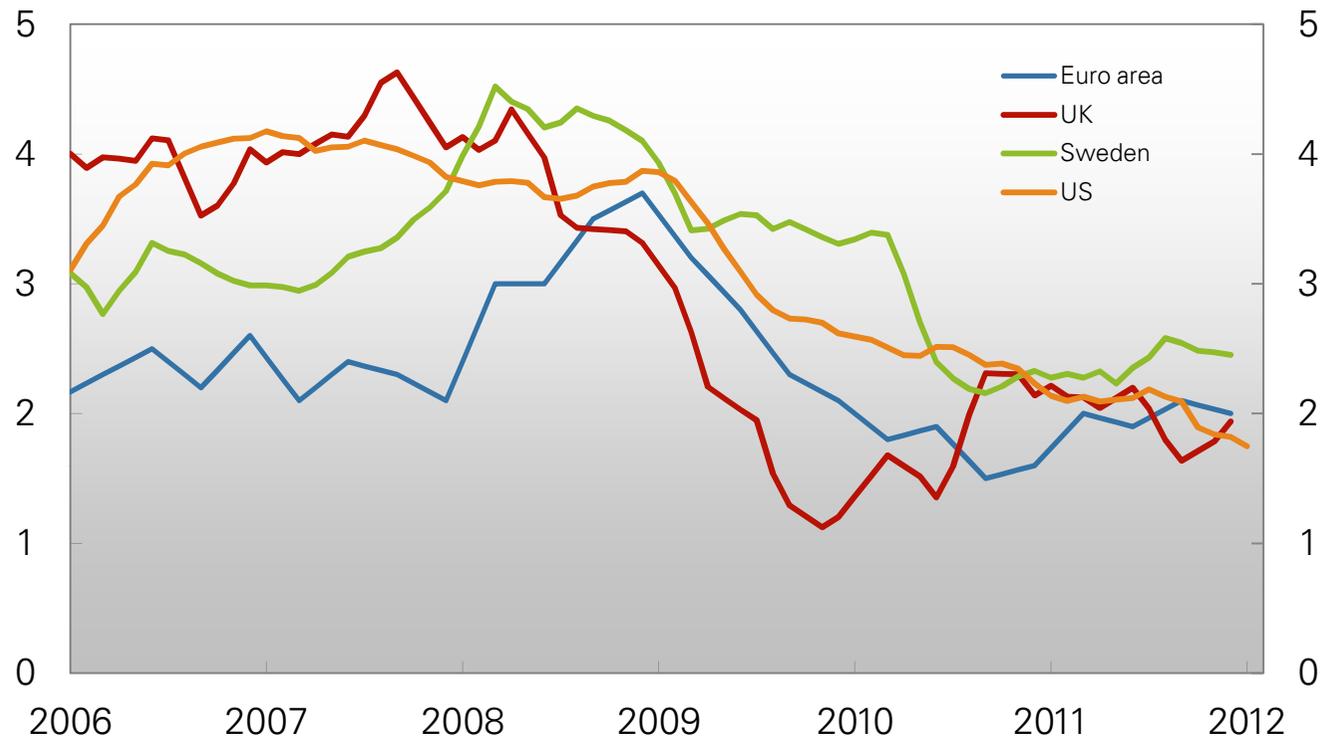
Chart 2.6 Consumer prices in advanced economies and emerging markets.<sup>1)</sup>  
 12-month change. Per cent. January 2006 – January 2012



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.

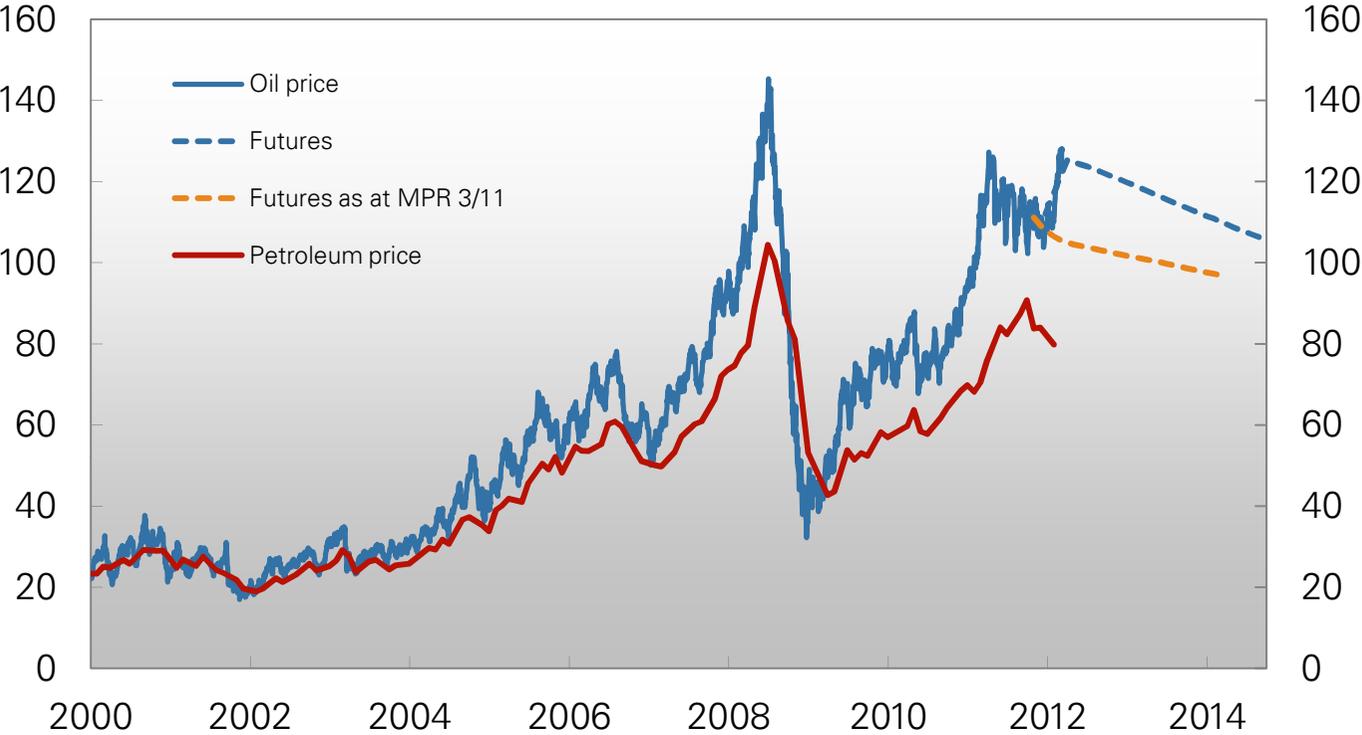
Sources: CEIC, IMF, Thomson Reuters and Norges Bank

Chart 2.7 Wages.<sup>1)</sup> 12-month change, 3-month moving average. Per cent.  
January 2006 – January 2012



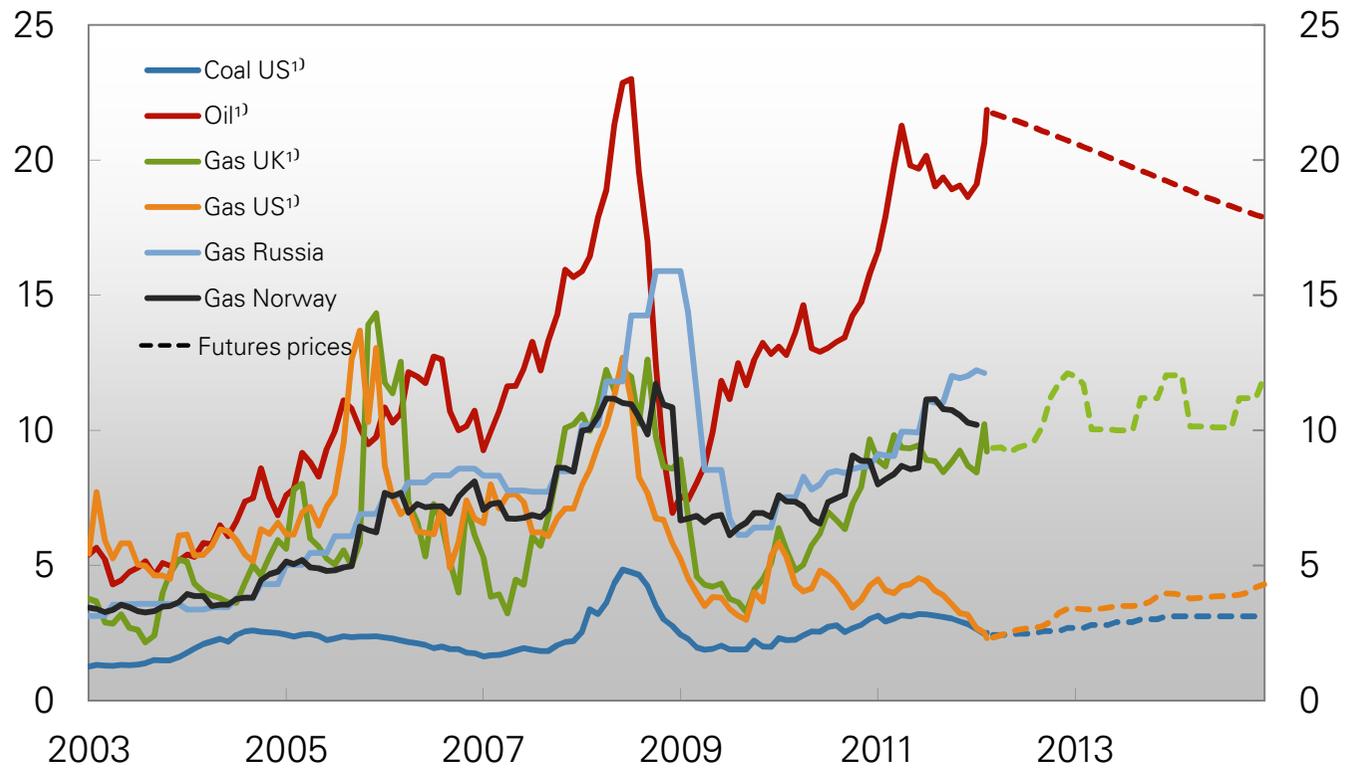
1) Total economy wages. US to end January, UK and Sweden to end December. For the euro area quarterly figures to end 2011 Q4.  
Source: Thomson Reuters

Chart 2.8 Oil price (Brent Blend) and prices for Norwegian petroleum exports<sup>1)</sup>. USD/barrel. January 2000 – December 2015



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

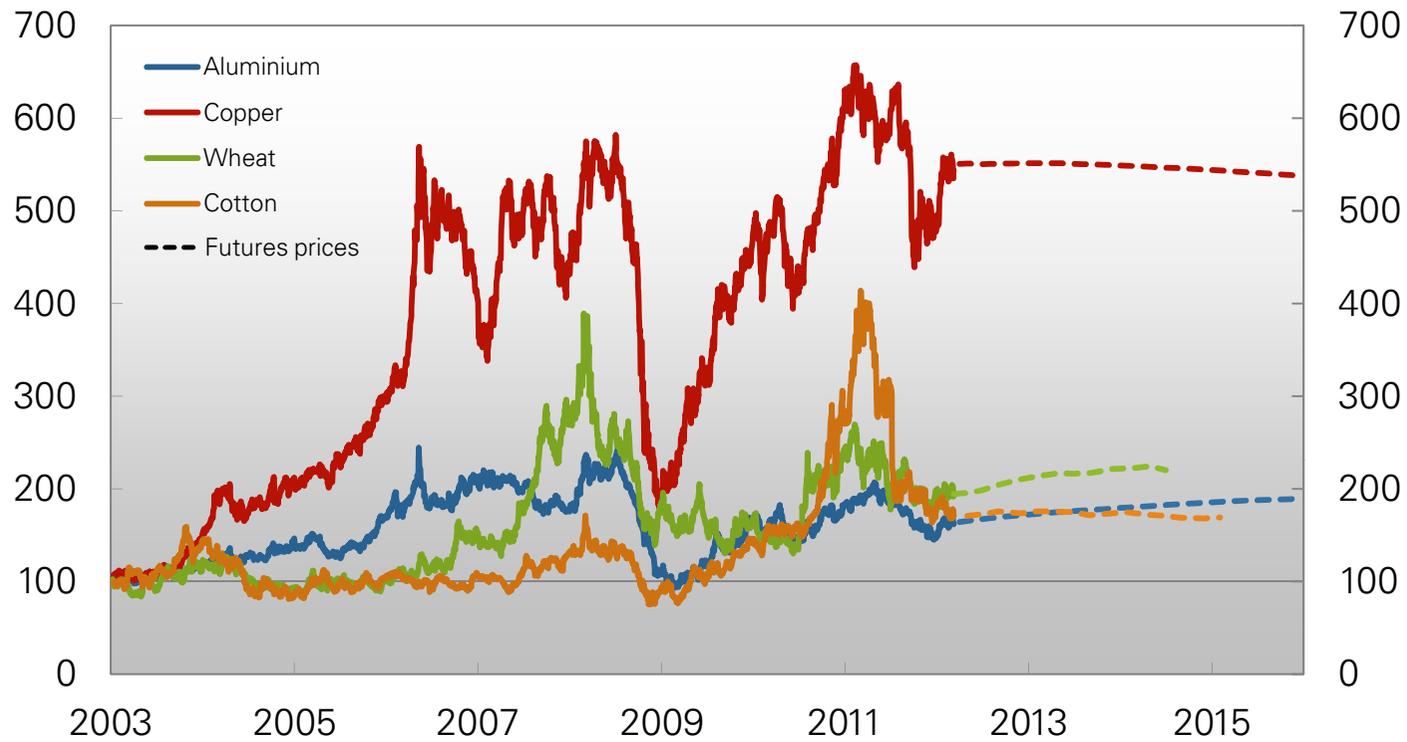
Chart 2.9 Prices for coal, crude oil and natural gas. USD per MMBTU.  
January 2003 – January 2015



