NORGES BANK

Monetary Policy Report

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Monetary Policy Report
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Norges Bank

Oslo 2012

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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 29 August 2012, the Executive Board discussed relevant themes for the *Report*. At the Executive Board meeting on 17 October 2012 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 2013 at the meeting held on 31 October 2012. The Executive Board's summary of the economic outlook and the monetary policy strategy are presented in "The Executive Board's assessment". The next monetary policy meeting of the Executive Board will be held on 19 December 2012.

Contents

This *Monetary Policy Report* is based on information in the period to 25 October 2012.
The monetary policy strategy was approved by the Executive Board on 31 October 2012.

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 2pm 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 2012 *Monetary Policy Report*, the Executive Board decided that the key policy rate should be in the interval 1%–2% in the period to 31 October 2012, unless the Norwegian economy was exposed to new major shocks. Capacity utilisation was assessed to be a little above a normal level. The prospect of somewhat higher capacity utilisation and hence slightly higher cost growth suggested an upward drift in inflation from a low level further ahead. At the same time, the uncertainty surrounding developments in Europe was greater than observed for some time. The analysis in the June *Report* implied a key policy rate of 1.5% in the period to the turn of the year, followed by a gradual increase towards a more normal level.

In its discussion at the meeting on 29 August 2012, the Executive Board pointed out that developments among Norway's trading partners were broadly in line with the projections in the June *Report*, but that the expected upward shift in interest rates abroad had moved further out in time. There were signs of improvement in financial markets, although the level of uncertainty was still high. Markets had been calmed by the announcement by the European Central Bank (ECB) to purchase government bonds from highly indebted countries in the euro area. Equity prices had moved up and premiums in money and bond markets had fallen. Developments in the Norwegian economy appeared to be broadly in line with the projections in the June *Report*, but inflation had been slightly lower than projected. The Executive Board decided to keep the key policy rate unchanged at 1.5%.

At its meeting on 29 August, the Executive Board also discussed themes of relevance for the October 2012 *Monetary Policy Report*, including developments in the krone market and the relationship between household saving, house prices and credit.

In its discussions on 17 and 31 October, the Executive Board placed emphasis on the following developments:

- Growth among trading partners is low and approximately as expected. Euro-area activity is expected to fall in 2012 and unemployment in a number of euro area countries is at a very high level. Activity in the US is picking up at a moderate pace. There are signs of improvement in the housing market, but fiscal policy uncertainty may curb economic growth in the short term. In emerging Asia, activity appears to have held up, but altogether growth has slackened.

- Market expectations concerning key interest rates abroad have fallen further. Both the ECB and the Federal Reserve have communicated that key rates will be kept low for an extended period. Moreover, the ECB has announced measures to bolster confidence in the euro. Risk premiums in money and bond markets have declined and equity prices have increased.

- The krone, as measured by the import-weighted exchange rate (I-44), has appreciated and is now stronger than projected in the June *Report.*

- Premiums in money and bond markets have also fallen in Norway, but with little impact on interest rates on loans to households and enterprises.

- Growth in the Norwegian economy remains robust and is broadly in line with that projected in the June *Report.* Employment is rising at a brisk pace and unemployment remains low and stable. Capacity utilisation is assessed to be above a normal level. There is vigorous activity in the construction industry and in oil-related industries, while other manufacturing segments are feeling the impact of weak external demand and high costs. Household consumption is growing at a moderate pace and saving has increased further, while debt and house prices are still rising faster than income.

- Inflation in Norway remains low and has been lower than projected in the June *Report*. The underlying rise in prices has ranged between 1% and 1½% over the past year.

The point of departure for the Executive Board's assessment of monetary policy is that the key policy rate is set with a view to keeping inflation close to 2.5% over time. In order to attain this objective, stabilising inflation is balanced against stabilising output and unemployment. Monetary policy also seeks to take into account the risk of a buildup of financial imbalances. The key policy rate is low because inflation is low and interest rates abroad are very low. At the same time, there is a considerable spread between the key policy rate and the interest rates facing households and enterprises.

The Executive Board noted that the analyses now imply a key policy rate at today's level into next year, followed by a gradual increase towards a more normal level. The interest rate forecast for 2013 is slightly below the June forecast.

In its deliberations, the Executive Board pointed out that the uncertainty surrounding international economic developments remains elevated. Growth prospects for advanced economies have been lowered over a longer period. The world economy may be close to a cyclical trough, but growth is expected to remain low in advanced economies for a long period. Risk premiums in money and bond markets have moved down, but many countries are facing a very difficult debt situation. There is still considerable uncertainty linked to developments in Europe in the period ahead. At the same time, there is political disagreement in the US as to the proper fiscal tightening measures to be implemented.

The Executive Board considered the weak impetus from external prices to prices in Norway, both through lower imported inflation and increased competition. High labour immigration may also have contributed to dampening cost growth in some industries. In addition, the rise in costs domestically may not yet have fed fully through to prices. Experience shows that this may take time.

It was pointed out that the krone has appreciated, which may reflect foreign exchange market participants' stronger focus on search for yield and quality at present. At the same time, attention was called to the fact that themes in foreign exchange markets quickly change.

The Norwegian economy is growing at a solid pace despite weak external growth. Many industries are benefiting from the vigorous activity in the oil industry. At the same time, traditional manufacturing are showing a high degree of adaptability. Companies are increasingly finding niche areas or shifting activity towards the petroleum industry.

The Executive Board also discussed developments in household saving. Heightened uncertainty following the financial crisis may have induced households to be more cautious and pushed up the saving ratio. Moreover, demographic conditions and the pension reform may have influenced saving.

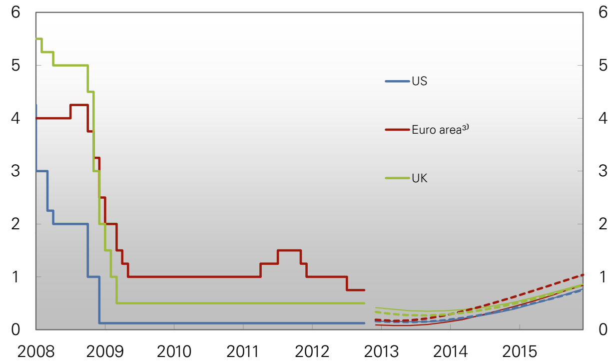
In its deliberations on the monetary policy situation, attention was focused on lower-than-expected inflation, the appreciation of the krone and a further fall in interest rates among trading partners. In isolation, this suggests a reduction in the key policy rate. At the same time, premiums in money and bonds markets have shown a marked fall. This suggests, in isolation, an increase in the key policy rate. Banks' lending rates have remained unchanged, however, which dampens the effect of the fall in money market rates.

It was pointed out that inflation remains low, but that capacity utilisation is above a normal level. Developments in the Norwegian economy give reason to believe that inflation will gradually pick up. This suggests that the key policy rate can be raised further out in the projection period. A long period of low interest rates can induce households and businesses to take excessive risk and accumulate excessive debt. Such imbalances could have spillover effects further ahead, such as a pronounced impact on output, employment and inflation. At the same time, the very low interest rates abroad are limiting how quickly the key policy rate in Norway should be raised. If the key policy rate is increased too quickly, there will be an increased risk that the krone will appreciate so that inflation remains low for a long time.

At its meeting on 31 October, the Executive Board decided to keep the key policy rate unchanged at 1.5%. At the same meeting, the Executive Board decided that the key policy rate should be in the interval 1%–2% until the publication of the next *Report* on 14 March 2013, unless the Norwegian economy is exposed to new major shocks.

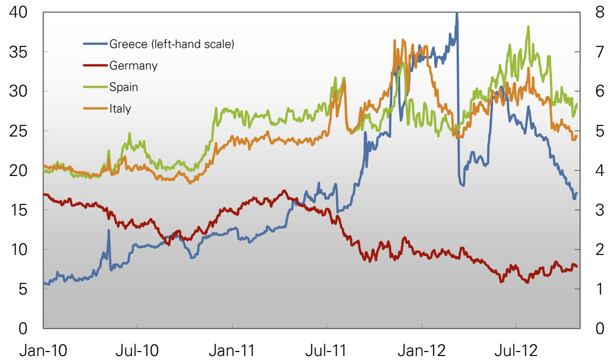
Øystein Olsen
31 October 2012

Chart 1.1 Key rates and estimated forward rates as at 15 June 2012 and 25 October 2012.[1)] Percent. 1 January 2008 – 31 December 2015[2)]



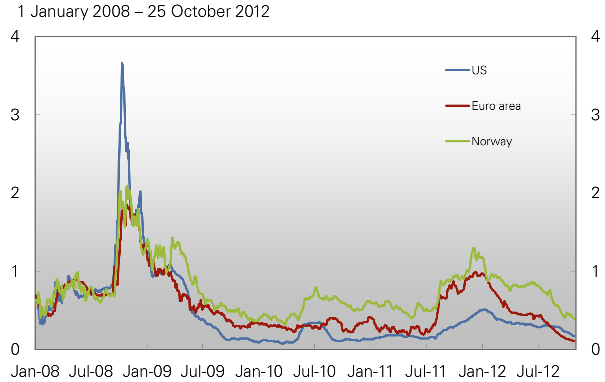
1) Broken lines show estimated forward rates as at 15 June 2012. Thin lines show forward rates as at 25 October 2012. Forward rates are based on Overnight Index Swap (OIS) rates
2) Daily figures from 1 January 2008 and quarterly figures from 2012 Q4
3) EONIA for euro area from 2012 Q4
Sources: Bloomberg and Norges Bank

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



Source: Thomson Reuters

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



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

1 Monetary policy outlook

The economic situation

Growth among Norway's trading partners is weak. Activity in the euro area is declining and unemployment is high and rising. The US economy continues to grow at a moderate pace. Emerging economies in Asia are helping to sustain global economic activity, but growth has slowed in several of these countries.

Overall, growth prospects for trading partners have not changed substantially since the June 2012 *Monetary Policy Report*. Economic growth is still expected to pick up gradually over the coming years, from ¾% in 2012 to 2½% in 2015. Macroeconomic indicators may suggest that the global economy is nearing a trough. Owing to monetary policy measures, growth may pick up, but the continuing need for deleveraging in both the private and public sector in a number of advanced economies is weighing on activity. The uncertainty surrounding global economic prospects is high.

A number of central banks have cut their key rates, which in many countries are now close to zero. There are prospects that central bank key rates will remain very low for longer than previously assumed (see Chart 1.1). The Federal Reserve announced in September that the federal funds rate will be kept unchanged until mid-2015, if economic developments do not improve considerably more than currently envisaged. The Federal Reserve, the Bank of Japan and the Bank of England have all announced further quantitative easing. The European Central Bank (ECB) has launched a program for the unlimited purchase of government bonds from states that have agreed to a full macroeconomic adjustment programme or a precautionary programme under the European Financial Stability Facility/European Stability Mechanism. This has resulted in a decline in yields on government bonds of European countries with sovereign debt problems (see Chart 1.2). Financial market uncertainty has abated somewhat. Money market premiums (Euribor) have fallen (see

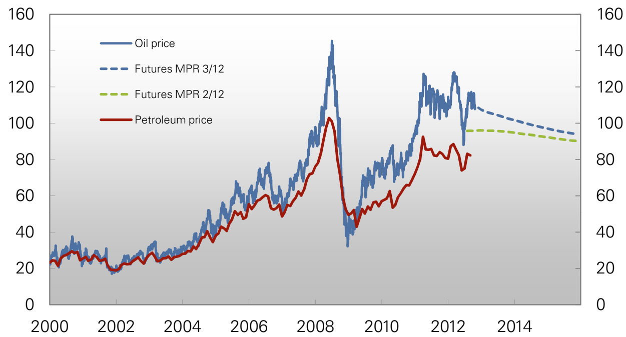
Chart 1.3). Equity prices have risen and oil prices have increased to USD 110 per barrel (see Chart 1.4).

The krone has appreciated and is now stronger than projected in the June *Report*. The krone strengthened somewhat more than the change in the expected interest rate differential against other countries in isolation would indicate. A possible interpretation is a slight reduction in the risk premium on the Norwegian krone since summer. The projections are based on an index value of 86 in Q4, as measured by the import-weighted krone exchange rate (I-44) (see Chart 1.5).

The decline in the premium in the Euribor rate has contributed to a substantial fall in the premium in Norwegian three-month money market rates since the June *Report*. The premium is now approximately 0.4 percentage point, or 0.4 percentage point lower than projected in June, and is expected to remain at approximately the current level until the end of the forecast period (see Chart 1.6). Risk premiums on covered bonds and bank bonds have also fallen. So far, the decline in funding costs has not affected lending rates for households and enterprises (see Charts 1.7 and 1.8). Interest rates on new, presumably safe mortgage loans are slightly below 4%, whereas many enterprises continue to pay around 5% on bank loans. Bank lending margins have therefore increased. It is assumed that banks will seek to maintain their lending margins ahead in order to strengthen their financial position. According to Norges Bank's third-quarter lending survey, banks expect somewhat higher margins on corporate loans in the coming period. Strong competition among banks may push down margins on residential mortgages further ahead.

