Monetary Policy Report

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Monetary Policy Report
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NORGES BANK

Norges Bank

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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, analyses of selected themes and a summary of Norges Bank's regional network reports.

At its meeting on 23 April, the Executive Board discussed relevant themes for the *Report*. At the Executive Board meeting on 11 June, the economic outlook was 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 29 October 2008 at the meeting held on 25 June. The Executive Board's summary of the economic outlook and the monetary policy strategy are presented in Section 1. In the period to the next *Report*, the Executive Board's monetary policy meetings will be held on 13 August, 24 September and 29 October.

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The *Monetary Policy Report* is based on information in the period to 20 June 2008.

The monetary policy strategy in Section 1 was approved by the Executive Board on 25 June 2008.

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 main features of the analysis in the *Monetary Policy Report* are presented to the Executive Board for discussion at a meeting about two weeks before the *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 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 end of Section 1 in 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 every sixth week. 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 announced at 2pm on the day of the meeting. At the same time, the Executive Board's monetary policy statement is published. The statement provides an account of the main aspects of economic developments that have had a bearing on the interest rate decision and the Executive Board's assessments. The Bank holds a press conference at 2:45 pm on the same day. The press release, the Executive Board's monetary policy statement 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 Kredittmeldingen (Credit 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 Credit Report.

Editorial

A recognisable monetary policy

The upturn in Norway is entering a new phase. A period of low inflation and high growth is now being followed by somewhat higher inflation and lower growth. It is important that the inflationary tendencies now in evidence do not become entrenched.

In recent months, soaring energy and food prices have put added upward pressure on CPI inflation. An inflation problem will first arise if the increase in energy and food prices feeds through to expectations of higher wage growth and a generalised rise in prices. The experience of the 1970s and 1980s shows that it may be costly if monetary policy does not react to an unexpected increase in inflation.

Monetary policy is most effective when it is predictable and recognisable. The interest rate was set at a low level when inflation was low and the interest rate has been raised gradually in this cyclical upturn, well ahead of the rise in inflation. We expect that this tightening will bring down capacity utilisation to a more normal level so that inflation will not become too high.

Inflation is now close to, but somewhat higher than 2.5%. As long as the inflation outlook is close to the target – somewhat lower or somewhat higher – the interest rate will remain at the current level, or perhaps somewhat higher, in the coming year. However, should inflation accelerate rapidly, the key policy rate will have to be raised further to counteract expectations of higher inflation.

Jan F. Qvigstad
25 June 2008

1 Monetary policy assessments and strategy

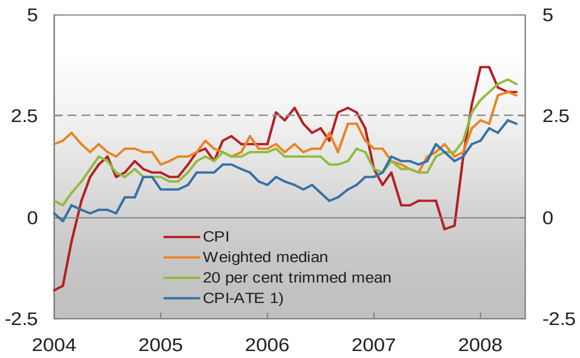
The economic situation

Inflation has been slightly higher than projected. Measured by the consumer price index (CPI), inflation is now higher than 3%. A strong rise in prices for electricity and petrol has pushed up CPI inflation since autumn 2007. The past year has also seen a marked rise in various indicators of underlying inflation. While these indicators were below 1½% a year ago, they are now between 2¼ and 3¼% (see Chart 1.1). The rise in prices for many domestically produced goods and services is picking up, and the fall in prices for imported consumer goods has decelerated (see Chart 1.2). On the whole, underlying inflation is close to, but somewhat higher than 2.5%.

Inflation has increased in many countries. Oil and gas prices have risen further through spring (see Chart 1.3). Oil prices have been higher this spring than ever recorded. Food prices are now somewhat higher than in March. China and other low-cost countries account for an increasing share of global goods production, resulting in a slow rise or a decline in prices for imported goods in the West. However, living standards have been gradually rising in low-cost countries, and demand for goods and services has increased, resulting in a considerable rise in global prices for food and energy.

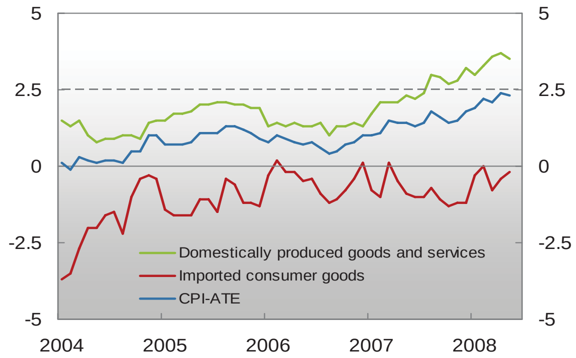
Capacity utilisation in Norway is high. An ample supply of labour, strong productivity growth and considerable terms of trade gains through several years have boosted the growth potential of the Norwegian economy. Many years of strong economic growth have nevertheless gradually led to labour and input shortages. Unemployment has reached a historically low level (see Chart 1.4). Wages are rising sharply, while there are signs that productivity growth is slowing.

Chart 1.1 Consumer prices. 12-month change. Per cent. January 2004 – May 2008



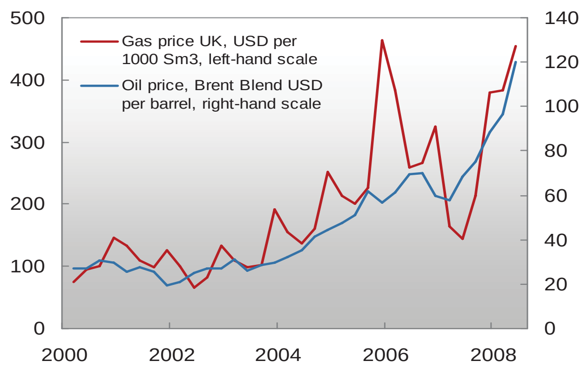
1) CPI adjusted for tax changes and excluding energy products.
Source: Statistics Norway

Chart 1.2 CPI-ATE.1) Total and by supplier sector2). 12-month change. Per cent. January 2004 – May 2008



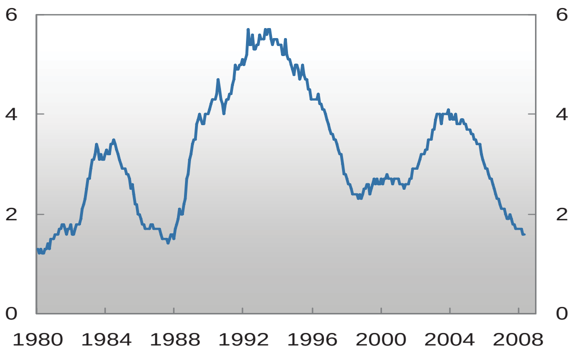
1) CPI adjusted for tax changes and excluding energy products.
2) Norges Bank's estimates.
Sources: Statistics Norway and Norges Bank

Chart 1.3 Average prices for crude oil and natural gas. 2000 Q1 – 2008 Q2[1)]



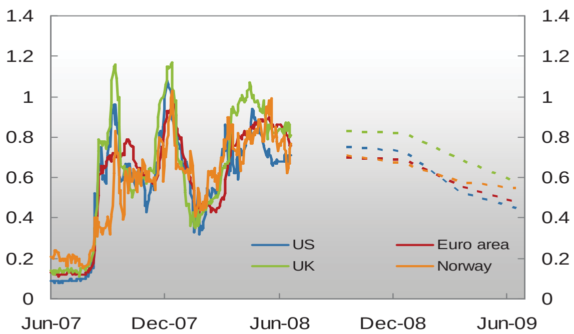
1) For 2008 Q2 the average of daily figures 1 April 2008 to 20 June 2008 is used.
Sources: Thomson Reuters and Norges Bank

Chart 1.4 Registered unemployed as a percentage of the labour force. Seasonally adjusted. January 1980 – May 2008



Source: Norwegian Labour and Welfare Administration (NAV)

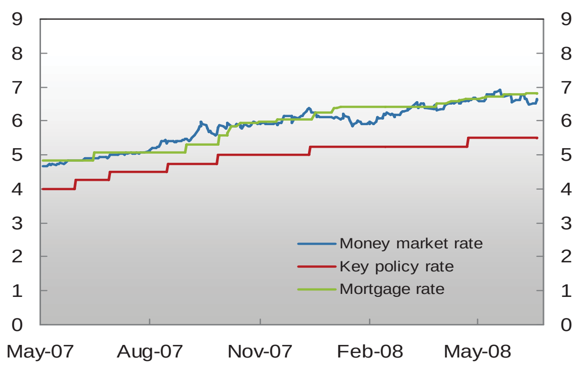
Chart 1.5 Difference between 3-month money market rate and key policy rate expectations in the market[1]. Percentage points. Historical (from 1 June 2007) and ahead (at 20 June 2008)



[1] The expected key rate is derived from Overnight Indexed Swap (OIS) interest rates. For Norway, the estimates are based on key policy rate expectations in the market.

Sources: Bloomberg, Thomson Reuters and Norges Bank

Chart 1.6 Key policy rate, money market rate[1] and banks' lending rate on new loans[2]. Per cent. 3 May 2007 – 20 June 2008



[1] 3-month NIBOR (effective).

[2] Interest rate on new mortgage loans for NOK 1m within 60% of purchase price with floating interest rate. Figures for the 20 largest banks, weighted according to market share.

Sources: *Norsk familieøkonomi AS* and Norges Bank

The upturn in Norway is entering a new phase. A period of low inflation and high growth is now being followed by somewhat higher inflation and lower growth.

Growth in the Norwegian economy seems to have slowed as expected in 2008 Q1. Enterprises in Norges Bank's regional network report high capacity utilisation but moderating growth in most of the industries. They are expecting growth to slow further in the coming six months. The number of building starts has declined. Household goods consumption has not increased since last autumn. On the other hand, public expenditure is expanding rapidly, and investment growth in the business sector and in petroleum activities is strong. Households' expectations concerning their own financial position ahead have deteriorated somewhat, but remain positive. Enterprises are still expecting continued employment growth ahead.

Global economic growth is slowing. In the US, housing investment and house prices are decreasing and employment is falling. Consumers are generally pessimistic with regard to economic developments. Manufacturing output growth is at zero. House prices are now also falling in several European countries, and confidence indicators are showing a considerable decline. Banks and financial institutions in the US and Europe are tightening credit standards. In 2008 Q1, growth was nevertheless stronger than expected, not only in the US, but also in Europe and Japan. Growth in emerging market economies is still high.

Higher inflation, the decline in house prices and residential construction in a number of countries and tighter bank credit standards are dampening global growth prospects for the coming year.

Financial market conditions have improved somewhat since March. Equity prices have risen. The price of credit default insurance has fluctuated to some extent, but has moderated. Risk premiums in the bond market have also fallen from their high levels in March. Many central banks have extended their liquidity facilities to improve money market conditions. Nevertheless the premiums on unsecured interbank loans are still very high (see Chart 1.5).

Premiums are expected to remain high, but to decrease somewhat ahead. Since summer 2007, money market rates in Norway have risen by close to ¾ percentage point more than the key rate (see Chart 1.6). In the same period, bank lending rates on highly secured mortgages have risen in pace with money market rates. Average bank lending rates have risen somewhat more, but lending margins are still low from a historical perspective. On the other hand, deposit rates have been considerably lower than money market rates, but intensified competition for deposits is now pushing up deposit rates.

Interest rate expectations abroad have shown a marked upward shift. It seems that an increased risk of rising inflation has led to higher real interest rates. While earlier this year market participants expected lower or unchanged key rates in many countries, they now expect higher interest rates in the US, the euro area and the UK in the course of 2008 (see Chart 1.7).

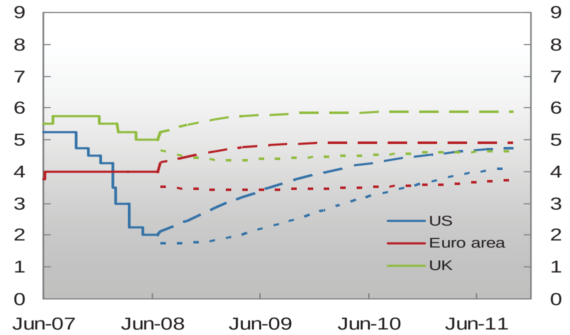
The import-weighted krone exchange rate has appreciated by about 4% over the past year (see Chart 1.8). The krone depreciated when the financial market turbulence intensified before Easter, and has since fluctuated somewhat. The import-weighted krone exchange rate is now a little weaker than at the time of publication of the previous *Monetary Policy Report* in March.

Baseline scenario

Monetary policy in Norway is oriented towards annual consumer price inflation of close to 2.5% over time. Low and stable inflation is the most important contribution monetary policy can make to sound economic developments. This provides businesses and households with an anchor for inflation expectations. The inflation average has been around 2% over the past ten years, which is somewhat lower than, but fairly close to the target of 2.5% (see Chart 1.9).

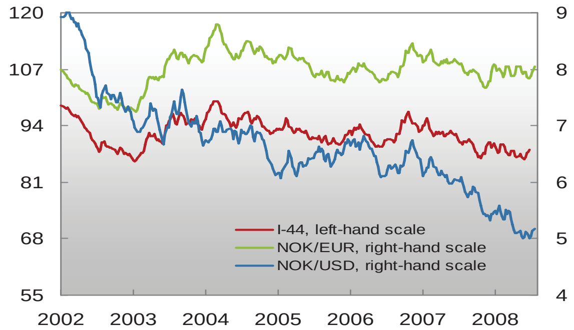
When there is confidence in monetary policy, expected inflation will be close to the inflation target over time, which in itself contributes to stabilising inflation. Developments in the long-term forward interest rate differential between

Chart 1.7 Policy rates and estimated forward rates on 10 March and 20 June.[1] Per cent. 1 June 2007 – 31 December 2011



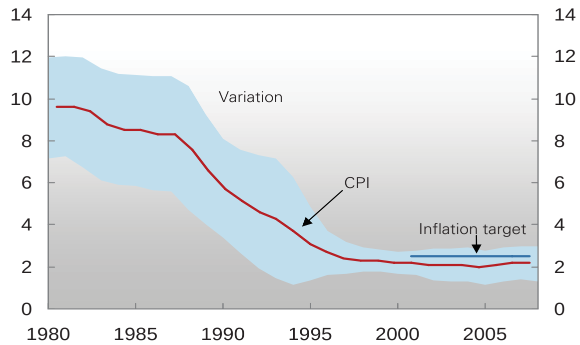
[1] Dotted lines show forward rates at 10 March 2008. Broken lines show forward rates at 20 June 2008. Forward rates are based on Overnight Indexed Swap (OIS) interest rates.
Sources: Thomson Reuters and Norges Bank

Chart 1.8 Exchange rates.[1] The import-weighted exchange rate index (I-44), 1995 = 100, NOK/EUR and NOK/USD. Week 1 2002 – Week 25 2008



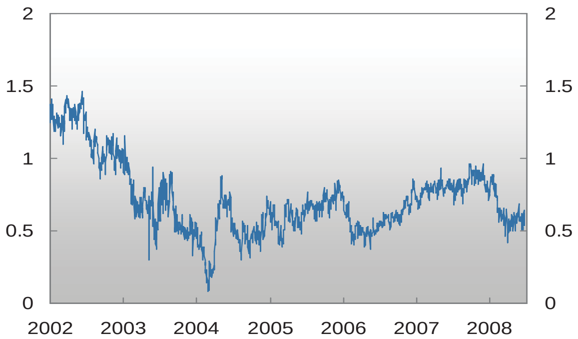
[1] A rising curve denotes a weaker krone exchange rate.
Source: Norges Bank

Chart 1.9 Inflation. Moving 10-year average[1] and variation[2] in CPI. Per cent. 1980 – 2008[3]



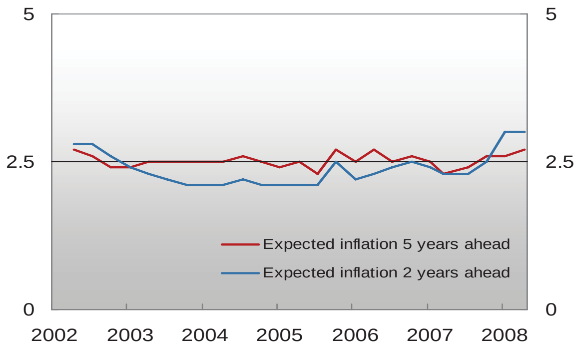
[1] The moving average is calculated 7 years back and 2 years ahead.
[2] The band around the CPI is the variation in the CPI adjusted for tax changes and excluding energy products in the average period, measured by +/- one standard deviation.
[3] Projections for 2008 - 2010 from this *Report* form the basis for this estimate.
Sources: Statistics Norway and Norges Bank

Chart 1.10 Differential between long-term forward interest rates in Norway and the euro area.[1)] Percentage points. 1 January 2002 – 20 June 2008



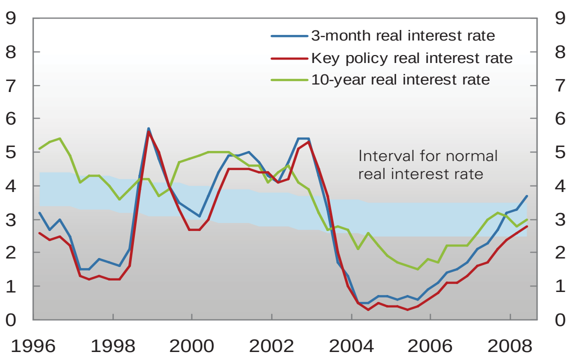
[1)] 5-year forward rates 5 years ahead.
Sources: Thomson Reuters and Norges Bank

Chart 1.11 Expected consumer price inflation 2 and 5 years ahead.[1)] Per cent. 2002 Q2 – 2008 Q2



[1)] Average of expectations of employer/employee organisations and experts (financial industry employees, macro analysts and academics).
Source: TNS Gallup

Chart 1.12 3-month real interest rate[1)], real key policy interest rate[1)], 10-year real interest rate[2)] and the normal real interest rate in Norway[3)]. Per cent. 1996 Q1 – 2008 Q2[4)]



[1)] Deflated by the 12-quarter moving average (centred) of inflation measured by the CPI. Projections for the CPI from this *Report* form the basis for this estimate.
[2)] 10-year swap rate deflated by the inflation target.
[3)] Calculations may indicate that the normal real interest rate for Norway is currently in the lower end of the interval 2½ - 3½%.
[4)] For 2008 Q2 the average of daily figures 1 April 2008 to 20 June 2008 is used.
Sources: Statistics Norway and Norges Bank

Norway and the euro area can provide information about inflation expectations. As the inflation target is higher in Norway, the differential should normally be in the range ½ - 1 percentage point, depending on risk premiums in bond markets. The differential has been within this range in recent years (see Chart 1.10). This may indicate that inflation expectations among financial market participants have exhibited fairly similar developments in Norway and the euro area. According to TNS Gallup's expectations survey, long-term inflation expectations among employer and employee organisations and among experts in the financial industry and academia are firmly anchored on the inflation target (see Chart 1.11). More short-term inflation expectations, on the other hand, have risen since autumn 2007.

The interest rate was set at a low level when inflation declined through 2003, which gradually led to prospects for higher inflation. Since summer 2005, the key policy rate has gradually been raised towards a more normal level. The key policy rate was increased well before inflation moved close to 2.5%. This has contributed to stabilising inflation expectations and smoothing fluctuations in output and employment. The interest rate increases that have been implemented are now having a dampening impact on economic growth.

When inflation is close to 2.5%, the normal interest rate level over time is considered to be between 5% and 6%. The key rate is now in this range. As a result of higher money market premiums and financial market uncertainty, funding is becoming more expensive for companies and households. Measured by money market rates, the real interest rate is now higher than what we regard as a normal level (see Chart 1.12). In addition, the krone has appreciated in recent years. Monetary policy is having a tightening effect. This may lead to moderating capacity utilisation ahead, preventing inflation from becoming too high.

The key policy rate is set with a view to keeping inflation close to 2.5%. The interest rate path ahead shall provide a reasonable balance between the path for inflation and the path for capacity utilisation (see box on criteria for an appropriate interest rate path on page 13).

In the conduct of monetary policy, direct effects on consumer prices resulting from changes in interest rates, taxes, excise duties and extraordinary temporary shocks shall not, in general, be taken into account. The monetary policy stance is based on our view that the current level of underlying inflation is close to, but somewhat higher than 2.5%. The consumer price index adjusted for tax changes and excluding energy products, CPI-ATE, has often been used as an indicator of underlying inflation. A weakness in the CPI-ATE is that it does not only exclude temporary effects resulting from tax changes and fluctuations in energy prices, but also trend changes in these factors. If we take into account that energy prices have risen more than other prices over a fairly long period, the result is a picture of underlying inflation that over time is more consistent with developments in the CPI (see Chart 1.13 and box on page 54).

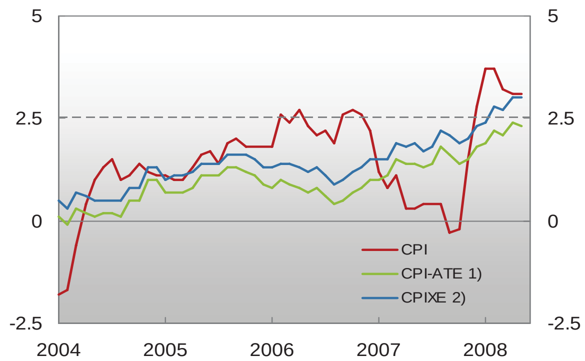
The rise in prices for domestically produced goods and services is likely to pick up in the coming months. There are signs that productivity growth is weak or falling, and wage and cost inflation is high. Prices for electricity and petroleum products have surged over the past year. Oil prices are historically high. The risk of high energy prices feeding through to prices for other goods and services cannot be ruled out.

High energy and food prices on world markets and rising global inflation may gradually result in a sharper rise in prices for imported goods. The appreciation of the krone in recent years will restrain the rise in prices for imported goods for a period ahead. However, an additional fall in import prices as was the case in 2003-2007 cannot be expected unless the krone appreciates further.

The increase in inflation, prospects of rising inflation and the consideration of anchoring inflation expectations close to the target suggest that the key rate should be raised further.

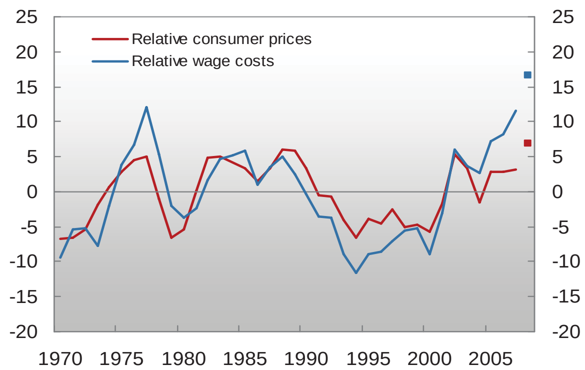
Owing to rising global inflation, expectations concerning key rates in other countries have risen markedly, in spite of weaker growth prospects. In isolation, this also points towards a higher interest rate in Norway.

Chart 1.13 Consumer prices. 12-month change. Per cent. January 2004 – May 2008



[1] CPI adjusted for tax changes and excluding energy products.
[2] CPI adjusted for tax changes and excluding temporary changes in energy prices (see box on page 54).
Sources: Statistics Norway and Norges Bank

Chart 1.14 Real exchange rate. Deviation from mean 1970 – 2007. Per cent. 1970 – 2008[1]



[1] Data for 2008 based on observations to 20 June.
Sources: Statistics Norway, Technical Reporting Committee on Income Settlements, Ministry of Finance and Norges Bank

Criteria for an appropriate interest rate path

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

1) The interest rate should be set with a view to stabilising inflation close to the target in the medium term. The horizon will depend on disturbances to which the economy is exposed and the effects on the prospects for the path for inflation and the real economy.

2) The interest rate path should provide a reasonable balance between the path for inflation and the path for capacity utilisation.

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

3) Interest rate developments should result in acceptable developments in inflation and output also under alternative, albeit not unrealistic assumptions concerning the economic situation and the functioning of the economy.

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

5) As a cross-check for interest rate setting, it should be possible to explain any substantial and systematic deviations from simple monetary policy rules.

High oil and gas prices may buoy up demand growth ahead. Investment in petroleum activities is high and is expected to rise further next year. This will probably increase output among oil-sector suppliers. It is also likely that higher investment budgets in oil companies will lead to higher selling prices among subcontractors. High energy prices provide greater scope for growth in public spending and may lead to an improvement in companies' and households' expectations.

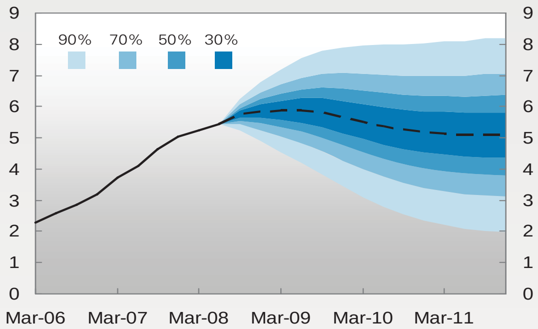
On the other hand, there are signs that growth in the Norwegian economy is slowing broadly in line with projections. Weaker developments among our trading partners may affect activity and profitability in Norwegian export industries. Our export goods may be more difficult to sell when growth slows in other countries. Should weaker global economic developments also result in a marked fall in commodity prices, including oil and gas prices, the impact on the Norwegian economy will be more pronounced.

The cost level in Norway is now at its highest level relative to trading partners since Norway became an oil nation (see Chart 1.14). Labour demand is nevertheless very high. It may be that we have yet to see the full impact of the high cost level. High prices for Norwegian export goods have limited the impact so far. After several years of high profit shares, wage shares are now on the rise in an environment of slower productivity growth and strong growth in wage income. This will probably curb growth in labour demand ahead. Weaker productivity growth may also have a dampening impact on capacity growth in the economy.

The prospects for slower growth may increase uncertainty among Norwegian households and businesses, which may lead to a rapid increase in the household saving ratio and slower consumption growth. This may also lead to the postponement of new projects and investments, or reduced willingness among enterprises to recruit new labour. Tighter bank lending standards may also curb demand growth.

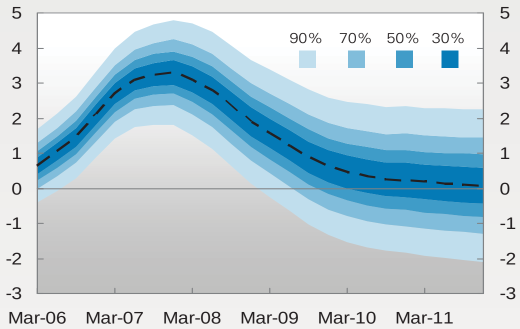
Even though financial market conditions abroad have improved somewhat since March, there is still considerable

Chart 1.15a Projected key policy rate in the baseline scenario with fan chart. Per cent. 2006 Q1– 2011 Q4



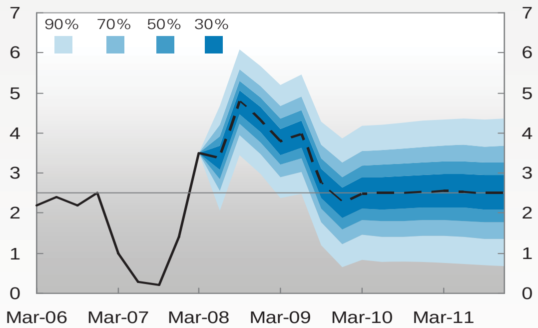
Source: Norges Bank

Chart 1.15b Estimated output gap in the baseline scenario with fan chart. Per cent. 2006 Q1 – 2011 Q4



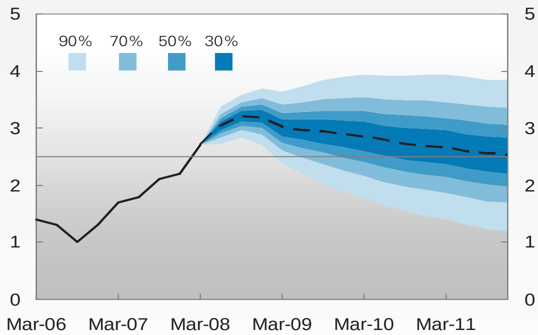
Sources: Statistics Norway and Norges Bank

Chart 1.15c Projected CPI in the baseline scenario with fan chart. 4-quarter change. Per cent. 2006 Q1 – 2011 Q4



Sources: Statistics Norway and Norges Bank

Chart 1.15d Projected CPIXE[1] in the baseline scenario with fan chart. 4-quarter change. Per cent. 2006 Q1 – 2011 Q4



[1] CPI adjusted for tax changes and excluding temporary changes in energy prices.
Sources: Statistics Norway and Norges Bank

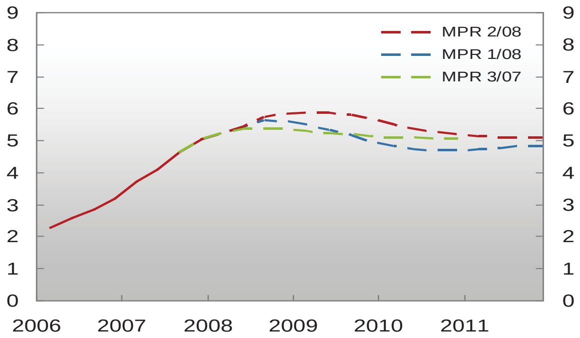
uncertainty as to the scale of losses at banks and financial undertakings. It has been observed earlier that the turbulence in financial markets has flared up again after periods of relative calm. If the turbulence heightens again, global growth prospects may weaken further. The rise in inflation will make it more difficult for central banks to use the key rate actively to counter such a development.

Weaker growth prospects abroad and at home may in isolation suggest that the key policy rate should be kept unchanged or lowered from the current level.

When setting the key rate, Norges Bank must also take into account developments in money market rates and bank lending rates. Money market rates have risen more than that implied by developments in the key policy rate. Forward rates in money and financial markets may indicate that the premium in money market rates is expected to persist. This reduces the need for raising the key policy rate. In the near term, the premium is expected to remain at about 1/4 percentage point higher than that projected in the previous *Report*. In an environment of intensified competition for deposits, banks must also be expected to increase lending rates more than money market rates in order to maintain profitability.

