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No 4-2007

Monetary Policy Report

3
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October

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 29 August, the Executive Board discussed relevant themes for the Report. At the Executive Board meeting on 17 October, 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 13 March 2008 at the meeting held on 31 October. 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 12 December, 23 January and 13 March.

The *Monetary Policy Report,* together with *Financial Stability,* is part of Norges Bank's series of reports. The report is also available on Norges Bank's website:
http://www.norges-bank.no.

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Monetary Policy Report 3/2007

The *Monetary Policy Report* is based on information in the period to 25 October 2007

The monetary policy strategy in Section 1 was approved by the Executive Board on 31 October 2007

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, and the Bank holds a press conference at 2:45 pm on the same day. The press release provides an account of the main features of economic developments that have been of importance for the interest rate decision and the Executive Board's assessments. The press release 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

Opposing forces

The inflation outlook is marked by opposing forces. The rate of increase in prices for services and domestically produced goods is picking up. The Norwegian economy is still expanding, with unusually high demand for intermediate goods and labour. Economic growth is strong in China, India and Russia, and the Norwegian business sector is reaping the benefits through high prices. On the other hand, the economic prospects for the US and western Europe have weakened. At the same time, the krone has appreciated markedly. This may restrain inflation.

The key policy rate has been raised early in order to prevent inflation from becoming to high. The analyses in this *Report* imply that the key policy rate should be raised further, but to a lesser extent than envisaged in June. As a result of the turbulence in financial markets this autumn, money market rates have been markedly higher than the expected key policy rate, and bank lending rates are therefore likely to increase further.

The projections are uncertain. Should the world economy shift into a downturn or the krone appreciate further, inflation may again fall back to below 1½%. It may then be appropriate to reduce the interest rate. On the other hand, price and cost inflation may show a faster and more pronounced rise than projected in this *Report.* Additional interest rate hikes may then be appropriate. Against this background, the Executive Board has decided that the key policy rate should be in the interval 4¾ – 5¾% in the period to the publication of the next *Monetary Policy Report* on 13 March 2008, unless the Norwegian economy is exposed to major shocks.

31 October
Jarle Bergo

1 Monetary policy assessments and strategy

The economic situation

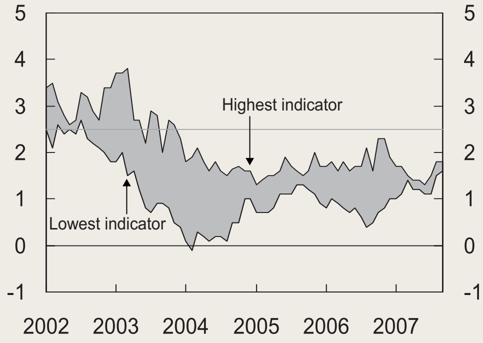
The rise in prices for many goods and services has picked up in recent months. Various measures of underlying inflation are now between 1½% and 2% (see Chart 1.1). Prices for domestically produced goods and services are rising at a faster pace (see Chart 1.2). The krone is strong and prices for imported consumer goods are still falling. Owing to the fall in electricity prices over the past year, total CPI inflation is temporarily low (see Chart 1.3).

Growth in the Norwegian economy remains strong. Mainland GDP will expand by more than 4% for the fourth consecutive year and GDP growth forecasts for this year have been revised up again. Employment has risen markedly at a late stage of the cyclical upturn. The supply of labour has been ample and total production capacity in the Norwegian economy has increased rapidly. Vigorous activity growth has nevertheless led to a high level of capacity utilisation. Unemployment is as low as during the cyclical boom in the 1980s and job vacancy rates are very high. Order backlogs in the construction industry and some manufacturing sectors are full and many companies indicate that they cannot take on new assignments. There is a shortage of various inputs. High capacity utilisation is placing limits on growth. At the same time, there are some signs that demand growth may moderate. The rise in house prices seems to have come to a halt and the number of housing starts is lower than earlier this year. A strong krone exchange rate is reducing profitability in some business sectors. As a result of the turbulence in international financial markets, there are prospects of somewhat slower growth among our trading partners.

Growth in the US economy has slackened. The US housing market has weakened and employment is rising at a slower pace than earlier this year. There are also signs of somewhat slower growth in western Europe. Economic growth in emerging economies remains strong, particularly in China. Developments in these countries are of growing importance for the world economy. China, India and Russia have accounted for close to half of overall global growth over the past year. In spite of weaker prospects for the US and western Europe, oil prices have increased since the previous *Report* and prices for other commodities remain high partly owing to continued strong growth in demand from Asia. Global underlying inflation remains moderate.

Uncertainty surrounding developments in the world economy has heightened as a result of the turbulence in financial markets this autumn. Defaults on US subprime mortgages and increased use of complex loan products have led to higher risk premia in credit and bond markets. Fears of

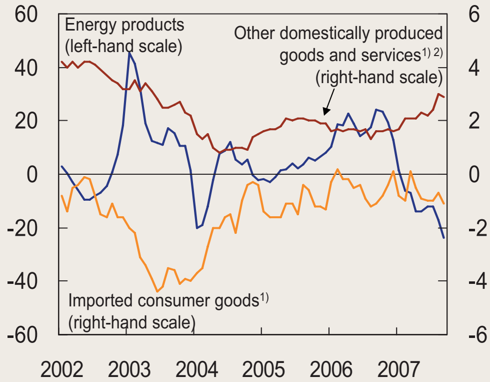
Chart 1.1 Interval of uncertainty for underlying inflation. Highest and lowest indicators.[1)] 12-month change. Per cent. Monthly figures. Jan 02 – Sep 07



[1)] Highest and lowest indicators of CPI-ATE, weighted median and trimmed mean. See separate box on recent price developments.

Sources: Statistics Norway and Norges Bank

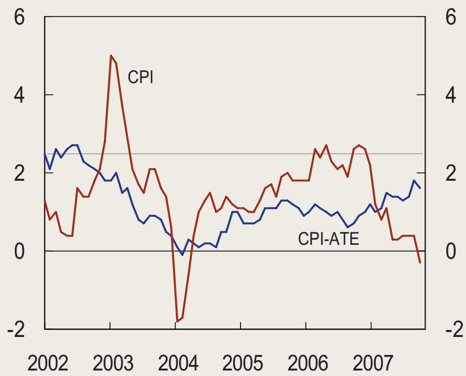
Chart 1.2 Consumer prices. 12-month change. Per cent. Monthly figures. Jan 02 – Sep 07



[1)] Adjusted for tax changes and excluding energy products.
[2)] Adjustment is made for the estimated effect of reduced maximum day-care rates in 2006.

Sources: Statistics Norway and Norges Bank

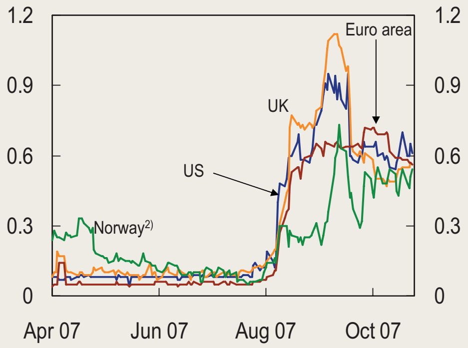
Chart 1.3 CPI and CPI-ATE[1)]. 12-month change. Per cent. Monthly figures. Jan 02 – Sep 07



[1)] CPI-ATE: CPI adjusted for tax changes and excluding energy products. A further adjustment is made for the estimated effect of reduced maximum day-care rates in 2006.

Sources: Statistics Norway and Norges Bank

Chart 1.4 Difference between money market rate and expected key policy rate[1]). 3-month maturity. Percentage points. Daily figures. 2 Apr 07 – 25 Oct 07



1) The expected key rate is measured by the Overnight Indexed Swap (OIS).
2) Norges Bank's projections.

Sources: Bloomberg and Norges Bank

losses have made banks more reluctant to provide loans to one another. The provision of central bank liquidity has contributed to keeping money market rates with terms shorter than one week at normal levels (see box on page 20). Norges Bank has also supplied extra liquidity on occasion (see box below). Since the turbulence started, three-month money market rates in the US, the euro area and the UK have been higher than that implied by market expectations concerning central bank key rates. In the Norwegian money market, the difference between the three-month money market rate and the expected key rate is now about the same as in other countries (see Chart 1.4).

Since the previous *Report*, the central bank in the US has lowered its key rate by 0.5 percentage point, while the central banks in Sweden, Switzerland, Canada, New Zealand and China have raised their key interest rates. Market expectations concerning key rates have been lowered at

Liquidity management in Norges Bank

Norges Bank's key policy rate is the interest rate banks' receive on their deposits in the central bank. At times, Norges Bank must provide liquidity to the banking system to ensure that short money market rates remain close to the key policy rate.

The central government has its account in Norges Bank. When companies pay for example tax to the central government, they draw on their bank accounts. This reduces the deposits in banks' accounts in Norges Bank. Payments from the government have the opposite effect. Banks' need for liquidity increases in connection with payments to the government. Norges Bank then offers short-term loans to the banks. Without these loans, short-term money market rates would be bid up in periods to levels far above the key policy rate. Norges Bank's management of liquidity in the banking system counteracts these fluctuations, making the short-term money market interest rates more stable.

Norges Bank supplies liquidity via F-loans, i.e. fixed-rate loans. The loan term and volume of these loans can be adjusted as required. Liquidity is distributed through auctions where banks bid for F-loans through an Internet-based system. To be eligible for a loan, banks must have adequate collateral in the form of securities deposited in Norges Bank.

When the financial turbulence reached the money markets on 9 August, Norges Bank supplied more liquidity than usual. The additional liquidity was provided in line with Norges Bank's usual practice when money markets do not function normally. In the rest of August and in September, Norges Bank continued to ensure that banks' total liquidity was somewhat higher than usual. In connection with oil tax payments on 1 October, liquidity requirements were substantial. Very short money market rates rose. Norges Bank provided additional liquidity. Money market rates shorter than one week have since edged down, but the market premium is still somewhat higher than before the financial turbulence started.

Banks that do not borrow other forms of short-term funds can borrow overnight in Norges Bank against collateral (D-loans). The interest rate on these loans is one percentage point higher than the key policy rate. The use of overnight D-loans has been limited, also in the current period of market turbulence.

home and abroad. Key rates in the US and the UK are now expected to be cut (see Chart 1.5). In Sweden, which has a lower interest rate level than our main trading partners, further interest rate hikes are expected. In the euro area, market participants expect the key rate to remain stable ahead.

The krone has appreciated markedly and is now almost 5% stronger than at the time of the publication of the previous *Report* in June (see Chart 1.6). The expected interest rate differential between Norway and our trading partners has shown little change. The krone has appreciated even though Norway is now running a current account deficit adjusted for government transfers to the Government Pension Fund - Global and oil companies' estimated cash surplus.[1] In the past, we have observed that market turbulence has occurred in tandem with a weaker krone. This time the krone has strengthened during the period of unrest.

Baseline scenario

Monetary policy in Norway is oriented towards 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 in the long term. Price stability provides firms and households with an anchor for expectations concerning future inflation. An average for inflation over the past ten years has been around 2%, i.e. somewhat lower than but fairly close to the target of 2.5% (see Chart 1.7).

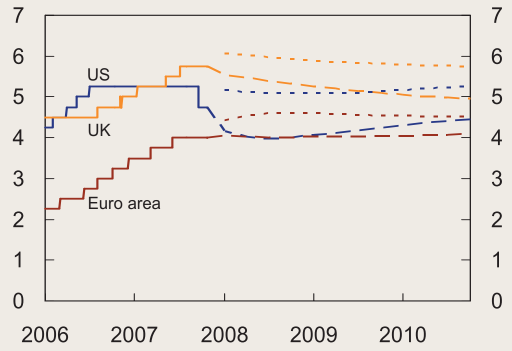
The aim of preventing inflation expectations from becoming entrenched well below target was one of the main reasons behind the interest rate cuts to a very low level in 2003 and 2004 when inflation fell and neared zero. In spite of several years of low inflation, inflation expectations have held up, as measured by TNS Gallup's business sentiment survey (see Chart 1.8). There have been prospects for higher underlying inflation for some time. The key policy rate has been raised gradually and ahead of the rise in inflation. Real short-term interest rates, which had been low for some time, are now slightly higher than a more normal level (see Chart 1.9).[2]

During this cyclical upturn, it took a long time before inflation started to rise. Against the background of strong competition in many industries, a subdued rise in prices for imported goods and high growth in productivity and the supply of labour, the Norwegian economy was able to expand rapidly without rising inflation. In addition, high

[1] The basic balance is estimated on an approximate basis, at a negative NOK 164bn in 2007. The basic balance, as defined here, is the current account surplus adjusted for annual transfers to the Government Pension Fund - Global and the portion of oil companies' estimated foreign exchange income held in cash, see box in *Inflation Report* 3/04.

[2] Calculations may indicate that the normal real interest rate for Norway is currently in the lower end of the interval 2½ - 3½%.

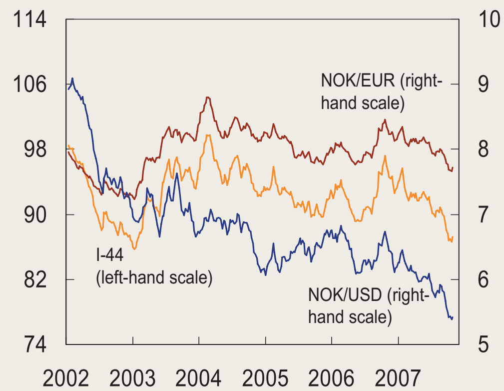
Chart 1.5 Policy rates and forward rates on 21 June 2007 and 25 October 2007.[1)] Per cent. Daily and quarterly figures. 2 Jan 06 – 31 Dec 10



[1)] Broken lines show forward rates on 25 October 2007. Dotted lines show forward rates on 21 June 2007. Forward rates are based on interest rates in the money market and interest rate swaps.

Sources: Reuters (EcoWin) and Norges Bank

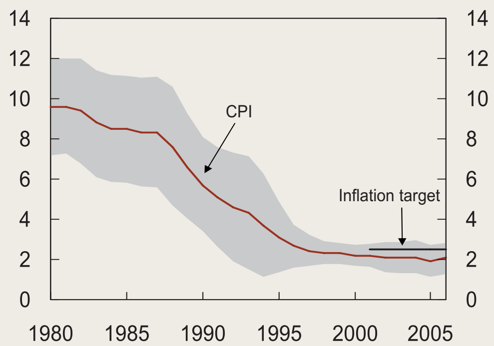
Chart 1.6 Exchange rates.[1)] The import-weighted exchange rate index (I-44), 1995 = 100, NOK/EUR and NOK/USD. Weekly figures. Week 1 2002 – Week 43 2007



[1)] A rising curve denotes a weaker krone exchange rate.

Source: Norges Bank

Chart 1.7 CPI. Moving 10-year average[1)] and variation[2)]. Per cent. Annual figures. 1980 – 2006[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 2007 and 2008 from this report form the basis for this estimate.

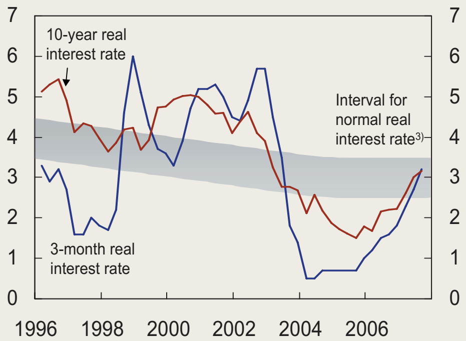
Sources: Statistics Norway and Norges Bank

Chart 1.8 Expected consumer price inflation 2 years ahead. Employer/employee organisations and experts[1]. Per cent. Quarterly figures. 02 Q2 – 07 Q3

[1] Employees in financial industry, macroanalysts and academics.

Source: TNS Gallup

Chart 1.9 3-month real interest rate[1], 10-year real interest rate[2] and the normal real interest rate in Norway. Per cent. Quarterly figures. 96 Q1 – 07 Q3



[1] 3-month money market rate 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%.

Source: Norges Bank

prices for Norwegian export goods have resulted in strong income growth and engendered a sharp rise in employment.

