NORGES BANK

Monetary Policy Report

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Monetary Policy Report
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Monetary Policy Report

The *Report* is published three times a year, in March, June and October/November. The *Report* assesses the interest rate outlook and includes projections for developments in the Norwegian economy and analyses of selected themes.

At its meeting on 10 August 2011, the Executive Board discussed relevant themes for the *Report*. At the Executive Board meeting on 5 October, the economic outlook and the monetary policy stance were discussed. On the basis of this discussion and a recommendation from Norges Bank's management, the Executive Board adopted a monetary policy strategy for the period to the publication of the next *Report* on 14 March 2012 at the meeting held on 19 October. The Executive Board's summary of the economic outlook and the monetary policy strategy are presented in "The Executive Board's assessment". In the period to the next *Report,* the Executive Board's monetary policy meeting will be held on 14 December.

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This *Monetary Policy Report* is based on information in the period to 13 October 2011.

The monetary policy strategy was approved by the Executive Board on 19 October 2011.

Monetary policy in Norway

Objective

The operational target of monetary policy is low and stable inflation, with annual consumer price inflation of approximately 2.5% over time.

Implementation

Norges Bank operates a flexible inflation targeting regime, so that weight is given to both variability in inflation and variability in output and employment. In general, the direct effects on consumer prices resulting from changes in interest rates, taxes, excise duties and extraordinary temporary disturbances are not taken into account.

Monetary policy influences the economy with a lag. Norges Bank sets the interest rate with a view to stabilising inflation close to the target in the medium term. The horizon will depend on disturbances to which the economy is exposed and the effects on prospects for the path for inflation and the real economy.

The decision-making process

The monetary policy stance is presented to the Executive Board for discussion at a meeting about two weeks before the *Monetary Policy Report* is published. Themes of relevance to the *Report* have been discussed at a previous meeting. On the basis of the analysis and discussion, the Executive Board assesses the consequences for future interest rate developments, including alternative strategies. The final decision to adopt a monetary policy strategy is made on the same day as the *Report* is published. The strategy applies for the period up to the next *Report* and is presented at the beginning of the *Report*.

The key policy rate is set by Norges Bank's Executive Board. Decisions concerning the interest rate are normally taken at the Executive Board's monetary policy meeting held six times a year. The analyses and the monetary policy strategy, together with assessments of price and cost developments and conditions in the money and foreign exchange markets, form a basis for interest rate decisions.

Communication of the interest rate decision

The monetary policy decision is published in a press release and announced at a press conference at 2 pm on the day of the meeting.

"The Executive Board's assessment" is published in the *Monetary Policy Report*. The assessment contains the main points of the *Report* and a summary of the main points to which the Executive Board gives weight in its discussion of monetary policy. The assessment concludes with the Executive Board's strategy for the period to the publication of the next *Report* and the key policy rate decision.

The press release, the *Monetary Policy Report*, the Executive Board's monetary policy decision – background and general assessment, and the press conference are available on www.norges-bank.no.

Reporting

Norges Bank reports on the conduct of monetary policy in the *Monetary Policy Report* and the *Annual Report*. The Bank's reporting obligation is set out in Section 75c of the Constitution, which stipulates that the Storting shall supervise Norway's monetary system, and in Section 3 of the Norges Bank Act. The *Annual Report* is submitted to the Ministry of Finance and communicated to the King in Council and to the Storting in the Government's Finansmarknadsmeldinga (Financial Market Report). The governor of Norges Bank provides an assessment of monetary policy in an open hearing before the Standing Committee on Finance and Economic Affairs in connection with the Storting deliberations on the Financial Market Report.

The Executive Board's assessment

At the time of the publication of the June 2011 *Monetary Policy Report,* the Executive Board decided that the key policy rate should be in the interval 2¼–3¼% in the period to 19 October 2011, unless the Norwegian economy was exposed to new major shocks. The analysis in the June *Report* indicated that the key policy rate could increase to 2¾–3% in the period to the turn of the year.

In its discussion at the meeting on 10 August, Norges Bank's Executive Board pointed to the recent intensified turbulence in financial markets and indications of weaker global growth. The Board noted that high sovereign debt and large fiscal deficits among a number of Norway's trading partners would make it difficult to implement measures designed to boost growth. Developments in the Norwegian economy had been approximately as expected, but inflation was low. The Executive Board noted the considerable uncertainty prevailing at that time and the impact on the prospects for the Norwegian economy of weaker external growth. The Executive Board came to the conclusion that it was appropriate to keep the interest rate unchanged and take a wait and see approach until the next monetary policy meeting. The key policy rate was kept unchanged at 2.25%.

In its discussion at the meeting on 21 September, the Executive Board gave weight to the increased level of uncertainty surrounding developments in the global economy. The risk that the debt crisis in the euro area would become worse and have a severe and long-term impact on economic developments appeared to have increased. Volatility had been high in equity, bond and foreign exchange markets and bank counterparty risk in Europe had risen. There were signs that growth was also slowing in emerging economies. In Norway, output and demand had been somewhat lower than projected, even though growth maintained momentum. The housing market showed high activity and the rise in house prices had picked up. At the same time, inflation was lower than expected. The Executive Board was of the view that, in the light of developments, the interest rate should be kept low for a longer period than projected in June and decided to keep the key policy rate unchanged.

At their meetings on 5 and 19 October, the Executive Board discussed the monetary policy stance and the interval for the key policy rate in the period to the publication of the next *Monetary Policy Report* on 14 March 2012. The Executive Board has placed emphasis on the following developments:

Advanced economies are likely facing an amplified and prolonged downturn. Unemployment in the US and the euro area is still high. Rising sovereign debt and large fiscal deficits are constricting the economic room for manoeuvre.

Uncertainty related to sovereign debt problems and the increased risk of a renewed downturn in the global economy are reflected in financial markets. Government bond yields in countries with weak public finances have risen. Equity markets and yields on long-term US and German government bonds have shown a marked fall. Money market premiums have risen and bank funding costs have increased. Market key rate expectations have shown a pronounced fall. There are prospects that central bank key rates abroad could remain low for a long period.

Growth in the Norwegian economy remains robust, but the enterprises in Norges Bank's regional network expect somewhat lower growth ahead. Private consumption has been weaker than expected. It seems that capacity utilisation in the Norwegian economy is slightly lower than projected in the June *Report*, even though employment is still rising rapidly. Inflation is low. It is likely that underlying inflation will be between 1¼% and 1½% in the period to summer 2012.

The point of departure for the Executive Board's deliberations is that the interest rate is set with a view to stabilising inflation close to 2.5% over time. The

Executive Board notes that the analyses in this *Report* entail a considerable downward revision of the interest rate path.

The Executive Board gives weight to the unusually high level of uncertainty regarding global developments ahead, particularly in Europe. This uncertainty is reflected in financial markets. The economic unrest abroad is also affecting the outlook for the Norwegian economy, particularly the internationally exposed sector. Activity in the petroleum sector and the housing market is still strong and housing investment is rising rapidly. High money and credit market premiums will probably result in some increase in bank lending rates. High demand and a shortage of housing in the major cities may nonetheless continue to generate pressures in the housing market ahead. On the other hand, inflation is lower than expected. The prospects of both somewhat weaker growth and lower inflation suggest that the key policy rate should not be raised further in the coming months.

Low interest rates abroad affect the interest rate in Norway. An appreciably faster rise in the interest rate at home than abroad would increase the risk of a krone appreciation, resulting in inflation that is too low. Low inflation suggests in isolation that the key policy rate should be lowered. But the key policy rate is already low. Capacity utilisation is close to a normal level. Low interest rates over time entail the risk of a buildup of imbalances. This suggests that the key policy rate should gradually be raised towards a more normal level.

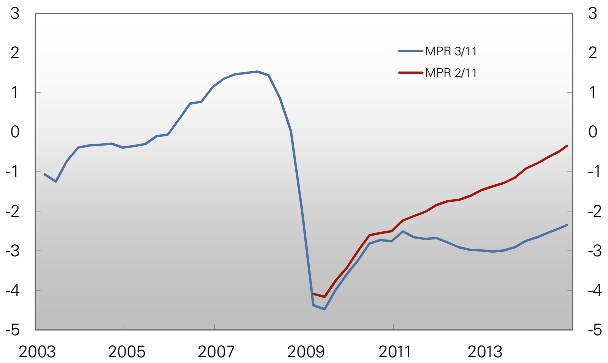
The Executive Board is of the view that the outlook and the balance of risks now suggest that the key policy rate should be kept at the current level for some time ahead. If the economic unrest abroad intensifies, money market premiums remain high and the outlook for growth and inflation weakens further, the key rate may be reduced. If financial market turbulence subsides and there are prospects of higher growth and inflation, the key rate may rise.

The Executive Board decided at its meeting on 19 October that that the key policy rate should be in the interval 1¾%–2¾% in the period to the publication of the next *Report* on 14 March 2012, unless the Norwegian economy is exposed to new major shocks.

At the same meeting on 19 October, the Executive Board decided to leave the key policy rate unchanged at 2.25%.

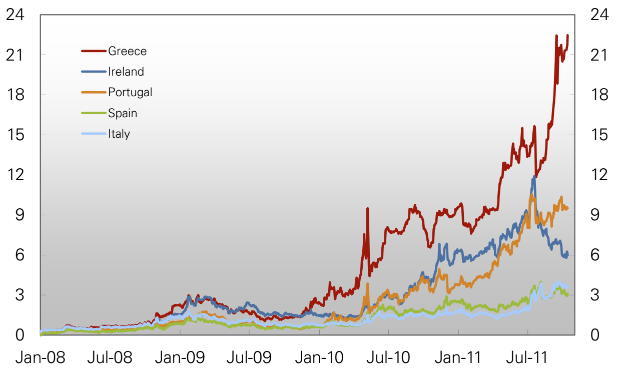
Øystein Olsen
19 October 2011

Chart 1.1 Projected output gap[1] for Norway's trading partners. Per cent. 2003 Q1 – 2014 Q4



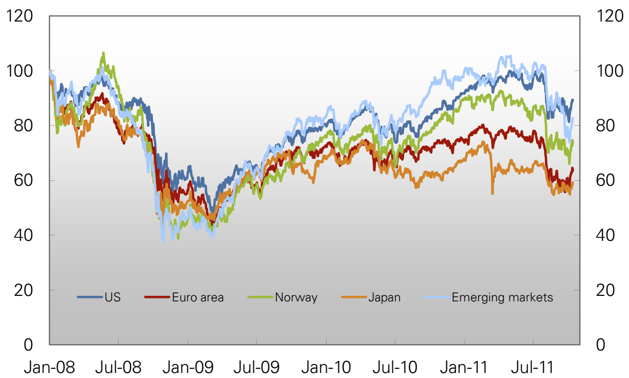
1) The output gap measures the percentage deviation between GDP and projected potential GDP for Norway's trading partners
Sources: IMF, Thomson Reuters and Norges Bank

Chart 1.2 Yield spreads against German 10-year government bonds. Percentage points. 1 January 2008 – 13 October 2011



Source: Thomson Reuters

Chart 1.3 Developments in equity markets. Index. 1 January 2008 = 100. 1 January 2008 – 13 October 2011



Source: Thomson Reuters

1 Monetary policy assessments and strategy

The economic situation

The outlook for the global economy has deteriorated considerably through summer and autumn. Growth has been lower than expected in the US, the euro area and the UK. Confidence indicators for both enterprises and households have fallen markedly, particularly in the euro area. Advanced economies are likely facing an amplified and prolonged downturn (see Chart 1.1). Inflation remains steady in many countries following the rapid rise in energy and commodity prices through 2010, but inflation expectations appear to be edging down, in both the short and long term. Growth in emerging economies is also slowing somewhat, but commodity demand remains buoyant in these countries. Oil prices have fluctuated recently and are now somewhat lower than at the time of publication of the June *Monetary Policy Report*.

Yields on Greek government bonds have risen sharply and are also high in a number of other European countries (see Chart 1.2). Equity markets fell markedly in summer and have since shown considerable volatility (see Chart 1.3). Yields on long-term US and German government bonds have fallen to unusually low levels (see Chart 1.4). Since many European banks are exposed to debt-laden countries, bank counterparty risk has increased and bank funding costs have risen. The spread between money market rates and key rates, the premium, has widened considerably, though to a far lesser extent than after the Lehman bankruptcy in September 2008 (see Chart 1.5).

Financial market turbulence is also affecting Norwegian banks. The spread between Norwegian money market rates and the key policy rate has widened considerably (see Chart 1.5). Funding costs for Norwegian banks have increased. As a result of higher money market rates and credit premiums for covered bonds, banks' marginal borrowing costs for residential mortgages are now very close to average lending rates for highly secured mortgages (see Chart 1.6). Banks have raised corporate lending rates, and residential mortgage rates are probably on the rise.

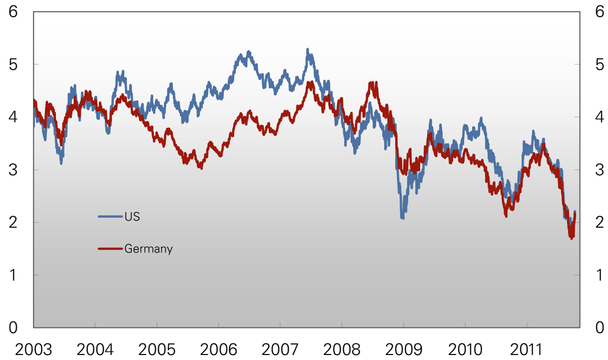
Key rates among Norway's trading partners are very low. Market key rate expectations have shown a pronounced fall (see Chart 1.7). The Federal Reserve has announced that the federal funds rate may be held at the current level until mid-2013 and perhaps longer if growth does not pick up. Nor is an interest rate increase expected in the UK in the next couple of years. In the euro area, the short money market rate (EONIA) is expected to fall, reflecting expectations of continued high liquidity in the banking system and a possible reduction in the interest rate on banks' overnight deposits with the European Central Bank (ECB).

The krone has generally remained around the levels projected in the June *Report*, but has varied widely in periods.[1] The krone appreciated markedly following the Swiss National Bank's announcement of a minimum exchange rate for the Swiss franc against the euro on 6 September, but depreciated again shortly thereafter.

In Norway, output and demand have been somewhat lower than expected, even though growth is fairly high. Mainland GDP rose by 2.4% between 2010 Q2 and 2011 Q2. According to the Labour Force Survey (LFS), employment growth and labour force growth have been high. Housing investment is rising rapidly. Household debt growth has edged up over the past year and house prices have risen sharply. Private consumption, on the other hand, has shown weaker developments than projected in June, and household expectations regarding the period ahead have declined. Growth in manufacturing output has slowed and business confidence indicators have weakened somewhat. The enterprises in Norges Bank's regional network reported in September that growth has remained robust in recent months, but that they expected somewhat lower growth ahead. Quarterly growth in mainland GDP is expected to be about ¾% in the coming quarters, which is slightly lower than projected in the June *Report*. Registered unemployment has

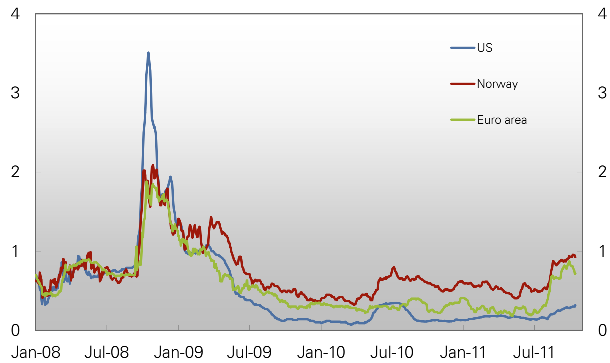
1 See Norges Bank *Economic Commentaries* 3/2011 for a discussion of the krone exchange rate and liquidity in the NOK market

Chart 1.4 Yields on 10-year government bonds.
Per cent. 1 January 2003 – 13 October 2011



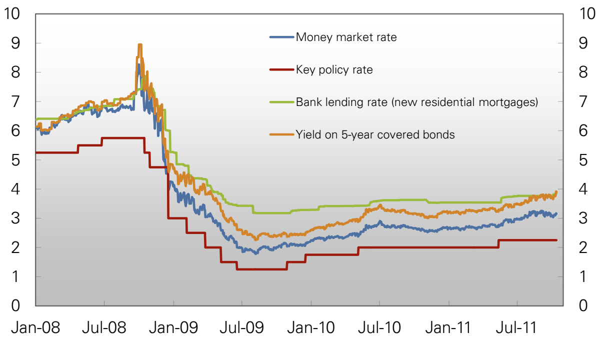
Source: Thomson Reuters

Chart 1.5 Difference between 3-month money market rate and expected key rates[1)]. Percentage points. 5-day moving average.
1 January 2008 – 13 October 2011