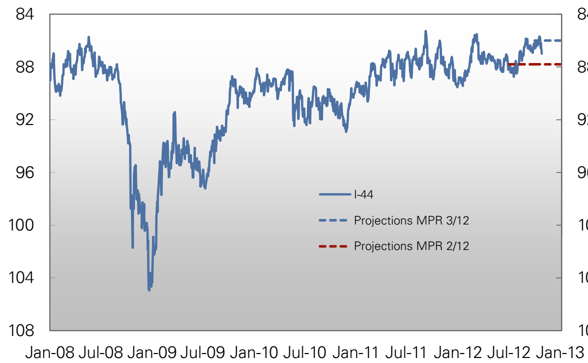
As expected, household debt in Norway continues to rise slightly faster than income (see Chart 1.9). Debt as a share of disposable income is at a historically high level. Nevertheless, households' debt burden is moderate owing to low interest rates. At the same time, household saving is now at a high level. The assessment of household vulnerability is approximately the same as in June. The largest Norwegian banks have strengthened their Tier 1 capital ratios, making them more robust.

Chart 1.4 Oil price (Brent Blend) and prices for Norwegian petroleum exports[1]. USD/barrel. January 2000 – December 2015



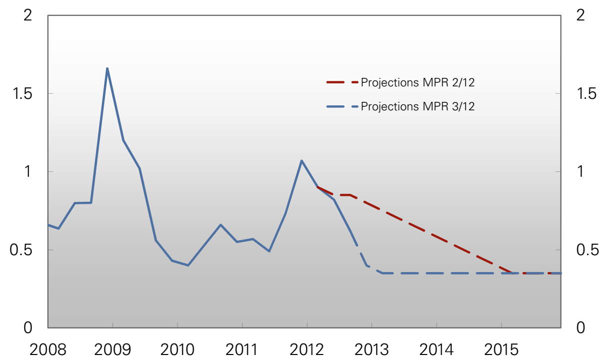
1) Weighted average of Norwegian crude oil and gas exports
Sources: Statistics Norway, Thomson Reuters and Norges Bank

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



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

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

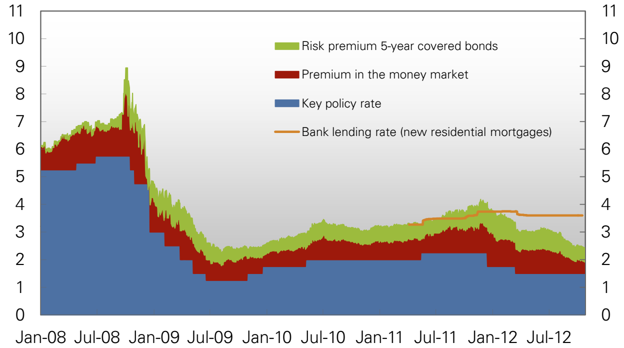


1) Norges Bank's projections from 2012 Q4
Sources: Thomson Reuters and Norges Bank

Despite sluggish developments among Norway's trading partners, growth in the Norwegian economy is holding up (see Chart 1.10). The moderate upturn continued in the second quarter with quarterly mainland GDP growth of 1.0%. This was approximately as projected in the June *Report*. In September, the enterprises in Norges Bank's regional network reported moderate growth through summer. Partly owing to high oil prices, there is buoyant activity in industries supplying goods and services to the petroleum sector. Other manufacturing segments are feeling the impact of weak external demand and high costs. Petroleum investment continues to grow at a fast pace. Growth in both business and housing investment remains strong. Private consumption is not growing as quickly as after previous downturns, and saving has increased. Employment growth is high, partly reflecting a continued high level of labour immigration. Unemployment remains low and stable. Labour market developments and capacity constraints in the business sector now suggest that overall resource utilisation is above a normal level and in line with the June projections (see further discussion in Section 2).

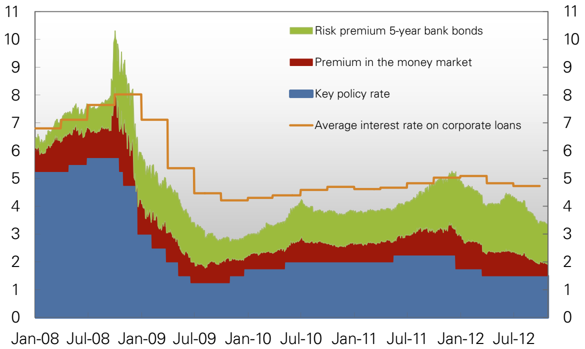
Domestically, inflation remains low, and has been lower than projected in the June *Report*. This primarily reflects a lower rise in prices for domestically produced goods and services, which now appears to be below the level implied by cost developments in the Norwegian economy

Chart 1.7 Key policy rate, premium in the money market[1], risk premium 5-year covered bonds[2] and weighted average lending rate on new residential mortgages[3]. Percent. 1 January 2008 – 25 October 2012



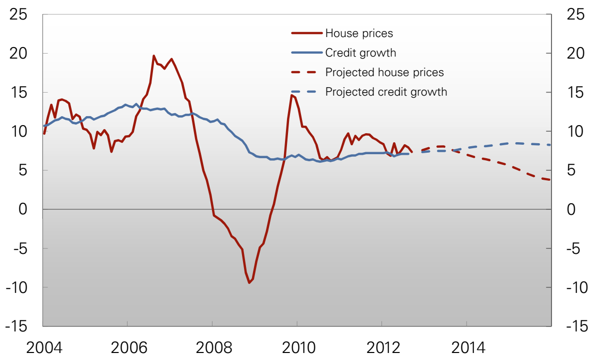
1) 3-month NIBOR (effective)
2) Indicative risk premium on 5-year covered bonds
3) Nominal interest rate on new residential mortgages of NOK 2m within 60% of purchase price with variable interest rate. Figures for the 20 largest banks, weighted according to market share
Sources: Norsk familieøkonomi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

Chart 1.8 Key policy rate, premium in the money market rate[1], risk premium on 5-year bank bonds[2] and average interest rate on corporate loans. Percent. 1 January 2008 – 25 October 2012



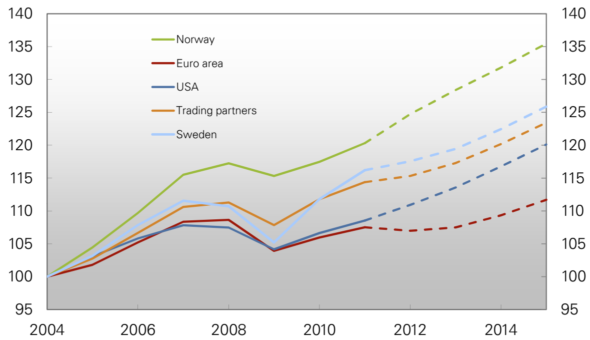
1) 3-month NIBOR (effective)
2) Indicative risk premium in 5-year bank bonds
Sources: DNB Markets, Statistics Norway and Norges Bank

Chart 1.9 Credit growth[1] and house prices. 12-month change. Percent. January 2004 – December 2015[2]



1) From January 1 2012 the Norwegian standard for institutional sector grouping was changed. For credit growth this implies a break in the series from March 2012
2) House prices up to and including September, credit growth up to and including August.Projections to 2015 Q4, where debt growth is change in inventory
Sources: Statistics Norway, the real estate sector (NEF, EFF, Finn.no and ECON Pöyry) and Norges Bank

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



Sources: Thomson Reuters and Norges Bank (see further discussion in Section 2). A continued decline in prices for imported consumer goods is holding down overall consumer price inflation. In September, the 12-month rise in the CPI and CPIXE was 0.5% and 0.9%, respectively, while the 12-month rise in the CPI-ATE was 1.1%. Underlying inflation is now estimated at between 1% and 1½% (see Chart 1.11).

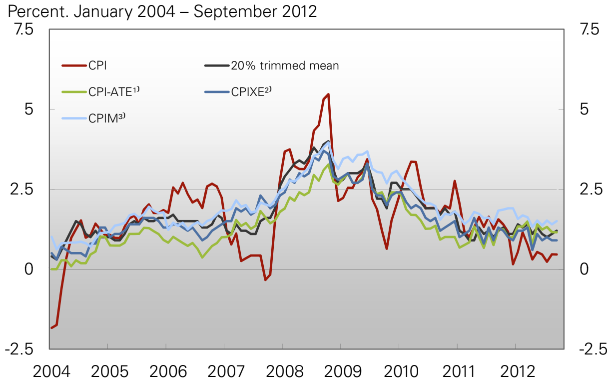
The outlook ahead

The operational target of monetary policy 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 1.12). Both long-term and short-term inflation expectations are close to the inflation target (see Chart 1.13).

The key policy rate is 1.5%. The key policy rate is low because inflation is low and because interest rates abroad are very low. Activity in the Norwegian economy remains robust, partly owing to the low level of interest rates. Mainland GDP is projected to increase by 3¾% in 2012, somewhat higher than potential output growth. Capacity utilisation in the Norwegian economy is thus expected to rise further in the period ahead, in line with the June projections. Inflation is expected to pick up ahead. Experience suggests that higher business sector costs will feed through to prices. So far in this upturn, competitive conditions may have mitigated the feed-through from the cost side.

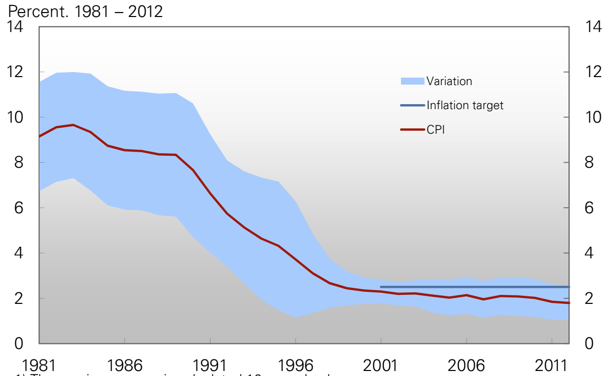
Increasing capacity utilisation and the prospect of rising inflation suggest a gradual rise in the key policy rate towards a more normal level further out. Nevertheless, very low actual and expected interest rates globally limit how quickly the key policy rate in Norway should be raised. If the key policy rate is raised too quickly, the krone may appreciate so that inflation remains low for a long period. On the other hand, a prolonged period of low interest rates may amplify house price inflation and lending growth and induce households and enterprises to take excessive risks and accumulate excessive debt. Such imbalances may have spillover effects further ahead, with a considerable impact on output, employment and inflation.

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



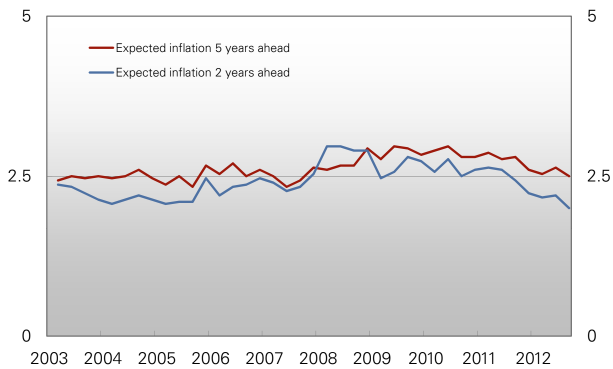
1) CPI adjusted for tax changes and excluding energy products
2) CPI adjusted for tax changes and excluding temporary changes in energy prices. Real time figures. See Norges Bank *Staff Memo* 7/2008 and 3/2009
3) Model-based indicator of underlying inflation. See Norges Bank *Economic Commentaries* 5/2010
Sources: Statistics Norway and Norges Bank

Chart 1.12 Inflation. Moving 10-year average[1] and variation[2] in CPI[3]. Percent. 1981 – 2012



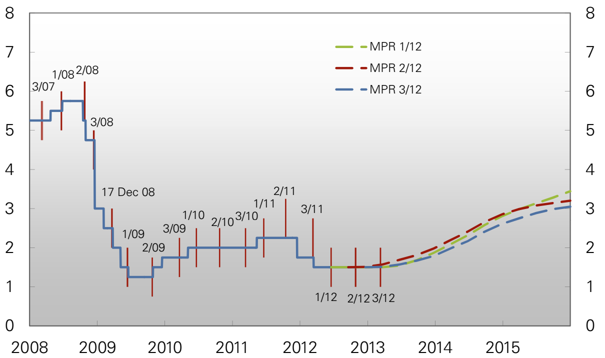
1) The moving average is calculated 10 years back
2) The band around the CPI is the variation in the CPI adjusted for tax changes and excluding energy products in the average period, measured by +/- one standard deviation
3) Estimate based on CPI projections in this *Report*
Sources: Statistics Norway and Norges Bank