There are now clear signs of rising prices for domestically produced goods and services. As a result of a shortage of production capacity, inputs and skilled labour, companies are bidding up wages and raising prices. The enterprises in Norges Bank's regional network report that wage growth is higher than anticipated before summer. Moreover, productivity growth in the business sector is probably slackening.

The inflation outlook is marked by opposing forces. On the one hand, the krone is strong and prices for imported consumer goods are still falling in spite of higher prices for many commodities. Growth forecasts for the world economy have been revised down somewhat compared with the previous *Report*. On the other hand, growth in the Norwegian economy has been stronger than projected and there are prospects that domestic price and cost inflation will pick up.

Underlying inflation remains somewhat lower than the inflation target. The strong krone and developments in the world economy may have an adverse effect on inflation, output and employment, but on balance there seems to be little likelihood that inflation will fall markedly with an ensuing fall in the price level. Nonetheless, there is reason to guard against the risk of lower inflation when inflation is low at the outset. This must be given weight in interest rate setting.

At the same time, experience shows that price and cost inflation can rise rapidly towards the end of a cyclical upturn. Developments in the Norwegian economy through

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.

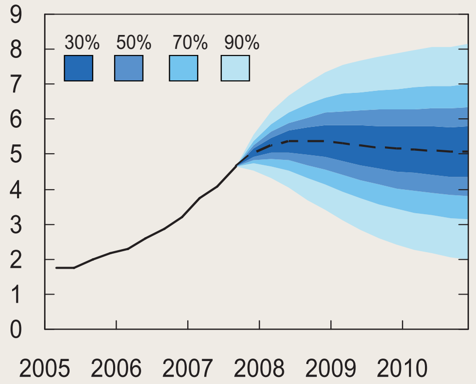
In the assessment, potential effects of asset prices, such as property prices, equity prices and the krone exchange rate on the prospects for output, employment and inflation are also taken into account. Assuming the criteria above have been satisfied, the following additional criteria are useful:

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.

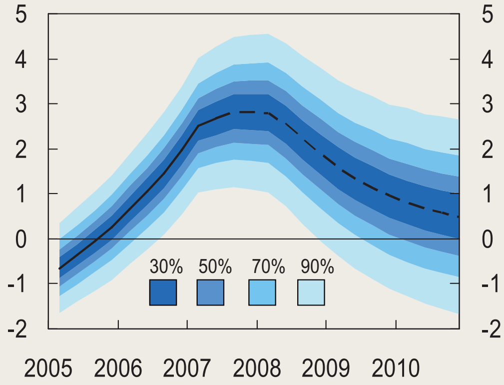
5. As a cross-check for interest rate setting, it should be possible to explain any substantial and systematic deviations from simple monetary policy rules.

Chart 1.10a Projected key policy rate in the baseline scenario with fan chart. Per cent. Quarterly figures. 05 Q1 – 10 Q4



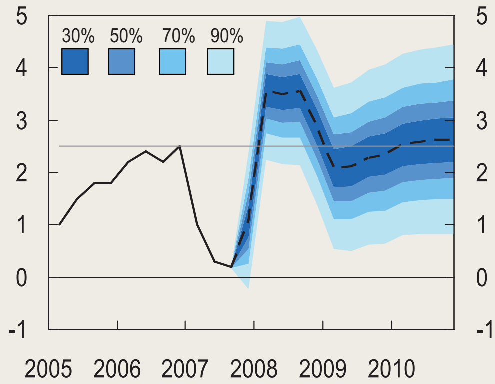
Source: Norges Bank

Chart 1.10b Estimated output gap in the baseline scenario with fan chart. Per cent. Quarterly figures. 05 Q1 – 10 Q4



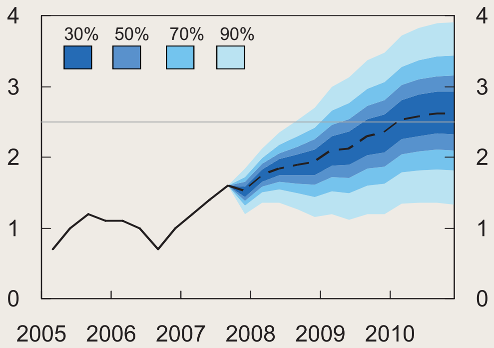
Source: Norges Bank

Chart 1.10c Projected CPI in the baseline scenario with fan chart. 4-quarter change. Per cent. Quarterly figures. 05 Q1 – 10 Q4



Sources: Statistics Norway and Norges Bank

Chart 1.10d Projected CPI-ATE[1] in the baseline scenario with fan chart. 4-quarter change. Per cent. Quarterly figures. 05 Q1 – 10 Q4



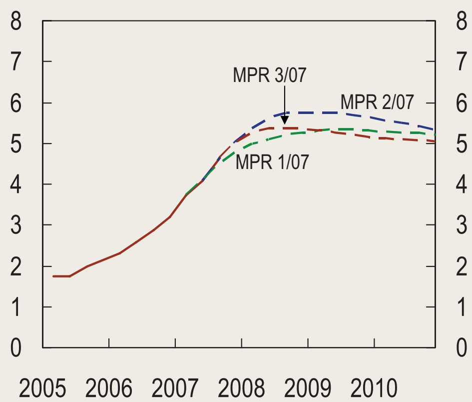
[1] CPI-ATE: CPI adjusted for tax changes and excluding energy products. A further adjustment is made for the estimated effect of reduced maximum day-care rates in 2006.

Sources: Statistics Norway and Norges Bank

summer and autumn may indicate that cost inflation is now rising at a fast pace. In order to guard against inflation becoming too high, a pre-emptive and more pronounced increase in the key policy rate might, in isolation, be appropriate. This must also be given weight in interest rate setting.

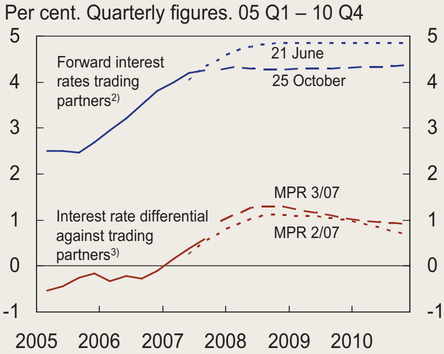
Monetary policy is oriented towards bringing inflation up towards the inflation target of 2.5%. Overall, the outlook and the balance of risks suggest that the key policy rate should be raised further, but the projections are uncertain (see Charts 1.10a-d). Compared with *Monetary Policy Report* 2/07, the projections for the key policy rate have been lowered somewhat for the period ahead (see Chart 1.11 and box on page 12). For some time now, the outlook has indicated that inflation will pick up and near the inflation target. A more pronounced increase in the key policy rate than projected in this *Report* would increase the risk that inflation would take much longer to

Chart 1.11 Key policy rate in the baseline scenario in MPR 1/07, MPR 2/07 and MPR 3/07. Per cent. Quarterly figures. 05 Q1 – 10 Q4



Source: Norges Bank

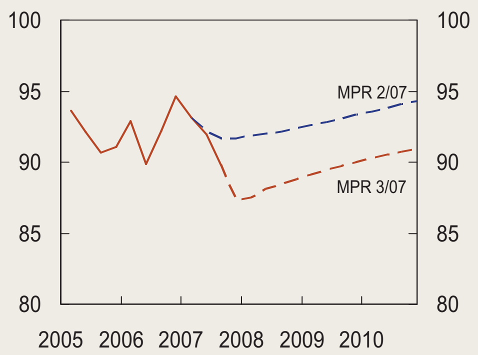
Chart 1.12 Forward interest rates among trading partners and projected interest rate differential in MPR 2/07 and MPR 3/07. Money market rates[1]). Per cent. Quarterly figures. 05 Q1 – 10 Q4



[1]) Money market rates are normally approximately 0.2 percentage point higher than the key policy rate. Money market rates at 25 October have been revised down to this level.
[2]) Weighted average of trading partners' forward rates.
[3]) Interest rate differential in the baseline scenario.

Source: Norges Bank

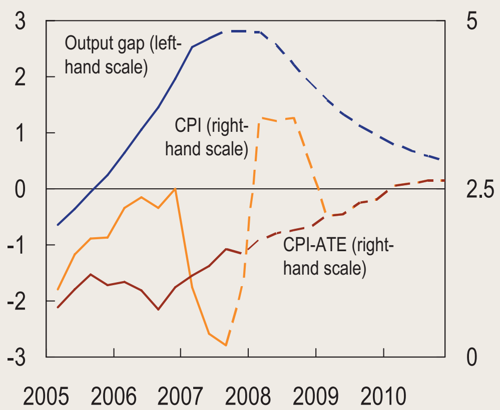
Chart 1.13 Import-weighted exchange rate (I-44) in the baseline scenario in MPR 2/07 and MPR 3/07.[1]) [2]) Index. Quarterly figures. 05 Q1 – 10 Q4



[1]) A rising curve denotes a weaker krone exchange rate.
[2]) The exchange rate path is based on uncovered interest rate parity.

Source: Norges Bank

Chart 1.14 Projected inflation and estimated output gap in the baseline scenario. Per cent. Quarterly figures. 05 Q1 – 10 Q4



Sources: Statistics Norway and Norges Bank

approach target than we have aimed at earlier, which would not be appropriate. This might have influenced the stability of expectations among consumers, price-setters and market-makers. On the other hand, if the key policy rate is kept unchanged at today's level or lowered, there is a risk that cost inflation will accelerate, inflation become too high and that the turnaround in the Norwegian economy – when it occurs – will be more pronounced.

If cost and price inflation picks up at a fast pace through autumn and winter, the key policy rate may be raised to a further extent and faster than envisaged at present. However, should the krone appreciate further or prices for imported consumer goods decelerate markedly so that inflation falls back, it may be relevant to consider a lower key policy rate.

Since the publication of the previous *Report* in June, key rate expectations in many countries have fallen by about ½ percentage point. Financial market participants now expect money market rates among trading partners as a whole to be just above 4¼% in the coming years (see Chart 1.12). The krone is assumed to remain approximately unchanged in the near term and then to weaken somewhat (see Chart 1.13). Such a development in the krone exchange rate reflects expected interest rate differentials between Norway and other countries and that the return on NOK over time will not be higher than the return on other currencies.

The trade-off between the different monetary policy objectives is illustrated in Chart 1.14 (see also box on page 9 on criteria for an appropriate interest rate path). Capacity utilisation is currently at such a high level that inflation will gradually move up to 2.5%. At the same time, the interest rate will gradually reduce capacity utilisation so that inflation will not become too high. The interest rate path outlined in this *Report* is consistent with Norges Bank's previous response pattern.

Inflation measured by the CPI is projected to pick up markedly from a very low level this year (see Chart 1.10c). The wide fluctuations in the CPI reflect variations in electricity prices. Sharp falls in electricity prices this year and prospects for higher electricity prices early next year will push up CPI inflation to over 3% in early 2008. Excluding energy prices, inflation is projected to pick up more gradually (see Chart 1.10d). The rise in prices for domestically produced goods and service will continue to edge up as a result of higher wage growth and slower growth in productivity. Measured in foreign currency, prices for imported consumer goods are expected to remain approximately unchanged. The rate of increase in prices for imported consumer goods will over the next year be dampened by the strong krone. The rise in consumer prices adjusted for tax changes and excluding energy products (CPI-ATE) is projected to move up to around 2% in the latter half of 2008, approximately as projected in the previous *Report*.

Given the interest rate path outlined in this *Report,* growth in the Norwegian economy is projected to slow gradually from a little more than 5% in 2007 to a little less than 3% in 2008, with a further decline in 2009. Overall, mainland GDP is projected to expand at a slower pace than production capacity so that capacity utilisation will slacken further ahead. Higher wage growth and lower growth in productivity will reduce corporate profitability and gradually lead to slower growth in investment. Weaker growth in the world economy and a strong krone may lead to slower growth in exports. In an environment of a weaker housing market and a real interest rate that is slightly higher than a more normal level, it is reasonable to assume that the household saving ratio will increase after falling markedly in recent years. This will curb growth in private consumption. For a period ahead, borrowing rates facing households will prob-

Changes in the interest rate path

The projections in this *Report* are based on an overall assessment of the situation in the Norwegian and international economy and of our perception of the functioning of the economy. In this *Report* the interest rate forecast has been revised down somewhat compared with *Monetary Policy Report* 2/07 (see Chart 1).[1] Chart 2 shows a technical illustration of how various factors have contributed to changing the interest rate path through effects on the prospects for inflation and the output gap.[2]

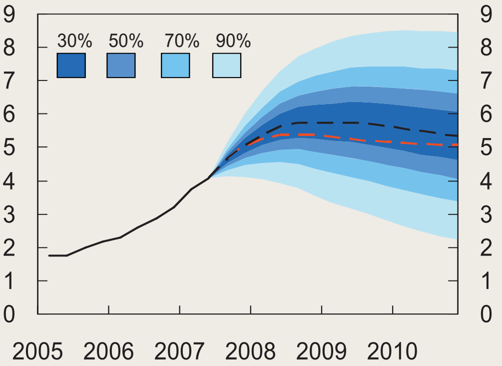
The krone has appreciated markedly. At the same time, global growth prospects have weakened. Market participants now expect lower key rates among our trading partners. These developments suggest a lower interest rate path.

Growth in the Norwegian economy has been stronger than expected. Capacity utilisation is now projected to be higher than in the previous *Report,* which engenders prospects of rising price and cost inflation. This suggests a higher interest rate path.

Underlying inflation has been broadly in line with projections and does not make an isolated contribution to the change in the interest rate path.

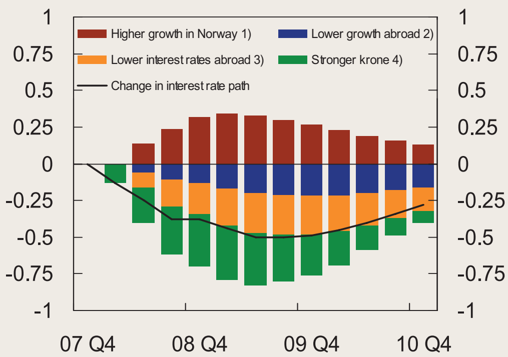
[1] Changes in the projections for inflation and capacity utilisation are discussed on page 45.
[2] The chart calculations are made using a small calibrated model for the Norwegian economy, see Staff memo 2004/3. The chart shows the contribution to the interest rate path from changes in exogenous factors in the model.

Chart 1 Key policy rate in the baseline scenario in MPR 2/07 with fan chart and key policy rate in the baseline scenario in MPR 3/07 (red line). Per cent. Quarterly figures. 05 Q1 – 10 Q4



Source: Norges Bank

Chart 2 Factors behind changes in the interest rate path since MPR 2/07. Percentage points. Quarterly figures. 07 Q4 – 10 Q4



1) Reflects effects of the unexpectedly high output growth in 2007 and the consequences thereof.
2) Reflects effects of lower expected growth in the global economy.
3) Reflects effects of expectations of lower key policy rates among trading partners, through effects on the krone exchange rate.
4) Reflects effects of the appreciation of NOK this autumn over and above the effects of changed interest rate expectations abroad.

Source: Norges Bank

ably reflect that money market rates have recently increased more than developments in the key rate would imply, and banks may become somewhat less aggressive in marketing loans. This may then also curb consumption growth. On the other hand, sustained high general government demand and growth in petroleum investment will contribute to buoying activity in the Norwegian economy in the next few years.

Uncertainty surrounding the projections

The projections for inflation, output, the interest rate and other variables are based on our assessment of the current economic situation and our perception of the functioning of the economy. There is considerable uncertainty surrounding future developments in inflation and output, and hence interest rate developments. The fan charts illustrate the uncertainty surrounding our projections (see Charts 1.10a-d).[3] The wider the fan charts are, the more uncertain the projections are. The width of the fan charts is based on historical disturbances and expresses an average of periods with high and low uncertainty.[4] The uncertainty interval around the interest rate reflects the fact that monetary policy reacts to developments in inflation and output. This increases the uncertainty surrounding future interest rates, but also reduces the uncertainty surrounding inflation and output.