1) For March 2012 calculated as daily average

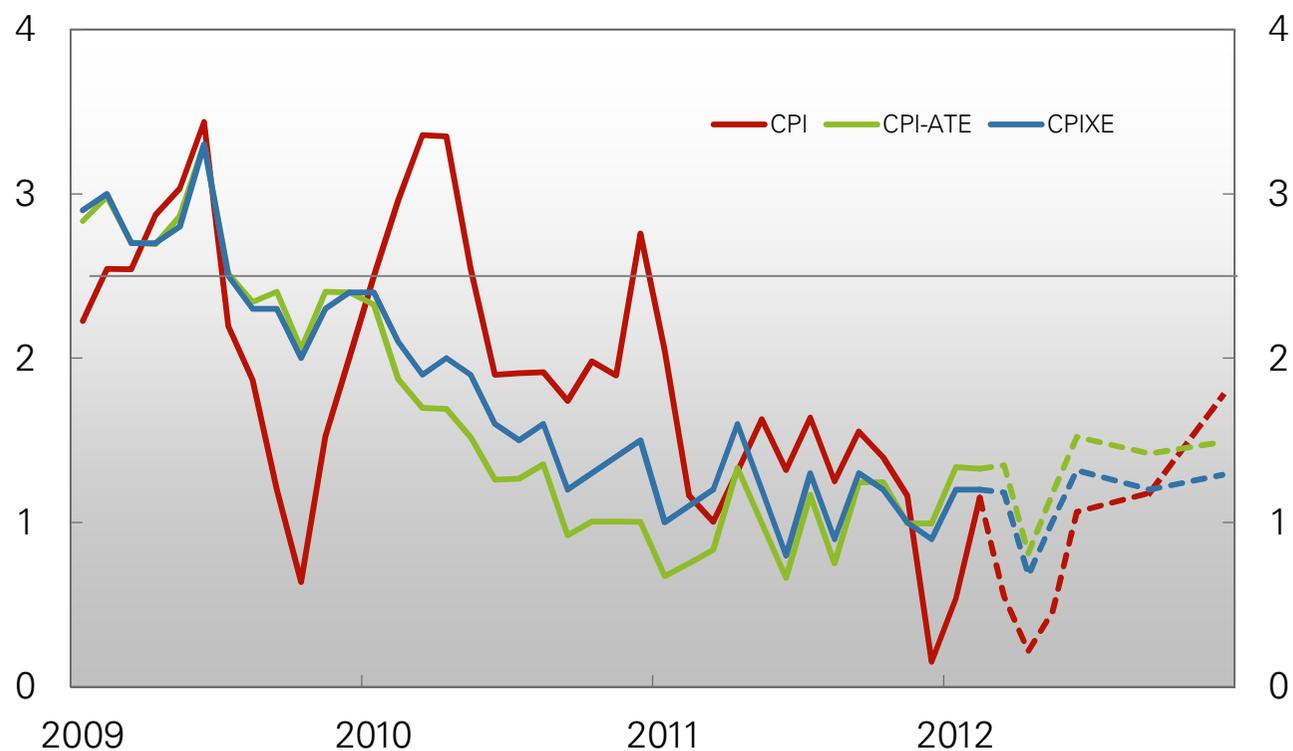
Sources: IMF, Thomson Reuters, Statistics Norway and Norges Bank

Chart 2.10 Commodity prices. USD. Index, January 2003 = 100.  
January 2003 – December 2015



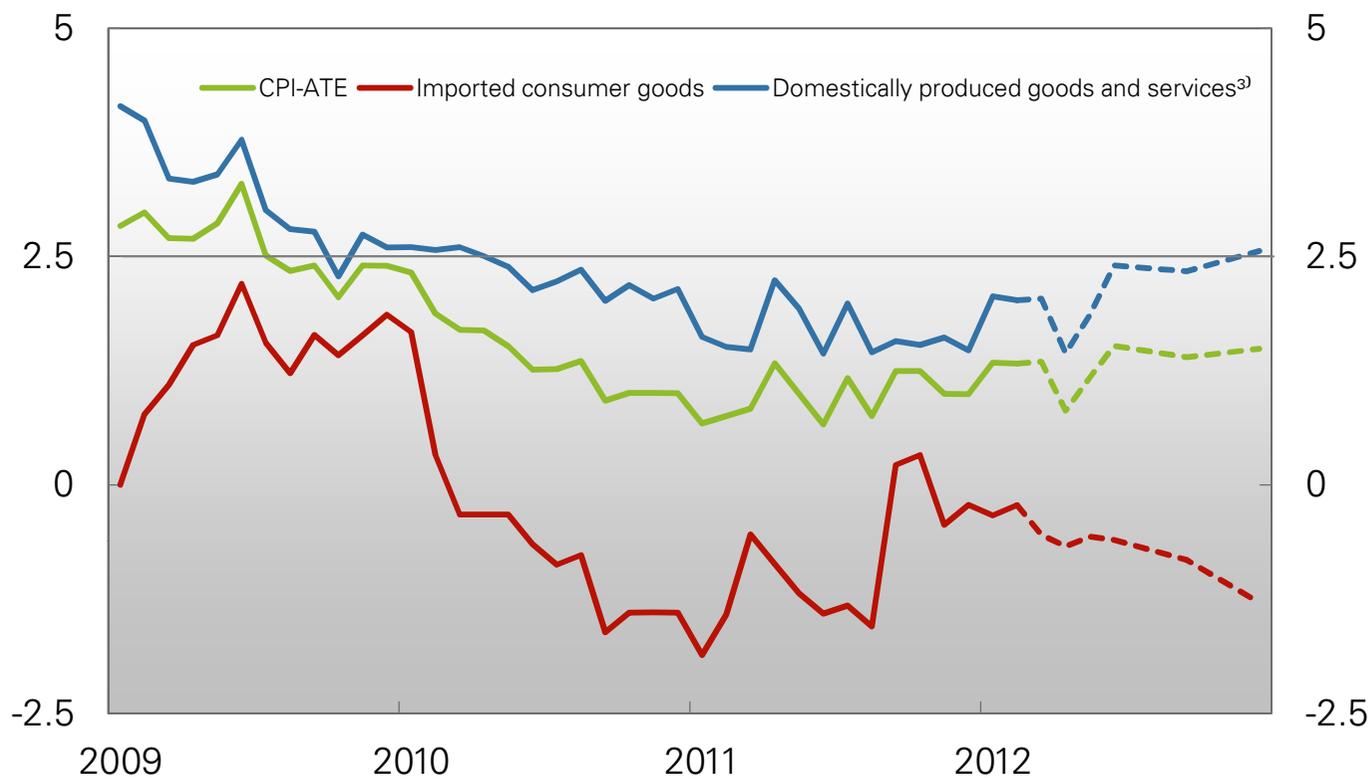
Sources: CME Group and Thomson Reuters

Chart 2.11 CPI, CPI-ATE<sup>1)</sup> and CPIXE<sup>2)</sup>. 12-month change. Per cent.  
 January 2009 – December 2012<sup>3)</sup>



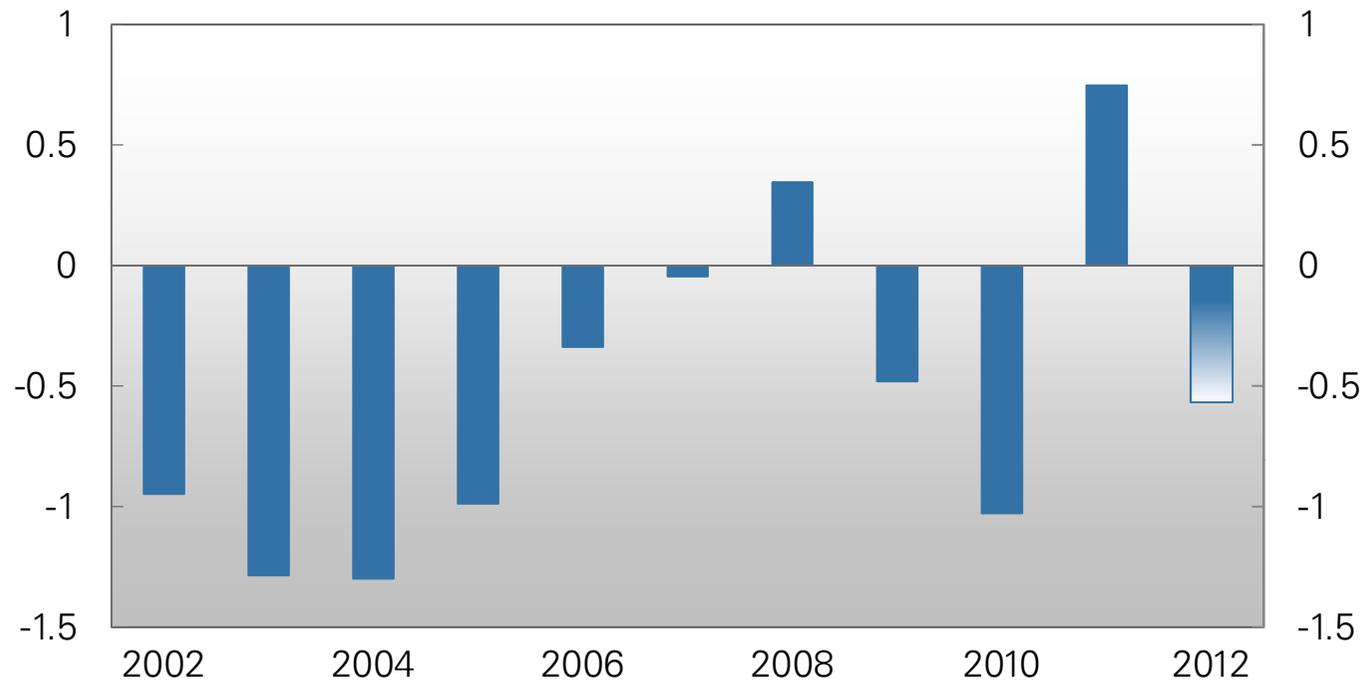
1) CPI adjusted for tax changes and excluding energy products  
 2) CPI adjusted for tax changes and excluding temporary changes in energy prices.  
 Real-time figures. See Norges Bank *Staff Memo* 7/2008 and 3/2009  
 3) Projections for March 2012 – December 2012 (broken lines). Monthly figures to  
 June 2012, then quarterly figures  
 Sources: Statistics Norway and Norges Bank

Chart 2.12 CPI-ATE<sup>1)</sup>. Total and by supplier sector.  
12-month change. Per cent. January 2009 – December 2012<sup>2)</sup>