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



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

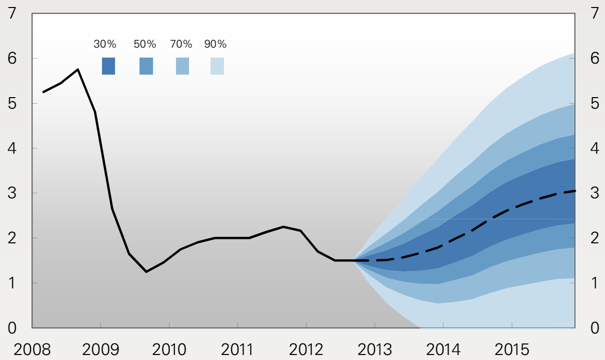
Chart 1.14 Interval for the key policy rate at the end of each strategy period, actual developments and projected key policy rate in the baseline scenario. Percent. January 2008 – December 2015



Source: Norges Bank

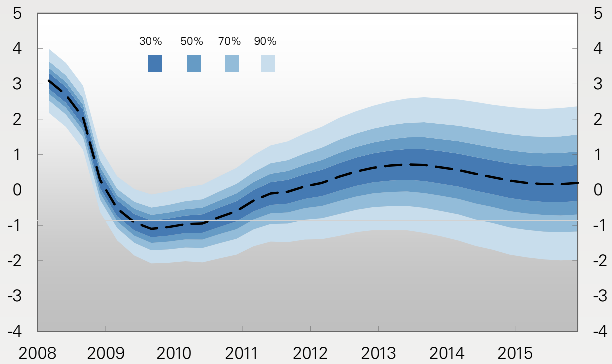
Developments in inflation, the krone exchange rate and interest rates abroad suggest a somewhat lower forecast for the key policy rate than in the June *Report*. Lower premiums in money and bond markets point in the opposite direction, but this effect is being dampened because bank lending rates have remained unchanged. The analysis implies a key policy rate at today's level into next year, followed by a gradual rise to a more normal level (see Chart 1.14 and Charts 1.15 a-d). The forecast for the key policy rate is approximately the same as in the June *Report* in the short term, but the rate is slightly lower further out (see box on page 20). With this interest rate

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



Source: Norges Bank

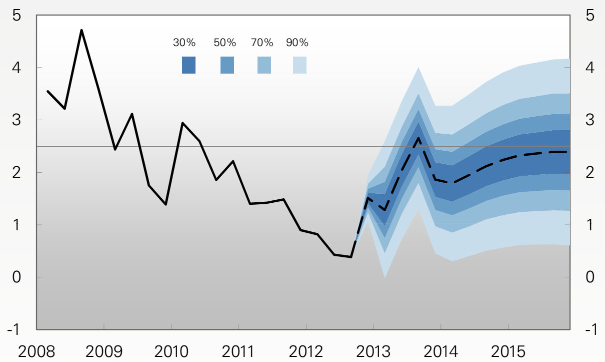
Chart 1.15b Projected output gap[1)] in the baseline scenario with probability distribution. Percent. 2008 Q1 – 2015 Q4



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

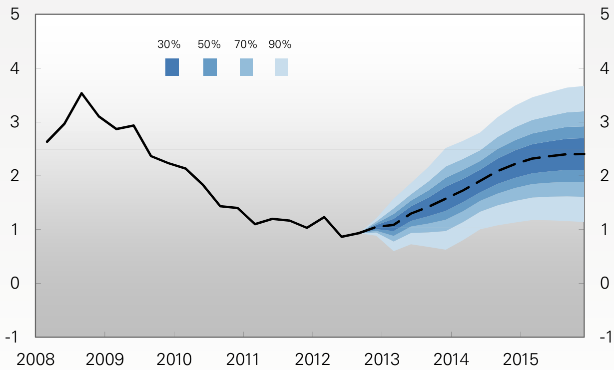
Source: Norges Bank

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



Sources: Statistics Norway and Norges Bank

Chart 1.15d Projected CPIXE[1)] in the baseline scenario with probability distribution. Four-quarter change. Percent. 2008 Q1 – 2015 Q4



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

Source: Norges Bank

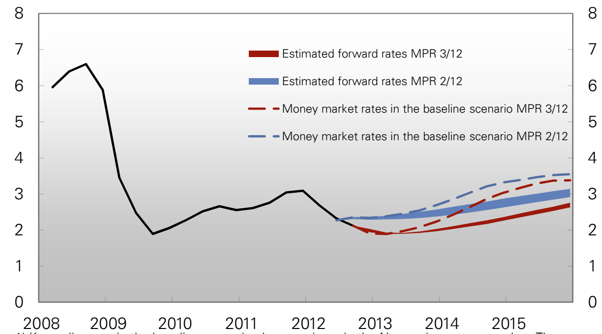
path and lower premiums, the three-month money market rate will be lower than projected in the June *Report* (see Chart 1.16). The interest rate differential against other countries is expected to widen somewhat and the krone is thus assumed to remain strong (see Chart 1.17).

With such an interest rate forecast, inflation may pick up gradually towards 2.5%. Rising capacity utilisation will probably lead to a pickup in cost inflation and make it easier for firms to pass on costs to prices. Wage growth is projected to move up to 4¼% in 2013 and 4½% in 2014 and 2015. Capacity utilisation is expected to increase in the period to mid-2013. As the key policy rate shifts upwards, capacity utilisation may move down towards a normal level (see Chart 1.18). Activity in petroleum-related industries is expected to remain high. At the same time, sluggish export markets and a further weakening of competitiveness will restrain growth in other export industries. Overall, mainland business investment is expected to grow by between 5% and 10% annually in the years ahead. At the same time, high population growth will give a firm boost to housing investment. Owing to solid income growth and continued low interest rates, private consumption may increase by around 4% annually in 2013 and 2014. The saving ratio is expected to decline somewhat.

House price inflation is projected to slow gradually to 4% towards the end of the projection period. It takes time for a fall in house price inflation to curb credit growth. Household debt accumulation is therefore expected to remain at around today's level in the years ahead. The debt burden is expected to edge up. The interest burden is also expected to edge up, but to remain at a moderate level (see Chart 1.19).

The projections for the key policy rate, inflation, capacity utilisation 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. Monetary policy may respond to changes in the economic outlook

Chart 1.16 Three-month money market rates in the baseline scenario[1] and estimated forward rates[2]. Percent. 2008 Q1 – 2015 Q4

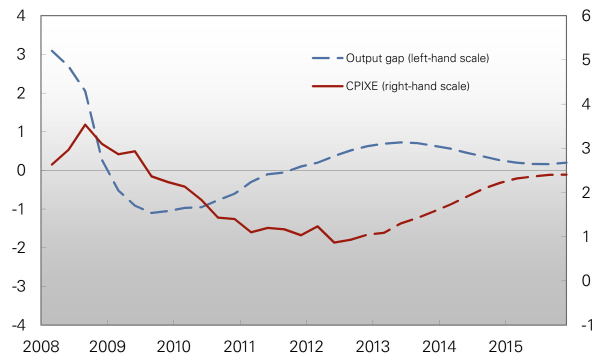


1) Key policy rate in the baseline scenario plus premiums in the Norwegian money market. The calculations are based on the assumption that announced interest rate changes are priced into the money market.
2) Forward rates are based on money market rates and interest rate swaps. The blue and red bands show the highest and lowest forward rates in the period 4 June – 15 June 2012 and 11 October – 25 October
Sources: Thomson Reuters and Norges Bank

Chart 1.17 Three-month money market rate differential between Norway[1] and trading partners and the import-weighted exchange rate index (I-44)[2]. January 2003 – December 2015[3]

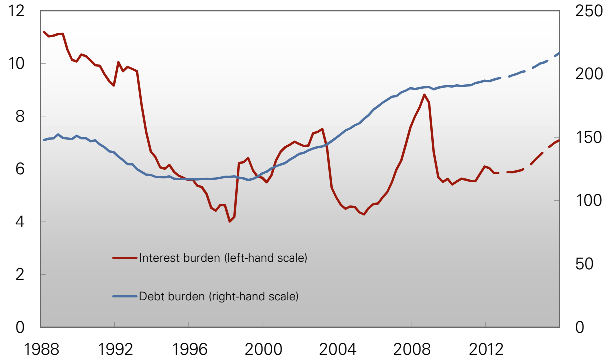
1) Key policy rate in the baseline scenario plus premiums in the Norwegian money market. The calculations are based on the assumption that announced interest rate changes are priced into the money market
2) A positive slope denotes a stronger krone exchange rate
3) Monthly figures from January 2003 and Norges Bank projections from 2012 Q4
Sources: Thomson Reuters and Norges Bank

Chart 1.18 Projected inflation[1] and output gap in the baseline scenario. Percent. 2008 Q1 – 2015 Q4



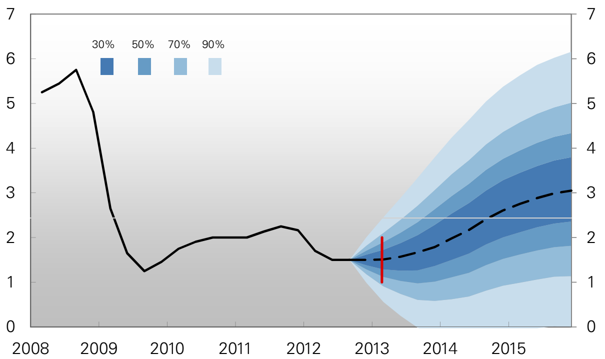
1) CPIXE: CPI adjusted for tax changes and excluding temporary changes in energy prices. As from August 2008, the CPIXE is a real-time series. See Norges Bank *Staff Memo* 7/2008 and 3/2009
Source: Norges Bank

Chart 1.19 Household debt burden[1)] and interest burden[2)]. Percent. Quarterly figures. 1988 Q1 – 2015 Q4



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

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



Source: Norges Bank

or if the relationships between the interest rate, inflation, output and employment differ from those assumed.

There is uncertainty surrounding future interest rate developments. The uncertainty surrounding Norges Bank's projections is illustrated using fan charts (see Chart 1.15 a-d). The width of the fan reflects historical uncertainty. Chart 1.20 shows there is a high probability that the key policy rate would be within the interval approved by the Executive Board in the period to mid-March 2013. Experience has shown that in most cases, the key policy rate has been near the middle of the interval at the end of the period (see Chart 1.14). There is also a certain probability that the key policy rate will be set higher or lower than the interval indicates. In autumn 2008, the Norwegian economy was exposed to major shocks as a consequence of the international financial crisis, and the key policy rate was set below the lower limit of the interval.

The analysis in this *Report* suggests that inflation will gradually pick up further out as capacity utilisation in the Norwegian economy picks up and higher business costs feed through to prices. However, it cannot be ruled out that competition will continue to restrain price increases ahead, or that owing to other factors, costs do not feed through to prices in line with the historical pattern. There is also a risk of a further appreciation of the krone. If inflation should be lower than projected, or should the krone show a marked appreciation, the key policy rate may be reduced towards the lower end of the interval 1%–2% within the current strategy period that ends in March 2013.

Inflation may also be higher than currently projected in this *Report*. When consumer price inflation is lower than cost inflation, it may mean that firms' margins have fallen to low levels and have to be raised again. External developments may also prove more favourable than expected. Reduced uncertainty surrounding the euro area economy may have a positive impact on consumption and investment in Norway. If inflation and activity are higher than projected, the key policy rate may be increased towards the upper end of the interval 1%–2% within the current strategy period.

Response pattern in monetary policy and criteria for an appropriate interest rate path[1]

Over time, Norges Bank seeks to maintain inflation close to 2.5%. An appropriate interest rate path should meet the following criteria:

1. ***The inflation target is achieved:***
   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.

2. ***The inflation targeting regime is flexible:***
   The interest rate path should provide a reasonable balance between the path for inflation and the path for overall capacity utilisation in the economy.
3. ***Monetary policy is robust:***

   The interest rate should be set so that monetary policy mitigates the risk of a buildup of financial imbalances, and so that acceptable developments in inflation and output are also the likely outcome under alternative assumptions about the functioning of the economy.

The various considerations taken into account in the criteria must be weighed against each other. The specific time horizon for stabilising inflation at target will depend on the type of disturbances to which the economy is exposed and their effect on the outlook for inflation and the real economy. Mathematically, these assessments can be represented in somewhat simplified terms by a loss function, where the parameters λ, τ and γ represent relative weights[2]:

$$L = \overbrace{\overbrace{(\pi_t - \pi^*)^2}^{\text{Criterion 1}} + \rlap{$\underbrace{\phantom{\lambda(y_t - y_t^*)^2 + \gamma(i_t - i_{t-1})^2 + \tau(i_t - i_t^*)^2}}_{\text{Criterion 3}}$}\lambda(y_t - y_t^*)^2}^{\text{Criterion 2}} + \gamma(i_t - i_{t-1})^2 + \tau(i_t - i_t^*)^2$$

Criterion 1, which states that the inflation target is reached, is covered by the first segment. The loss L_t will be greater, the more actual inflation π_t deviates from the target π^*.