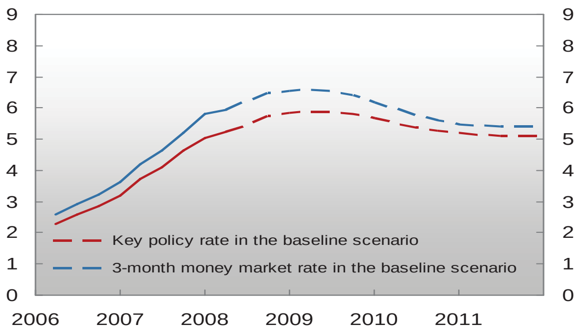
On balance, the outlook and balance of risks suggest that the key policy rate should remain at the current level, or perhaps somewhat higher, in the coming year (see Charts 1.15a-d). The interest rate forecast is somewhat higher than in the previous *Report* (see Chart 1.16). The prospect of higher inflation is the main factor that pushes up the

Chart 1.16 Key policy rate in the baseline scenario in MPR 3/07, MPR 1/08 and MPR 2/08. Per cent. 2006 Q1 – 2011 Q4



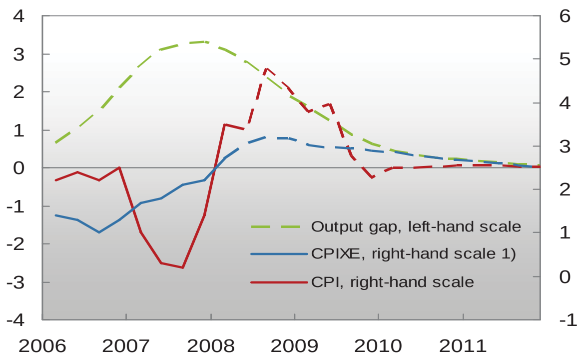
Source: Norges Bank

Chart 1.17 Key policy rate and 3-month money market rate[1] in the baseline scenario. Per cent. 2006 Q1 – 2011 Q4



1) Projected key policy rate including projected risk premium in the 3-month money market rate.
Source: Norges Bank

Chart 1.18 Projected inflation and output gap in the baseline scenario. Per cent. 2006 Q1 – 2011 Q4



1) CPI adjusted for tax changes and excluding temporary changes in energy prices.
Sources: Statistics Norway and Norges Bank

key policy rate. Expectations of higher central bank key rates abroad also pull in the same direction. Weaker growth prospects push down the interest rate forecast slightly. The contributions to the changes in the interest rate forecast are discussed in a box on page 18.

According to our forecast, the key policy rate will lie just below 6% over the next year before it is reduced somewhat. The key policy rate is projected to be around 1/4 percentage point higher than projected in *Monetary Policy Report* 1/08. Money market rates are expected to remain at around the current level to year-end (see Chart 1.17).

Interest rate setting is aimed at stabilising inflation close to 2.5% over time and gradually bringing down capacity utilisation (see Chart 1.18). In the short term, underlying inflation is still likely to be somewhat higher than 2.5%. If attempts were now made to prevent inflation from remaining somewhat above the target in the short term, the key policy rate would have to be increased markedly. This would imply a break with Norges Bank's response pattern and might have influenced the stability of consumers', price-setters' and market-makers' expectations in many markets. It might also have led to an abrupt shift in output and employment.

Interest rate setting can be assessed using simple monetary policy rules, which roughly prescribe an interest rate path based on actual inflation and output. The interest rate estimates derived from the simple rules are based on the projections for output and inflation in 2008 in this Report. The Taylor rule applies the output gap and inflation. The growth rule instead applies GDP growth and inflation. The rule involving external interest rates also takes into account that changes in the interest rate level may result in changes in the exchange rate, thereby influencing the inflation outlook. The simple rules are not forward looking, but only look at current economic developments. The different rules yield somewhat divergent results. The interest rate path in this *Report* is somewhat lower than the Taylor rule, but somewhat higher than the rule involving external interest rates and the growth rule (see Chart 1.19).

The interest rate profile presented in this *Report* is broadly in line with the Bank's previous response pattern (see Chart 1.20).[1] Recently the key policy rate has been at the lower end of the interval prescribed by the rule. This is consistent with the fact that some of the monetary policy tightening in this period has come through increased money market premiums, with money market rates increasing more than the key policy rate.

Forward interest rates can provide another cross-check of Norges Bank's interest rate forecast. Under certain assumptions about risk premiums, estimated forward interest rates may reflect market interest rate expectations. Since the previous *Report*, both short-term and long-term forward interest rates have increased in Norway. Estimated forward rates may now indicate that financial market participants expect a key policy rate of close to 5¾% over the next quarters (see Chart 1.21). This is consistent with the interest rate forecast in this *Report*.

The interest rate differential between Norway and other countries is expected to narrow gradually ahead (see Chart 1.22). The effective krone exchange rate is assumed to remain virtually unchanged at the current level in the short term, but to depreciate further out (see Chart 1.23). This reflects the fact that NOK investments cannot be expected to generate a considerably higher real return in the long term than investments in other currencies.[2]

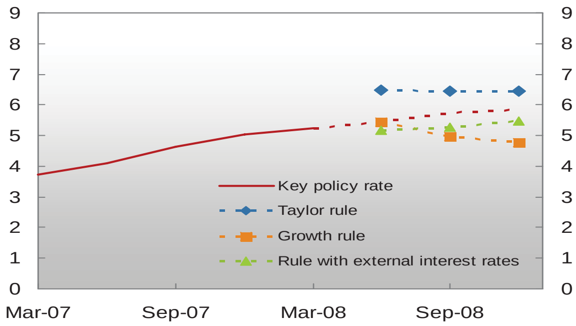
Measured by the CPI, inflation may reach 5% in the coming months (see Chart 1.15c). Electricity and petrol prices are still rising so that CPI inflation will be higher than inflation measured by other indicators this year (see Chart 1.24). Underlying inflation, which is now projected to be somewhat higher than 2.5%, is expected to move up further in the months ahead. The effects of the krone appreciation are expected to be more pronounced later this year. This may pull down on inflation.

Prices for imported consumer goods have moved on a downward trend over the past 10 years. Higher commodity prices will gradually drive up the rise in prices for imported consumer goods measured in foreign currency.

1 See box in *Inflation Report* 3/04

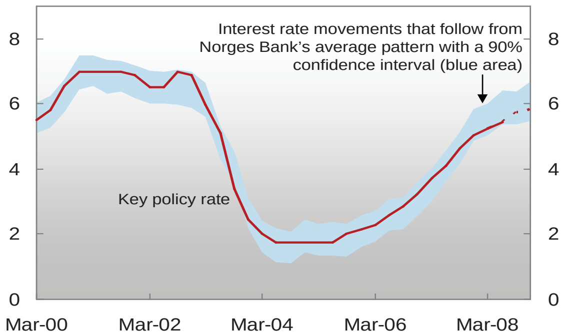
2 See box in *Monetary Policy Report* 1/08 on cross-checks for the krone exchange rate.

Chart 1.19 Key policy rate, Taylor rule, growth rule and rule with external interest rates.[1)] Per cent. 2007 Q1 – 2008 Q4



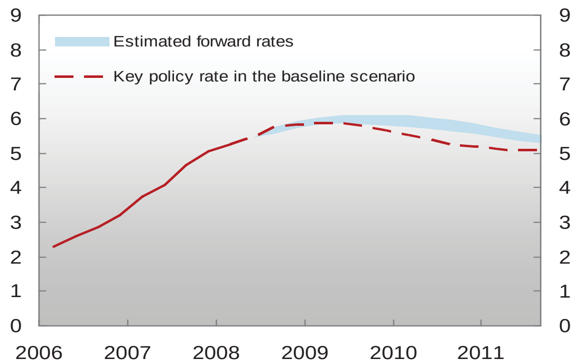
[1)] The calculations are based on Norges Bank's projections for the output gap, consumer prices adjusted for tax changes and excluding temporary changes in energy prices (CPIXE) and 3-month money market rate. To ensure comparability with the key policy rate the simple rules are adjusted for the risk premium in the 3-month money market rate.
Sources: Statistics Norway and Norges Bank

Chart 1.20 Key policy rate and interest rate developments that follow from Norges Bank's average pattern of interest rate setting.[1)] Per cent. 2000 Q1 – 2008 Q2



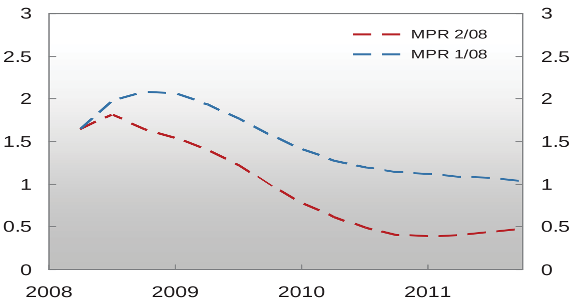
[1)] Interest rate movements are explained by developments in inflation, mainland GDP growth, wage growth and 3-month interest rates among trading partners. See *Staff Memo* 2008/03 for further discussion.
Source: Norges Bank

Chart 1.21 Key policy rate in the baseline scenario and estimated forward rates[1)]. Per cent. 2006 Q1 – 2011 Q4



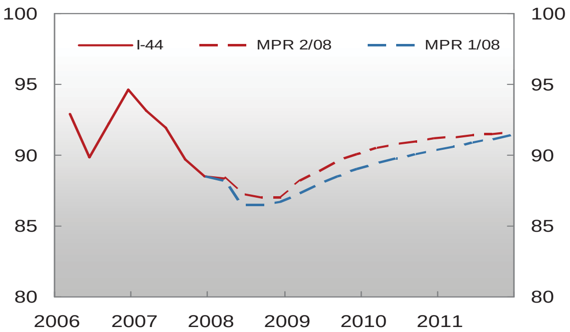
[1)] Forward rates are based on money market rates and interest rate swaps. A credit risk premium has been deducted when calculating the forward rates to ensure comparability with the key policy rate. The blue interval shows the highest and lowest forward rates in the period 9 June - 20 June 2008.
Source: Norges Bank

Chart 1.22 Projected differential between money market rates in Norway and among trading partners in MPR 1/08 and MPR 2/08.[1] Per cent. 2008 Q2 – 2011 Q4



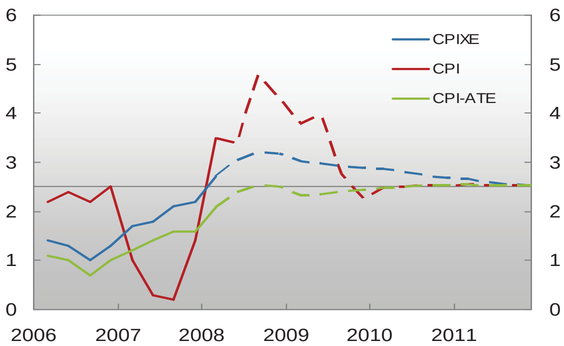
[1] Differential between money market rate in baseline scenario and weighted average of trading partners' forward rates in the period 9 June - 20 June 2008.
Source: Norges Bank

Chart 1.23 Import-weighted exchange rate (I-44) in the baseline scenario in MPR 1/08 and MPR 2/08.[1] Index. 2006 Q1 – 2011 Q4



[1] A rising curve denotes a weaker krone exchange rate. The exchange rate path is based on uncovered interest rate parity.
Source: Norges Bank

Chart 1.24 Projected CPI, CPI-ATE[1] and CPIXE[2] in the baseline scenario. 4-quarter change. Per cent. 2006 Q1 – 2011 Q4



[1] CPI adjusted for tax changes and excluding energy products.
[2] CPI adjusted for tax changes and excluding temporary changes in energy prices.
Sources: Statistics Norway and Norges Bank

When the effects of the krone appreciation of recent years gradually unwind, prices for imported consumer goods are expected to rise again also in NOK terms. The rate of increase in prices for domestically produced goods and services is expected to remain high in the years ahead. Productivity growth is likely to slow markedly for a period, and wage growth is projected at 6% in 2008. The surge in energy prices may also feed through to prices for other goods and services produced in Norway. Against the background of high cost growth and higher prices for imported goods, underlying inflation is projected to remain somewhat above the inflation target for a while and then to move down gradually again and settle close to 2.5%.

Household saving is negative and a consolidation of household financial balances must be expected over time. An increase in household interest expenses and cooling housing markets are likely to push down household demand for goods and services and push up saving. Rapid cost growth, tighter lending conditions and lower growth in the global economy will also contribute to moderating activity in the Norwegian economy ahead. Weaker export markets will have an impact on Norwegian export industries, which will affect other industries in Norway. Business investment is expected to remain buoyant this year, but slow next year.

Petroleum investment is expected to increase further next year. This will bolster growth in Norwegian petroleum supplier industries. Moreover, higher overall government spending may gradually drive up growth in public spending on goods and services. Also on the upside, high oil prices may boost household expectations and lead to a renewed pick-up in consumption.

The supply of foreign labour is expected to continue, but on a somewhat smaller scale than in recent years. When economic growth slows and labour demand shifts down, it will probably become less attractive to move to Norway. Unemployment is expected to edge up from 2009.

Changes in the interest rate path

The interest rate forecast is somewhat higher than the forecast in *Monetary Policy Report* 1/08 (see Chart 1).[1] The forecasts are based on an overall assessment of the situation in the Norwegian and global economies and on our perception of the functioning of the economy. Chart 2 shows a technical illustration of how news and judgement have affected the changes in the interest rate path.[2] The calculation can be viewed as an evaluation and consistency check of the forecasts and seeks to provide an indication of how various factors have influenced the interest rate forecasts through their effect on the outlook for inflation, output and employment. The isolated contributions from the different factors are shown in the columns. The overall change in the interest rate forecast is shown by the black line.

Inflation in Norway is slightly higher than projected, and the short-term inflation outlook has been revised upwards. In isolation, this also points to higher inflation further ahead. This suggests a higher interest rate (light blue columns).

Key policy rate expectations among our trading partners have risen. If the expected return on NOK investments is to be equal to the expected return on investments in foreign currency, a rise in external interest rates will, in isolation, lead to a weaker krone. A weaker krone will result in higher inflation and increased activity in the Norwegian economy. This suggests that the interest rate will also be raised in Norway. On the other hand, the krone has been somewhat stronger this spring than implied by the expected interest rate differential. In isolation, this contributes to a somewhat lower interest rate. On balance, these conditions nevertheless suggest a weaker krone exchange rate and a higher interest rate (dark blue columns).

Higher oil and gas prices are probably pushing up demand in Norway, partly through increased investment in the petroleum sector. In isolation, this contributes to a somewhat higher interest rate (green columns).

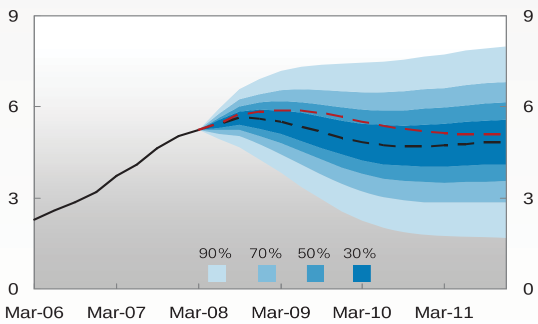
Since the previous *Monetary Policy Report*, the growth outlook for the global economy has deteriorated. In isolation, this results in the prospect of lower activity in the Norwegian economy, and eventually lower price and cost inflation. This suggests a lower interest rate (red columns).

Money market rates in Norway have risen more than implied by developments in the key policy rate. Forward rates in money and financial markets indicate that this premium on money market rates is expected to persist. This reduces the need to raise the key policy rate and also suggests a lower interest rate (orange columns).

1 Changes in the projections for inflation and capacity utilisation are discussed on page 60.

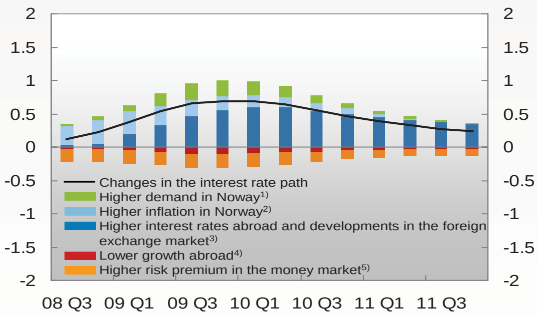
2 The calculations in the chart have been made using a small calibrated model for the Norwegian economy (see Norges Bank Staff memo 2004/3).

Chart 1 Key policy rate in the baseline scenario in MPR 1/08 with fan chart and key policy rate in the baseline scenario in MPR 2/08 (red line). Per cent. 2006 Q1 – 2011 Q4



Source: Norges Bank

Chart 2 Factors behind changes in the interest rate path since MPR 1/08. Percentage points. 2008 Q3 – 2011 Q4



1) Reflects effects of higher growth in demand in Norway due to higher oil and gas prices.
2) Reflects effect of higher inflation than what can be accounted for by changes in capacity utilisation in Norway.
3) Reflects effects of expectations of higher key policy rates among trading partners, through effects on the krone exchange rate, and effects of the development in the krone exchange this spring over and above the effects of changes in interest rate expectations abroad.
4) Reflects effects of expectations of lower growth in the world economy.
5) Reflects effects of higher risk premium in the money market in Norway.
Source: Norges Bank

Uncertainty surrounding the projections

The projections for inflation, output, the key policy rate and other variables are based on our assessment of the current situation and our perception of the functioning of the economy. There is uncertainty surrounding future developments in inflation and output, and hence interest rate developments. The fan charts illustrate the uncertainty surrounding our projections (see Charts 1.15a-d).[3] The wider the fan charts, the more uncertain the projections are. The width of the fan charts is based on historical disturbances, and therefore expresses the average that covers periods of higher and lower uncertainty.[4] The uncertainty interval around the interest rate reflects the fact that monetary policy reacts to developments in inflation and output. This adds to the uncertainty surrounding interest rate developments ahead, but also reduces the uncertainty surrounding developments in inflation and output.

In our assessment, the probability that inflation, output and employment will be higher than projected is the same as the probability that these variables will be lower than projected. This is reflected in the equal width of the fan charts on both sides of the projections.

The uncertainty surrounding the projections for CPI inflation is estimated in the fan chart in Chart 1.15c. The chart shows that the probability that inflation will be higher than 3.5% in 2011 is estimated at around 20%. The probability that inflation will fall back below 1.5% in 2011 is about 20%.

Alternative scenarios

If economic developments are broadly in line with our projections, economic agents can also expect that the interest rate path will be closely in line with that projected. However, the current interest rate path may shift if economic prospects change or if the effect of interest rate changes on output, employment and inflation is different from that assumed. Interest rate setting must be assessed in the light of the reasons for and the expected duration

3 There is also uncertainty about the current situation (see boxes in *Inflation Report* 3/05 and 3/06)

4 A further description of the fan charts is provided in *Inflation Report* 3/05

of the disturbances that arise. The later monetary policy responds to such disturbances, the wider the fluctuations in output and inflation will be. In addition, it may be difficult to distinguish between erratic statistical effects and more long-lasting disturbances. It may therefore take time before interest rate setting can be based on economic developments that differ from the projected path.

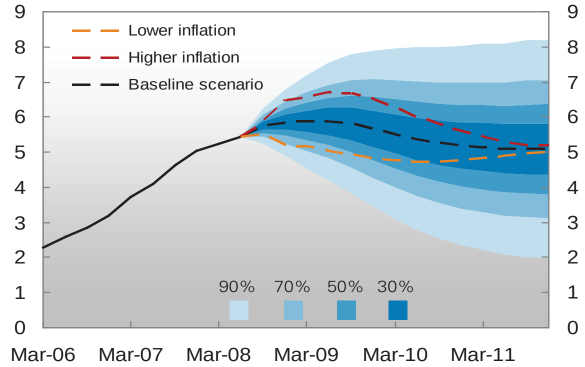
Inflation may prove to be higher than currently projected. In recent cyclical upturns, high pay increases were awarded in a late phase of the upswing. This seems to be recurring this year. Even though the outcome of this year's wage settlements is consistent with our projections so far, wage drift may be high into autumn. Productivity growth may be lower than projected. The results of this year's agricultural settlement indicate a marked price increase for agricultural products from 1 July. It is uncertain how the agricultural settlement and the rises in global energy and food prices will affect inflation in Norway. Moreover, inflation is on the rise in other countries, which may result in a faster increase in prices for imported goods.

Charts 1.25a-c (red lines) illustrate a path where inflation turns out to be higher than projected.[5] The technical assumption is made that inflation will be ¼ - ½ percentage point higher than in the baseline scenario in the year ahead. It would then be appropriate to increase the key policy rate to a level that causes the real interest rate to rise, bringing inflation over time back to target. A higher interest rate will lead to a lower level of capacity utilisation than in the baseline scenario. This has a dampening impact on inflation, but inflation will still be somewhat higher than in the baseline scenario in the years ahead.

Charts 1.25a-c (yellow lines) illustrate a path where inflation turns out to be lower than projected. Several factors may contribute to lower inflation. Household saving may increase faster than expected, and the effects of slower global growth on the Norwegian economy may be underestimated. This may gradually lead to an easing of infla-

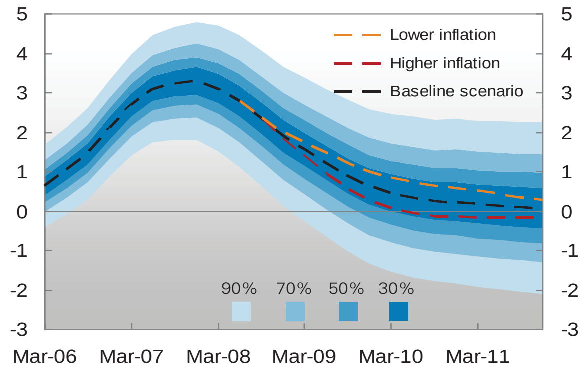
5 The projections in the charts are based on the assumption that Norges Bank's response pattern is known and consistent over time. This is further explored in Bergo, J. (2007) "Interest rate projections in theory and practice", speech at the Foreign Exchange Seminar of the Association of Norwegian Economists at Sanderstølen on 26 January 2007.

Chart 1.25a Key policy rate in the baseline scenario and in the alternatives with higher and lower inflation. Per cent. 2006 Q1 – 2011 Q4



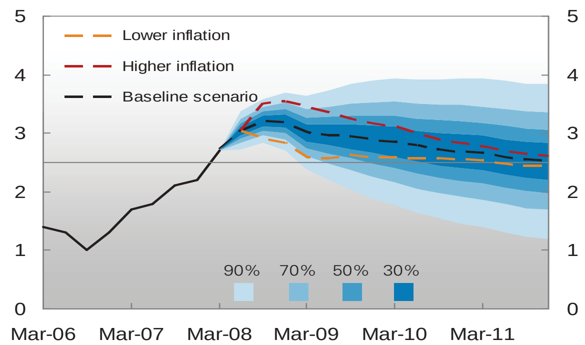
Source: Norges Bank

Chart 1.25b The output gap in the baseline scenario and in the alternatives with higher and lower inflation. Per cent. 2006 Q1 – 2011 Q4



Sources: Statistics Norway and Norges Bank

Chart 1.25c CPIXE[1)] in the baseline scenario and in the alternatives with higher and lower inflation. 4-quarter change. Per cent. 2006 Q1 – 2011 Q4



1) CPI adjusted for tax changes and excluding temporary changes in energy prices.
Sources: Statistics Norway and Norges Bank

tion. It may then be appropriate to lower the interest rate earlier than in the baseline scenario in order to hold up inflation expectations and bring inflation back to target.

Oil prices have doubled over the past year. This has been accompanied by a sharp increase in forward electricity prices on the Nordic power exchange Nord Pool. It is uncertain to what extent such a large increase in energy prices will influence economic growth and inflation in Norway.[6] Rising activity in the petroleum sector and higher earnings in the business sector may result in a sustained rise in business investment. Increased government revenues and high growth in government spending may fuel consumption. Capacity utilisation may remain high longer than projected in this *Report* and inflation may rise further. Somewhat further out, this scenario may crowd out production in internationally exposed industries that are not petroleum sector suppliers, but it is uncertain how fast and to what extent this will occur. The krone exchange rate may appreciate further and amplify this effect. If high oil prices translate into higher-than-projected inflation or if energy prices continue to drift up, the interest rate may be higher than projected.

On the other hand, a more pronounced downturn in the world economy may lead to a further slowdown in activity in the Norwegian export industry, with spillover effects on other business sectors. In addition, the risk of a fall in oil prices and prices for other Norwegian export goods will increase. This may lead to considerably weaker developments in the Norwegian economy than in the baseline scenario. At the same time, a fall in oil prices may result in a weaker krone. The effects on inflation in Norway under this scenario are uncertain. If the effects on the activity level dominate, it may be appropriate to reduce the interest rate. If the effects on the krone exchange rate dominate, it may be appropriate to maintain a tight monetary policy stance.

6 See *Economic Commentaries* 2/08: "Effects of high oil prices on the Norwegian economy", www.norges-bank.no, 26 June 2008.

Summary
Inflation has been slightly higher than projected. On the whole underlying inflation is close to, but somewhat higher than 2.5%. Capacity utilisation is still high. Unemployment is at a historically low level and wages are rising rapidly. The upturn in Norway is entering a new phase. A period of low inflation and high growth is now being followed by somewhat higher inflation and lower growth.

Global growth prospects have weakened. Interest rate expectations abroad have nevertheless shown a marked upward shift. Inflation has increased in many countries. It seems that an increased risk of rising inflation has led to higher real interest rates. Financial market conditions have improved somewhat since March, but money market rates are still considerably higher than developments in central bank key rates would normally imply. Since last summer, Norwegian bank lending rates have increased in pace with money market rates, but bank lending margins are low.

The increase in inflation, prospects of rising inflation and the consideration of anchoring inflation expectations close to the target suggest that the key policy rate should be raised further. Expectations of higher central bank key rates abroad pull in the same direction. Weaker growth prospects abroad and at home may in isolation suggest that the key policy rate should be kept unchanged or lowered from the current level. On balance, the outlook and balance of risks suggest that the key policy rate should remain at the current level, or perhaps somewhat higher, in the coming year.

The projections are uncertain. New information may reveal aspects of economic developments that indicate that the Norwegian economy is moving on a different path than projected. On the one hand, unexpectedly high cost growth or a weaker krone may lead to higher-than-projected inflation. The effect of the agricultural settlement and higher global energy and food prices on inflation in Norway is also uncertain. On the other hand, if the effects of the global slowdown on the Norwegian economy are stronger than expected or if the krone appreciates markedly, inflation may be lower than projected in this *Report*.

Executive Board's strategy
The key policy rate should be in the interval 5¼% – 6¼% in the period to the publication of the next *Monetary Policy Report* on 29 October, unless the Norwegian economy is exposed to major shocks.

Monetary policy since the previous *Report*

Norges Bank's projections for economic developments in *Monetary Policy Report* 1/08 – presented on 13 March 2008 – implied a key policy rate in the interval 5% - 6% in the period to 25 June 2008, unless the Norwegian economy was exposed to major shocks. The analyses in the *Report* implied that the key policy rate might be raised further in the period to summer. Prospects for sharper price and cost inflation would in the short term more than offset the effect of weaker global economic growth.

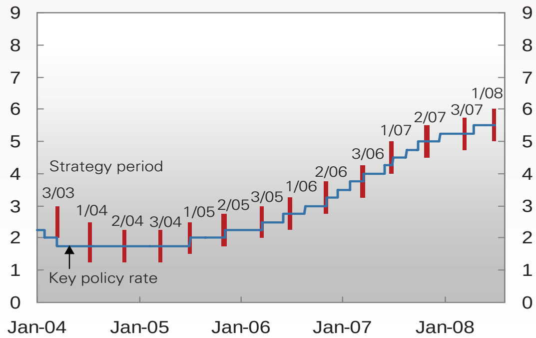
In *Monetary Policy Report* 1/08 it was pointed out that unexpectedly high cost inflation, higher import prices or a weaker krone might lead to a faster-than-expected pickup in inflation. It was also noted that if the global downturn had a stronger-than-expected impact on the Norwegian economy, or if the krone appreciated markedly, inflation might be lower than projected.

At the monetary policy meeting on 13 March, the Executive Board stated that although different indicators of inflation showed slightly different developments, on the whole underlying inflation was close to 2.5%. Growth in the Norwegian economy remained buoyant and was unexpectedly high towards end-2007. Capacity utilisation was high and the labour market was tight. On the other hand, the global economic outlook had deteriorated. Interest rates were decreasing in the US and a number of other countries. The krone had appreciated. Enterprises in Norges Bank's regional network were still expecting an increase in activity ahead, albeit smaller than previously. Increasing the interest rate was an alternative, but an overall assessment implied that it was appropriate to leave the interest rate unchanged at 5.25%.

At the monetary policy meeting on 23 April, the Executive Board noted that inflation had increased markedly since last autumn. The first wage settlements indicated rising wage growth in line with the projections. Prospects for higher inflation suggested that the key policy rate should be increased. On the other hand, the US economy was weak. Financial market turbulence persisted, and global economic developments might prove to be weaker than previously assumed. Risk premiums in international money and credit markets had remained high, and borrowing costs had risen for enterprises and financial institutions. New information since the previous monetary policy meeting did not on balance warrant a deviation from the strategy in *Monetary Policy Report* 1/08. The key policy rate was raised by 0.25 percentage point to 5.50% at that meeting.

At the monetary policy meeting on 28 May, the key policy rate was kept unchanged at 5.50%. The Executive Board pointed out that inflation was higher than projected. Oil prices had increased further to a very high level. The rise in energy and food prices was pushing up inflation in many countries, and global interest rate expectations had risen. The wage settlements indicated as expected that wage growth in Norway was rising. Overall, underlying inflation was close to, but somewhat above 2.5%. Capacity utilisation in the Norwegian economy was still high, but there were as expected signs of dampened economic growth. There were prospects of slower growth in the global economy. The increase in inflation and prospects for rising inflation suggested that the key policy rate should be raised further. With financial market turbulence, high risk premiums in money markets and uncertainty as to global developments, it was nevertheless on balance appropriate to leave the key policy rate unchanged.

Chart 1 Interval for the key policy rate at the end of each strategy period and actual developments.[1)] Per cent.
2 January 2004 – 25 June 2008



1) The Executive Board's decision of 25 June is not shown in the chart (see Table on page 75).
Source: Norges Bank

2 The global economy, financial markets and commodity markets

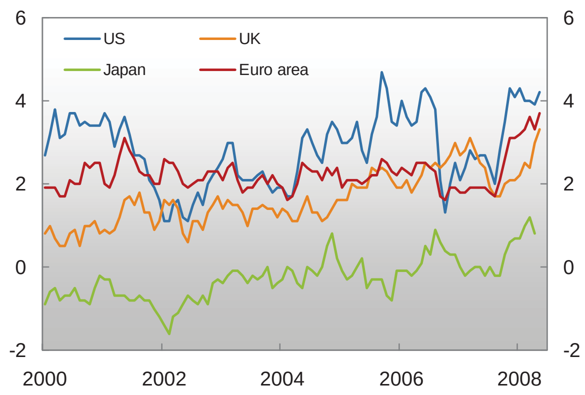
Inflation and interest rates on the rise

Inflation among our trading partners has risen more quickly and to a further extent than anticipated in the previous *Report*. Prices for food, oil and other commodities have climbed sharply over the past year, leading to a substantial increase in consumer prices in both industrial and emerging market economies (EMEs) (see Charts 2.1 and 2.2). In industrial countries, core inflation, i.e. excluding energy and food, has not risen to the same degree, and there has been only a moderate increase in wages, but producer prices for manufactured goods have accelerated. Since the previous *Report*, households' inflation expectations for the coming year have continued to rise in the US, but have been stable at a high level in the euro area. Market participants' five-year inflation expectations seem to have risen slightly in both the US and Europe.

In EMEs, core inflation has risen faster than in industrial countries. With strong growth in EMEs, there is a risk that the increase in energy and food prices will continue to feed through to a wide range of goods and services. In EMEs, food accounts for a high share of consumption. Both wage growth and producer price inflation are high and rising in the BRIC countries (Brazil, Russia, India and China) (see Chart 2.3).