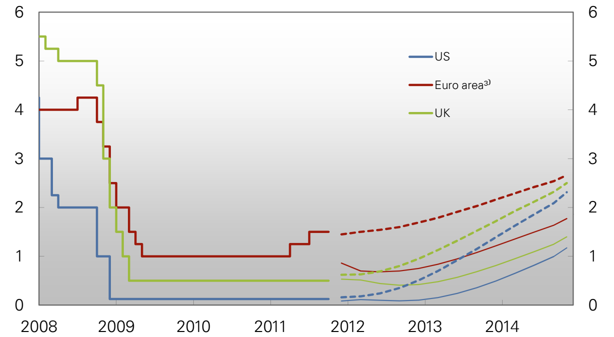
1) Expected key rates are derived from Overnight Indexed Swap (OIS) rates. Norges Bank's projections for market key rate expectations are used for Norway
Sources: Bloomberg L.P., Thomson Reuters and Norges Bank

Chart 1.6 Key policy rate, money market rate[1)], yield on 5-year covered bonds[2)] and weighted average lending rate on new residential mortgages[3)]. Per cent. 1 January 2008 – 13 October 2011



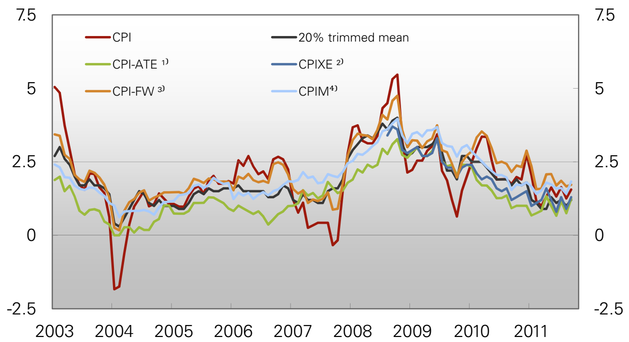
1) 3-month NIBOR (effective)
2) Sum of 3-month NIBOR and indicative credit spreads on 5-year covered bonds
3) Interest rate on new residential mortgages of NOK 1m within 60% of purchase price with variable interest rate. Figures for the 20 largest banks, weighted according to market share
Sources: Norsk familieøkonomi AS, DnB Nor Markets, Statistics Norway and Norges Bank

Chart 1.7 Key rates and estimated forward rates as at 16 June 2011 and 13 October 2011.[1] Per cent. 1 January 2008 – 31 December 2014[2]



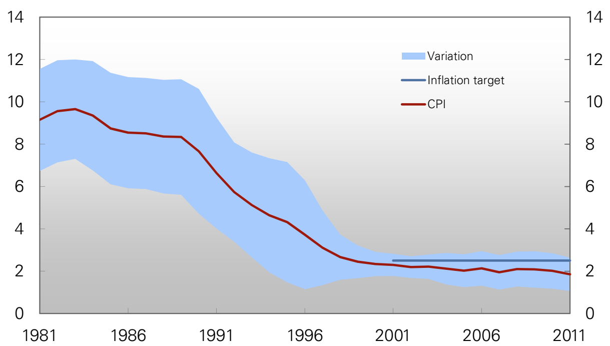
1) Broken lines show estimated forward rates as at 16 June 2011. Thin lines show forward rates as at 13 October 2011. Forward rates are based on Overnight Indexed Swap (OIS) rates
2) Daily figures from 1 July 2008 and quarterly figures from 2011 Q4
3) EONIA in euro area from 2011 Q4
Sources: Bloomberg L.P. and Norges Bank

Chart 1.8 Consumer prices. 12-month change. Per cent. January 2003 – September 2011



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[1] and variation[2] in CPI[3]. Per cent. 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) CPI projections in this *Report* form the basis for this estimate
Sources: Statistics Norway and Norges Bank

been stable and has not fallen further as projected in the June *Report*. Capacity utilisation in the Norwegian economy appears to be close to a normal level, but is rising more slowly than expected in June.

Inflation is low (see Chart 1.8). The twelve-month rise in consumer prices adjusted for tax changes and excluding temporary changes in energy prices (CPIXE) was 1.3% in September, 0.2 percentage point lower than projected in the June *Report*. Prices for electricity and other domestically produced goods and services have risen at a slower pace than envisaged in June, while the rise in prices for imported consumer goods has been faster than expected. Underlying inflation is now projected to be between 1¼% and 1½%. According to Perduco's expectations survey for the third quarter, the social partners, business leaders and households have revised down their expectations regarding inflation 12 months ahead. In the coming quarters underlying inflation is expected to remain somewhat lower than projected in the June *Report*.

The outlook ahead

The operational target of monetary policy in Norway is low and stable inflation, with annual consumer price inflation of close to 2.5% over time. Over the past ten years, average inflation has been somewhat below but close to 2.5% (see Chart 1.9). Long-term inflation expectations are stable around the inflation target (see Charts 1.10 and 1.11).

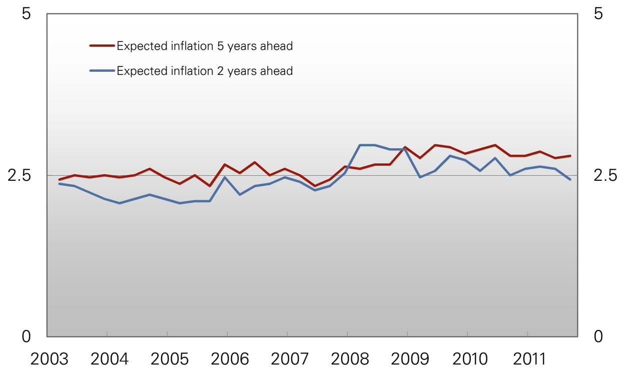
In the wake of the international financial crisis, the key policy rate in Norway was lowered considerably in autumn 2008 and the first half of 2009 in order to dampen the impact on the Norwegian economy and prevent inflation from becoming too low. Since October 2009 the key policy rate has been increased by a total of 1 percentage point to 2.25%. The key policy rate was most recently raised by 0.25 percentage point in May 2011. In the June *Report,* capacity utilisation was assumed to be at a normal level in the Norwegian economy, with prospects of a moderate further rise ahead. Inflation was expected to remain low for a period and then gradually pick up towards 2.5%. The analysis in the June *Report* indicated that the key policy rate could rise to 2¾%–3% in the period to the turn of the year, rising gradually thereafter towards 5% in 2014.

It became clear through summer and early autumn that the premise of the analysis was fundamentally changed. Growth among some trading partners is markedly weaker than previously projected, and the risk of a renewed downturn has increased substantially. Growth in 2012 is now expected to be ½% in the euro area and 1¾% in the US, clearly weaker than projected in the June *Report*. Growth is projected to pick up somewhat thereafter, but is expected to remain fairly moderate. The analysis in this *Report* is based on the assumption that financial market turbulence will not intensify further but gradually recede. It is assumed that the Greek debt crisis will be handled without giving rise to additional, severe contagion effects on other countries.

Activity in the Norwegian economy is being sustained by high oil prices, strong growth in petroleum investment and low interest rates. It is nonetheless likely that the economy will be affected by weak growth in Europe and the US. Norwegian enterprises are encountering lower demand in export markets. A high level of uncertainty may cause households and enterprises to be more cautious in their consumption and investment decisions. Investment costs may also rise as a result of higher bank funding costs. Inflation has slowed gradually since the financial crisis and there is a risk that inflation expectations will become entrenched at a too-low level. Turbulence abroad may dampen economic growth and inflation in Norway. Hence, there seems to be little need for monetary tightening in the near term.

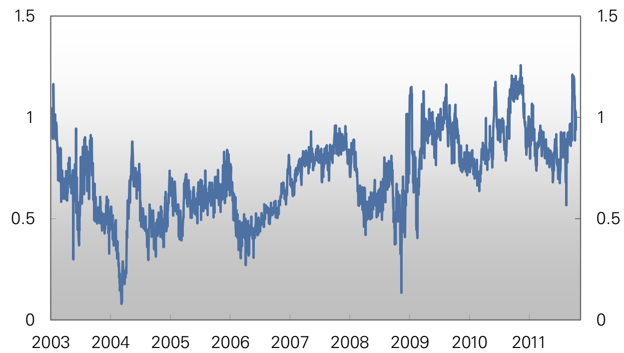
The expected rise in interest rates abroad has been deferred further ahead (see Chart 1.12). At end-2014 key rates are expected to be around 1¾% among Norway's main trading partners. There is little indication that interest rates abroad will normalise at a markedly faster pace than suggested by market rates. The Federal Reserve has itself signalled that it will keep its key rate low for a long period.

Chart 1.10 Expected consumer price inflation 2 and 5 years ahead.[1)]
Per cent. 2003 Q1 – 2011 Q3



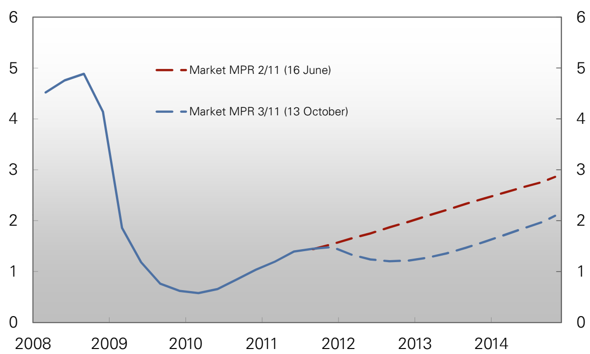
1) Average of expectations of employer/employee organisations and economists (financial industry experts, macro analysts and academia)
Sources: TNS Gallup and Perduco

Chart 1.11 Five-year forward rate[1)] differential 5 years ahead between Norway and the euro area.[2)] Percentage points. 1 January 2003 – 13 October 2011



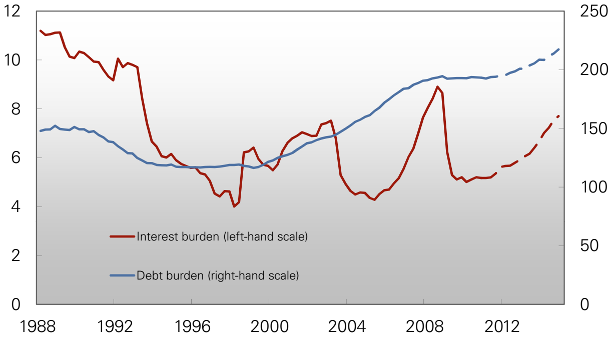
1) Based on swap rates
2) Expected inflation can be derived from the long-term interest rate differential. Due to a higher inflation target in Norway, the long-term interest rate differential will normally be 0.5 – 1 percentage point, depending on risk premium.
Sources: Thomson Reuters and Norges Bank

Chart 1.12 Three-month money market rates.[1)] Trading partners.
Per cent. 2008 Q1 – 2014 Q4



1) Forward rates are based on money market rates and interest rate swaps
Sources: Thomson Reuters and Norges Bank

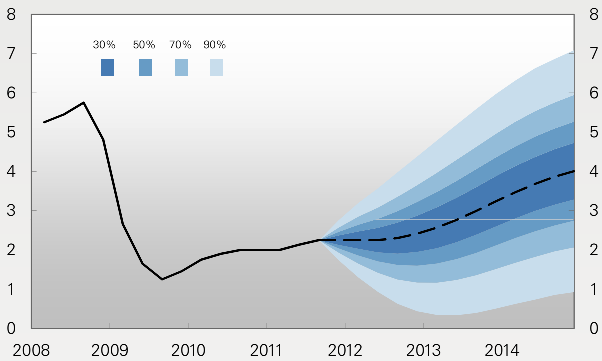
Chart 1.13 Household debt burden[1] and interest burden[2]. Per cent. Quarterly figures. 1988 Q1 – 2014 Q4[1]



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 – 2014
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 – 2014 plus interest expenses
Sources: Statistics Norway and Norges Bank

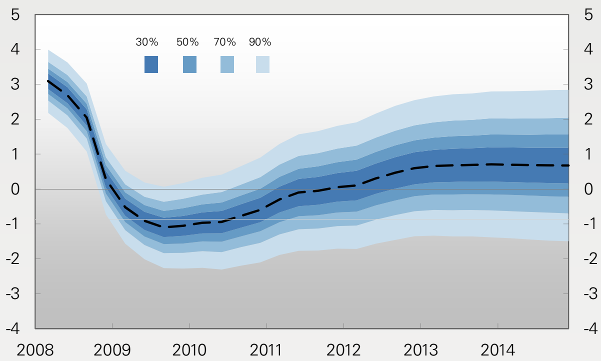
Low interest rates abroad also affect interest rates in Norway. An appreciably faster rise in interest rates at home than abroad would increase the risk of a krone appreciation, resulting in inflation that is too low. The need to guard against inflation that is too low indicates in isolation that the key policy rate should be lowered. But the key policy rate is already low. Capacity utilisation is close to a normal level. Household debt is rising faster than income (see Chart 1.13). Low interest rates over time may lead to a buildup of imbalances. Over time, the key policy rate should therefore gradually be raised towards a more normal level.

Chart 1.14a Projected key policy rate in the baseline scenario with fan chart. Per cent. 2008 Q1– 2014 Q4



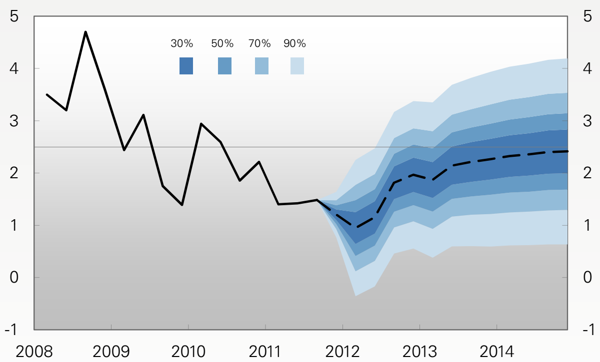
Source: Norges Bank

Chart 1.14b Projected output gap[1] in the baseline scenario with fan chart. Per cent. 2008 Q1 – 2014 Q4



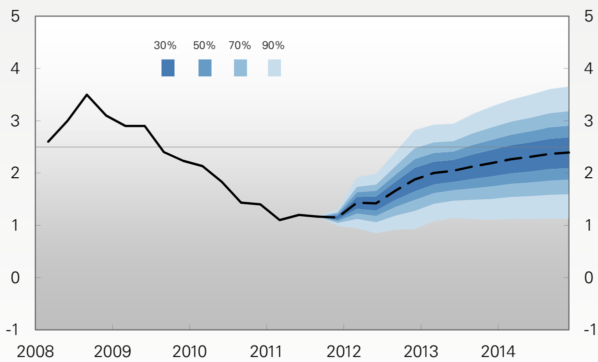
1) The output gap measures the percentage deviation between mainland GDP and projected potential mainland GDP
Source: Norges Bank

Chart 1.14c Projected CPI in the baseline scenario with fan chart. Four-quarter change. Per cent. 2008 Q1 – 2014 Q4



Sources: Statistics Norway and Norges Bank

Chart 1.14d Projected CPIXE[1] in the baseline scenario with fan chart. Four-quarter change. Per cent. 2008 Q1 – 2014 Q4



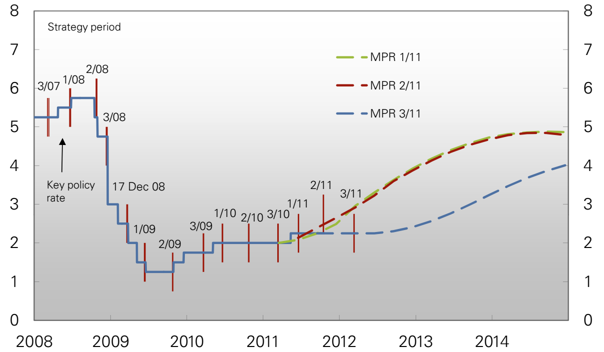
1) CPI adjusted for tax changes and excluding temporary changes in energy prices. As from August 2008, the CPIXE is a real time series. See Norges Bank *Staff Memo* 7/2008 and 3/2009
Source: Norges Bank

An overall assessment of the outlook and the balance of risks suggest that the key policy rate should be kept at the current level in the near term and that the normalisation of the interest rate level should be deferred (see Charts 1.14 a-d and Chart 1.15). The key policy rate is now projected to increase again in a year's time, rising gradually to around 4% towards the end of 2014, which is clearly lower than projected in the June *Report*, albeit a good deal higher than expected interest rates abroad (see box on page 20).

The spread between the expected key policy rate and the money market rate is assumed to narrow gradually from the current level of close to 1 percentage point to approximately 0.35 percentage point in the course of 2013 (see Chart 1.16). Money market rates are therefore projected to edge down over the next year and thereafter rise slightly less than the key policy rate. The interest rate differential against other countries is expected to widen somewhat and the krone is expected to remain fairly stable at around today's level (see Chart 1.17).