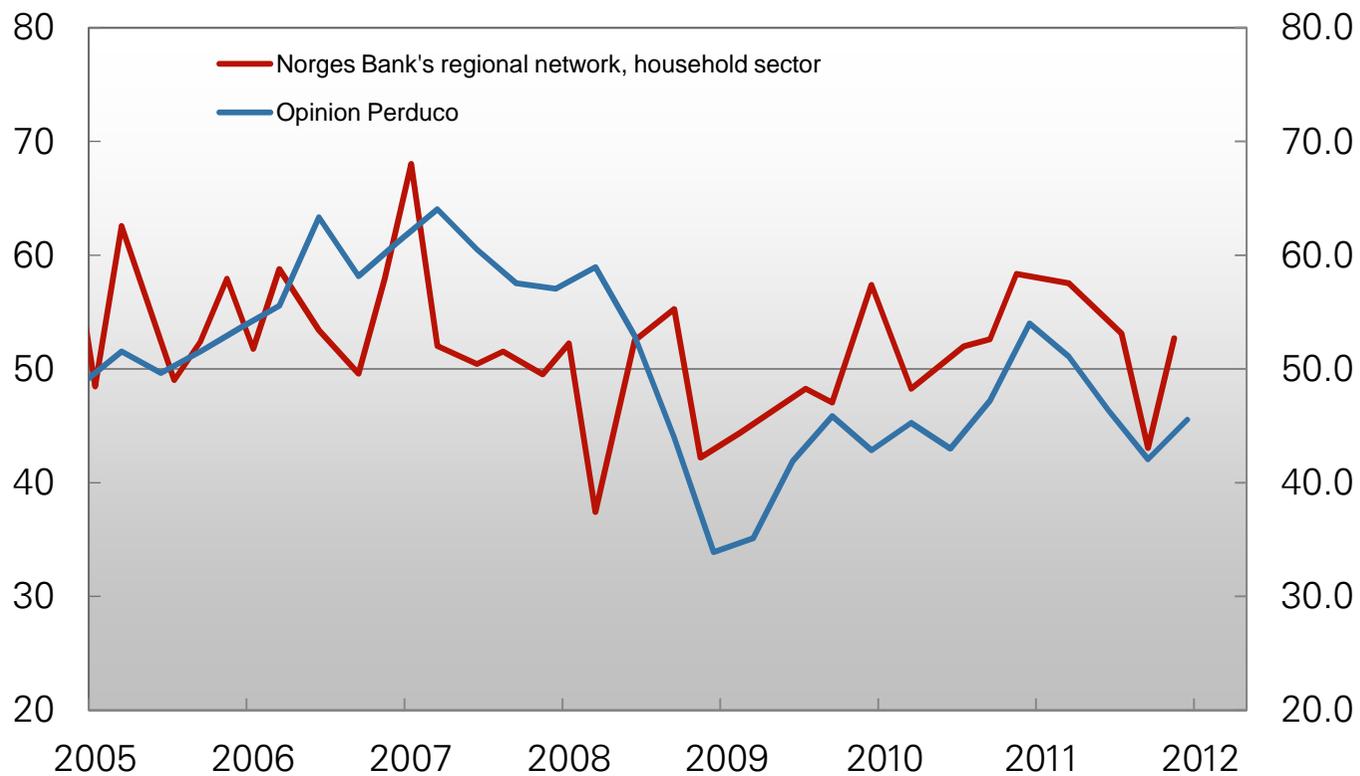
1) CPI adjusted for tax changes and excluding energy products  
 2) Projections for March 2012 – December 2012 (broken lines). Monthly figures to June 2012, then quarterly figures  
 3) Norges Bank's estimates  
 Sources: Statistics Norway and Norges Bank

Chart 2.13 Indicator of external price impulses to imported consumer goods measured in foreign currency. Annual change. Per cent. 2002 – 2012<sup>1)</sup>



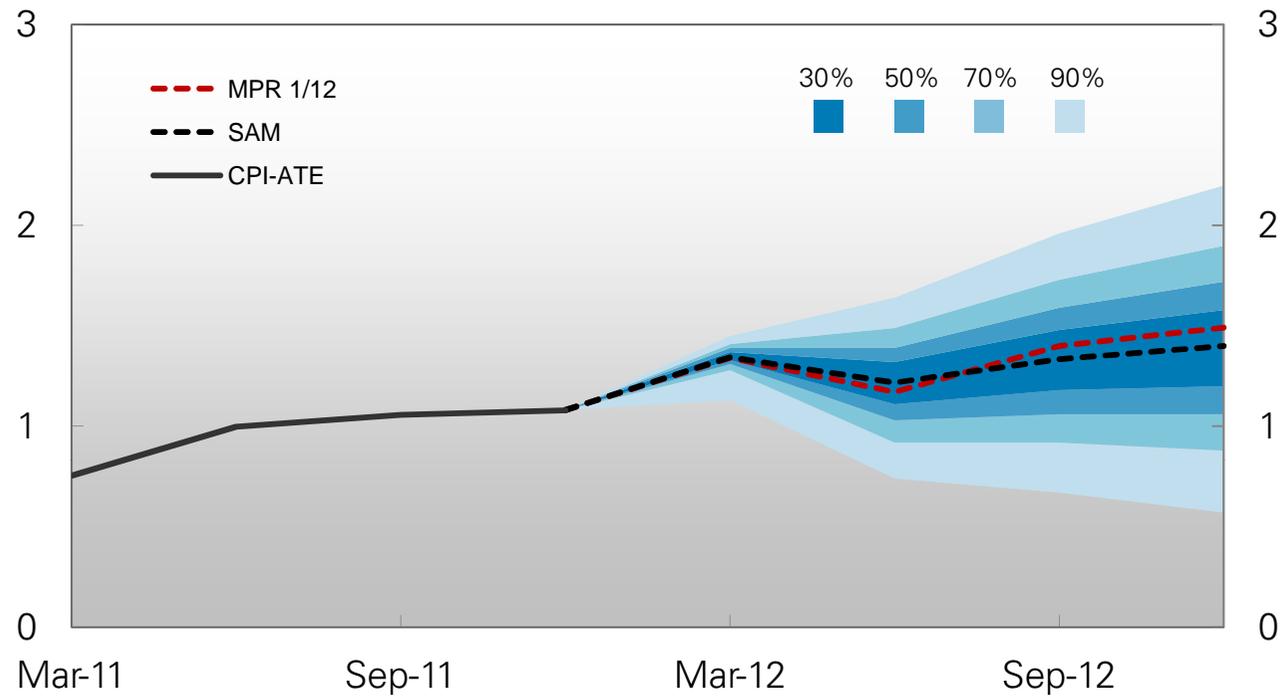
1) Projections for 2012  
Source: Norges Bank

Chart 2.14 Expected change in retail prices next 12 months. Diffusion index.<sup>1)</sup>  
2005 Q1 – 2012 Q1



1) Share that expects higher price growth + (0.5\*share that expects unchanged price growth)  
Sources: Opinion Perduco and Norges Bank

Chart 2.15 CPI-ATE<sup>1)</sup>. Actual figures, baseline scenario and projections from SAM<sup>2)</sup> with fan chart. Four-quarter change. Per cent. 2011 Q1 – 2012 Q4<sup>3)</sup>



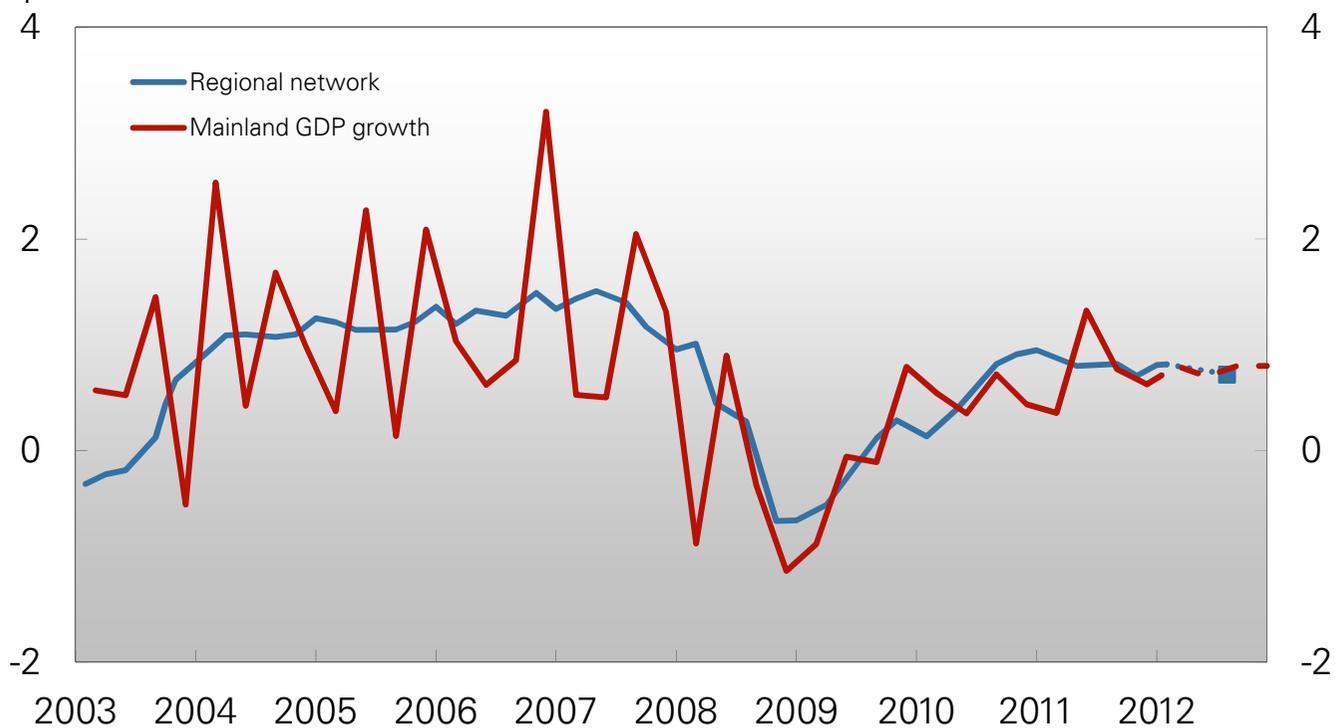
1) CPI adjusted for tax changes and excluding energy products

2) System for averaging models

3) Projections for 2012 Q1 – 2012 Q4 (broken lines)

Sources: Statistics Norway and Norges Bank

Chart 2.16 GDP mainland Norway<sup>1)</sup> and Norges Bank's regional network's indicator of change in production past three months and expected change in production next six months. Per cent. 2003 Q1 – 2012 Q4<sup>2)</sup>

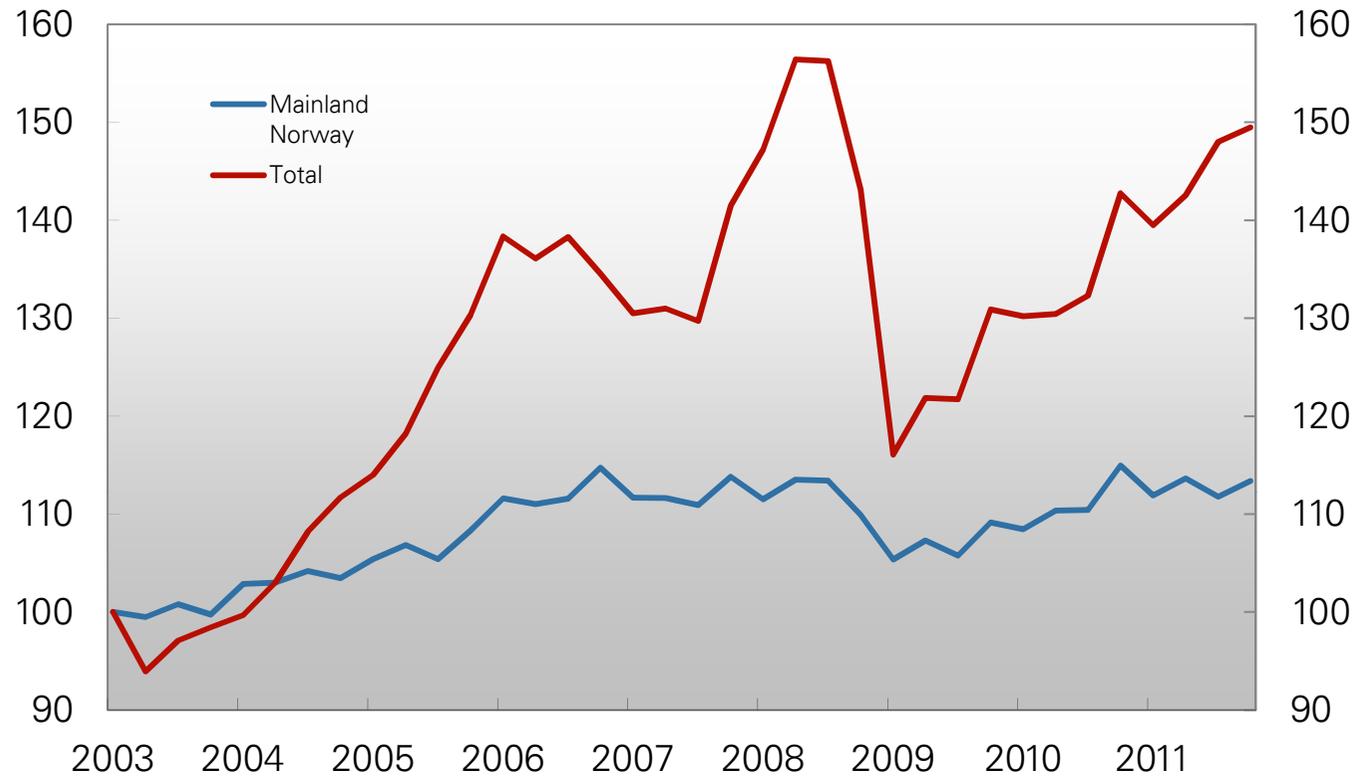


1) Seasonally adjusted quarterly change. Volume

2) Latest observation in the regional network is February 2012. Latest GDP observation is 2011 Q4, projections for 2012 Q1 – 2012 Q4 (broken line)