If economic developments are broadly in line with projections, economic agents can also expect interest rate developments to be approximately as projected. On the other hand, the interest rate path may shift in relation to that projected in this *Report* if economic prospects change or if the effects of interest rate changes on output, employment and prices are different from that assumed.

The uncertainty surrounding the inflation projections is illustrated in the fan chart in Chart 1.10d. The chart shows that the probability that consumer price inflation adjusted for tax changes and excluding energy products will exceed 3.5% two to three years ahead is estimated to be somewhat lower than 15%. The probability that inflation will remain below 1.5% over a longer period is estimated at about 10%. The probability that inflation will be lower than 1.5% in 2008 is estimated at about 15%.

Charts 1.15a-c analyse developments under two alternative scenarios for the economy. The projections in the charts are based on the assumption that Norges Bank's response pattern is known and consistent over time.[5] Interest rate setting must be assessed in the light of the reasons for and the expected duration of the disturbances. The later monetary policy responds to such disturbances, the wider the fluctuations in output and inflation will be. In addition, it may be

[3] There is also uncertainty about the current economic situation (see boxes in *Inflation Report* 3/05 and *Inflation Report* 3/06)
[4] A further description of the fan charts is provided in *Inflation Report* 3/05
[5] A further account of this is provided 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.

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.

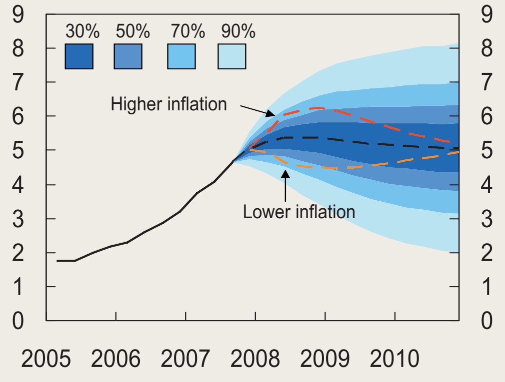
In Charts 1.15a-c (red lines) we illustrate a path where the prices for domestically produced goods and services rise faster than projected. The projections are based on the technical assumption that overall inflation is ¼ - ½ percentage point higher than the central projection over the next year. Various factors may cause inflation to rise at such a fast pace. We may have underestimated the effect of the high level of capacity utilisation on inflation. The rise in prices for domestically produced goods and services, which have already increased during summer and autumn, may edge up at a quicker pace than projected. When many enterprises are faced with capacity constraints in an environment of strong demand, they may increase margins. Cost inflation may also prove to be higher than projected. Unemployment is now as low as during the cyclical boom in the 1980s and there are considerable labour shortages. In previous business cycles, such labour market developments have often led to abrupt shifts in the rate of increase in wages and prices with a concomitant fall in productivity growth. In the baseline scenario, wage growth is projected at 5¾% between 2007 and 2008. Calculations using the macroeconomic model NEMO[6] may indicate that higher inflation in line with that shown in Chart 1.15a may be consistent with a scenario where wage growth picks up faster and soon exceeds 7%.

If inflation follows the path outlined above, the key policy rate will be raised faster than in the baseline scenario and may reach close to 6% in the period to spring 2008, followed by further hikes through 2008, in order to prevent inflation from overshooting target by a considerable margin.[7] A higher interest rate will lead to lower capacity utilisation in the economy than in the baseline scenario. The rise in inflation will gradually be curbed, but inflation over the next years will be somewhat higher than in the baseline scenario.

Charts 1.15a-c (yellow lines) illustrate a path where underlying inflation does not pick up, but falls back and is below 1½% over the next quarters.[8] Various factors may be behind such a path for inflation. If developments in the world economy are weaker than projected, the impact on output and employment in Norway may prove to be considerable. This may contribute to dampening inflation. There is also some uncertainty linked to the feed-through from the krone exchange rate to inflation because the krone exchange

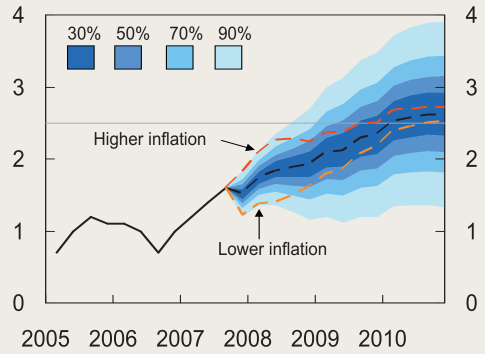
[6] NEMO – Norwegian Economy Modell (see box on page 43).
[7] The calculations are based on unchanged projections for the real economy.
[8] In this case, the calculations are also based on unchanged projections for the real economy. Should, for example, lower inflation reflect a stronger krone, the attendant dampening impact on growth in output and employment is disregarded.

Chart 1.15a Key policy rate in the baseline scenario and in the alternatives with higher and lower inflation. Per cent. Quarterly figures. 05 Q1 – 10 Q4



Source: Norges Bank

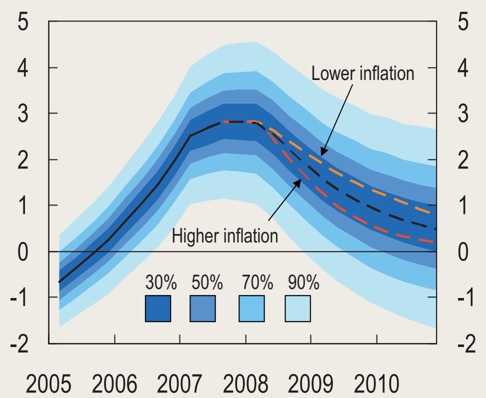
Chart 1.15b CPI-ATE[1)] in the baseline scenario and in the alternatives with higher and lower inflation. 4-quarter change. Per cent. Quarterly figures. 05 Q1 – 10 Q4



[1)] CPI-ATE: CPI adjusted for tax changes and excluding energy products. A further adjustment is made for the estimated effect of reduced maximum day-care rates in 2006.

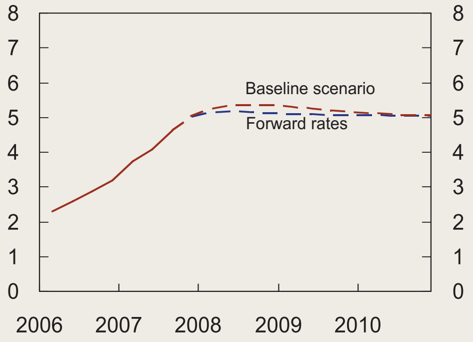
Sources: Statistics Norway and Norges Bank

Chart 1.15c The output gap in the baseline scenario and in the alternatives with higher and lower inflation. Per cent. Quarterly figures. 05 Q1 – 10 Q4



Source: Norges Bank

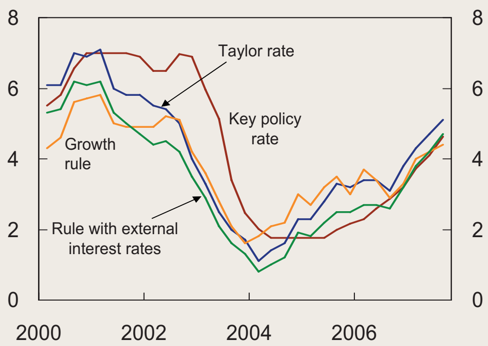
Chart 1.16 Key policy rate in the baseline scenario and estimated forward rates[1)]. Per cent. Quarterly figures. 06 Q1 – 10 Q4



[1)] A credit risk premium and a technical difference of 0.20 percentage point have been deducted to make the forward rates comparable with the key policy rate. Forward rates on 25 October 2007.

Source: Norges Bank

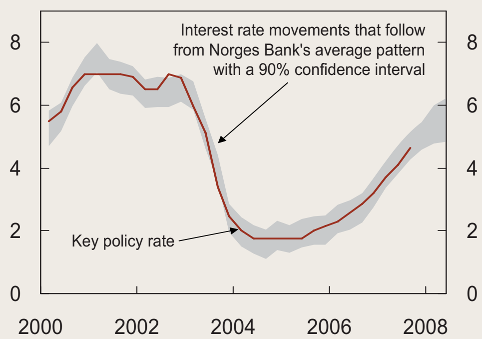
Chart 1.17 Key policy rate, Taylor rule, growth rule and rule with external interest rates.[1)] Per cent. Quarterly figures. 00 Q1 – 07 Q3



[1)]The CPI-ATE adjusted for the estimated effect of reduced maximum day-care rates in 2006 has been used as a measure of inflation. Other measures of underlying inflation that have been higher than the CPI-ATE would have resulted in a higher interest rate path.

Source: Norges Bank

Chart 1.18 Key policy rate and interest rate developments that follow from Norges Bank's average pattern for the setting of interest rates[1)]. Per cent. Quarterly figures. 00 Q1 – 07 Q3



[1)] The interest rate movements are explained by developments in inflation, mainland GDP growth, wage growth and 3-month interest rates among trading partners. See *Inflation Report* 3/04 for further discussion.

Source: Norges Bank

rate has varied in recent years. If price-setters expect the krone to remain at today's level for a long period, inflation may be lower than projected. Should the krone continue to appreciate, there may also be prospects of lower inflation further ahead. In addition, the shift in imports towards low-cost countries may be more pronounced than assumed, which may dampen inflation further.

With such a path for inflation, the interest rate may be reduced from today's level early next year with the aim of holding up inflation expectations and bringing inflation back to target. A lower interest rate may lead to a weakening of the krone. Inflation will then gradually pick up, but be lower than in the baseline scenario in the coming years.

Cross-checks[9]

Forward interest rates provide a cross-check of the Bank's interest rate forecast. Under certain assumptions about risk premia, forward rates may reflect market expectations about future interest rate developments. Both long-term and short-term forward rates in Norway have fallen since *Monetary Policy Report* 2/07. Forward rates may indicate that financial market participants now expect an increase in the key policy rate to about 5¼% in 2008 (see Chart 1.16). Forward interest rates are now broadly in line with the interest rate forecast in this *Report.*

For a long period, simple monetary policy rules implied somewhat higher interest rates than Norges Bank's key policy rate. Since the latter half of 2006, there have been no major differences between the key policy rate and the simple rules (see Chart 1.17). The Taylor rule applies the output gap and inflation. The growth rule instead applies observed GDP growth and inflation. Simple monetary policy rules do not take account of the economic outlook but only look at the economic situation today. The Taylor rule and the growth rule have some limitations as a reference for a small, open economy. They do not take into account that changes in the interest rate may result in changes in the exchange rate, thereby influencing the inflation outlook. In principle, the rule involving external interest rates is better suited for a small, open economy.

Norges Bank has estimated a simple interest rate rule on the basis of the Bank's previous interest rate setting (see box in *Inflation Report* 3/04). Such a rule suggests a continued increase in the interest rate ahead (see Chart 1.18). It is primarily as a result of high GDP growth and prospects for a higher rise in consumer prices adjusted for tax changes and excluding energy products that this interest rate rule implies higher interest rates ahead. The rule results in an interest rate in line with the baseline scenario in this *Report.*

[9] For an in-depth discussion of several cross-checks for interest rate setting, see Norges Bank's Annual Report 2006.

Conclusions

Summary:

- Underlying inflation has picked up, but is lower than the inflation target. Growth in the Norwegian economy remains strong and stronger than projected earlier. Capacity utilisation is high. Wage growth is on the rise and there are prospects of higher inflation. Money market rates have risen more than market expectations concerning the key policy rate would imply in the short term. At the same time, the krone has appreciated markedly. There are prospects that somewhat weaker growth in the world economy will contribute to curbing inflation and growth in output and employment in Norway. The analysis in this *Report* implies that the key policy rate should be raised further, but to a lesser extent than envisaged in June.

- 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, high capacity utilisation and higher cost inflation may lead to higher-than-projected inflation. On the other hand, the risk of slower growth in the world economy has increased. If growth in the world economy turns out to be weaker or the krone stronger than projected, inflation may be lower than projected in this *Report*.

The Executive Board's strategy:

- The key policy rate should be in the interval 4¾ – 5¾% in the period to the publication of the next *Monetary Policy Report* on 13 March 2008, unless the Norwegian economy is exposed to major shocks. Given the inflation target, we will be mindful of the effects of higher interest rates on the krone exchange rate when inflation is low.

Monetary policy since the previous *Report*

Norges Bank's projections for economic developments in Monetary Policy Report 2/07, which was presented on 27 June 2007, implied a key policy rate in the interval 4½ - 5½% in the period to 31 October. The monetary policy strategy was conditional on economic developments that were broadly in line with projections. The interest rate was to be increased gradually, so that Norges Bank could assess the effects of interest rate changes and other new information.

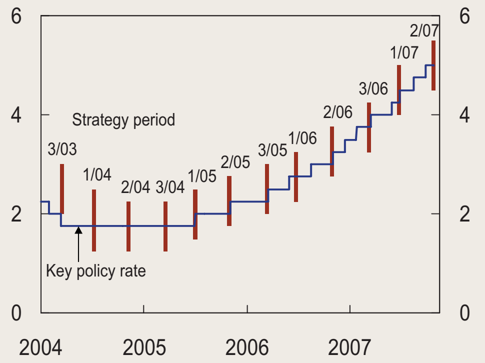
In Monetary Policy Report 2/07, it was pointed out that high capacity utilisation and higher cost inflation might lead to higher-than-projected inflation. It was also pointed out that sustained high productivity growth, a more pronounced shift towards imports from low-cost countries and a stronger krone exchange rate might result in lower-than-expected inflation.

At the monetary policy meeting on 27 June, the Executive Board pointed out that consumer price inflation was still moderate, in spite of the prolonged cyclical upturn in the Norwegian economy. Underlying inflation had been relatively stable and had ranged between 1% and 1½% for some time. There were nevertheless several signs indicating that inflation would pick up. Wage growth was rising and there were prospects that the economic expansion might last somewhat longer than previously envisaged. Employment was rising approximately as projected and unemployment was lower than during the previous expansion. There was a shortage of labour and some important inputs in many industries. Temporarily low CPI inflation this year would be followed by temporarily high inflation in 2008. Excluding energy prices, inflation was projected to rise at a more gradual pace. The key policy rate was raised by 0.25 percentage point to 4.50%.

The interest rate was increased by 0.25 percentage point to 4.75% at the monetary policy meeting on 15 August. The Executive Board pointed out that consumer price inflation remained moderate, but that there were prospects that inflation would gradually pick up. The interest rate was being raised so that inflation would not become too high. Credit and stock market turbulence had generated uncertainty concerning future economic developments, but on balance new information at that monetary policy meeting did not warrant a departure from the monetary policy strategy presented in June.

At the monetary policy meeting on 26 September, the Executive Board pointed out that the rise in prices for many goods and services had picked up in recent months. Underlying inflation had for some time been projected at between 1½% and 2% in the latter half of this year. Various measures of underlying inflation had increased broadly in line with projections. Prices for domestically produced goods and services had risen at a particularly fast pace. Growth in the economy had been stronger than expected. Cost inflation was on the rise and there were prospects of a further pick-up in price inflation. These conditions suggested that the interest rate should be increased. On the other hand, the turbulence in financial markets had persisted since the August monetary policy meeting. The financial sector in several countries had been affected. There were prospects of lower growth in both the US and Europe. The krone was strong. The interest rate was raised by 0.25 percentage point, to 5.00%, but the Executive Board considered the alternative of leaving the interest rate unchanged. In the press release after the meeting it was stated that if the turmoil in international financial markets persisted and if the krone remained strong, and this had considerable consequences for the outlook for inflation, output and employment, the key policy rate might be raised to a lesser extent than Norges Bank envisaged in June.

Chart 1 Interval for the key policy rate at the end of each strategy period and actual developments.[1)]
Per cent. Daily figures. 2 Jan 04 – 25 Oct 07



1) The Executive Board's decision of 31 October is not shown in the chart (see table p. 58).