Criterion 2, which states that the inflation targeting regime is flexible, is covered by the first and second segments. For given inflation developments, the loss L_t will increase with fluctuations in economic activity, measured as the deviation between actual output y_t and the normal output level y_t^*. Often, a reasonable balance will imply opposite signs for the projected inflation gap $(\pi_t - \pi^*)$ and output gap $(y_t - y_t^*)$ some time ahead.

Criterion 3, which states that monetary policy is robust, is covered by the second, third and fourth segments.[3] Experience shows that financial imbalances often build up in periods of high capacity utilisation. For that reason, a high weight λ for the output gap in the loss function may reduce the risk of a buildup of such imbalances. The third segment of the loss function expresses that it will normally be robust to change the interest rate gradually, so that the current interest rate, i_t, does not deviate excessively from the rate in the previous period, i_{t-1}. Substantial and sudden changes in the interest rate may lead to economic instability. Gradual changes in the interest rate enhance the robustness of monetary policy because the Bank can then regularly assess the effects of a change in the interest rate and other new information on economic developments.

The last segment states that the loss increases when the interest rate deviates substantially from a normal level i_t^*.[4] This consideration can help to mitigate the risk of a buildup of financial imbalances – even in periods when capacity utilisation is not particularly high.

The loss function 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 loss function. In certain situations, for example, a more aggressive interest rate response than usual may be necessary to prevent particularly adverse outcomes. In other situations, the Bank may judge that greater caution in interest rate setting is warranted. Formalising the considerations that are given weight by means of a loss function will nonetheless contribute to consistency over time, and can clarify how Norges Bank normally balances various considerations.

As the Bank gains new insights and gathers further evidence, the Bank's assessments of economic relationships may change and its models may be further developed. New insight into the functioning of the economy and enhanced understanding of how to mitigate the risk of financial imbalances may influence the formulation of the loss function.

1 See *Monetary Policy Report* 1/12, pp. 15-16

2 In the calculations for this *Report*, λ = 0,75, γ = 0,25 and τ = 0.05. In general, the parameters will depend on the specifications of the model and how the model is solved (see further description in *Staff Memo* 11/2010, Norges Bank).

3 See Norges Bank *Staff Memo 11/2012* for a detailed discussion of the loss function.

4 Given well-anchored inflation expectations, the deviation in the nominal interest rate from a normal level may be expressed as a deviation of the real interest rate. Prospects for very low interest rates in the years ahead have pulled down Norges Bank's projections of a normal interest rate. The normal level of the key policy rate a few years further ahead is assumed to be around 4%.

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 of Norges Bank's response pattern in the box on page 16). Under the criteria, the key policy rate should be set with a view to stabilising inflation at target or bringing inflation back to target after a deviation without giving rise to excessive fluctuations in output and employment. At the same time, interest rate setting should be robust and counteract the risk of a buildup of financial imbalances in the economy. The interest rate cannot fully satisfy all the criteria simultaneously and the interest rate path is chosen so as to provide a balance between the considerations.

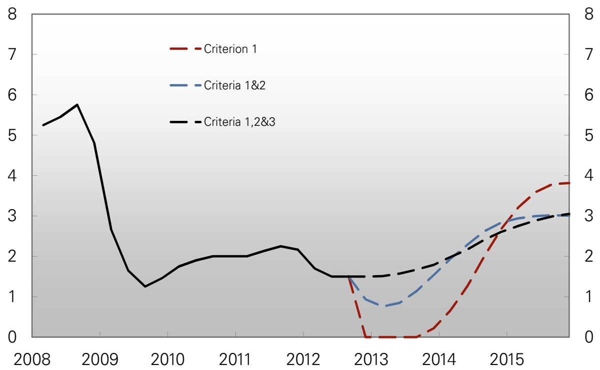
Charts 1.21 a-c show forecasts for the key policy rate, the output gap and inflation when the various criteria are taken into account.[1]

If monetary policy gave weight only to the current low level of inflation, the key policy rate would be lowered sharply and kept near zero for some time, as illustrated in Chart 1.21a. Inflation could then pick up more quickly, partly owing to a weaker krone, but fluctuations in output and employment might also increase.

When weight is also given to avoiding excessive fluctuations in output and employment, the key policy rate will be somewhat higher in the short term. Inflation will then take somewhat longer to rise towards 2.5%, but developments in output and employment will be more stable. Furthermore, Norges Bank takes into account that the interest rate should not be low for too long (see further discussion in the box on Norges bank's response pattern). Normally, Norges Bank also takes a gradualist approach to interest rate setting to avoid abrupt shifts in the economy and to be able to assess the effects of a change in the key policy rate. Uncertainty about the economic outlook is considerable, and it goes both ways. Taken together, these considerations result in an interest rate forecast as presented in the baseline scenario in this *Report*.

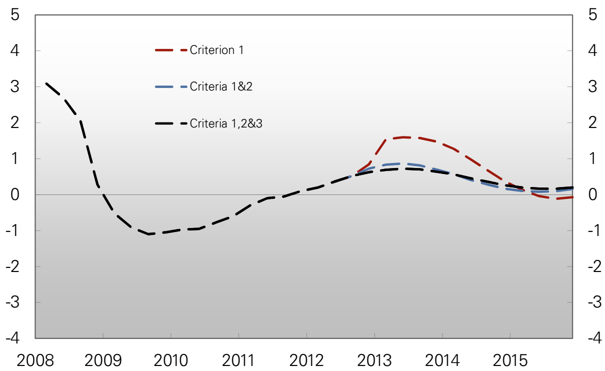
1 Illustrated using the macroeconomic model NEMO.

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



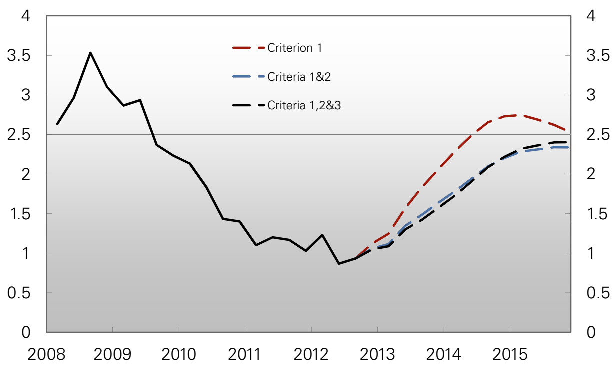
Source: Norges Bank

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



Source: Norges Bank

Chart 1.21c CPIXE[1)]. Four-quarter change. Percent. 2008 Q1 – 2015 Q4

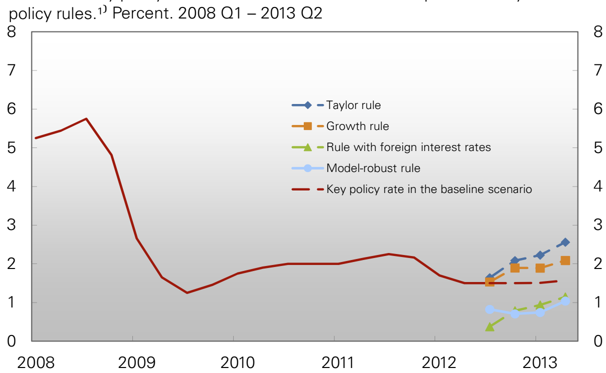


1) CPI adjusted for tax changes and excluding temporary changes in energy prices.
As from August 2008, the CPIXE is a real-time series. See Norges Bank Staff Memo 7/2008 and 3/2009
Source: Norges Bank

Cross-checks of the interest rate forecast

Simple monetary policy rules can prescribe interest rate setting that is robust to different assumptions about the functioning of the economy and are useful for providing cross-checks for the analysis (see Chart 1.22). The Taylor rule is based on projections for inflation, the output gap, money market premiums and the normal interest rate level. The Taylor rule calls for a key policy rate that is somewhat higher than the interest rate forecast (see Chart 1.22). The growth rule, where the output gap is replaced by a growth gap, produces a nearly identical forecast (see orange line in the chart). The light blue line shows a model-robust rule[2] based on calculations in various models for the Norwegian economy. This rule gives greater weight to the output gap and inflation than the Taylor rule. It also gives weight to the interest rate in the previous period. The model-robust rule calls for a key policy rate that is lower than the interest rate forecast. A simple rule that gives considerable weight to changes in the interest rate differential against other countries also implies a lower interest rate than in the baseline scenario (see green line in the chart).

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

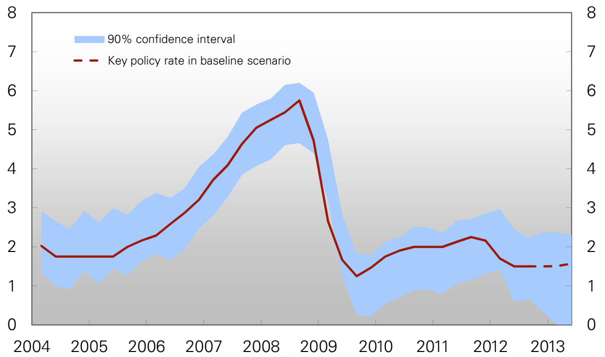


1) The calculations are based on Norges Bank's projections for the output gap, growth gap, consumer prices and 3-month money market rates among trading partners. To ensure comparability with the key policy rate, the simple rules are adjusted for risk premiums in 3-month money market rates
Source: Norges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

Forward money and bond market rates are another cross-check for the interest rate forecast. Estimated forward rates are somewhat lower than the money market rate forecast in this *Report* (see Chart 1.16).

Norges Bank's previous interest rate setting serves as another cross-check for the interest rate in the baseline scenario. 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 abroad. The interest rate in the previous period is also important. The uncertainty in this model is expressed by the blue interval. The projections are based on the estimates for the underlying variables in this *Report*. The chart shows that the interest rate forecast in the baseline scenario closely coincides with the projection from the estimated rule (see Chart 1.23).

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



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

2 For further analysis of this and other simple monetary policy rules, see *Staff Memo* 16/2012 and *Staff Memo* 17/2012.

Changes in the projections since Monetary Policy Report 2/12

The interest rate forecast in this *Monetary Policy Report* is approximately the same as in the June 2012 *Report* in the short term, but slightly lower further out (see Chart 1). The projections are based on the criteria for an appropriate interest rate path (see box on page 16), an overall assessment of the situation in the Norwegian and global economy and our perception of the functioning of the economy.

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 in the chart. The overall change in the interest rate forecast is shown by the black line.

Key rates are close to zero among many of Norway's trading partners, and market participants' expectations concerning key rates have fallen since June. Lower interest rates abroad suggest a lower interest rate also in Norway, to prevent the krone from appreciating so that inflation does not become too low (orange bars).

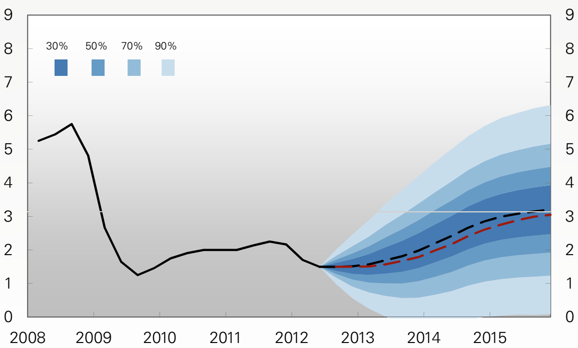
The krone has appreciated and is stronger than projected in the June *Report*. The krone has strengthened somewhat more than the change in the expected interest rate differential would imply. A stronger krone contributes in isolation both to lower inflation and to lower economic activity.[2] This suggests a lower key policy rate (light blue bars).

Inflation is low, and it has been somewhat lower than projected in the June *Report*. Low inflation pushes down the interest rate forecast somewhat (red bars). Even though inflation has been lower than expected, the assessment of the driving forces behind price developments remains broadly unchanged. Thus, in the analysis, month-to-month inflation is projected to pick up quickly towards the same level as projected in June.

Money market premiums have shown a marked fall and are lower than projected in the June *Report*. In isolation, lower premiums would imply a higher key policy rate (blue bars).

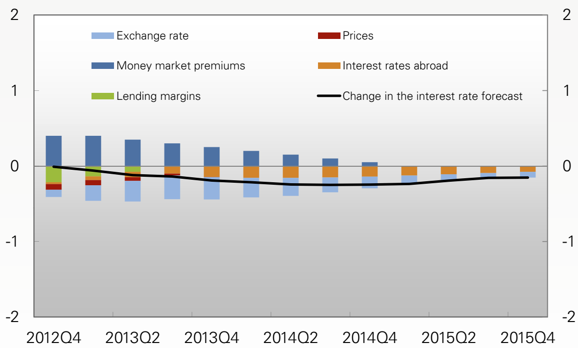
Lower premiums in the money and bond markets have resulted in a decline in bank funding costs. So far, lower funding costs have not affected lending rates for households and enterprises. Thus, lending margins, defined as

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



Source: Norges Bank

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



Source: Norges Bank

the difference between lending rates and money market rates, have widened and are expected to remain high in the period ahead. In isolation, higher lending margins suggest a lower key policy rate (green bars). However, the effect on the key policy rate is smaller than the effect of the decline in money market premiums because lower money market rates also have an impact via the exchange rate.

