Monetary Policy Report 2/12

Charts

Chart 1.1 Yields on 10-year government bonds. Percent. 1 January 2010 – 15 June 2012



Chart 1.2 Developments in equity markets. Index. 1 January 2008 = 100. 1 January 2008 – 15 June 2012

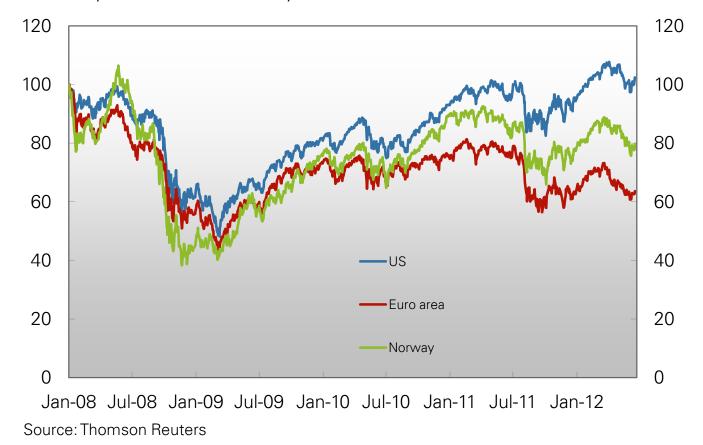


Chart 1.3 CDS premiums in Europe. Percent. 1 January 2008 – 15 June 2012

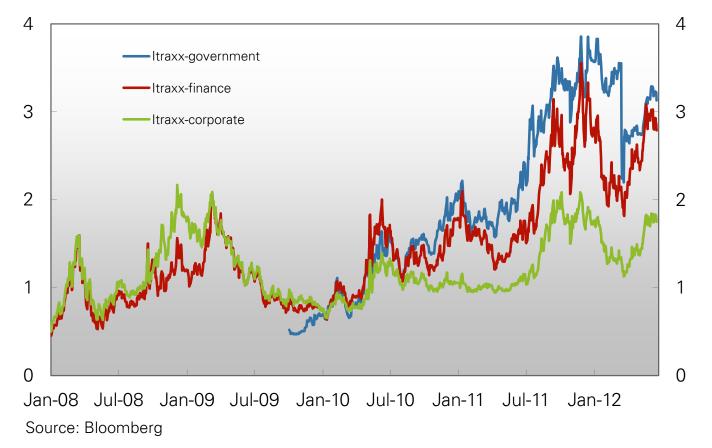
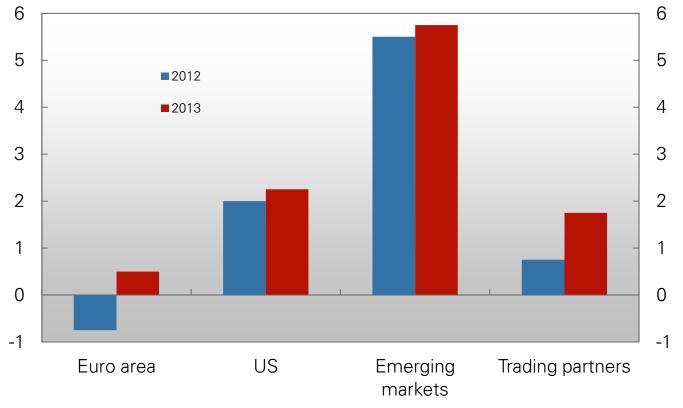
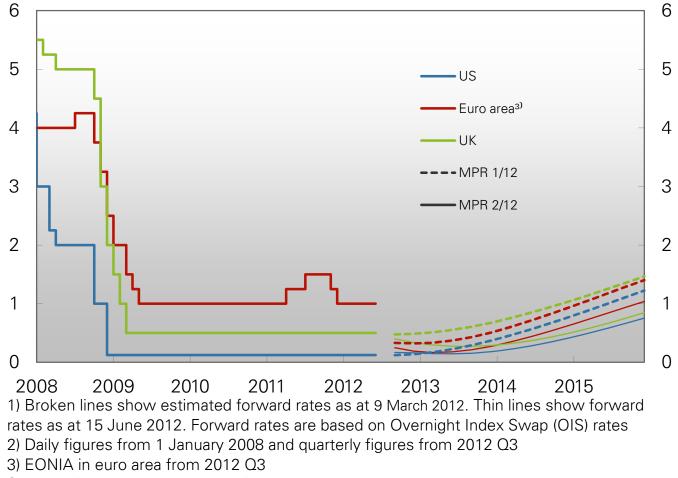


Chart 1.4 Projections of GDP growth for 2012 and 2013. Annual change. Percent



Sources: IMF, Thomson Reuters and Norges Bank

Chart 1.5 Key rates and estimated forward rates as at 9 March 2012 and 15 June 2012.¹⁾ Percent. 1 January 2008 – 31 December 2015²⁾



Sources: Bloomberg and Norges Bank

Chart 1.6 Difference between 3-month money market rate and expected key rates¹⁾. Percentage points. 5-day moving average. 1 January 2008 – 15 June 2012

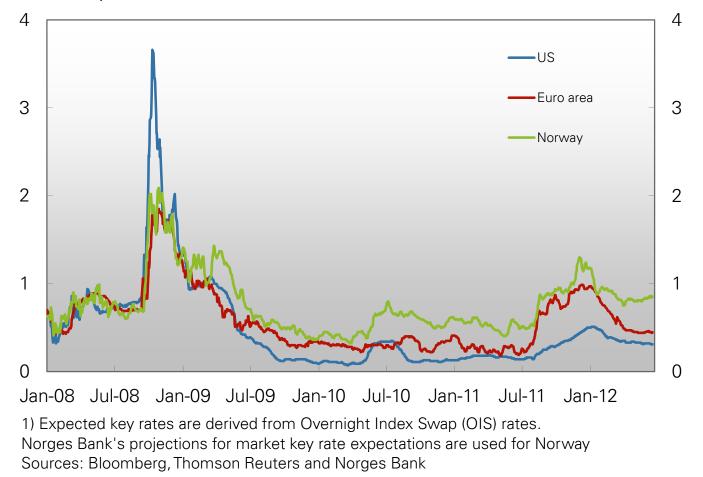
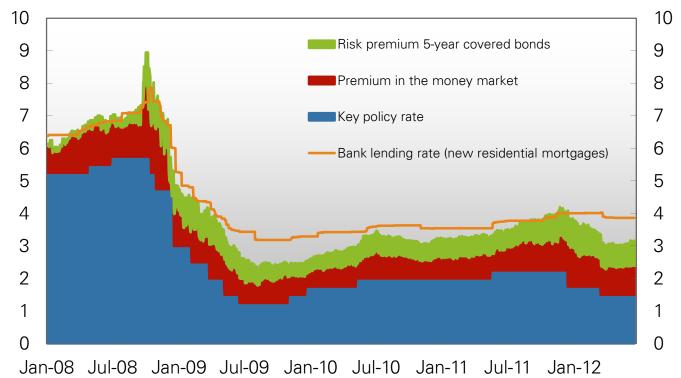


Chart 1.7 Key policy rate, premium in the money market¹⁾, risk premium 5-year covered bonds²⁾ and weighted average lending rate on new residential mortgages³⁾. Percent. 1 January 2008 – 15 June 2012

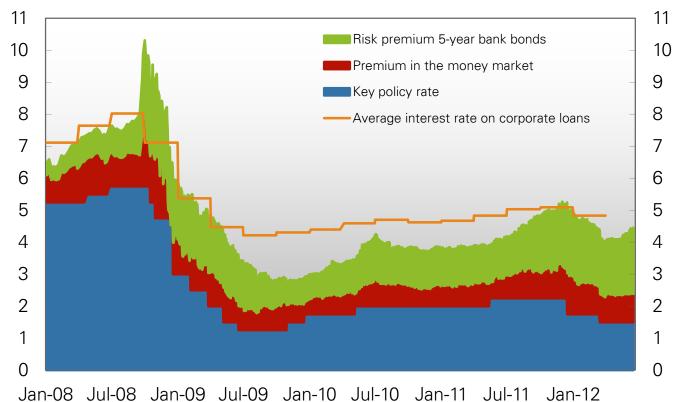


1) 3-month NIBOR (effective)

2) Indicative risk premium on 5-year covered bonds

3) Nominal interest rate on new residential mortgages of NOK 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 Key policy rate, premium on the money market rate¹⁾, risk premium on 5-year bank bonds²⁾ and average interest rate on corporate loans. Percent. 1 January 2008 – 15 June 2012