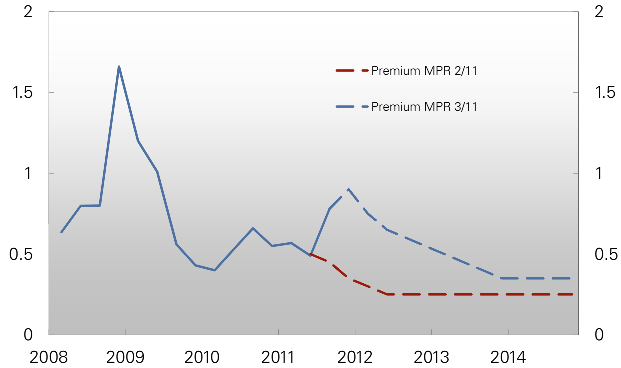
With this interest rate path, inflation is projected to pick up through 2012 and then increase gradually through 2013 and 2014 (see Chart 1.18). Inflation is projected to be close to the inflation target towards the end of the projection period. In the assessment underlying the interest rate forecast, the inflation outlook is weighed against the prospects for the real economy (see Chart 1.18). Growth in mainland GDP is projected at 3¾% in 2012 and 3¼% 2013, declining towards 3% in 2014. Growth in housing investment and household consumption is expected to be high. The saving ratio is likely to decline somewhat ahead. Norwegian export firms will experience weak demand from several of Norway's trading partners. The relative cost level in Norway has increased appreciably in recent years (see Chart 1.19). This may also have a dampening impact on exports. Strong growth in petroleum investment will, on the other hand, contribute to sustaining the level of activity in the manufacturing sector. Capacity utilisation is projected to edge up further ahead.

Chart 1.15 Interval for the key policy rate at the end of each strategy period, actual developments and projected key policy rate in the baseline scenario. Per cent. January 2008 – December 2014



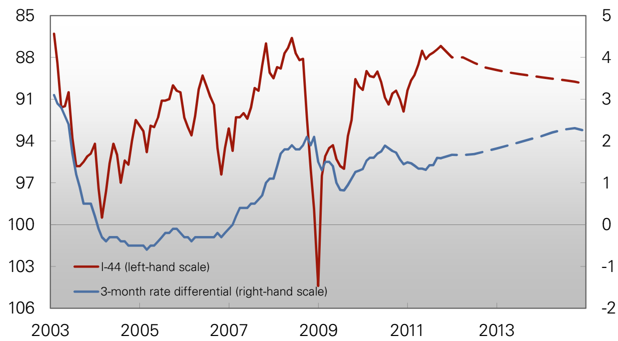
Source: Norges Bank

Chart 1.16 Difference between 3-month money market rate and expected key rates.[1] Percentage points. 2008 Q1 – 2014 Q4



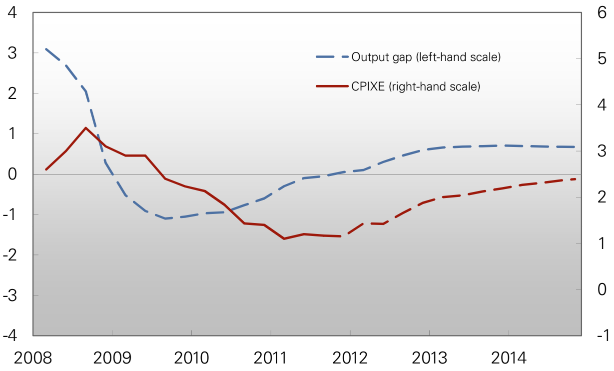
1) Norges Bank's projections from 2011 Q4
Source: Norges Bank

Chart 1.17 Three-month money market rate differential between Norway[1] and trading partners and the import-weighted exchange rate index (I-44)[2]. January 2003 – December 2014[3]



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 2011 Q4
Sources: Thomson Reuters and Norges Bank

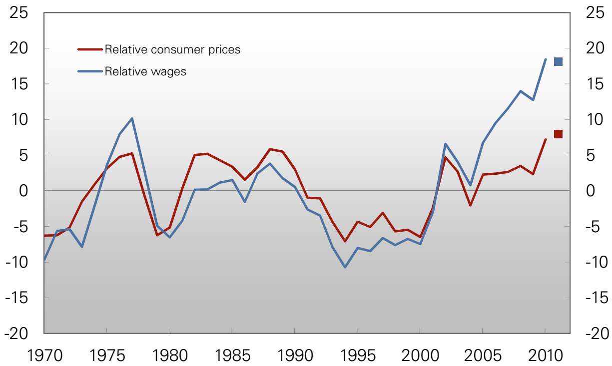
Chart 1.18 Projected inflation[1)] and output gap in the baseline scenario. Per cent. 2008 Q1 – 2014 Q4



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 Real exchange rate. Deviation from mean over the period 1970 – 2010. Per cent. 1970 – 2011[1)]



1) The squares show the average so far in 2011. A positive slope indicates weaker competitiveness

Sources: Statistics Norway, Norwegian Technical Calculation Committee for Wage Settlements, Ministry of Finance and Norges Bank

Criteria for an appropriate interest rate path

The operational target of monetary policy is low and stable inflation, with annual consumer price inflation of approximately 2.5% over time. In interest rate setting, the forecast for future interest rate developments should satisfy the following main criteria:

1) The interest rate should be set with a view to stabilising inflation at target or bringing it back to target after a deviation has occurred. The specific time horizon will depend on the type of disturbances to which the economy is exposed and their effect on the path for inflation and the real economy ahead.

2) The interest rate path should at the same time provide a reasonable balance between the path for inflation and the path for overall capacity utilisation in the economy.

In the assessment, potential effects of asset prices, such as property prices, equity prices and the krone exchange rate on stability in output, employment and inflation are also taken into account. Assuming the criteria above have been satisfied, the following additional criteria are useful:

3) Interest rate adjustments should normally be gradual and consistent with the Bank's previous response pattern.

4) As a cross-check for interest rate setting, any substantial and systematic deviations from simple, robust monetary policy rules should be explained.

The degree to which the criteria are satisfied can be expressed mathematically in the form of a loss function[1]:

$$L_t = (\pi_t - \pi^*)^2 - \lambda (y_t - y_t^*)^2 - \delta (i_t - i_{t-1})^2 - \kappa \left(i_t - i_t^{simple} \right)^2$$

The interest rate forecast that best satisfies the criteria above may be interpreted as the interest rate path that minimises the sum of current and future losses. Usually, the criteria cannot all be satisfied simultaneously in the short term. The various considerations must then be weighed against each other. The parameters λ, δ and κ express the weights attached to the various considerations relative to the cost of deviating from the inflation target.[2]

The loss function above must be regarded as a simplified representation of the more extensive assessments underlying interest rate decisions. Situations may arise where weight will be given to considerations other than those expressed in the simple loss function. In certain situations, for example, a more aggressive interest rate response than usual may be necessary to prevent particularly adverse outcomes.

1 For further details, see box in *Monetary Policy Report* 2/10.

2 In the calculations, the model is solved using a loss function where λ=0.5, δ=0.25 and κ=0.25. These parameters depend on the model and how the model is solved (see further description in Alstadheim et al. (2010)). The consideration of consistency in the response pattern over time suggests that the parameters in the loss function be quantified to ensure consistency with the Bank's previous response pattern.

Assessment of the interest rate forecast

The interest rate forecast in this *Report* reflects Norges Bank's overall judgement and assessment based on the criteria for an appropriate interest rate path (see discussion in box on page 15). Under the criteria, the key policy rate should be set to bring inflation back to target without giving rise to excessive fluctuations in output and employment. At the same time, the key policy rate should be changed gradually and should not deviate too widely from simple and robust monetary policy rules. The interest rate cannot fully satisfy all the criteria simultaneously and the interest rate path is chosen so as to provide a balance between considerations.

Charts 1.20 a-c show forecasts for the key policy rate, the output gap and inflation when taking account of the various criteria.[2]

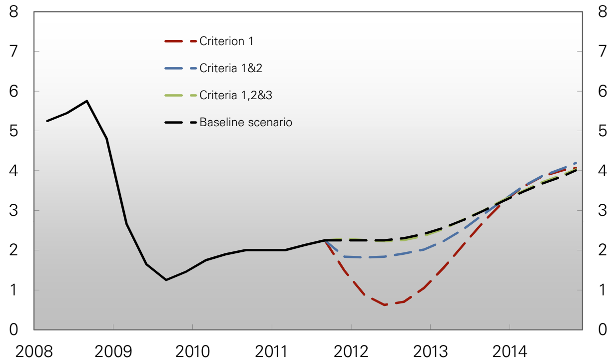
If the sole objective of monetary policy were to bring inflation rapidly back to target, the key policy rate would be lowered at a swift pace. Inflation would then rapidly rise, but such a policy would also result in wider fluctuations in output and employment. The interest rate would then have to be raised sharply to prevent inflation from becoming too high further ahead (see criterion 1 in Charts 1.20 a-c).

When the consideration that monetary policy should not cause excessive fluctuations in output and employment is also taken into account (criteria 1 and 2 in Charts 1.20 a-c), the key policy rate will follow a more stable path. Inflation will then take somewhat longer to return to target, but developments in output and employment will be more stable.

Normally, the Bank takes a gradualist approach to interest rate setting (criterion 3) to avoid abrupt shifts in the economy and to be able to assess the effects of the interest rate change. As Charts 1.20 a-c show, if this criterion is also applied, the interest rate level would be somewhat higher at the beginning of the projection period.[3]

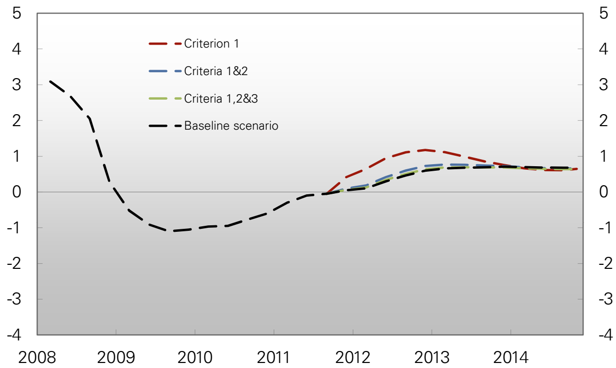
2 Illustrated using the macroeconomic model NEMO.
3 The supplementary assessment discussed on pages 20-21 is included in criterion 3 in the illustration.

Chart 1.20a Key policy rate. Per cent. 2008 Q1 – 2014 Q4



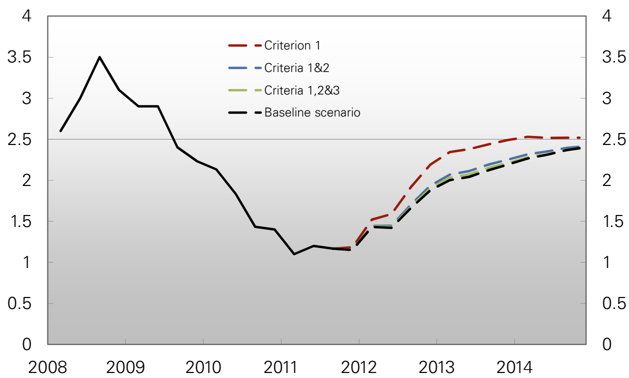
Source: Norges Bank

Chart 1.20b Output gap. Per cent. 2008 Q1 – 2014 Q4



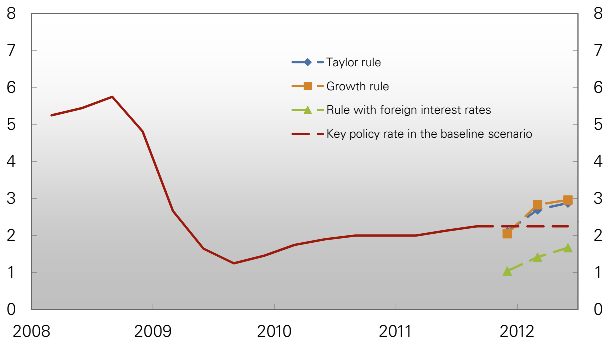
Source: Norges Bank

Chart 1.20c CPIXE¹⁾. Four-quarter change. Per cent. 2008 Q1 – 2014 Q4



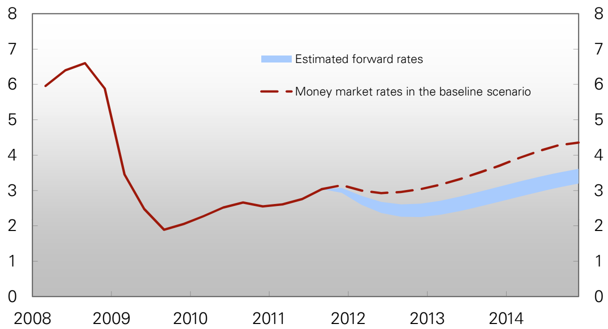
1) CPI adjusted for tax changes and excluding temporary changes in energy prices. As from August 2008, the CPIXE is a real time series. See Norges Bank *Staff Memo* 7/2008 and 3/2009
Source: Norges Bank

Chart 1.21 Key policy rate and calculations based on simple monetary policy rules.[1)] Per cent. 2008 Q1 – 2012 Q1



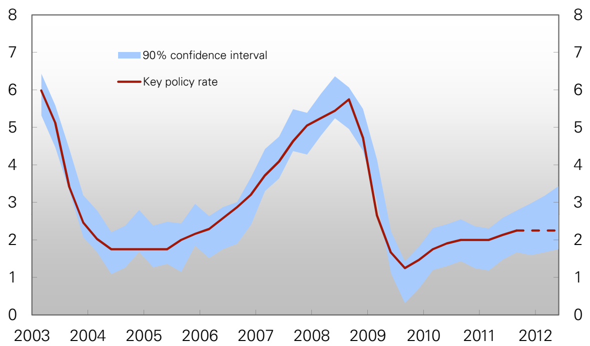
1) The calculations are based on Norges Bank's projections for the output gap, growth gap, consumer prices and 3-month money market rates among trading partners. To ensure comparability with the key policy rate, the simple rules are adjusted for risk premiums in 3-month money market rates
Source: Norges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

Chart 1.22 Three-month money market rates in the baseline scenario[1)] and estimated forward rates[2)]. Per cent. 2008 Q1 – 2014 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 30 September – 13 October 2011
Sources: Thomson Reuters and 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)]
Per cent. 2003 Q1 – 2012 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 – 2011 Q2. See *Staff Memo* 3/2008 for further discussion
Source: Norges Bank

Simple monetary policy rules can be more robust to different assumptions about the functioning of the economy and are useful for providing cross-checks for the analysis. Monetary policy may be less vulnerable to weaknesses in the system of analysis if some weight is also given to these simple rules. In the analysis, some weight has been given to the Taylor rule. This rule applies projections for inflation, the output gap, money market premiums and the normal interest rate level. The Taylor rule indicates a somewhat lower key policy rate now and a higher rate in the first half of 2012 than projected in the baseline scenario (see blue line in Chart 1.21). The growth rule, where the output gap is replaced by a growth gap, produces a similar forecast (orange line). A simple monetary policy rule that gives considerable weight to changes in the interest rate differential against other countries suggests a somewhat lower interest rate (see green line in Chart 1.21).[4] Giving weight to the Taylor rate does not result in substantial changes to the interest rate forecast compared with the forecast based on the first three criteria (see black line in Chart 1.20).

Forward money market rates provide another cross-check for the interest rate forecast. Estimated forward rates indicate that financial market participants expect a reduction in the key policy rate of ¼–½ percentage point by 2012 Q2 (see Chart 1.22). Forward rates further ahead are also lower than the interest rate forecast in this *Report*.

Norges Bank's previous interest rate setting can also serve as a cross-check for the interest rate forecast. Chart 1.23 shows an estimated model that seeks to provide a simple explanation of historical developments in the key policy rate based on inflation, wage growth, mainland GDP and key rates among trading partners. The interest rate in the previous period is also important. The uncertainty in the model is expressed by the blue area. This *Report's* projections for the four variables above are used as input variables in this estimated model. The chart shows that the interest rate forecast in the baseline scenario closely coincides with the projection from the estimated interest rate rule (see Chart 1.23).

4 The rule involving foreign interest rates is based on inflation and the output gap, but also takes account of changes in the interest rate level among Norway's trading partners that may result in changes in the exchange rate and thereby influence the inflation outlook.

Uncertainty surrounding the projections

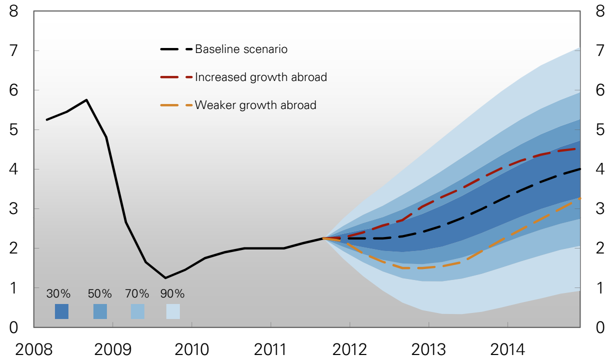
The projections for the key policy rate, inflation, output and other variables are based on Norges Bank's assessment of the economic situation and our perception of the functioning of the economy and monetary policy. If economic developments are broadly in line with projections, economic agents can expect that the interest rate path will also be approximately as projected. However, the interest rate path may differ if the economic outlook changes or if the effect of interest rate changes on inflation, output and employment differs from that projected.