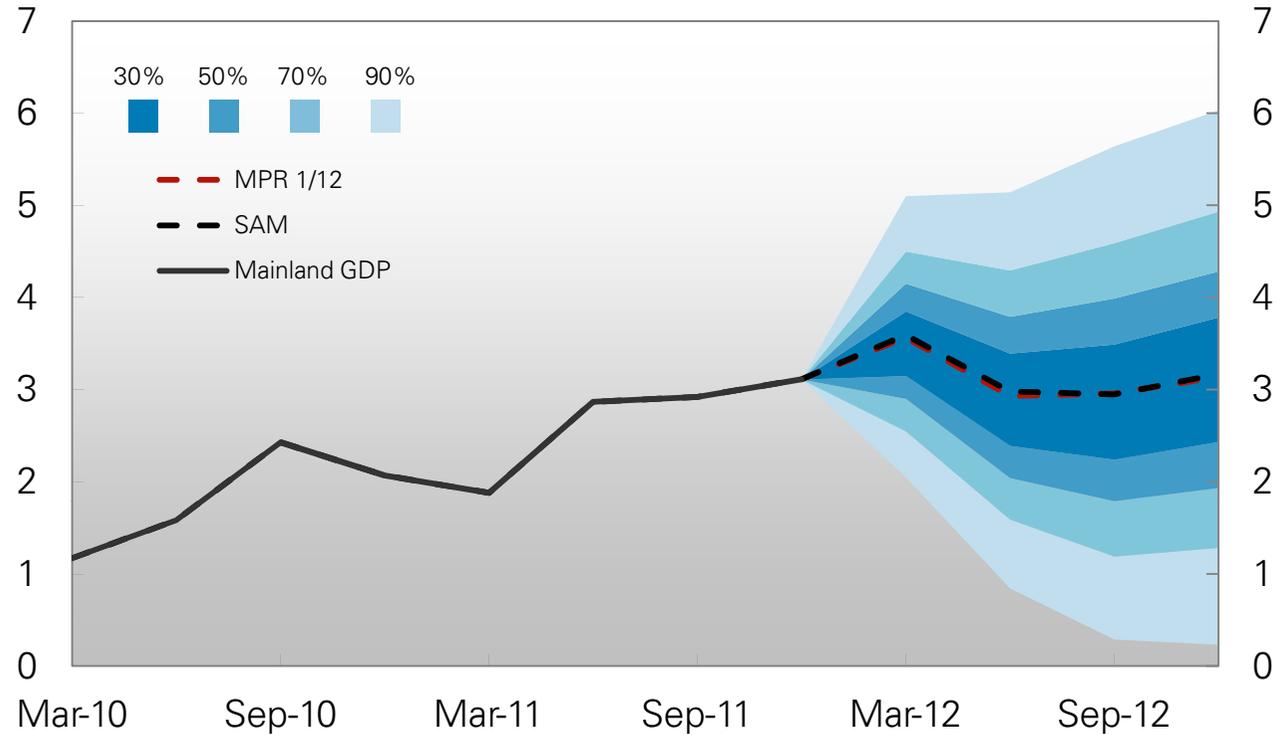
Sources: Statistics Norway and Norges Bank

Chart 2.17 Terms of trade. Index. 2003 Q1 = 100.  
2003 Q1 – 2011 Q4



Sources: Statistics Norway and Norges Bank

Chart 2.18 GDP mainland Norway. Actual figures, baseline scenario and projections from SAM<sup>1)</sup> with fan chart. Four-quarter change. Volume. Seasonally adjusted. Per cent. 2010 Q1 – 2012 Q4<sup>2)</sup>

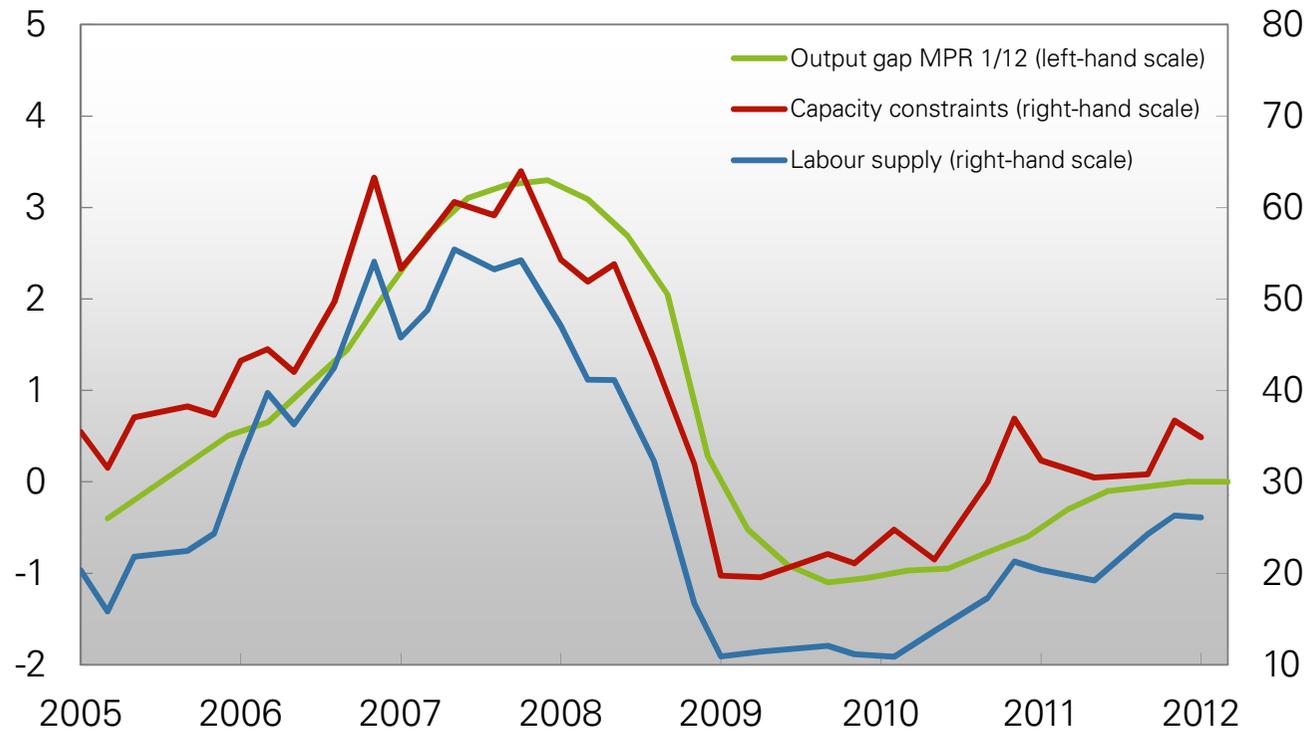


1) System for averaging models

2) Projections for 2012 Q1 – 2012 Q4 (broken lines)

Sources: Statistics Norway and Norges Bank

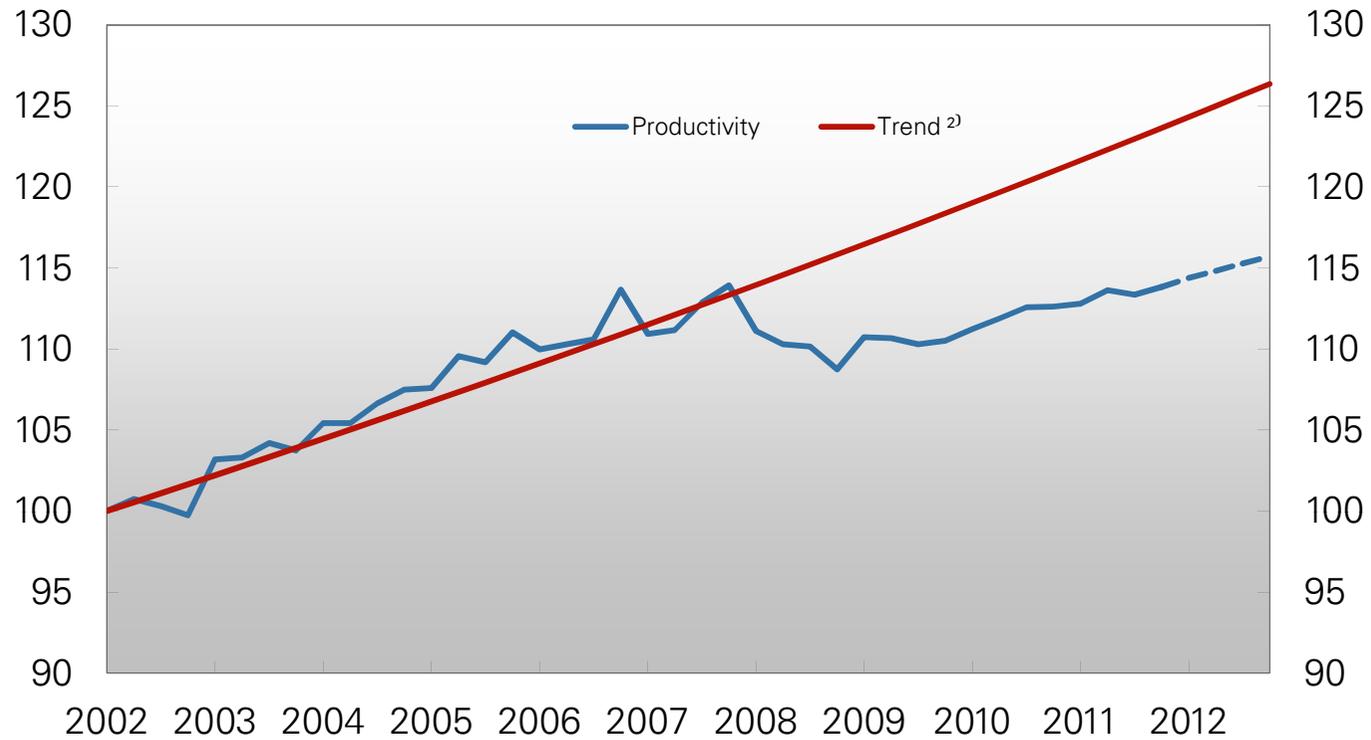
Chart 2.19 Capacity constraints and labour supply<sup>1)</sup> reported by the regional network and estimated output gap. Per cent. 2005 Q1– 2012 Q1



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 Productivity in mainland Norway. GDP per hour. Index  
2002 Q1 = 100. 2002 Q1 – 2012 Q4<sup>1)</sup>