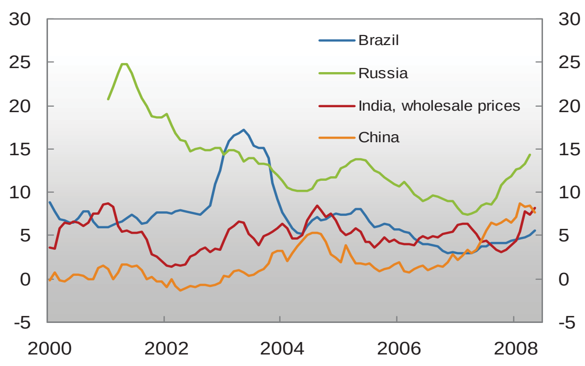
The risk of a permanent impact on inflation expectations from higher energy and food prices is probably the main factor behind the marked interest rate increases in Norway and abroad since the previous *Report*. In the US, the euro area and the UK, two-year interest rates have risen by around 1¼ percentage point, and the expected one-year real interest rate has increased in both the US and the euro area (see Chart 2.4). In both Europe and the US, market participants have markedly revised up their central bank key rate expectations. Many central banks will probably

Chart 2.1 Consumer prices in industrial countries. 12-month change. Per cent. January 2000 – May 2008



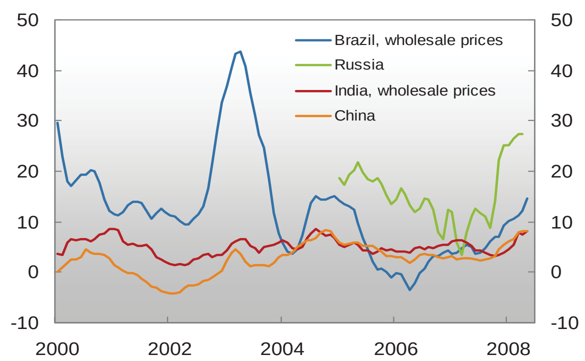
Source: Thomson Reuters

Chart 2.2 Consumer prices in BRIC countries[1]. 12-month change. Per cent. January 2000 – May 2008



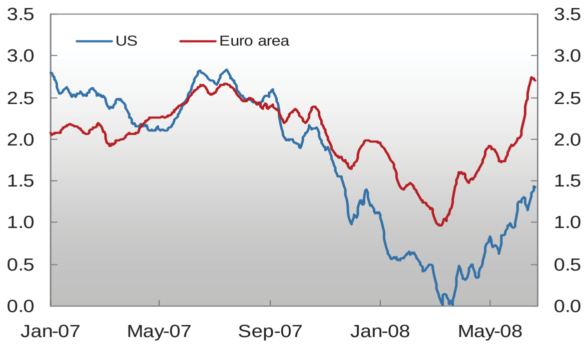
[1] Brazil, Russia, India and China.
Source: Thomson Reuters

Chart 2.3 Producer and wholesale prices in BRIC countries[1]. 12-month change. Per cent. January 2000 – May 2008



[1] Brazil, Russia, India and China.
Source: Thomson Reuters

Chart 2.4 Expected real interest rate[1)] one year ahead in the US and the euro area. 10-day moving average. Per cent.
1 January 2007 – 20 June 2008



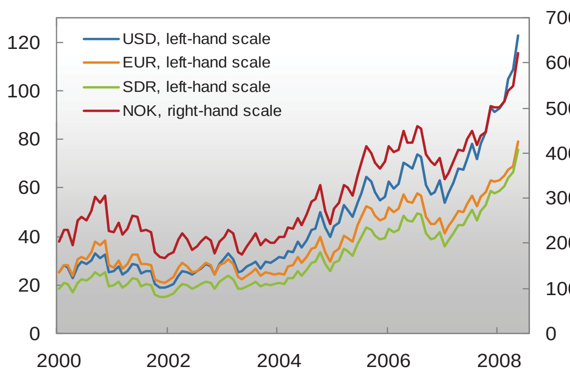
[1)] One-year maturity. The real interest rate is derived from nominal swap rates and inflation swaps.
Sources: Bloomberg, Thomson Reuters and Norges Bank

Table 2.1 Projections of consumer prices in other countries. Change from previous year. Per cent

	2008	2009	2010-2011[1)]
US	4	2½	2¼
Euro area[2)]	3½	2¼	2
Japan	1	¾	1
UK	3½	2¾	2
Sweden	3¾	3	2
China	7	4½	3¾
Trading partners[3)]	3½	2½	2

[1)] Average annual rise.
[2)] Weights from Eurostat (each country's share of total euro area consumption).
[3)] Import weights. 26 trading partners.
Source: Norges Bank

Chart 2.5 Oil price (Brent Blend) in USD, EUR, NOK and SDR. Monthly figures. January 2000 – May 2008



Source: Thomson Reuters

gear monetary policy towards preventing a permanent feed-through to inflation expectations in the business and household sector from the increase in inflation.

The projection for consumer price inflation among our trading partners has been revised up by ¾ percentage point in 2008 and ½ percentage point in 2009. We expect the rise in food, energy and other commodity prices to slow and gradually contribute to lower inflation (see Table 2.1). We assume that a tighter monetary stance and slower growth in both industrial countries and EMEs will limit the knock-on effects on prices for other goods and services. In the longer term, continued real income growth in EMEs may nevertheless lead to a more rapid rise in prices for their exports than previously.

Sharp rise in energy prices

The price of oil (Brent Blend) has averaged USD 108 per barrel so far this year (see Chart 2.5). This is USD 36 more than the average for 2007. The price of a barrel of oil has increased by USD 27 since the previous *Report*.

Growth in oil consumption remains firm in non-OECD countries, especially in Asia, the Middle East and Latin America. At the same time, there has been limited growth in non-OPEC oil production. Since summer 2007, the International Energy Agency (IEA) has gradually revised down its forecast for oil consumption growth in 2008, especially in the OECD countries as a result of higher oil prices and weaker economic growth. The IEA has also revised down its growth forecast for non-OPEC oil production.

Oil prices have continued to climb recently. Crude and distillate inventories in the OECD countries suggest that the market balance is fairly tight. It is very uncertain whether OPEC – in particular Saudi Arabia – has sufficient spare production capacity to make up for any loss of production in key member countries such as Iraq, Iran, Nigeria and Venezuela (see Chart 2.6).

There has been a particularly strong increase in long-term futures prices. The price of the contract maturing in December 2015 has risen by USD 39 since the previous *Report*. This probably reflects the problems that non-OPEC producers in particular will have in satisfying continued strong growth in oil consumption in EMEs in the coming years.

The US dollar depreciation and low global interest rates may have contributed to the sharp increase in oil prices in USD terms.[1] Low real interest rates cut the cost of oil inventories and make oil and other commodities more interesting as financial investment alternatives. The supply of oil may also be lower than otherwise because it is more profitable to postpone production and in practice store oil in the ground when oil revenues invested in financial markets generate a smaller return.

As previously, the oil price path in this *Report* is based on futures prices (see Chart 2.7). These prices now imply an oil price of USD 122 in 2008 and USD 136 in 2009, which is USD 22 and USD 38 higher respectively than in the previous *Report*.[2] In mid-June, analysts regularly surveyed by Bloomberg expected on average an oil price of USD 113 in 2008 and USD 109 in 2009. In recent years, analysts have generally forecast a lower oil price than implied by futures prices, which may reflect greater concern about the effects of high oil prices on global economic growth.

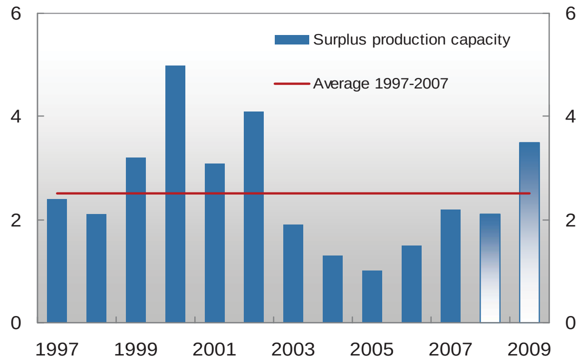
Global demand for oil may be lower if global economic growth is weaker than now expected. Higher end-user prices in several EMEs due to reduced subsidies and re-gulation of petroleum products are working in the same direction. On the other hand, oil supply growth may once again be lower than expected. Unrest in important oil-exporting countries may again lead to a shortfall in oil production. Moreover, the hurricane season in the Gulf of Mexico may be worse than in the past two years and further delays and cost increases may hamper new pro-jects.

Prices in the options market for US benchmark crude West Texas Intermediate can be used to derive market participants' view of the uncertainty associated with future

1 See *Economic Commentaries* 1/08 "The rise in oil prices – fundamental and financial factors", www.norges-bank.no, 26 June 2008.

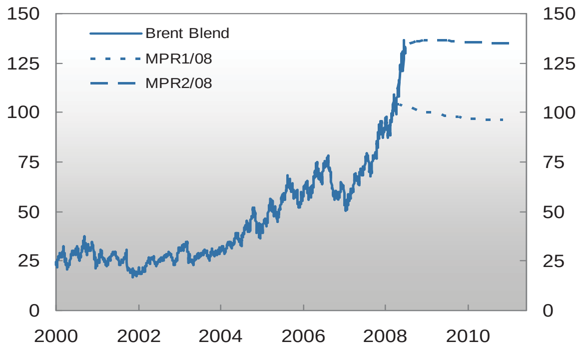
2 The increase from 2008 to 2009 is due primarily to the price rise since the beginning of this year. Futures prices are also slightly higher than the spot price.

Chart 2.6 OPEC surplus crude oil production capacity. Million barrels per day. 1997- 2009[1)]



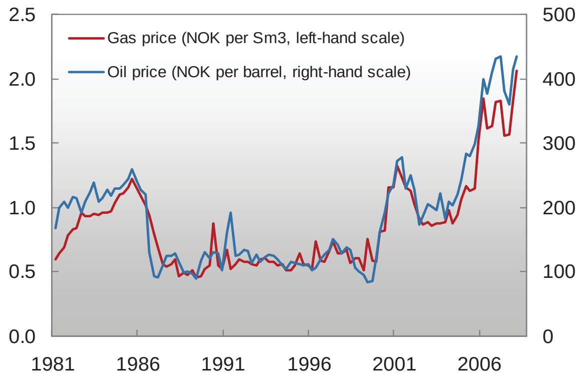
1) Forecast for 2008 and 2009.
Source: Energy Information Administration

Chart 2.7 Oil price (Brent Blend) in USD per barrel. Daily figures. 3 January 2000 – 20 June 2008. Futures prices. 10 March 2008 and 20 June 2008 (broken lines). April 2008 – December 2010



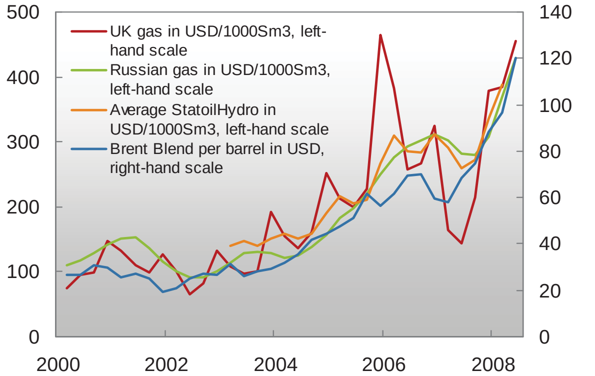
Sources: Thomson Reuters and Norges Bank

Chart 2.8 Oil price (Brent Blend) and average export price for Norwegian natural gas[1)]. The oil price has been moved back 2 quarters. 1981 Q1 – 2008 Q1



1) Gas prices from 1981 Q1 to 2007 Q1 were obtained from SN. Gas prices from 2007 Q2 were obtained from StatoilHydro's quarterly accounts.
Sources: Statistics Norway, Thomson Reuters, StatoilHydro and Norges Bank

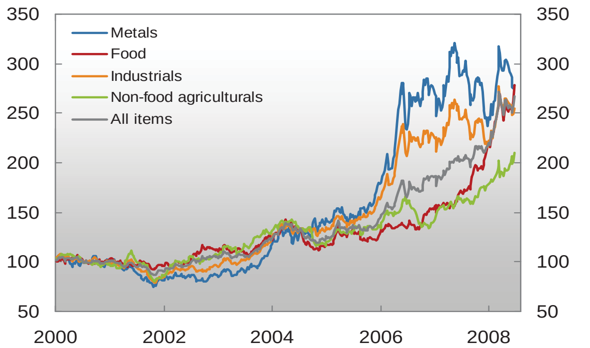
Chart 2.9 Average prices for crude oil and natural gas. Quarterly figures. 2000 Q1 – 2008 Q2[1)]



1) For 2008 Q2 the average of daily figures 1 April – 20 June 2008 is used for Brent Blend and UK gas. For Russian gas the monthly figures for April and May are used for 2008 Q2.

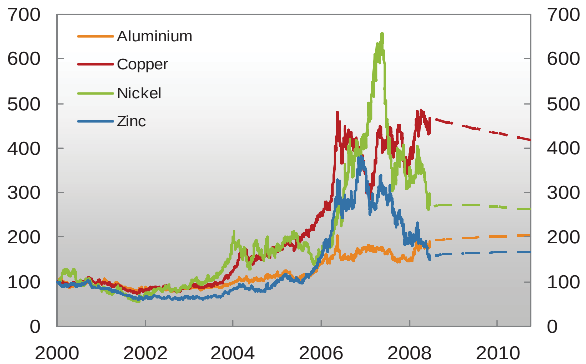
Sources: Statistics Norway, Thomson Reuters, StatoilHydro, IMF and Norges Bank

Chart 2.10 International commodity prices in USD. Index, 2000 = 100. Week 1 2000 – week 25 2008



Sources: Thomson Reuters and *The Economist*

Chart 2.11 Metal prices in USD. Index, 4 January 2000 = 100. 4 January 2000 – 20 June 2008. Futures prices from 20 June 2008 (broken lines). August 2008 – October 2010



Sources: Thomson Reuters and Norges Bank

oil prices. In mid-June, options prices implied that it is substantially more likely that oil prices will be above USD 150 than below USD 100 per barrel at the end of 2008.

The price of Norwegian gas is also rising (see Chart 2.8). This is because long-term sales contracts are largely linked to prices for oil products. Some of the Norwegian gas is also sold in the spot market in the UK. As the UK is importing more and more gas from continental Europe, and gas prices there follow oil prices, the price of gas in the UK will mirror oil prices more closely than before. Given the rise in oil prices since last summer and a continued increase in UK gas prices thus far in Q2, the price of Norwegian gas will likely continue to climb (see Chart 2.9). Futures prices for UK gas also indicate a continued moderate increase through the remainder of 2008 and into 2009.

Prices for other commodities are also high. *The Economist* commodity-price index so far this year has been 24% higher than the average for 2007, but has fallen back slightly since the previous *Report* (see Chart 2.10).

Prices for industrial metals have fallen somewhat since the previous *Report* due to the weaker global economic outlook, but the decrease is only modest relative to the increase in recent years. The rise in metal prices can be attributed to several of the same factors that have led to high oil and gas prices. Growth in the BRIC countries and other EMEs remains high. At the same time, supply has so far not been very flexible. It has taken several years to expand production capacity due to a shortage of skilled labour, intermediate goods and electrical power. There have also been several temporary production disturbances due to strikes and other actions. Metal inventories fell sharply in 2004 and have remained low since. Futures prices suggest that market participants expect prices for industrial metals to remain high in the coming years (see Chart 2.11).

Prices for food and other agricultural products have both increased by 4% since the previous *Report*. Wheat prices have fallen by 24% in this period while corn prices have risen by 30% (see Chart 2.12). High food prices reflect several conditions. Increased biofuel production and higher consumption in EMEs have boosted demand for food. Adverse weather conditions and higher energy prices have curbed growth in food production. Several countries have introduced export restrictions to protect domestic markets from high food prices. One result of this has been the recent increase in rice prices. However, the forward curves suggest that market participants anticipate virtually unchanged food prices in the coming years (see Chart 2.12).

Freight rates for dry bulk (Baltic Dry Index) have increased by 9% since the previous *Report*, while tanker rates have climbed 75% (see Chart 2.13). Rising freight rates and persistently high commodity prices would indicate that the global economy is not facing an imminent sharp decline in goods production or demand for commodities.

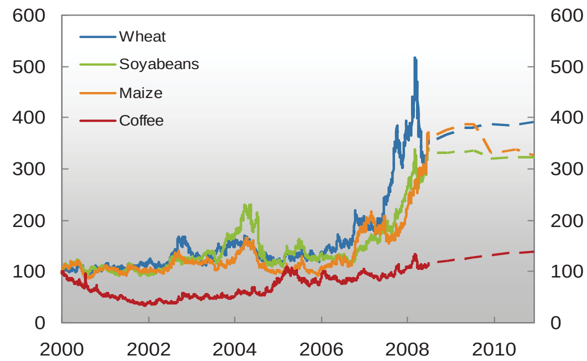
Continued stress in financial markets

The global financial turmoil reached a peak in mid-March. After JPMorgan took over the investment bank Bear Stearns with credit from the Federal Reserve, there were signs of a change of sentiment in financial markets. Investors' risk appetite increased during spring. Global equity prices advanced in the period after the previous *Report* was published (see Chart 2.14), but have since fallen back again. Equity prices on the Oslo Stock Exchange have also fallen recently, but are still substantially higher than in mid-March.

Money market premiums have remained high. The difference between money market rates and expected central bank key rates reflects the risk premium that banks and others must pay for unsecured loans in the money market. The premiums for money market loans with maturities of three months or more are considerably higher than for shorter loans (see Chart 2.15). This reflects both an expectation that premiums will remain high and the fact that credit risk increases with the maturity of a loan.

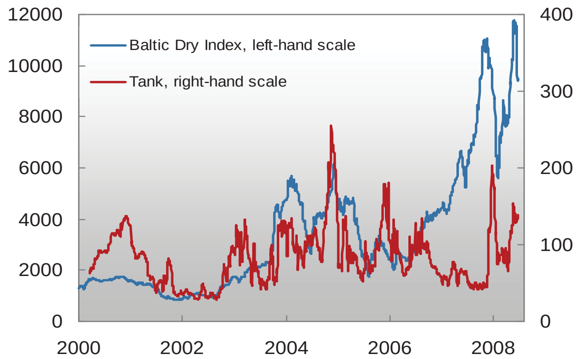
Money market funds are an important source of liquidity in money markets. One reason for the tightening of money

Chart 2.12 Food commodity prices in USD. Index, 4 January 2000 = 100. 4 January 2000 – 20 June 2008. Futures prices from 20 June 2008 (broken lines). September 2008 – December 2010



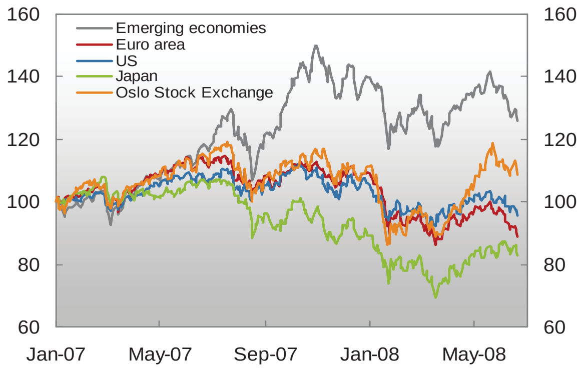
Sources: Thomson Reuters, Chicago Board of Trade, The Intercontinental Exchange and Norges Bank

Chart 2.13 Freight rates. Index based on rates in USD. Tank: World Scale MidEast-West. Dry bulk: Baltic Dry Index. 4 January 2000 – 20 June 2008



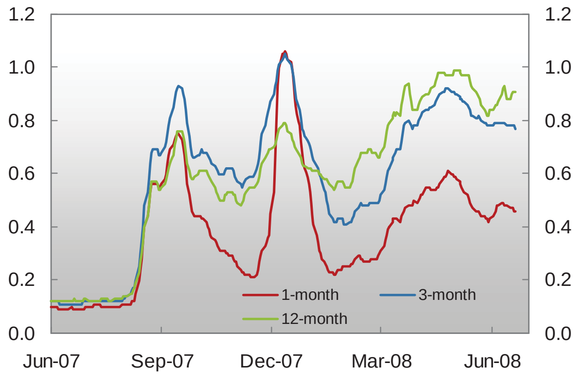
Source: Thomson Reuters

Chart 2.14 Developments in equity markets. Index, 1 January 2007 = 100. 1 January 2007 – 20 June 2008



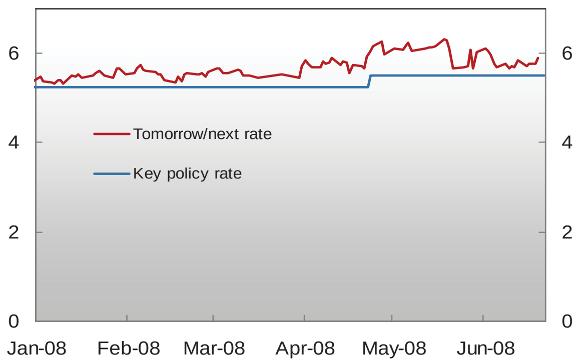
Source: Thomson Reuters

Chart 2.15 Spread between money market rates with different maturities and expected key policy rate[1]. Average for the US, the euro area and the UK. Percentage points. 5-day moving average. 1 June 2007 – 20 June 2008



[1] The expected key policy rate is derived from the Overnight Index Swap (OIS).
Sources: Bloomberg and Norges Bank

Chart 2.16 Developments in the tomorrow/next rate and the key policy rate. Percentage points.
2 January 2008 – 20 June 2008



Source: Thomson Reuters

markets seems to be that these funds have reduced their supply of unsecured loans to banks except for very short maturities. At the same time, many banks have higher funding needs after the turmoil started, because they took back securities and loans onto their own balance sheets from vehicles that they themselves had set up. The uncertainty surrounding both their own and other banks' future liquidity remains high, due partly to potential losses associated with low-grade securities. Even solid banks may wish to have an extra liquidity buffer in uncertain times. The combination of reduced supply and increased demand in money markets has led to higher premiums.

It may take time for confidence among banks to be restored. It is also possible that premiums on unsecured loans will remain permanently high, and that loans against collateral will also gradually become more common in the money market.

As a result of premiums in the Norwegian money market and higher interest rate expectations, market expectations of money market rates are higher than at the time the previous *Report* was published. Money market premiums are expected to remain high for some time.

In Norway, very short-term money market rates were relatively volatile in April and May. The spread between the shortest money market rates and the sight deposit rate was higher than usual at times (see Chart 2.16). There was a need to supply very large amounts of liquidity to the banking system in April and May due to large tax payments. Norges Bank provided liquidity through a number of fixed-rate loans (F-loans).[3] Given the prospect of banks having substantial borrowing needs from April to June, the Bank also offered an F-loan with a longer maturity than usual. Despite a stable supply of liquidity, the shortest money market rates increased again in the second half of May. The F-loans were not sufficient to cover needs. When Norges Bank is unable to supply sufficient liquidity through F-loans, it can supply NOK through foreign

3 F-loans are an instrument used primarily to supply liquidity to the banking system. They are issued against collateral in the form of securities, carry a fixed rate of interest and have a fixed maturity. The maturity depends on the liquidity situation in the banking system. See www.norges-bank.no for a more detailed account.

exchange swaps. In these swaps, loans are offered against collateral in USD. Both Norwegian and foreign banks active in the Norwegian money market may bid for these loans. Norges Bank supplied liquidity through a foreign exchange swap on 22 May and again on 30 May. The actual amount borrowed was NOK 32.5bn and 10.1bn respectively. Outstanding F-loans in the same period totalled NOK 120-130bn.

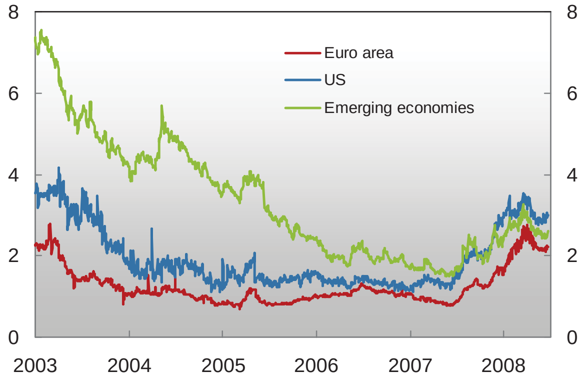
In credit markets, premiums have remained high, but are lower than in mid-March. Chart 2.17 shows that credit premiums for companies with high credit ratings have decreased in both the US and the euro area. In EMEs, the spread against the US 10-year Treasury yield has decreased by 40 basis points since the previous *Report*. Prices for bond credit default insurance (credit default swaps) are also lower now than in mid-March for both banks and other companies.

Volatility in the foreign exchange market has decreased since mid-March. Volatility between the major currencies, as measured by the GRI[4], has fallen back from the highest levels since January 2001 (see Chart 2.18), but is still considerably higher than before the turbulence erupted last summer. During the period of financial turmoil, investors have been cautious about engaging in carry trade. Since March, low-yielding currencies such as the Japanese yen and Swiss franc have weakened. In mid-March, the effective US dollar exchange rate was at a historical low. The US dollar has since strengthened by 3.0%. The effective euro exchange rate has also strengthened, while the effective sterling rate has weakened by 2½% due to the prospect of markedly weaker growth in the UK economy.

The Norwegian krone has weakened slightly since the previous *Report*. The increase in oil prices during the period would, in isolation, point to a stronger krone, while a slightly smaller interest rate differential against other countries indicates a weaker krone. In periods of market turmoil, high volatility and reduced risk appetite, it is also

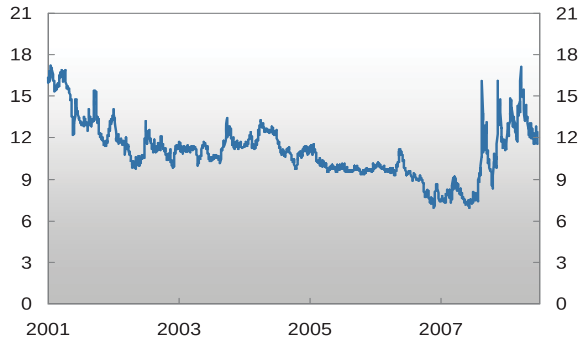
4 Global Risk Indicator. The GRI reflects uncertainty in currency markets by weighting implied volatility from options on exchange rates between the USD, EUR and JPY. See *Economic Bulletin* 4/2000 for a more detailed account.

Chart 2.17 Credit spreads on bonds with 10-year maturities. Percentage points. 2 January 2003 – 20 June 2008



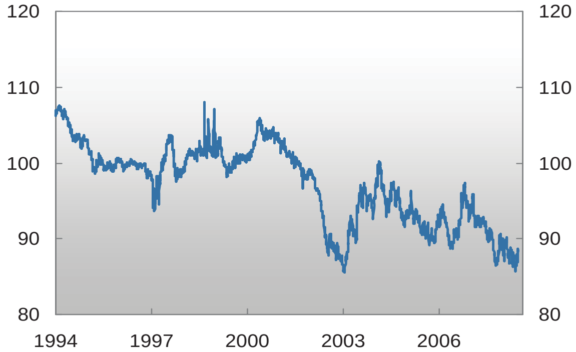
Source: Thomson Reuters

Chart 2.18 Global Risk Index (GRI). Expected volatility between USD, euro and JPY in per cent.
1 January 2001 - 20 June 2008



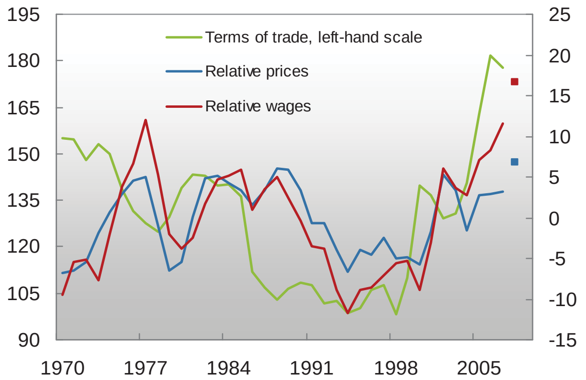
Source: Thomson Reuters and Norges Bank

Chart 2.19 Import-weighted exchange rate I-44[1)]. 3 January 1994 - 20 June 2008



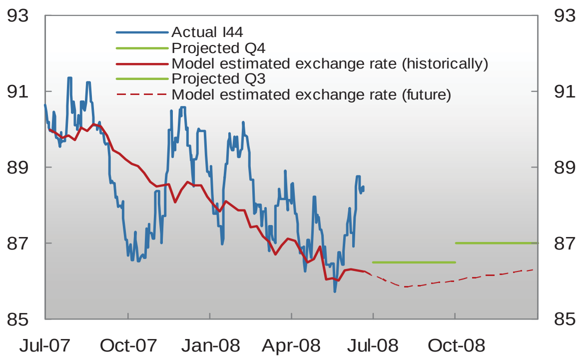
1) A rising curve denotes a weaker krone exchange rate.
Source: Norges Bank

Chart 2.20 Real exchange rates (relative consumer prices and labour costs in common currency). Deviation from average 1970 – 2007. Per cent. 1970 – 2008[1)]. Terms of trade. Index, 1995 = 100.



1) Figures for 2008 are based on data until 20 June 2008.
Sources: Statistics Norway, Tech. Reporting Committee on Income Settlements, Ministry of Finance and Norges Bank

Chart 2.21 Import-weighted exchange rate I-44[1)]. Historical and estimated exchange rate. 1 July 2007 – 31 December 2008



1) A rising curve denotes a weaker krone exchange rate.
Source: Thomson Reuters and Norges Bank

not uncommon for market participants to reduce their exposure to less liquid currencies such as the Norwegian krone. This has affected the krone at times since last summer. Should the turmoil subside, interest rate differentials and other real economic conditions may become more important again for NOK. On the other hand, Norway is running a current account deficit, adjusted for transfers to the Government Pension Fund – Global and oil companies' estimated cash surplus.[5] In isolation, this points to a weaker krone.

The krone is strong by historical standards. Based on the I-44 import-weighted index, the krone is only 3½% weaker than at its strongest in January 2003 (see Chart 2.19). The real exchange rate, whether based on relative consumer prices or relative labour costs, is at its highest level since 1970 (see Chart 2.20). The appreciation of the real exchange rate in recent years has been accompanied by a substantial improvement in Norway's terms of trade and high economic growth.

The forecasts in this *Report* are based on some strengthening of the krone from Q2 to Q3 this year (see Chart 2.21). This is in line with the predictions from a model where the krone exchange rate is determined by oil prices and the interest rate differential against Norway's trading partners.[6] Since last autumn, the krone exchange rate as measured by the I-44 index has generally been slightly weaker than the model indicates. The financial turmoil may have kept the krone weaker than it would otherwise have been. Subsiding financial market turbulence may cause the krone to appreciate and move closer to the level indicated by the model. The krone is expected to depreciate somewhat from Q3 to Q4 this year. Once account is taken of the expected decrease in the interest rate differential against trading partners, the projections from the model suggest a similar movement. The krone has also shown a tendency in recent years to weaken towards the end of the year.

5 The basic balance is a very uncertain variable, but is estimated at around NOK -118bn in 2008. It is defined here as the surplus on the current account adjusted for the year's transfers to the Government Pension Fund – Global and the portion of oil companies' foreign currency revenue that is retained in foreign currency (see box in *Inflation Report* 3/04).