The uncertainty surrounding Norges Bank's projections is illustrated using fan charts (see Charts 1.24 a-c). The width of the fans is based on observations of previous fluctuations in different variables and therefore expresses an average that includes periods of high and low uncertainty.

The baseline scenario is based on the assumption that the Greek debt crisis will be handled without giving rise to additional, severe contagion effects on other countries. However, it cannot be ruled out that financial market turbulence will intensify and spread, further slowing global economic growth.

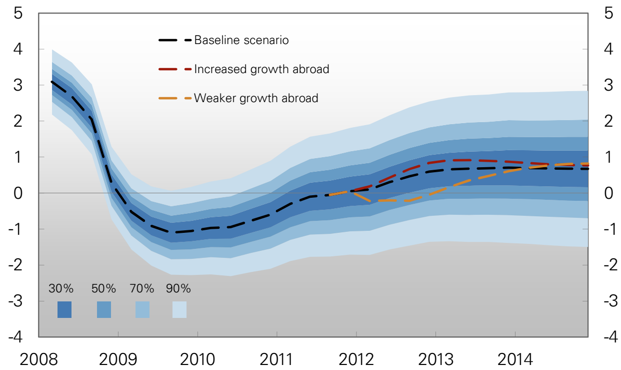
Charts 1.24 a-c (orange lines) illustrate a path where turbulence in financial markets continues, money market premiums remain high and the economic downturn abroad is deeper and more prolonged than projected. In this scenario, premiums are assumed to remain at current levels until next summer and then gradually decline. Interest rate increases among Norway's trading partners are deferred further ahead. The effects on the Norwegian economy are projected to occur fairly quickly. Continued turbulence and high financing costs will probably lead to more cautious behaviour among both households and enterprises. Reduced demand from other countries and falling export prices will dampen activity in Norwegian export industries and have ripple effects on other business sectors. Wage growth will probably be lower than in the baseline scenario. In this alternative scenario, a decrease

Chart 1.24a Key policy rate in the baseline scenario and in the alternative scenarios. Per cent. 2008 Q1 – 2014 Q4



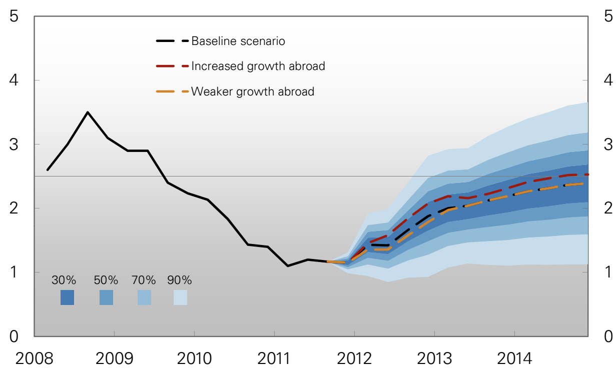
Source: Norges Bank

Chart 1.24b Output gap in the baseline scenario and in the alternative scenarios. Per cent. 2008 Q1 – 2014 Q4



Source: Norges Bank

Chart 1.24c CPIXE[1)] in the baseline scenario and in the alternative scenarios. Four-quarter change. Per cent. 2008 Q1 – 2014 Q4



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

Source: Norges Bank

in the key policy rate will be appropriate to prevent growth and inflation from becoming too low. This may contribute to a renewed pickup in growth and inflation through a somewhat weaker krone exchange rate among other things.

There is also a risk that the debt problems in the euro area will worsen, that the turbulence will intensify and that a new, severe crisis will arise in financial markets. The Norwegian economy may then be exposed to new major shocks and the key policy rate may be reduced to a further extent than indicated above.

On the other hand, through autumn and winter new measures and solutions with regard to the sovereign debt problems in the euro area may be introduced with the effect of restoring calm to the markets and reducing uncertainty. This may lead to improved growth prospects in Europe, an upward shift in interest rate expectations and a faster decline in money market premiums than assumed in the baseline scenario. Households and enterprises in the Norwegian economy will probably increase consumption and investment, resulting in a renewed upswing in growth and capacity utilisation in the Norwegian economy. Unemployment may fall and wage growth may be higher than in the baseline scenario, resulting in a faster pickup in inflation.

Charts 1.24 a-c (red lines) illustrate a scenario where growth prospects abroad improve and calm is restored to financial markets earlier than assumed in the baseline scenario. This will result in higher activity in Norway and a faster rise in price and cost inflation than in the baseline scenario. The key policy rate will then rise earlier than currently projected. The interest rate increase will contribute to stabilising output and keeping inflation close to 2.5%.

Changes in the projections since *Monetary Policy Report* 2/11

The interest rate forecast in this *Monetary Policy Report* has been revised down considerably compared with the June 2011 *Report* (see Chart 1). The key policy rate is now projected to remain at the current level for about a year and then gradually rise towards a more normal level. The projections are based on an overall assessment of the situation in the Norwegian and global economy and our perception of the functioning of the economy. The interest rate is set to keep inflation close to 2.5% over time.

Chart 2 shows a technical illustration of how news and new assessments have affected the changes in the interest rate forecast through their impact on the outlook for inflation, output and employment.[1] The isolated contributions of the different factors are shown by the bars. The overall change in the interest rate forecast is shown by the black line.

Key rates among our trading partners are now very low, and market key rate expectations have fallen markedly since June. There are prospects that the global downturn will be prolonged and that interest rates could remain low for a long period. Lower interest rates abroad imply that the interest rate in Norway may also be kept low for a longer period to prevent the krone from appreciating and inflation from becoming too low (dark blue bars). In this *Report*, the impact of lower interest rates abroad on the key policy rate in Norway is more pronounced than assumed in previous *Report*s, reflecting the expectation that interest rates abroad will remain low for a longer period than previously anticipated.

Money market premiums have risen and are markedly higher than expected in the June *Report*. In isolation, this would suggest a lower key policy rate, because higher premiums, all else being equal, imply higher money market rates (orange bars). Premiums are assumed to gradually revert to a more normal level.

In Norway, developments in output and demand have been somewhat lower than projected. Capacity utilisation is now estimated to be somewhat lower than projected in the June *Report*. This suggests a lower key policy rate (green bars).

Weak developments in Europe and the US and financial market turbulence will influence the Norwegian economy ahead. A high level of uncertainty may lead to more cautious spending behaviour among households and enterprises. Investment costs may also rise as a result of higher bank funding costs. Norwegian enterprises may experience lower demand in export markets. Weaker growth prospects abroad suggest a lower key policy rate (purple bars).

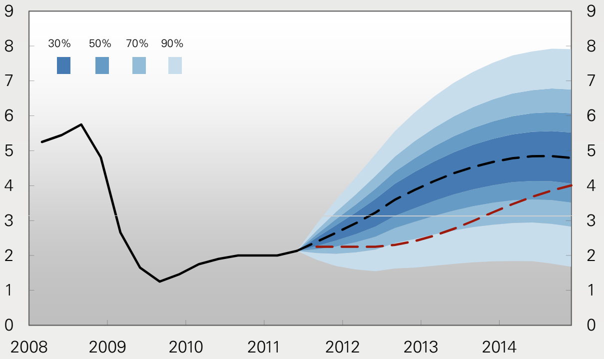
Inflation has been lower than expected. The twelve-month rise in the CPIXE was 1.3% in September, 0.2 percentage point lower than projected in the June *Report*. Lower inflation suggests a lower key policy rate (red bars).

On balance, recent developments and new assessments suggest in isolation a slightly lower key policy rate in the coming quarters. The interest rate is projected to rise gradually thereafter towards a more normal level. It is judged that there is little purpose in reducing the key policy rate by such a small margin for such a short time. The light blue bars show this supplementary assessment.

Changes in the projections for other key variables are summarised in Table 1. The changes in the projections reflect the change in the interest rate forecast as shown in Chart 2.

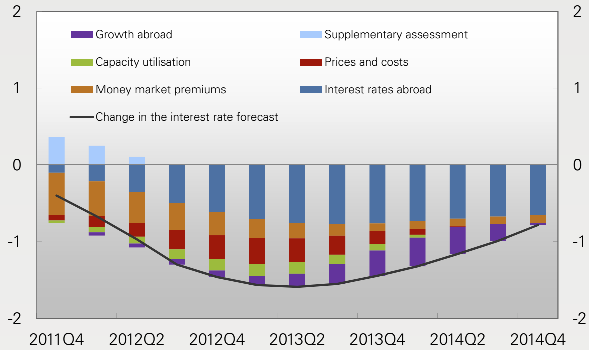
1 Illustrated using the macroeconomic model NEMO.

Chart 1 Key policy rate in the baseline scenario in MPR 2/11 with fan chart and key policy rate in the baseline scenario in MPR 3/11 (red line). Per cent. 2008 Q1 – 2014 Q4



Source: Norges Bank

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



Source: Norges Bank

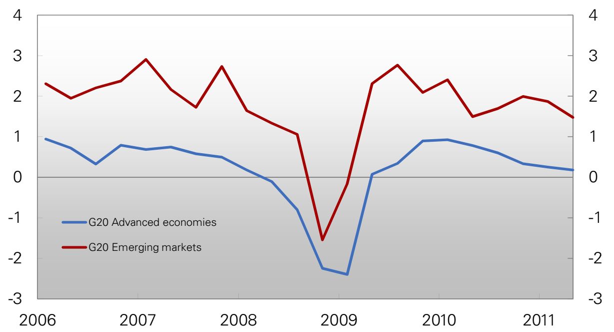
Table 1 Projections for macroeconomic aggregates in *Monetary Policy Report* 3/11. Percentage change from previous year (unless otherwise stated). Change from projections in *Monetary Policy Report* 2/11 in brackets.

	2011	2012	2013	2014
CPI	1½ (-¼)	1½ (-¼)	2 (-½)	2¼ (-¼)
CPI-ATE[1)]	1 (0)	1¾ (-¼)	2¼ (-¼)	2¼ (-¼)
CPIXE[2)]	1¼ (0)	1½ (-½)	2 (-¼)	2¼ (-¼)
Annual wages[3)]	4¼ (0)	4¼ (-½)	4½ (-¼)	4¾ (¼)
Mainland demand[4)]	3½ (-¼)	4 (-½)	3¾ (¾)	2¾ (0)
GDP, mainland Norway[5)]	2¾ (-¼)	3¾ (0)	3¼ (0)	3 (¼)
Output gap, mainland Norway (level)[6)]	0 (0)	¼ (-½)	¾ (¼)	¾ (½)
Employment, persons, QNA	1 (-¼)	1¼ (-¼)	1¼ (0)	1¼ (¼)
Registered unemployment (rate, level)	2¾ (¼)	2½ (¼)	2½ (¼)	2½ (0)
Level				
Key policy rate[7)]	2¼ (0)	2¼ (-1¼)	3 (-1½)	3¾ (-1)
Import-weighted exchange rate (I-44)[8)]	88 (0)	88½ (½)	89¼ (¾)	89¾ (1)
Foreign money market rates[9)]	1½ (¼)	1¼ (-¾)	1½ (-1)	2 (-¾)
Premiums in the Norwegian money market	¾ (¼)	¾ (½)	½ (¼)	¼ (0)

1) CPI-ATE: CPI adjusted for tax changes and excluding energy products
2) CPIXE: CPI adjusted for tax changes and excluding temporary changes in energy prices. See Norges Bank *Staff Memo* 7/2008 and *Staff Memo* 3/2009 for a description of the CPIXE
3) Annual wage growth is based on the Technical Reporting Committee on Income Settlements' definitions and calculations
4) Private and public consumption and mainland gross fixed investment
5) A high level of electricity production in the latter half of 2011 will contribute ¼ percentage point to mainland GDP growth in 2012
6) The output gap measures the percentage deviation between mainland GDP and projected potential mainland GDP
7) The key policy rate is the interest rate on banks' deposits in Norges Bank
8) The weights are estimated on the basis of imports from 44 countries, which comprise 97% of total imports
9) Forward rates are based on money market rates and interest rate swaps

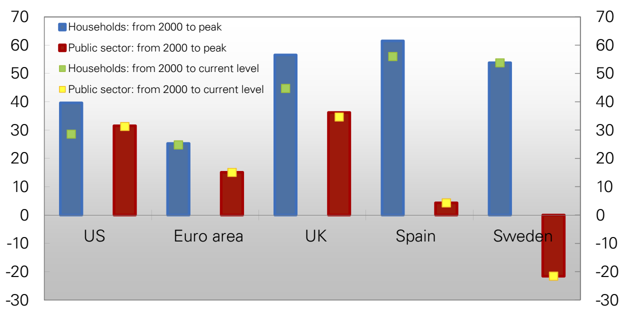
Source: Norges Bank

Chart 2.1 GDP growth in G20 advanced economies and G20 emerging markets.[1] Quarterly growth. Per cent. 2006 Q1 – 2011 Q2



1) GDP-weighted (PPP)
Sources: IMF, Thomson Reuters and Norges Bank

Chart 2.2 Change in debt for households[1)] and public sector[2)]. Percentage points. Change from 2000 Q1 to peak and from 2000 Q1 to current level



1) Gross debt as a percentage of disposable income
2) Gross debt as a percentage of GDP
Sources: Thomson Reuters, ECB and Norges Bank

Table 2.1 Projections for GDP growth in other countries. Change from previous year. Per cent. Change from projections in *Monetary Policy Report* 2/11 in brackets.

	Share of world GDP[1)] (per cent)	2011	2012	2013 – 2014[2)]
US	20	1½ (-1)	1¾ (-1¼)	2¾ (-½)
Euro area	15	1½ (-½)	½ (-1¼)	1¾ (-¼)
UK	3	1 (-½)	1¼ (-¾)	2¼ (-¼)
Sweden	0.5	4½ (-¼)	1½ (-1)	2¼ (-¼)
China	13	9 (-¼)	8½ (-¼)	8½ (-½)
Trading partners[3)]	65	2½ (-½)	1¾ (-¾)	2½ (-¼)
World (PPP)[4)]	100	3¾ (-½)	3¾ (-¾)	4¼ (-½)
World (market exchange rates)[4)]	100	3 (-½)	3 (-¾)	3½ (-¼)

1) Purchasing power parity (PPP) GDP in 2010
2) Average annual growth
3) Export weights, 26 important trading partners
4) GDP weights. Norges Bank's estimates for 26 trading partners, other estimates from IMF

Sources: IMF, Eurostat and Norges Bank

2 The projections

The global economy

Global growth prospects have weakened considerably since the publication of the June 2011 *Monetary Policy Report*. There is a high degree of uncertainty about developments ahead. The turbulence linked to the sovereign debt problems in several European countries has intensified and spread to other countries and markets. Both households and businesses have become more pessimistic and demand for goods and services in advanced economies is sluggish.

After recording solid growth in Q1, the recovery lost momentum among most trading partners in Q2. Current economic indicators show low growth in most advanced economies and forward-looking indicators point to a further slowdown. Growth is clearly higher in emerging economies, but they are feeling the impact of the slowdown (see Chart 2.1). In the US, the labour market and housing market remain in a slump, while many European countries, such as Spain and the UK, are also marked by severe fiscal tightening. At the same time, weaker export demand has dragged down growth in countries with better fiscal balances, such as Germany and Sweden.

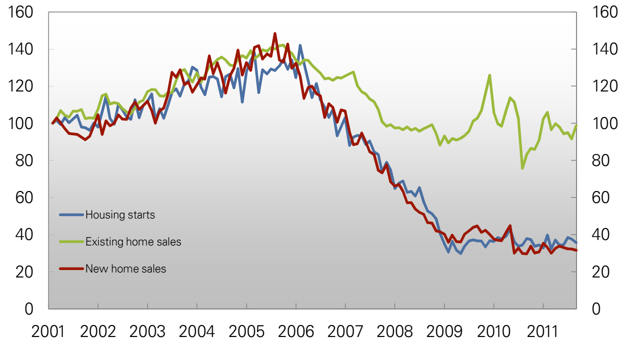
There has been a pronounced shift in the monetary stance announced by Norway's main trading partners away from normalisation in favour of further easing. The Federal Reserve has announced that it will keep the federal funds rate unchanged over the next two years unless growth shows a significant increase. In addition, the Federal Reserve will sell short-term Treasury securities and purchase long-term securities in an attempt to reduce long-term interest rates further. The European Central Bank (ECB) has also signalled that it will keep its key policy rate low for a longer period and offer banks in the euro area full liquidity allotment with up to one-year maturity. Furthermore, the ECB has resumed its Securities Markets Programme (SMP) and purchases of covered bonds. The Swedish central bank has lowered its interest rate forecast considerably. In September, central banks in the US, euro area, the UK, Japan and Switzerland announced coordinated USD auctions to facilitate funding of banks.