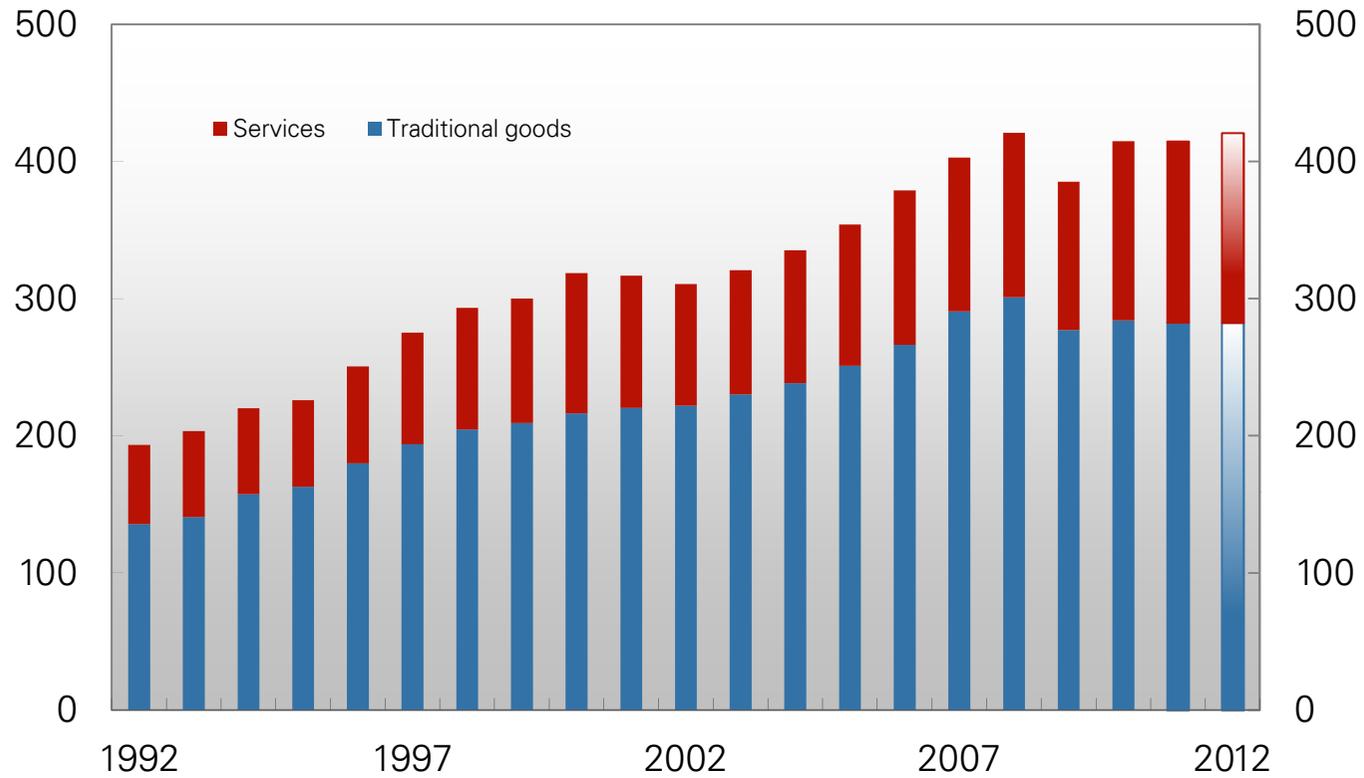


1) Projections for 2012

2) The trend is based on a long-term historical average (1970 – 2011)

Sources: Statistics Norway and Norges Bank

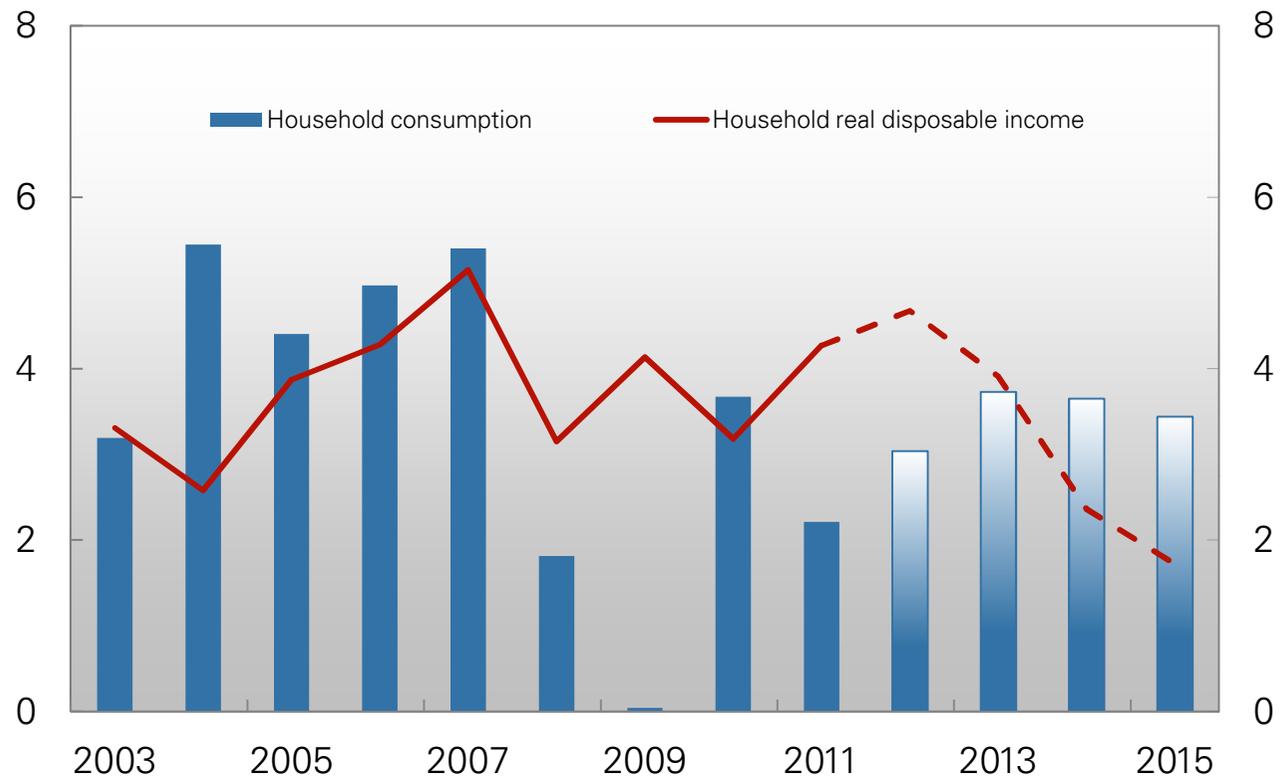
Chart 2.21 Exports from mainland Norway. Constant 2009 prices.  
In billions of NOK. 1992 – 2012<sup>1)</sup>



1) Projections for 2012

Sources: Statistics Norway and Norges Bank

Chart 2.22 Household consumption<sup>1)</sup> and real disposable income<sup>2)</sup>.  
Annual change. Per cent. 2003 – 2015<sup>3)</sup>



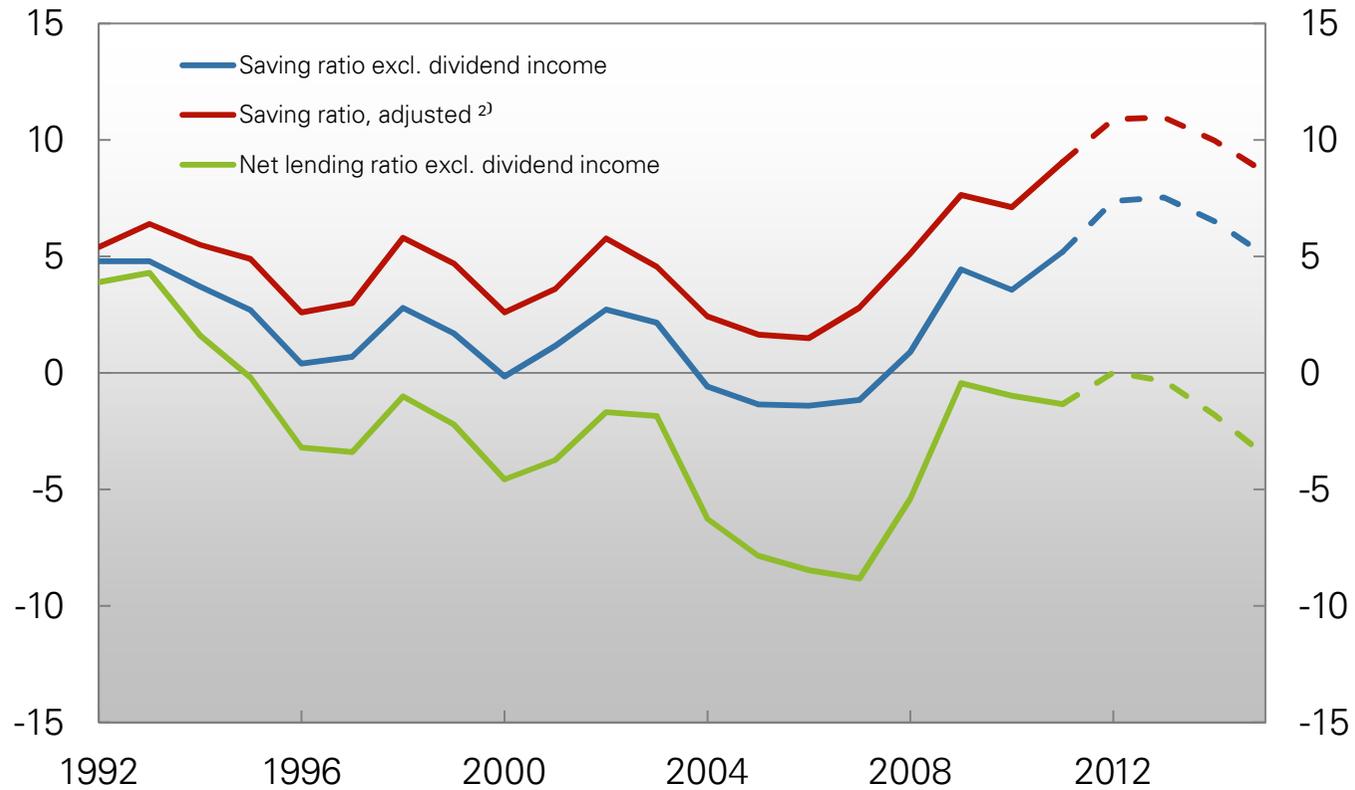
1) Includes consumption among non-profit organisations. Volume

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 Household saving and net lending as a share of disposable income. Per cent. 1992 – 2015<sup>1)</sup>

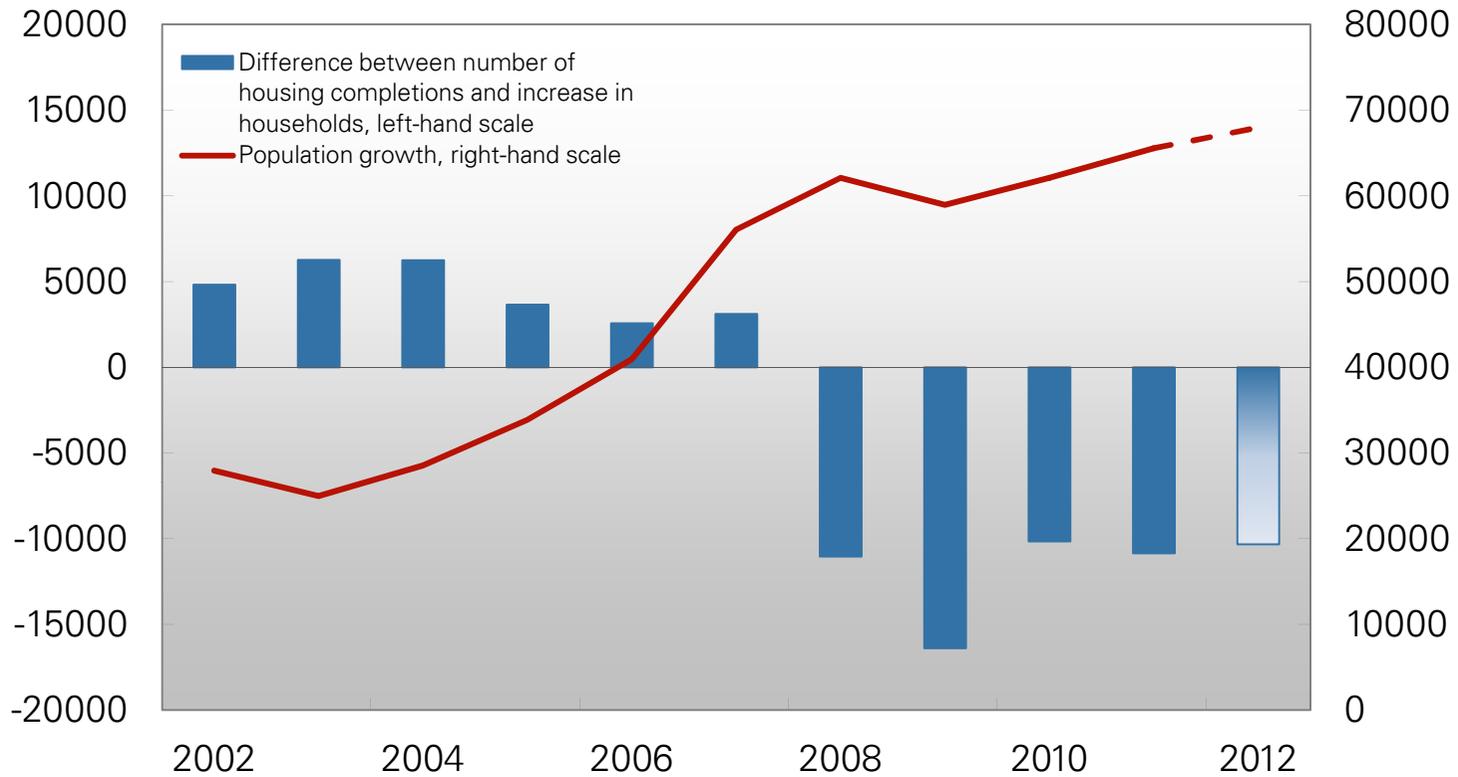


1) Projections for 2012 – 2015 (broken lines)