Source: Norges Bank

Financial turbulence, slower growth and continued moderate global inflation

Turbulent financial markets

Since the end of June, money and credit markets have been characterised by sharp fluctuations, liquidity shortages and reduced risk willingness. The turbulence stemmed from problems in the US mortgage market. Defaults on sub-prime mortgages in the US started to rise in the second half of 2006. A large number of these mortgages were sold by the original creditors as securities backed by the portfolio of mortgage loans. The buyers of these securites, including bank-owned special purpose vehicles (SPVs) in the US and Europe, primarily relied on the commercial paper market for funding. As back-up financing, many SPVs had established credit lines with banks that they could draw on as needed. As expected losses on securities backed by mortgages rose, it became more difficult to obtain funding in the commercial paper market.

Investors in a number of countries became less willing to take risk. The premium on corporate bonds increased markedly (see Chart 2.1). The increase was naturally sharpest for the financially weakest companies. The interest rate premium on government bonds issued by emerging economies also increased, but less than for corporate bonds.

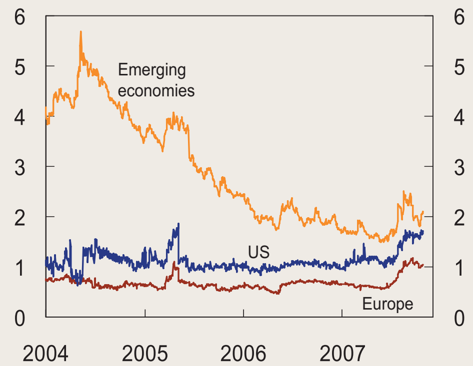
As banks' SPVs began to draw on credit lines and uncertainty heightened as to financial institutions' risk exposure, banks' liquidity requirements increased. This reduced their capacity and willingness to provide new loans, and the premium on interbank loans has shown an appreciable rise.

A number of central banks have injected extraordinary liquidity into the banking sector (see box on page 20). The difference between money market rates and central bank key rates is still unusually wide in both the US and Europe. High premia result in higher costs for financial institutions that have based their funding on "rolling over" short-term loans.

As a result of reduced risk willingness, investors have avoided securities with credit risk and preferred investments in safe government securities. Yields on long-term government bonds are considerably lower than at the time of publication of the previous *Monetary Policy Report* in June (see Chart 2.2). Yields on short-term government securities have fallen even more, particularly in the US.

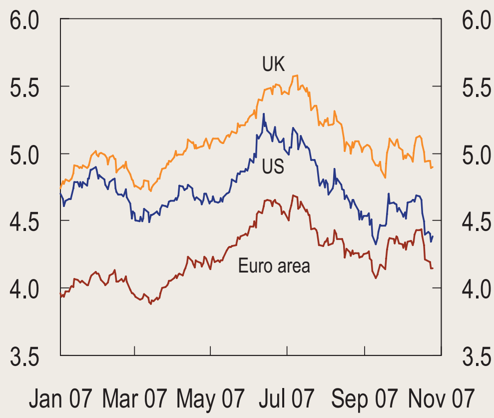
Risk premia in credit markets have been very low in recent years, partly reflecting a reduction in real risk. In a

Chart 2.1 Credit premia on BBB-rated corporate bonds and government bonds in emerging economies. 5-year maturity. Percentage points. Daily figures. 1 Jan 04 – 25 Oct 07



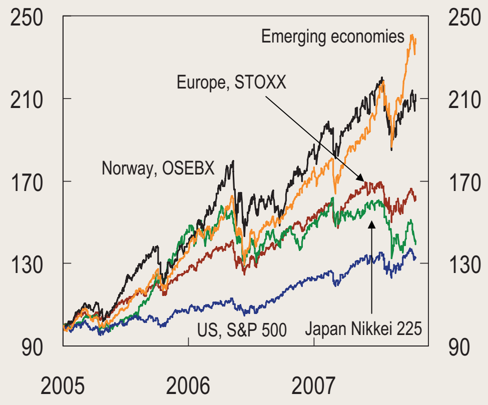
Source: Reuters (EcoWin)

Chart 2.2 Yields on 10-year government bonds. Per cent. Daily figures. 1 Jan 07 – 25 Oct 07



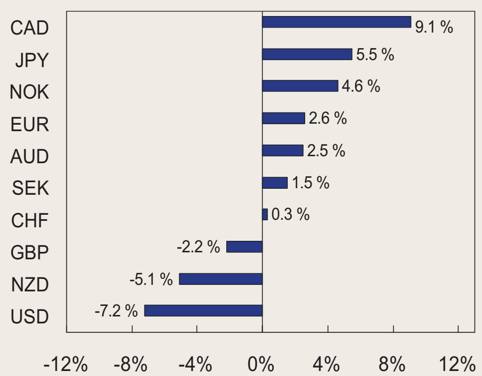
Source: Reuters (EcoWin)

Chart 2.3 Developments in international stock indices. 3 Jan 05 = 100. Daily figures. 3 Jan 05 – 25 Oct 07



Source: Reuters (EcoWin)

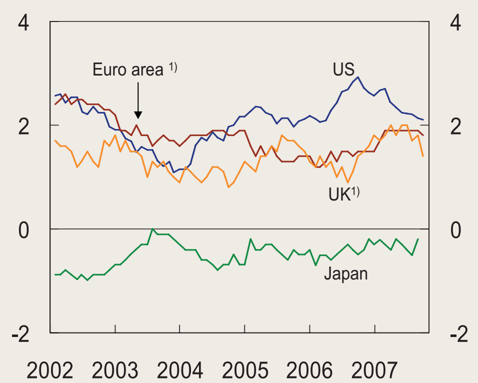
Chart 2.4 Change in effective exchange rates since MPR 2/07[1)]



[1)] Percentage change from 21 Jun 07 to 25 Oct 07. A positive (negative) number denotes a stronger (weaker) exchange rate.

Sources: Bank of England and Norges Bank

Chart 2.5 Consumer prices excluding food and energy. 12-month change. Per cent. Monthly figures. Jan 02 – Sep 07



[1)] Excl. food, energy, alcohol and tobacco.

Source: Reuters (EcoWin)

number of emerging economies, strong economic growth, high foreign exchange reserves and improved macroeconomic management have reduced the risk of loan defaults. Internationally, earnings in some corporate segments have been very high, strengthening their financial position. The turbulence witnessed recently nonetheless indicates that miscalculation of the real risk was an important reason for the low premia. It is therefore likely that some of the increase in risk premia is permanent.

Through the summer, the turbulence in financial markets and the uncertainty related to developments in the US led to a decline in market expectations concerning economic growth and central bank key rates. In a number of countries, key rate expectations were lowered further when on 18 September the Federal Reserve reduced its key rate by 0.50 percentage point to 4.75%. Market rates indicate that key interest rates among our trading partners as a whole are expected to show little change in the projection period. Expectations are lower than when the previous *Report* was published.

Global equity markets have been volatile through the summer and autumn. Equity prices fell markedly from the second half of July and up to mid-August (see Chart 2.3). The fall was probably primarily due to a decrease in investors' risk willingness, and was particularly sharp for equities linked to the housing sector or for financial institutions. Global equity prices have since rebounded. Equity prices have risen most in emerging economies. This reflects continued favourable growth prospects, especially in many Asian countries.

The turbulence in money and securities markets has also influenced exchange rates (see Chart 2.4). There has been a decline in carry trade. As a result, the Japanese yen has appreciated by a good 5% since the previous *Report*. The prospect of lower growth and a further reduction in the key rate in the US has contributed to a 7% effective depreciation of the US dollar. Sterling has also depreciated. The euro and the Swedish krone are somewhat stronger.

Subdued growth prospects for industrialised countries

Underlying inflation has remained moderate and declined among most of our trading partners in the course of summer and autumn (see Chart 2.5). In Japan, inflation is close to zero. In China on the other hand, inflation has picked up as a result of a rise in food prices. Strong growth in China and other emerging economies may in isolation push up global inflation ahead. Inflation expectations measured by surveys have increased somewhat in the euro area, the UK and Sweden, but have decreased slightly in the US.

Central bank response to financial turbulence

The problems in the credit market spread in earnest to money markets on Thursday 9 August. The European Central Bank (ECB) injected EUR 94.8bn into the European money market in a one-day quick tender. This was the largest supply of liquidity to date. The funds were supplied at a fixed rate of 4.0%, equal to the minimum bid rate. In the days that followed, the ECB continued to offer short-term liquidity, albeit on a lesser scale. In two supplementary longer-term refinancing operations in August and September, the ECB provided a total of EUR 115bn euros in three-month funds to the banking system. Slightly longer money market rates in the euro area have nevertheless remained high compared with the minimum bid rate.

On 10 August, the Federal Reserve stated that it was providing liquidity to facilitate the orderly functioning of financial markets. The Federal Reserve injected a total of USD 24bn on 9 August and a total of USD 38bn on 10 August. This was more than normal.

On Friday 17 August, the Federal Reserve stated that the downside risks to growth as a result of the turmoil had increased appreciably. The primary credit rate on discount window loans was also reduced from 6.25% to 5.75%. The discount window is a standing facility where banks can borrow at a fixed rate. As a result of this reduction, the premium on these loans was reduced from 1.0 to 0.5 percentage points above the target interest rate. The maximum loan-term for these loans was increased to 30 days. These changes will remain in place until the market situation has improved. Banks' withdrawals using this facility have been limited up to now. On 18 September, the Federal Reserve reduced its key rate by 0.5 percentage point to forestall some of the adverse effects from the disruptions in financial markets. Market participants are expecting further interest rate reductions in the US.

The Bank of England did not take any emergency action in August. Money market rates in the UK gradually rose to a high level compared with the key policy rate, even for loans with very short maturities. On 5 September, the Bank of England announced that if interest rates remained high, it would offer liquidity in excess of the target for banks' total reserves at the central bank. A week later, the Bank of England offered an additional GBP 4.4bn. Actual reserves were allowed to fluctuate further from the targeted reserves before additional costs were incurred for the banks. This gave banks more flexibility in their liquidity management.

On 14 September, the Bank of England announced that it had been authorised by the Chancellor of the Exchequer to extend a loan to the bank Northern Rock. The loan would be provided against collateral and with a premium. Because of public uncertainty about the state of Northern Rock, many customers withdrew their deposits the following week. The situation returned to normal after the Chancellor announced that all deposits in the bank were guaranteed by the Treasury.

Three-month interest rates in the UK money market rose further in September, and were for a period more than 1 percentage point higher than the key rate. On 19 September, the Bank of England announced that it would provide funds at a 3-month maturity through four auctions at weekly intervals. The lowest rate banks could bid was set at 6.75%, i.e. 1 percentage point above the key rate. There were no bidders in the Bank's auctions, which probably reflects some improvement in the money market situation since the Bank decided to offer the liquidity.

The central banks in Japan, Australia, Canada and Switzerland all provided extra liquidity to the markets on 9 and/or 10 August. The central banks of Australia, Malaysia, Indonesia and the Philippines intervened in the foreign exchange market by selling US dollars.

Table 2.1 Projections for consumer prices in other countries. Change from previous year.

	2007	2008	2009-10
US	2¾	2¼	2¼
Euro area[1)]	2	2	2
Japan	0	½	1
UK	2¼	2	2
Sweden	2	2	2
China	4½	4	3¼
Trading partners[2)]	2¼	2	2

[1)] Weights from Eurostat (each country's share of total euro area consumption)
[2)] Import weights, 26 important trading partners

Sources: Eurostat and Norges Bank

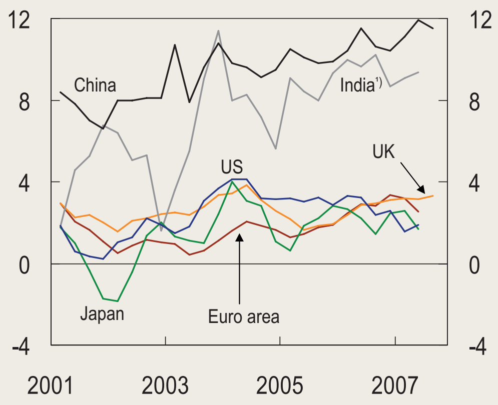
Table 2.2 Projections for GDP growth in other countries. Change from previous year.

	2007	2008	2009-10
US	2	1¾	2¾
Euro area	2½	1¾	2
Japan	2	1½	1½
UK	3	1¾	2¼
Sweden	3½	2¾	2¼
China	11½	10½	9½
Trading partners[1)]	3	2½	2½

[1)] Export weights, 26 important trading partners

Source: Norges Bank

Chart 2.6 GDP. 4-quarter growth. Per cent. Quarterly figures. 01 Q1 – 07 Q3



[1)] Measured by factor price.

Source: Reuters (EcoWin)

There is a risk that the strong rise in commodity and food prices may feed through to consumer price inflation in industrialised countries. On the other hand, slower growth may gradually result in declining pressure on production resources, thereby curbing wage and price inflation. Weaker growth in the US and western Europe is expected to contribute to continued moderate global inflation (see Table 2.1).

Prices for oil and other commodities fell temporarily in August in connection with the turbulence in financial markets, but are now higher than at the time of the previous *Report*. The price of Brent Blend oil has increased by USD 12 and stood at USD 85 per barrel 25 October. Oil futures prices for 2008 have risen by USD 11 in the same period to USD 84 per barrel. Developments in energy and commodity markets are discussed further in a box on page 35.

In light of the turbulence in financial markets and weak developments in the US housing market, our projections for GDP growth in the US have been revised downwards by ¼ percentage point for 2007 and by 1 percentage point for 2008. Growth forecasts for western Europe in 2008 are also lower, while the projections for emerging economies in Asia have been revised up. Overall, projected growth among our trading partners for 2008 is 2½% (see Table 2.2). This is a downward revision of ¼ percentage point since the previous *Report*.

There is considerable uncertainty surrounding developments ahead. If financial market turmoil persists, the impact on output, employment and inflation may be stronger than assumed in this *Report*. On the other hand, the turmoil may have a less severe impact, or be less persistent, than appears to be the case at present. The risks surrounding our global projections appear to be balanced.

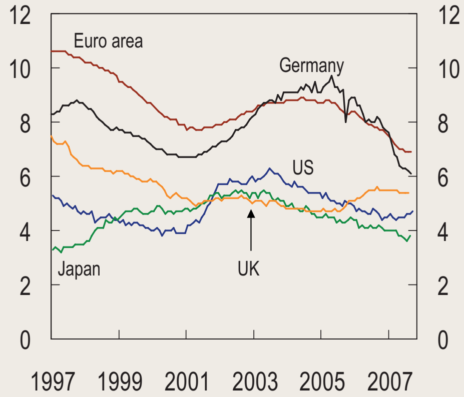
The rate of global growth remained high in the first six months of this year (see Chart 2.6). Output growth was somewhat weaker than expected in the US, the euro area and Japan, while growth was stronger in the UK, Sweden and China. Unemployment is low among most of our traditional trading partners (see Chart 2.7). Production capacity seems to be fully utilised.

In the US, growth was strong in the second quarter, although there have recently been clear indications of weaker developments. Problems in the housing market have increased (see Chart 2.8). In summer, there were signs that the effects were spreading from the housing market to the wider US economy. The rise in employment has slowed. Confidence indicators for both manufacturing and households have fallen. A tighter credit supply as a result of financial market turmoil may further weaken the US housing market and lead to higher saving and lower private consumption. A more sluggish labour market and lower household optimism may also have a dampening effect on consumption growth.

Growth is still solid in the euro area, although the upturn has moderated. In Germany, high exports of capital goods to emerging economies and oil-exporting countries have in particular boosted investment. At the same time, positive developments in Germany have resulted in an increase in intra-euro area trade. In many countries, employment growth has supported a sharp rise in private consumption. Due to financial market developments, a number of confidence indicators have nonetheless fallen in recent months (see Chart 2.9). Looking ahead, slower global growth and a strong currency may dampen the upturn. House prices have risen sharply in countries such as Spain, Ireland and France and, outside the euro area, the UK and Denmark. Tighter credit conditions and lower household confidence may have a corrective effect on housing markets in these countries.