6 See box in *Monetary Policy Report* 1/08 for a more detailed account of this model.

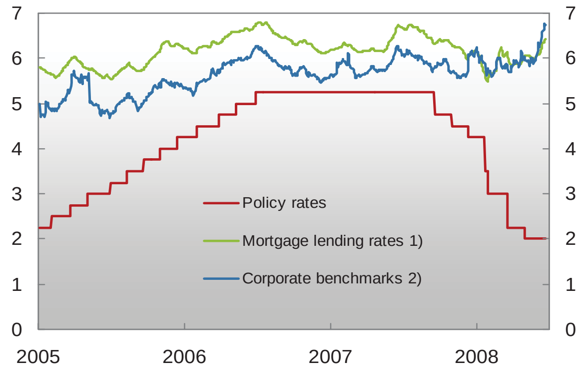
Prospect of lower global economic growth

Economic growth in Q1 was higher than expected in the US, Europe and Japan. We nevertheless expect growth ahead to be somewhat lower than assumed in the previous *Report*. There are several reasons for this. The fall in house prices in the US and parts of Europe is dragging down construction activity and reducing the scope for using property as collateral for consumer loans. Banks and other financial institutions still have to record large losses due to the problems in housing and financial markets. Lending capacity has decreased, and financial institutions in both the US and Europe are continuing to tighten their lending standards. Financing costs for enterprises and households have remained high or increased in the US and Europe (see Charts 2.22 and 2.23).

The sharp increase in energy and food prices will curb growth in real household income and corporate profits. Virtually stagnating growth in the US and a weaker US dollar will limit US imports of goods and services. If the markedly higher energy prices and higher capital costs owing to the financial turmoil persist, the potential for growth in output in the global economy may be diminished.

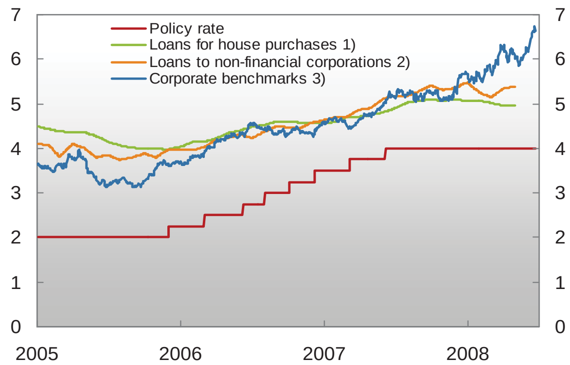
The crisis in the US housing market is still in evidence. The fall in housing investment and house prices has accelerated (see Chart 2.24). The problems in the housing market, lower employment, falling wage growth, rapid increases in energy and food prices, and reduced availability of credit have reduced consumer confidence to its lowest levels since 1993 (see Chart 2.25). The effects of fiscal policy measures, such as cash payments from the government to stimulate consumption, will be exhausted towards the end of the year. We expect growth in private consumption to slow again in 2009. Tighter credit conditions and weaker corporate profitability are putting a damper on investment. The effective US dollar exchange rate has fallen by around 10% over the past year, and foreign trade is expected to help prop up aggregate demand. We assume that US growth will not pick up until the latter half of 2009 and into 2010.

Chart 2.22 Interest rates in the US. Per cent. 3 January 2005 – 20 June 2008



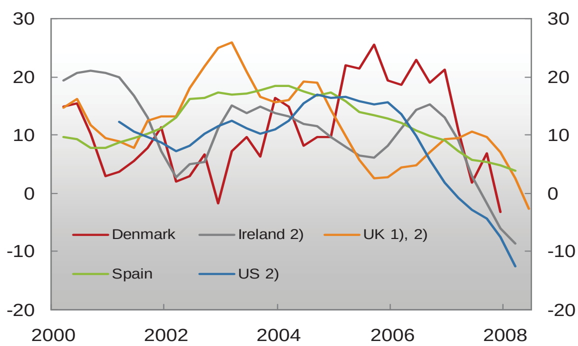
1) Freddie Mac, 30-year, fixed rate. Based on weekly figures.
2) BBB Rated, 5 Years.
Sources: Thomson Reuters and Norges Bank

Chart 2.23 Interest rates in the euro area. Per cent. 3 January 2005 – 20 June 2008



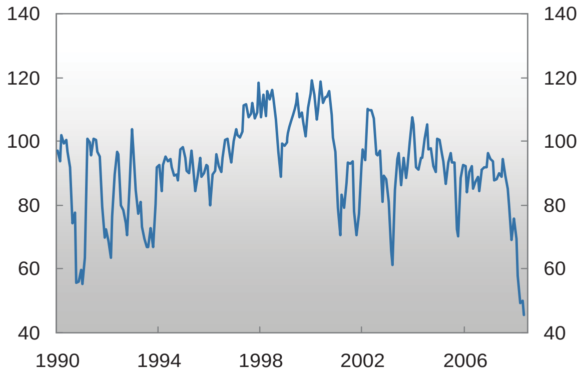
1) New loans, excluding bank overdrafts, 5 – 10 year. Based on monthly figures.
2) New Loans, 1 Million EUR +, excl. bank overdrafts, 5 Year +. Based on monthly figures.
3) BBB Rated, 5 Years.
Sources: Thomson Reuters and Norges Bank

Chart 2.24 House prices in the US and Europe. 4-quarter change. Per cent. 2000 Q1 – 2008 Q2



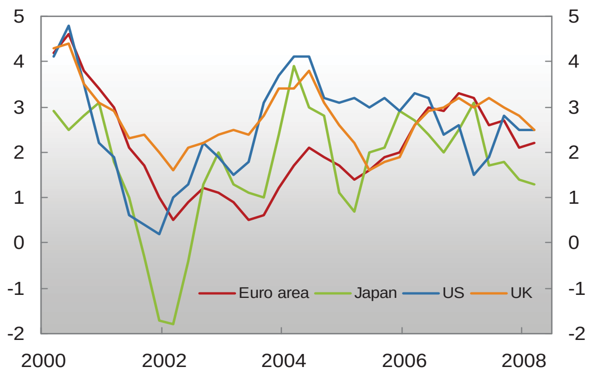
1) UK 2008 Q2 is calculated as the average of April and May 2008.
2) The figures for US, UK and Ireland are based on monthly figures.
Sources: Thomson Reuters and Norges Bank

Chart 2.25 US. Consumer expectations. The Conference Board. Seasonally adjusted. 1985 =100. January 1990 – May 2008



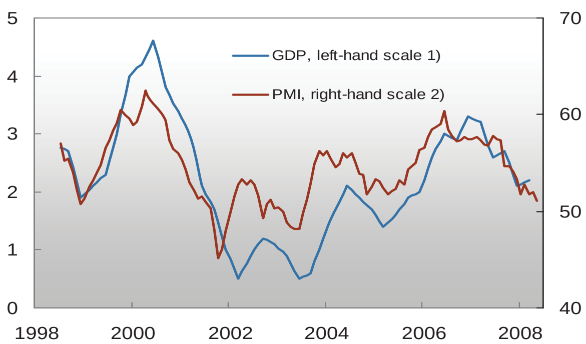
Source: Thomson Reuters

Chart 2.26 GDP in industrial countries. 4-quarter change. Per cent. 2000 Q1 – 2008 Q1



Sources: Thomson Reuters and Norges Bank

Chart 2.27 GDP and the PMI (seasonally adjusted) for the euro area. July 1998 – May 2008



1) Per cent growth last 12 months. Based on quarterly figures.
2) Diffusion index.
Sources: Thomson Reuters and Norges Bank

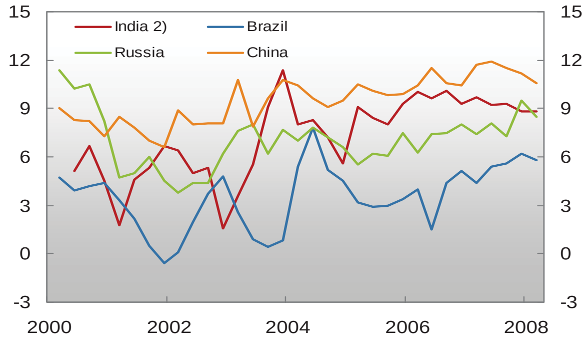
Output growth was solid in the euro area in Q1 (see Chart 2.26), especially in Germany, but there is growing evidence of slower growth ahead. Sluggish retail trade developments in Q1 continued in April, and surveys among business leaders on production and new orders (PMI) indicate weaker growth in Q2 (see Chart 2.27). The appreciation of the euro coupled with lower growth in the US and the UK will drag down export growth. Consumption will be reduced by high inflation, slower employment growth and somewhat tighter credit conditions. Housing investment is expected to fall, especially in Spain and Ireland. In the UK, growth is being dragged down by a significantly weaker housing market and tighter credit conditions, only partially offset by the stimulus to exports from a weaker sterling. Growth in Sweden slowed in Q1, and slower growth in other countries is expected to put a damper on the upturn in Sweden this year and next.

Growth remains high in the BRIC countries and other EMEs. Revised figures show that China's output increased more in 2006 and 2007 than previously estimated, but export growth has slowed over the past year, and four-quarter GDP growth fell to 10.6% in 2008 Q1 (see Chart 2.28). The global economic downturn and a strong increase in wages and other costs are expected to curb exports ahead. Continued strong growth in consumption and lower saving in China will be important on a more permanent basis in reducing global imbalances. In India, Russia and Brazil, industrial activity indicators point to further robust growth in Q2 (see Chart 2.29). The effects of higher food and commodity prices vary across EMEs and developing countries. Terms of trade have improved in some countries, but the dominant effect in several Asian countries may be that high inflation erodes household real income, pushes up corporate costs and limits economic policy leeway.

The projections for growth among Norway's trading partners have been revised up by ¼ percentage point for 2008 due to higher-than-expected growth in Q1. The effects of the financial turmoil and the downturn in the US are now expected to last longer into 2009, and our projection for growth next year has been revised down by ¼ percentage point. We now expect output growth among our trading partners to fall from 3.3% in 2007 to 2¼% in 2008 and to 2% in 2009 (see Table 2.2). In the event, capacity utilisation will decrease markedly over the next couple of years, but the expected downshift in growth is still moderate relative to previous periods of weak growth since the early 1980s.

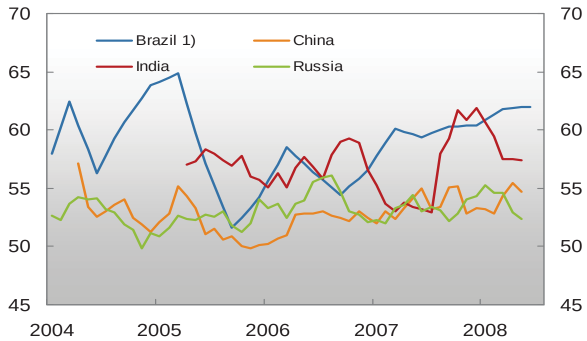
It is uncertain how the turmoil in financial markets will evolve and how it will affect banks' lending growth. The effects of the financial crisis on the real economy may be smaller than currently envisaged if the situation in financial markets normalises more quickly than expected. High commodity prices may imply that growth in EMEs can be more resilient than expected. On the other hand, sharp rises in food and energy prices may reduce consumption and investment more than expected. Both higher inflation itself and increased uncertainty about future inflation may make households and enterprises more cautious, leading to lower demand growth in many countries. Should the turmoil in financial markets flare up again, the downturn may be deeper and occur more quickly than expected.

Chart 2.28 GDP in BRIC-countries[1]. 4-quarter growth. Per cent. 2000 Q1– 2008 Q1



[1] Brazil, Russia, India and China.
[2] Factor costs.
Source: Thomson Reuters

Chart 2.29 Business confidence indicator industry for Brazil and PMI manufacturing (seasonally adjusted) for Russia, India and China. January 2004 – June 2008



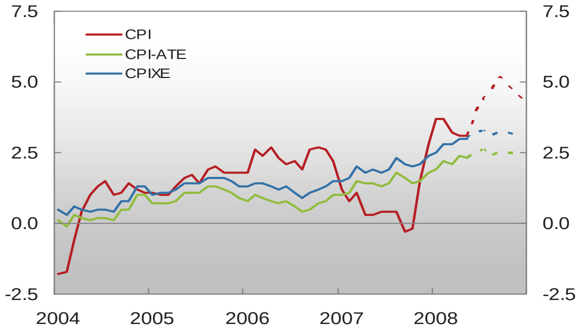
[1] Based on quarterly figures.
Sources: Thomson Reuters and Norges Bank

Table 2.2 Projections of GDP growth in other countries. Change from previous year. Per cent

	2008	2009	2010-2011[1]
US	1¼	1¼	2¾
Euro area	1¾	1¼	2
Japan	1½	1½	1½
UK	1½	1½	2½
Sweden	2	2	2½
China	10	9	9
Trading partners[2]	2¼	2	2½

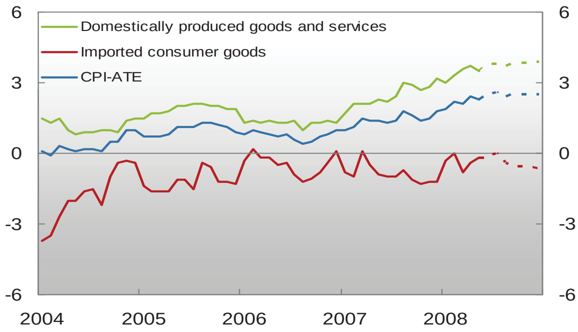
[1] Average annual growth.
[2] Export weights, 26 trading partners.
Source: Norges Bank

Chart 3.1 CPI, CPI-ATE[1)] and CPIXE[2)]. 12-month change. Per cent. January 2004 – December 2008[3)]



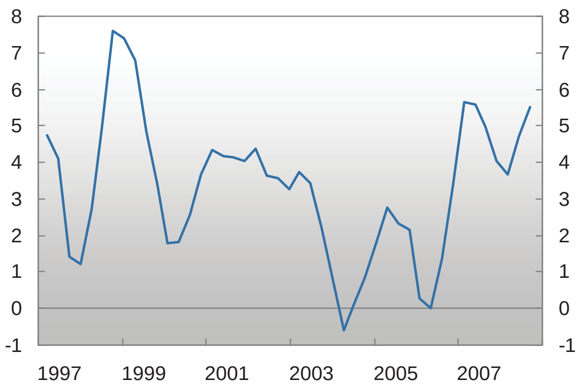
[1)] CPI adjusted for tax changes and excluding energy products.
[2)] CPI adjusted for tax changes and excluding temporary fluctuations in energy prices.
[3)] Projections for June 2008 – December 2008.
Sources: Statistics Norway and Norges Bank

Chart 3.2 CPI-ATE[1)]. Total and by supplier sector[2)] . 12-month change. Per cent. January 2004 – December 2008[3)]



[1)] CPI adjusted for tax changes and excluding energy products.
[2)] Norges Bank's estimates.
[3)] Projections for June 2008 – December 2008.
Sources: Statistics Norway and Norges Bank

Chart 3.3 Unit labour costs, mainland Norway. 4-quarter change. 4-quarter moving average. 1997 Q1 – 2008 Q1



Sources: Statistics Norway and Norges Bank

3 Economic developments

High inflation

The rise in the consumer price index (CPI) has been above 3% so far this year after rising rapidly towards the end of last year (see Chart 3.1). Electricity prices have been considerably higher than in the first half of 2007 and the increase in oil prices has pushed up petrol prices in recent months. Energy prices have risen faster than prices for other goods and services in the CPI for a number of years. CPIXE, which captures trend changes in energy prices (see box on page 54) has thus risen faster than the CPI-ATE (see Chart 3.1). Various measures of underlying inflation range between 2.3% and 3.3%. On the whole underlying inflation is now estimated to be close to, but somewhat higher than 2½%.

Underlying inflation was moderate for a long time during this cyclical upturn, but has picked up markedly since 2006, primarily reflecting the rise in prices for domestically produced goods and services (see Chart 3.2). In May, prices for domestically produced goods and services were 3.5% higher than in the same month one year earlier. Recent price developments are discussed further in a box on page 38.

Unit labour costs have risen substantially in recent years (see Chart 3.3). Wage growth has quickened and productivity growth has slowed as usual towards the end of a cyclical upturn. Higher cost inflation has led to a higher rise in prices for both goods and services. Strong demand growth may have made it easier for firms to pass on higher costs to customers. Wage growth will be higher in 2008 than in 2007 and productivity growth is expected to continue to drift down. The rise in oil prices is associated with higher transport costs, which may push up the rise in prices for domestically produced goods and services.

Domestically produced goods and services can be divided into three sub-groups; domestically produced consumer goods, services and rents for dwellings. Since 2006, the rise in prices for domestically produced consumer goods has shown the strongest increase (see Chart 3.4). According to a Norges Bank survey of Norwegian firms' price-setting behaviour, higher prices among sub-contractors are the main factor behind price increases in retail trade (see Chart 3.5).[1] Rapidly rising costs at all stages of the production chain are now feeding through to retail prices. Food price inflation has exhibited a sharp rise. While food and non-alcoholic beverages prices (tax-adjusted) fell in 2006, prices for these goods were 4.6% higher in May 2008 than the same month in 2007. World food prices have soared, but in Norway it is primarily the rise in prices for domestically produced food that has jumped up (see box on recent price developments). Last year's agricultural settlement resulted in a noticeably higher rise in prices for farm products than in previous years. This year's settlement may result in an overall increase in these prices that is almost three times as high as last year (see Chart 3.6). The negotiated prices, which become effective from 1 July 2008 and 1 January 2009, will probably result in an even higher rise in prices for domestically produced food.

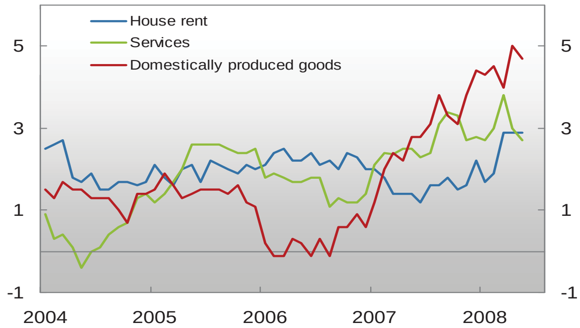
The rise in rents has accelerated since last autumn, but compared with developments since the early 1990s the rise in rents remains fairly moderate. Looking ahead, expectations of a slower rise in house prices may make it more attractive to rent. High immigration is also pushing up demand in the rental market. Overall, house rent inflation is expected to edge up ahead.

According to TNS Gallup's second-quarter expectations survey, the share of business leaders who expect a higher rise in firms' selling prices the next twelve month is clearly higher than the share expecting a slower rise in prices (see Chart 3.7). Expectations of a faster rise in prices may result in higher percentage mark-ups when firms change their prices. Among our regional network contacts in retail trade and household services, the share expecting a higher rise in prices is about the same as the share expecting a lower rise in prices.

On the whole, the rise in prices for domestically produced goods and services is expected to edge higher through the

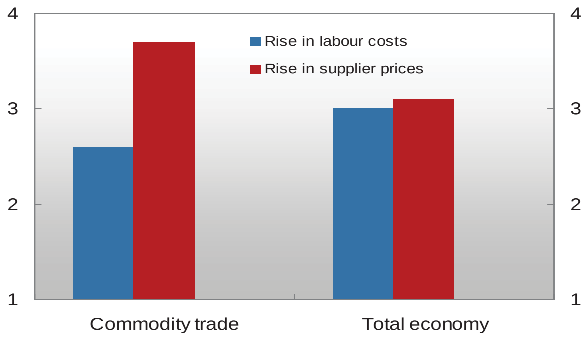
1 Some preliminary results from the survey conducted in the first half of 2007 were discussed in a box in MPR 2/07. The survey will be presented in *Economic Bulletin* 2/08 to be published in October.

Chart 3.4 Domestically produced consumer goods and services by CPI sectors. [1), 2)] 12-month change. Per cent. January 2004 – May 2008



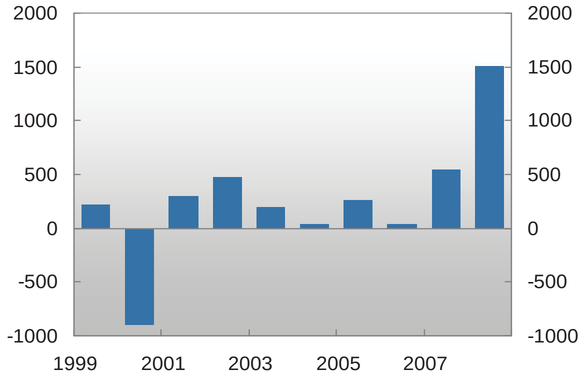
1) Adjusted for tax changes and excluding energy products.
2) Norges Bank's estimates.
Sources: Statistics Norway and Norges Bank

Chart 3.5 Reasons for price changes. Survey results[1)]. Averages on a scale from 1 to 4 (1 = not important, 4 = very important)



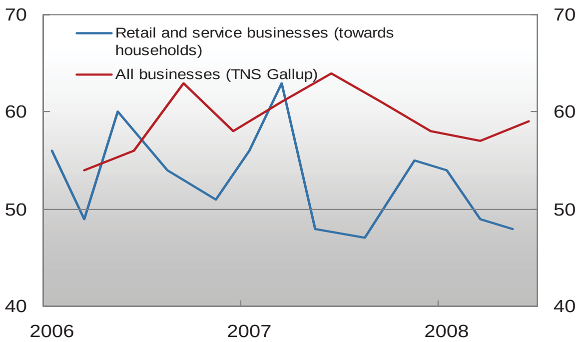
1) The survey was conducted by Norges Bank in the first half of 2007. Randomly selected Norwegian businesses participated. Preliminary results from the survey was published in a box in MPR 2/07. A more detailed analysis of the whole survey will be published in October in Economic Bulletin 2/08.
Source: Norges Bank

Chart 3.6 Changes in farmers' target prices as set in the yearly agricultural agreements. Millions of NOK. Nominal prices. 1999 - 2008



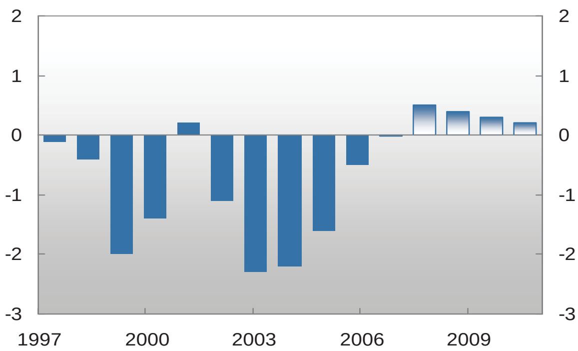
Source: Ministry of Agriculture and Food

Chart 3.7 Expected growth in firms' selling prices over the next 12 months. TNS Gallup and Norges Bank's regional network. Diffusion indices[1]. January 2005 – June 2008



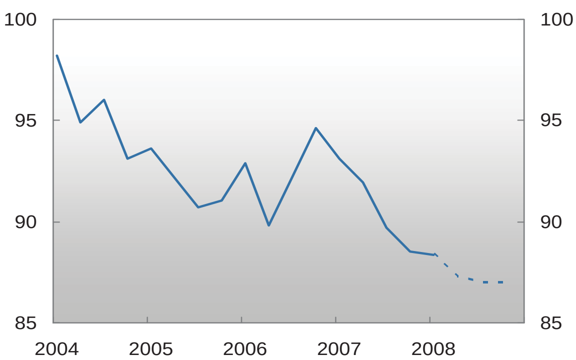
[1] Share expecting higher growth +0,5 *share expecting the same growth. Numbers over 50 indicate expectations of higher growth.
Source: TNS Gallup and Norges Bank's regional network

Chart 3.8 Indicator of external price impulses to imported consumer goods measured in foreign currency. Annual change. Per cent. 1995 – 2011[1]



[1] Projections for 2008 – 2011.
Sources: Thomson Reuters, Statistics Norway and Norges Bank

Chart 3.9 Import-weighted exchange rate (I-44). Actual figures and projections. Index. 2004 Q1 – 2008 Q4



[1] A rising curve denotes a weaker krone exchange rate. The exchange rate path is based on uncovered interest rate parity.
Source: Norges Bank

year. At year-end, the rise in prices for domestically produced goods and services may be close to 4%. As a result of moderating growth in output and employment, the rise in prices for domestically produced goods and services will level off and gradually ease. Against the background of continued high wage growth, the rise in prices for domestically produced goods and services may nevertheless be close to 3½% in the years ahead.

In Norway, prices for imported consumer goods are still falling, albeit at a somewhat slower pace than in 2007 (see Chart 3.2). In May, prices for imported consumer goods were 0.2% lower than in May 2007. Measured in foreign currency, prices for imported consumer goods have generally fallen since the end of the 1990s (see Chart 3.8). This reflects low global inflation and a growing share of imports from low-cost countries. In recent years, the shift towards imports from low-cost countries has become less pronounced. Moreover, global inflation has increased. In 2007, prices for imported consumer goods were approximately unchanged on the previous year measured in foreign currency. The gradual appreciation of the krone since 2004 (see Chart 3.9) has nevertheless contributed to a sustained fall in retail prices for imported consumer goods.

This year and in the years ahead, prices for imported consumer goods are expected to increase measured in foreign currency (see Chart 3.8). The shift towards imports from low-cost countries is expected to ease further, and we also expect high global inflation partly as a result of high wage growth in China and other low-cost countries. Because the krone normally influences prices for imported consumer goods with a lag, the recent krone appreciation implies a lower rise in prices for imported consumer goods through 2008. High domestic cost inflation may partly counteract the effect of the krone appreciation on retail prices. The effects of the krone appreciation will gradually unwind, and the krone is assumed to depreciate somewhat through the projection period. Towards the end of the period, retail prices for imported consumer goods will probably rise.

With a continued quickening of the rate of increase in prices for domestically produced goods and services, CPI-ATE inflation may hover around 2.5% over the next few

Recent price developments

The 12-month rise in the consumer price index (CPI) has been above 3% so far this year. In May, the year-on-year rise was 3.1%. Inflation has been somewhat higher in recent months than projected in the previous *Report* (see Chart 1), reflecting somewhat higher inflation adjusted for tax changes and excluding energy products (CPI-ATE) than projected (see Chart 1). Prices for fuel and lubricants have also climbed further than anticipated. In May, the year-on-year rise in these prices was 10%. Electricity prices rose by 14% in the year to May 2008, as expected.

The 12-month rise in the CPI-ATE was 2.3% in May, down from 2.4% in April. Other indicators of underlying inflation show a higher increase. The year-on-year rise in a trimmed mean of the sub-groups in the CPI was 3.3% in May, while the weighted median showed a rise of 3.0%. The weighted median in particular has increased since the previous *Report* (see Chart 1.1 in Section 1). Inflation adjusted for tax changes and excluding temporary changes in energy prices (CPIXE) was 3.0% in May.

Sharper rise in prices for domestically produced goods and services

The rise in prices for domestically produced goods and services has continued to quicken and has been slightly stronger than expected (see Chart 2). In May, the year-on-year rise was 3.5%. This is due partly to a further rise in food prices, which have risen by 4.1% since January alone. Prices for domestically produced food have accelerated in particular (see Chart 3).

House rent inflation has also picked up markedly. In May, the year-on-year rise was 2.9%, up from 1.9% in February. The rise in rents from 2006 to 2007 was 1.6%, the lowest annual increase since 1995. Actual and imputed rents are the most important sub-groups of the rent component of the CPI.[1] Actual rents measure price movements for households that rent dwellings, whereas imputed rents are a measure of housing costs for those who own their own homes. Historically, actual and imputed rents have risen largely in tandem, but since the rent index was restructured in July 2006, imputed rents have increased somewhat less than actual rents (see Chart 4). The rise in both actual and imputed rents has quickened recently.

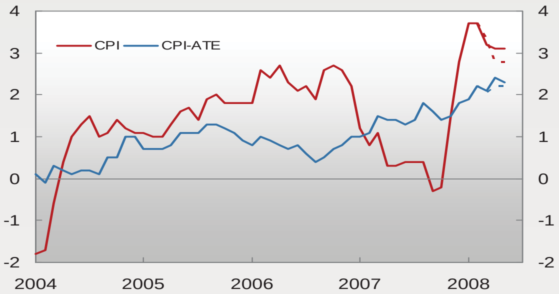
The rise in prices for products for the maintenance and repair of dwellings has slowed markedly (see Chart 4). In some months last year, the 12-month rise in these prices was more than 8%. In May this year, the year-on-year rise was 3.1%, reflecting reduced activity in the construction sector. According to Statistics Norway, air fares were 16% lower in May than in May last year (see Chart 5). It is unlikely that the drop in air fares will continue, as the high price of oil is pushing up airlines' fuel costs. The air fare index in the CPI was restructured in August last year and will probably now also capture the tendency for prices to be higher during the holiday months than otherwise. The index for books was restructured at the same time. As with the air fare index, month-to-month variations in the book index have been considerably wider since the restructuring. Book prices fell sharply in March as a result of the annual clearance sales, but rose again thereafter (see Chart 5).

Continued fall in prices for imported consumer goods

The drop in prices for imported consumer goods has continued. In May, they were 0.2% lower than in May last year, i.e. in line with that projected (see Chart 2). Prices for imported consumer goods are still being pulled down by falling prices for audiovisual equipment, white goods and clothing and footwear (see Chart 6).

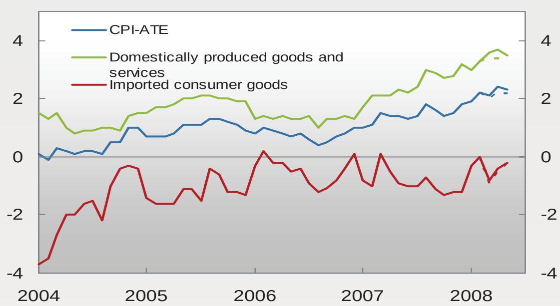
1 The rent component, which makes up a fifth of the CPI-ATE, also includes municipal charges and home insurance.