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

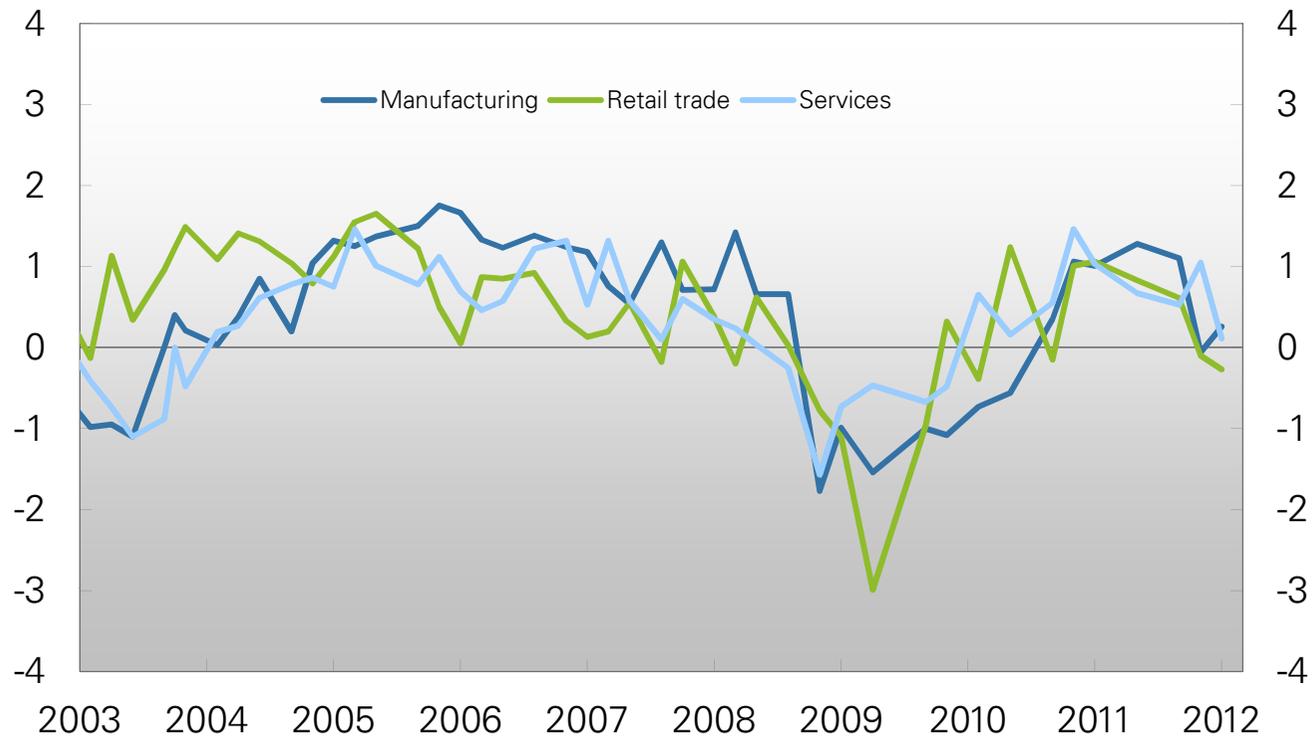
Sources: Statistics Norway and Norges Bank

Chart 2.24 Difference between number of housing completions and increase in households, and population growth. Annual figures. 2002 – 2012<sup>1)</sup>



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

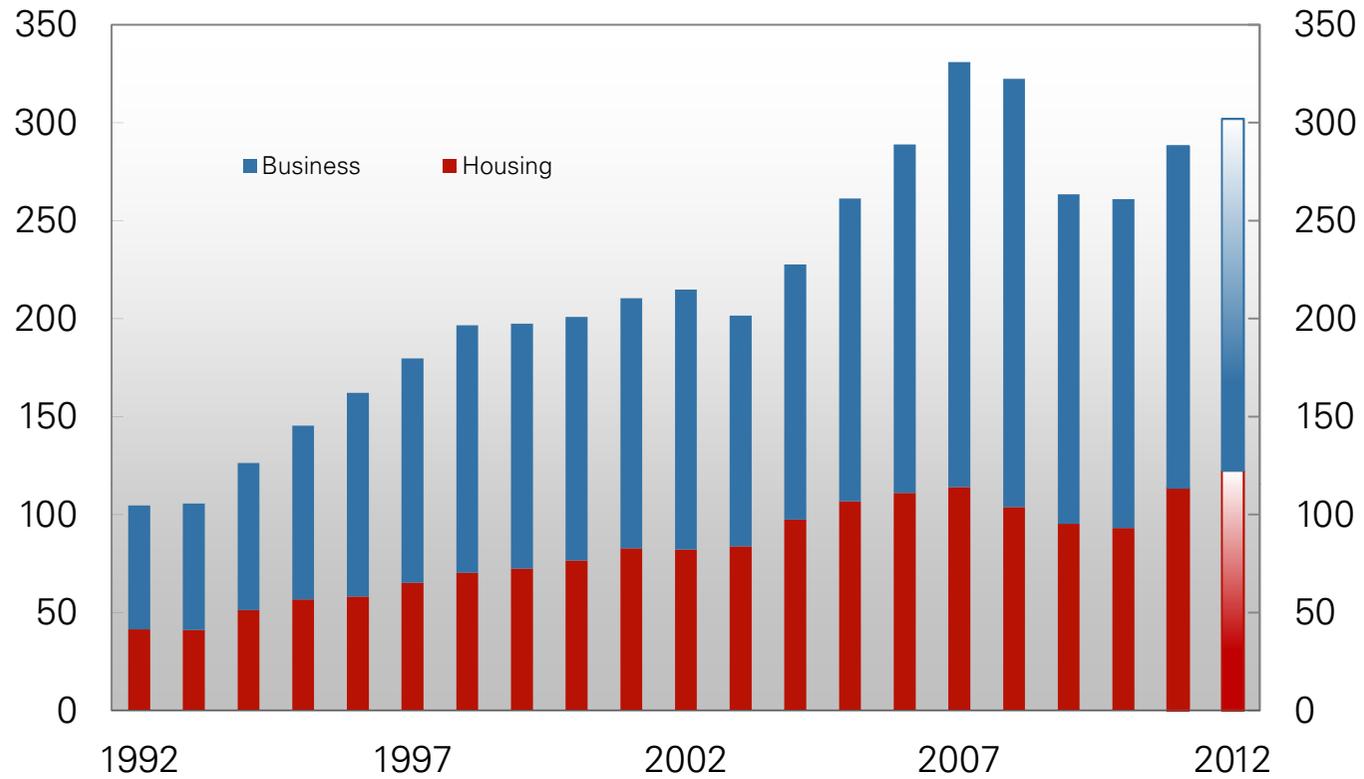
Chart 2.25 Planned growth in investment for next 12 months compared with past 12 months. Index.<sup>1)</sup> October 2002 – February 2012



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

Source: Norges Bank

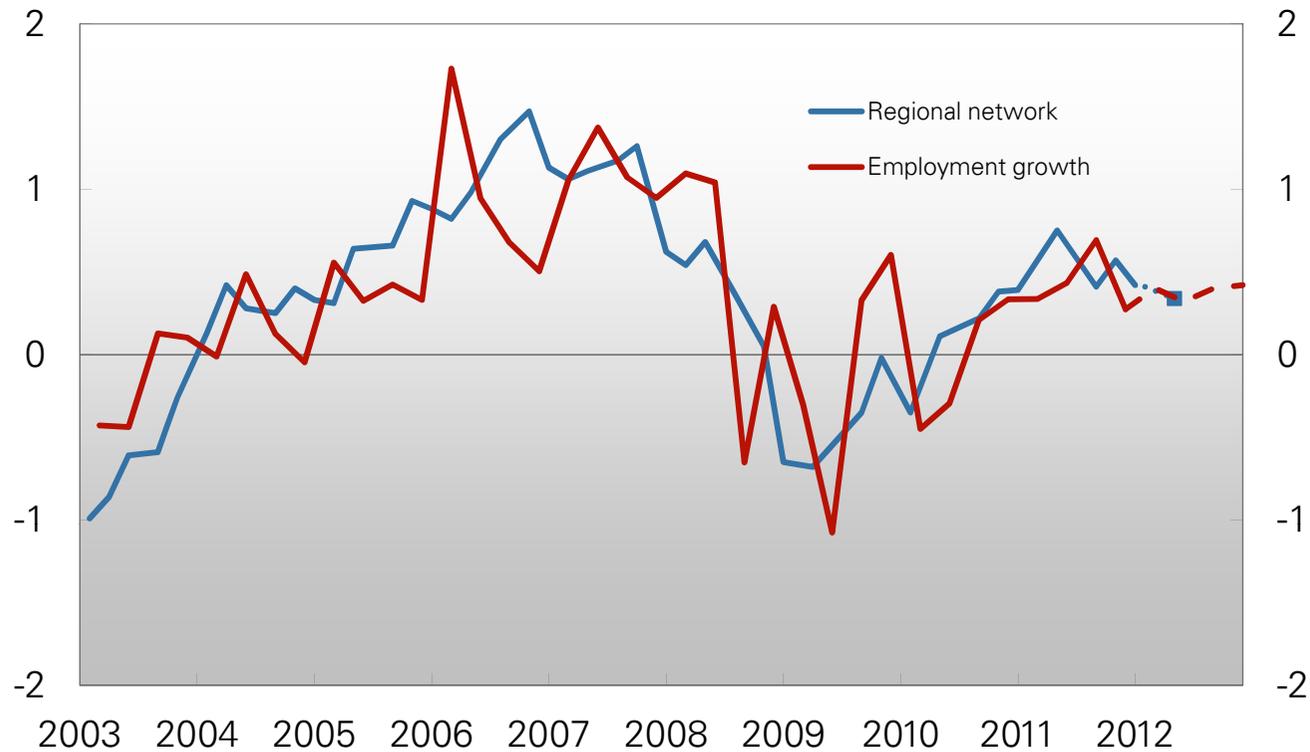
Chart 2.26 Investment in mainland Norway excluding public sector.  
 Constant 2009 prices. In billions of NOK. 1992 – 2012<sup>1)</sup>



1) Projections for 2012

Sources: Statistics Norway and Norges Bank

Chart 2.27 Employment<sup>1)</sup> and Norges Bank's regional network's indicator of change in employment and expected change in employment next three months. Per cent. 2003 Q1 – 2012 Q4<sup>2)</sup>