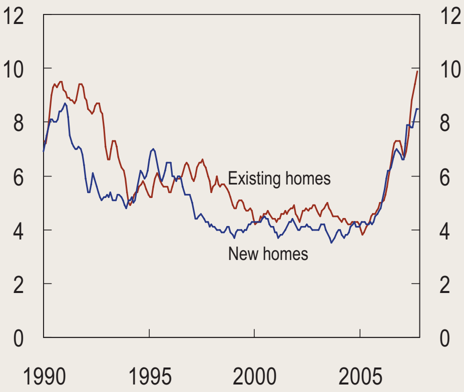
Continued strong growth is expected in the emerging economies, even though financial market turbulence will to some extent also influence developments in these countries. Solid growth in Russia is expected to buoy up demand for European export goods, in Germany among other countries. In China, growth will probably remain firm even if the rise in exports to the US should slow somewhat.

Chart 2.7 Unemployment. Per cent. Monthly figures. Jan 97 – Sep 07



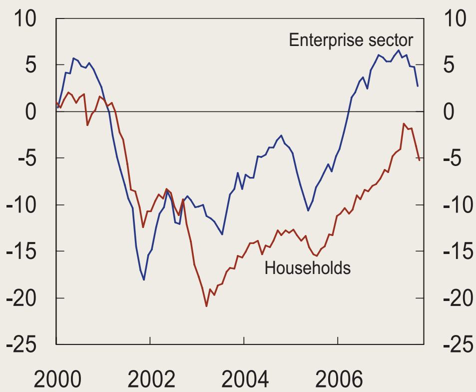
Source: Reuters (EcoWin)

Chart 2.8 Homes for sale in the US at month-end compared with the month's sales. 3-month moving average. Monthly figures. Jan 90 – Sep 07



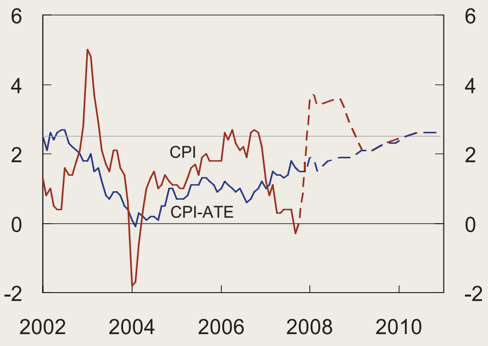
Source: Reuters (EcoWin)

Chart 2.9 Confidence indicators in the euro area. Seasonally adjusted diffusion indices. Monthly figures. Jan 00 – Sep 07



Source: Reuters (EcoWin)

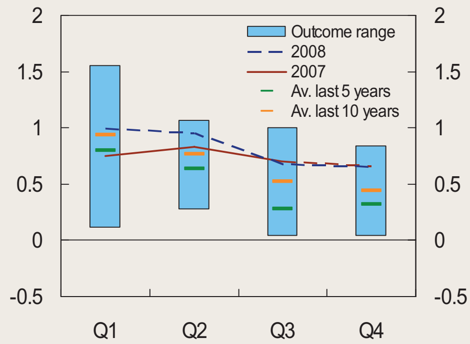
Chart 2.10 CPI and CPI-ATE[1)]. 12-month change. Per cent. Monthly figures. Jan 02 – Dec 10[2)]



[1)] CPI-ATE: CPI adjusted for tax changes and excluding energy products. A further adjustment is made for the estimated effect of reduced maximum day-care rates in 2006.
[2)] Projections for October 2007 – December 2010.

Sources: Statistics Norway and Norges Bank

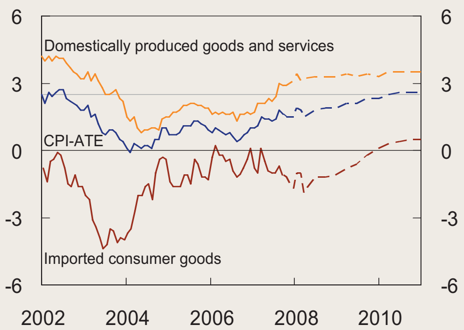
Chart 2.11 Quarterly changes in prices for goods and services produced in Norway. Per cent. Average and outcome range[1)]. Projections 07 Q4 – 08 Q4



[1)] The outcome range shows the highest and lowest inflation in each quarter in the period 1991 – 2006.

Sources: Statistics Norway and Norges Bank

Chart 2.12 CPI-ATE.[1)] Total and by supplier sector[2)]. 12-month change. Per cent. Monthly figures. Jan 02 – Dec 10[3)]



[1)] CPI-ATE: CPI adjusted for tax changes and excluding energy products. A further adjustment is made for the estimated effect of reduced maximum day-care rates in 2006.
[2)] Norges Bank's estimates.
[3)] Projections for October 2007 – December 2010.

Sources: Statistics Norway and Norges Bank

Temporary low rise in the CPI, but rising underlying inflation in Norway

The year-on-year rise in consumer prices (CPI) has been low through the summer, and in September consumer prices fell compared with the previous year (see Chart 2.10). This is because electricity prices have been substantially lower than last year. Adjusted for tax changes and excluding energy products, the 12-month rise in prices has gradually picked up since late summer last year. The pick-up is due to a rise in prices for domestically produced goods and services. In September, prices for goods and services produced in Norway were 2.9% higher than in September 2006. Recent price developments are discussed further in a box on page 24.

Wage growth has picked up and productivity growth has slowed. This has led to the current pick-up in the rise in prices for goods and services produced in Norway. A portion of the rise may reflect temporary factors such as the sharp rise in prices for building materials. Prices for building materials are not likely to continue to rise as rapidly as in the recent past. Food prices have also increased somewhat. Many food prices have increased rapidly internationally, and market expectations indicate continued food price inflation in the years ahead. Prices in Norway will probably be more stable as food products are sheltered via import quotas and duties.

Different surveys provide different signals concerning inflation ahead. According to TNS Gallup's quarterly survey, the share of business leaders that expect the rise in their firm's selling prices to be higher in the next twelve months is still far larger than the share that expect the rise to be lower – although the share that expect a higher rise in prices decreased somewhat from the second to the third quarter. In Norges Bank's regional network, however, the share of our contacts that expect lower price increases is greater than the share that expect higher increases. One factor cited is that price increases have been so high recently that there is no room for the same rapid rise in prices ahead. Among retail trade contacts, a slight majority expect higher price increases.

The rise in prices for goods and services produced in Norway is on average highest in the first quarter (see Chart 2.11). Many firms only change their prices once a year, usually at the turn of the year.[1] There are fewer changes through the rest of the year.

[1] In a survey on price-setting conducted among Norwegian firms by Norges Bank this spring, of those that reported that they only changed their prices once a year, about half stated that the price change took place in January. Studies of the actual individual prices included when calculating the consumer price index also show that there is a relatively large number of price changes in the first months of the year (see box in *Monetary Policy Report* 2/07).

Recent price developments

The 12-month rise in the consumer price index (CPI) was just under ½% in the summer months this year. The year-on-year rise in September was negative, with a fall of 0.3% compared with the same month in 2006. The rise in the CPI was somewhat lower than the projections in the previous *Report* (see Chart 1), because electricity prices have fallen more than assumed. Electricity prices in the CPI, including grid rent, were 42.8% lower in September this year than in September 2006.

Inflation excluding electricity, other energy products and tax changes (CPI-ATE) has edged up since late summer last year (see Chart 2). In September, the year-on-year rise was 1.6%. As projected in the previous *Report*, the year-on-year rise slowed somewhat from August to September. The decline reflects the unusually high monthly rise in the CPI-ATE from August to September 2006. The monthly rise from August to September this year was more in line with developments in previous years. Other indicators of underlying inflation have also picked up since the previous *Report*. In September, the 12-month rise was 1.6% measured by the trimmed mean and 1.8% measured by the weighted median.

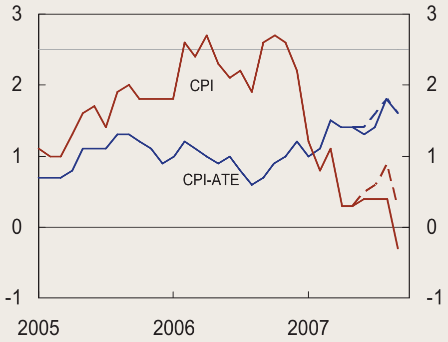
Inflows into water reservoirs have been higher than normal since autumn 2006, contributing to low electricity prices. Electricity prices have also been pushed down by the fall in prices for CO_2 emission allowances. In recent months, the spot price for electricity on the Nord Pool power exchange has been the lowest since 2002 (see Chart 3). In August the spot price for deliveries in southern Norway was the lowest recorded since Nord Pool was established in 1996. However, there are prospects of higher electricity prices in the coming months, partly because prices for CO_2 allowances in 2008 appear to be much higher than this year. Allowances for 2007 cannot be transferred to 2008.[1] Forward electricity prices from 2008 Q1 are now somewhat higher than in June.

Higher rise in prices for domestically produced goods and services

Prices for domestically produced goods and services have risen somewhat faster than assumed in the June *Report*. In September, prices for goods and services produced in Norway rose 2.9% compared with September 2006, down from 3.0% in August. These are the highest rates recorded since May 2003. The year-on-year rise in prices for domestically produced goods and services was 1.6% in 2006, adjusting for the estimated effect of the introduction of maximum day-care rates as from January 2006.

Over the past year, the rise in prices for services and for domestically produced consumer goods has accounted

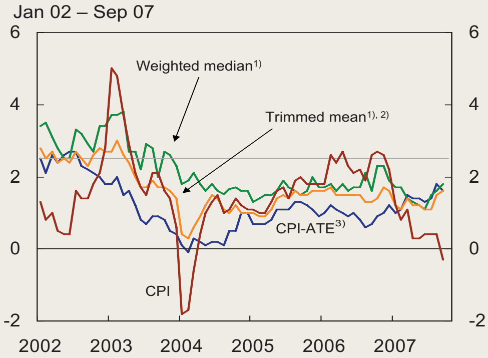
Chart 1 CPI and CPI-ATE[1)]. Projections from MPR 2/07 (broken line) and actual. 12-month change. Per cent. Monthly figures. Jan 05 – Sep 07



[1)] CPI-ATE: CPI adjusted for tax changes and excluding energy products. A further adjustment is made for the estimated effect of reduced maximum day-care rates in 2006.

Sources: Statistics Norway and Norges Bank

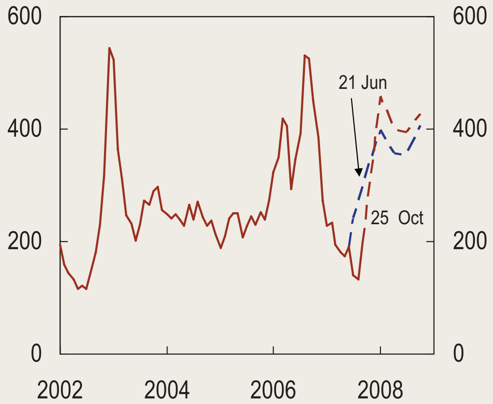
Chart 2 CPI and indicator of underlying inflation. 12-month change. Per cent. Monthly figures. Jan 02 – Sep 07



[1)] Estimated on the basis of 146 sub-groups of the CPI-AT.
[2)] Price changes accounting for 20 % of the weighting base are eliminated.
[3)] CPI-ATE: CPI adjusted for tax changes and excluding energy products. A further adjustment is made for the estimated effect of reduced maximum day-care rates in 2006.

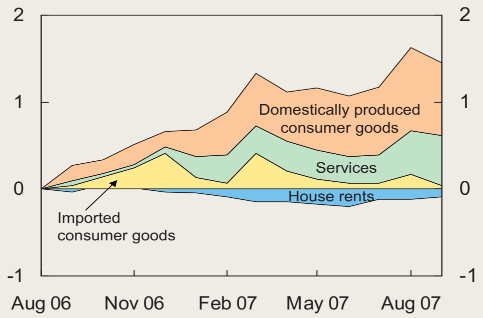
Sources: Statistics Norway and Norges Bank

Chart 3 Electricity prices. Nord Pool. NOK/MWh. Monthly figures. Jan 02 – Sep 07. Forward prices (broken line) from 08 Q1



Sources: Nord Pool and Norges Bank

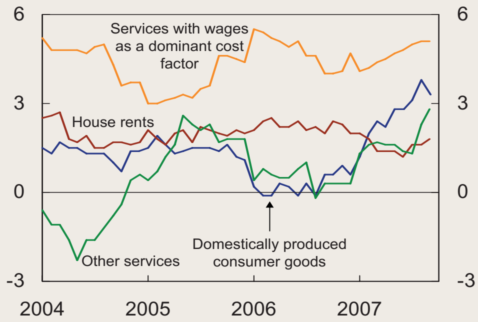
Chart 4 Contribution in percentage points to the 12-month rise in the CPI-ATE[1)] since August 2006. Monthly figures. Aug 06 – Sep 07



[1)] CPI-ATE: CPI adjusted for tax changes and excluding energy products. A further adjustment is made for the estimated effect of reduced maximum day-care rates in 2006.

Sources: Statistics Norway and Norges Bank

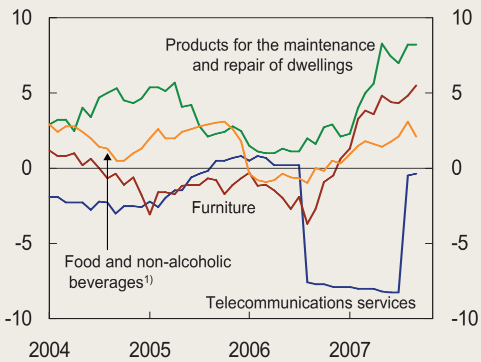
Chart 5 Domestic supplier sectors in the CPI-ATE[1)]. 12-month change. Per cent. Monthly figures. Jan 04 – Sep 07



[1)] CPI-ATE: CPI adjusted for tax changes and excluding energy products. A further adjustment is made for the estimated effect of reduced maximum day-care rates in 2006.

Sources: Statistics Norway and Norges Bank

Chart 6 Prices for selected product groups in the CPI. 12-month change. Per cent. Monthly figures. Jan 04 – Sep 07



[1)] Adjusted for tax changes.

Source: Statistics Norway

[1] Much of the power produced in continental Europe generates CO_2 emissions, and prices for CO_2 allowances therefore influence electricity prices on the Continent. As Norway is an integral part of the European power market, prices for CO_2 allowances also affect electricity prices in Norway.

for most of the rise in the CPI-ATE (see Chart 4). In September, prices for consumer goods produced in Norway were 3.3% higher than in September last year, while the year-on-year rise in prices for services was 3.4%.

The pick-up in the rise in prices for consumer goods produced in Norway (see Chart 5) has been largely driven by a faster rise in prices for food and building materials (see Chart 6). The 12-month rise in prices for home maintenance and repair products has been around 8% since the previous *Report*. Prices for food and non-alcoholic beverages adjusted for tax changes was 2.1% higher in September than in the same month in 2006 (see Chart 5). The rise in prices for furniture and books has also gathered pace.

The substantial fall in prices for telecommunications services in August 2006 has now been phased out of the 12-month rise. This is an important reason for the increase in the 12-month rise in prices for services. At the same time, there was a sharp rise in air fares in September this year, following a significant fall from July to August. The air fare index in the CPI was changed with effect from August. The rise in prices for services with wages as the dominant cost factor has increased more gradually and in September the year-on-year rise in these prices was 5.1%. Prices for services with important price components other than wages rose by 2.8% in the year to September.

The rise in house rents has gathered pace again after the 12-month rise slowed through the first half of the year (see Chart 5). In September, the year-on-year rise in the house rent component of the CPI was 1.8%. The rise primarily reflects a pick-up in the rise in imputed rent, which is a measure of the housing costs of owner-occupiers.

Fall in prices for imported consumer goods

The prices for imported consumer goods continued to fall through the summer months, and price developments have been weaker than projected in the previous *Report*. In September, prices for imported consumer goods were 1.1% lower than in the same month one year earlier. So far this year, prices have fallen by 0.8% compared with the first nine months of last year. The rise in prices for imported consumer goods is still being pushed down by a fall in prices for audiovisual equipment and clothing and footwear. In September, prices for both product groups were 5-6% lower than in the same month in 2006. Car prices are also rising slowly, and the 12-month rise in prices for white goods has been negative since summer 2006.