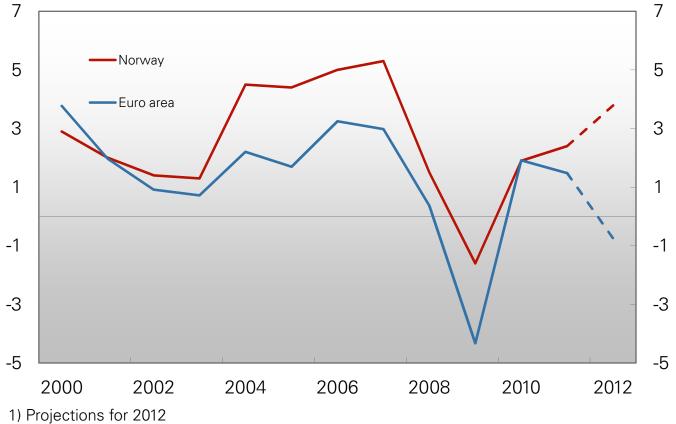


1) 3-month NIBOR (effective)

2) Indicative risk premium on 5-year bank bonds

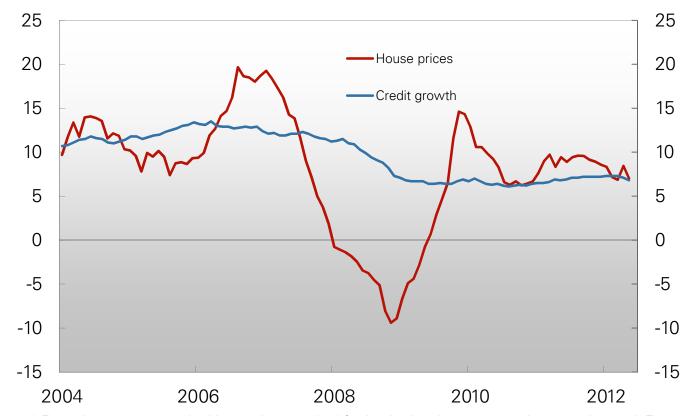
Sources: DnB Nor Markets, Statistics Norway and Norges Bank

Chart 1.9 GDP growth for Norway and the euro area. Annual change. Percent. 2000 - 2012¹⁾



Sources: European Commission, Statistics Norway and Norges Bank

Chart 1.10 Credit growth¹⁾ and house prices. 12-month change. Percent. January 2004 - May 2012²⁾



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
 House prices up to and including May, credit growth up to and including April. Sources: Statistics Norway, the real estate sector (NEF, EFF, Finn.no and ECON Pöyry) and Norges Bank

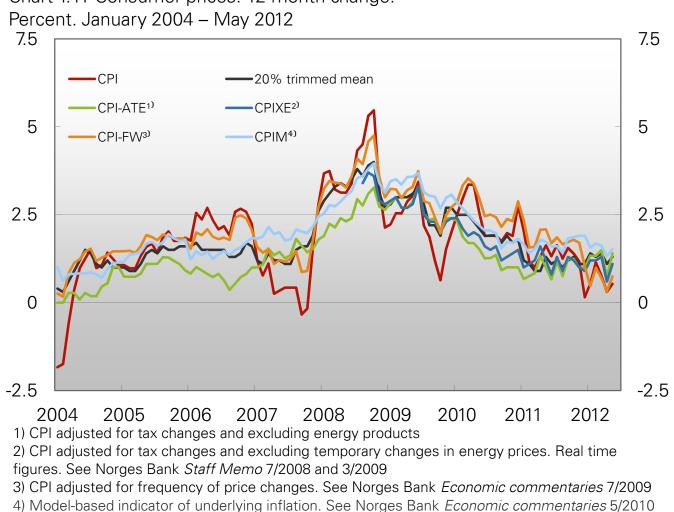


Chart 1.11 Consumer prices. 12-month change.

Sources: Statistics Norway and Norges Bank

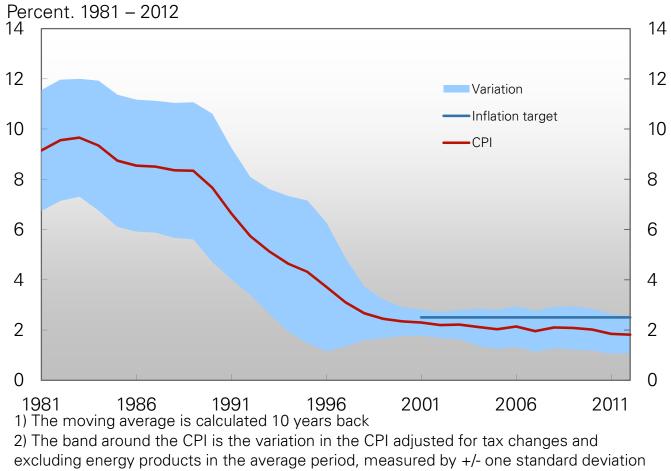


Chart 1.12 Inflation. Moving 10-year average¹⁾ and variation²⁾ in CPI³⁾. Percent. 1981 – 2012

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 devia
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 Q2

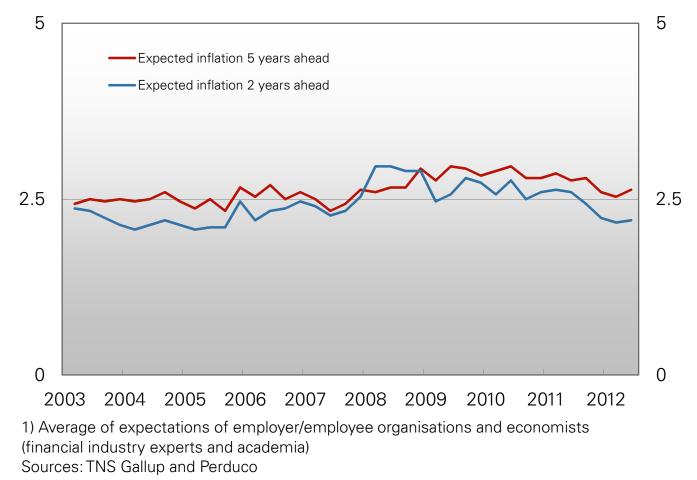
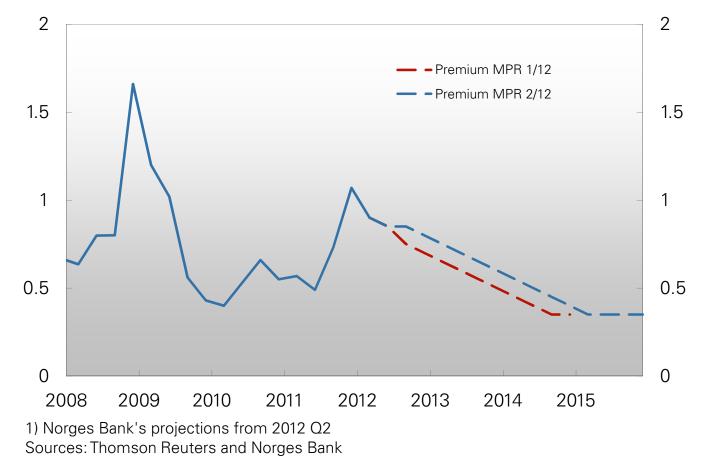
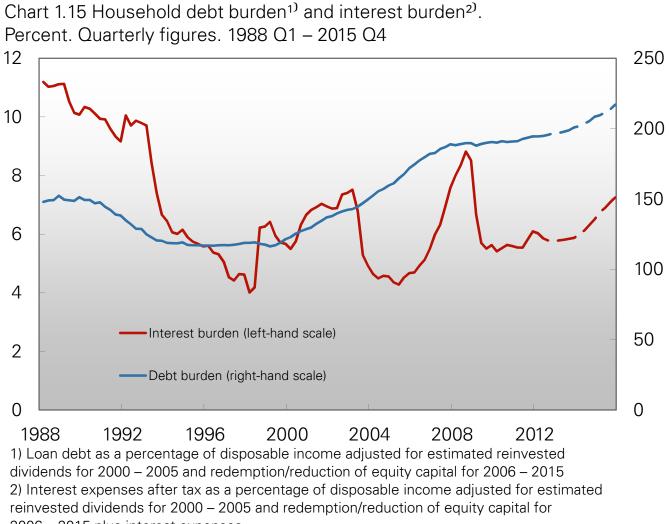


Chart 1.14 Difference between 3-month money market rate and expected key rates.¹⁾ Percentage points. 2008 Q1 – 2015 Q4





2006 – 2015 plus interest expenses

Sources: Statistics Norway and Norges Bank

Chart 1.16a Projected key policy rate in the baseline scenario with probability distribution. Percent. 2008 Q1– 2015 Q4