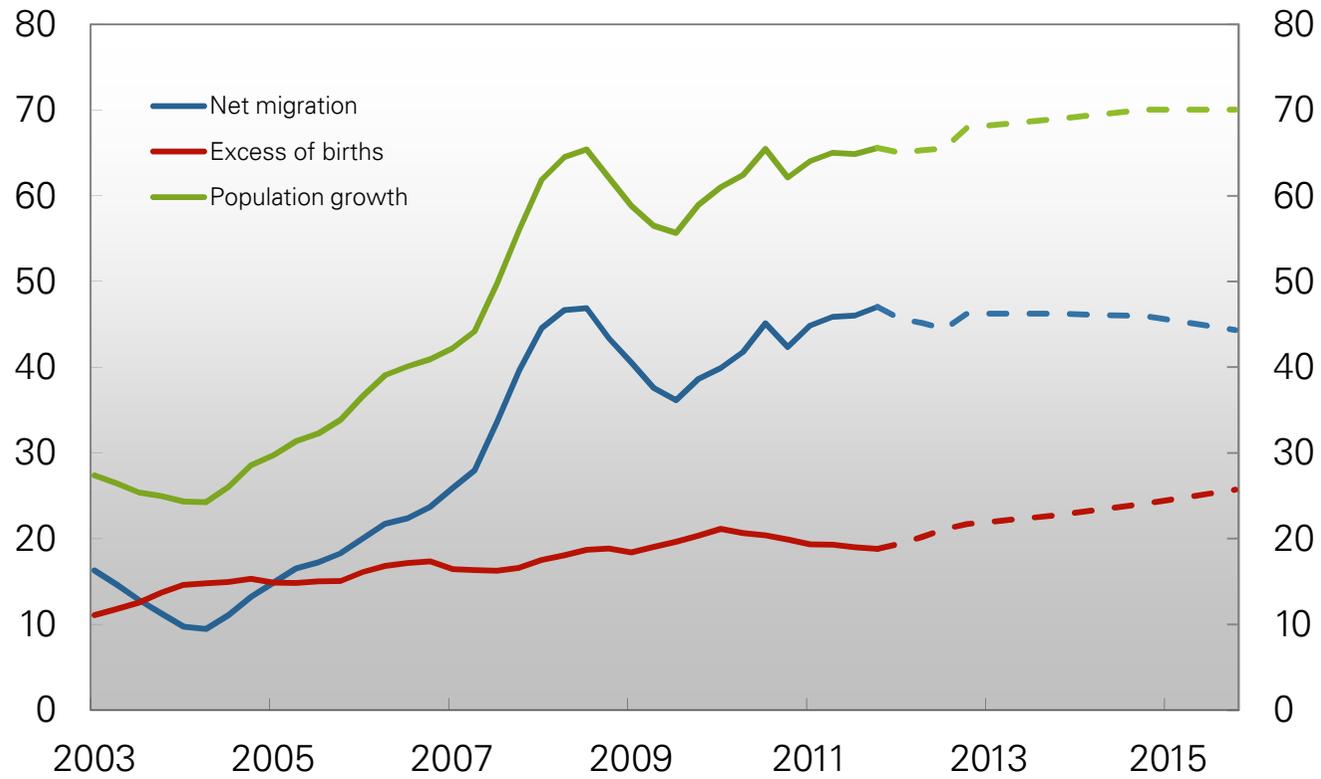
1) Seasonally adjusted quarterly change in Quarterly National Accounts

2) Latest observation in the regional network is February 2012.

Latest observation in the Quarterly National Accounts is 2011 Q4,  
projections for 2012 Q1 – 2012 Q4 (broken line)

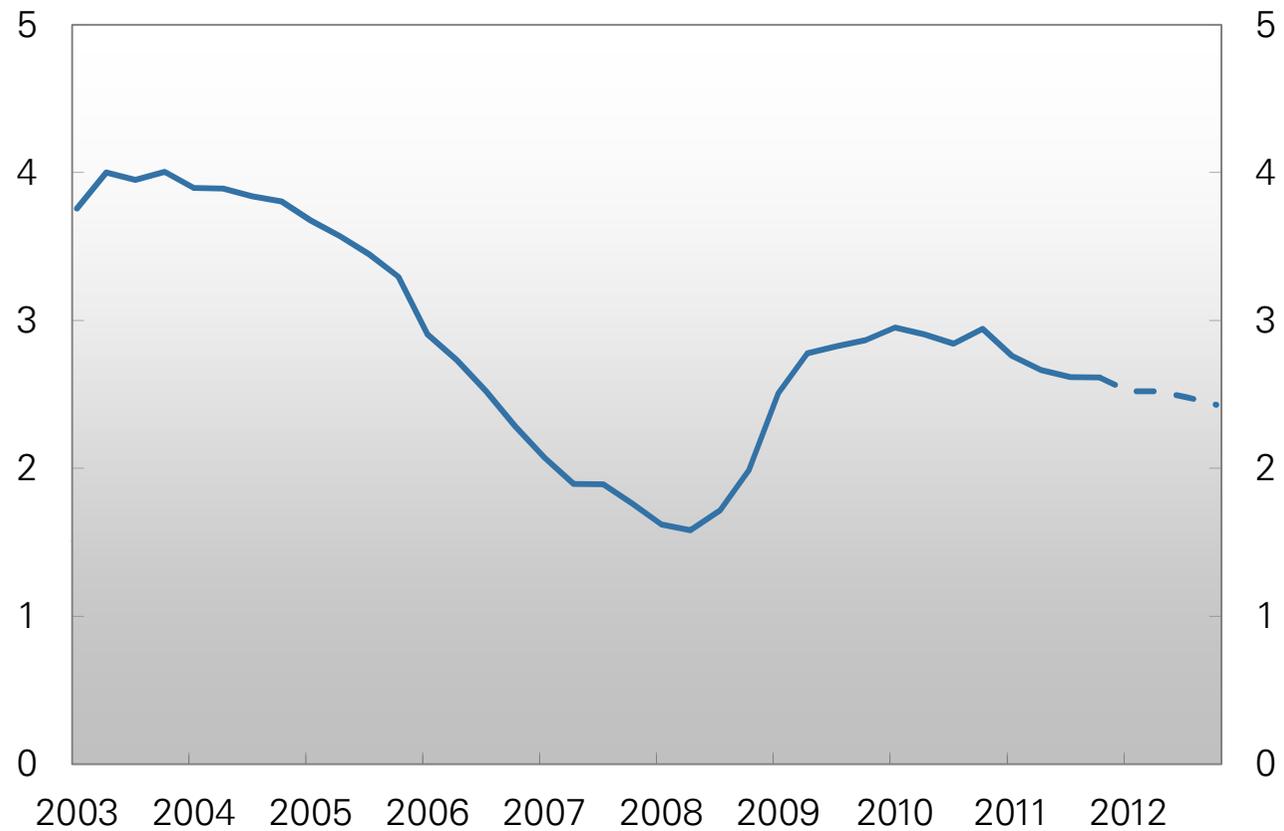
Sources: Statistics Norway and Norges Bank

Chart 2.28 Population growth, net migration and excess of births.  
 Sum of four previous quarters. In 1000s of persons. 2003 Q1 – 2015 Q4<sup>1)</sup>



1) Projections for 2012 Q1 - 2015 Q4  
 Sources: Statistics Norway and Norges Bank

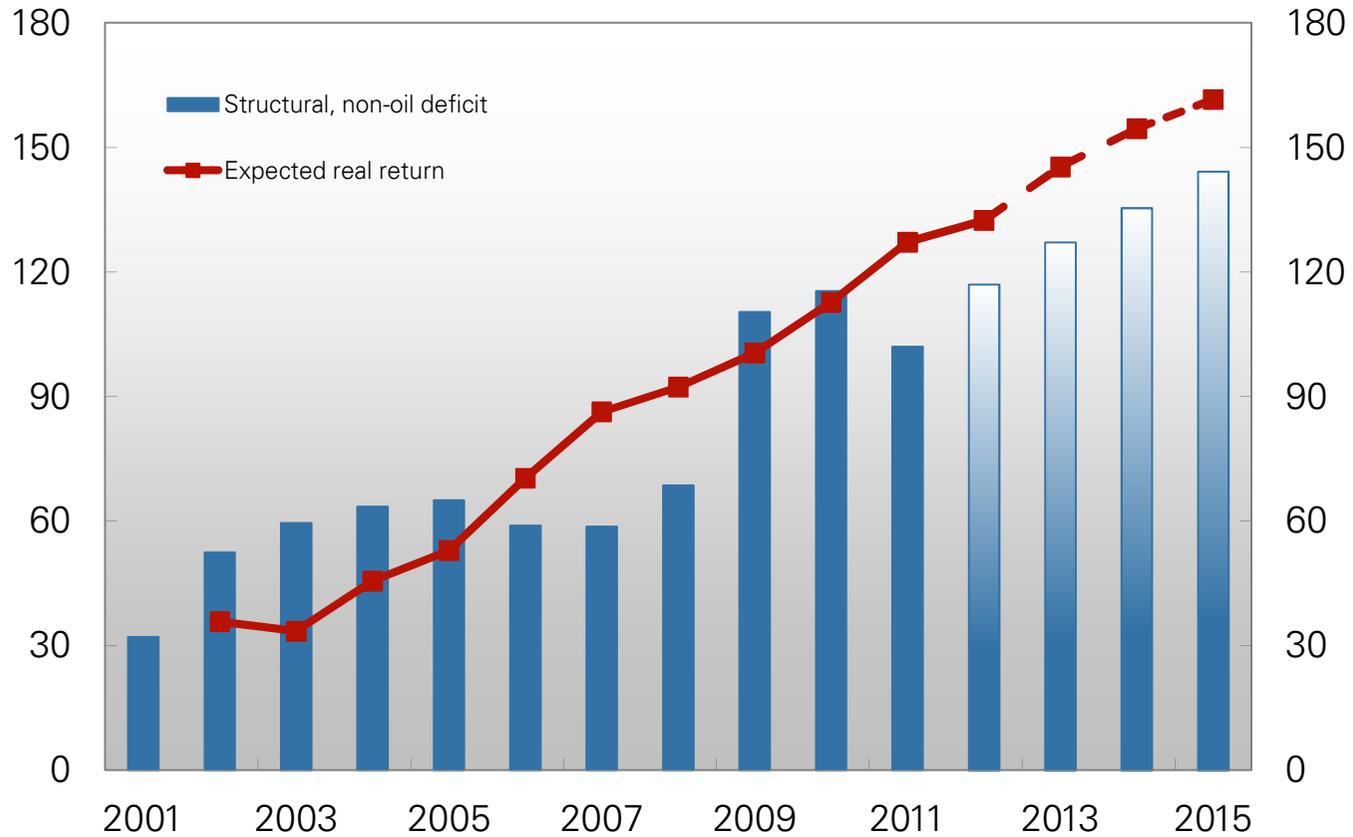
Chart 2.29 Registered unemployment. Percentage of labour force.  
Seasonally adjusted. 2003 Q1 – 2012 Q4<sup>1)</sup>



1) Projections for 2012 Q1 – 2012 Q4 (broken line)

Sources: Norwegian Labour and Welfare Administration, Statistics Norway and Norges Bank

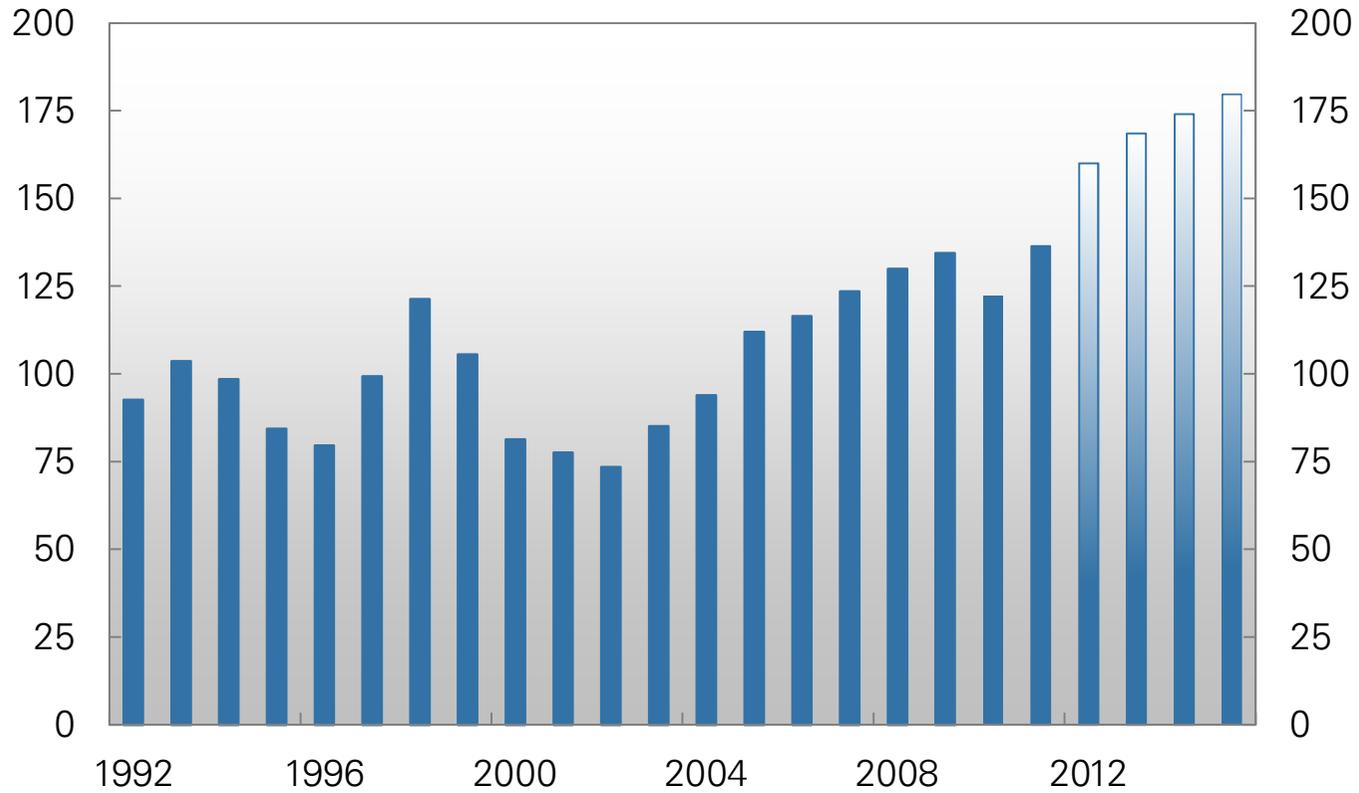
Chart 2.30 Structural non-oil deficit and expected real return on the Government Pension Fund Global. Constant 2012 prices. In billions of NOK. 2001 – 2015<sup>1)</sup>