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. Calculations are based on the operational loss function, which is described in the box on page 16.

2 See *Staff Memo* 10/2012, Norges Bank.

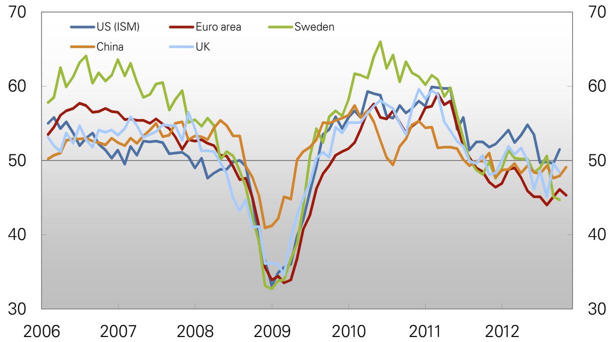
Table 1 Projections for macroeconomic aggregates in *Monetary Policy Report* 3/12. Percentage change from previous year (unless otherwise stated). Change from projections in *Monetary Policy Report* 2/12 in brackets.

	2012	2013	2014	2015
CPI	¾ (-¼)	2 (¼)	2 (0)	2¼ (-¼)
CPI-ATE[1)]	1¼ (-¼)	1½ (-¼)	2 (0)	2¼ (-¼)
CPIXE[2)]	1 (-¼)	1¼ (-¼)	2 (0)	2¼ (-¼)
Annual wages[3)]	4 (0)	4¼ (0)	4½ (0)	4½ (0)
Mainland demand[4)]	3 (¼)	4¼ (¼)	4 (¼)	3¾ (¼)
GDP, mainland Norway	3¾ (0)	3 (-¼)	2¾ (0)	2¾ (0)
Output gap, mainland Norway (level)[5)]	½ (0)	¾ (0)	½ (¼)	¼ (¼)
Employment, persons, QNA	2¼ (¼)	1¾ (¼)	1¼ (¼)	1¼ (¼)
Registered unemployment (rate, level)	2½ (0)	2½ (0)	2½ (0)	2½ (-¼)
Level				
Key policy rate[6)]	1½ (0)	1¾ (0)	2¼ (-¼)	3 (0)
Import-weighted exchange rate (I-44)[7)]	87 (-¾)	85¾ (-¾)	85¼ (-½)	85½ (-½)
Foreign money market rates[8)]	1 (0)	½ (-¼)	½ (-½)	1 (-¼)

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) The output gap measures the percentage deviation between mainland GDP and projected potential mainland GDP
6) The key policy rate is the interest rate on banks' deposits in Norges Bank
7) The weights are estimated on the basis of imports from 44 countries, which comprise 97% of total imports
8) Forward rates are based on money market rates and interest rate swaps

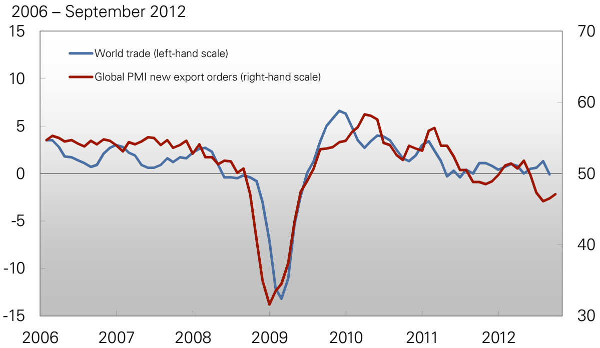
Source: Norges Bank

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



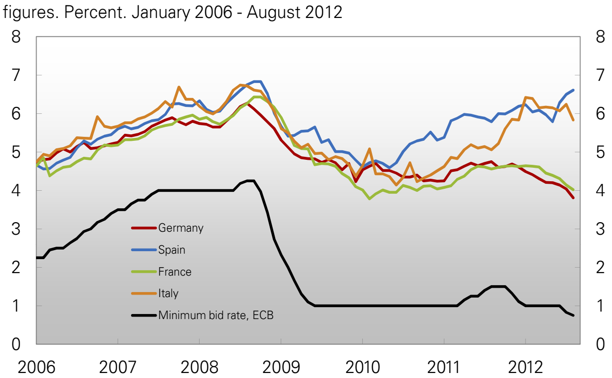
Source: Thomson Reuters

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



Source: Thomson Reuters

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



Source: ECB

2 The projections

The global economy

GDP growth among Norway's trading partners slowed from 2012 Q1 to Q2. Growth was 0.1% in Q1, as expected in the June 2012 *Monetary Policy Report*. Macroeconomic indicators continued to fall into Q3, but have shown signs of improving recently (see Charts 2.1 and 2.2). Short-term indicators point to approximately zero growth again in Q3. However, economic developments vary widely among Norway's main trading partners, with signs of a moderate recovery in, for example, the US and a continued fall in GDP in the euro area. Since June, the announcement of measures to be launched by the European Central Bank (ECB) and proposals for a single banking supervisory mechanism in the EU have eased financial market tensions in the euro area. The ECB reduced its key rates in July. Monetary policy easing has also been implemented in a number of other countries. The central banks in the US, UK and Japan have announced further bond purchases, known as quantitative easing. Key rates have been lowered in Sweden, Australia and several emerging economies. As a result of these measures, there are signs of greater optimism in financial markets and risk premiums have fallen. Uncertainty about developments ahead is nevertheless still unusually high, particularly for the euro area, but also globally.

The unrest linked to the sovereign debt crisis in the euro area has led to a fragmentation of European capital markets. This is reflected in relatively high premiums in banks' lending rates to households and enterprises, and as a result low key rates have not passed through to bank lending rates to the public in all countries (see Chart 2.3). In summer, the ECB announced that it would, within its mandate, take the measures necessary to preserve the euro, including unlimited purchases of sovereign bonds from countries agreeing to a full macroeconomic adjustment programme or a precautionary programme under the established European borrowing facilities (EFSF/ESM). The European authorities have also proposed measures for closer integration, including the establishment of a single banking supervisory mechanism, increasing the probability that the sovereign debt crisis can be resolved in an orderly manner, in line with the assumptions underlying the projections in this *Report*. Further deleveraging in both the private and public sector, a high degree of uncertainty and limited access to credit are nevertheless expected to weigh on growth in the coming years. In 2012, euro-area GDP is expected to fall, but the projection has been revised up somewhat compared with the June *Report* owing to a slower decline in Q2 than projected earlier. Increased exports and a gradual easing of credit conditions are expected to result in growth of ½% in 2013. For the remainder of the projection period, growth is expected to pick up gradually to 2% in 2015, in line with the June projections (see Table 2.1).

In Sweden, GDP growth has been considerably higher than expected so far in 2012, with particularly strong growth in net exports. The growth forecast for 2012 has therefore been revised up since the June *Report*. However, developments are expected to be weaker in the latter half of 2012 owing to low growth among trading partners. Further ahead, expansionary monetary and fiscal policies and higher global demand will contribute to a gradual pickup in the pace of growth. In the UK, growth has been lower than expected. Growth is expected to be weak in Q4, followed by a gradually pickup in 2013. The projection for GDP growth in 2012 and 2013 has been revised down by ¼ percentage point.

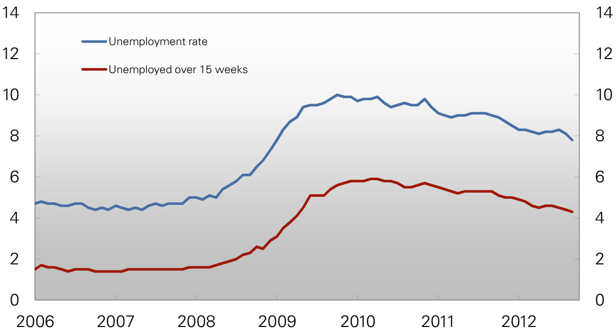
In the US, domestic demand has grown moderately and there are signs of improvement in both the housing and labour markets (see Chart 2.4). It is still uncertain whether temporary tax relief and other temporary measures will be extended beyond the turn of the year. If all the measures are allowed to expire as originally planned, fiscal tightening in 2013 could be over 4% of GDP. This would considerably dampen GDP growth in 2013. It is assumed that such an outcome will be avoided, but fiscal policy uncertainty is expected to restrain growth in consumption and investment in the near term. The projection for growth in 2012 has nonetheless been revised up somewhat, largely owing to revisions of historical GDP growth. From 2013, the elimination of fiscal policy uncertainty and a continued expansionary monetary stance are

Table 2.1 Projections for GDP growth in other countries. Change from previous year. Percent. Change from projections in *Monetary Policy Report* 2/12 in brackets

	Share of world GDP[1] (per cent)	2012	2013	2014 – 2015[2]
US	20	2¼ (¼)	2½ (¼)	2¾ (0)
Euro area	15	-½ (¼)	½ (0)	2 (0)
UK	3	0 (-¼)	1½ (-¼)	2¼ (-¼)
Sweden	0.5	1¼ (¾)	1¾ (¼)	2¾ (¼)
China	13	7½ (0)	8 (0)	8 (0)
Trading partners[3]	65	¾ (0)	1¾ (0)	2½ (0)
World (PPP)[4]	100	3¼ (0)	3¾ (0)	4¼ (-¼)
World (market exchange rates)[4]	100	2½ (0)	3 (0)	3¾ (0)

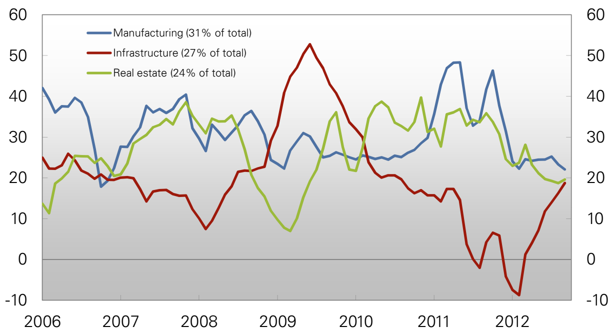
1) Purchasing-power-parity (PPP) GDP in 2010
2) Average annual growth
3) Export weights, 26 main trading partners
4) GDP weights. Norges Bank's estimates for 26 trading partners, other estimates from IMF
Sources: IMF, Eurostat and Norges Bank

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



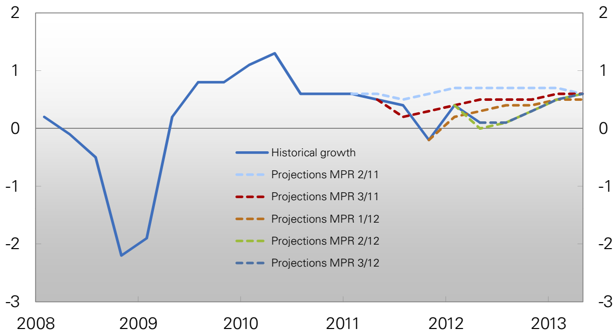
Source: Thomson Reuters

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



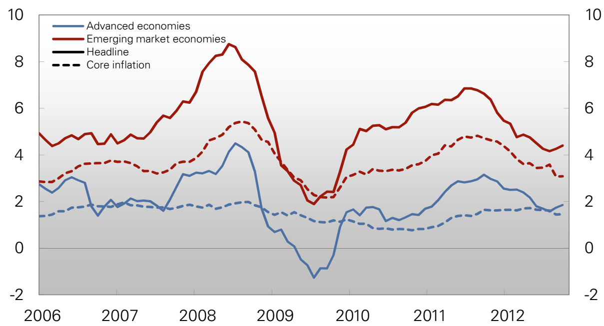
Sources: CEIC and Norges Bank

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



Sources: Thomson Reuters and Norges Bank

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



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

Table 2.2. Projections for consumer prices in other countries (change from previous year, percent) and oil price. Change from projections in *Monetary Policy Report* 2/12 in brackets

	2012	2013	2014–15[1]
US	2 (0)	2 (¼)	2 (0)
Euro area[2]	2½ (½)	1½ (0)	1¾ (0)
UK	2¾ (0)	1¾ (0)	2 (0)
Sweden	1¼ (0)	1½ (-½)	2½ (0)
China	2¾ (-½)	3 (-¼)	3¼ (¼)
Trading partners[3]	2 (0)	1¾ (-¼)	2 (0)
Oil price Brent Blend[4]	112	105	98

1) Average annual rise
2) Weights from Eurostat (each country's share of euro area consumption)
3) Import weights, 26 main trading partners
4) Futures prices (average for the past five trading days). USD per barrel. For 2012, an average of spot prices so far this year and futures prices for the rest of the year is used
Sources: Eurostat, Thomson Reuters and Norges Bank

expected to contribute to somewhat higher economic growth.