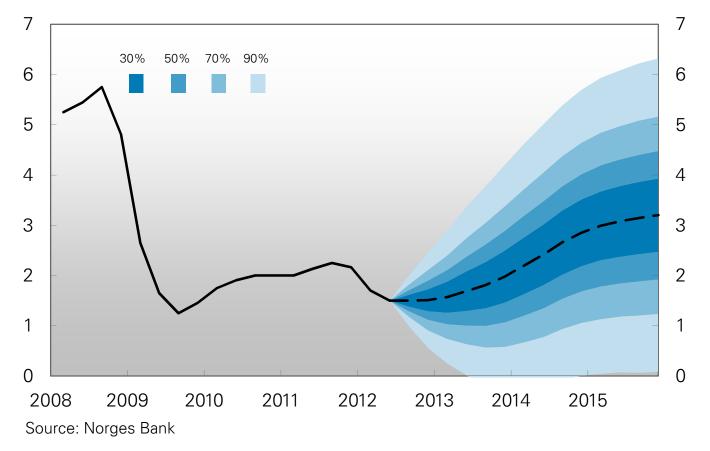
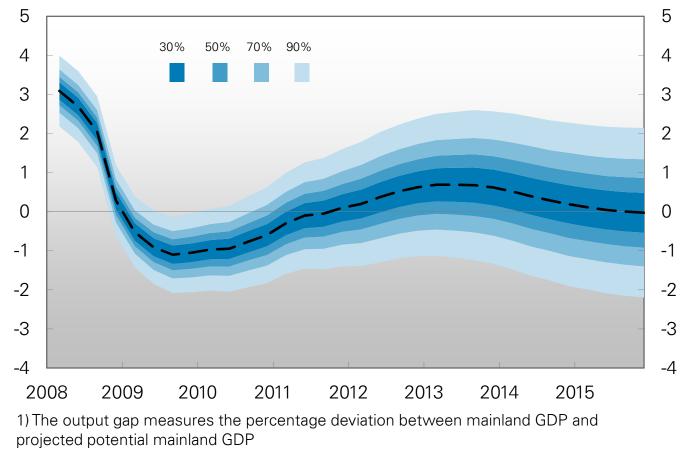


Chart 1.16b Projected output gap¹⁾ in the baseline scenario with probability distribution. Percent. 2008 Q1 – 2015 Q4



Source: Norges Bank

Chart 1.16c Projected CPI in the baseline scenario with probability distribution. Four-quarter change. Percent. 2008 Q1 - 2015 Q4

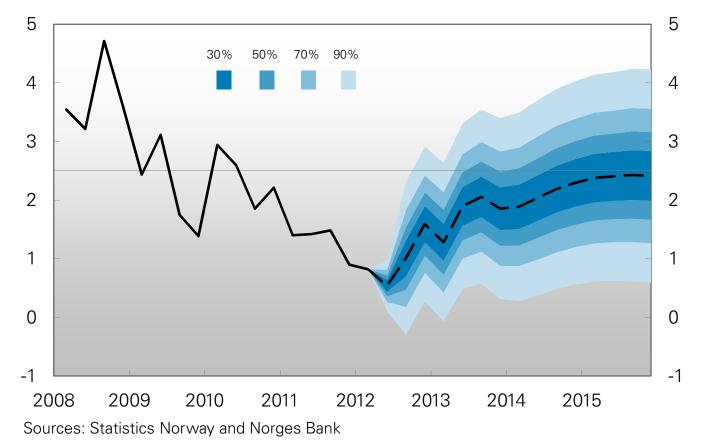


Chart 1.16d Projected CPIXE¹⁾ in the baseline scenario with probability distribution. Four-quarter change. Percent. 2008 Q1 – 2015 Q4

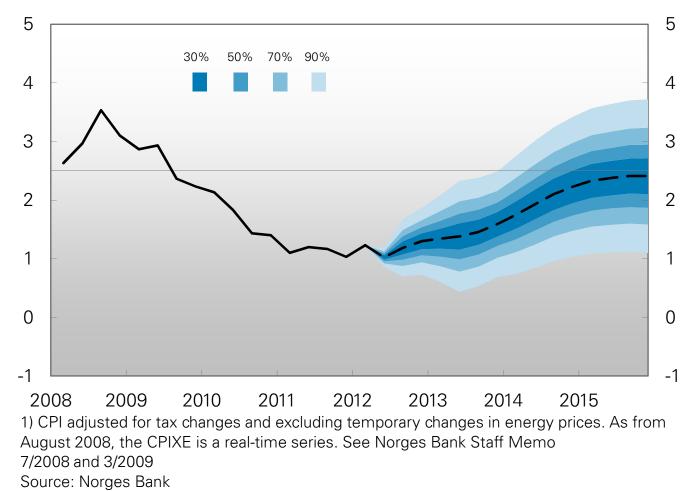


Chart 1.17 Interval for the key policy rate at the end of each strategy period, actual developments and projected key policy rate in the baseline scenario. Percent. January 2008 – December 2015

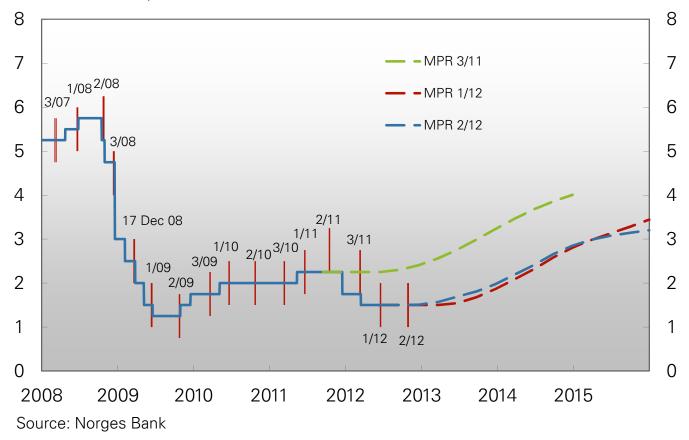


Chart 1.18 Three-month money market rate differential between Norway¹⁾ and trading partners and the import-weighted exchange rate index (I-44)²⁾. January 2003 – December 2015³⁾

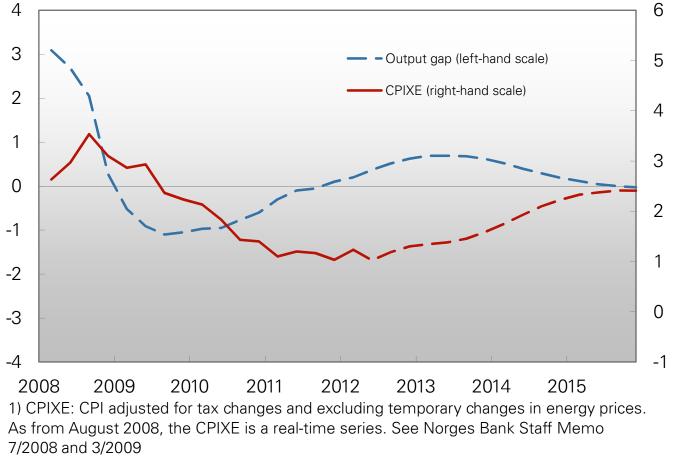


1) Key policy rate in the baseline scenario plus premiums in the Norwegian money market. The calculations are based on the assumption that announced interest rate changes are priced into the money market

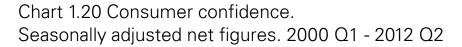
2) A positive slope denotes a stronger krone exchange rate

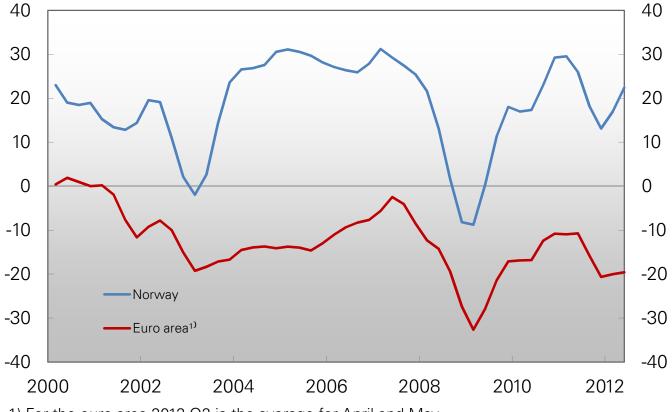
3) Monthly figures from January 2003 and Norges Bank projections from 2012 Q2 Sources: Thomson Reuters and Norges Bank

Chart 1.19 Projected inflation¹⁾ and output gap in the baseline scenario. Percent. 2008 Q1 – 2015 Q4



Source: Norges Bank





1) For the euro area 2012 Q2 is the average for April and May. Sources: TNS Gallup and Thomson Reuters

Chart 1.21 Purchasing managers index (PMI) for manufacturing. Diffusion index around 50. Seasonally adjusted net figures. January 2005 - May 2012