Prices for domestically produced goods and services are expected to rise relatively quickly over the coming quarters (see Chart 2.11). On balance, there are prospects that the rise in prices for domestically produced goods and services will pick up to an annual rate of 3½% from next summer (see Chart 2.12).

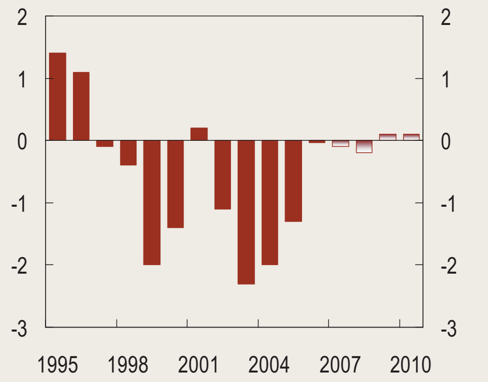
Owing to trade liberalisation, low global inflation and a shift towards imports from low-cost countries, prices for imported consumer goods, measured in foreign currency, have generally fallen since the mid-1990s (see Chart 2.13). In 2006, prices for these goods were approximately unchanged on the previous year, and it seems as if the rise in prices may again be close to zero this year. This is because the rise in prices for oil and other important commodities has pushed up the rise in prices for manufactured goods, in addition to a faster rise in food prices. In addition, the shift in imports towards low-cost countries seems to be moderating. Nonetheless, retail prices for imported consumer goods have continued to fall, probably partly due to the strong krone and more efficient distribution. There is also uncertainty related to the measured price changes. For a number of groups of imported consumer goods, such as clothing and footwear, audiovisual equipment, IT equipment and mobile phones, the assortment is frequently replaced. This makes it difficult to monitor price developments for the same goods over time, as the consumer price index should do in principle.

The seasonal pattern for prices for imported consumer goods is substantially different from the seasonal pattern for prices for domestically produced goods and services (see Chart 2.14). Seasonal sales of clothing and footwear in January/February and in July/August – and the subsequent rise in prices in the following months – are the most important explanation for this pattern. Less pronounced import shifts than in previous years and a sharp rise in prices for some goods internationally now imply a more rapid rise in prices. On the other hand, the appreciation of the krone over the past year may restrain the rise in prices through 2008. On balance, we assume that prices for imported consumer goods will develop approximately in line with the average for the past 5-10 years in the coming quarters.

The effects of the krone appreciation will gradually subside, and we project that the increase in domestic costs will to a greater extent pass through to retail prices for imported consumer goods as well. It is therefore most likely that the rise in prices for imported consumer goods will pick up to a more normal level towards the end of the projection period.

Overall, the rise in the CPI-ATE is expected to remain between 1½% and 2% in the period to summer 2008. The fall in prices for imported consumer goods will restrain

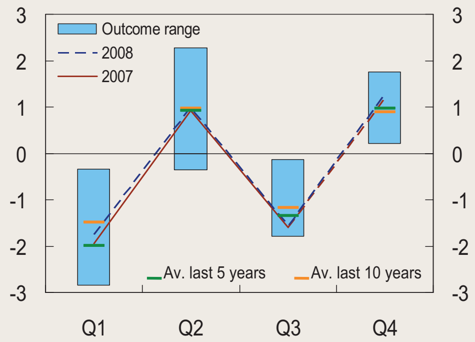
Chart 2.13 Indicator of external price impulses to imported consumer goods measured in foreign currency. Annual rise. Per cent. Annual figures. 1995 – 2010[1)]



[1)] Projections for 2007 – 2010.

Sources: Statistics Norway, Reuters (EcoWin) and Norges Bank

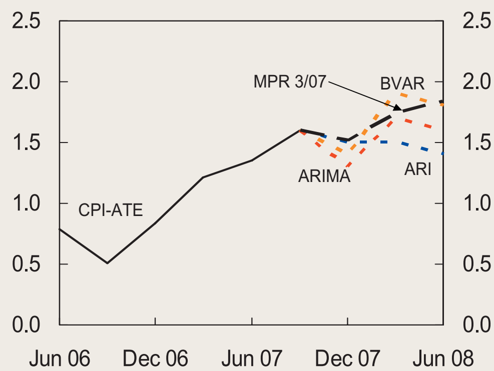
Chart 2.14 Quarterly changes in prices for imported consumer goods. Per cent. Average and outcome range[1)]. Projections 07 Q4 – 08 Q4



[1)] The outcome range shows the highest and lowest inflation in each quarter in the period 1991 – 2006.

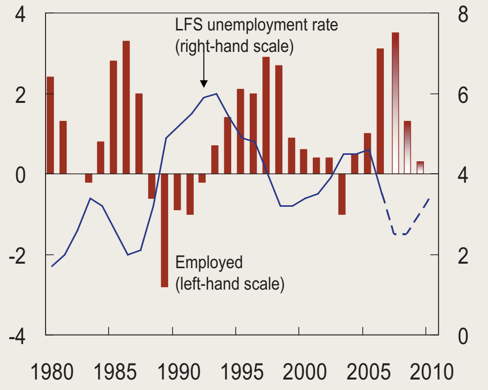
Sources: Statistics Norway and Norges Bank

Chart 2.15 CPI-ATE. Projections from different models, projections in the baseline scenario and observed values. 4-quarter change. Per cent. Quarterly figures. 06 Q2 – 08 Q2



Sources: Statistics Norway and Norges Bank

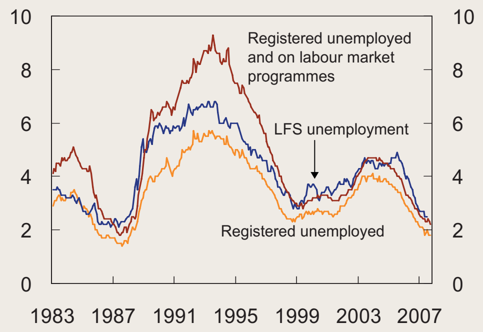
Chart 2.16 Change in employment on previous year (per cent) and LFS unemployment as a percentage of the labour force. Annual figures. 1980 – 2010[1)]



1) Projections for 2007 – 2010.

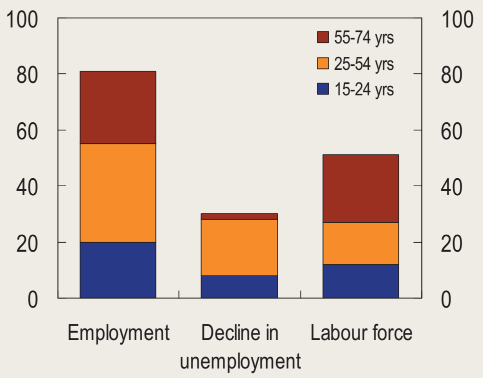
Sources: Statistics Norway and Norges Bank

Chart 2.17 Unemployed. LFS unemployment, registered unemployed and persons on ordinary labour market programmes. Percentage of labour force. Seasonally adjusted. Monthly figures. Feb 83 – Sep 07



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

Chart 2.18 Growth in employment and labour force and reduction in unemployment. In thousands. Quarterly figures. 06 Q2 – 07 Q2



Source: Statistics Norway

the rise in prices. Projections for the coming quarters are approximately consistent with projections from simple time series models (see Chart 2.15).

When the effect of the strong krone begins to subside, the rise in the CPI-ATE is expected to pick up gradually to 2½%. A higher key policy rate will gradually lead to an easing in demand and employment growth and will curb wage growth. This will contribute to stabilising the rise in prices at a rate close to 2½%.

Forward electricity prices indicate that electricity prices will be higher towards winter. It is therefore assumed that the rise in the CPI will pick up more quickly than the rise in the CPI-ATE in the months ahead, and that the year-on-year rise in the CPI may exceed 3% in the first half of next year. Temperature and precipitation levels ahead will have a considerable impact on electricity prices, and hence on developments in the CPI. Our projections for CPI inflation are therefore uncertain. Towards the end of the projection period, energy prices are assumed to rise approximately in pace with other prices, and CPI and CPI-ATE inflation will then converge (see Chart 2.10).

Tight labour market and higher wage growth, despite ample labour supply

Strong growth in the Norwegian economy has been possible thanks to an ample supply of labour and high productivity growth. Nevertheless, the high level of activity is now reflected in a tight labour market. So far this year, demand for labour has increased considerably. The number of employed is projected to rise by 3½% this year (see Chart 2.16). This would be the strongest rise recorded in the post-war period. Such a low level of unemployment, whether measured by the number of registered unemployed or by Statistics Norway's labour force survey, has not been recorded since the boom in the 1980s (see Chart 2.17). The number of vacancies per unemployed has never been higher. According to Statistics Norway's business tendency survey, the shortage of labour and intermediate goods is now greater than during the expansion in the 1980s and 1990s.

Strong employment growth is partly being matched by a reduction in unemployment, but also by strong growth in the labour force (see Chart 2.18). Inward labour migration has increased the supply of labour (see Chart 2.19). The number of both persons on short-term assignments, not included in the population count in Norway, and new residents are increasing sharply. This year, the working-age population may expand by 1.2% (see Table 2.3). This is a historically very high level. Inward migration accounts for about half of this expansion.

The labour supply in Norway is flexible. Labour force participation has increased in response to high labour demand. Overall labour force participation this year may surpass the record-high level from the years around the turn of the millennium, and labour force growth is projected at 2¼% in 2007 and 1¼% in 2008. With continued high inward migration, the working-age population is expected to increase by more than 1% annually in the period to 2010. At the same time, the share of older and younger workers in the labour force will increase. Labour participation among these age groups is lower than among mid-life workers. The labour force will therefore probably expand somewhat less than the working-age population. The labour force is projected to grow by about ¾% in 2009 and ½% in 2010.

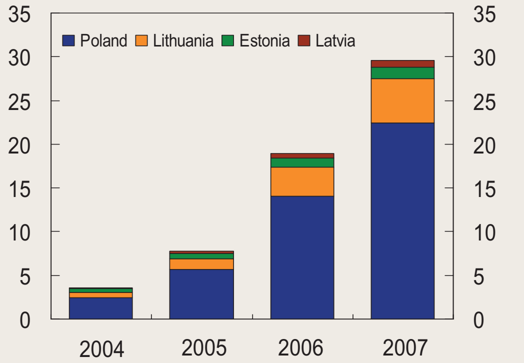
Some of the increase in the labour supply is probably temporary. Older workers now account for a substantial share of labour force growth (see Chart 2.18). It would seem that some are delaying early retirement (under the contractual early retirement scheme) or are on other benefit schemes and are now in part-time work. A more normal supply of labour from these groups is expected in 2009 and 2010.

Wage growth is picking up (see Chart 2.20). In some industries, bonuses are making a substantial contribution. The enterprises in our regional network now expect wage growth to be 5½% in 2007, an upward adjustment of ½ percentage point since before summer. This reflects high wage drift. Annual wage growth is expected to accelerate from 4.3% last year to 5½% this year, including the costs of mandatory occupational pensions (see Chart 2.21). This implies an increase in wage drift of ¼ percentage point since last year, bringing it up to the same level as in 1998. Hence, real wage growth this year is projected to be close to 5%, which would be the highest rate of real wage growth since 1976.

According to reports from the regional network, firms are planning to increase employment further in the coming months. The number of unfilled vacancies is elevated. Overall, it appears that employment growth may remain firm, and that unemployment will be low through 2008. Wage growth is therefore expected to pick up further next year. In next year's main wage settlement, negotiations will include the early retirement scheme. The framework for the current scheme expires in 2010. The outcome of the early retirement scheme negotiations will not affect the rise in costs next year, but might have an influence on nominal pay increases. Wage growth from 2007 to 2008 is projected at 5¾%.

After two years of high wage and cost inflation, cost levels in some Norwegian industries will be unusually high. This may dampen firms' demand for labour and their capacity

Chart 2.19 Registered employees from new EU countries. 1000s of persons in the period January – September



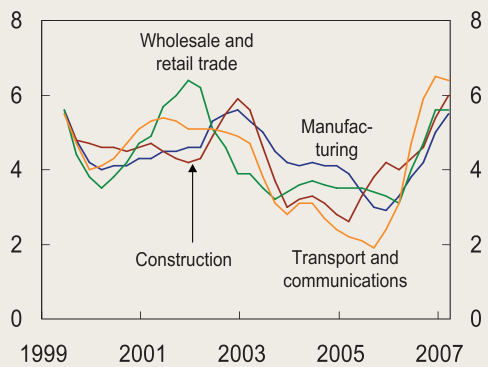
Source: Central Office - Foreign Tax Affairs

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

	2007	2008	2009	2010
Population growth in the age group 15-74 years	1,2	1,1	1,1	1,0
Contribution from change in population composition	-0,2	-0,3	-0,4	-0,4
Cyclical contribution	1,3	0,4	-0,1	-0,1
Labour force growth	2,3	1,2	0,6	0,5

Sources: Statistics Norway and Norges Bank

Chart 2.20 Average monthly earnings. Wage indices. 4-quarter change. 3-quarter centred moving average. Per cent. 99 Q2 – 07 Q1



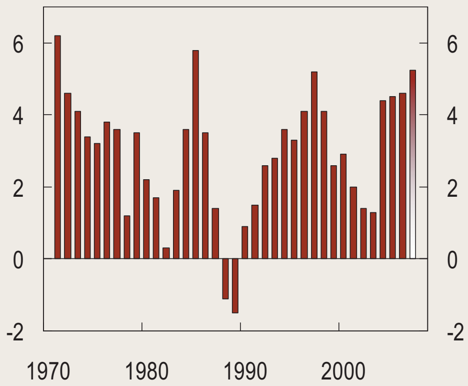
Source: Statistics Norway

Chart 2.21 Annual wage growth[1)] and LFS unemployment. Per cent. Annual figures. 1993 – 2010[2)]

1) Average for all groups. Including estimated costs of increase in number of vacation days and introduction of mandatory occupational pension.
2) Projections for 2007 – 2010.

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

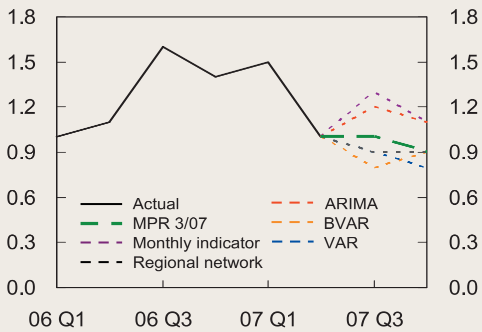
Chart 2.22 Mainland GDP. Annual growth in volume. Per cent. Annual figures. 1971 – 2007[1)]



1) Projections for 2007.

Sources: Statistics Norway and Norges Bank

Chart 2.23 Mainland GDP excluding electricity. Growth on previous quarter. Seasonally adjusted. Per cent. Quarterly figures. 06 Q1 – 07 Q4[1)]



1) Projections for 07 Q3 and 07 Q4. See the box "Short-term projections for mainland GDP growth" in *Inflation Report* 2/06 for a description of the different models.

Sources: Statistics Norway and Norges Bank

and willingness to award pay increases. With lower employment growth, labour shortages may ease after a period (see Table 5 at the end of the *Report*). Unemployment might edge up. Overall, LFS unemployment is projected to rise from 2½% in 2007 and 2008 to 3½% in 2010. Even though some increase in unemployment is expected, the labour market will probably still be perceived as tight through most of the projection period. This implies that wage growth will edge down relatively slowly. On this basis, annual wage growth is projected at 5¼% in 2009 and 5% in 2010.

Strong growth in the Norwegian economy, but prospect of a slowdown

The Norwegian economy is in its fourth consecutive year of strong growth. Mainland GDP grew by approximately 4½% annually from 2004 to 2006. This year, growth appears to be a good 5% (see Chart 2.22). High productivity growth and an ample labour supply have boosted the growth capacity of the economy. Actual output, however, has increased more rapidly than potential output, and capacity utilisation has now reached a high level. Strong global growth, improved terms of trade and growth in petroleum investment have contributed to the upturn. Profits have been high in the business sector, and household income has risen sharply. This has resulted in strong demand growth.