In China, GDP growth has slowed as a result of weaker global demand and monetary policy tightening in 2010 and 2011. There are nonetheless signs that the housing market is stabilising and the Chinese authorities have announced an increase in infrastructure investment to stimulate the economy (see Chart 2.5). Growth projections for China remain unchanged at an annual rate of 7½%–8%. GDP growth in the other emerging Asian economies slowed more than expected, partly owing to lower export growth through the summer. Domestic demand, however, has remained buoyant. Monetary and fiscal policy easing is expected to support growth ahead.

The projections for GDP growth among Norway's trading partners are unchanged from the June *Report* (see Chart 2.6). Owing to a continued need for deleveraging in the private and public sectors in a number of advanced economies, growth is weaker than normal after a downturn. As the private and public sectors improve their balance sheets and uncertainty diminishes, growth is expected to gradually pick up from ¾% in 2012 to 1¾% in 2013 and to an annual average of 2½% for 2014 and 2015 (see Table 2.1). The growth projection for 2013 is based on the assumption that the unrest in the euro area will not intensify and that fiscal tightening in the US will be broadly in line with 2012.

Overall, consumer price inflation among Norway's trading partners has fallen since the June *Report*. Core inflation has fallen in both emerging and advanced economies (see Chart 2.7). There have been wide variations across countries. Inflation has been somewhat higher than expected in the US and the euro area and somewhat lower than expected in China. Higher energy prices, higher taxes and rising prices for services have held up inflation despite spare capacity in a number of countries. Weak cost pressures and somewhat lower energy prices will push down inflation in 2013. Overall annual consumer price inflation among trading partners is expected to be about 2% in the projection period (see Table 2.2).

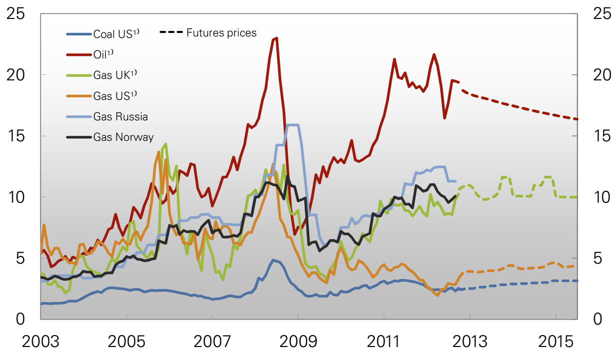
Commodity markets

The oil price is around USD 110 per barrel, about 15% higher than at the time of publication of the June *Report*. The projections in this *Report* are based on the assumption that oil prices will track futures prices (see Table 2.2), which now imply an average oil price a little below USD 100 per barrel in 2014–2015. Oil prices rose over summer, particularly owing to the suspension of Iranian oil exports in connection with US and EU sanctions and fears of further unrest in the Middle East. Saudi Arabia has stated that oil production will be increased to bring oil prices down to around USD 100 per barrel. Oil prices may fall well below USD 100 if the global economy weakens more than expected. On the other hand, oil prices may rise again in the event of supply-side disruptions, for example, if the situation in Iran becomes critical.

Norwegian gas export prices remain high. A substantial portion of Norwegian gas is still sold on long-term contracts where the price is linked to oil prices (see Chart 2.8). Moreover, spot prices for gas in Europe are relatively high, partly reflecting record-high gas prices in Asia. Futures prices for oil and British gas indicate that Norwegian gas prices will also remain high ahead.

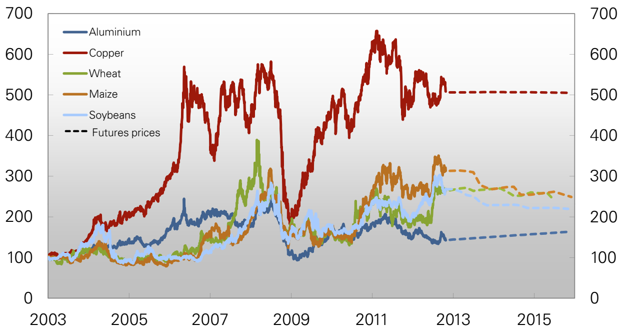
The Economist commodity-price index has risen by 6% since the June *Report*. Food commodity prices are higher owing to prospects for poor harvests, particularly in the US but also in the countries surrounding the Black Sea. Futures prices indicate that the increase may be temporary (see Chart 2.9). The rise in prices for industrial metals in early autumn reflects signals of new expansionary measures in China and further central bank measures in the US, Japan and the euro area. Continued uncertainty surrounding economic developments have led to some decline in prices in recent weeks.

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



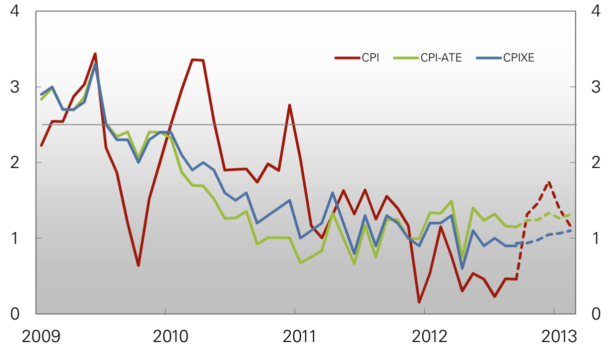
1) For October 2012, calculated as daily average
Sources: IMF, Thomson Reuters, Statistics Norway and Norges Bank

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



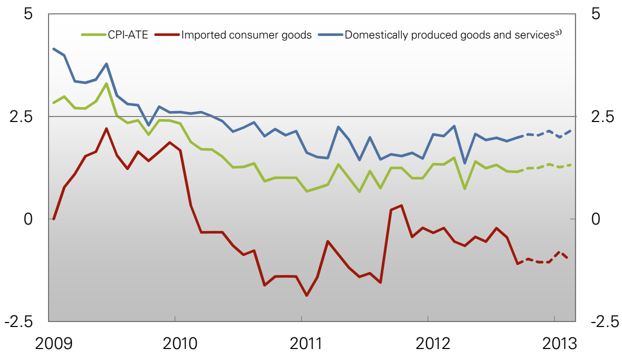
Sources: CME Group, ICE and Thomson Reuters

Chart 2.10 CPI, CPI-ATE[1)] and CPIXE[2)]. 12-month change. Percent. January 2009 – February 2013[3)]



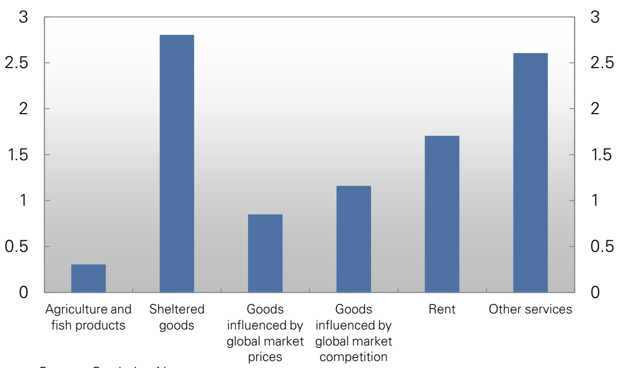
1) CPI adjusted for tax changes and excluding energy products
2) CPI adjusted for tax changes and excluding temporary changes in energy prices. Real-time figures. See Norges Bank *Staff Memo* 7/2008 and 3/2009
3) Projections for October 2012 – February 2013 (broken lines)
Sources: Statistics Norway and Norges Bank

Chart 2.11 CPI-ATE[1)]. Total and by supplier sector. 12-month change. Percent. January 2009 – February 2013[2)]



1) CPI adjusted for tax changes and excluding energy products
2) Projections for October 2012 – February 2013 (broken lines)
3) Norges Bank's estimates
Sources: Statistics Norway and Norges Bank

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



Source: Statistics Norway

The Norwegian economy

Prices

Inflation is low and prices have risen less than expected since the June *Report*.[1] In September, twelve-month consumer price inflation (CPI) was 0.5% (see Chart 2.10). Inflation adjusted for tax changes and excluding temporary changes in energy prices (CPIXE) was 0.9%. Inflation adjusted for tax changes and excluding energy products (CPI-ATE) was 1.1%. Some other indicators of underlying inflation are somewhat higher. Underlying inflation is still estimated at 1%–1½%.

Prices for domestically produced goods and services in the CPI-ATE have risen more slowly than expected in the June *Report* (see Chart 2.11). The rise in rental prices in the consumer price index has been low throughout the year and is at its lowest since autumn 2007. At the same time, it appears that the rise in prices for domestically produced goods and services is being dampened by weak external price impulses and competition (see Chart 2.12).

Given the rise in costs in recent years, the overall increase in prices for goods and services produced in Norway is low. In the event of a persistently high rise in costs, some firms may eventually have to raise their margins. In September, a small majority of the enterprises in Norges Bank's regional network expected higher inflation over the next twelve months. The rise in rental prices is also projected to pick up somewhat ahead. Overall, the rise in prices for domestically produced goods and services is projected to 2¼% towards the end of 2012.

Prices for imported consumer goods have fallen over the past year. The decrease is in line with the projections in the June *Report*. External price impulses to Norwegian consumer prices are assumed to be somewhat weaker than in 2011, albeit still positive (see Chart 2.13). According to the projections in this *Report*, the krone exchange rate in 2012 will be about ¾% stronger than the average for 2011. The krone appreciation will probably continue to restrain the rise in prices for imported consumer goods measured in NOK ahead. The twelve-month rise in prices

1 See *Economic Commentaries* 11/2012: "Developments in consumer prices since 2009"

for imported consumer goods, as measured by the CPI-ATE, will remain fairly stable around negative 1% in the months ahead.

Overall, CPI-ATE inflation is projected to remain around 1¼% in the period to spring 2013. The projections for CPI-ATE inflation are slightly higher than the projections derived from Norges Bank's System for Averaging short-term Models (SAM), but are still within the most probable outcomes (see Chart 2.14).

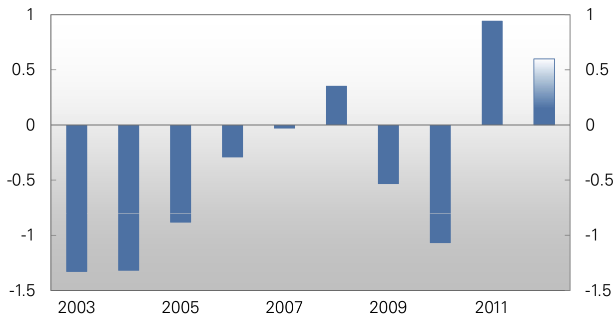
Electricity prices have been very low this year, bearing down on CPI inflation. With the prospects of more normal electricity prices into autumn, CPI inflation is expected to rise fairly rapidly to 1½% around the end of 2012. CPIXE inflation will continue to be dampened by the low trend rise in energy prices, remaining somewhat lower than CPI-ATE inflation throughout 2012, and will be around 1% at the end of the year.

Output and demand

Growth in the Norwegian economy remains high despite weak external developments (see Chart 2.15). According to the national accounts, mainland GDP rose by 1% in 2012 Q2, approximately in line with the projections in the June *Report*. Through the first half of 2012, GDP growth was pulled up by strong growth in electricity production. Since summer, electricity production has fallen back and is expected to make a negative contribution to GDP growth in the latter half of 2012 (see Chart 2.16). Adjusting for the wide variations in electricity production, the mainland economy is expected to grow by about ¾% over the coming quarters. Growth is being fuelled by a sustained increase in activity in the petroleum industry, strong population growth, favourable terms of trade and low interest rates. Overall, mainland GDP is projected to rise by 3¾% in 2012, unchanged on the projections in the June *Report*. Measured per capita, growth is projected to be relatively moderate (see Chart 2.17).