The projections are based on a resolution of the Greek debt crisis that does not give rise to additional, severe contagion effects on other countries. Nevertheless, growth in advanced economies is expected to be weaker in the years ahead than projected earlier. The strong global expansion seen through 2010 largely reflected strong monetary and fiscal stimulus. As the fiscal impetus is now fading and fiscal policy is being tightened, growth will be reduced. In many countries, both households and the public sector will seek to reduce their debt. In some countries, household deleveraging has already started, while public debt is still on the rise in many countries (see Chart 2.2). The challenge is compounded as the deleveraging process is taking place across many countries at the same time. Compared with the June *Report*, the projections for GDP growth among trading partners have been revised down ½ percentage point in 2011 and ¾ percentage point in 2012. Growth is expected to be about 2% in the period ahead (see Table 2.1). These projections imply a downward adjustment of global growth to 3¾% in 2011 and 2012 and 4¼% in 2013-2014.

Growth in private consumption in advanced economies has been very moderate following the crisis. In the US, the wealth effects of rising house prices had been an important driving force behind household consumption. Even if the housing market now seems to have stabilised to some extent, the market is still weak with low home-building activity and weak price developments (see Chart 2.3). Other countries that experienced a sharp rise in house prices are also facing persistent imbalances, such as Spain and the UK. At the same time, fiscal austerity will lead to reduced real disposable income for many households as a result of tax increases and transfer cuts. Persistently high unemployment and financial market turbulence are also pulling down on consumption. Against this background, overall growth in private consumption is expected to be modest over the next two years.

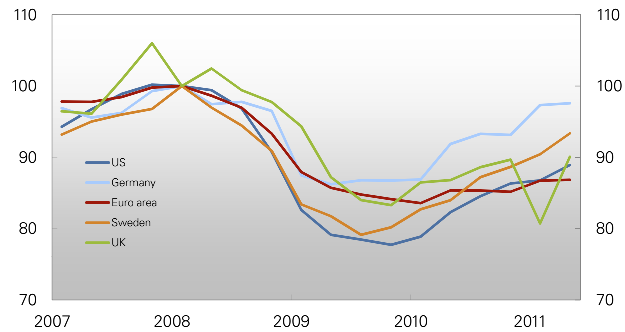
In both the US and the euro area, investment has fuelled GDP growth in 2011, but the level of investment is lower than pre-crisis levels (see Chart 2.4). It is therefore assumed that the potential for higher investment is substantial. At the same time, non-financial enterprises have a sound financial position in many countries. However,

Chart 2.3 Housing indicators for the US. Index, January 2001 = 100. January 2001 – August 2011



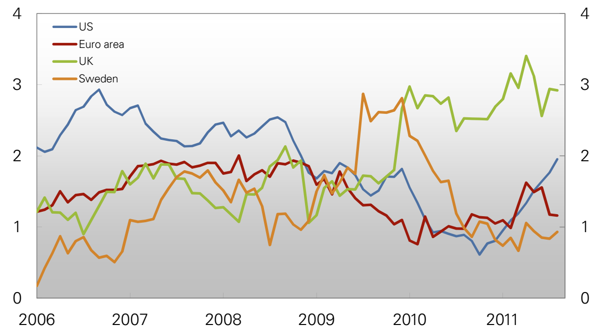
Source: Thomson Reuters

Chart 2.4 Private investment.[1)] Index, Q1 2008 = 100. 2007 Q1 – 2011 Q2



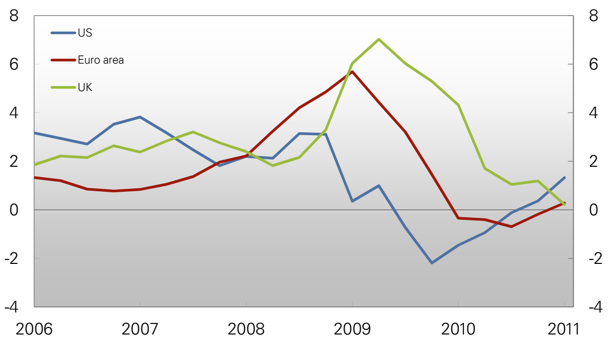
1) Gross fixed capital investment for the euro area, Germany and Sweden. Private non-residential investment for the US. Business investment for the UK
Source: Thomson Reuters

Chart 2.5 Consumer prices excluding food and energy.[1)] 12-month change. Per cent. January 2006 – August 2011



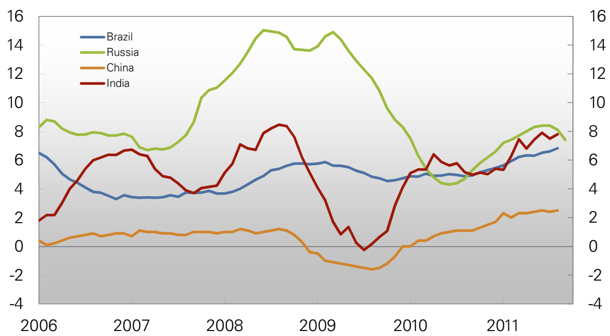
1) HICP excluding energy, food, alcohol and tobacco for the euro area, UK and Sweden
Source: Thomson Reuters

Chart 2.6 Unit labour costs. Total economy. Four-quarter change. Per cent.
2006 Q1 – 2011 Q1



Source: OECD

Chart 2.7 Core inflation in emerging markets[1]. 12-month change. Per cent.
January 2006 – August 2011



1) India: wholesale prices for manufactured goods
Source: Thomson Reuters

Table 2.2. Projections for consumer prices in other countries (change from previous year, per cent) and oil price. Change from projections in *Monetary Policy Report* 2/11 in brackets.

	2011	2012	2013–14[1)]
US	3 (-¼)	1¾ (0)	1¾ (-¼)
Euro area[2)]	2½ (0)	1½ (-¼)	1¾ (-¼)
UK	4¼ (-¼)	2½ (0)	2 (0)
Sweden	3 (-¼)	2 (-¾)	2 (-¼)
China	5½ (½)	3¾ (0)	2½ (0)
Trading partners[3)]	3 (0)	2 (-¼)	2 (0)
Oil price Brent Blend[4)]	109.9	97	94

1) Average annual rise
2) Weights from Eurostat (each country's share of euro area consumption)
3) Import weights, 26 important trading partners
4) Futures prices (average for the past five trading days). USD per barrel. For 2011, an average of spot prices so far this year and futures prices for the rest of the year are used
Sources: Eurostat, Thomson Reuters and Norges Bank

weak growth in private consumption and growing pessimism among enterprises suggest weaker prospects for this sector in the period ahead. Investment growth is expected to be moderate in 2011 and 2012 and to pick up towards the end of the projection period.

In the euro area, fiscal measures are being drawn up to reduce the structural budget deficit by about 1¼% of GDP in 2011 and 1% in 2012. The budget situation in the US remains unclear at the moment, but it is assumed that considerable tightening of fiscal policy will be seen during the projection period.

In Asia, emerging economies are expected to continue to expand at a healthy pace throughout the projection period, but growth will be slower and has also been revised down for these economies. Growth prospects for the small, open economies have clearly weakened owing to lower growth in advanced economies. For large countries, such as China and India, variations in foreign trade in goods have relatively smaller impact on the short-term growth outlook. Should developments in advanced economies prove to be considerably worse than projected in this *Report*, open emerging economies are also expected to feel the full impact of the economic downturn.

Inflation among Norway's trading partners has continued to move up since the publication of the June *Report*. In many advanced economies, inflation excluding energy and food has also edged up further in recent months (see Chart 2.5). On the cost side, the picture is mixed across trading partners. In the US and Sweden, wage growth has moderated since 2008, while wage growth has drifted up in the UK and the euro area in recent quarters. Wage growth reflects divergence of productivity, with growth in unit labour costs moving more broadly together (see Chart 2.6). With ample supply of labour and weaker GDP growth ahead, wage growth is expected to be moderate through the projection period.

In many emerging economies, high food prices and strong activity growth have boosted inflation. Underlying inflation has drifted up (see Chart 2.7). Wage growth also varies across emerging economies. In many countries, such as India and China, central banks have raised interest rates to reduce the risk of overheating. Inflation is likely to subside owing to weaker demand for goods and services from advanced economies and a slower increase in energy and commodity prices into the projection period.

For trading partners as a whole, the projection for CPI inflation remains unchanged at 3% in 2011, while the projection for 2012 has been revised down by ¼ percentage point on the June *Report* (see Table 2.2).

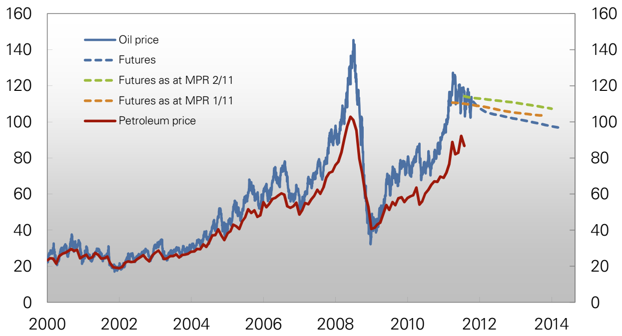
Commodity markets

Oil prices are around USD 110 per barrel, about USD 5 lower than at the time of the June *Report*. The projections in this *Report* are based on the assumption that oil prices will move in line with futures prices (see Table 2.2 and Chart 2.8). Futures prices now imply prices below USD 100 per barrel in 2013-2014. Growth in oil demand has declined as a result of the slowdown in world economic growth. At the same time, growth in non-OPEC production has slowed. OECD oil stocks are now below the past five-year average. If oil stocks continue to fall, oil prices may remain high. If global economic prospects prove to be worse than expected in this *Report*, and in particular developments in emerging economies, oil prices may fall sharply. For example, oil prices dropped below USD 40 per barrel at the end of 2008.

Norwegian gas export prices have continued to climb, particularly in Q3 (see Chart 2.9). The increase must be seen in connection with the sharp rise in oil prices at the beginning of the year. A large share of Norwegian gas is still sold on long-term contracts where prices are linked to oil prices with a lag. A portion of Norwegian gas is sold at spot prices, particularly in the UK. Norwegian gas prices are likely to remain fairly high since both futures prices for oil and British gas are still relatively high. If oil prices fall markedly, gas prices will also decline after a period.

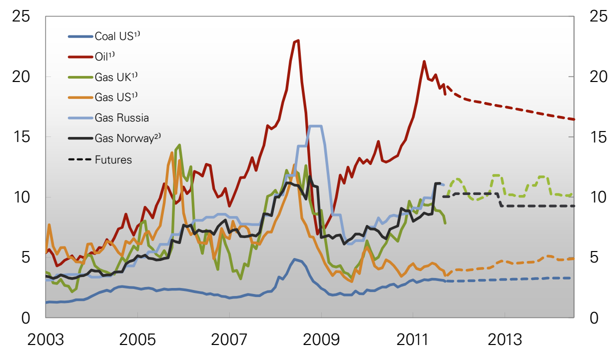
The Economist commodity-price index has fallen by a little more than 15% since the June *Report*. The decline primarily reflects weaker developments in the world economy. Commodity prices are still relatively high and futures prices indicate that they will remain at around today's level in the period ahead (see Chart 2.10).

Chart 2.8 Oil price (Brent Blend) and prices for Norwegian petroleum exports[1]. USD/barrel. January 2003 – April 2014



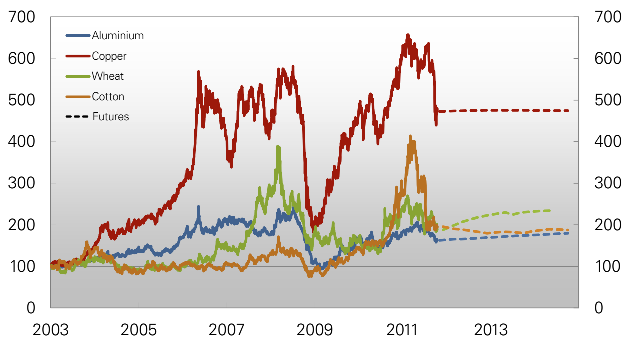
1) Weighted average of Norwegian crude oil and gas exports
Sources: Statistics Norway, Thomson Reuters and Norges Bank

Chart 2.9 Prices for coal, crude oil and natural gas. USD per MMBTU. January 2003 – August 2014



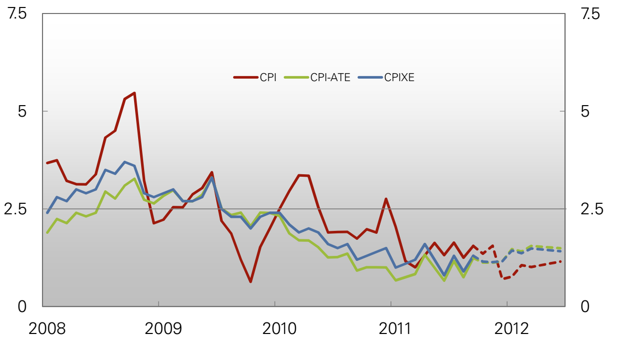
1) For October 2011 calculated as daily average
2) Calculation of future gas prices for Norway based on assumptions in 2012 National Budget
Sources: IMF, Thomson Reuters, Statistics Norway, Ministry of Finance and Norges Bank

Chart 2.10 Commodity prices. USD. Spot and futures prices. Index, January 2003 = 100. January 2003 – October 2014



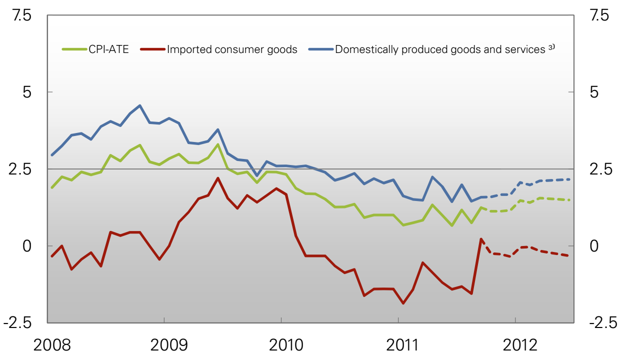
Sources: CME Group and Thomson Reuters

Chart 2.11 CPI, CPI-ATE[1)] and CPIXE[2)]. 12-month change. Per cent. January 2008 – June 2012[3)]



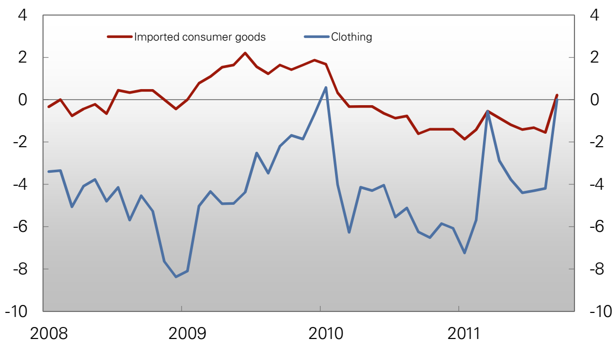
1) CPI adjusted for tax changes and excluding energy products
2) CPI adjusted for tax changes and excluding temporary changes in energy prices. Real-time figures. See Norges Bank *Staff Memo* 7/2008 and 3/2009
3) Projections for October 2011 – June 2012 (broken lines). Monthly figures to March 2012, then quarterly figures
Sources: Statistics Norway and Norges Bank

Chart 2.12 CPI-ATE[1)]. Total and by supplier sector. 12-month change. Per cent. January 2008 – June 2012[2)]



1) CPI adjusted for tax changes and excluding energy products
2) Projections for October 2011 – June 2012 (broken lines). Monthly figures to March 2012, then quarterly figures
3) Norges Bank's estimates
Sources: Statistics Norway and Norges Bank

Chart 2.13 Prices for imported consumer goods in the CPI-ATE and prices for clothing in the CPI. 12-month change. Per cent. January 2008 – September 2011



Source: Statistics Norway

The Norwegian economy in the year ahead

Prices

Consumer prices (CPI) have been lower than projected in the June *Monetary Policy Report*, primarily reflecting lower-than-expected prices for electricity and other domestically produced goods and services. The rise in prices for imported consumer goods has been higher than projected. In September, the twelve-month rise in the CPI was 1.6% (see Chart 2.11), 0.5 percentage point lower than projected in the June *Report*. Inflation adjusted for tax changes and excluding temporary changes in energy prices (CPIXE) was 1.3%, 0.2 percentage point lower than projected. Inflation adjusted for tax changes and excluding energy products (CPI-ATE) was 1.2 % in September, 0.1 percentage point lower than projected. Over the past half-year, annual CPI-ATE inflation has varied to a greater extent than usual, mainly reflecting considerable variations in prices for air travel and food and non-alcoholic beverages.

The rise in prices for domestically produced goods and services in the CPI-ATE fell markedly in the wake of the international financial crisis in autumn 2008 (see Chart 2.12). Lower cost growth, lower-than-normal capacity utilisation and intensified price competition in the grocery trade pushed down the rate of increase for these prices. The decline in domestic inflation came to a halt this year. This probably reflects second-round effects of high oil prices, through for example higher prices for air travel and reduced price competition in the grocery trade. In addition, wage growth has increased and capacity utilisation has edged up. Looking ahead, these factors are expected to push up domestic inflation. Overall, the rise in prices for domestically produced goods and services in the CPI-ATE is projected to move up from 1¾% in 2011 Q3 to 2¼% in 2012 Q2.