High corporate profits are reflected in the rise in equity prices. Equity prices on the Oslo Stock Exchange have surged by close to 400% since the cyclical turnaround in 2003. The turbulence in international credit markets that began in summer generated uncertainty as to developments in the global economy. This also had an impact on Norwegian equity markets. Equity prices on the Oslo Stock Exchange fell by 10%, but have since rebounded somewhat (see Chart 2.4).

Estimates based on different statistical models indicate that growth in mainland GDP is now higher than previously envisaged, but lower than in the first half of this year (see Chart 2.23). Reports from our regional network in August indicate that growth in most sectors is a little lower than earlier this year. Activity in corporate services and retail trade is still very high. Figures from Statistics Norway indicate that manufacturing output has moderated somewhat in recent months. Growth in the production of capital goods is continuing, while production of intermediate and consumer goods is levelling off. Very high order backlogs indicate that prospects remain favourable in most manufacturing sectors. In the building and construction sector, activity is very high, and according to the regional network capacity constraints will curb growth ahead. Building activity is increasingly concentrated on commercial buildings.

In addition to strong growth in the labour supply, a marked rise in productivity over several years has boosted the growth capacity of the economy. High productivity growth partly reflects increased specialisation, new technology, improved logistics and a more efficient organisation of production (see box in *Monetary Policy Report* 2/07). In recent years, the cyclical upturn may have contributed to further growth in productivity because of the need for more efficient use of labour and capital (see Chart 2.24). It is likely that this potential is being exhausted. Mainland productivity, measured as production per person-hour worked, rose by 1.8% in the year to end-June 2007. This is substantially lower than the average since the upturn began, and is consistent with the tendency of productivity growth to fall somewhat as the cyclical peak is passed, as was the case in 1998-1999. A shortage of qualified labour and high job turnover rates may dampen productivity growth in some sectors. Our estimates are based on the assumption that productivity growth ahead will be lower than the average for the past 10 years.

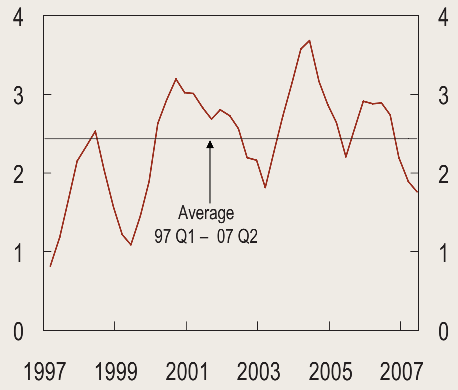
Following an overall evaluation of developments in the labour supply and productivity growth, the increase in potential output for the Norwegian economy is now estimated at 3½% this year.[2] This is ¼ percentage point higher than assumed in the previous *Report*. The figure has been revised up due to strong growth in the labour supply. Assuming continued high inward labour migration, the labour supply is expected to contribute more to potential growth in 2008 and 2009 than the average over the past 20 years. Growth in potential output is estimated to slow gradually from 3¼% in 2008 to 2¾% in 2010.

The output gap reflects our assessment of overall capacity utilisation in the economy compared with a normal level. The output gap in 2007 is estimated at 2¾% (see Chart 2.25). According to our projections, the cyclical peak will be reached towards the end of 2007, and now appears likely to reach approximately the same level as the peak in 1998.

Output growth is expected to fall below potential growth in the course of 2008, leading to a gradual decline in capacity utilisation. The shortage of qualified labour is pushing up wage growth and having a dampening effect on productivity growth. Unit labour costs are rising (see Chart 2.26), thereby reducing corporate profitability. The strong krone exchange rate is further weakening the profitability of Norwegian export firms. At the same time, growth among our trading partners is expected to be somewhat lower over

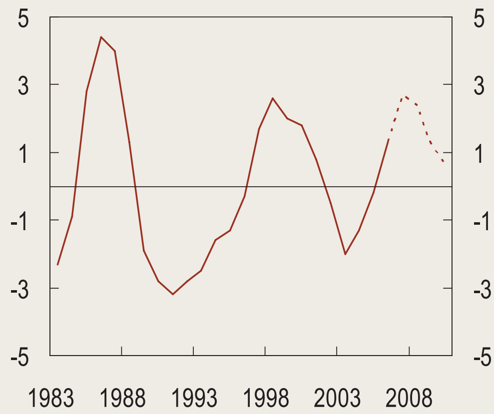
[2] Substantial fluctuations in electricity production from year to year are a source of variations in mainland GDP. We estimate that high electricity production will push up mainland GDP growth by ¼ percentage point this year. When we add this contribution from electricity production, growth in potential mainland GDP is estimated at 3¾% in 2007. High electricity production this year will thus not affect our estimate of the output gap.

Chart 2.24 Hourly productivity, mainland Norway. 4-quarter change. 5-quarter moving average. Per cent. 97 Q1 – 07 Q2



Sources: Statistics Norway and Norges Bank

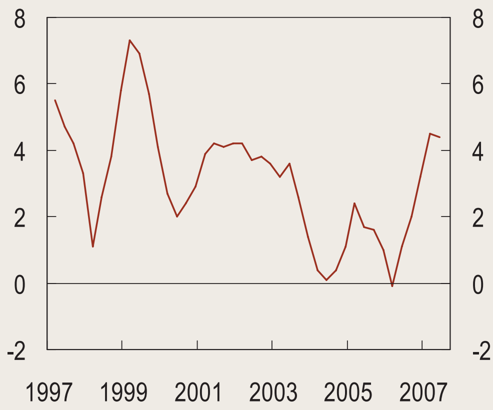
Chart 2.25 Estimates for the output gap. Per cent. Annual figures. 1983 – 2010[1)]



[1)] Estimates for 2007 – 2010.

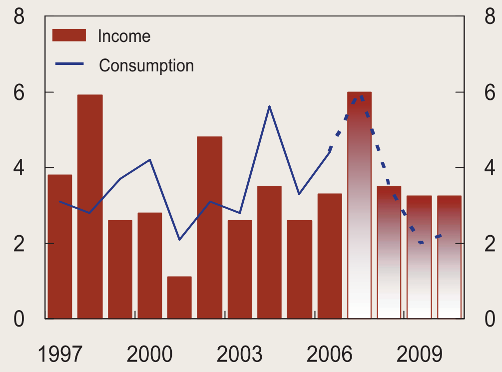
Source: Norges Bank

Chart 2.26 Unit labour costs, mainland Norway. 4-quarter change. 5-quarter moving average. Per cent. 97 Q1 – 07 Q2



Source: Statistics Norway

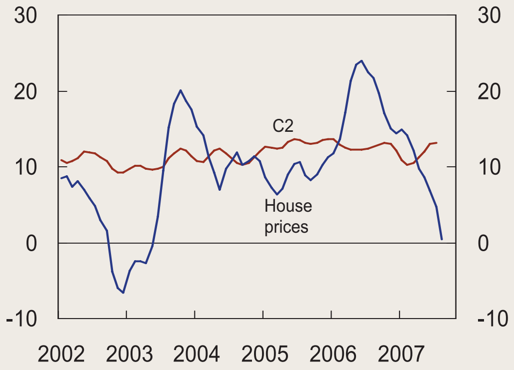
Chart 2.27 Household disposable real income[1)] and consumption. Annual rise. Per cent. Annual figures. 1997 – 2010[2)]



[1)] Adjusted for estimated reinvested share dividends for 2000 – 2005.
[2)] Projections for 2007 – 2010.

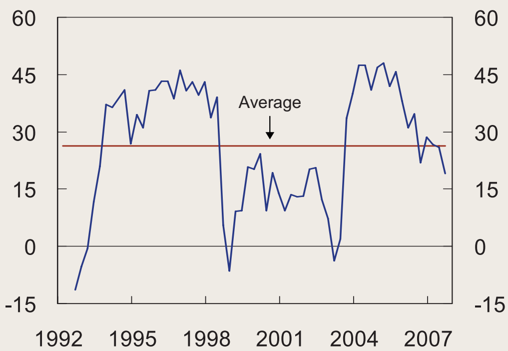
Sources: Statistics Norway and Norges Bank

Chart 2.28 House prices and credit to households (C2). Change in 3-month moving average. Annual rate. Seasonally adjusted. Per cent. Monthly figures. Jan 02 – Sep 07



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

Chart 2.29 Household trend indicator: "Is this a good time to make major purchases?" Diffusion index[1)]. Seasonally adjusted. 92 Q3 – 07 Q3



[1)] The index measures the difference between the shares who respond yes and no to the question.

Sources: TNS Gallup and Norges Bank

the coming years than in the past few years. A gradual increase in household saving will probably also contribute to curbing demand growth ahead. Public sector demand will buoy up overall demand to some extent (see discussion on page 41). On balance, the output gap is expected to fall to 2¼% next year and to about ¾% in the period to 2010.

Growth in private consumption is projected to increase by 6% this year, up from 4.4% last year (see Chart 2.27). Due to strong growth in employment and real wages, household real disposable income may increase by up to 6% this year. A high level of job security in a tight labour market and improved terms of trade may have given rise to expectations of continued solid income growth and pushed up consumption growth. House and equity prices have risen sharply. At the same time, credit growth has been high, with a marked increase in the household debt burden (see Chart 2.28). Household saving has fallen.

Growth in household demand will probably slacken through the second half of this year. Goods consumption fell in July and August after rising sharply through spring. TNS Gallup's trend indicator, which measures household expectations, fell slightly in the third quarter. The share of respondents who are of the view that now is a good time for major purchases is declining (see Chart 2.29).

The interest rate level is rising. When interest rates first started to increase, banks did not fully pass on costs to households. Recently, however, household borrowing rates have risen somewhat more than the key policy rate, and household interest expenses are on the increase. Interest expenses are expected to move up in the period to 2010. With rising interest expenses and more subdued wage and employment growth, growth in real disposable income will slow in the years 2008-2010. We expect consumption growth to be lower over the next three years. Growth in household demand will probably be lower than the increase in real disposable income, so the saving ratio will increase somewhat during the projection period. Developments in household saving are discussed further in a box on page 38.

After a period of high housing investment and rising prices, activity in the housing market appears to be slowing. Seasonally adjusted house prices have now been edging down for three months, and the rate of increase measured by the 3-month moving average is the lowest since May 2003 (see Chart 2.28). Growth in housing investment also appears to be moderating. Order intake for residential construction has fallen, and housing starts have fallen gradually through the year. Increased interest rates, the high level of residential construction the past 3 years, and rising building costs may be contributing to lower housing investment. A moderate fall in housing investment is thus expected in the years 2008-2010.

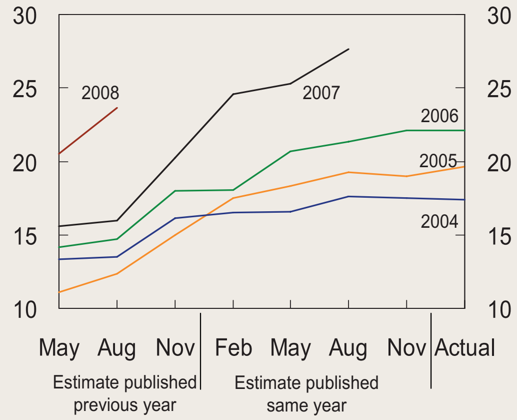
Mainland business investment increased by 9.5% in the year to June 2007. Corporate borrowing is high. Growing order backlogs in manufacturing and in construction indicate that many firms have little spare capacity. According to the business tendency survey and our regional network, business leaders assess the market outlook as favourable. Manufacturing investment is increasing to meet further demand growth. Statistics Norway's investment intentions survey for manufacturing and the power sector show a pronounced rise in investment estimates for 2007 and 2008 (see Chart 2.30). Bottlenecks in the production of capital goods may curb investment growth somewhat in the short term, but the growth rate is expected to remain at a high level through 2008. The survey of planned petroleum investment also indicates higher investment this year and next. This implies higher demand for goods and services from the supplier industry, where capacity utilisation is already very high. Investment in the petroleum sector is discussed further on page 42.

Strong growth in domestic activity has boosted demand for commercial premises. Prices are rising, and commercial building starts are on the increase. In the first eight months of the year, commercial building starts measured in square metres were 22% higher than in the same period last year. Capacity problems in the building industry may curb growth and contribute to extending the expansion.

The rate of investment normally fluctuates in pace with the business cycle, but with more pronounced variations. Growth in corporate investment is expected to be fairly high in 2008 as well. Further ahead, higher costs and reduced corporate profitability will probably lead to slower growth in investment demand. Investment in relation to production will then have reached a high level, and enterprises' capital stock might be better adapted.

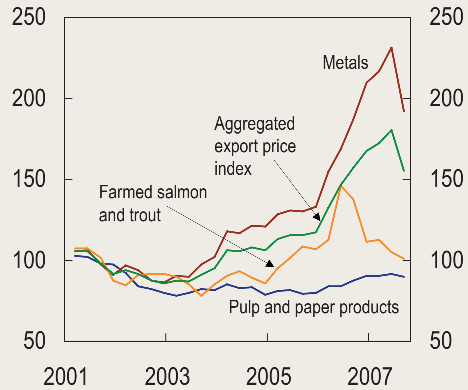
Strong growth among our trading partners and high prices have led to a pronounced increase in exports of traditional goods and services in the past three years (see Chart 2.31). Exports of traditional goods and services rose by 8% in the year to June 2007. Some export industries are operating at capacity limits. The recent appreciation of the krone has had a dampening effect on the profitability of Norwegian export firms. Export prices have fallen somewhat, but are still at a high level, which is sustaining profitability. Looking ahead, the strong krone, lower growth in demand among our trading partners and higher costs in Norwegian enterprises are nonetheless expected to dampen export growth.

Chart 2.30 Investment statistics for manufacturing. Estimated and actual investment (current prices). In billions of NOK



Source: Statistics Norway

Chart 2.31 Price indices[1)]for Norwegian exports in NOK. 2001 = 100. Quarterly figures. 01 Q1 – 07 Q3



1) Norges Bank's estimates based on world market prices.

Sources: Reuters (EcoWin), Statistics Norway and Norges Bank

Boxes

Developments in energy and commodity markets

Household saving

Fiscal policy and local government finances

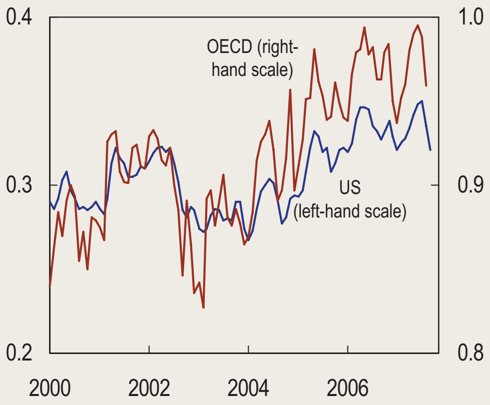
High petroleum investment

NEMO - a new projection and monetary policy analysis model

The projections in *Monetary Policy Report* 2/07 and 3/07

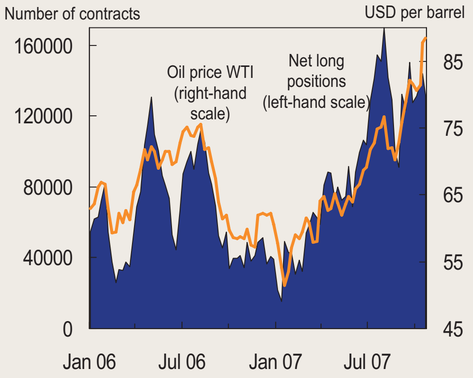
Developments in energy and commodity markets

Chart 1 Crude oil stocks. In billions of barrels. Monthly figures. Jan 00 – Sep 07



Sources: International Energy Agency (IEA), Energy Information Agency (EIA) and Reuters (EcoWin)

Chart 2. Oil price (WTI in USD per barrel) and net positions of non-commercial traders in the futures and options markets for WTI (number of contracts). Weekly figures. Week 1 2006 – Week 43 2007



Sources: Reuters (EcoWin), Commodity Futures Trading Commission (CFTC) and New York Mercantile Exchange

Oil and gas prices

The price of Brent Blend oil has averaged USD 69 per barrel so far this year, or slightly higher than the average for the same period in 2006. The price has risen by USD 12 since the previous *Monetary Policy Report*, and was USD 85 per barrel 25 October.