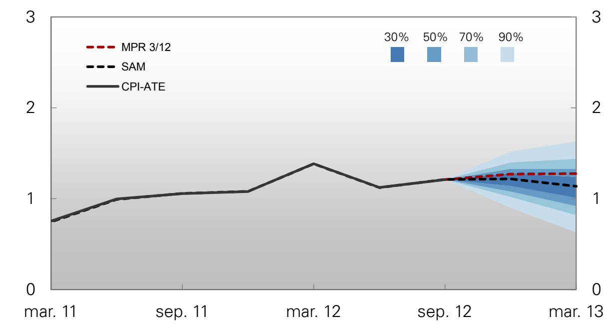
The contacts in Norges Bank's regional network expect production to grow in line with our projections. Growth is expected to be high in the oil supplier and construction

Chart 2.13 Indicator of external price impulses to imported consumer goods measured in foreign currency. Annual change. Percent. 2003 – 2012[1)]



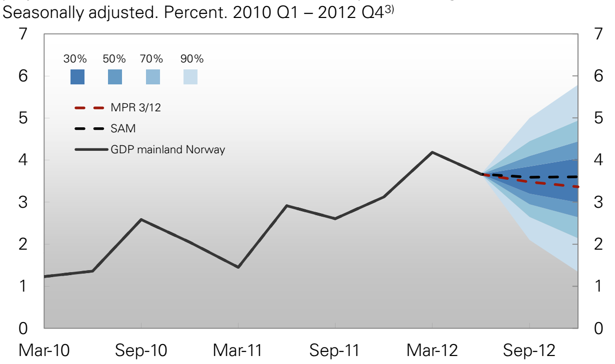
1) Projections for 2012
Source: Norges Bank

Chart 2.14 CPI-ATE[1)]. Actual figures, baseline scenario and projections from SAM[2,3)] with fan chart. Four-quarter change. Percent. 2011 Q1 – 2013 Q1[4)]



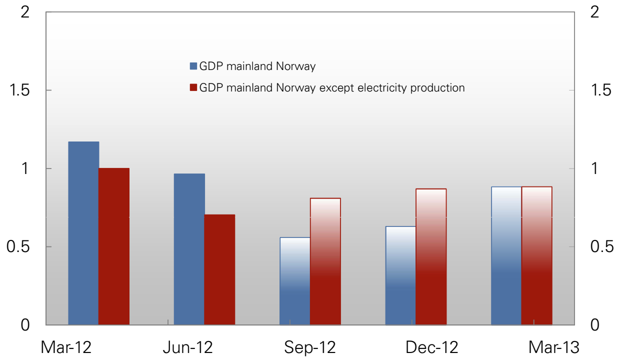
1) CPI adjusted for tax changes and excluding energy products
2) System for averaging short-term models
3) Projections from SAM is based on information up until 30 October
4) Projections for 2012 Q4 – 2013 Q1 (broken lines)
Sources: Statistics Norway and No

Chart 2.15 GDP mainland Norway. Actual figures, baseline scenario and projections from SAM[1,2)] with fan chart. Four-quarter change. Volume. Seasonally adjusted. Percent. 2010 Q1 – 2012 Q4[3)]



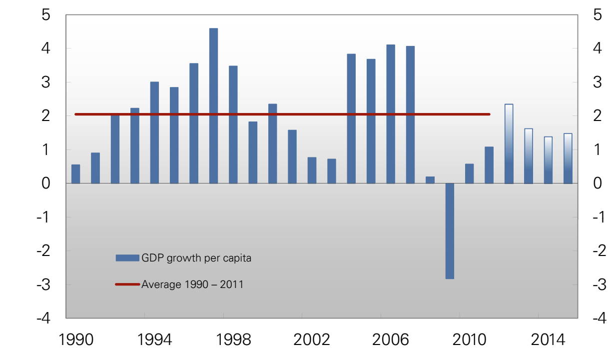
1) System for averaging short-term models
2) Projections from SAM is based on information up until 30 October
3) Projections for 2012 Q3 – 2012 Q4 (broken lines)
Sources: Statistics Norway and Norges Bank

Chart 2.16 GDP mainland Norway. Quartely change. Percent. 2012 Q1 – 2013 Q1[1)]



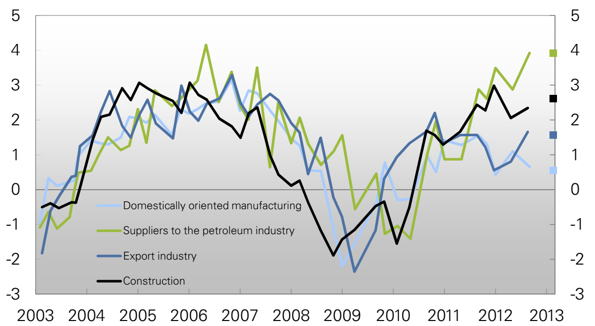
1) Projections for 2012 Q3 – 2013 Q1
Sources: Statistics Norway and Norges Bank

Chart 2.17 GDP mainland Norway per capita. Annual change. Percent. 1990 – 2015[1)]



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

Chart 2.18 Change in production past three months and expected change in production next six months. Index[1)]. February 2003 – March 2013[2)]



1) The scale runs from -5 to +5, where -5 denotes a sharp fall and +5 denotes strong growth. See article "Norges Bank's regional network: fresh and useful information" in *Economic Bulletin* 2/2009 for further information
2) Latest observation in the Regional network is September 2012
Source: Norges Bank

industries and lower in traditional export and domestic market industries (see Chart 2.18).

The projections for mainland GDP are broadly in line with the SAM-based projections (see Chart 2.15).

Capacity utilisation in the Norwegian economy has increased and is now likely above a normal level. Both the labour market and capacity constraints in the business sector indicate that resource utilisation is somewhat above normal. Registered unemployment is slightly lower than the average for the past 15 years. At the same time, labour force growth has been high. According to Norges Bank's regional network, capacity utilisation has shown a rising tendency and is probably slightly above its normal level. The share of enterprises where production is constrained by labour supply increased from May to September (see Chart 2.19).

In the period ahead, overall capacity utilisation is expected to edge up further. GDP growth in the quarters ahead is expected to be slightly higher than projected growth in potential output. Annual growth in potential output is projected at 3%. Population growth is expected to boost potential output by approximately 1¼%, and underlying productivity growth is projected at about 1¾%.

The projection for underlying productivity growth in the years ahead is low compared with the average for the previous decades. Mainland hourly productivity growth fell markedly through the financial crisis and has grown by an average 1¼% since the end of 2009. High employment growth in the years following the financial crisis suggests that firms have limited spare capacity and that low productivity growth since 2009 is not the result of firms hording labour pending higher demand. Low growth in actual productivity may thus indicate that underlying growth in productivity has also been low since the financial crisis. Productivity growth has also been weak in a number of other European countries in recent years. There are probably several factors behind these developments. The financial crisis has led to a sharp downturn in many countries, and some innovative and potentially profitable projects may have been shelved as a result of reduced risk appetite. Productivity growth in the Norwegian economy may also have been dampened by the considerable rise in employment in industries where growth in GDP per person-hour is low.

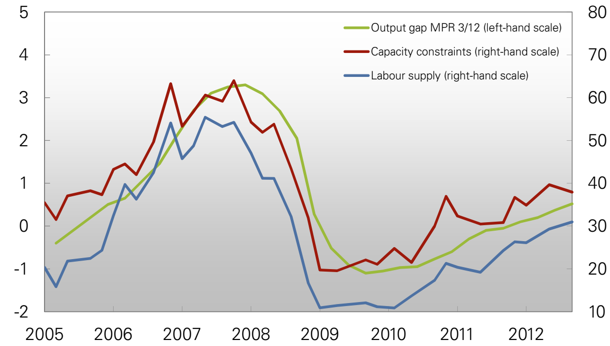
Demand

Although weak developments among Norway's trading partners are affecting segments of the Norwegian export industry, exports of traditional goods have picked up through 2012, reflecting the marked rise in exports of fish and engineering products. Exports of other traditional goods have decreased. The strong increase in global petroleum investment will probably contribute to continued growth in exports of engineering products and oil supplier services. Exports of other goods and services from mainland Norway are projected to show weak developments as a result of low global economic growth and relatively high cost growth in Norway. Norges Bank's regional network contacts expect moderate growth in production for export markets over the next half year. Overall, exports of traditional goods and services are projected to increase by 1% between 2011 and 2012.

Household saving is still on the rise. Despite strong population growth and high growth in disposable income, growth in consumption has been moderate. Elevated debt levels and considerable uncertainty concerning how the euro area crisis will affect the Norwegian economy have probably curbed household consumption, which is reflected in increased saving. Other factors may also have contributed to the rise in the saving ratio. Demographic changes suggest that consumers' propensity to save has increased in recent years. At the same time, the labour force participation rate in the 60–74 age group has increased considerably in the past two years. Probably as a result of the pension reform, more workers have chosen to remain in the workforce longer. Some may in addition have chosen to combine work with early retirement. Temporarily higher incomes for this group may have increased their saving.

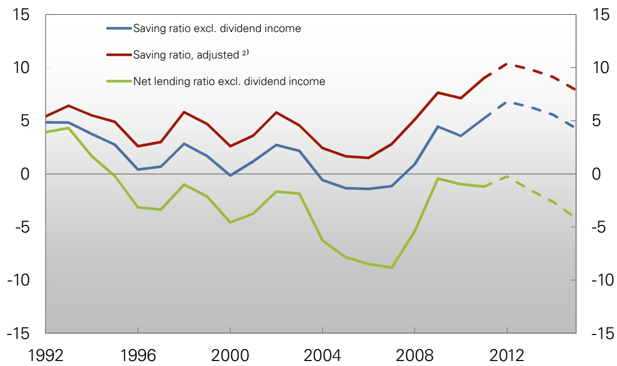
The saving ratio is expected to remain relatively high for a period ahead (see Chart 2.20). Household confidence

Chart 2.19 Capacity constraints and labour supply[1] reported by the Regional network and estimated output gap. Percent. 2005 Q1 – 2012 Q3



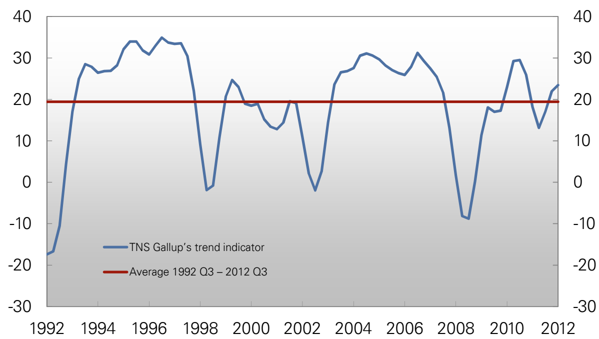
1) Share of contacts that will have some or considerable problems accommodating an increase in demand and the share of contacts where production is constrained by labour supply
Source: Norges Bank

Chart 2.20 Household saving and net lending as a share of disposable income. Percent. 1992 – 2015[1)]



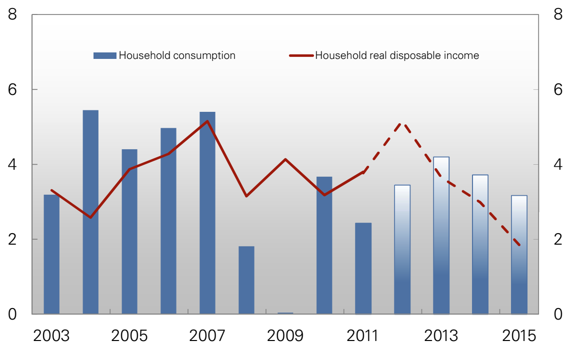
1) Projections for 2012 – 2015 (broken lines)
2) Adjusted for estimated reinvested dividend income for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2015
Sources: Statistics Norway and Norges Bank

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



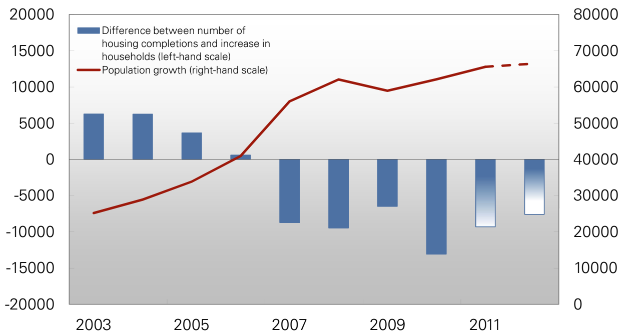
Source: TNS Gallup

Chart 2.22 Household consumption[1] and real disposable income[2]. Annual change. Percent. 2003 – 2015[3]



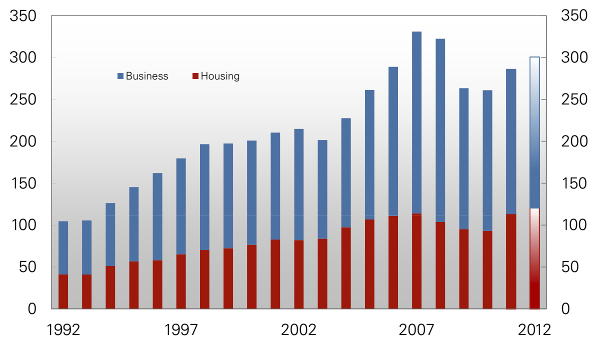
1) Includes consumption among non-profit organisations. Volume
2) Excluding dividend income. Including income in non-profit organisations
3) Projections for 2012 – 2015 (broken line)
Sources: Statistics Norway and Norges Bank

Chart 2.23 Difference between number of housing completions and increase in households[1], and population growth[2]. 2003 – 2012



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

Chart 2.24 Investment in mainland Norway excluding public sector. Constant 2009 prices. In billions of NOK. 1992 – 2012[1]



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

indicators have edged up recently, but are still fairly close to average levels (see Chart 2.21). Uncertainty concerning external developments may induce households to be cautious in their spending for a period ahead. Growth in consumption is therefore projected to remain at a moderate level ahead despite high income growth, low unemployment and low interest rates. Private consumption is projected to rise by 3½% in 2012 (see Chart 2.22). Growth in household consumption is expected to remain around current levels the coming years, despite slower income growth. The projection implies a rise in the saving ratio, excluding dividend income, to about 7% towards the end of the year, followed by a decline to slightly above 4% in 2015.