The rise in prices for imported consumer goods in the CPI-ATE fell through 2010 and the beginning of 2011 (see Chart 2.12). The rise in prices for imported consumer goods has edged up recently, particularly in September. Prices for clothing have made a considerable contribution to the increase (see Chart 2.13), which may reflect the sharp rise in global cotton prices over the past year.[1] The rise in prices for other imported consumer goods, measured in foreign currency, has also picked up. Overall, external price impulses to domestic consumer prices are estimated to increase by ½% in 2011 (see Chart 2.14). External inflation is expected to slow looking ahead. Combined with the appreciation of the krone in the past year, this may restrain the rise in prices for imported consumer goods. The rise in prices for imported consumer goods in the CPI-ATE is projected to decelerate from 0.2% at the end of Q3 to a negative ¼% in 2012 Q2.

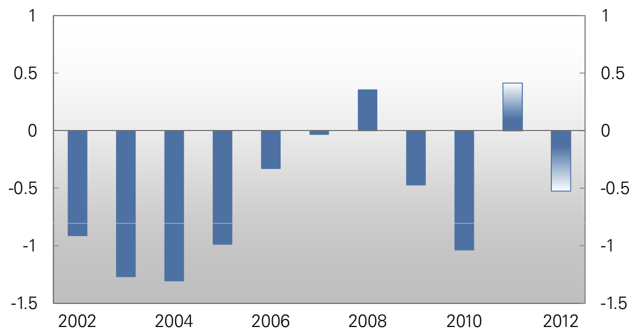
CPI-ATE inflation is projected to increase from 1.2% at the end of 2011 Q3 to 1½% in 2012 Q2. The inflation projections are somewhat lower than the projections in the June 2011 *Report*, primarily reflecting a downward revision of the projections for domestic demand in 2011. The baseline projections are somewhat higher for the first half of 2012 than the projections derived from Norges Bank's System for Averaging short-term Models (SAM) (see Chart 2.15). The effects of increased externally generated price impulses are likely not yet fully reflected in the SAM-based projections. Futures prices for electricity have declined sharply since the June *Report*. Annual CPI and CPIXE inflation is now projected at 1¼% and 1½%, respectively, in 2012 Q2. The projections for CPI and CPIXE inflation in 2012 have both been revised down by ¼–½ percentage point since the June *Report*.

Output and demand

Growth in the Norwegian economy remained steady in the first half of 2011. Excluding the power sector, mainland GDP increased by 0.8% in both Q1 and Q2. Growth in Q2 was somewhat lower than projected in the June *Report*. Weaker prospects abroad and a fall in confidence indicators suggest that growth may also be somewhat weaker in the coming quarters than projected in the June *Report*. In the period to spring 2012, growth is projected to continue at around ¾% per quarter (see Chart 2.16). Growth is being driven by strong population growth,

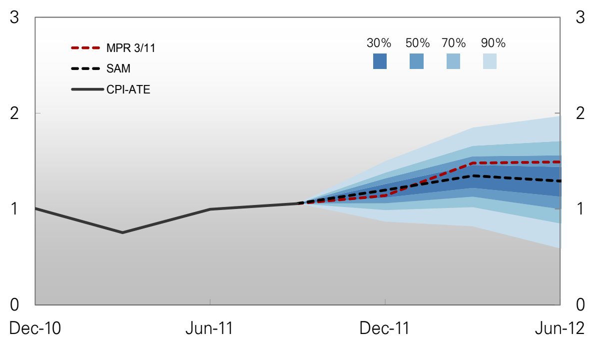
1 The change in the methodology for the treatment of clothing and footwear in the CPI has altered the seasonal pattern for the series in 2011, hence the wide variations in the twelve-month rise (see Chart 2.13).

Chart 2.14 Indicator of external price impulses to imported consumer goods measured in foreign currency. Annual change. Per cent. 2002 – 2012[1)]



1) Projections for 2011 and 2012
Source: Norges Bank

Chart 2.15 CPI-ATE[1)]. Actual figures, baseline scenario and projections from SAM[2)] with fan chart. Four-quarter change. Per cent. 2010 Q4 – 2012 Q2[3)]

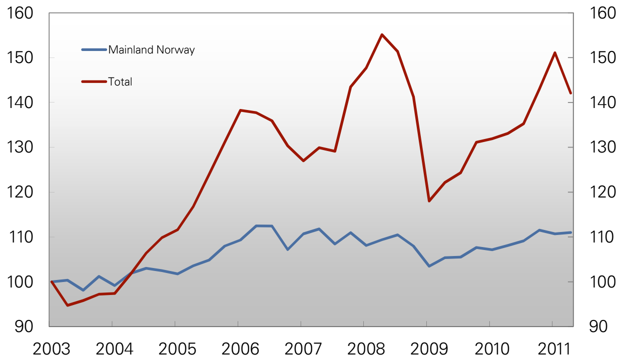


1) CPI adjusted for tax changes and excluding energy products
2) System for averaging models
3) Projections for 2011 Q4 – 2012 Q2 (broken lines)
Sources: Statistics Norway and Norges Bank

Chart 2.16 GDP mainland Norway[1,2)] 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 Q2[3)]

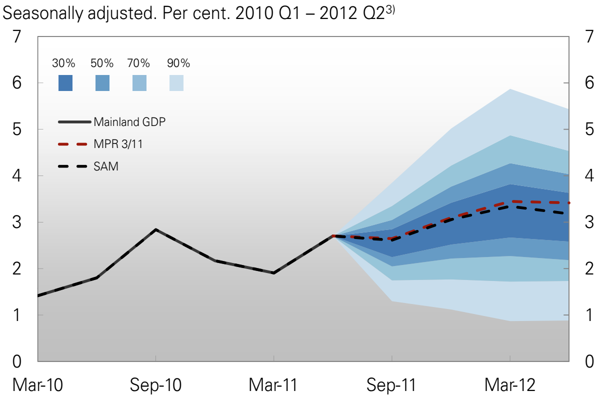
1) Seasonally adjusted quarterly change. Volume
2) High electricity production may contribute by about ¼ percentage point higher quarterly growth in GDP mainland Norway in 2011 Q3 than shown in the chart
3) Latest observation in the Regional network is September 2011. Latest GDP observation is 2011 Q2, projections for 2011 Q3 – 2012 Q2 (broken line)
Sources: Statistics Norway and Norges Bank

Chart 2.17 Terms of trade. Index. 2003 Q1 = 100.
2003 Q1 - 2011 Q2



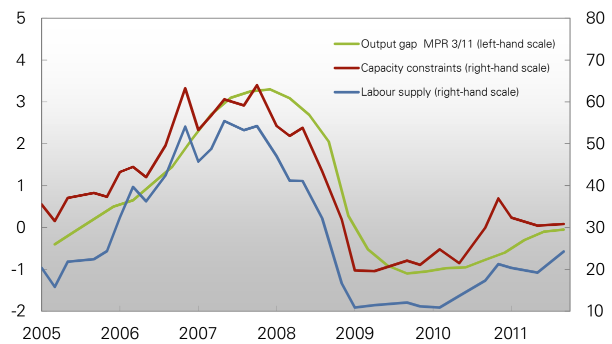
Sources: Statistics Norway and Norges Bank

Chart 2.18 GDP mainland Norway. Actual figures, baseline scenario[1] and projections from SAM[2] with fan chart. Four-quarter change. Volume. Seasonally adjusted. Per cent. 2010 Q1 – 2012 Q2[3]



1) High electricity production may contribute by about ¼ percentage point higher quarterly growth in GDP mainland Norway in 2011 Q3 than shown in the chart
2) System for averaging models
3) Projections for 2011 Q3 – 2012 Q2 (broken lines)
Sources: Statistics Norway and Norges Bank

Chart 2.19 Capacity constraints and labour supply[1] in Regional network and estimated output gap. Per cent. January 2005 – September 2011



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

favourable terms of trade (see Chart 2.17), vigorous activity in the petroleum industry and low interest rates. Furthermore, high power production may boost GDP growth by an additional ¼ percentage point in Q3. Total mainland GDP growth is projected at 2¾% in 2011 and 3¾% in 2012.

In September, Norges Bank's regional network contacts reported that production growth over the past three months was unchanged on the preceding three months. However, the enterprises in the regional network are somewhat less optimistic about future prospects and expect slightly lower growth over the next six months (see Chart 2.16), with a particularly pronounced mark-down of production expectations in the service sector.

The SAM-based projections for mainland GDP are slightly lower than in the June *Report*, reflecting lower values for several confidence indicators. The projections in this *Report* are consistent with the SAM-based projections (see Chart 2.18).

Capacity utilisation in the Norwegian economy is now likely near a normal level. Registered unemployment is a little lower than the average for the past ten years. Statistics Norway's business tendency survey indicates that labour shortages in manufacturing are now a greater constraint on production. Wage growth has edged up. According to Norges Bank's regional network, the share of enterprises facing capacity constraints is higher than in summer 2010, but is still at a moderate level (see Chart 2.19).

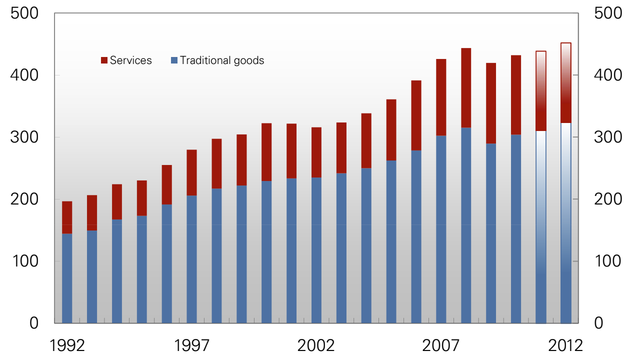
In the period to spring, capacity utilisation is expected to hover around a normal level, while it was projected to rise in the June *Report*. Projected growth in the quarters ahead broadly corresponds to projected potential output growth. Underlying productivity growth is projected at about 2%, while population growth is expected to raise potential output by a little more than 1%. Approximately unchanged capacity utilisation is reflected in the path for unemployment and wage growth, with unemployment projected to remain fairly stable and wage growth to remain just above 4%.

Weak global economic prospects point to fairly low import growth among Norway's trading partners ahead. Moreover, Norwegian exporters are likely to lose market shares as a result of high cost growth. In isolation, this will contribute to relatively weak growth for Norwegian exports. Exports from suppliers to the petroleum industry may pick up, however, driven by strong growth in global petroleum investment. Export firms in Norges Bank's regional network expect production to expand through autumn and into 2012. Overall, the volume of traditional goods exports is projected to increase by 2¼% in 2011 and 4% in 2012 (see Chart 2.20).

Private consumption has been lower than expected, partly reflecting temporary conditions. The earthquake in Japan has led to a temporary decline in the supply of new cars. The terror attack in Norway on 22 July may also have curbed consumption for a period. Growth in household consumption is projected to pick up in the period ahead, driven by relatively low unemployment, low interest rates and low inflation, combined with brisk growth in both house prices and household income. Consumption growth may nevertheless prove to be somewhat lower in the period ahead than projected in the June *Report*. Household confidence indicators have fallen owing to international unrest, and greater uncertainty may cause households with high debt burdens to become more cautious. Real disposable income is expected to show a substantial increase in 2012 owing to low electricity prices. Private consumption is projected to increase by 2¾% in 2011 and 4½% in 2012 (see Chart 2.21). The saving ratio is expected to decrease in the years ahead (see Chart 2.22).

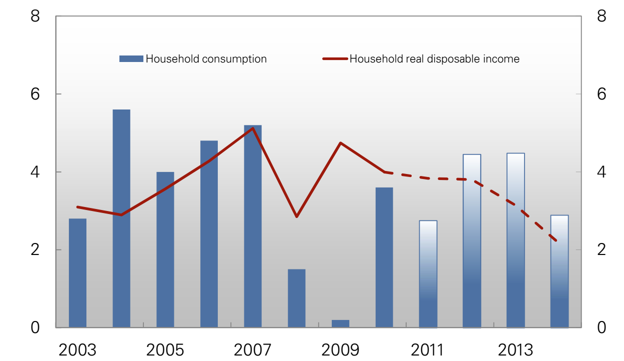
Housing investment increased sharply during the first half of 2011. High population growth, low interest rates and brisk growth in house prices point to a further pickup in housing investment. Over the past year, housing starts came to 25 200, which is lower than the increase in the number of households in Norway. According to reports from construction companies in Norges Bank's regional network, activity is buoyant and is expected to continue to rise. Housing orders have edged down, which may indicate that the rapid growth in housing investment may

Chart 2.20 Exports from mainland Norway. Constant 2007 prices. In billions of NOK. 1992 – 2012[1)]



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

Chart 2.21 Household consumption[1)] and real disposable income[2)]. Annual change. Per cent. 2003 – 2014[3)]

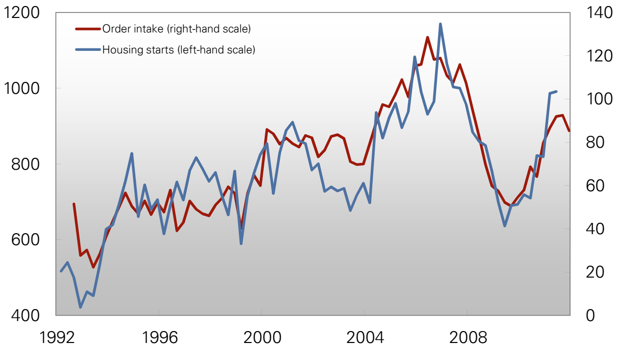


1) Includes consumption among non-profit organisations. Volume
2) Excluding dividend income. Including income in non-profit organisations
3) Projections for 2011 – 2014 (broken line)
Sources: Statistics Norway and Norges Bank

Chart 2.22 Household saving and net lending as a share of disposable income. Per cent. 1992 – 2014[1)]

1) Projections for 2011 – 2014 (broken lines)
2) Adjusted for estimated reinvested dividends for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2014
Sources: Statistics Norway and Norges Bank

Chart 2.23 Housing starts[1] and order intake for residential construction[2]. 1992 Q1 – 2011 Q2

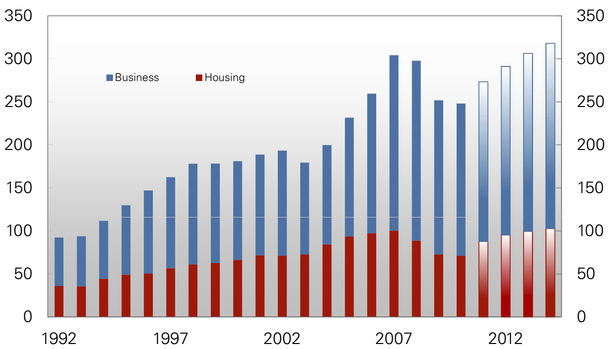


1) In 1000s of square meters. Seasonally adjusted
2) Seasonally adjusted value index deflated by the price index for housing investment in the national accounts. Deferred two quarters forward. 2007 = 100
Sources: Statistics Norway and Norges Bank

Chart 2.24 Planned growth in investment for next 12 months compared with past 12 months. Index.[1] October 2002 – September 2011

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 2.25 Investment in mainland Norway excluding public sector. Constant 2007 prices. In billions of NOK. 1992 – 2014[1]



1) Projections for 2011 – 2014
Sources: Statistics Norway and Norges Bank

slow somewhat in the period ahead (see Chart 2.23). Housing investment is projected to increase by 23% in 2011 and 8% in 2012.

Mainland business investment has increased by more than 10% since the beginning of 2010. Increased investment in the retail trade and other services has been fuelled by low interest rates, higher earnings and increased capacity utilisation. In addition, investment in the power sector has shown a pronounced rise. The enterprises in Norges Bank's regional network are planning to increase investment over the coming year (see Chart 2.24), but current investment plans imply lower growth than projected in May. Figures for order intake and building starts indicate that investment will show a moderate increase ahead. Mainland business investment is projected to increase by 4¾% in 2011 and 5¾% in 2012 (see Chart 2.25).

Labour market

Labour market developments have been slightly weaker than envisaged in the June *Report*. Registered unemployment declined markedly through winter, but over the past half-year unemployment has remained broadly unchanged. In September, a seasonally adjusted 2.6% of the labour force was registered unemployed. The number of persons participating in labour market programmes has increased. At the same time, the supply of new vacancies has declined and regional network contacts have reported that employment growth is falling (see Chart 2.26). According to the labour force survey (LFS) from Statistics Norway, unemployment has hovered around 3¼% since the beginning of the year.

Labour market prospects have also weakened somewhat. Owing to lower production growth, enterprises' recruitment needs are lower than anticipated in the June *Report*. Contacts in Norges Bank's regional network have lowered their pre-summer expectations concerning employment growth. The third-quarter expectations survey conducted by the Confederation of Norwegian Enterprise and Perduco also showed that employment growth is expected to slow. Employment is projected to increase by about ¼% per quarter in the period to summer 2012 (see Chart 2.26).