1) Projections for 2012 – 2015

Sources: Ministry of Finance and Norges Bank

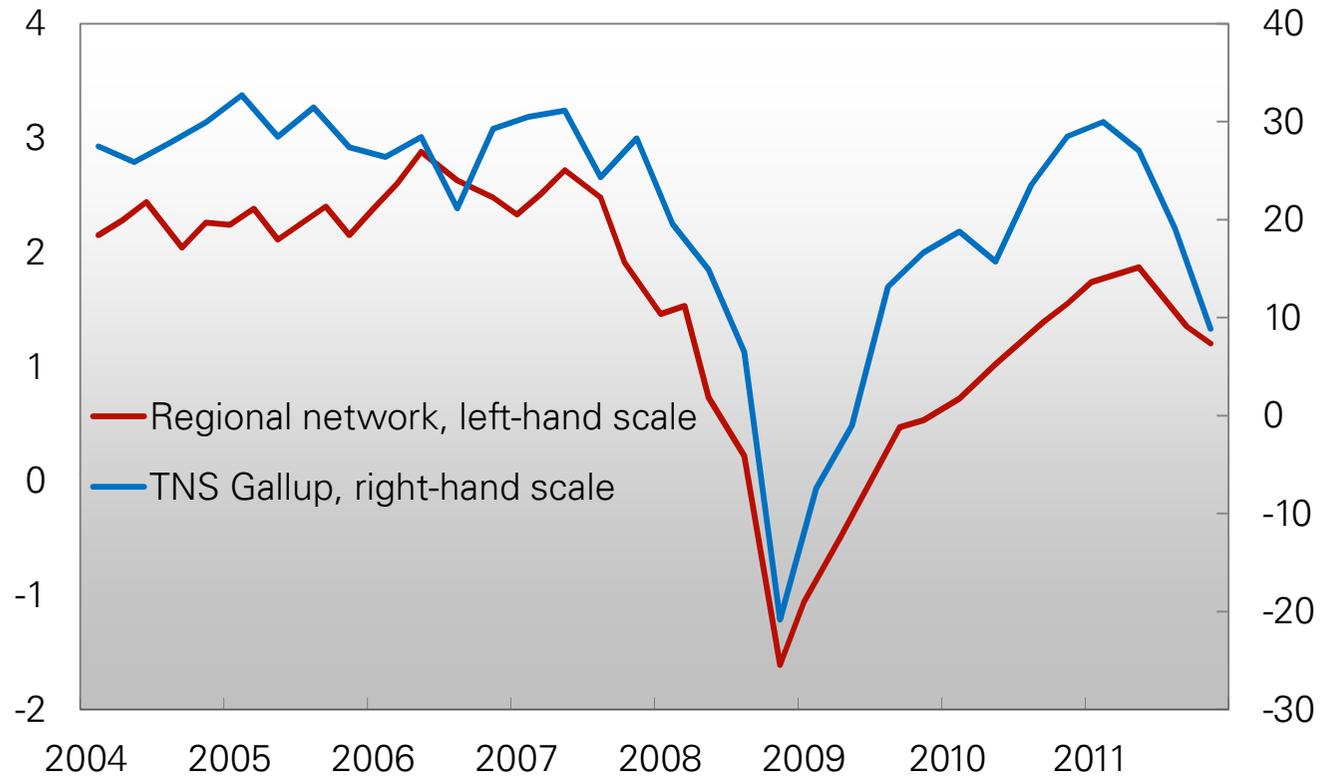
Chart 2.31 Petroleum investment. Constant 2009 prices. In billions of NOK.  
1992 – 2015<sup>1)</sup>



1) Projections for 2012 – 2015

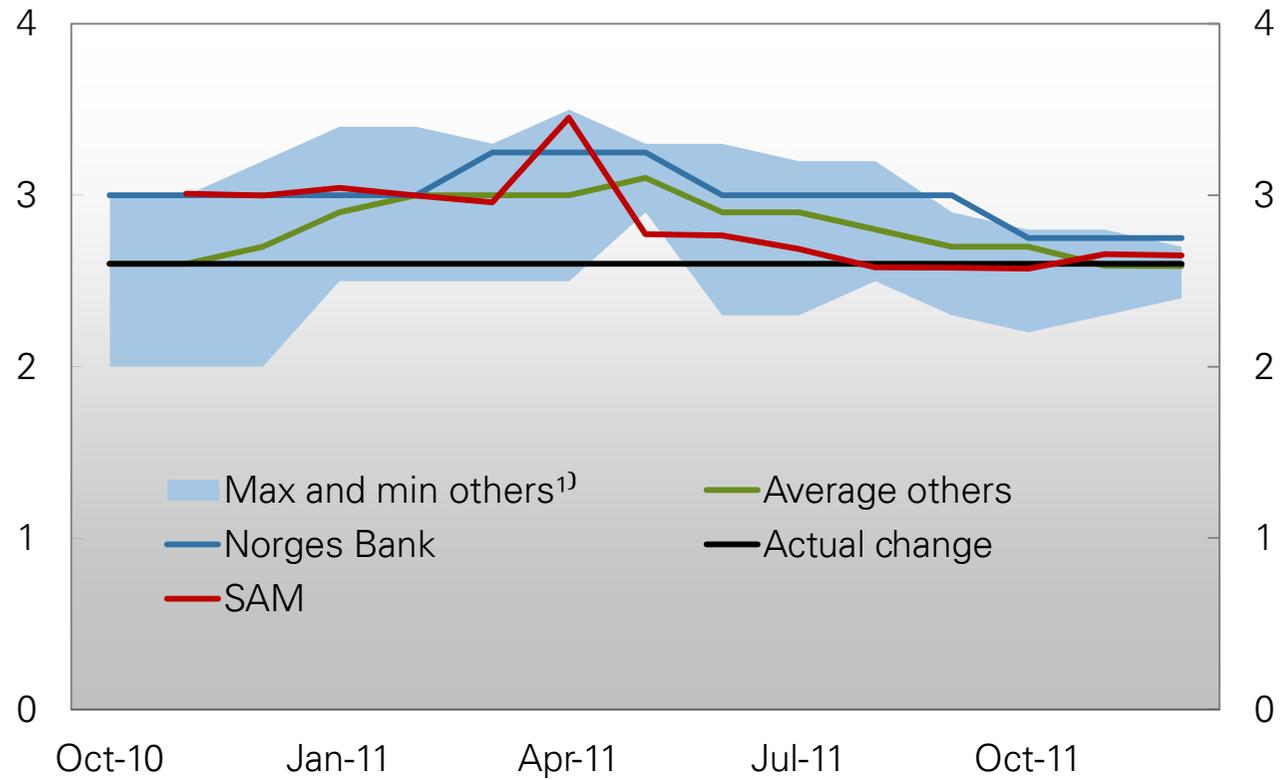
Sources: Statistics Norway and Norges Bank

Chart 1 Outlook in production in the Regional network and TNS Gallup indicator for households. January 2004 - December 2011



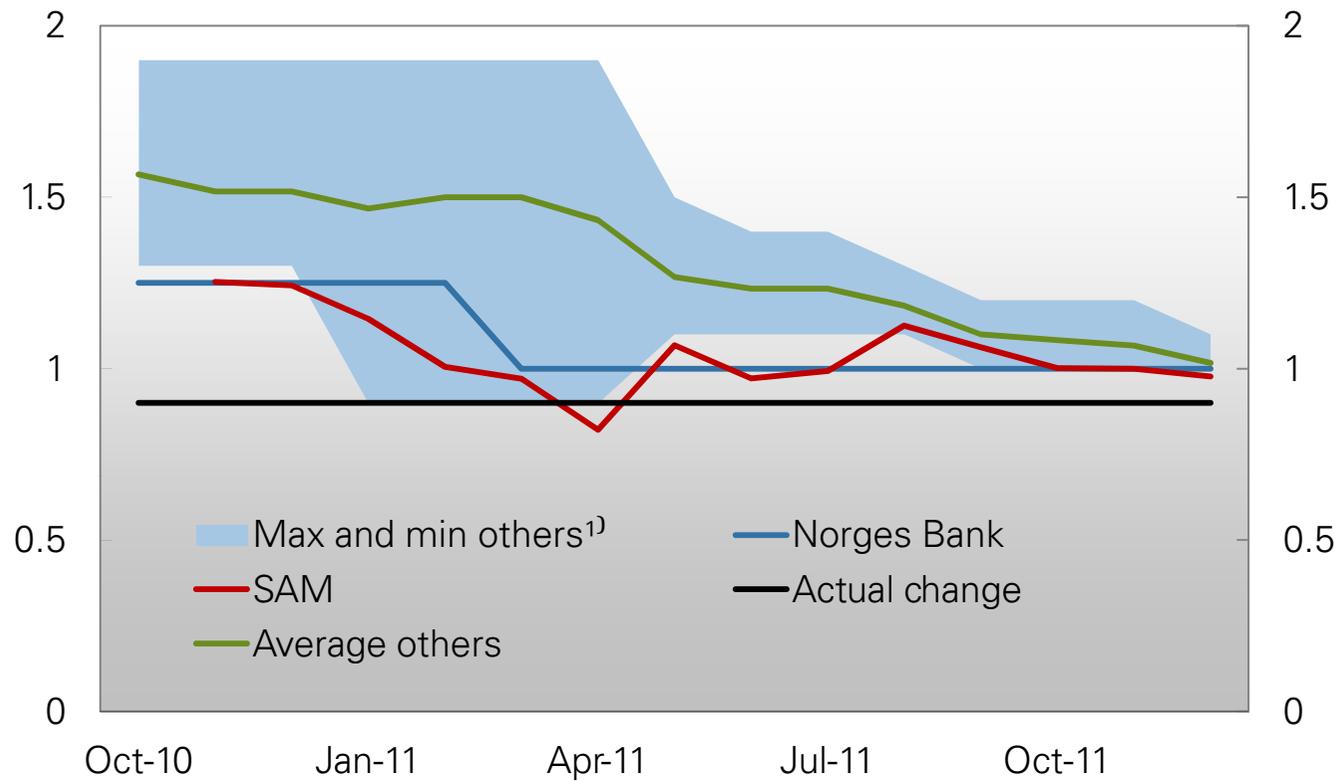
Sources: TNS Gallup and Norges Bank

Chart 2 Projections for GDP mainland Norway. Annual change.  
Volume. Per cent. October 2010 – December 2011



1) Based on the institutions surveyed by Consensus Forecast  
Sources: Statistics Norway, Consensus Forecasts and Norges Bank

Chart 3 Projections for CPI-ATE. Annual change. Per cent. October 2010 – December 2011



1) Projections from fra DnB, Handelsbanken, Ministry of Finance, Nordea, SEB and Statistics Norway

Sources: Statistics Norway, reports from the different institutions and Norges Bank