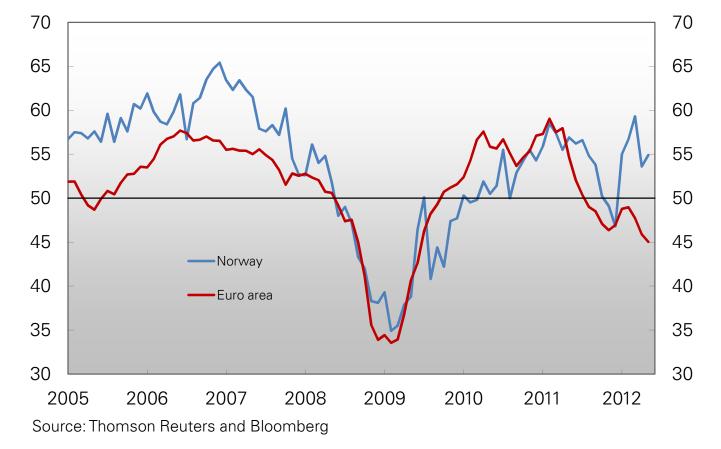
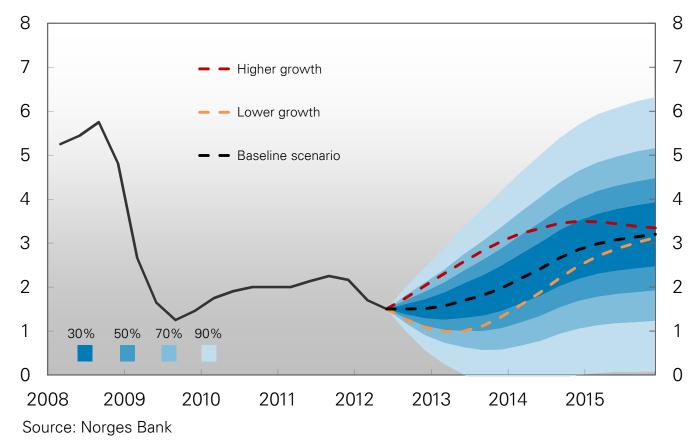
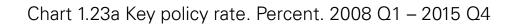


Chart 1.22 Key policy rate in the baseline scenario and in the alternative scenarios. Percent. 2008 Q1 – 2015 Q4





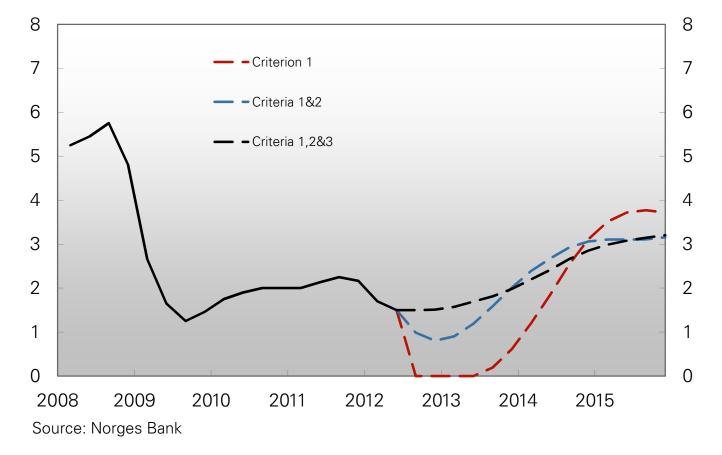
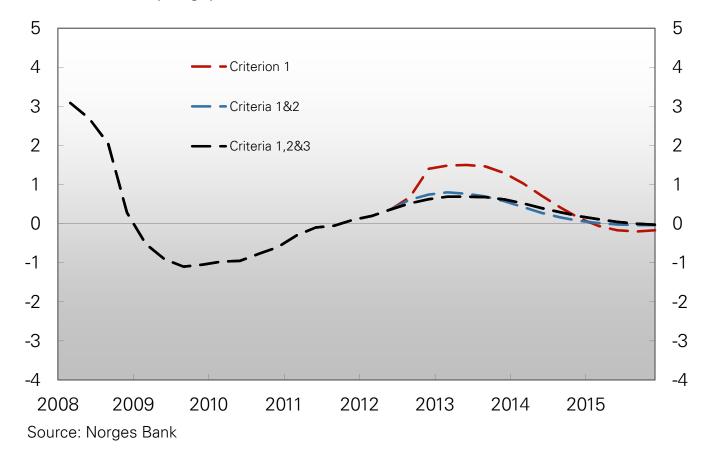


Chart 1.23b Output gap. Percent. 2008 Q1 – 2015 Q4



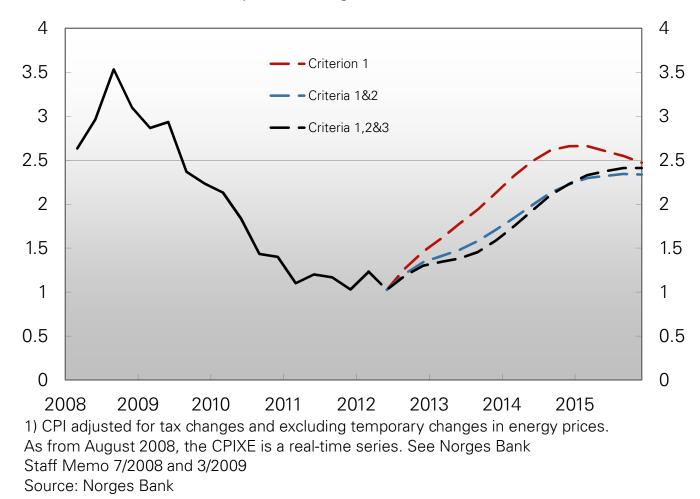


Chart 1.23c CPIXE¹⁾. Four-quarter change. Percent. 2008 Q1 – 2015 Q4

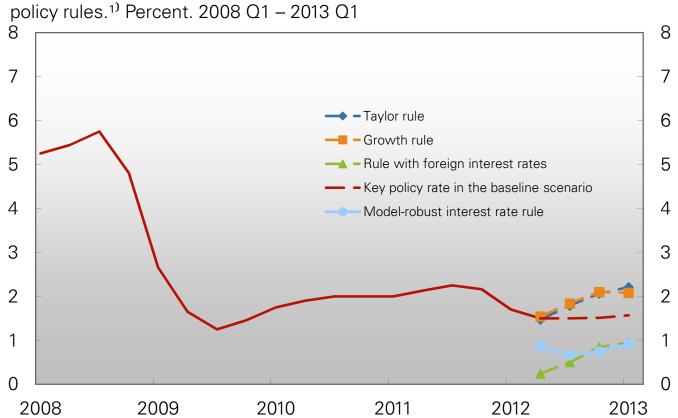
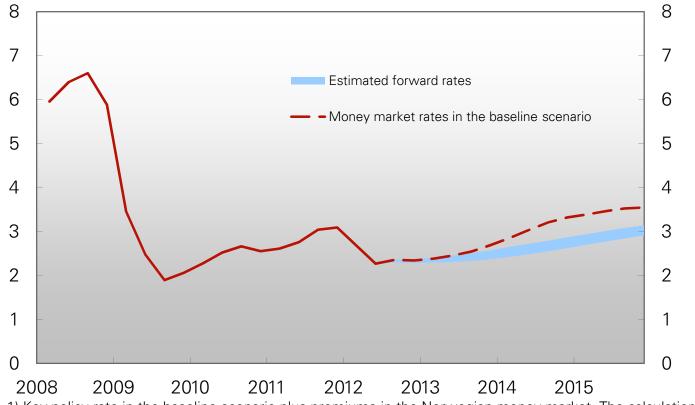


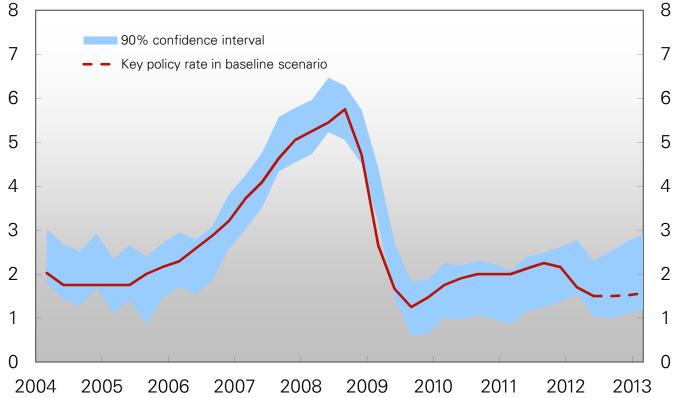
Chart 1.24 Key policy rate and calculations based on simple monetary policy rules.¹⁾ Percent. 2008 Q1 – 2013 Q1

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



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.
 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 4 June – 15 June 2012 Sources: Thomson Reuters and Norges Bank

Chart 1.26 Key policy rate and interest rate developments that follow from Norges Bank's average pattern of interest rate setting.¹⁾ Percent. 2004 Q1 – 2013 Q1



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 Q1. See *Staff Memo* 3/2008 for further discussion Source: Norges Bank

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

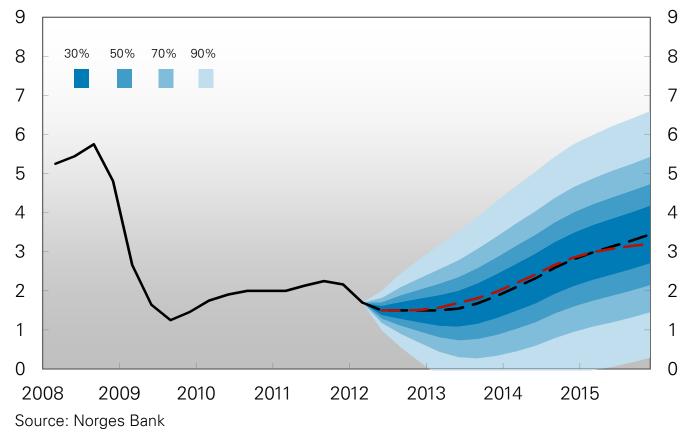


Chart 2 Factors behind changes in the interest rate forecast since MPR 1/12. Accumulated contribution. Percentage points. 2012 Q3 – 2015 Q4