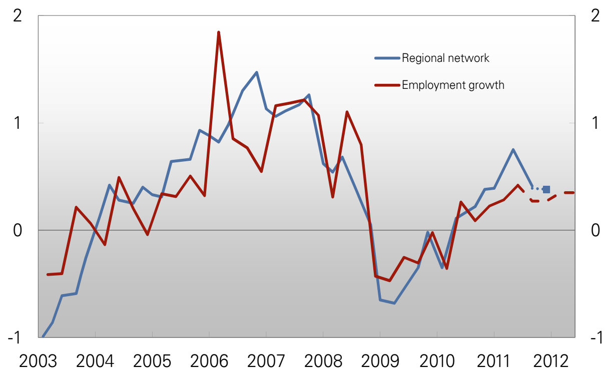
At the same time, there is still ample supply of foreign labour. According to Statistics Norway's population statistics, net inward migration to Norway came to 46 000 over the past four quarters, which is the highest figure recorded since summer 2008 (see Chart 2.27). Inflows from Poland and the Baltic countries have been particularly high. Low unemployment and a high wage level make Norway an attractive country for foreign job-seekers. Inward migration is expected to drift down somewhat ahead, but will still remain at a high level. The particularly large inflows from the Baltic countries can be partly explained by the severe impact of the financial crisis on these countries and inflows from that region must be expected to recede after a period. There is considerable uncertainty surrounding net inward migration ahead. If the economic situation in European countries worsens while the Norwegian economy remains relatively unaffected, migration flows into Norway may increase further.

Most immigrants are persons of working age. The working age population is thus growing at a particularly fast rate (see Table 2.3).[2] Labour force growth has picked up in pace with the recovery but is still somewhat weaker than population growth. The main factor behind this is that the large post-war cohorts are now approaching retirement age. Demographic developments suggest that labour force growth may over time be weaker than population growth. Adjusted for changes in age composition, the labour force has expanded broadly in pace with the working-age population over the past year (see Chart 2.28). The labour force is projected to continue to grow approximately in pace with adjusted population growth in the period to next summer. This is consistent with the projection that capacity utilisation in the Norwegian economy will be close to a normal level.

The labour force is projected to grow in pace with employment, implying little change in unemployment ahead. Registered employment is projected at around 2½% next summer (see Chart 2.29).

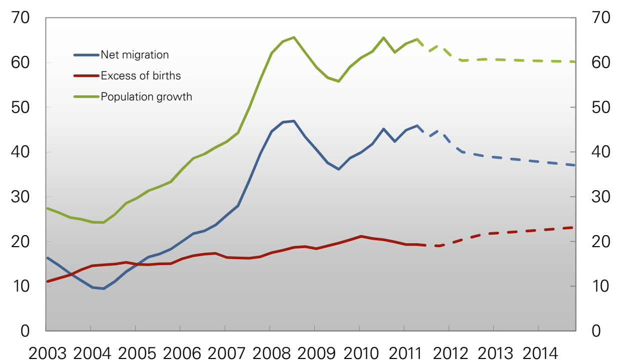
2 See upcoming Norges Bank Staff Memo for a discussion of effects of labour immigration.

Chart 2.26 Employment[1)] 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 Q2[2)]



1) Seasonally adjusted quarterly change in Quarterly National Accounts
2) Latest observation in the Regional network is September 2011. Latest observation in the Quarterly National Accounts is 2011 Q2, projections for 2011 Q3 – 2012 Q2 (broken line)
Sources: Statistics Norway and Norges Bank

Chart 2.27 Population growth, net migration and excess of births. Sum of four previous quarters. In 1000s of persons. 2003 Q1 – 2014 Q4[1)]



1) Projections for 2011 Q3 - 2014 Q4
Sources: Statistics Norway and Norges Bank

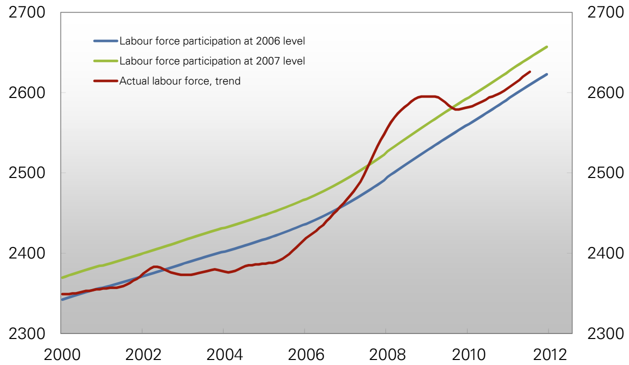
Table 2.3. Population and labour force growth. Change from previous year. Per cent

	2011	2012
Population growth in the age group 15-74	1¾	1½
Growth in labour force conditional on unchanged labour force participation[1)]	1¼	1¼
Labour force growth	¾	1¼

1) Unchanged labour force participation in every age group since the 2007 level

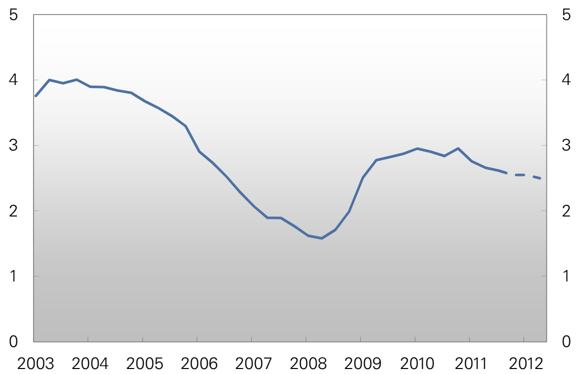
Sources: Statistics Norway and Norges Bank

Chart 2.28 Actual trend in labour force and labour force given demografic developments[1]. In 1000s. January 2000 – December 2011



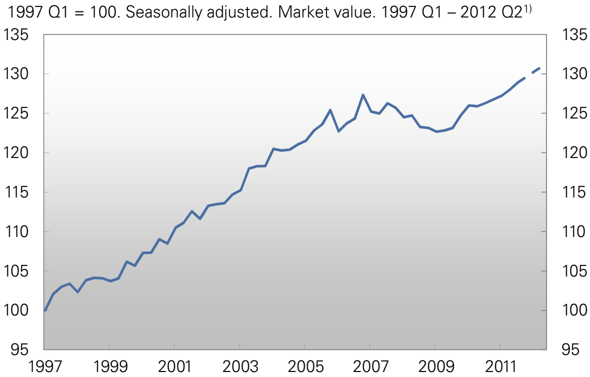
1) Total labour force given unchanged labour force participation in every age group from the 2006/2007 level
Sources: Statistics Norway and Norges Bank

Chart 2.29 Registered unemployment. Percentage of labour force. Seasonally adjusted. 2003 Q1 – 2012 Q2[1]



1) Projections for 2011 Q4 – 2012 Q2 (broken line)
Sources: Norwegian Labour and Welfare Administration, Statistics Norway and Norges Bank

Chart 2.30 GDP per hour worked for mainland Norway. Index, 1997 Q1 = 100. Seasonally adjusted. Market value. 1997 Q1 – 2012 Q2[1]



1) Projections for 2011 Q3 – 2012 Q2 (broken line)
Sources: Statistics Norway and Norges Bank

Many enterprises did not reduce their workforce to the extent implied by the decline in production in the wake of the financial crisis. This resulted in a fall in productivity (see Chart 2.30). Since summer 2009 productivity has picked up, but the level of productivity is lower than the trend prior to the financial crisis might imply. This may indicate that trend productivity grew slowly during the financial crisis, partly as a result of the fall in investment or reduced risk willingness among banks and enterprises. Productivity growth is projected at ½% per quarter, which is in line with productivity growth since the end of 2009.

Wages

Wage growth is projected at 4¼% this year, unchanged on the projection in the June *Report*. Current wage statistics are in line with the projection. In September, the enterprises in Norges Bank's regional network expected wage growth of 4.0% this year. According to Perduco's expectations survey for the third quarter, the social partners expect average wage growth of 4.1% in 2011 and 4.0% in 2012.

Wage growth is projected to remain at 4¼% in 2012, which is lower than projected in the June *Report*. The projection for wage growth was revised down owing to somewhat lower projected inflation in 2012 and slightly weaker labour market prospects. Weaker external growth implies continued lower wage growth among trading partners than in Norway.

Assumptions concerning fiscal policy and petroleum investment from 2011 to 2014

Fiscal policy

Petroleum revenue spending over the central government budget increased markedly in the wake of the financial crisis, but in the past couple of years spending increases have not been particularly high, reflecting improved economic conditions. As a percentage of mainland GDP, both the non-oil deficit and the structural, non-oil deficit have been fairly stable since 2009 (see Chart 2.31).

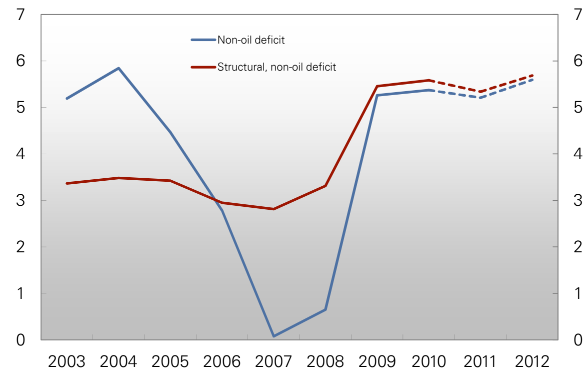
The fiscal policy assumptions in this *Report* are based on the National Budget for 2012 where structural petroleum revenue spending is projected at NOK 122bn in 2012, or somewhat below 4% of the Government Pension Fund Global at the beginning of the year (see Chart 2.32). Growth in underlying central government budget expenditure at current prices is projected at 5.4% from 2011 to 2012. Developments in the value of the Fund have been weaker than assumed so far in 2011, but if Fund performance is in line with that projected in the National Budget there may be room for increased petroleum revenue spending in the years ahead. The projections of the Fund's value in the National Budget are also based on an oil price that is weaker than currently implied by futures prices.

There are prospects that capacity utilisation may be somewhat higher than normal in the years ahead, which implies petroleum revenue spending being kept somewhat below 4% of the Fund's capital. In this *Report*, petroleum revenue spending is assumed to rise, but less so than the expected real return on the Fund. Growth in public consumption and investment may be fairly moderate, partly reflecting the rapid increase in old-age pension expenditure as large post-war cohorts approach retirement age.

Petroleum investment

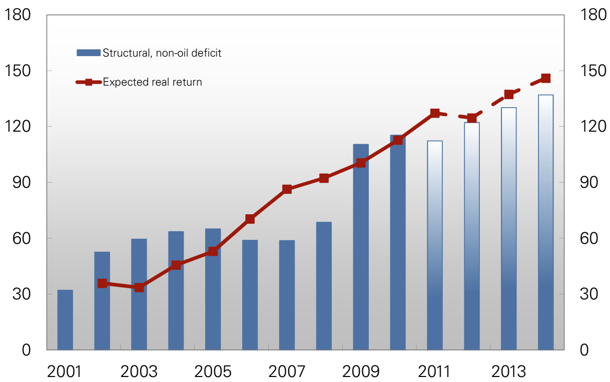
Investment in the petroleum sector has picked up in recent quarters after falling by close to 30% from the beginning of 2009 to autumn 2010. The contraction through 2009 and 2010 primarily reflected the postponement of a number of projects owing to the financial crisis and the subsequent fall in oil and gas prices. Oil prices and Norwegian gas export prices have increased markedly since summer 2009, which will boost activity on the Norwegian continental shelf over the coming years. In addition, exploration investment is likely to increase as a result of this year's sizeable discoveries in the North Sea and Barents Sea. Petroleum investment is projected to increase by 13%-14% in 2011 and 2012 and by 4%-6% in the following two years (see Chart 2.33). The high investment level in 2011-2014 reflects the major investments in the Goliat, Gudrun, Valemon, Eldfisk and Ekofisk fields.

Chart 2.31 Non-oil budget deficit and structural non-oil budget deficit. Percentage of GDP mainland Norway. 2003 – 2012[1)]



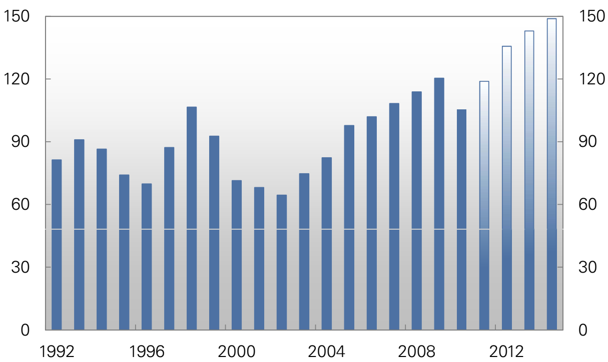
1) Projections for 2011 and 2012
Sources: Ministry of Finance and Statistics Norway

Chart 2.32 Structural, non-oil deficit and expected real return on the Government Pension Fund Global. Constant 2012 prices. In billions of NOK. 2001 – 2014[1)]



1) Projections for 2011 – 2014
Sources: Ministry of Finance and Norges Bank

Chart 2.33 Petroleum investment. Constant 2007 prices. In billions of NOK. 1992 – 2014[1)]



1) Projections for 2011 – 2014
Sources: Statistics Norway and Norges Bank

Box

The system for managing bank reserves

The system for managing bank reserves

The objective of liquidity policy is to implement the Executive Board's interest rate decisions by ensuring that short-term money market rates remain close to the key policy rate. Implementation requires a system for managing bank reserves, i.e. banks' overnight deposits in the central bank. On 3 October 2011, Norges Bank introduced a new system for managing bank reserves. In the new system, banks receive interest at the key rate on only a specific portion of bank reserves – a quota. Reserves in excess of the quota bear interest at a lower rate – the reserve rate.[1] When the system went live, the reserve rate was set one percentage point lower than the key policy rate.[2]

The purpose of the change is to reduce the banking system's demand for reserves and promote activity in the interbank market to enhance the redistribution of reserves among banks. Normally, banks will not wish to deposit reserves in the central bank in excess of their quota. If a bank were to end up with reserves in excess of its quota, it will be more profitable to offer these excess reserves in the interbank market. Banks that have not utilised their entire quota will have an economic incentive to borrow surplus reserves from other banks and deposit them overnight in the central bank.

When the system went live, the total of all banks' quotas was set at NOK 45bn. Because banks that quote money market rates (NIBOR banks) are in the best position to redistribute reserves in the interbank market, they have received the largest quotas (NOK 5bn each). Banks that function as settlement banks for other banks have been allotted an additional quota. Norges Bank will seek to maintain reserves in the banking system at NOK 35bn, with a fluctuation margin of NOK 5bn around this level. If Norges Bank's forecast for bank reserves suggests a deviation from this interval, the central bank will conduct market operations in the form of F-loans and F-deposits to maintain reserves at the desired level.[3] Norges Bank will normally review the quotas and the desired level of reserves twice a year and inform the banks in a circular of any changes.[4]

The government has its account in Norges Bank. The quantity of reserves in the banking system is reduced by incoming payments to the government's account (taxes and similar) and increased by outgoing payments. Norges Bank had chosen to maintain relatively ample reserves because of the uncertainty regarding incoming and outgoing government account transactions. The forecast for banking system reserves is based on estimated incoming payments to and outgoing payments from the government. If outgoing payments from the government are greater than expected and bank reserves thus exceed the sum of banks' quotas, Norges Bank can conduct fine-tuning operations with same-day settlement to reduce the reserves.

As previously, Norges Bank will offer interest-free intraday loans against collateral. This ensures that interbank payment settlements will function satisfactorily. Also as previously, Norges Bank will offer a standing borrowing facility, D-loans, which allows banks to borrow reserves from Norges Bank overnight, normally at a rate one percentage point above the key policy rate. Following the change, the system for managing bank reserves in Norway is more similar to corresponding systems in other countries.[5]

Under the new system, an interest rate is quoted for overnight interbank deposits, the NOWA rate. This rate may be either above or below the key policy rate. Since the system went live, the NOWA rate has consistently been very close to the key policy rate.

1 New Zealand has a similar system, see I. Nield "Evolution of the Reserve Bank's liquidity facilities", Reserve Bank of New Zealand Bulletin vol. 71, December 2008/4, Reserve Bank of New Zealand.
2 Up to 3 October, the interest rate on all bank deposits in Norges Bank was equivalent to the key policy rate.
3 Norges Bank's forecast for bank reserves is published on Norges Bank's website.
4 See Circular 6/30 June 2011 for a detailed account of the way quotas were calculated when the system went live.
5 The background for the change and a detailed description of the new system are published at www.norges-bank.no under the tab *Price stability*

Annex

Boxes 2006 – 2011

3/2011
The system for managing bank reserves

1/2011
Population growth and labour immigration
Evaluation of the projections for 2010

3/2010
Why are long-term interest rates so low?
CPIM: A model-based indicator of underlying inflation

2/2010
Criteria for an appropriate interest rate path

1/2010
The level of the normal interest rate
Evaluation of the projections for 2009

3/2009
Unwinding of extraordinary measures
CPI adjusted for the frequency of price changes

2/2009:
The arrangement for the exchange of government securities for bonds
Structural liquidity
Household behaviour

1/2009:
Deep downturn in the global economy
Evaluation of the projections for 2008

3/2008:
The NIBOR market
Norwegian financial crisis measures
How does the financial crisis affect developments in the real economy?
A summary of financial market events since June

2/2008:
Underlying inflation
SAM - System of models for short-term forecasting

1/2008:
Factors driving the rise in domestic and global food prices
Cross-checks for the krone exchange rate
Evaluation of the projections for 2007

3/2007:
Liquidity management in Norges Bank
Central bank response to financial turbulence
Household saving
Fiscal policy and local government finances
High petroleum investment
NEMO - a new projection and monetary policy analysis model

2/2007:
Is global inflation on the rise?
Developments in productivity growth
How often do firms change their prices?