Chart 1 CPI and CPI-ATE[1)]. Projections from MPR 1/08 (broken line) and actual. 12-month change. Per cent. January 2004 – May 2008



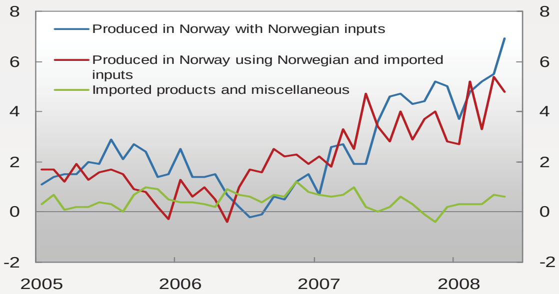
1) CPI adjusted for tax changes and excluding energy products.
Sources: Statistics Norway and Norges Bank

Chart 2 CPI-ATE[1)]. Total and by supplier sector[2)]. Projections from MPR 1/08 (broken line) and actual. 12-month change. Per cent. January 2004 – May 2008



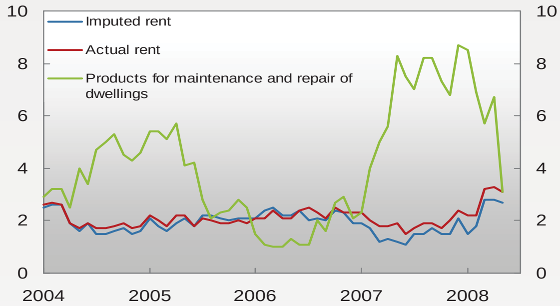
1) CPI adjusted for tax changes and excluding energy products.
2) Norges Bank's estimates.
Sources: Statistics Norway and Norges Bank

Chart 3 Developments in food prices in Norway. 12-month change. Per cent. January 2005 – May 2008



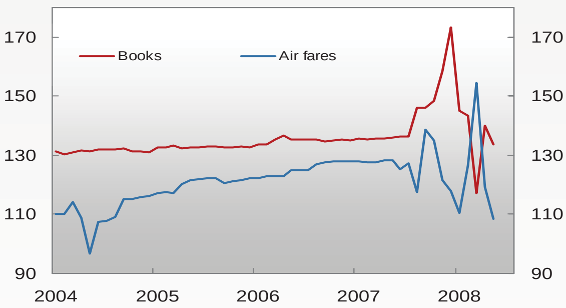
Sources: Norwegian Agricultural Economic Research Institute and Norges Bank

Chart 4 Selected product groups in the CPI. 12-month change. Per cent. January 2004 – May 2008



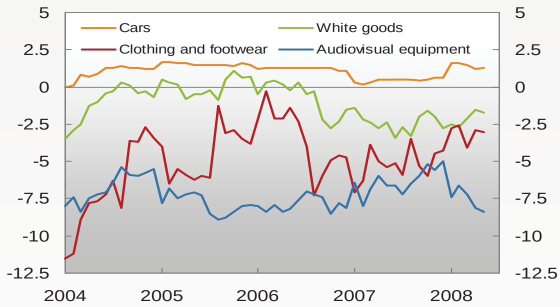
Source: Statistics Norway

Chart 5 Price level for product groups in the CPI that were restructured from August 2007. Indices, 1998 = 100. January 2004 – May 2008



Source: Statistics Norway

Chart 6 Prices for product groups in the CPI that are mainly imported. 12-month change. Per cent. January 2004 – May 2008



Source: Statistics Norway

months. The rise in prices for imported consumer goods towards year-end is expected to be somewhat lower owing to the strong krone. This will have a dampening impact on inflation.

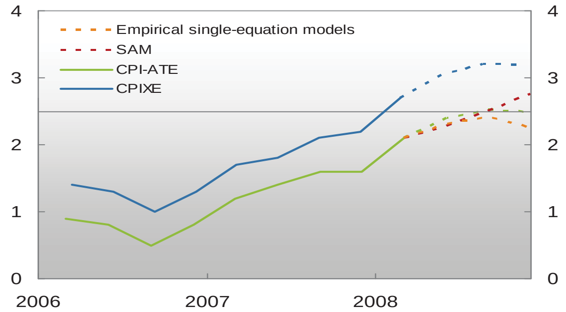
Norges Bank uses different empirical models in the work on short-term projections for consumer prices. Projections derived from these models are combined with other types of information in an overall assessment of inflation the next quarters. We have developed a system for averaging projections from short-term models – SAM – as an aid in making projections for inflation and output over the next quarters (see box on page 56). The projections from SAM show slightly higher inflation at the end of the year than we project (see Chart 3.10). A weighted average of the forecasts from empirical models for the two groups domestically produced goods and services and imported consumer goods yields somewhat lower inflation than our projection. The different projections from the various models illustrate that there is also considerable uncertainty surrounding the projections for short-term price developments.

There are prospects that electricity prices ahead will be higher than projected in the previous *Report* (see Chart 3.11). This is because the surge in oil prices has pushed up forward electricity prices in Europe, which in turn has led to higher price expectations in Norway. The rise in oil prices has also driven up petrol prices in Norway. If petrol prices remain at approximately the current level and electricity prices move in line with market expectations, the year-on-year rise in consumer prices may be very high in the next months (see Chart 3.1).[2] This primarily reflects unusually low electricity prices through summer and the first autumn months last year. The overall annual rise in consumer prices may be about 4% from 2007 to 2008.

The prospects for higher energy prices result in a higher rise in the estimated energy price trend included in the CPIXE (see Chart 3.12). CPIXE inflation will be higher than CPI-ATE inflation, and somewhat higher than the inflation target of 2.5% over the next years. From 2010, energy

2 In recent months, there have been considerable electricity price differences between the southern part of Norway and the rest of the country, and the price differences are likely to persist through summer. It is unclear how this will affect estimated price developments for electricity in the consumer price index. We assume that prices for Norway as a whole in the coming months will be somewhat under the expected average price for the Nordic countries, the so-called system price on the power exchange Nord Pool.

Chart 3.10 CPIXE[1)] and CPI-ATE[2)]. Actual figures and projections by different models. 4-quarter change. Per cent. 2006 Q1 – 2008 Q4

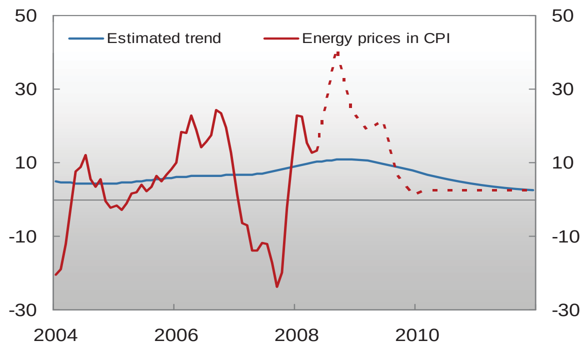


1) CPI adjusted for tax changes and excluding temporary fluctuations in energy prices.
2) CPI adjusted for tax changes and excluding energy products.
Sources: Statistics Norway and Norges Bank

Chart 3.11 Electricity prices. Nord Pool. NOK/MWh. Actual prices. January 2004 – May 2008. Futures prices (broken line) from 2008 Q3 – 2010 Q4

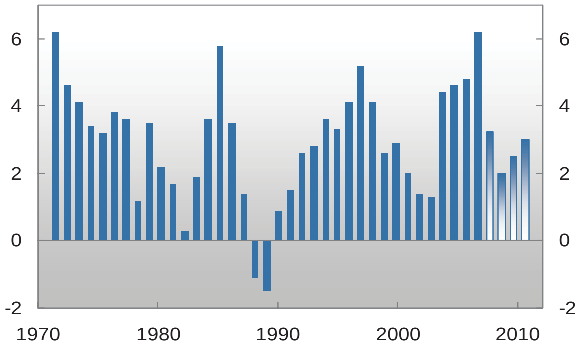
Sources: Nord Pool and Norges Bank

Chart 3.12 Energy component of the CPI.[1)] Actual and calculated trend.[2)] 12-month change. Per cent. January 2004 – December 2011[3)]



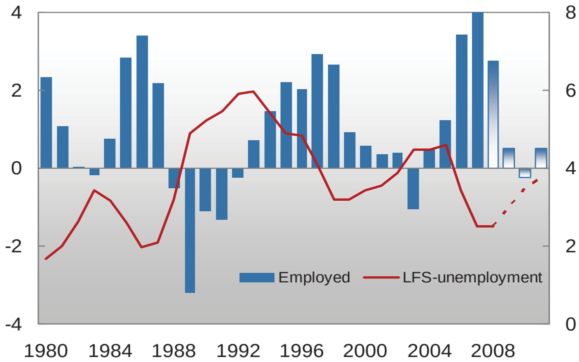
1) Including electricity and fuel products.
2) The trend is calculated by a HP-filter (lamda = 14400) on the actual and projected movements of energy prices in the CPI.
3) Projections for June 2008 – December 2011.
Sources: Nord Pool, Statistics Norway and Norges Bank

Chart 3.13 Mainland GDP. Annual growth in volume. Per cent. 1971 – 2011[1)]



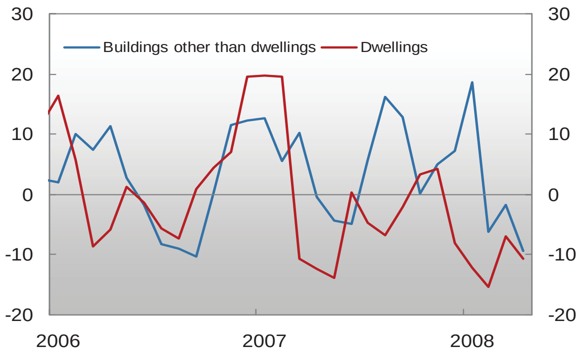
[1)] Projections for 2008 – 2011.
Sources: Statistics Norway and Norges Bank

Chart 3.14 Change in employment (QNA) on previous year (per cent) and unemployment (LFS) as a percentage of the labour force. 1980 – 2011[1)]



[1)] Projections for 2008 – 2011.
Sources: Statistics Norway and Norges Bank

Chart 3.15 Building starts. Utility floor space for dwellings and other buildings. Moving three month growth rates. Seasonally adjusted. Per cent. January 2006 – April 2008



Source: Statistics Norway

prices are projected to rise at about the same rate as other prices. The rate of increase in the CPI-ATE, CPIXE and CPI will converge and settle around the inflation target of 2.5% towards the end of the projection period.

Moderating GDP growth

Strong growth in the Norwegian economy over four years has boosted activity growth to a high level. According to the national accounts, mainland GDP growth was 6.2% in 2007, compared with growth of just below 5% in 2006 (see Chart 3.13). Growth has been broad-based, but primarily driven by rapid growth in private consumption, housing investment and production equipment. In the first phase of the upturn productivity was strong. Later in the upswing large inflows of foreign labour and higher participation rates among the existing population made it possible to sustain high growth rates (see Chart 3.14).

There are now signs that growth is moderating. According to preliminary quarterly national accounts figures, mainland GDP at basic prices and excluding electricity production grew by a seasonally adjusted 0.7% from 2007 Q4 to 2008 Q1. At market prices, growth was 0.3%. The difference partly reflects lower consumption of highly-taxed goods such as electricity and cars, which reduced government VAT revenues and special tax revenues. At market prices and including electricity production, mainland GDP expanded by 0.2%. Previously published quarterly national accounts figures are prone to extensive revision as more information becomes available. The Q1 figures must therefore be considered particularly uncertain.

The main drag on growth in the first quarter was sluggish household demand. On the other hand, petroleum investment remains buoyant. Combined with high oil prices, this is generating strong demand in the petroleum sector.

The slowdown is most visible in the construction sector. According to building statistics, building starts in square metres were lower in the first four months of 2008 than in the same period in 2007. Reduced activity primarily reflects low housing starts. Following very high building starts towards the end of 2007, commercial and holiday home starts have declined (see Chart 3.15), but the figures for commercial building starts so far this year are still higher than at the same time last year.

Forward-looking indicators show clear signs that growth in economic activity will moderate over the next quarters. New manufacturing orders fell by nearly 20% from 2007 Q1 to 2008 Q1. Order backlogs remain at a high level, but a lower level of new orders will have a noticeable impact on order backlogs over the next two to three quarters.

The overall indicator for manufacturing leaders' expectations in the business tendency survey was unchanged from 2007 Q4 to 2008 Q1. According to this indicator, expectations are now somewhat lower than the average for the past ten years. The Norwegian PMI index[3] has in the past year been a leading indicator of developments in the business tendency survey (see Chart 3.16). The PMI index has levelled off at just above 50 thus far in 2008. This indicates that purchasing managers now expect low, but positive growth.

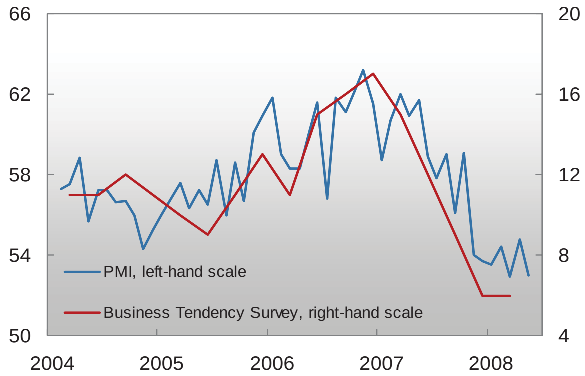
The business tendency survey shows that manufacturing leaders' expectations concerning growth in the next quarter have recently been higher than actual growth (see Chart 3.17). The widening gap between expected an actual output is also evident in comparable surveys in the regional network (see Chart 3.18). However, the regional network reports that growth expectations have now been lowered considerably compared with last year. The network expects growth of 2%-3% in 2008.

Since the previous *Report*, lending rates have increased. According to Norges Bank's bank lending survey[4], banks are gradually tightening lending standards for both business customers and households. In the construction sector, where access to bank loans has been important, activity fell in the first quarter of 2008 compared with the same period in 2007. Higher interest rates are pushing up the household saving ratio, which is now at a historically low level. In addition, higher inflation is restraining growth in real disposable income. Growth in private consumption is slackening.

3 The PMI is a monthly survey of activity changes among purchasing managers. In Norway, the PMI index is compiled by NIMA (Norwegian Association of Purchasing and Logistics).

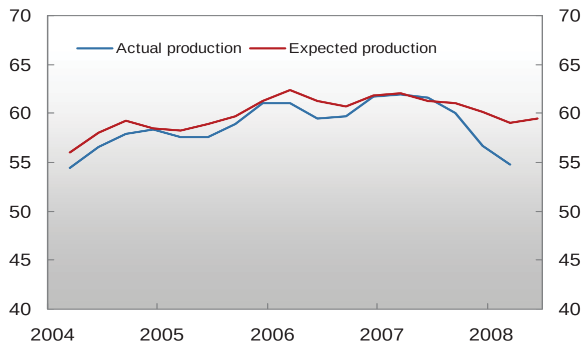
4 See *Financial Stability* 1/08.

Chart 3.16 Business tendency survey and Purchasing Managers Index (PMI). Seasonally adjusted diffusion index. Quarterly and monthly figures. 2004 Q1 – 2008 Q1 (May 2008)



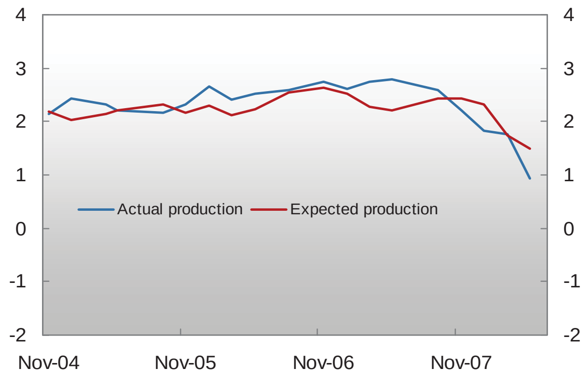
Sources: Statistics Norway and NIMA/Fokus Bank

Chart 3.17 Business tendency survey. Actual production and production as expected last quarter. Seasonally adjusted diffusion index. 2004 Q1 – 2008 Q2



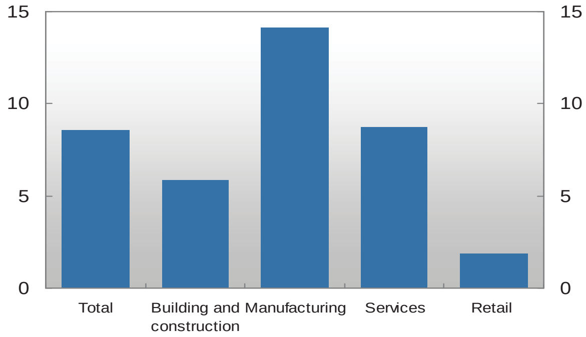
Source: Statistics Norway

Chart 3.18 Actual production and production as expected last quarter. Index[1)]. November 2004 – May 2008



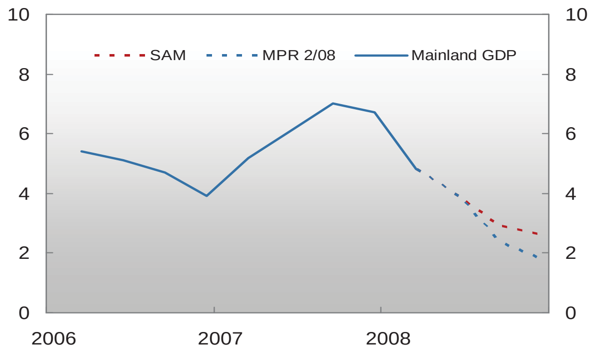
1) The scale runs from -5 to +5, where -5 indicates a large fall and +5 indicates a strong rise. See article "Norges Bank's regional network" in *Economic Bulletin* 3/05 for further detail.
Source: Norges Bank's regional network

Chart 3.19 Share of total turnover related to the oil-producing sector. Per cent. 2008



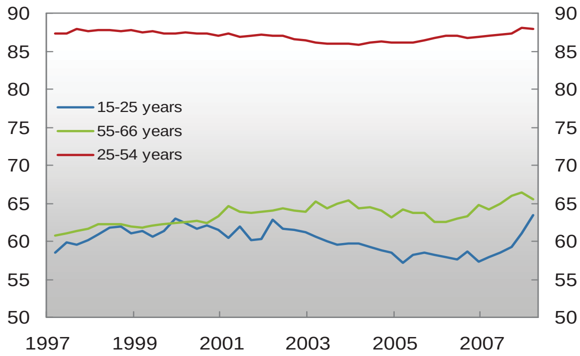
Source: Norges Bank's regional network

Chart 3.20 Mainland GDP in terms of market value.[1)] Four-quarter change. Seasonally adjusted. Per cent. 2006 Q1 – 2008 Q4



[1)] Projections for 2008 Q2- 2008 Q4.
Sources: Statistics Norway and Norges Bank

Chart 3.21 Labour force as percentage of population in same age group. Seasonally adjusted. 1997 Q1 – 2008 Q1



Sources: Statistics Norway and Norges Bank

As noted in Section 2, growth in the world economy is expected to be lower towards the end of 2008 and into 2009. This may reduce demand for Norwegian exports. High domestic cost inflation and an appreciation of the nominal krone exchange rate have resulted in a strong real exchange rate. This may also drag down export growth.

On the other hand, sustained growth in employment and high wage growth will underpin income growth. On the Oslo Stock Exchange, equity prices have shown strong gains after the sharp declines at the beginning of the year. House prices seem to be stabilising. Based on the Revised National Budget, our projection for growth in general government consumption and investment in 2008 has been revised up.

About 32% of the enterprises in the regional network report that they are feeling the effects of demand in the petroleum sector, and almost 15% of turnover in manufacturing is related to this sector (see Chart 3.19).[5] Moreover, 36% of the enterprises are noticing the effects of competition for labour with the petroleum sector. Many petroleum supplier industries have faced capacity problems in recent years. Improved resource availability and weaker demand in other sectors of the economy may increase growth conditions in these industries. High oil prices are stimulating activity in the petroleum sector and in petroleum supplier industries. The surge in oil prices may also fuel expectations of sustained growth in household income and solid public finances.

On balance, mainland GDP growth is projected to show a clear downward shift in 2008. Mainland GDP growth is projected at 3¼% in 2008. Our projections are consistent with the system for averaging short-term models (SAM) in the second quarter, but are somewhat lower in the latter half of 2008 (see Chart 3.20 and box on page 56). A higher interest rate level, a strong krone and lower external growth will reduce capacity utilisation. Growth in private consumption is softening and housing starts are on the decline. Towards year-end employment growth is also expected to slacken.

5 The survey findings are discussed further in *Economic Commentaries* 2/08 "Effects of high oil prices on the Norwegian economy", www.norges-bank.no, 26 June 2008.

Continued strong growth in labour supply

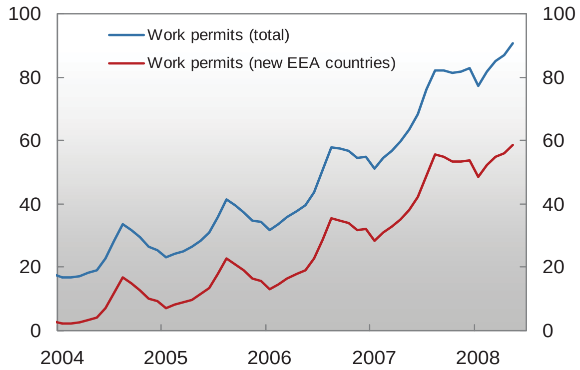
The labour force expanded by 4% between 2007 Q1 and 2008 Q1, which is the strongest growth in the labour supply recorded since 1976. Both labour force participation and population growth increased. Population growth is being driven by historically high net inward migration.

In the year to 2008 Q1, population growth accounted for about half of labour supply growth. Some of the growth in the labour supply measured by the LFS reflects an increase in the number of work permits issued by the Norwegian Directorate of Immigration that are valid for more than six months. This means that a larger share of inward labour migration is registered as resident in Norway and hence included in the basis for the LFS. However, population growth is not the only factor explaining the growth in the labour force. In the past year, there has been a considerable increase in the supply of labour from younger age groups (see Chart 3.21). At the same time, the number of benefit recipients and pensioners has shown a smaller increase than implied by changes in the composition of the population. In 2007, participation rates were the highest ever registered.

The number of work permits has continued to rise so far this year (see Chart 3.22). In addition to continued high inward labour migration from Poland and the Baltic countries, labour flows from Romania are now also rising (see Chart 3.23). The regional network has for the third time conducted a survey on the use of foreign labour. The survey shows that the use of foreign labour is still rising in all industries. Most enterprises report that they employ foreign labour because of a shortage of Norwegian labour, but an increasing number of companies are recruiting foreign labour because they are most qualified for the job (see Chart 3.24). Only 3% of the enterprises report that they are replacing Norwegian labour with foreign labour in order to cut costs. In the past year, the increase in the use of foreign labour has been highest in the public sector and retail trade.

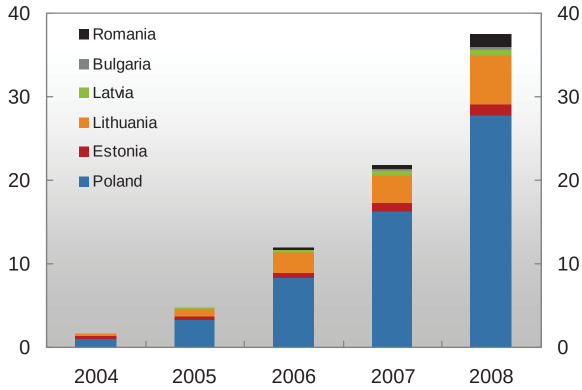
New population projections from Statistics Norway show an upward revision of population growth estimates. The

Chart 3.22 Work permits issued by the Norwegian Directorate of Immigration (UDI) , total and to citizens from new EEA countries. In thousands. January 2004 – May 2008



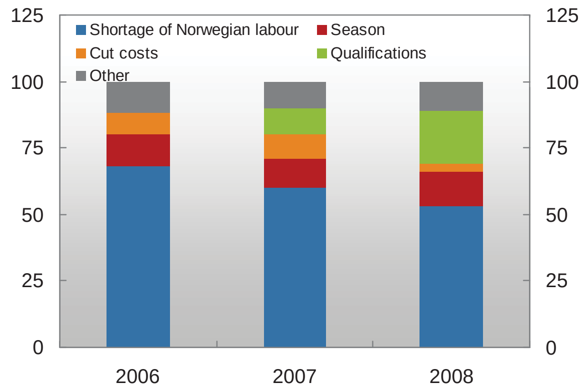
Source: Norwegian Directorate of Immigration (UDI)

Chart 3.23 Registered employees from new EU countries. In thousands. 2004 – 2008



Source: Central Office – Foreign Tax Affairs

Chart 3.24 Reasons for use of foreign labour. Per cent. 2006 - 2008



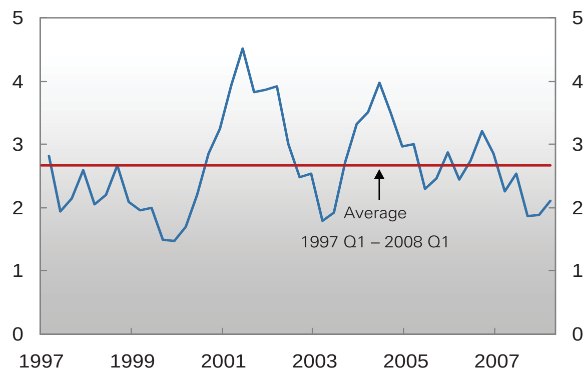
Source: Norges Bank's regional network

Table 3.1 Population and labour force growth. Change from previous year. Per cent

	2008	2009	2010	2011
Population growth in the age group 15-74 years	1¾	1½	1¼	1¼
Contribution from change in population composition	-¼	-¼	-¼	-¼
Cyclical contribution	1¼	-¼	-½	-½
Labour force growth	2¾	1	½	½

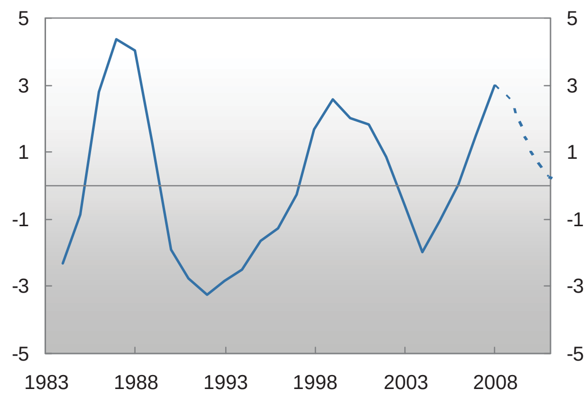
Source: Norges Bank

Figur 3.25 Hourly productivity, mainland Norway. Five-quarter moving average. Per cent. Four-quarter change. 1997 Q1 – 2008 Q1



Sources: Statistics Norway and Norges Bank

Chart 3.26 Estimates for the output gap. Per cent. 1983 - 2011



Source: Norges Bank

projections are based on continued high net immigration from EU/EEA countries. Our projections for population growth have been revised up through the projection period, but we project a somewhat faster moderation in labour immigration than Statistics Norway. Some of the labour immigration in recent years probably reflects cyclical conditions. The number of immigrants is likely to decline as growth in labour demand in the Norwegian business sector recedes. Based on the experience of other countries and earlier periods of high immigration, a reversal of the migration flow is not likely to occur rapidly. Population growth for the group aged 15-74 is now estimated at 1¾% in 2008, followed by slower rates in subsequent years. A higher share of older age groups with low participation rates will also curb labour supply growth. Moreover, reduced labour market tightness will probably bring down participation rates for some groups (see Table 3.1).

As part of the negotiated result between the Norwegian Confederation of Trade Unions/Confederation of Vocational Unions and the Confederation of Norwegian Enterprise, an agreement was reached to extend the contractual early retirement scheme. In the longer term, the contractual early retirement scheme may influence the labour supply, but with opposing effects. The agreement will provide improved opportunities to combine work and pension, which in isolation may increase the labour supply. On the other hand, it will also increase income for some groups of pensioners, which may reduce the labour supply.

Capacity utilisation normalises

Strong growth in productivity and the labour supply has resulted in high growth potential in the Norwegian economy. With continued high labour immigration, potential growth will be high again this year. Lower immigration ahead will result in a gradual decline in potential growth further out in the projection period.

The output gap expresses our assessment of capacity utilisation in the economy relative to underlying potential output. Following several years of brisk activity growth and rising capacity utilisation, the output gap probably peaked towards the end of 2007.[6]

The end of a cyclical upturn is often characterised by low productivity growth. This has also been the case this time (see Chart 3.25). It takes some time before enterprises adapt the use of labour to lower productivity growth. Hourly productivity growth is expected to be very low this year, but it is assumed that productivity growth will pick up again as enterprises adapt employment to production.

Compared with 2007, growth slowed markedly in 2008 Q1. Growth in the economy this year is projected to be lower than potential growth, with the output gap moving down from the current high level (see Chart 3.26). The regional network and business tendency survey indicate that capacity utilisation peaked at the end of 2007 (see Chart 3.27).

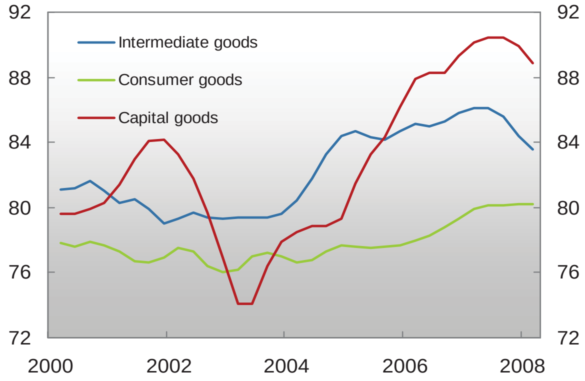
Fall in unemployment has come to a halt

During this cyclical upturn unemployment fell to a very low level (see Chart 3.28). Registered unemployment is now at its lowest level in over 20 years and has remained approximately unchanged since the beginning of 2008. In May, the number of registered unemployed stood at 1.5% of the labour force. At the same time, persons participating in labour market programmes came to 0.5%. According to the LFS, the unemployment rate was 2.4% in March, which is somewhat lower than at the end of the cyclical expansion in 1998.

The number of vacancies has edged down, but from a high level. Demand for labour in some labour market segments is still elevated, e.g. education, health and engineers, particularly in southwest Norway. For other occupational groups such as the construction workers, demand has softened since last spring. This is confirmed by the regional network (see Chart 3.29). Overall, our regional network contacts expect sustained employment growth, but at a lower rate than earlier. The same picture

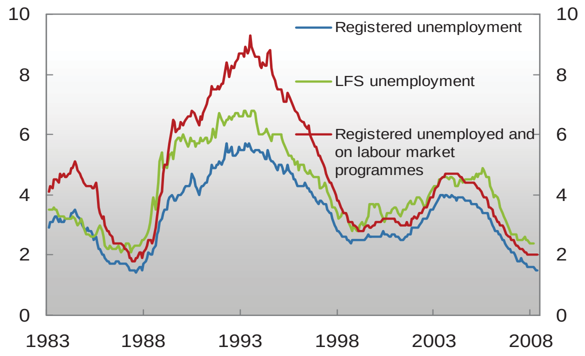
6 Historically, the output gap is based on a technical trend calculation of the output potential where the estimate of the potential at a given time depends on GDP growth before and afterwards. Under this method, high growth in mainland GDP and in the potential in recent years also increases the estimate of the potential in the years just before the upturn. The technically estimated potential for 2002-2003 is higher than our assessment at that time. In recent years growth partly reflects structural changes, among other things a higher supply of labour from Central Europe.