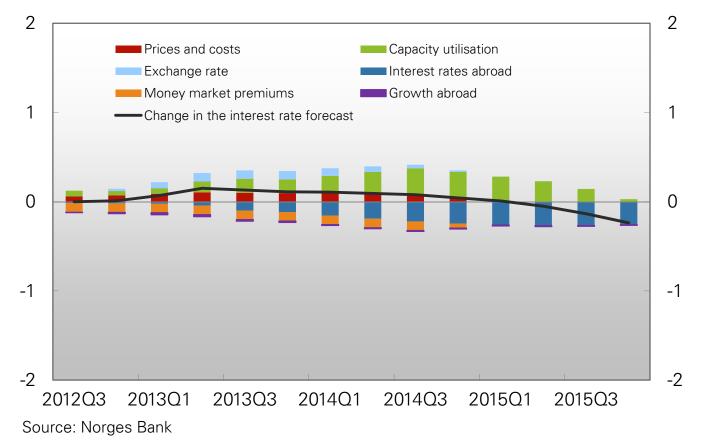
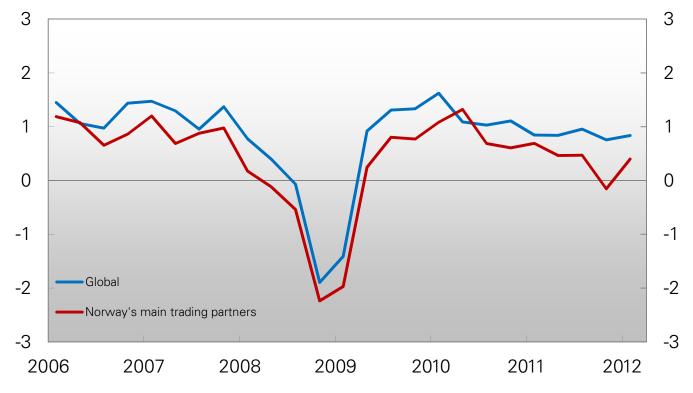
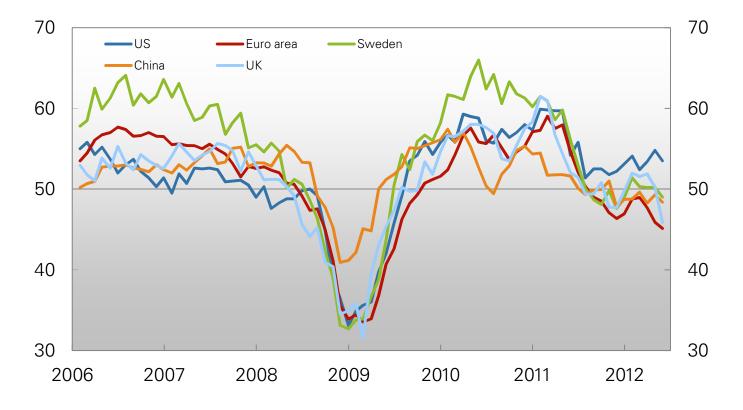


Chart 2.1 Quarterly GDP growth. Percent. 2006 Q1 - 2012 Q1



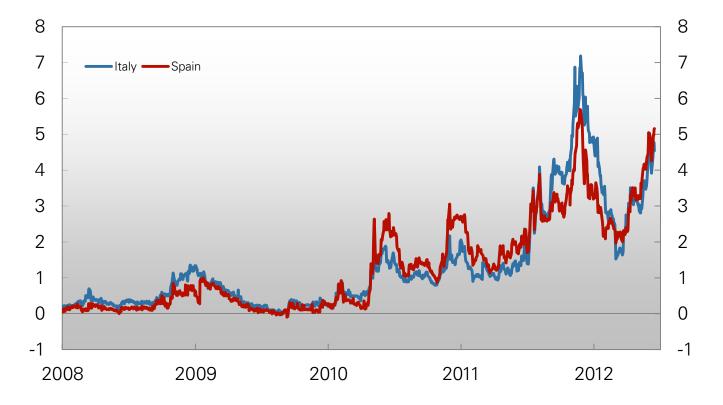
Sources: IMF, Thomson Reuters and Norges Bank

Chart 2.2 Manufacturing PMIs. Diffusion index centred around 50. January 2006 – May 2012



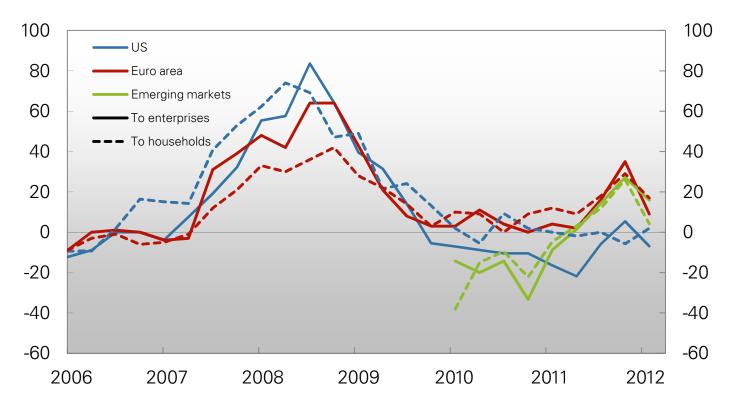
Source: Thomson Reuters

Chart 2.3 Yield spreads against German 2-year government bonds. Percentage points. 1 January 2008 – 15 June 2012

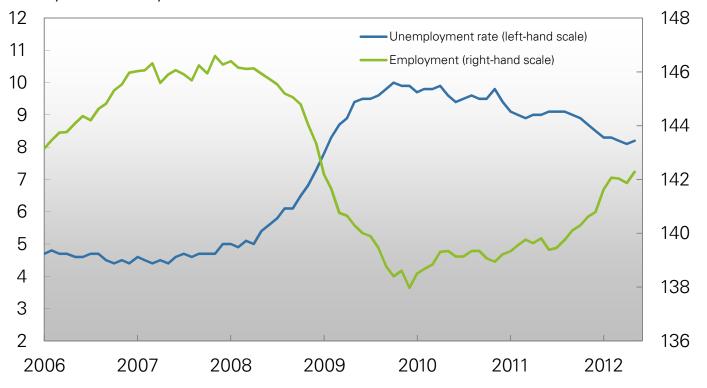


Source: Thomson Reuters

Chart 2.4 Bank lending conditions. Net balance¹⁾. 2006 Q1 – 2012 Q1

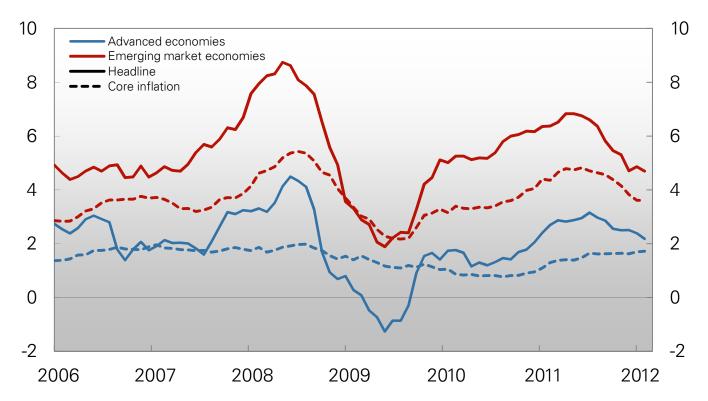


1) Values above 0 indicate tighter lending conditions Sources: Thomson Reuters, Institute of International Finance and Norges Bank Chart 2.5 US labour market. Unemployment as a percentage of labour force and employment in millions. Seasonally adjusted. January 2006 – May 2011



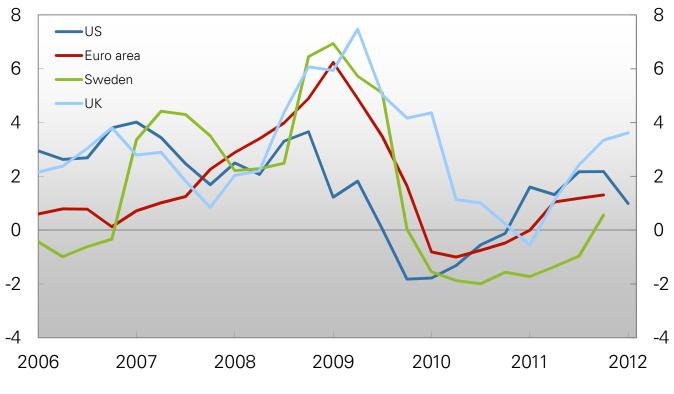
Source: Thomson Reuters

Chart 2.6 Consumer prices in advanced economies and emerging markets.¹⁾ 12-month change. Percent. January 2006 – April 2012