1/2007:
Will the global economy be affected by a slowdown in the US?
Uncertainty surrounding wage growth ahead
Competition and prices
Evaluation of projections for 2006

3/2006:
Output gap uncertainty

2/2006:
Money, credit and prices – a monetary cross-check
Foreign labour in Norway
Short-term forecasts for mainland GDP in Norway

1/2006:
Choice of interest rate path in the work on forecasting
Productivity growth in Norway
The yield curve and economic outlook in the US
Evaluation of Norges Bank's projections for 2005

Publications 2009 – 2011 on Norges Bank's website

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This series consists of short, signed articles on current economic issues.

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Regional network: enterprises and organisations interviewed

Adecco Norge AS
Adecco Norge AS, Hamar
Adecco Norge AS, Tromsø
Advokatfirmaet Thommessen AS
AF gruppen ASA
Ahlsell Norge AS
AIT Otta AS
Aker MH AS
Alcoa Norway ANS
Allbygg Florø AS
Alvdal kommune
Alvdal skurlag AL
Alvdal Tynset sport AS
Amfi Namsos
Anders O Grevstad AS
Arena treningssenter AS
Arkitektfirmaet C. F. Møller Norge AS
Asko Agder AS
Asko Midt-Norge AS
Avigo AS
Axess AS
B&T låsservice AS
Bakehuset Nord-Norge AS
Bakers AS
Bakke el-installasjon AS
Barel AS
Bech frisør AS
BecoTek AS
Bekk Consulting AS
Benteler Aluminium Systems Norway AS
Bergen Group Kimek AS
Bertel O. Steen Hedmark og Oppland AS
Bilia AS
Bilsenteret Namsos AS
Birger Pedersen AS
Birkenes kommune
Bodø kommune
Bohus AS
Boligpartner AS
Boreal Transport Norge AS
Bring Cargo AS
Brødrene Harsjøen entreprenørforretning AS
Bus Pro IPEC AS
Bygg og maskin AS
Byggmester Fritzøe AS
Byggservice Nord-Østerdal AS
Bærum kommune
Båtservicegruppen
Båtsfjordbruket AS
CargoNet AS
CC Mat AS
Celsa armeringsstål AS
Choice Hotels Scandinavia ASA
Color Line AS
Comhouse AS
Contiga AS
Deloitte AS
Deloitte Innlandet
Dinamo Norge AS
Diplom-Is AS, Brevik
DnB NOR eiendom AS, Bodø
Dromedar kaffebar AS
Dvergsdal og Sunde bygg AS
E A Smith AS
E. Flasnes transport AS
Eiendomsmegler 1 Midt-Norge AS
Eiendomsmegler Vest AS
Einar Øgrey Farsund AS
Elko AS
Eltek ASA
Elverum kommune
Ernst & Young AS, Tromsø
Expert AS
Expert Langnes AS
Expert Molde
Falkanger sko AS
Fatland AS
Faveo AS
Ferner Jacobsen AS
Fesil AS
Figgjo AS
Findus Norge AS
Fjeldseth AS
Fjord1 Sogn billag AS
Flatøy møbler AS
FMC BioPolymer AS
FMC Technologies AS
Forestia AS
Foss fabrikker AS
Fundator AS
Furnes-Hamjern SCC AS
Furset gruppen AS
Førde kommune
Gange Rolv AS
Gauldal-Østerdal buss AS
Gausdal kommune
Gausdal landhandleri AS
Gevir AS
Gilje tre AS
GK Norge AS
Grytnes betong AS
Gunvald Johansen handel AS
Helgeland sparebank AS
Helly Hansen Group AS
Helse Fonna HF
Helse Møre og Romsdal HF
Helse Nord RHF
Herlige Stavanger restauranter AS
Herøy kommune
Hoff norske potetindustrier SA
Holberg forvaltning AS
Hotel Alexandra AS
Hotel Continental AS
Hovden møbel AS
HTH AS
Hunderfossen familiepark AS
Huurre Norway AS
Hydro aluminium AS
Hå kommune

IKEA AS, Åsane
Ikon AS
Inmedia AS
ISS Facility Services AS
IT partner Tromsø AS
Johan Kjellmark AS
Jærentreprenør AS
Kirkenes byggservice AS
Kirkenes trelast AS
KLP eiendom Trondheim AS
Komplett ASA
Kontali analyse AS
KPMG AS, Stavanger
Kragerø kommune
Krogsveen Hamar AS
Kroken caravan AS
Kruse Smith AS, region vest
Kvestor Pro AS
Kynningsrud AS
Landskapsentreprenørene AS
Larsen Atterås & Brosvik AS
Lerøy Seafood Group ASA
Lier kommune
Lillehammer kommune
Litra AS
L'Oréal Norge AS
LPO arkitekter AS
Lyngdal byggeforretning AS
Lønsethagen auto AS
M3 anlegg AS
Magnor glassverk AS
Majas salong AS
Marché Restaurants Norge AS
Maske gruppen AS
MB hydraulikk AS
Melby snekkerverksted AS
Mester grønn AS
Mills DA
Moelven limtre AS
Moelven van Severen AS
Moelven Våler AS
Momek Group AS
mpDesign AS
Multi Phase Meters AS
Møller bil Haugesund AS
Møre og Romsdal kornsilo ANS
Namsos kommune
NAV Nord-Trøndelag
NAV Vest-Agder
NCC Construction AS
Nesje AS
Nesseplast AS
Nextgentel AS
Nielsen Norge AS
Nikita Hair AS
Nilsson AS
Noca AS
Norautron AS
Norbitech AS
Norconsult AS
Nordlandsbanken ASA
Norengros Johs Olsen AS
Norfolier AS
Norges handels- og sjøfarts-tidende AS
NorgesGruppen ASA
Norphil AS
Norsea Group AS
Norsk sjømat AS
Nor-sport Bodø AS
Nortura BA
Notar eiendom Ålesund AS
Notodden mur- og entreprenør-forretning AS
Nova Sea AS
NVS AS
Nycomed Pharma AS
Nye Unex AS
Obos
Optimera AS
Optimera AS, region vest
Optimera Dyrøy AS
Orkidéekspressen AS
Os ID AS
Overhalla cementvare AS
Peterson Linerboard AS
Peterson Linerboard AS, Ranheim
Pikasso dame- og herrefrisør AS
Plasto AS
Plastsveis AS
Prefecto AS
Privatmegleren AS, Tønsberg
Proffice AS, Sandefjord
Protan AS
ProxII AS
Quality Hotel Augustin AS
Radisson Blu Hotel Norge, Bergen
Ragasco AS
Randaberg kommune
Rapp Hydema AS
Rasmus Tallaksen AS
Rasmussen K A AS
Rauma kommune
Redcats AS
Reinertsen AS
Reitan servicehandel Norge AS
Rema 1000 Norge AS, region vest
Restaurant smak AS
Restco AS
Revisorkonsult AS
Rica ishavshotell Tromsø
Risa AS
Risør kommune
Rockwool AS
Romsdal bygg AS
Romsdals budstikke AS
Rygge kommune
Rygge Vaaler sparebank
Røros hotell AS
Røros kommune
Røros slakteri AS
Røros tweed AS
Saga Boats AS
Sandnessjøen Engineering AS
Scandic Hotel Kristiansand
SG finans AS, Trondheim
Siemens AS, Industry Solutions
Sinkaberg-Hansen AS
Sinus AS
Skagerak energi AS
Skedsmo kommune
Skretting AS
Slagen gruppen
Solem arkitektur AS
Spar kjøp AS

Sparebank 1 gruppen AS
Sparebank 1 SMN
Sparebank 1 Søre Sunnmøre avd. Volda
Sparebanken Møre region Romsdal og Nordmøre
Sparebanken Pluss
Sperre støperi AS
Sport 1 gruppen AS
Stavanger kommune
Steni AS
Stiftelsen Akvariet i Bergen
Stjern AS
Stordal møbler AS
Storvik AS
Strømsholm fiskeindustri AS
Sunnmørsposten AS
Sveins auto AS
Sykehuset Østfold HF
Södra interiør AS
Sørlandet sykehus HF
Sør-Norge Aluminium AS
Sør-Trøndelag fylkeskommune
Sør-Varanger kommune
Tamnes transport AS
TeleD AS
Telenor Norge
Terra Aktiv eiendomsmegling AS
Th Mathisen sølvarefabrikk AS
Ticket feriereiser AS
Time sparebank
Tine meieriet Sør BA
Toten sparebank
Toyota Førde AS
Trafikk & anlegg AS
Trend trim Lillesand AS
Treningssenteret Moldehallen
Trenor vindu AS
Tryg forsikring
Tuboscope Norge AS, Florø
TVNorge AS
Tynset kommune
Tyrholm & Farstad AS
Tønnesen sko AS
Vefsn kommune
Veidekke entreprenør AS, Indre Østland
Veidekke industri AS, region Midt-Norge
Via Travel Norge AS
Via Travel, Bodø
Vital eiendom AS
Vizrt Ltd
Volmax AS
Weatherford Laboratories AS
Weatherford Norge AS
Westco miljø AS
Westcon Yards AS
Westnofa industrier AS
Widerøe Internet AS
XXL sport & villmark AS, Kristiansand
YIT Building Systems AS, Kristiansand
YIT Building Systems AS, Ålesund

Monetary policy meetings

with changes in the key policy rate

Date	Key policy rate[1)]	Change
19 October 2011	**2.25**	**0**
21 September 2011	2.25	0
10 August 2011	2.25	0
22 June 2011	2.25	0
12 May 2011	2.25	+0.25
16 March 2011	2.00	0
26 January 2011	2.00	0
15 December 2010	2.00	0
27 October 2010	2.00	0
22 September 2010	2.00	0
11 August 2010	2.00	0
23 June 2010	2.00	0
5 May 2010	2.00	+0.25
24 March 2010	1.75	0
3 February 2010	1.75	0
16 December 2009	1.75	+0.25
28 October 2009	1.50	+0.25
23 September 2009	1.25	0
12 August 2009	1.25	0
17 June 2009	1.25	-0.25
6 May 2009	1.50	-0.50
25 March 2009	2.00	-0.50
4 February 2009	2.50	-0.50
17 December 2008	3.00	-1.75
29 October 2008	4.75	-0.50
15 October 2008	5.25	-0.50
24 September 2008	5.75	0
13 August 2008	5.75	0
25 June 2008	5.75	+0.25
28 May 2008	5.50	0
23 April 2008	5.50	+0.25
13 March 2008	5.25	0
23 January 2008	5.25	0
12 December 2007	5.25	+0.25
31 October 2007	5.00	0
26 September 2007	5.00	+0.25

[1)] The key policy rate is the interest rate on banks' sight deposits in Norges Bank. This interest rate forms a floor for money market rates. By managing bank reserves, Norges Bank ensures that short-term money market rates are normally slightly higher than the key policy rate.

Table 1 Main macroeconomic aggregates

Percentage change from previous year/ quarter		GDP	Mainland GDP	Private consumption	Public consumption	Mainland fixed investment	Petroleum investment[1]	Mainland exports[2]	Imports
2007		2.7	5.6	5.4	3.0	15.7	6.3	8.8	8.6
2008		0.7	1.8	1.6	4.1	-0.8	5.1	4.1	4.3
2009		-1.7	-1.8	0.2	4.8	-10.9	5.8	-5.4	-11.7
2010		0.3	2.1	3.7	2.2	-3.1	-12.4	3.0	9.0
2010[3]	Q3	-1.7	0.9	1.1	1.2	-1.2	-14.4	7.7	-1.5
	Q4	2.3	0.4	1.2	-0.6	7.2	13.2	-5.0	0.6
2011[3]	Q1	-0.6	0.5	0.3	0.1	-1.5	0.8	0.1	10.5
	Q2	0.4	1.0	0.7	1.0	1.4	6.4	3.1	-8.4
2010-level, in billions of NOK		2 496	1 937	1 073	558	357	124	444	715

[1] Extraction and pipeline transport
[2] Traditional goods, travel and exports of other services from mainland Norway
[3] Seasonally adjusted quarterly figures

Source: Statistics Norway

Table 2 Consumer prices

Annual rise/ twelve-month rise. Per cent		CPI	CPI-ATE[1]	CPIXE[2]	CPI-AT[3]	CPI-AE[4]	HICP[5]
2007		0.8	1.4	1.9	0.5	1.6	0.7
2008		3.8	2.6	3.1	3.9	2.5	3.4
2009		2.1	2.6	2.6	2.1	2.7	2.3
2010		2.5	1.4	1.7	2.4	1.4	2.4
2011	Jan	2.0	0.7	1.0	1.9	0.7	2.0
	Feb	1.2	0.8	1.1	1.0	0.9	1.1
	Mar	1.0	0.8	1.2	0.8	1.1	0.9
	Apr	1.3	1.3	1.6	1.2	1.5	1.3
	May	1.6	1.0	1.2	1.4	1.2	1.6
	Jun	1.3	0.7	0.8	1.1	0.8	1.3
	Jul	1.6	1.2	1.3	1.5	1.2	1.5
	Aug	1.3	0.8	0.9	1.2	0.8	1.3
	Sep	1.6	1.2	1.3	1.4	1.3	1.6

[1] CPI-ATE: CPI adjusted for tax changes and excluding energy products
[2] CPIXE: CPI adjusted for tax changes and excluding temporary changes in energy prices. As of August 2008, the CPIXE is a real-time series. See Norges Bank *Staff Memo* 7/2008 and *Staff Memo* 3/2009 for a description of the CPIXE
[3] CPI-AT: CPI adjusted for tax changes
[4] CPI-AE: CPI excluding energy products
[5] HICP: Harmonised Index of Consumer Prices. The index is based on international criteria drawn up by Eurostat

Sources: Statistics Norway and Norges Bank

Table 3 Projections for main economic aggregates

	In billions of NOK	Percentage change from previous year (unless otherwise stated)	Projections			
	2010	2010	2011	2012	2013	2014
Prices and wages						
CPI		2.5	1½	1½	2	2¼
CPI-ATE[1)]		1.4	1	1¾	2¼	2¼
CPIXE[2)]		1.7	1¼	1½	2	2¼
Annual wages[3)]		3.7	4¼	4¼	4½	4¾
Real economy						
GDP	2,496	0.3	1½	3	2½	2¼
GDP, mainland Norway	1,937	2.1	2¾	3¾	3¼	3
Output gap[4)], mainland Norway (level)		-0.8	0	¼	¾	¾
Employment, persons, QNA		-0.2	1	1¼	1¼	1¼
Labour force, LFS		0.5	¾	1¼	1¼	1¼
LFS unemployment (rate, level)		3.6	3¼	3	3	3
Registered unemployment (rate, level)		2.9	2¾	2½	2½	2½
Demand						
Mainland demand[5)]	1,988	2.0	3½	4	3¾	2¾
- Private consumption	1,073	3.7	2¾	4½	4½	3
- Public consumption	558	2.2	2	1¾	.	.
- Fixed investment, mainland Norway	357	-3.1	8	6½	.	.
Petroleum investment[6)]	124	-12.4	12¾	14	5½	4
Mainland exports[7)]	444	3.0	1½	3	.	.
Imports	715	9.0	7	3½	.	.
Interest rate and exchange rate						
Key policy rate (level)[8)]		1.9	2¼	2¼	3	3¾
Import-weighted exchange rate (I-44)[9)]		90.3	88	88½	89¼	89¾

1) CPI-ATE: CPI adjusted for tax changes and excluding energy products
2) CPIXE: CPI adjusted for tax changes and excluding temporary changes in energy prices. See Norges Bank *Staff Memo* 7/2008 and *Staff Memo* 3/2009 for a description of the CPIXE
3) Annual wage growth is based on the Technical Reporting Committee on Income Settlements' definitions and calculations
4) The output gap measures the percentage deviation between mainland GDP and projected potential mainland GDP
5) Private and public consumption and mainland gross fixed investment
6) Extraction and pipeline transport
7) Traditional goods, travel and exports of other services from mainland Norway
8) The key policy rate is the interest rate on banks' deposits in Norges Bank
9) Level. The weights are estimated on the basis of imports from 44 countries, which comprise 97% of total imports

· Not available

Sources: Statistics Norway, the Technical Reporting Committee on Income Settlements, Norwegian Labour and Welfare Admininstration and Norges Bank

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