Chart 3.27 Capacity utilisation in manufacturing. Business tendency survey. Per cent. 2000 Q1 – 2008 Q1



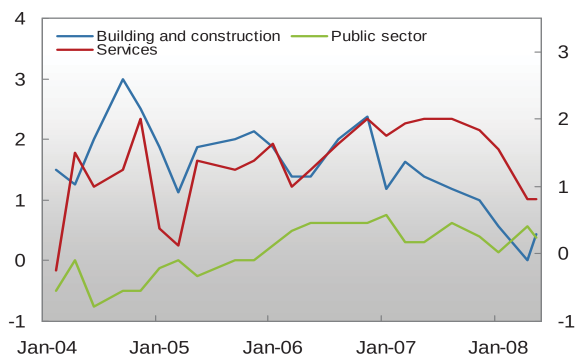
Source: Statistics Norway

Chart 3.28 Unemployed. Percentage of labour force. Seasonally adjusted. February 1983 – May 2008



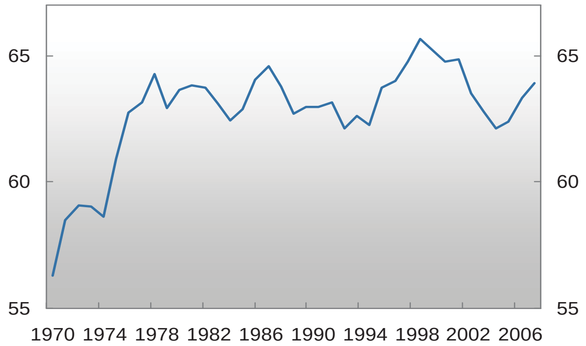
Sources: Statistics Norway, Norwegian Labour and Welfare Administration (NAV) and Norges Bank

Chart 3.29 Expected employment growth in the next three months. February 2004 – May 2008



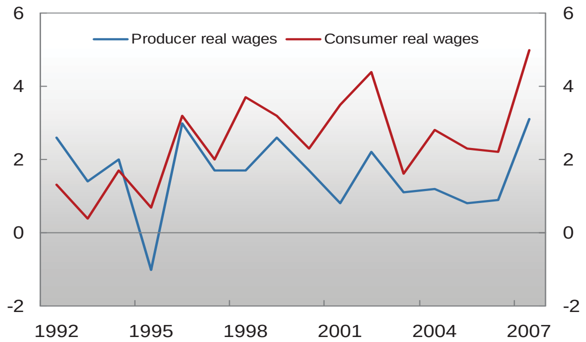
Source: Norges Bank's regional network

Chart 3.30 Total mainland labour costs as a share of mainland GDP. Per cent. 1970 – 2008[1)]



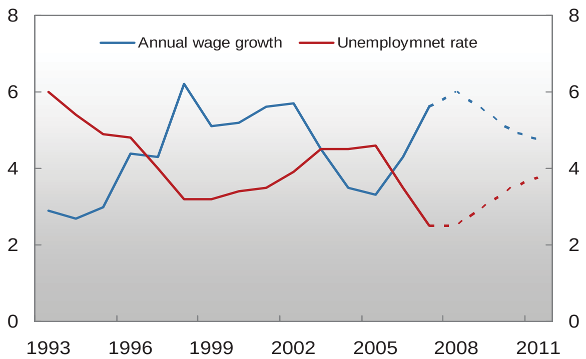
[1)] GDP in basic value. Figures for 2008 are an average of 2007 Q2 – 2008 Q1.
Sources: Statistics Norway and Norges Bank

Chart 3.31 Growth in producer real wages and consumer real wages.[1)] Per cent. 1992 – 2007



[1)] In producer real wages nominal wages are deflated by the mainland GDP deflator. In consumer real wages we have used the deflator for private consumption in the national accounts.
Sources: Statistics Norway, Technical Reporting Committee on Income Settlements and Norges Bank

Chart 3.32 Annual wage growth[1)] and LFS unemployment. Per cent. 1993 – 2011



[1)] Average for all groups. Including estimated costs of increase in number of vacation days and introduction of mandatory occupational pensions.
Sources: Statistics Norway, Technical Reporting Committee on Income Settlements and Norges Bank

emerges in the semi-annual report of the Confederation of Norwegian Enterprise and other expectations surveys such as the Norwegian PMI index for May and the first-quarter business tendency survey.

Looking ahead, lower growth in domestic activity will gradually be reflected in lower employment growth. Continued growth in some areas of the economy may contribute to supporting demand for labour in some sectors. Unemployment is expected to increase gradually in the latter half of the year. Unemployment is projected to exceed 3% in the course of 2009 and gradually approach 3¾% in 2011.

High wage growth

In the first phase of this cyclical upturn, wage shares declined and neared levels recorded in the 1970s (see Chart 3.30). Strong productivity growth and substantial terms-of-trade gains provided scope for high real wage growth in tandem with falling wage shares. The improvement in the terms of trade has resulted in a faster rise in consumers' real wages than in producers' real wages (see Chart 3.31). Increased cross-border flows of both labour and work assignments may have contributed to restraining nominal wage growth. Wage shares are now on the increase again. Rising oil prices are still a source of favourable terms-of-trade developments, but reduced productivity growth and relatively high wage growth this year will result in a further increase in wage shares.

Wage growth has accelerated over the past three years in pace with a decline in unemployment and the emergence of bottlenecks in some labour market segments (see Chart 3.32). Competition with the petroleum sector may also have added to wage pressures. According to the regional network, 27% of Norwegian enterprises report wage pressures owing to competition for labour with this sector (see Chart 3.33).

At the beginning of the recovery, wage growth was highest in the private sector. As was the case towards the end of the previous upturns, wage growth this year will probably be highest in the public sector. The outcome of the negotiations between the Norwegian Confederation of Trade Unions, the Confederation of Vocational Unions and the Confederation of Norwegian Enterprise implies annual wage growth of 5.6%. Wage drift is estimated at 2½%, a quarter percentage point lower than last year, but higher than in all the years in the previous cyclical upturn. The results of the public sector negotiations imply wage growth of 6¼%. So far, it appears that overall wage growth will be fairly close to 6% this year. The estimate is still uncertain. The public sector wage negotiations are based on low wage drift. In the local government sector, pay increases have been agreed for 2009. With a high carry-over, the effect for 2009 may be estimated to about 4½%.

Measured in common currency, wage differentials between Norway and its trading partners have never been greater. High productivity growth, strong demand growth and favourable export prices have contributed to solid corporate earnings in spite of the high wage level. With lower global demand, Norwegian export companies will face stronger competition and the high wage level may reduce corporate profitability. Wage growth is projected to taper off to a level just below 5% in 2011 as labour market conditions become more normal.

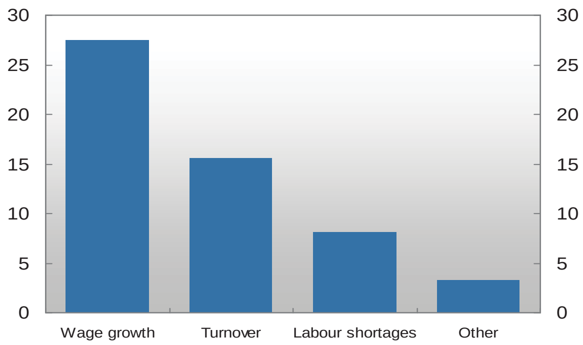
Weaker growth in private consumption

Private consumption grew by 6.4% in 2007, or at a rate not witnessed since the boom in 1985-1986. In the past year, the main driver behind growth in private consumption has been vigorous growth in household real disposable income (see Chart 3.34). Low inflation and strong employment growth have boosted total real income. At the same time, household saving has fallen since 2002 (see Chart 3.35).[7] According to figures from household income accounts, household saving was negative in 2007.

A number of factors point to considerably slower growth in private consumption from 2007 to 2008. For 2008 as a whole, consumption growth is projected at about 2¾%. According to the first-quarter national accounts for 2008, private consumption is growing at a slower pace. The retail trade index for April indicates a continued weak profile. Growth in household real disposable income will

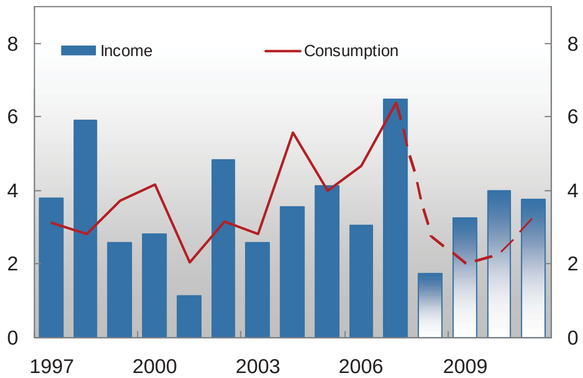
7 Excluding share dividends and adjusted for tax-related adaptations to the introduction of dividend tax for personal shareholders in 2006.

Chart 3.33 How has demand for labour in the oil sector affected your business in the past year? Per cent. 2008



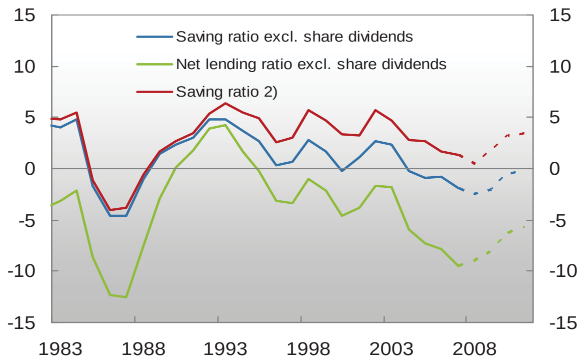
Source: Norges Bank's regional network

Chart 3.34 Household real disposable income[1)] and consumption[2)]. Annual growth. Per cent. 1997 – 2011[3)]



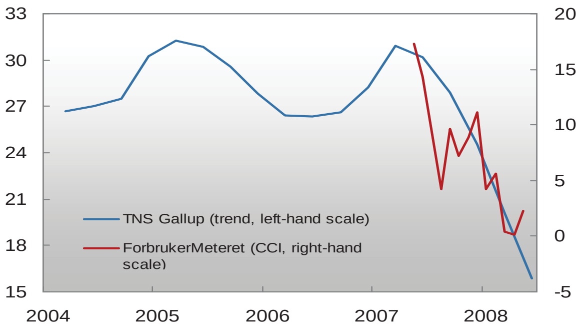
1) Adjusted for estimated reinvested share dividends for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2011.
2) Includes consumption in non-profit organisations.
3) Projections for 2008 – 2011.
Sources: Statistics Norway and Norges Bank

Chart 3.35 Household saving and net lending as a share of disposable income. Per cent. 1983 – 2011[1)]



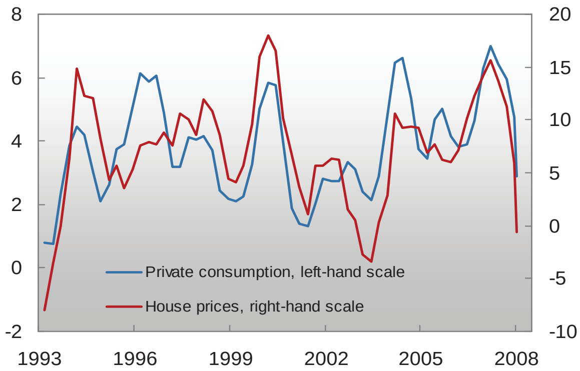
1) Projections for 2008 – 2011.
2) Adjusted for estimated reinvested share dividends for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2011.
Sources: Statistics Norway and Norges Bank

Chart 3.36 Consumer confidence. Diffusion indices. Quarterly and monthly figures. 2004 Q1– 2008 Q2 (May 2008)



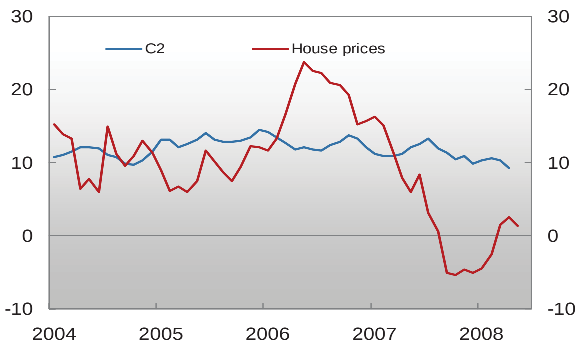
Sources: TNS Gallup and MakroSikt AS

Chart 3.37 Private consumption[1)] and real house prices[2)]. 4-quarter change. Per cent. 1993 Q1 – 2008 Q1



1) Seasonally adjusted and smoothed.
2) Nominal house price index deflated by the consumer price index.
Sources: Statistics Norway and Norges Bank

Chart 3.38 House prices and credit to households (C2). Change in 3-month moving average. Annual rate. Seasonally adjusted. Per cent. January 2004 – May 2008



Sources: Norwegian Association of Real Estate Agents, Association of Real Estate Agency Firms, Finn.no, ECON Pöyry, Statistics Norway and Norges Bank

probably be lower this year than in previous years. Even though nominal wage growth is still high, lower employment growth and higher inflation will hold back growth in real income. Household borrowing costs have increased over the past year (see Section 2).

Households' assessment of the economic outlook and their own financial situation has been very positive for a long period. TNS Gallup's trend indicator of household confidence shows a clear deterioration in household confidence since last summer (see Chart 3.36). The indicator is now lower than the historical average. ForbrukerMeteret from Makrosikt also shows a decline. Expectations of lower economic growth ahead may drag down growth in consumption. On the other hand, the increase in oil prices may generate impulses to consumption growth.

Since 2003, household debt accumulation has been higher than household financial investment. On the whole, households' financial position is still solid. The value of dwellings and financial assets is almost four times as high as total household indebtedness. Over time, there is a close relationship between the rise in real house prices and private consumption (see Chart 3.37). In recent years, the increase in asset prices has boosted the value of household wealth. Households must save more to maintain their wealth position as house price inflation slows.

Assets and liabilities are unevenly distributed across households. Some groups now have small buffers against economic disturbances, particularly first-time homebuyers. The average repayment period for new home mortgages has increased markedly over the past seven years, and interest-only loans have become more widespread. This limits the scope for coping with higher interest expenses or income shortfalls by adjusting the repayment period.

According to the Norges Bank lending survey, household credit demand eased from 2007 Q4 to 2008 Q1. Banks have also signalled more restrictive lending standards. The rate of household debt accumulation has moderated over the past year and is at its lowest level since 2004 (see Chart 3.38). Debt accumulation will probably continue to ease ahead.

Growth in real disposable income will slow this year and the saving ratio excluding share dividends may fall somewhat. Further ahead, tighter credit markets, lower house price inflation and higher interest rates will bring the fall in the saving ratio to halt and result in a renewed increase in household financial assets. Our projections are based on a gradual rise in the household saving ratio ahead.

Continued high business fixed investment

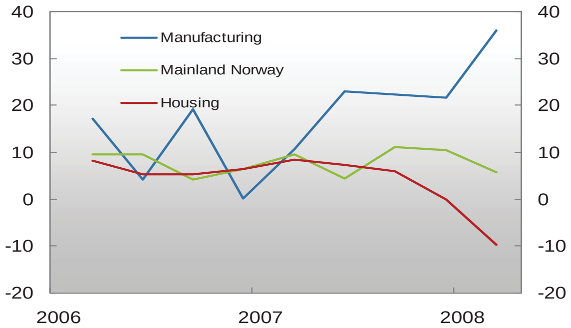
Reflecting high domestic activity, solid profitability and low real interest rate, mainland business fixed investment has expanded at a rapid pace. Housing investment increased for a long period, but has recently fallen (see Chart 3.39). Lower housing investment was an important factor behind the decline in total domestic demand in the fourth quarter.

In conjunction with higher interest expenses, it is likely that rising construction costs and falling house prices were important factors behind the fall in housing investment. The decline in house prices has levelled off, and house price inflation is expected to be low ahead. Housing investment is projected to contract through 2008 but to flatten out at a fairly high level further out. Continued high population growth and migration to urban areas may underpin housing investment.

Petroleum investment statistics indicate sustained high petroleum investment ahead (see Charts 3.40 and 3.41). High oil prices are conducive to continued buoyant investment activity on the Norwegian continental shelf. Capacity constraints have hampered petroleum investment over the past year. We assume that these constraints will subside ahead. Several new projects are now being started and approved, which will boost activity in the course of the year.

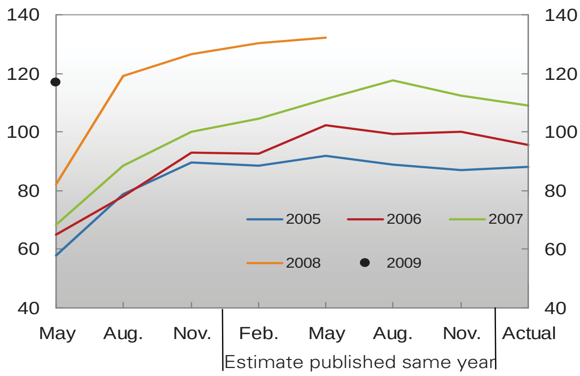
Manufacturing investment in mainland Norway has grown rapidly over the past year, particularly in the chemical industry which includes the production of silicon and solar cells, and in petroleum supplier industries such as the engineering industry and production of ships and

Chart 3.39 Real investment in manufacturing, housing and total for mainland Norway. Four-quarter growth. Per cent. 2006 Q1 – 2008 Q1



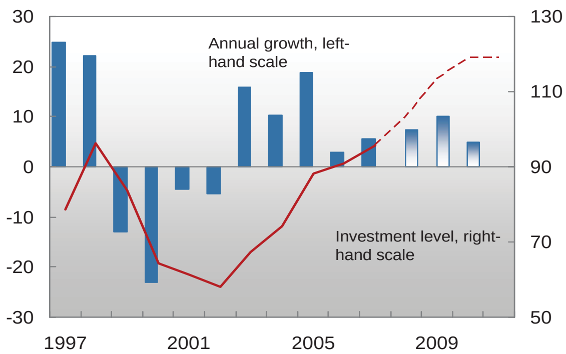
Source: Statistics Norway

Chart 3.40 Investment statistics for the petroleum industry. Estimated and actual investment (current prices). In billions of NOK. 2005 - 2009



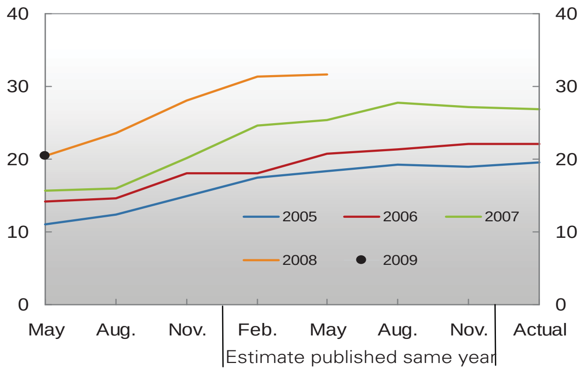
Source: Statistics Norway

Chart 3.41 Investment in oil and gas recovery including pipeline transport. Investment level in billions of NOK (constant 2005-prices) and annual growth (per cent). 1997 – 2011[1)]



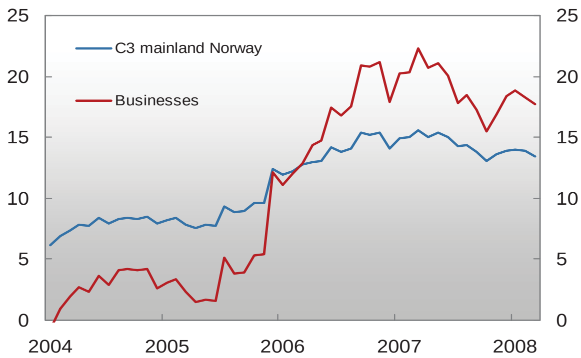
[1)] Projections for 2008 – 2011.
Sources: Statistics Norway and Norges Bank

Chart 3.42 Investment statistics for manufacturing. Estimated and actual investment (current prices). In billions of NOK. 2005 - 2009



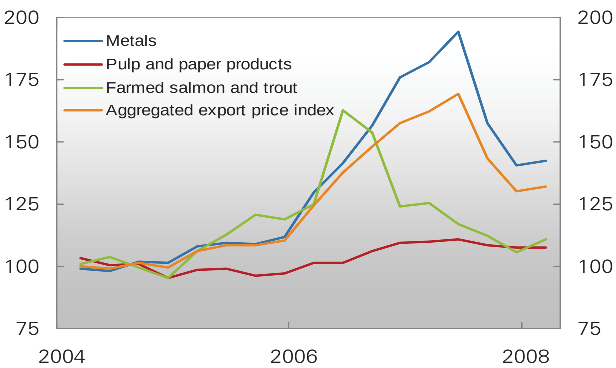
Source: Statistics Norway

Chart 3.43 Twelve-month growth in credit to mainland Norway.[1)] Per cent. January 2004 – March 2008



[1)] It is assumed that all foreign credit to mainland Norway is supplied to businesses.
Source: Statistics Norway

Chart 3.44 Price indices[1)] for Norwegian exports in NOK. 2004 = 100. 2004 Q1 – 2008 Q1



[1)] Norges Bank's estimates based on world market prices.
Sources: Thomson Reuters, Statistics Norway and Norges Bank

platforms. These are industries that have had very high capacity utilisation over the past year. The investment intentions survey for manufacturing indicates continued solid growth in 2008, with growth stalling thereafter (see Chart 3.42).

The Norges Bank lending survey shows that banks are tightening credit standards for corporate customers. Higher premiums on loans for projects with credit risk would indicate that lending rates for enterprises will increase more than money market rates. Investments in the commercial property sector are normally highly leveraged, and stricter credit standards may curb investment in this sector. New orders for commercial buildings have drifted down so far this year from the high levels recorded in 2007.

It is reasonable to assume that tighter credit markets will gradually feed through to activity in other business sectors. So far, however, corporate credit growth has remained firm (see Chart 3.43), which can partly be explained by continued buoyant activity in some business sectors around the beginning of 2008. At the same time, enterprises have had to draw increasingly on their lines of credit at Norwegian banks as other funding sources such as equity and bond markets have dried up. Corporate credit growth is expected to start moving down ahead.

High oil prices, continued solid profitability, rising share prices and sustained high activity in some manufacturing sectors may curb the decline in corporate investment. Growth in corporate investment is nevertheless expected to fall gradually later in the year as interest rates increase and capacity constraints ease.

Somewhat higher domestic cost inflation and the strong real exchange rate will probably push down export growth. Prices for some key export goods have stabilised at a high level after a period of falling prices in 2007 (see Chart 3.44). Export growth is now expected to level off, followed by subdued growth to year-end. Import growth will fall in pace with the levelling off in consumption. The tendency towards a gradual rise in the import share is not expected to change substantially ahead.

Pronounced growth in public spending

High oil prices have increased the room for fiscal manoeuvre in recent years. Looking ahead, the return on the Government Pension Fund – Global will have a steadily rising influence on the value of government wealth.

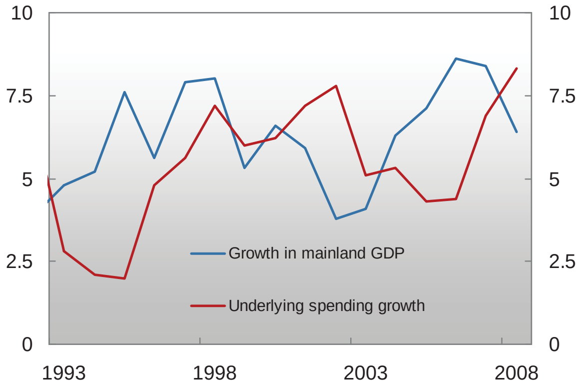
In the Revised National Budget for 2008, the structural, non-oil budget deficit for 2008 is estimated at NOK 73.9bn, or 4.3% of trend GDP. At current prices, this is an increase of NOK 16.1bn, or 0.7 percentage point of trend GDP compared with 2007. By this measure, the proposed fiscal policy will have a stronger expansionary effect on the economy than assumed in the previous *Report.*

In addition, it is estimated that nominal, underlying spending growth over the government budget will be 8.3% in 2008. Spending growth is higher than the government's estimate for nominal mainland GDP growth of 6.4% (see Chart 3.45).

According to the fiscal rule, the structural, non-oil budget deficit should average 4% of the capital in the Government Pension Fund – Global at the beginning of the year. The structural, non-oil budget deficit in the Revised National Budget is NOK 6.9bn lower than implied by the fiscal rule under a neutral cyclical situation. High oil prices generate prospects for strong growth in the Government Pension Fund – Global in the next few years. We assume that oil prices move in line with futures prices. Based on our oil price projections, the structural deficit will continue to be somewhat lower than the expected real return on the Fund in 2011 (see Chart 3.46).

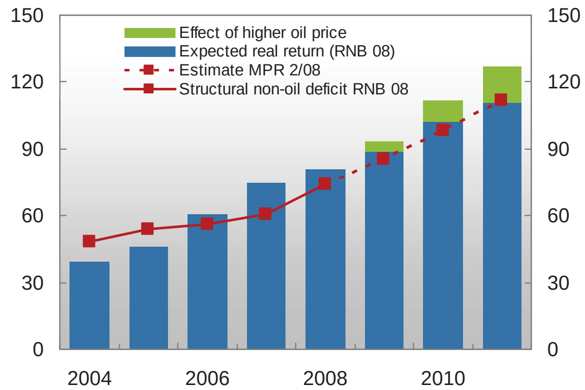
In the Revised National Budget, nominal growth in local government revenues is estimated at 6.2% in 2008, following growth of 5.5% last year. Wage growth in the local government sector will probably be somewhat higher than in the Revised National Budget, which implies that a higher share of revenues will have to be used to cover labour costs.

Chart 3.45 Nominal underlying spending growth in the government budget and nominal growth in mainland GDP. Per cent. 1993 – 2008



Sources: Ministry of Finance og Statistics Norway

Chart 3.46 Expected real return on the Government Pension Fund – Global. In billions of 2008-NOK. 2004 – 2011



Sources: Ministry of Finance (Revised National Budget 2008) and Norges Bank

Boxes

Underlying inflation

SAM – System of models for short-term forecasting

Projections in *Monetary Policy Report* 1/08 and 2/08

Underlying inflation

The operational target of monetary policy is annual consumer price inflation of close to 2.5% over time. In general, the direct effects on consumer prices resulting from changes in the interest rate level, taxes, excise duties and extraordinary temporary disturbances shall not be taken into account.

Looking back or ahead in time, we focus on developments in the total consumer price index (CPI). When assessing inflation today and the outlook for inflation ahead, today's rise in CPI inflation does not necessarily provide a good guidepost. In recent years, the CPI has been influenced by wide, short-term swings in electricity prices.

Indicators of underlying inflation seek to remove movements in consumer prices owing to temporary disturbances, which should be disregarded when setting the interest rate.

An ideal indicator of underlying inflation should among other things:[1]

- have the same average rate of increase as the CPI over time
- have lower monthly variations than the CPI
- ignore temporary disturbances in the CPI

The consumer price index adjusted for tax changes and excluding energy products, CPI-ATE, has often been used as an indicator of underlying inflation. A main weakness of the CPI-ATE is that it not only excludes temporary effects of fluctuations in indirect taxes and energy prices, but also trend changes in these components. In recent years, energy prices have generally increased faster than other consumer prices (see Chart 1). As a result, CPI inflation over the past five years has on average been close to a half percentage point higher than CPI-ATE inflation.[2]

The integration of China and other low-cost countries into world trade has led to far lower prices for finished goods and has also resulted in strong economic growth and high demand for oil and other commodities. This has driven up energy and commodity prices. Norwegian electricity prices have also approached continental European electricity prices as Norway's external transmission capacity has gradually been expanded.

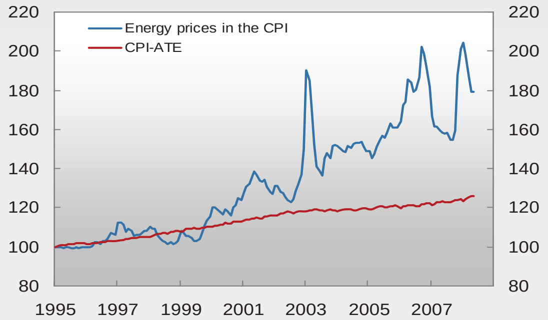
The more trend-like rise in energy prices and the trend fall in import prices partly reflect the same factor, i.e. the globalisation of trade in goods and services. Eliminating one of the effects and retaining the other may therefore distort the measure of underlying inflation.

We have constructed an indicator of CPI inflation adjusted for tax changes and excluding *temporary* fluctuations in energy prices, CPIXE. Technically, the CPIXE is calculated as the CPI-ATE plus an estimated trend in energy prices in the CPI.[3] Over time, the CPIXE will rise at about the same rate as the CPI, unless indirect taxes change substantially. The new indicator has approximately the same trajectory as the CPI-ATE, but with a level difference that depends on the estimated trend rise in energy prices.

Since energy prices have risen faster than other prices in recent years, the rate of increase in the CPIXE has been higher than the rise in the CPI-ATE (see Chart 2). The estimated trend rise in energy prices today and the estimate of the CPIXE depend on projected energy prices ahead.[4] If actual or expected developments in energy prices turn out to be different, the CPIXE estimate may change, also historically.

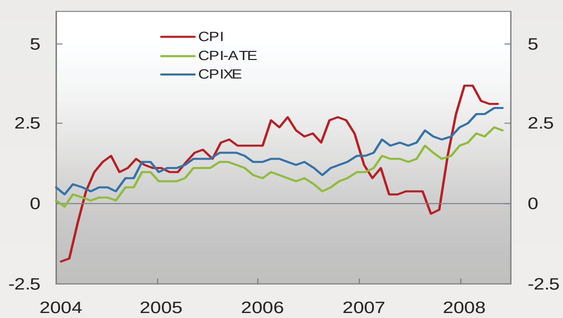
The new indicator of underlying inflation does not entail a new assessment of underlying or future inflationary pressures in the Norwegian economy. As part of the Executive Board's assessment underlying interest rate decisions since 2006, Norges Bank has regularly published the Bank's assessment of underlying inflation, often in the form of an interval. The projections

Chart 1 Energy prices in the CPI[1)] and CPI-ATE[2)]. Index. January 1995 = 100. January 1995 – May 2008



1) Including electricity and fuel products
2) CPI adjusted for tax changes and excluding energy products
Sources: Statistics Norway and Norges Bank

Chart 2 CPI, CPI-ATE[1)] and CPIXE[2)]. 12-month change. Per cent. January 2004 – May 2008



1) CPI adjusted for tax changes and excluding energy products
2) CPI adjusted for tax changes and excluding temporary fluctuations in energy prices
Sources: Statistics Norway and Norges Bank

of underlying inflation have generally been somewhat higher than actual CPI-ATE inflation.

Like the traditional indicators, the new indicator will not be a perfect measure of underlying inflation at all times. It will always be difficult to estimate those price movements that will persist and those with only a short-tem impact on the CPI. The assessment of underlying price pressures will therefore always have to be based on several different indicators and an analysis of the underlying reasons for the price changes.

1 See, for example, speech by Governor Svein Gjedrem at the Centre for Monetary Economics/BI on 6 June 2006 for a further discussion of underlying inflation.

2 Adjusting for this, the CPI-ATE has fairly good properties as an indicator of the underlying rise in consumer prices and future inflation, see Jonassen and Nordbø (2006): "Indicators of underlying inflation in Norway", Economic Bulletin 4/2006, pp 195-204.

3 $\Delta CPIXE=(1-w_E)\Delta CPI\text{-}ATE + w_E \Delta CPI\text{-}ENERGY$, where ΔCPIXE is the 12-month rise in the new indicator, ΔCPI-ATE is the 12-month rise in the CPI-ATE and ΔCPI-ENERGY is the 12-month rise in the energy price trend. w_E is energy products' weight in the CPI. The energy price trend is estimated using a Hodrick Prescott filter with a standard smoothing parameter (λ=14400) on historical monthly figures for energy prices in the CPI and the path for energy prices applied in this *Report* (see Chart 3.12).