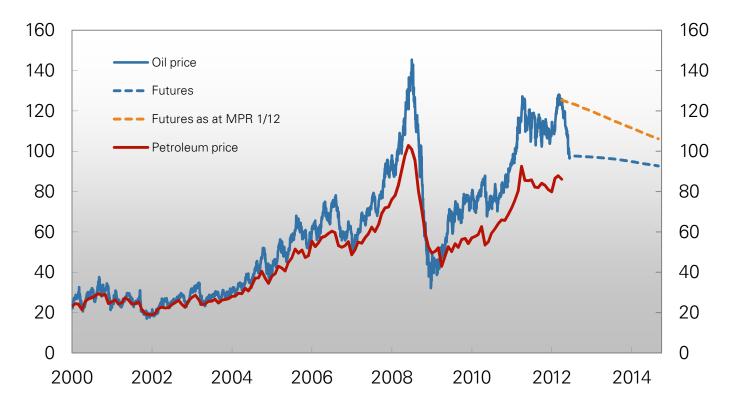
1) GDP-weighted (PPP). Advanced economies: Australia, Canada, euro area, Japan, UK and US. Emerging markets: Argentina, Brazil, India, Indonesia, China, Mexico, Russia, South Africa, South Korea and Turkey. Sources: CEIC, IMF, Thomson Reuters and Norges Bank

Chart 2.7 Unit labour costs. Total economy. Four-quarter change. Percent. 2006 Q1 – 2012 Q1

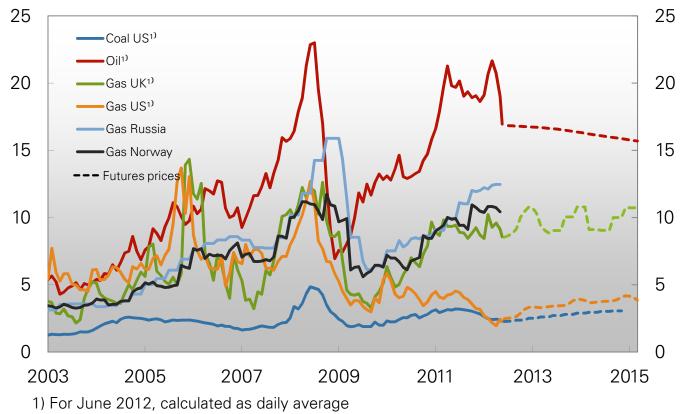


Source: OECD

Chart 2.8 Oil price (Brent Blend) and prices for Norwegian petroleum exports¹⁾. USD/barrel. January 2000 – December 2015

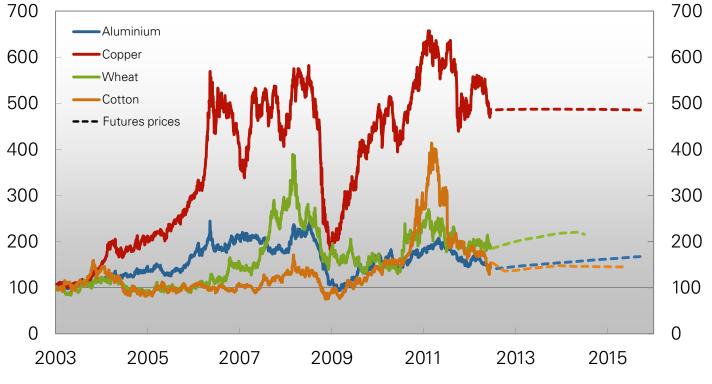


1) Weighted average of Norwegian crude oil and gas exports Sources: Statistics Norway, Thomson Reuters and Norges Bank Chart 2.9 Prices for coal, crude oil and natural gas. USD per MMBTU. January 2003 – April 2015



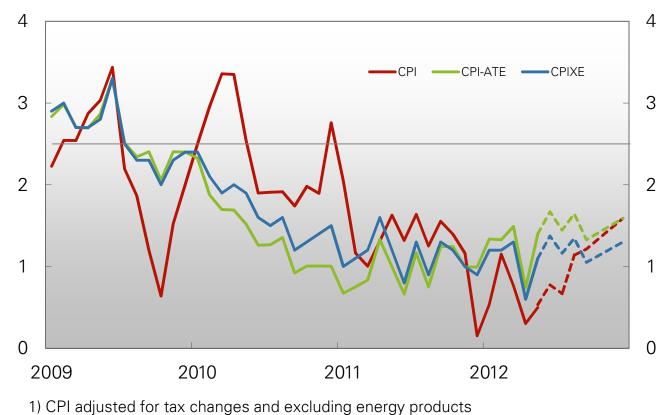
Sources: IMF, Thomson Reuters, Statistics Norway and Norges Bank

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



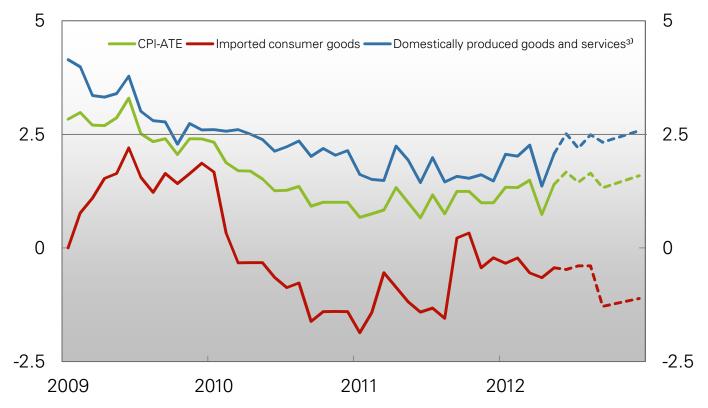
Sources: CME Group and Thomson Reuters

Chart 2.11 CPI, CPI-ATE¹⁾ and CPIXE²⁾. 12-month change. Percent. January 2009 – December 2012³⁾



- 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
- Projections for June 2012 December 2012 (broken lines). Monthly figures to September 2012, then quarterly figures

Chart 2.12 CPI-ATE¹⁾. Total and by supplier sector. 12-month change. Percent. January 2009 – December 2012²

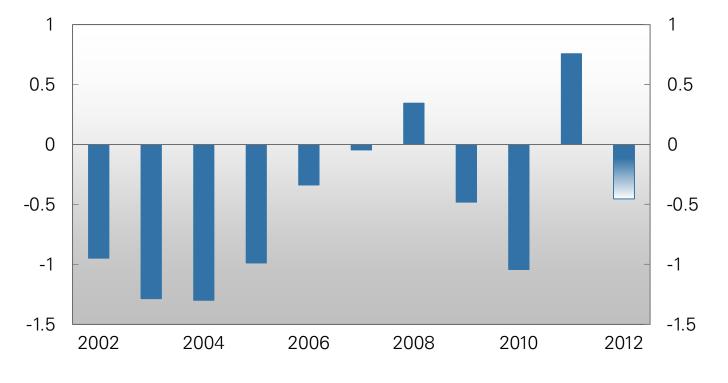


1) CPI adjusted for tax changes and excluding energy products

2) Projections for June 2012 – December 2012 (broken lines). Monthly figures to September 2012, then quarterly figures

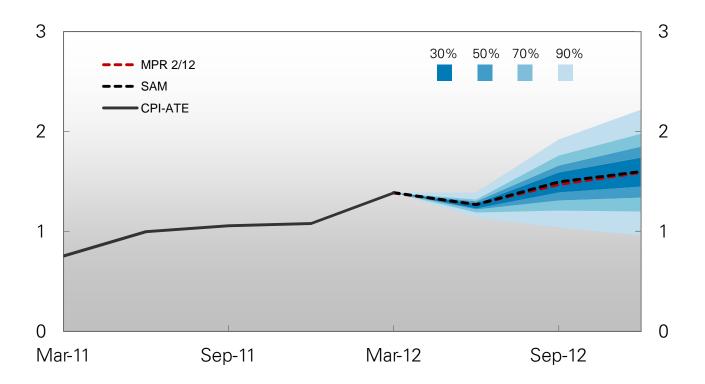
3) Norges Bank's estimates

Chart 2.13 Indicator of external price impulses to imported consumer goods measured in foreign currency. Annual change. Percent. 2002 – 2012¹⁾



¹⁾ Projections for 2012 Source: Norges Bank

Chart 2.14 CPI-ATE¹⁾. Actual figures, baseline scenario and projections from $SAM^{2)}$ with fan chart. Four-quarter change. Percent. 2011 Q1 – 2012 Q4³⁾

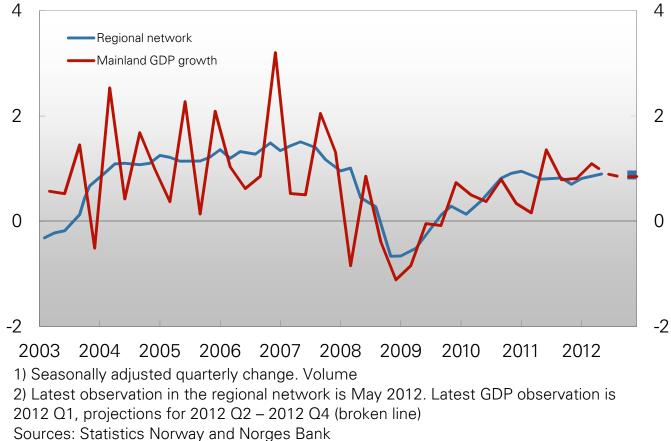


1) CPI adjusted for tax changes and excluding energy products

2) System for averaging models

3) Projections for 2012 Q2 – 2012 Q4 (broken lines)