Housing investment has increased sharply in the past two years. High population growth, low interest rates and a brisk rise in house prices imply a further increase in housing investment ahead. Over the past year, housing completions have numbered 24 000, which is considerably lower than the increase in the number of households (see Chart 2.23). Housing starts continued to rise through summer, totalling around 29 000 since September 2011. In September, enterprises in Norges Bank's regional network reported that activity in the construction industry was picking up and that they expected continued growth in the period ahead. Housing investment is projected to increase by 6¼% in 2012 (see Chart 2.24).

Mainland business investment has increased by more than 5% over the past year. Investment is expected to continue to grow ahead as a result of higher capacity utilisation, improved profitability and more favourable prospects for some business sectors. The upswing is being restrained by the relatively weak outlook for the global economy and the shortage of qualified labour in some sectors. On the whole, the enterprises in Norges Bank's regional network are planning to increase investment over the coming year. Mainland business investment is projected to grow by 4½ between 2011 and 2012 (see Chart 2.24). Investment in services and the power sector will be the main contributors to growth, while manufacturing investment is projected to remain at about the same level as in 2011.

Labour market

Unemployment has been low and stable over the past year while there has been marked growth in employment and the labour force. According to the national accounts, employment in 2012 Q2 was 2.4% higher than one year earlier. Employment is increasing in particular in construction, commercial services, some manufacturing segments and the public sector. Labour force participation has increased slightly in the same period. Seasonally adjusted registered unemployment stood at 2.5% of the labour force through 2012. According to the Labour Force Survey (LFS), the seasonally adjusted unemployment rate was 3.0% through spring and summer.

Solid output growth, combined with prospects of continued low productivity growth, will sustain the demand for labour over the coming quarters. Employment is projected to rise by 2¼% between 2011 and 2012. The projection is in line with employment plans reported by enterprises in Norges Bank's regional network (see Chart 2.25). Employment growth is expected to slow somewhat ahead.

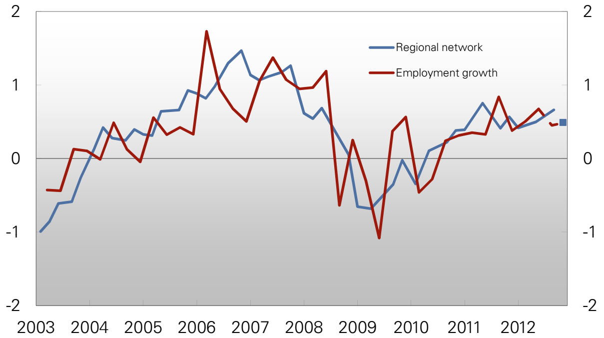
Low unemployment and high wage levels have attracted large numbers of job-seekers from European countries in recent years. Labour immigration from Eastern European EU member states in particular has been high. According to Statistics Norway's population statistics, net inward migration to Norway totalled 47 000 over the four quarters to 2012 Q2, contributing to solid growth in the labour force. Inward migration is expected to remain high in the years ahead.

The labour force is projected to grow approximately in pace with the working age population in the coming quarters, with labour force participation rates remaining stable (see Table 2.3). We expect that employment will increase slightly more rapidly than the labour force and that unemployment will edge down ahead (see Chart 2.26).

Wages

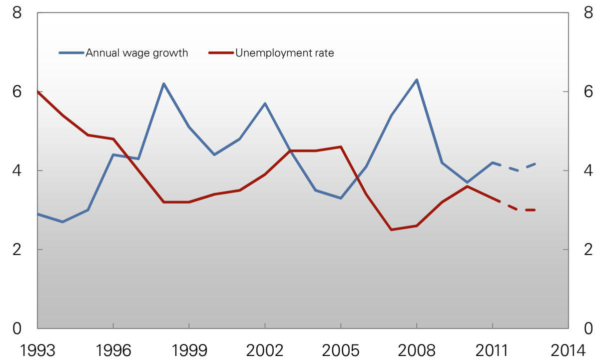
Wage growth in 2012 is estimated at slightly above 4%, as projected in the June *Report*. In September, Norges Bank's regional network contacts expected wage growth

Chart 2.25 Employment[1] and Norges Bank's regional network's indicator of change in employment and expected change in employment next three months. Percent. 2003 Q1 – 2012 Q4[2]



1) Seasonally adjusted quarterly change in Quarterly National Accounts
2) Latest observation in the Regional network is September 2012. Latest observation in the Quarterly National Accounts is 2012 Q2, projections for 2012 Q3 – 2012 Q4 (broken line)
Sources: Statistics Norway and Norges Bank

Chart 2.26 Annual wage growth[1] and LFS unemployment. Per cent. 1993 – 2013[2]



1) Including estimated costs of increase in number of vacation days and introduction of mandatory occupational pensions
2) Projections for 2012 – 2013 (broken lines)
Sources: Statistics Norway, Technical Reporting Committee on Income Settlements and Norges Bank

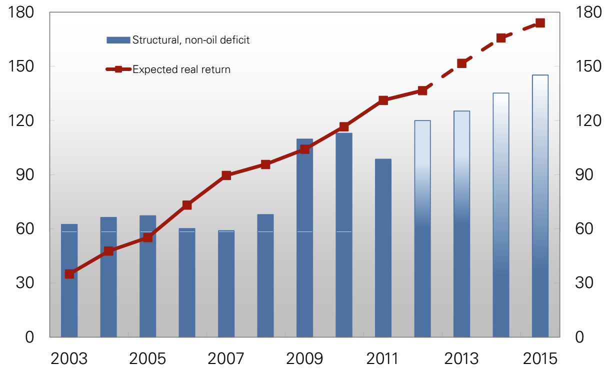
Table 2.3. Population and labour force growth. Change from previous year. Percent

	2011	2012	2013
Population growth in the age group 15–74	1.7	1¾	1½
Growth in labour force conditional on unchanged labour force participation*	1.3	1¼	1¼
Labour force growth	1.2	2	1½

* Unchanged labour force participation for all age groups since the 2007 level

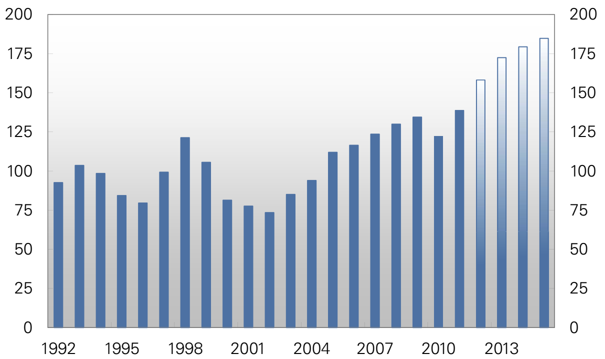
Sources: Statistics Norway and Norges Bank

Chart 2.27 Structural non-oil deficit and expected real return on the Government Pension Fund Global. Constant 2013 prices. In billions of NOK. 2003 – 2015[1)]



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

Chart 2.28 Petroleum investment. Constant 2009 prices. In billions of NOK. 1992 – 2015[1)]



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

of 4.1% in 2012. According to Opinion Perduco's expectations survey for the third quarter, the social partners expect wage growth to average 4.2% in 2012 and 3.9% in 2013.

Wage growth in 2013 is projected at 4¼%, in line with the forecast in the June *Report*. In the event of higher consumer price inflation and slightly lower unemployment, wage growth may pick up somewhat between 2012 and 2013. The projections imply real wage growth of 3¼% in 2012 and 2¼% in 2013.

Fiscal policy

The fiscal policy assumptions in this *Report* are based on the National Budget for 2013, where petroleum revenue spending, as measured by the structural, non-oil deficit, is projected at NOK 125bn in 2013, or 3.3% of the market value of the Government Pension Fund Global (GFPG) at the beginning of the year. The structural deficit for 2013 is estimated at 5.3% of mainland trend GDP, an increase of 0.1 percentage point from 2012.

There are prospects for solid growth in the GPFG in the coming years. The guidelines for fiscal policy call for restraint in periods of high economic activity. Moreover, budget savings in the years ahead may ease fiscal adjustment as the expected rise in costs related to an ageing population picks up in earnest. The deficit is therefore projected to remain well below 4% of the GPFG through the projection period (see Chart 2.27).

The projections imply a faster rise in petroleum revenue spending than in activity in the wider economy. Nonetheless, growth in public sector consumption and investment may be relatively moderate, as transfers are expected to show a considerable increase, primarily as a result of higher expenditure on old age pension benefits.

Petroleum investment

Prices for Norwegian oil and gas have increased markedly since summer 2009 and are expected to remain relatively high in the years ahead. This has contributed to a pickup in demand from the petroleum sector, which fell sharply in the wake of the financial crisis. Investment in extraction and pipeline transport has grown by close to 30% since the second half of 2010. A number of development projects in new and older fields will contribute to continued substantial investment growth ahead, although growth may be constrained by the availability of drilling rigs and qualified labour. Investment is projected to grow by 14% in 2012, by an additional 9% in 2013 and by 3–4% in the following two years (see Chart 2.28).

Annex

Monetary policy meetings

Tables and detailed projections

Monetary policy meetings
with changes in the key policy rate

Date	Key policy rate[1)]	Change
19 December 2012		
31 October 2012	**1.50**	**0**
29 August 2012	1.50	0
20 June 2012	1.50	0
10 May 2012	1.50	0
14 March 2012	1.50	-0.25
14 December 2011	1.75	-0.50
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

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	5.3	5.4	2.7	13.3	6.1	6.3	10.0
2008		0.0	1.5	1.8	2.7	-1.3	5.2	4.5	3.9
2009		-1.7	-1.6	0.0	4.3	-13.2	3.4	-8.4	-12.5
2010		0.7	1.9	3.7	1.7	-2.5	-9.0	7.7	9.9
2011		1.4	2.4	2.4	1.5	8.0	13.4	0.3	3.5
2011[3]	Q3	1.5	0.7	0.5	0.6	2.6	8.8	3.1	3.9
	Q4	0.5	0.7	0.8	0.3	2.7	0.2	-1.3	3.5
2012	Q1	1.5	1.2	1.1	-0.3	-1.9	3.6	-2.1	-2.1
	Q2	1.2	1.0	1.0	1.0	2.6	3.4	2.7	-0.1
2011-level, in billions of NOK		2 720	2 085	1 129	586	391	145	457	770

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

Sources: Statistics Norway and Norges Bank

Table 2 Consumer prices

Annual change/twelve-month change. Per cent		KPI	KPI-JAE[1]	KPIXE[2]	KPI-JA[3]	KPI-JE[4]	HKPI[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		1.2	0.9	1.1	1.1	1.1	1.2
2012	Jan	0.5	1.3	1.2	0.4	1.5	0.3
	Feb	1.2	1.3	1.2	1.0	1.5	1.0
	Mar	0.8	1.5	1.3	0.6	1.6	0.5
	Apr	0.3	0.7	0.6	0.2	1.0	-0.1
	May	0.5	1.4	1.1	0.4	1.5	0.2
	Jun	0.5	1.2	0.9	0.2	1.4	0.0
	Jul	0.2	1.3	1.0	0.1	1.5	-0.2
	Aug	0.5	1.2	0.9	0.2	1.4	0.0
	Sep	0.5	1.1	0.9	0.3	1.3	0.1

[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] 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			
	2011	2011	2012	2013	2014	2015
Prices and wages						
CPI		1.2	¾	2	2	2¼
CPI-ATE[1]		0.9	1¼	1½	2	2¼
CPIXE[2]		1.1	1	1¼	2	2¼
Annual wages[3]		4.2	4	4¼	4½	4½
Real economy						
GDP	2 720	1.4	3¼	2½	2¼	2¼
GDP, mainland Norway	2 085	2.4	3¾	3	2¾	2¾
Output gap, mainland Norway (level)[4]		-0.1	½	¾	½	¼
Employment, persons, QNA		1.4	2¼	1¾	1¼	1¼
Labour force, LFS		1.0	2	1½	1¼	1¼
LFS unemployment (rate, level)		3.3	3	3	3	3
Registered unemployment (rate, level)		2.7	2½	2½	2½	2½
Demand						
Mainland demand[5]	2 105	3.2	3	4¼	4	3¾
- Private consumption	1 129	2.4	3½	4¼	3¾	3¼
- Public consumption	586	1.5	1¾	2¼	.	.
- Fixed investment, mainland Norway	391	8.0	4	6¾	.	.
Petroleum investment[6]	145	13.4	14	9	4	3
Mainland exports[7]	457	0.3	1	1	.	.
Imports	770	3.,5	1½	5¼	.	.
Interest rate and exchange rate						
Key policy rate (level)[8]		2.1	1½	1¾	2¼	3
Import-weighted exchange rate (I-44)[9]		88.1	87	85¾	85¼	85½

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, Technical Reporting Committee on Income Settlements, Norwegian Labour and Welfare Admininstration and Norges Bank

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