4 See *Economic Commentaries* 3/08 "CPIXE – a new indicator for underlying inflation", www.norges-bank.no, 26 June 2008.

SAM – System of models for short-term forecasting

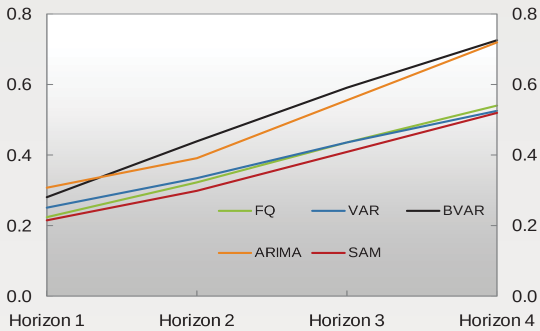
In its analyses of monetary policy and interest rate forecasts, Norges Bank uses the model NEMO[1]. These analyses are based on separate projections for the next few quarters. These short-term projections are based on current information and a number of statistical and econometric models. The published projections are the result of an overall assessment based on both models and judgement.

Reality cannot be captured by any single model. Different models have different properties, and they describe different aspects of economic developments. Experience shows that a weighted average of different model-based forecasts is often more accurate than forecasts from individual models.[2] Averaging the forecasts also reduces the uncertainty surrounding the choice of model. Norges Bank has therefore developed a System for Averaging Models (SAM) for averaging short-term forecasts for inflation (measured by the CPI-ATE) and GDP provided by different new models. The models have been developed to produce accurate forecasts up to one year ahead. The work on SAM has been in progress since autumn 2006. A number of central banks have developed similar model systems, see for example Andersson and Løf (2007) and Kapetanios et al. (2007). A brief description of the estimated, empirical models included in SAM and how forecasts generated by the different models are averaged is provided below.[3]

In the analyses in this *Report*, the following types of models are included in SAM:

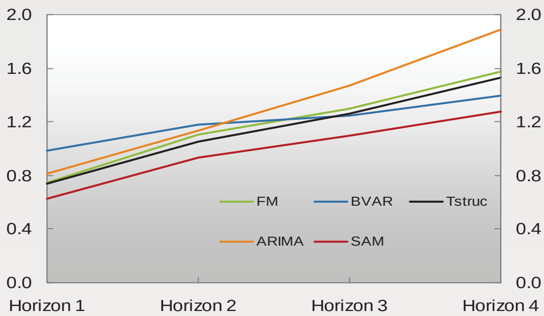
- *ARIMA models* (AutoRegressive Integrated Moving Average) use historical variations in a time series to provide forecasts. The forecasts can be regarded as an advanced form of trend extension.
- *VAR models* (Vector AutoRegressive) are based on statistical relationships between for example GDP, interest rates and inflation. The models take into account that there may be comovement between these variables. All the variables are a function of lagged values of itself and the other variables.
- *BVAR models* (Bayesian VAR). In these models, a priori restrictions are imposed on a VAR model. The restrictions can be based on data or insight from economic theory. Such a priori information can reduce the uncertainty surrounding the estimates and these models have often proved to have better forecasting properties than the classic VAR models. In addition to GDP, interest rates and inflation, the BVAR models also include exchange rates, oil prices and a number of country-specific variables.
- *Factor models* are based on large datasets. We have different models using monthly (FM) and quarterly (FQ) economic variables. Based on correlation between the different variables, the datasets are reduced to a few common factors. These factors are then used in various equations to provide forecasts of economic developments.[4]
- *Simple indicator models* forecast the aggregate effect on GDP of, for example, manufacturing production, employment, retail sales, hotel occupancy rates and building starts.
- *Term structure models* (Tstruc) use information about the term structure of interest rates in the Norwegian money market and in the interest rate swap market in order to forecast GDP. We look at the difference between short-term interest rates (3-month) and long-term rates (up to 5 years).
- *Error correction model* that contains econometric equations for prices, wages, the interest rate, the krone exchange rate, productivity and mainland GDP.[5]
- *Dynamic stochastic general equilibrium model* (DSGE) is based on economic theory. The model is estimated and embodies the most important channels for the relationship between monetary policy and key macroeconomic variables.[6]

Chart 1 Standard error (RMFSE) of CPI-ATE forecasts. Some selected models and SAM[1)]



1) See text for further explanation.
Source: Norges Bank

Chart 2 Standard error (RMFSE) of mainland GDP forecasts. Some selected models and SAM[1)]



1) See text for further explanation.
Source: Norges Bank

Within each model class, there are several variants with different specifications. In total, SAM contains about 80 models.

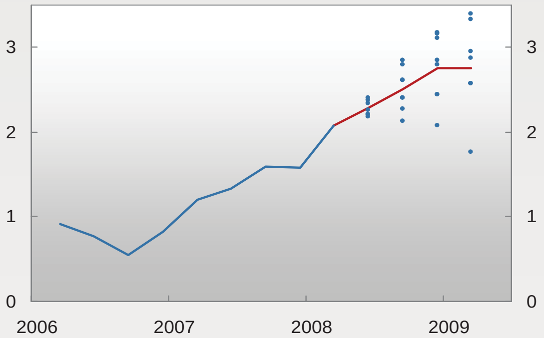
In SAM the different models are weighted by how accurately they have forecasted economic developments one to four quarters ahead. There is a set of weights for *each* forecast horizon. We use data for the period 1999 Q2 to 2008 Q1 to determine the weights. The weights are calculated on the basis of how accurately the models forecasted actual developments.

The models are first estimated with data up to and including 1999 Q1. Each model's forecast error for the next four quarters is then used to assign a weight to each model. Thereafter, the estimation period is extended by one quarter to 1999 Q2, and a new set of weights for the four horizons is calculated. This procedure is repeated until the estimation period reaches 2007 Q4, when the last weights are determined. Finally, the weights of the different models are calculated as an average of the weights throughout the period. The models that provide the best forecast of developments throughout the period since 1999 are assigned the highest weight. The forecasts are a weighted average of the forecasts from about 10% of the models.

Charts 1 and 2 show the standard deviations for SAM forecast errors and some of the most accurate individual models at the one-to-four-quarter horizon for inflation and GDP respectively. SAM has substantially lower standard deviations than individual models with relatively few explanatory variables for all horizons. This shows the benefit of averaging the forecasts from several models. For inflation, however, Chart 1 shows that the standard deviations of the factor model are almost as low as those of SAM. Factor models contain a very large number of explanatory variables, and the common factors can be interpreted as an averaging of large amounts of information.

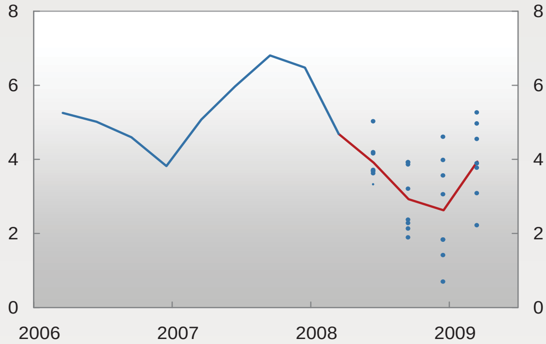
Chart 3 illustrates the spread of inflation forecasts from the eight best models for the period 2008 Q2 to 2009 Q1. The composition of the eight best models varies from horizon to horizon. The forecast from each model is marked by a point, and the averaged forecast from SAM is shown by the solid line. For example, the eight best models forecast inflation at 2.2 – 2.4% in 2008 Q2, and the averaged forecast from SAM is 2.3%. The spread among the eight best models increases further out in the period. Inflation is forecast between 1.8 and 3.4% in 2009 Q1, while the averaged SAM inflation forecast is 2.75%.

Chart 3 CPI-ATE and forecasts. SAM and the eight best models at each horizon. Four-quarter growth. Per cent



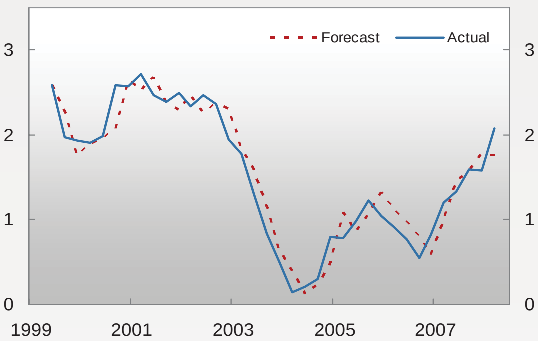
Sources: Statistics Norway and Norges Bank

Chart 4 Mainland GDP and forecasts. SAM and the eight best models at each horizon. Four-quarter growth. Seasonally adjusted. Per cent



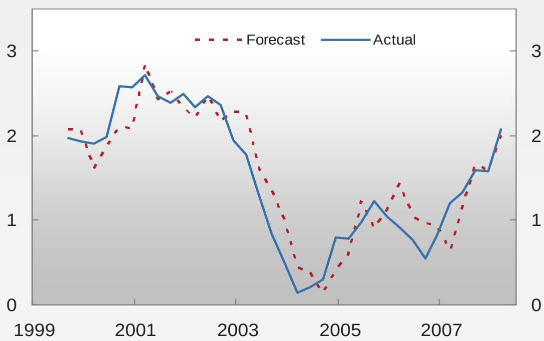
Sources: Statistics Norway and Norges Bank

Chart 5 CPI-ATE and historical forecasts from SAM one quarter ahead. Four-quarter growth. Per cent



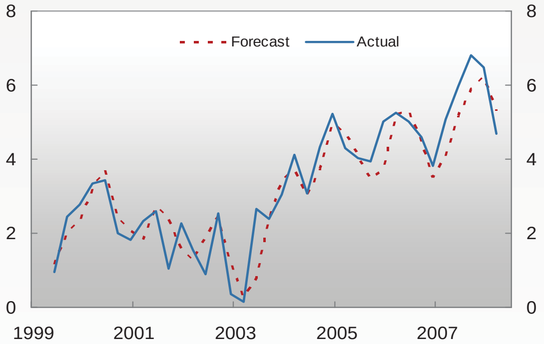
Sources: Statistics Norway and Norges Bank

Chart 6 CPI-ATE and historical forecasts from SAM two quarters ahead. Four-quarter growth. Per cent



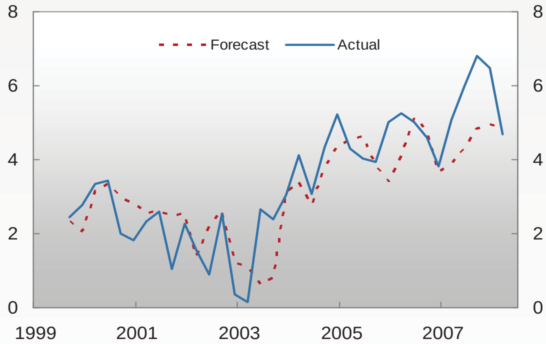
Sources: Statistics Norway and Norges Bank

Chart 7 Mainland GDP and historical forecasts from SAM one quarter ahead. Four-quarter growth. Seasonally adjusted. Per cent



Sources: Statistics Norway and Norges Bank

Chart 8 Mainland GDP and historical forecasts from SAM two quarters ahead. Four-quarter growth. Seasonally adjusted. Per cent



Sources: Statistics Norway and Norges Bank

As chart 3 shows, uncertainty increases at longer horizons. In longer-term projections, greater weight will therefore be given to forecasts from larger macroeconomic models such as NEMO and discretionary assessments.

Chart 4 illustrates a similar pattern for the forecasts for mainland GDP growth. According to the SAM forecast, growth in mainland GDP slows later in the year, but picks up again somewhat in 2009 Q1. Again, the spread in the forecasts is greater later in the period, reflecting increased uncertainty at longer horizons.

Charts 5 and 6 show SAM-based historical forecasts of CPI-ATE inflation one and two quarters ahead together with actual developments. Charts 7 and 8 show corresponding SAM-based forecasts for mainland GDP growth one and two quarters ahead together with actual developments. The charts show what the forecasts for inflation and GDP would have been one to two quarters ahead if the short-term projections in this period (1999-2007) had been based on SAM. CPIXE projections can be generated on the basis of forecasts from SAM and estimated energy trends (see box on page 54).

Preliminary results using SAM indicate that there are clear advantages to averaging forecasts from several individual models. Accuracy increases and uncertainty is reduced. In addition, we have seen that the development of new types of models has reduced the uncertainty surrounding the forecasts. In our work ahead, we will expand SAM to provide forecasts of more variables. Based on the experience so far, we will consider whether other methods of averaging forecasts can provide more precise forecasts. We will also work on averaging models based on both point forecasts and forecast uncertainty.[7]

References

Andersson, M. K. and M. Løf (2007): The Riksbank's new indicator procedures. *Economic Reviews* 1/2007, Sveriges Riksbank.

Akram, Q. F. (2008): An econometric model of mainland Norway: EMod, mimeo, Norges Bank

Bårdsen, G., Ø. Eitrheim, E. S. Jansen and R. Nymoen (2005): *The Econometrics of Macroeconometric Modelling*. Oxford University Press, Oxford.

Jore, A. S., J. Mitchell and S. P. Vahey (2008): Combining forecast densities from VARs with uncertain instabilities. Working Paper 1/2008, Norges Bank.

Kapetanios, G., V. Labhard and S. Price (2007): Forecast combination and the Bank of England's suite of statistical forecasting models. Working Paper no. 323, Bank of England.

Stock, J. H. and M. W. Watson (2007): Why has U.S. inflation become harder to forecast? *Journal of Money, Credit and Banking* 39, 1, supplement.

Timmermann, A. G. (2006): Forecast combinations. Chapter 4 in G. Elliott, C. W. J. Granger and A.Timmermann (Ed.) *Handbook of Economic Forecasting*, Vol. 1. North Holland.

Aastveit, K. A. and T. Trovik (2007): Nowcasting GDP: The role of asset prices in a small open economy. Working Paper 2007/9, Norges Bank.

1 See the box "NEMO – a new projection and monetary policy analysis model" in MPR 3/07.
2 See for example Timmermann (2006) and Stock and Watson (2007).
3 For further detail, see the description of SAM in a forthcoming Staff Memo.
4 See Aastveit and Trovik (2007) who describe the factor model based on monthly data (FM) for projecting developments in mainland GDP.
5 The model is documented in Akram (2008). It builds on previous econometric studies, see for example Bårdsen et al. (2005).
6 An example of this type of model is NEMO, see box in MPR 3/07.
7 See for example Jore, Mitchell and Vahey (2008).

Projections in *Monetary Policy Report* 1/08 and 2/08

This box provides an account of the changes in projections since *Monetary Policy Report* 1/08. New information since March has influenced our assessment of both the current economic situation and how different driving forces will influence developments in the years ahead. On balance, the outlook and balance of risks suggest that the key policy rate should be raised further from its current level and set somewhat higher than projected in the previous *Report*. Norges Bank's projections for 2008 are also compared with projections from other institutions.

New since Monetary Policy Report 1/08

The following points summarise developments in the economy that have led to changes in our projections for the current year and the period ahead:

- The turmoil in financial markets has eased somewhat since mid-March, and investors' risk appetite has recovered somewhat. Global equity prices have risen. Premiums in global money and credit markets remain high.
- Economic growth among our trading partners is expected to be slightly lower than we previously assumed, even though growth in Q1 was stronger than expected. Inflation among our trading partners has been stronger than we previously assumed. The projection for inflation has been revised up by ¾ percentage point in 2008 and ½ percentage point in 2009. Interest rate expectations among our trading partners have risen markedly since the last *Report*.
- Norwegian money market rates have risen more than movements in the policy rate would warrant. The premium is expected to remain around ¼ percentage point higher in the immediate future than estimated in the previous *Report*.
- The NOK has been somewhat weaker than assumed.
- CPI-ATE inflation has been slightly higher than projected. Prices for domestically produced goods and services excluding energy products have risen somewhat more than expected, while prices for imported consumer goods have been largely as expected (see Chart 1).
- Petrol prices have risen more than expected. The price of oil has climbed further. Futures prices for both electricity and oil are substantially higher than in March.
- Preliminary national accounts figures indicate that mainland GDP growth slowed in Q1. Household consumption and housing investment have been weaker than expected, while corporate investment has held up better than expected. Exports have been somewhat weaker than anticipated.
- Employment growth has again been considerably stronger than expected. Increased participation rates and higher inward labour migration have resulted in stronger growth in the labour force than expected. As we projected, unemployment has been largely unchanged. Productivity growth has been lower than expected.
- Oil investment will probably grow slightly more next year than we previously assumed. Fiscal policy will be more expansionary from 2007 to 2008 than assumed in the previous *Report*.

Changes in the projections

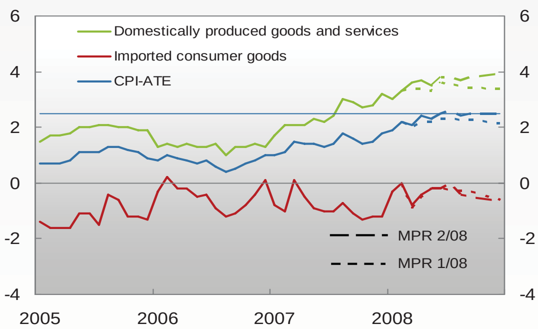
The interest rate forecast on which the projections in this *Report* are based is slightly higher than that in *Monetary Policy Report* 1/08. Section 1 provides a more detailed account of interest rate developments ahead.

Domestic price developments may imply slightly stronger domestic price and cost pressure than previously projected. As expected, low unemployment has led to high wage growth. CPI inflation is expected to rise markedly from 2007 to 2008, and further than previously assumed (see Table 1). Electricity prices have been substantially higher than in the first part of 2007 and may remain slightly higher than assumed in the previous *Report*. An unexpectedly large increase in oil prices has also resulted in a sharper rise in petrol prices in recent months than we expected. Consumer price inflation adjusted for tax changes and excluding energy products (CPI-ATE) is also now expected to be higher this year and into 2009 than in the previous *Report* (see Chart 2). This upward revision is due to a higher expected increase in prices for domestically produced goods and services in particular. The projections for subsequent years are somewhat lower than in the previous *Report*.

The projection for mainland GDP growth in 2008 has been revised down slightly since the previous *Report*. Household demand slowed more than expected in Q1. Consumption growth was weak, and housing investment fell. We now anticipate a sharper drop in housing investment this year than we did previously. Higher interest costs, coupled with substantially stronger inflation than previously projected, will put a damper on growth in real disposable income this year. The projection for household consumption growth this year has been revised down significantly. The saving ratio excluding dividends may nevertheless fall somewhat this year. The projections for private consumption growth further ahead have not been revised significantly, and we still expect the saving ratio to rise gradually. Corporate investment is expected to be higher this year than projected in the previous *Report*. Further ahead, investment growth is expected to slow more markedly than previously assumed due to higher borrowing costs and a tighter credit market. Global economic growth seems to be slowing somewhat later than previously assumed. Although exports have been somewhat weaker than projected in March, we anticipate somewhat stronger growth through the remainder of this year than in the previous *Report*. We still anticipate more subdued export growth further ahead. The public sector is expected to have a somewhat greater expansionary influence on the economy this year than assumed in the previous *Report*, but our projections for subsequent years are largely unchanged.

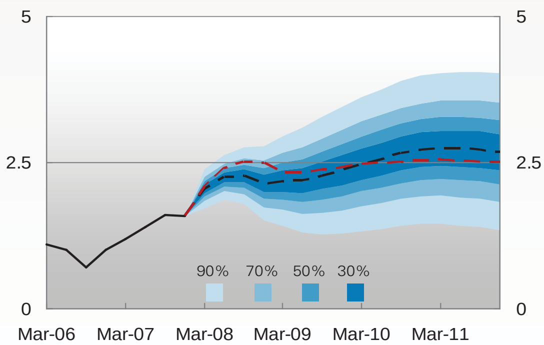
We now expect net inward migration to hold up longer than assumed in the previous *Report*, but at a markedly lower level than over the past couple of years. Overall population growth in the period to 2011 has been revised up by ¾ percentage point since the previous *Report*. Employment growth is projected to slow in 2009 and 2010, and to a somewhat further extent compared to the March *Report*. Unemployment is expected to be slightly lower towards the end of the projection period than in the previous *Report*.

Chart 1 CPI-ATE.[1] Total and by supplier sector[2]. 12-month change. Per cent. January 2005 – December 2008[3]



[1] CPI-ATE: CPI adjusted for tax changes and excluding energy products.
[2] Norges Bank's estimates.
[3] Projections for June 2008 – December 2008.
Sources: Statistics Norway and Norges Bank

Chart 2 Projected CPI-ATE in the baseline scenario in MPR 1/08 with fan chart and CPI-ATE in the baseline scenario in MPR 2/08 (red line). 4-quarter change. Per cent. 06 Q1 – 11 Q4



Sources: Statistics Norway and Norges Bank

All in all, capacity utilisation this year is expected to be largely as projected in the previous *Report*. As before, capacity utilisation is expected to fall in subsequent years. The output gap is expected to be around zero at the end of 2011 (see Chart 3).

Forecasts from other institutions

Our projection for economic growth in 2008 is somewhat higher than the forecast from Statistics Norway, but approximately in line with the projection from the Ministry of Finance and the average projection from *Consensus Forecasts* (see Chart 4). We project mainland GDP growth of 3¼% this year. Statistics Norway's forecast for mainland GDP growth was 2.9% at the end of May, which is slightly higher than its February forecast of 2.8%. In the Revised National Budget for 2008, the Ministry of Finance predicted GDP growth of 3.2% in 2008, up from 2.8% when the National Budget was presented last autumn. The average forecast for GDP growth from *Consensus Forecasts* fell from 3.4% in March to 3.3% in June.

In this *Report*, Norges Bank projects CPI inflation of 4% in 2008 (see Chart 5). The Ministry of Finance is projecting CPI inflation of 3.2%, up from 2½% in October. Since February, Statistics Norway has revised up its projection for CPI inflation in 2008 by 0.4 percentage point to 3.9%. The average forecast for CPI inflation from *Consensus Forecasts* fell slightly from 3.4% in March to 3.2% in June. In this *Report*, CPI-ATE inflation is projected at 2½% in 2008 (see Chart 6). The Ministry of Finance is projecting CPI-ATE inflation of 2.4%, up from 2% last autumn. Since February, Statistics Norway has revised up its projection for CPI-ATE inflation in 2008 by 0.3 percentage point to 2.5%. *Consensus Forecasts* does not compile projections for CPI-ATE inflation.

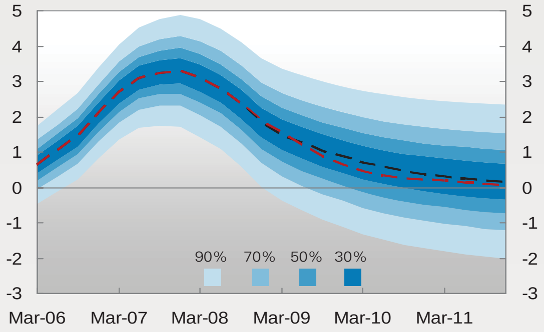
The Ministry of Finance's forecasts were published on 5 October 2007 and 15 May 2008. Statistics Norway published its projections on 21 February and 29 May. *Consensus Forecasts* compiled its forecasts on 10 March and 9 June. As the institutions publish projections at different times, the information on which the projections are based will differ.

Table 1 Projections for macroeconomic aggregates in *Monetary Policy Report* 2/08. Change from projections in *Monetary Policy Report* 1/08 in brackets

	2008	2009	2010	2011
Mainland demand	3¼ (-½)	1¾ (-¼)	2 (-½)	3 (0)
GDP mainland Norway	3¼ (-¼)	2 (0)	2½ (¼)	3 (¼)
Employment	2¾ (½)	½ (¼)	-¼ (-¼)	½ (¼)
LFS unemployment (rate)	2½ (0)	3 (0)	3½ (-¼)	3¾ (-¼)
CPI-ATE	2½ (¼)	2¼ (0)	2½ (0)	2½ (-¼)
CPI	4 (1)	3¼ (½)	2½ (0)	2½ (-¼)
Annual wage growth	6 (0)	5½ (0)	5 (0)	4¾ (0)

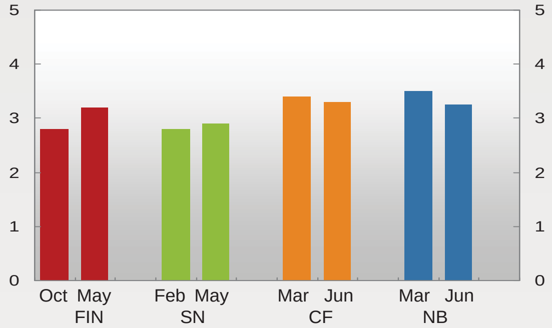
Source: Norges Bank

Chart 3 Estimated output gap in the baseline scenario in MPR 1/08 with fan chart and output gap in the baseline scenario in MPR 2/08 (red line). Per cent. 06 Q1 – 11 Q4



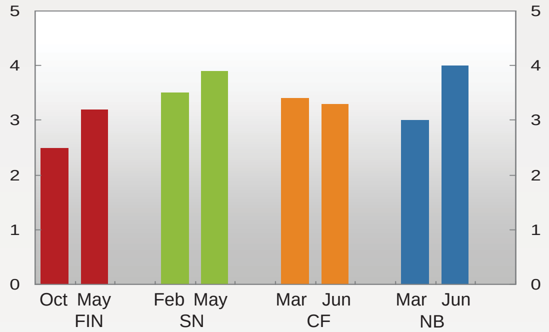
Source: Norges Bank

Chart 4 Mainland GDP. Projections for 2008 published at different times. Percentage growth



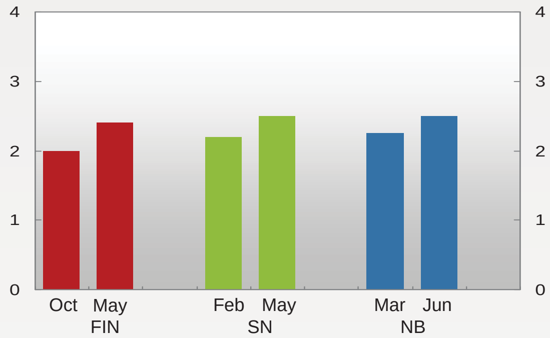
Sources: National Budget 2008, Revised National Budget 2008, Economic Survey 1/2008 and 3/2008, Consensus Forecasts March 2008 and June 2008, Monetary Policy Report 1/08 and 2/08

Chart 5 CPI. Projections for 2008 published at different times. Percentage growth



Sources: National Budget 2008, Revised National Budget 2008, Economic Survey 1/2008 and 3/2008, Consensus Forecasts March 2008 and June 2008, Monetary Policy Report 1/08 and 2/08

Chart 6 CPI-ATE. Projections for 2008 published at different times. Percentage growth



Sources: National Budget 2008, Revised National Budget 2008, Economic Survey 1/2008 and 3/2008, Monetary Policy Report 1/08 and 2/08

Boxes 2004-2008

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Underlying inflation
SAM – System of models for short-term forecasting

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Cross-checks for the krone exchange rate
Evaluation of Norges Bank's projections for 2007

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Output gap uncertainty
Increased imports from low-cost countries
The effects of high oil prices on the global economy

2 / 2005:
Developments in the krone exchange rate

1 / 2005:
Criteria for an appropriate future interest rate path
Why are long-term interest rates so low?
Low inflation in the Nordic countries
Developments in household debt
Evaluation of Norges Bank's projections for 2004

3 / 2004:
Estimated relationship for interest rate setting
Developments in household debt
Norges Bank's foreign exchange purchases for the Government Petroleum Fund
The current account surplus and demand for Norwegian kroner

2 / 2004:
Increase in number of working days in 2004
Financial stability
Norges Bank's estimate of the output gap
A change in inflation expectations?
What are the factors behind the rise in oil futures prices?

1 / 2004:
Low external price impulses to the Norwegian economy
The pass-through from the krone exchange rate to prices for imported consumer goods
The effects of the reduction in interest rates on household income
The krone exchange rate and exchange rate expectations
Evaluation of Norges Bank's projections for 2003

Annex I

Regional network

Norges Bank's regional network

Norges Bank's regional network was established in autumn 2002 and consists of enterprises, local authorities and regional health enterprises throughout Norway. Five times a year, we interview business and community leaders concerning financial developments in their enterprises and industries. Each round includes interviews with about 290 contacts. The selection of contacts reflects the production side of the economy, in terms of both industry sector and geographic area. The network comprises approximately 1 500 persons who are interviewed about once a year.

The primary purpose of the regional network is to obtain current information on the state of the Norwegian economy. Regular communication with local contacts in Norway's business and community life provides us with information earlier and more frequently than available official statistics. It also provides us with supplementary information about areas not covered by other statistical sources, and we learn which issues are of particular concern to enterprises. In addition, the regional network will provide us with insight into the effects of specific events or can be used to study relevant issues. Official statistics will continue to form the basis for our perception of the state of the economy, but the time lags and revisions associated with these statistics make supplementary sources, such as our regional network, useful.
The information obtained from the regional network, along with other available information on economic developments, will provide a basis for Norges Bank's projections as presented in the Monetary Policy Report and other published material.

We have divided Norway into seven regions. For six of them we have engaged regional research institutions that are responsible for the network in their respective regions and to have meetings with contacts on behalf of Norges Bank. The following institutions have been selected:

Table 1 Norges Bank's regional network

Regions	Institutions
Region North (Nordland, Troms, Finnmark)	Kunnskapsparken Bodø
Region Central Norway (Nord- and Sør-Trøndelag)	Center for Economic Research at the Norwegian University of Science and Technology
Region North-West (Møre og Romsdal, Sogn og Fjordane)	Møreforskning Molde
Region South-West (Rogaland and Hordaland)	International Research Institute of Stavanger
Region South (Aust- and Vest-Agder, Telemark, Vestfold)	Agderforskning
Region Inland (Hedmark and Oppland)	Østlandsforskning
Region East (Buskerud, Akershus, Oslo, Østfold)	Covered by Norges Bank

Summary of contact rounds since *Monetary Policy Report* 1/08

In the contact rounds that were conducted in March and May, roughly 570 regional network contacts were interviewed. A national summary is published on Norges Bank's website. The summary below is based on regional reports from the institutions responsible for the various regions and does not necessarily represent Norges Bank's views on economic developments.

Demand, output and market outlook

The enterprises in the regional network report markedly lower growth in demand and production through spring 2008. Growth is appreciably weaker than the contacts had expected. Growth has slowed in virtually all regions and industries with the exception of oil-sector suppliers, where growth remains buoyant. Companies' expectations for the next six months indicate that growth will remain at its current moderate level. Compared with expectations at the beginning of the year, current expectations imply that growth will decrease by half, primarily as a result of financial turbulence, slower global growth and higher interest rates.

The rate of growth in manufacturing is moderate, and is falling compared with earlier this year. Growth is moderate in manufacturing for both the domestic and export markets. In domestically oriented manufacturing, manufacturers supplying the building and construction industry in particular report lower growth. Reduced residential construction has led to a levelling off and a decline in the industry. The rate of growth in domestically oriented manufacturing is expected to remain stable over the next six months. There is considerable uncertainty among building and construction industry suppliers with regard to the outlook for the industry. Continued decline is expected in residential construction, and even though so far some compensation has been provided by increased activity in commercial building, this segment is also expected to slacken ahead. The processing industry reports continued high activity and increased demand in the international market. Capacity constraints, however, are still limiting companies' ability to exploit this growth. The fish farming industry reports growth in output and export. Manufacturing supplying goods and services to the fishery and fish-farming industry reports solid growth. The manufacturing segment that is affected by developments in the international building and construction sector reports lower demand and activity. The market outlook for the export industry implies moderate growth in the next six months.

Growth among oil-sector suppliers is still solid. Owing to high oil prices, exploration activity is high. Platform lifetimes are also being extended, increasing the demand for maintenance. Growth is expected to remain buoyant for the next six months.