Chart 2.15 GDP mainland Norway¹⁾ and Norges Bank's regional network's indicator of change in production past three months and expected change in production next six months. Percent. 2003 Q1 – 2012 Q4²⁾



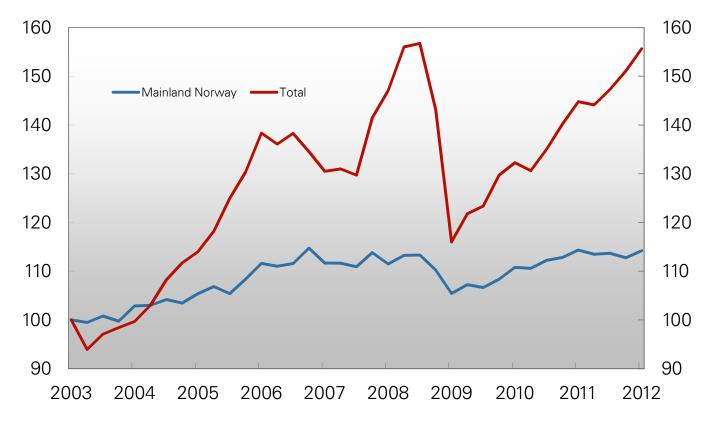


Chart 2.16 Terms of trade. Index. 2003 Q1 = 100. 2003 Q1 – 2012 Q1

Chart 2.17 GDP mainland Norway. Actual figures, baseline scenario and projections from SAM¹⁾ with fan chart. Four-quarter change. Volume. Seasonally adjusted. Percent. 2010 Q1 – 2012 Q4²⁾

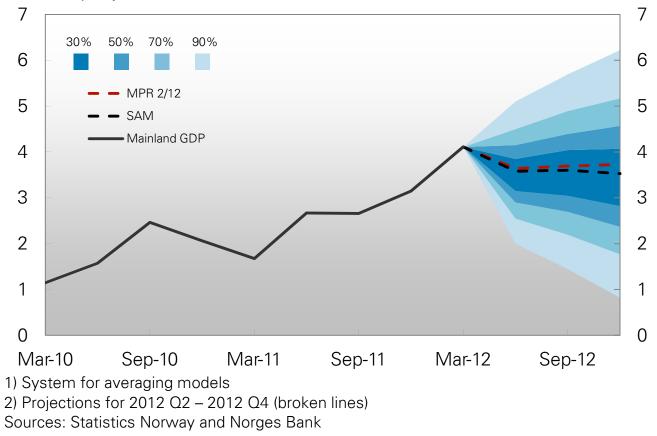
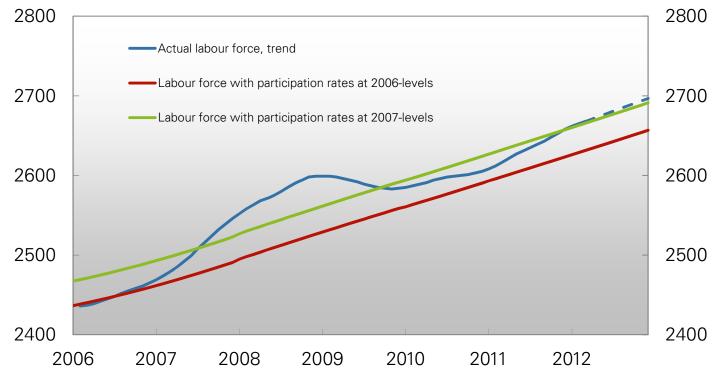
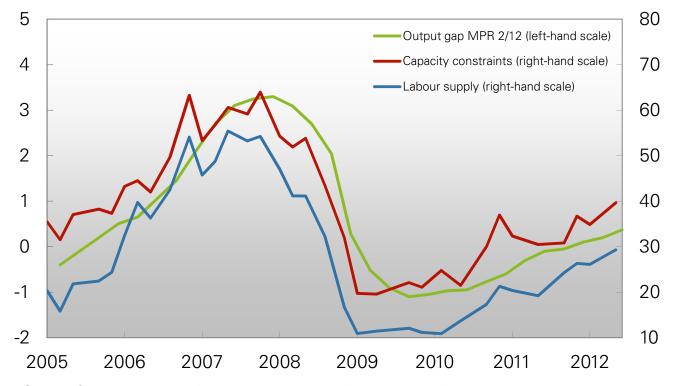


Chart 2.18 Actual labour force trend and the labour force following demographical changes¹). Seasonally adjusted figures. In 1000s. January 2006 – December 2012²)

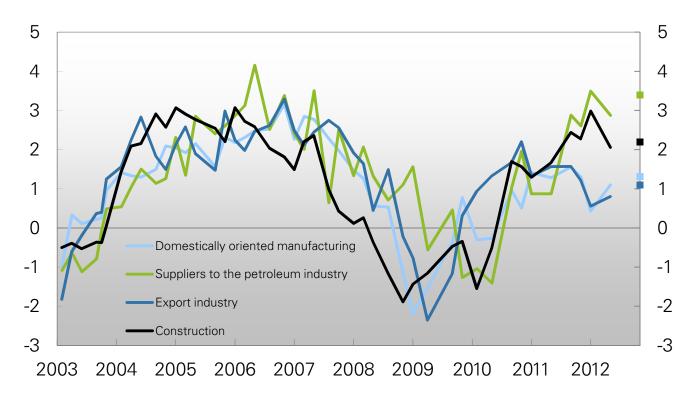


 The labour force based on constant participation rates at 2006/2007-levels
 Latest observation is March 2012, projections for April 2012 – December 2012 (broken lines) Sources: Statistics Norway and Norges Bank Chart 2.19 Capacity constraints and labour supply¹⁾ reported by the regional network and estimated output gap. Percent. 2005 Q1 – 2012 Q2

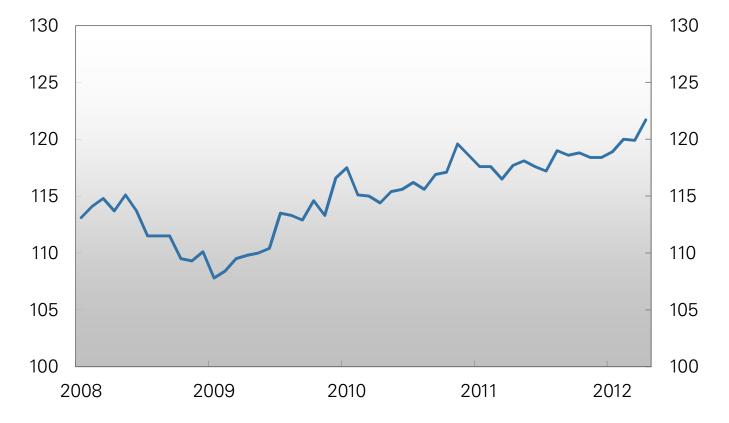


1) Share of contacts that will have some or considerable problems accommodating an increase in demand and the share of contacts where production is constrained by labour supply Source: Norges Bank

Chart 2.20 Change in production past three months and expected change in production next six months. Index¹⁾. February 2003 – November 2012²⁾



 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
 Latest observation in the regional network is May 2012 Source: Norges Bank Chart 2.21 Index of household consumption of goods. Seasonally adjusted volume index. 2005 = 100. January 2008 – April 2012



Source: Statistics Norway

Chart 2.22 Household saving and net lending as a share of disposable income. Percent. $1992 - 2015^{1)}$

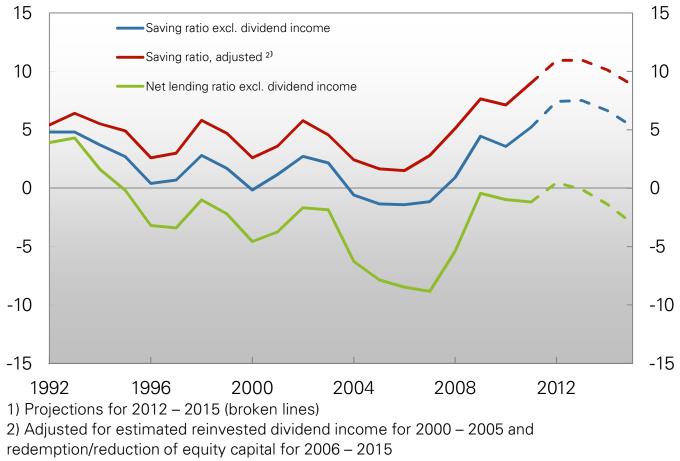


Chart 2.23 Household consumption¹⁾ and real disposable income²⁾. Annual change. Percent. 2003 – 2015³⁾

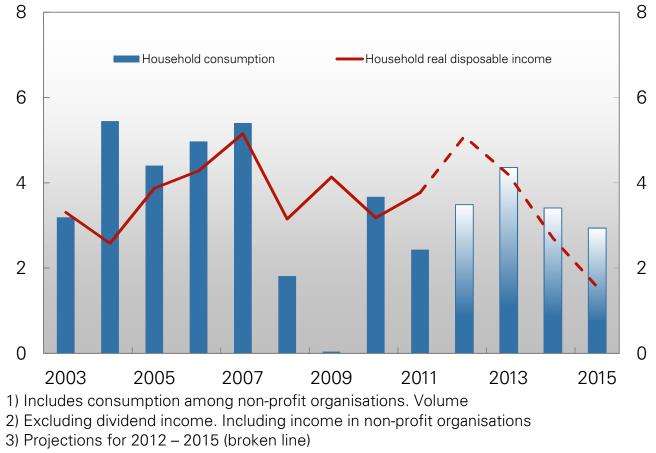
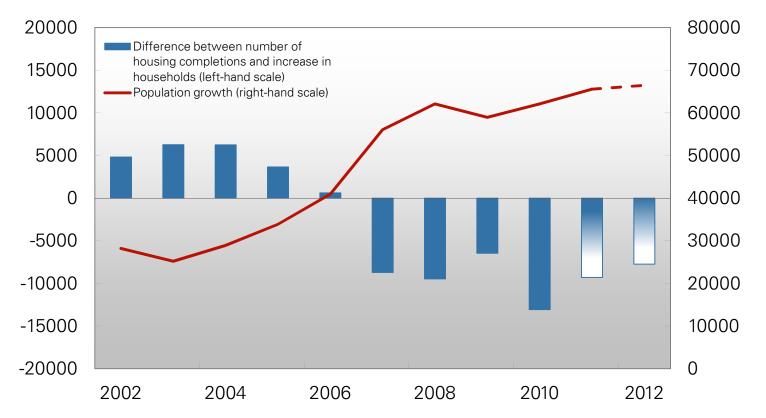
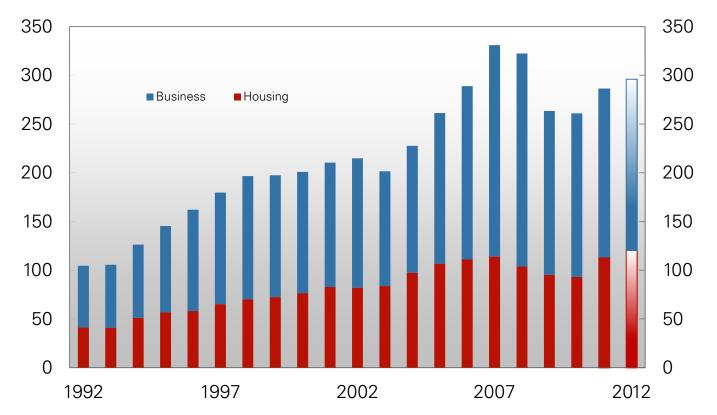


Chart 2.24 Difference between number of housing completions and increase in households, and population growth. $2002 - 2012^{1}$



¹⁾ Projections for 2011 and 2012 Sources: Statistics Norway and Norges Bank

Chart 2.25 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 2.26 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⁾

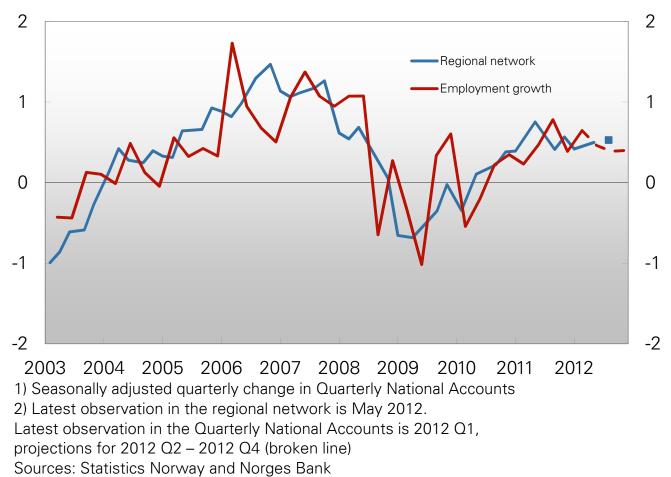
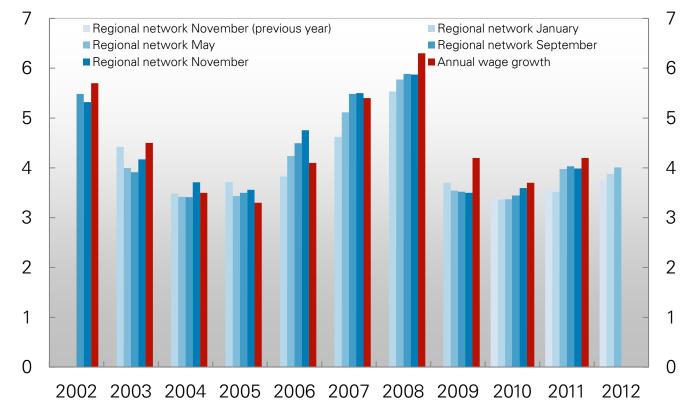


Chart 2.27 Registered unemployment. Percentage of labour force. Seasonally adjusted. 2003 Q1 – 2012 Q4¹)



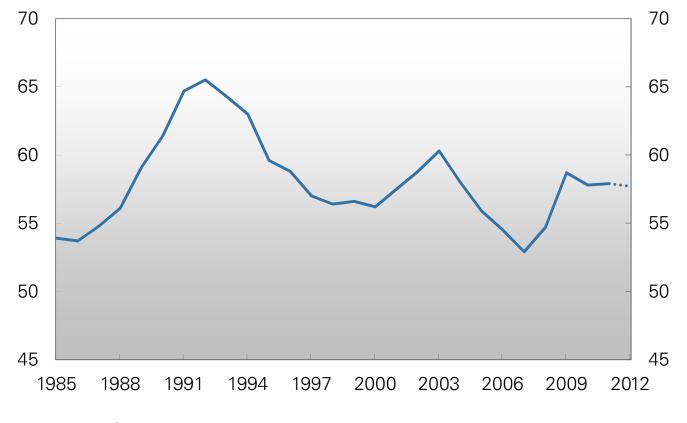
Sources: Norwegian Labour and Welfare Service, Statistics Norway and Norges Bank

Chart 2.28 Annual wage growth and estimated wage growth from Norges Bank's regional network. Percent. 2002 – 2012



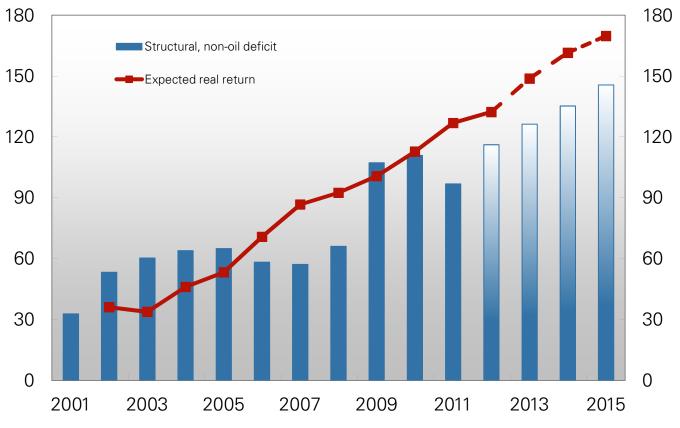
Sources: Norges Bank and the Norwegian Technical Calculation Committee for Wage Settlements (TBU)

Chart 2.29 General government expenditure as share of GDP mainland Norway. 1985 – 2012¹⁾



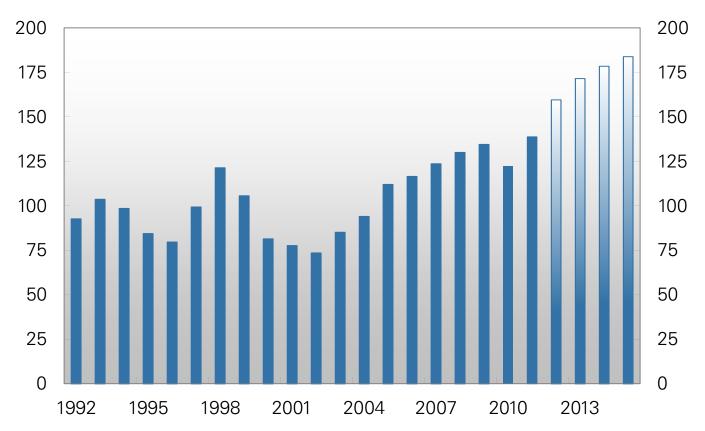
¹⁾ Projection for 2012 Source: Ministry of Finance

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 – 2015¹⁾



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





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