In the building and construction industry, growth is slowing further and is moderately negative for the first time since 2003. Building contractors in particular are feeling the effect of reduced demand, while operators at the lower end of the value chain – such as electricians – are still experiencing strong growth. The impression is that residential construction is being reduced, and that growth in the home improvement and commercial property markets is not fully compensating for reduced activity. A number of contacts report that sales of new homes have in practice come to a complete halt. Competition in the commercial property market is reported to have intensified since many operators that previously confined themselves to the residential segment, are now submitting tenders in other segments. The construction market is still exhibiting positive developments. A further fall in demand and output in the building and construction industry is expected in the next six months.

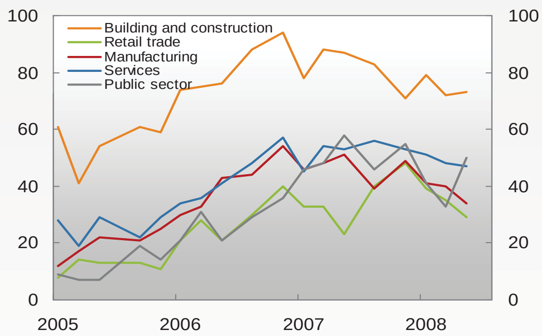
In retail trade, growth is moderate and the rate of growth is declining compared with earlier this year. Growth is reported to be strongest in the North-West and South-West Regions and weakest in Regions East and North. Owing to cold weather earlier this year and higher interest rates, sales of footwear, clothing and sports equipment have decreased, particularly in Region East. Moderate growth in demand and activity in retail trade is expected over the next six months. Demand for expensive capital goods is expected to slacken, while some growth is expected in demand for sports equipment, clothing and other consumer goods. The industry recording the strongest growth after oil-sector suppliers is services, although growth has also slowed markedly in this industry. Financial services are dragging down growth. Commercial services are also exhibiting somewhat slower growth than previously.

Capacity utilisation, the labour market and investment

Capacity utilisation is still high, but lower than at end-2007 and a year ago. 55% of companies report that they would have some or considerable difficulty in accommodating an increase in demand, while 44% report that the supply of labour would limit production if demand increased. These percentages are lower than in the interview round in November. The labour market seems to be somewhat less tight. As previously, capacity utilisation is highest in building and construction (see Chart 1). Capacity is limited in particular by a shortage of project managers and engineers. The supply of craftsmen – particularly carpenters and bricklayers – is ample, and a number of contacts report plans for lay-offs at the end of summer. The situation for building and construction suppliers has changed since last year. While capacity was low last year, contacts now report full warehouses, rationalisation and fears of a considerable decline. The services sector indicates that fewer people are changing jobs and recruiting is easier, although there is still a skills shortage in the hotel and restaurant industry, and among cleaning staff, architects, engineers, economists, accountants, lawyers and IT personnel. As previously, municipalities find that they cannot compete effectively for technical personnel, architects, economists and health care personnel.

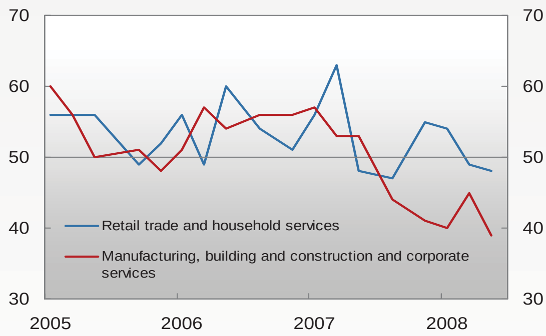
All industries report moderate growth in planned investment over

Chart 1 Share of contacts where the supply of labour is a constraint on output. Per cent. January 2005 – May 2008



Source: Norges Bank's regional network

Chart 2 Expected change in selling prices over the next 12 months. Diffusion index[1]. January 2005 – May 2008



[1] Share of contacts expecting higher rise in prices + (0,5* share of contacts expecting stable prices)

Source: Norges Bank's regional network

the next 12 months. There are prospects for moderate growth in the local government and hospital sector and retail trade, while investment growth in manufacturing and services is tending towards zero. All industries are planning somewhat slower investment growth one year ahead than last autumn. One of the reasons is that investment has been substantial in many industries in recent years and there is less need for investment now.

Employment

Employment is still increasing, but at a slower rate than earlier. Growth is also planned ahead, at about the same rate as in the past three months. Employment has increased most in services, which is also the industry planning the strongest growth ahead. The impression is that the contacts spend considerable time and resources on recruitment, and that many use external recruiting agencies.

Costs, prices and profitability

Expectations concerning annual wage growth in 2008 are higher than earlier this year. Annual wage growth is expected to average 5¾%. Expectations vary between 5% and 6% across industries. The building and construction and service industries have the highest expectations, while retail trade and manufacturing have the lowest. However, many contacts express concern that the final wage agreement will be more expensive than expected.

The rise in prices is slowing somewhat from the highest in the regional network's history recorded in November last year. Price rises have eased in all industries except services. Even though the rise in building and construction prices has slowed somewhat, it is still strongest in this industry, followed by corporate services. The majority of our contacts expect a slower rise in prices over the next twelve months, particularly in manufacturing, building and construction and corporate services. The rise in prices in retail trade and household services is expected to remain broadly unchanged (see Chart 2).

Overall operating margins among contacts are rising, but at a more moderate pace. Margins in the export and offshore industries and in retail trade have been lower in the past three months compared with the same period a year ago. Margins are still increasing in domestically oriented manufacturing, building and construction and household services.

Enterprises and organisations that have been interviewed in the work on *Monetary Policy Report* 2/08

07 Gruppen
3T Produkter AS
Adecco
Adresseavisen ASA
Advokatfirmaet Schjødt AS
Aibel AS
Airlift AS
Ait Trykk Otta AS
Aker Kværner IPEC AS
Aker Kværner Verdal AS
Aker Seafoods J. M. Johansen AS
Aker Solutions ASA
Aker universitetssykehus HF
Akerhus fylkeskommune
Akershus universitetssykehus
Aksel Endresen Transport AS
Aktiv Eiendomsmegling
Akva Group ASA
Alta Logistics AS
Alta Møbler AS
Amfi Drift AS
Anton Sport
Aquaterm AS
Arbor-Hattfjelldal AS
Arendal Auto AS
Arendal kommune
Arki Arkitektar AS
AS Nesseplast
Asker kommune
Askim kommune
Asp AS
Atelier Ekren AS
Aukra-Midsund Offshore AS
Avinor AS, Værnes
Axess AS
Bakers AS
Bekk Consulting AS
Bergen Kino AS
Bergen kommune
Bergene Holm AS
BeWi Produkter AS
Bilalliansen AS
BioMar AS
Birkenes kommune
Black Design AS
Block Berge Bygg AS
Block Watne AS
Bodø Transport & Caravan AS
Bohus Bomøbler AS
Bohus Interiørsenter AS
Boliden AS
Br. Reme AS
Bragerhaug & Beitostølen AS
Bright ID AS
Brødrene Midthaug AS
Brødrene Røsand AS
Brødrene Sperre AS
Bunnpris
Bussen Trafikkselskap AS
Byggmester Grande AS
Byggmo Eiendom AS
Byåsen Bakeri AS
Bølgen og Moi AS
Båtservice Holding AS
Cad Net Øst AS
Celsa Armeringsstål AS
CHC Norway
Cicero Annonsebyrå AS
Clarion Hotel Ernst AS
Clear Channel Norway AS
Comfort Hotel Hammer AS
Coop Haugaland
Coop Inn-Trøndelag BA
Coop Midt-Troms BA
Coop Nordfjord og Sunnmøre BA
Credicare Førde
CTM Utvikling AS
Dale Bruk AS
DDB Oslo AS
Deloitte Norge AS
Den Norske Bank ASA, Region Sørlandet
Den Norske Bank ASA, Tønsberg
Destinasjon Skeikampen AS
Diakonhjemmet
Dinamo Norge AS
Diplom-Is AS
DnB NOR
DnB NOR Eiendom Bodø AS
DnB NOR Næringsmegling
DNH Den Norske Høyttalerfabrikk As
Dokka Fasteners AS
Domstein ASA
Domstein Enghav Haugesund
Dovre International AS
Drag Industrier AS
Drammen kommune
EDB Gruppen Norge AS
EFG Hov Dokka AS
Egil Kristoffersen & Sønner AS
Eidesvik Offshore ASA
Eidsvaag AS
Eiendom Sør og Bygg AS
Einar Valde AS
Elektro Bodø AS
Elektro Hvitevarer AS
Elektro Team AS
Elkem Aluminium ANS avd. Mosjøen
Elkem ASA Materials
Elkjøp Norge, Giganten Fana
Elkjøp Norge, Forus
Elkjøp Norge, Stormarked Tromsø
Ellingsen Seafood AS
Ellos AS
ELMO
Eltek Energy AS
Elvemo og Hjertås Bygg AS
Eramet Norway
ErgoGroup AS
Ernst & Young AS
Euronics Norge AS
Eurosko Norge AS
Exbo Sørlandet AS
Fabi AS
Fame fotografene AS
Farstad Shipping AS
Ferner Jacobsen
Finnmark Mur og Puss AS
Finnøy Gear & Propeller AS
First Securities ASA
Fjellpulken AS
Fjord 1
Fjord 1 Nordfjord-Ottadalen Billag
Fjordkjøkken AS
Flora kommune
FMC BioPolymer AS
Fokus Bank
Folk i husan Eiendomsmegling AS
Forum Eiendom
Fosnavaag Seafood AS
Frank Mohn AS
Franzefoss Pukk AS
Fresenius Kabi Norge AS
Kaffehuset Friele AS
Fridtjof Kristiansen AS
Fru Haugans Hotell AS
Fuglefjellet AS
Fugro Oceanor AS
Fundator AS
Fædrelandsvennen AS
Gausdal kommune
Geelmuyden Kiese AS
Geomatikk AS
Gilje Tre AS
Gilstad Trelast AS
Gjesdal kommune
Gjøco AS
Glava AS
Godstrafikk og Bilspedisjon AS
Gro Industrier AS
Gunnar Hagen AS
Gunnar Karlsen AS
Gunnar Klo AS
Gunvald Johansen Bygg AS
Gyldendal ASA
Hagen og Godager AS
Halliburton AS
Hammerfest kommune
Handelsbanken Trondheim
Handicare Produksjon AS
Hansa Borg Bryggerier ASA
Hatteland Display AS
Haugesund Sparebank
Havkrefter AS
Hedmark Eiendom AS
Heimdal Eiendomsmegling
Helgeland Sparebank
Helgelandssykehuset HF
Helly Hansen Spesialprodukter AS
Helse Fonna
Hemnes kommune
Hemnes Mek. Verksted AS
Herlige Stavanger AS
Herregalleriet AS
Herøy kommune
Hi-fi klubben
Hitra kommune
Hordaland fylkeskommune
Hotell Alexandra, Loen AS
Hovden Møbel AS
HRG Nordic
Hunter Douglas Norge AS
Hurtigruten ASA
Hydro Aluminium AS
Hydro Aluminium Profiler AS
Hydrotech Gruppen AS
Hymax AS
Hå kommune
Hålogaland Revisjon AS
Hårek AS
I. P. Huse AS
Idecon AS
IKEA AS
IKM gruppen
Ikon AS
Industriverktøy AS
Ineos Norge AS
InMedia AS
Island Offshore AS
ISS Facility Services AS
ISS Norge AS
ISS Renhold, Region Vest
Istad Kraft AS
Itab Industrier AS
Itet AS
Jemar Norpower AS
Jernia AS
Jiffy Products International AS
Johansen Th & Sønner AS

Jotun AS
Julius Jakhelln AS
Jærentreprenør AS
Jørstad AS
Jøtul ASA
Kappahl AS
Karlsen Trelast AS
KENO reklame AS
Kewa Invest AS
Kitron Arendal AS
Kiwi Norge AS
KL Regnskap Hitra
Kluge Advokatfirma
Klæbu kommune
Klaastad Brudd DA
Komplett ASA
Kongsberg Automotive ASA
Kongssenteret
Kontali Analyse AS
Kran og Industriservice Nord AS
Kristiansund kommune
Kruse Smith AS
Kvadrat
Kvikne's Hotel
Kynningsrud AS
Landskapsentreprenørene AS
Larsen Atterås & Brosvik AS
Lefdal Elektromarked AS, Tiller
Leiv Eriksson Nyfotek AS
Leiv Sand Transport AS
Leksvik kommune
Lena Maskin AS
Lenvik kommune
Lerøy Midnor AS
Lerøy Seafood Group ASA
Lians Caravan & Fritid AS
Lillehammer kommune
Lillrent AS
Lindesnes kommune
Linjebygg Offshore AS
Link Signatur AS
Livsforsikringsselskapet Nordea
Liv Norge AS
LKAB Norge AS
Lofotprodukt AS
Lycro AS
Løvenskiold-Fossum
M3 Anlegg AS
Madla handelslag
Madsen Bil AS
Magnor Glassverk AS
Majas Salong
Malo Sagbruk AS
Mandal kommune
Manpower AS
Marien Cybernetics AS
Maritech AS
Maritime Hotell Flekkefjord
Martin M. Bakken AS
Meca Norway AS
Melbu Systems AS
Melhus kommune
Melhus Sparebank
Meny Stoa
Mercur shoppingsenter
Mesta
Meyergården Hotell AS
Mezina AS
Midsund Bruk AS
Midt-Troms Kjøleservice AS
Minera AS
Moelven Østerdalsbruket AS
Montér/Optimera AS
Mosjøen Kulde og Klimaservice AS
Moxy Engineering AS
Myklebust AS
Møller Bil Haugesund AS
Møller Bil Sør Rogaland AS
Mørenot AS
Nannestad kommune
Narud Stokke Wiig AS
National Oilwell Vargo AS
Naustvoll & Aursand Arkitekter AS
Nav Aust-Agder
Nav Sør-Trøndelag
Nav Telemark
Nav Vest-Agder
Nerland Granitindustri AS
Net trans services AS
Neumann bygg AS
Nexans Norway AS
NHO Trøndelag
Nidar AS
Nielsen Norge AS
NorDan AS
Norac AS
Nordbohus Vinstra AS
Nordea Bank Norge ASA
Nordek AS
Nordland Betongindustri AS
Nordlandssykehuset HF
Norengros Johs Olsen AS
Norges Handels- og Sjøfartstidende AS
NorLense AS
Norplasta AS
Norpower Brødr. Malo AS
Norsik
Norske Backer AS
Norske Skogindustrier ASA, Skogn
Nortrans Touring AS
Nortroll AS
Nortura BA
Notar Eiendom Telemark og Vestfold
Novagroup AS
Nycomed Pharma AS
Nymo AS
Nysted AS
Næringsrådet i Arendal kommune
Nøsted Kjetting AS
Oasen Storsenter
Odfjell ASA
Ole K. Karlsen Entreprenør AS
Oljedirektoratet
Oppland Entreprenør AS
Optimera Sør AS
Opus AS
Os kommune
Oscar Sylte AS
Oshaug Metall AS
Oslo Entreprenør AS
Otta Sag og Høvleri AS
Ottesen & Dreyer AS
Owens Corning Fiberglas Norway AS
P4 Radio Hele Norge ASA
PA Consulting Group AS
Pallin AS
Pareto Securities AS
Parkettpartner
Peab AS
Pedersens Lastebiltransport AS
Personalservice AS
Peterson Linerboard AS
Petoro
Petter Gagama AS
PGS ASA
Plastal AS
Plastsveis AS
Pon Power AS
Porsgrunds Porselænsfabrik AS
PricewaterhouseCoopers DA
Proffice AS
Profil Lakkering AS
Profilhuset Meny-Ultra
Profilteam AS
Proxll AS
PS Data
På Håret AS
Radisson SAS Caledonien Hotel
Rambøll Unico AS
Rambøll Norge AS Lillehammer
Ramsvik Frisør AS
Rana Gruber AS
Rana Trevarefabrikk AS
Rapp Bomek AS
Rasmuss Tallaksen
Rasmussen K A AS
REC ScanCell AS
Reklamehuset Roxrud AS
Rema 1000 Norge AS
Remvik & Standal
Remøy Shipping AS
Renates dagspa og hudpleie
Renés Barnevogner
Retro AS
Revisorgruppen Viken AS
Rica Hotel Hamar
Rica Hotels ASA
Rica Maritim Hotel
Rieber & Søn ASA
Rieber & Søn Elverum
Riibe Mynthandel
Ring Mekanikk AS
Ringsaker kommune
Ringside Rørleggerbedrift AS
Rio Doce Manganese Norway AS
Rissa kommune
Rockwool AS
Rolfsen AS
ROM Eiendom AS
Romerike Trelast AS
Romsdal Bygg AS
Rosenborg Malerforretning AS
Ruukki Norge AS
Rørlegger D Åsheim AS
Rørteknikk og bademiljø AS
Saga Boats AS
Samarbeidende Revisorer AS
SandnesGarn
SAS Ground Services
SATS Langnes
Savalen Drift AS
Scan Rope AS
Scandic Hotell
ScanPartner AS
Schenker Linjegods AS
Schlumberger Oilfield Services
SEB Kort AB, Norge
Securinet AS
Securitas AS
Servi Cylinderservice AS
Sg-Finans Brumunddal
Siemens Building Technologies
Sig.Halvorsen AS
Sintef MRB AS
Sjøvik AS
Sjåtil og Fornæss AS
Skagenfondene
Skarvik AS
Skeidar AS
Skien kommune
Skipsteknisk AS
Sogn Billag AS
Solsiden spa og velværesenter AS
Solstrand Hotel & Bad AS
Sortland Entreprenør AS
Spar Kjøp AS
Sparebank 1 Nord-Norge, Bodø
Sparebank 1 Nord-Norge, Alta
Sparebank Sør
Sparebanken Hedmark
Sparebanken Ørsta Volda
Sparebanken Øst

Sperre Støperi AS
Spice AS
Sport 1 Gruppen AS
Sportshuset AS
St. Olavs Hospital
Stabburet AS
Stantek Kongsvinger AS
Startour Stjernereiser AS
Statens Vegvesen Region Sør
Stavanger Aftenblad
Stavanger kommune
Steertec Raufoss AS
Steinsvik Materiallager AS
Stiftelsen Akvariet i Bergen
Stjern AS
Stolz Entreprenør AS
Studentsamskipnaden i Agder
Sunnmørsposten AS
Surnadal kommune
Sveins Auto AS
Swix Sport AS
Sykehuset i Vestfold HS
Sykehuset Innlandet HF
Sykehuset Telemark HF
Syljuåsen AS
Systemrevisjon AS
Søgne og Greipstad sparebank
Sørensen Maskin AS
Sør-Trøndelag fylkeskommune
Teeness ASA
Tema Eiendomsselskap AS
Time Sparebank
Timpex AS
Tine Meieriet Øst BA
To Rom og Kjøkken
Topp Auto AS
Torpa Bilruter AS
Toten Transport BA
Totens Sparebank
Toyota Hell Bil AS
Toyota Norge AS
Trafikk & Anlegg AS
Trebetong AS
Trehuseksperten AS
Trend-Trim
Trioving AS
Triplex AS
Tromsø kommune
Trondheimsfjorden interkommunale havn
Trysilfjellet BA
TV 2 Gruppen AS
Tysvær kommune
Tønsberg kommune
Ulstein Verft AS
Umoe Catering AS
Umoe IKT AS
Unifab AS
Valle sparebank
Varden AS
Vefsn kommune
Veidekke ASA
Velvære grossisten
Ventelo Norge AS
Verdal kommune
Vesterålen Fiskeripark AS
Vesteråls-Revisjon AS
Vestre Toten kommune
VIA Alta Tours AS
VIBO Entreprenør AS
Viken regnskap AS
Vikeså Glass AS
Vikomar AS
Ving Norge AS
Vinn
Vital næringseiendom AS
Vizrt AS
Vokks Installasjon AS
Vågan kommune
Våler bygg AS
Våler kommune
Weatherford Norge AS
Wennberg Trykkeri AS
Widerøes Flyveselskap ASA
Wiersholm Mellbye & Bech advokatfirma AS
Windy Boats AS
Xerox AS
XXL Forus
Yara International ASA
YIT Building Systems AS
Ørland Transport AS
Østereng & Benestad AS
Øveraasen AS
Øyer kommune
Ålesund kommune
Ålesund Storsenter AS
Årdal Stålindustri AS
Åsen & Øvrelid AS
Aasen Bygg AS

Annex II

Tables, charts and detailed projections

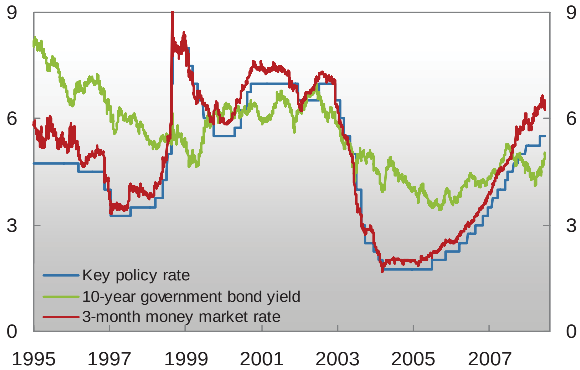
Monetary policy meetings in Norges Bank
with changes in the key policy rate

Date	Key policy rate[1)]	Change
29 October 2008		
24 September 2008		
13 August 2008		
25 June 2008	**5.75**	**+0.25**
28 May 2008	5.5	0
23 April 2008	5.5	+0.25
13 March 2008	5.25	0
23 January 2008	5.25	0
12 December 2007	5.25	+0.25
31 October 2007	5	0
26 September	5	+0.25
15 August 2007	4.75	+0.25
27 June 2007	4.5	+0.25
30 May 2007	4.25	+0.25
25 April 2007	4	0
15 March 2007	4	+0.25
24 January 2007	3.75	+0.25
13 December 2006	3.5	+0.25
1 November 2006	3.25	+0.25
27 September 2006	3	0
16 August 2006	3	+0.25
29 June 2006	2.75	0
31 May 2006	2.75	+0.25
26 April 2006	2.5	0
16 March 2006	2.5	+0.25
25 January 2006	2.25	0
14 December 2005	2.25	0
2 November 2005	2.25	+0.25
21 September 2005	2	0
11 August 2005	2	0

1) The key policy rate is the interest rate on banks' deposit in Norges Bank. This interest rate forms a floor for money market rates. By managing banks' access to liquidity, the central bank ensures that short-term money market rates are normally slightly higher than the key policy rate.

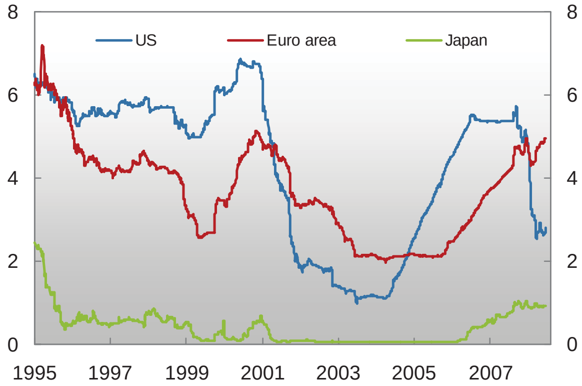
Charts

Chart 1 Norwegian interest rates. 3-month money market rate, key policy rate and 10-year government bond yield. Per cent. 2 January 1995 – 20 June 2008



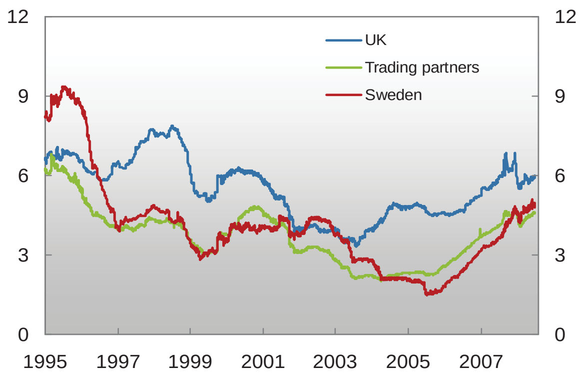
Source: Norges Bank

Chart 2 3-month interest rates in the US, the euro area and Japan. Per cent. 2 January 1995 – 20 June 2008



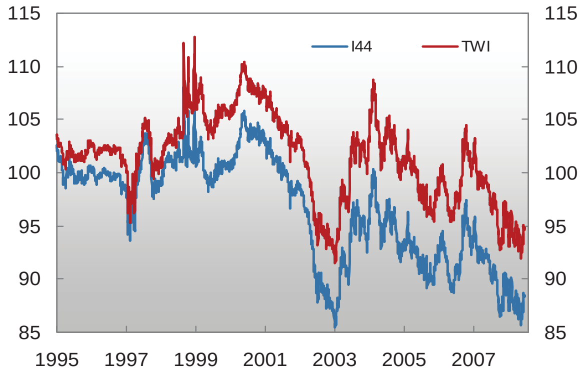
Source: Thomson Reuters

Chart 3 3-month interest rates in the UK, Sweden and among Norway's main trading partners. Per cent. 2 January 1995 – 20 June 2008



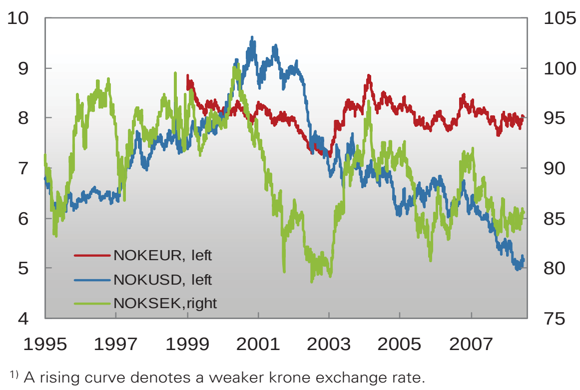
Source: Norges Bank

Chart 4 Trade-weighted exchange rate index (TWI) and import-weighted exchange rate (I-44)1). 2 January 1995 – 20 June 2008



[1] A rising curve denotes a weaker krone exchange rate.
Source: Norges Bank

Chart 5 Bilateral exchange rates[1]. 2 January 1995 – 20 June 2008



[1] A rising curve denotes a weaker krone exchange rate.
Source: Norges Bank

Table 1 Main macroeconomic aggregates

Percentage change from previous year/ quarter		GDP	Mainland GDP	Private con-sump-tion	Public con-sumption	Mainland fixed invest-ment	Petroleum invest-ment[1)]	Trad. export	Import
2003		1.0	1.3	2.8	1.7	-3.6	15.9	2.1	1.4
2004		3.9	4.4	5.6	1.5	9.3	10.2	4.8	8.8
2005		2.7	4.6	4.0	0.7	12.7	18.8	6.1	8.7
2006		2.5	4.8	4.7	2.9	7.6	2.9	9.7	8.1
2007		3.7	6.2	6.4	3.6	9.4	5.5	9.0	8.7
2008[2)]									
	Q1	0.2	0.2	0.3	0.7	-5.9	-1.7	0.2	-2.8
2007 level, billions of NOK		2277	1715	946	449	342	108	427	686

1) Extraction and pipeline transport.
2) Seasonally adjusted quarterly figures.

Source: Statistics Norway

Table 2 Consumer prices

Twelve-month rise. Per cent		CPI	CPI-ATE[1)]	CPI-AT[2)]	CPI-AE[3)]	HICP[4)]
2003		2.5	1.1	2.5	1.0	2.0
2004		0.4	0.3	0.0	0.8	0.6
2005		1.6	1.0	1.2	1.4	1.5
2006		2.3	0.8	2.0	1.0	2.5
2007		0.8	1.4	0.5	1.6	0.7
2008	Jan	3.7	1.9	3.7	1.9	2.9
	Feb	3.7	2.2	3.8	2.1	3.1
	Mar	3.2	2.1	3.2	2.2	2.8
	Apr	3.1	2.4	3.2	2.3	2.7
	May	3.1	2.3	3.2	2.3	2.8

1) CPI-ATE: CPI adjusted for tax changes and excluding energy products.
2) CPI-AT: CPI adjusted for tax changes.
3) CPI-AE: CPI excluding energy products.
4) HIPC: Harmonised Index of Consumer Prices. The index is based on international criteria drawn up by Eurostat.

Source: Statistics Norway

Table 3 GDP growth in other countries

Percentage change from previous year. Projections for 2008-2011

	US	Euro area	Japan	UK	Sweden	China	Trading partners[1)]
2007	2.2	2.6	2.1	3.0	2.8	11.9	3.3
Projections							
2008	1¼	1¾	1½	1½	2	10	2¼
2009	1¼	1¼	1½	1½	2	9	2
2010-2011[2)]	2¾	2	1½	2½	2½	9	2½

1) Export weights, 26 trading partners.
2) Average annual growth.

Sources: Thomson Reuters and Norges Bank

Table 4 Consumer prices in other countries

Percentage change from previous year. Projections for 2008-2011

	US	Euro area[1)]	Japan	UK	Sweden	China	Trading partners[2)]
2007	2.9	2.1	0.1	2.3	2.2	4.8	2.3
Projections							
2008	4	3½	1	3½	3¾	7	3½
2009	2½	2¼	¾	2¾	3	4½	2½
2010-2011[3)]	2¼	2	1	2	2	3¾	2

1) Weights from Eurostat (each country's share of total euro area consumption).
2) Import weights, 26 trading partners.
3) Average annual rise.

Sources: Thomson Reuters, Eurostat and Norges Bank

Table 5 Main economic aggregates

	In billions of NOK	Percentage change from previous year (unless otherwise stated)				
				Projections		
	2007	2007	2008	2009	2010	2011
Prices and wages						
CPI		0.8	4	3¼	2½	2½
CPI-ATE[1)]		1.4	2½	2¼	2½	2½
Annual wage growth[2)]		5.6	6	5½	5	4¾
Real economy						
GDP	2277	3.7	2¾	2½	2¼	2½
GDP, mainland Norway	1715	6.2	3¼	2	2½	3
Output gap, mainland Norway[3)]		3	2½	1	¼	0
Employment, persons		4.0	2¾	½	-¼	½
Labour force, LFS		2.5	2¾	1	½	½
LFS unemployment (rate)		2.5	2½	3	3½	3¾
Demand						
Mainland demand[4)]	1738	6.2	3¼	1¾	2	3
- Private consumption	946	6.4	2¾	2	2¼	3¼
- Public consumption	449	3.6	3¼	3½	.	.
- Fixed investment, mainland Norway	342	9.4	4¾	-1¾	.	.
Petroleum investment[5)]	108	5.5	7½	10	5	0
Traditional export	427	9.6	5	2	.	.
Import	686	8.7	5¼	2	.	.
Interest rate and exchange rate						
Key policy rate (level)[6)]		4.4				
Import-weighted exchange rate (I-44)[7)]		90.8	87½	89¼	90¾	91½

1) CPI-ATE: CPI adjusted for tax changes and excluding energy products.
2) Annual wage growth is based on the Technical Reporting Committee on Income Settlements' definitions and calculations. The number for 2007 includes costs related to the introduction of mandatory occupational pensions.
3) The output gap measures the percentage deviation between mainland GDP and projected potential mainland GDP.
4) Private and public consumption and mainland gross fixed investment.
5) Extraction and pipeline transport.
6) The key policy rate is the interest rate on banks' deposit in Norges Bank.
7) Level. The weights are estimated on the basis of imports from 44 countries, which comprises 97% of total imports.

· No data available

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

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