The high oil price in USD terms is attributable to a number of factors:

- The weakening of the dollar means that the price rise in other currencies is smaller.
- Total oil industry inventories of the OECD countries fell in the third quarter, in a period when they normally rise. Crude oil inventories fell particularly markedly in the US, albeit from a high level (see Chart 1).
- Total annual demand growth for oil was stronger in the third quarter than in the previous two years, despite the rise in oil prices. The overall supply of oil fell in the same period for the first time since 2002.
- Fears of a shortfall in oil production have heightened with recurrent unrest in some important oil exporting countries.
- Investors in the oil futures and options markets have increased their net purchases (see Chart 2). These investors reduced their positions in connection with the turbulence in financial markets in August, when oil prices dipped temporarily.

In September, OPEC decided to increase its production by 500 000 barrels per day from November. This increase is nevertheless lower than estimated growth in the call on OPEC in the fourth quarter.[1] This is expected to result in a fall in oil inventories also in the fourth quarter.

The average of the projections from the International Energy Agency (IEA) in Paris, the US Energy Information Administration (EIA) and OPEC is growth in total demand for oil of 1.6m barrels per day in 2008. This is higher than the estimate for 2007 and on actual growth in 2005 and 2006. Non-OECD countries account for the bulk of the increase, particularly emerging economies in Asia and countries in the Middle East. The average of the estimates for growth in supply from non-OPEC countries is 1.4m barrels per day. This is also somewhat higher than in previous years. Much of the growth will come from non-OECD countries, including the former Soviet Union and Brazil. These projections indicate that the call on OPEC in 2008 will average 31.3m barrels per day. OPEC produced 30.7m barrels per day in September 2007.

The oil price path presented in this *Report* is based, as previously, on futures prices. These prices now indicate an oil price of USD 84 in 2008 and USD 80 in 2009, or about USD 11 and 7 higher than in the previous *Report*. In euro terms, the price increase is smaller (see Chart 3).

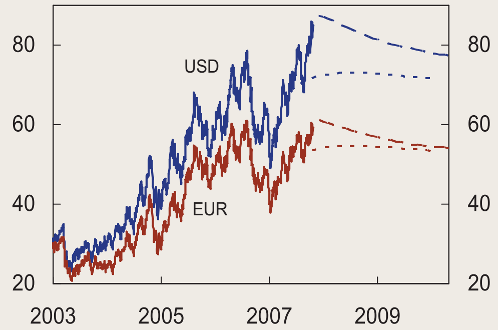
A weighted average of gas prices from Statoil and Norsk Hydro showed a fairly sharp fall through the first half of 2007 (see Chart 4). This must be seen in connection with the fall in UK gas prices in the same period and in the oil price last autumn and through the first quarter this year. Since the oil price and UK gas prices have risen again, we expect that the price of Norwegian gas may increase going forward.

Other commodities

Developments in prices for commodities other than energy have varied considerably since the previous *Report*. *The Economist* commodity price index has increased by 6% overall since the previous *Report*. In euro terms, the index has remained unchanged.

The Economist price index for industrial metals has fallen 1% since the previous *Report*. Metal prices fell sharply in August because of the turbulence in financial markets (see Chart 5). The turbulence led to financial participants reducing their positions in commodities as a result of greater uncertainty and expectations of slower growth in the global economy. Nevertheless, there is little as yet to indicate that demand for industrial metals has changed appreciably recently, because growth in emerging economies appears to remain buoyant. With the exception of nickel, metal inventories have shown little change during the summer. At the same time, the freight rates for dry bulk (Baltic Dry Index) have risen sharply since the June *Report* (see Chart 6). This indicates that the volume of globally traded commodities is very high and that freight distances for commodities have increased. Baltic Dry Index has previously been a leading indicator of metal

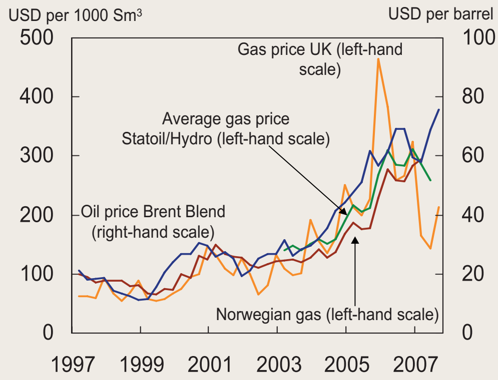
Chart 3 Oil price (Brent Blend) in USD and euros per barrel.[1)] Daily and monthly figures. 1 Jan 03 – 1 May 10



[1)] Broken lines show futures prices on 25 Oct 07. Dotted lines show futures prices on 21 Jun 07 (MPR 2/07).Futures prices in euros are calculated on the basis of the exchange rate on 21 Jun 07 and on 25 Oct 07.

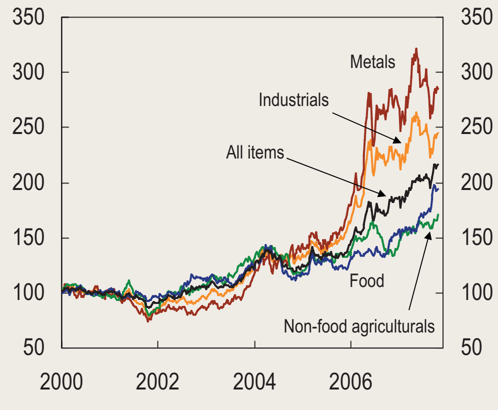
Sources: Reuters (EcoWin) and Norges Bank

Chart 4 Average prices for crude oil (USD per barrel) and natural gas (USD per 1000 Sm³). Quarterly figures. 97 Q1 – 07 Q3



Sources: Statistics Norway, Reuters (EcoWin) and Norges Bank

Chart 5 *The Economist* commodity price index. 2000 = 100. USD. Weekly figures. Week 1 2000 – Week 43 2007

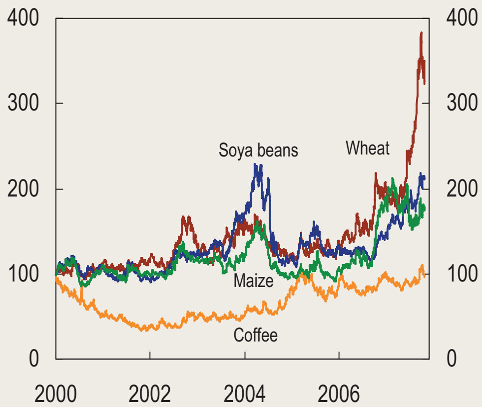


Sources: Reuters (EcoWin) and *The Economist*

Chart 6 Baltic Dry Index. 1 Jan 1985 = 1000. Daily figures. 3 Jan 00 – 25 Oct 07

Source: Reuters (EcoWin)

Chart 7 Food prices. Index, 1 Jan 2000 = 100. Daily figures. 2 Jan 00 – 25 Oct 07



Source: Reuters (EcoWin)

prices. However, the production of industrial metals is expected to rise in the years ahead, so that prices will probably edge down in 2008 and 2009.

The Economist food price index has increased by 13% since the previous *Report*, as a result of higher prices for wheat, coffee, maize and soya beans (see Chart 7). The price of wheat has increased by over 30% since the previous *Report*, largely because adverse weather conditions have destroyed crops worldwide. Wheat inventories are now at their lowest level for over 30 years. Futures prices indicate that wheat prices will remain high through the winter, and then fall in the spring.

Sharp growth in the production of biofuels is contributing to an increase in food prices. Sugar and maize, for example, are used as inputs in the production of bioethanol. Since 2000, the quantity of maize used in ethanol production in the US has almost tripled[2], and the price of maize is expected to rise in the years ahead. Increased demand for biofuels also leads to a rise in prices for other agricultural products, because more land is used to produce biofuels.

Demand for various food products, particularly meat, is steadily rising in emerging economies, which requires a larger amount of energy and inputs to produce. The use of feed for animal breeding has increased and thereby also prices for soya beans, among others. Although growth in demand from these countries was already strong in the 1990s, the impact on prices in the future may be greater as a result of constraints on available production capacity and competition with biofuels.

[1] Call on OPEC is global demand for oil less the supply of non-OPEC oil. The supply of non-OPEC products includes crude oil, NGL (including OPEC production), condensate and oil from non-conventional sources.
[2] Renewable Fuels Association "Ethanol Industry Outlook 2007"

Household saving

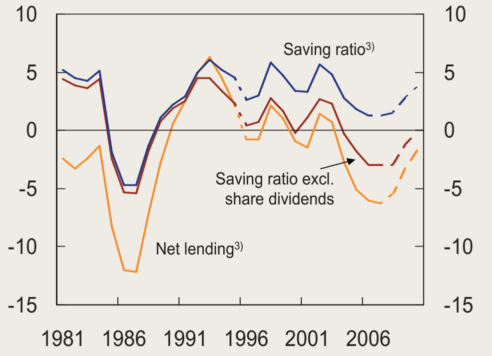
Since 2004, household consumption has increased by close to 4½% as an annual average and growth is estimated at 6% from 2006 to 2007. In spite of a considerable increase in real income, the household saving ratio has fallen and is now at the lowest level recorded since the end of the 1980s (see Chart 1). Net lending is negative for the household sector.

Both short-term and long-term interest rates have been low in recent years. Low interest rates make it more profitable to consume today rather than later and have most likely contributed to the fall in the saving ratio. Households still continued to reduce saving even after Norges Bank began to increase the key policy rate in summer 2005. In the light of the low level of long-term interest rates, households are probably not expecting considerable interest rate hikes ahead. Moreover, banks' lending rates charged to households have until recently not increased to the same extent as the key policy rate (see Chart 2). Combined with high employment and increased job security, these conditions may have contributed to delaying the rise in saving.

Norway's terms of trade have improved markedly in recent years (see Chart 3). The improvement is reflected in, among other things, higher wage income, improved corporate profitability, rising equity prices and higher transfers to the Government Pension Fund – Global. This may have induced households to revise up their expectations concerning future income and thereby led to higher spending and reduced saving.

Chart 4 shows annual observations of the terms of trade and household saving ratios for ten OECD countries in the period 1991-2006. To ensure comparability across countries we have measured the saving ratio and terms of trade as a deviation from the average for the same period for each country. The household saving ratio tends to fall when a country's terms of trade improve and to increase when the terms of trade worsen. Other countries that are large exporters of raw materials, such as Australia, Canada, and New Zealand, have also seen a sharp improvement in their terms of trade. As in Norway, household saving in these countries has been particularly low in recent years (see Chart 5).[1]

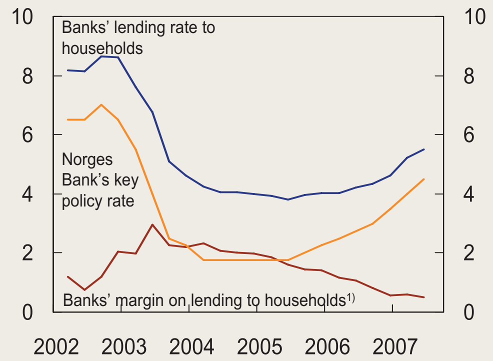
Chart 1 Household saving and net lending as a share of disposable income. Per cent. Annual figures. 1981 – 2010[1), 2)]



1) Break in the series 1995 – 1996.
2) Projections for 2007 – 2010.
3) Adjusted for estimated reinvested share dividends for 2000 – 2005.

Sources: Statistics Norway and Norges Bank

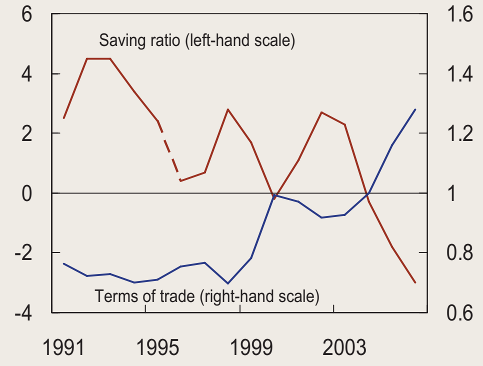
Chart 2 Interest rates. Per cent. Figures at end-quarter. 02 Q1 – 07 Q2



1) Defined as lending rate less 3-month money market rate (NIBOR).

Sources: Statistics Norway and Norges Bank

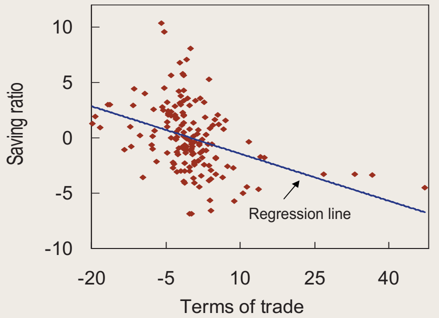
Chart 3 Household saving ratio[1), 2)] (per cent) and terms of trade (2004 = 1). Annual figures. 1991 – 2006



1) Excluding share dividends.
2) Break in the series 1995 – 1996.

Sources: Statistics Norway and Norges Bank

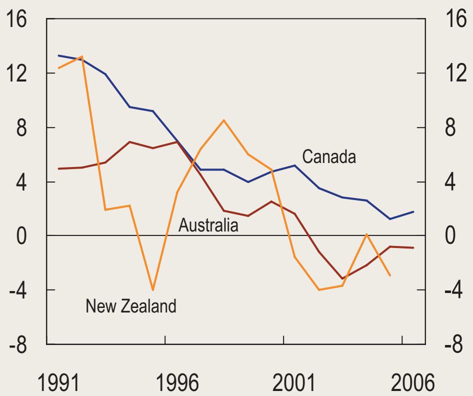
Chart 4 Household saving ratio and terms of trade in 10 countries.[1)] Annual figures. 1991 – 2006[2)]



1) The chart shows annual deviation from the average saving ratio (in percentage points) and annual deviation from the average value for the terms of trade (in per cent) for Australia, Canada, Denmark, Finland, Germany, New Zealand, Norway, the UK, Sweden, and the US. Saving ratio excluding share dividends for Norway.
2) 1991 – 2005 for New Zealand.

Sources: Hodgetts et al. (2006), OECD, Reuters (EcoWin), Statistics Norway and Norges Bank

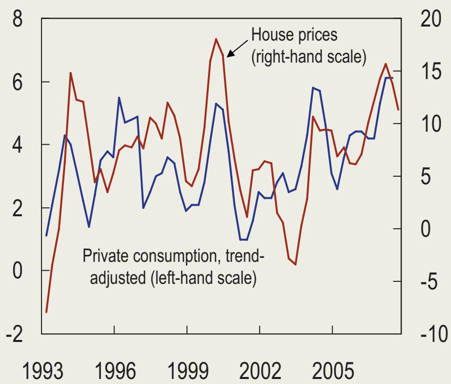
Chart 5 Household saving ratio in selected countries. Annual figures. 1991 – 2006[1)]



1) 1991 – 2005 for New Zealand.

Sources: Hodgetts et al. (2006) and OECD

Chart 6 Private consumption and real house prices[1)]. 4-quarter change. Per cent. Quarterly figures. 93 Q1 – 07 Q3



1) Nominal house price index deflated by the consumer price index.

Sources: Statistics Norway and Norges Bank

Another factor that is often cited as a reason for the fall in the saving ratio is the sharp rise in house prices. However, it is important to note that the factors driving house prices are to a large extent the same factors that are behind changes in consumption, as illustrated in Chart 6. Changes in house prices covary with changes in consumption, but it is the underlying rate of growth in income and household expectations that concurrently influence both saving behaviour and the housing market. It is probably the same households that reduce saving and purchase dwellings. When income expectations rise, demand for all consumer goods increases, including spending on housing services. House prices rise faster than prices for other goods and services because the supply of housing is limited and because it takes longer and is more costly to increase the total housing stock. The rise in prices for other goods and services is being restrained by international competition.

The rise in housing wealth may nevertheless extend the fall in saving. Higher collateral values have increased household borrowing capacity. In addition, borrowing costs can be reduced when households switch from a consumer loan to a mortgage loan. As a result, the asset gains are more readily available for increasing consumption today.

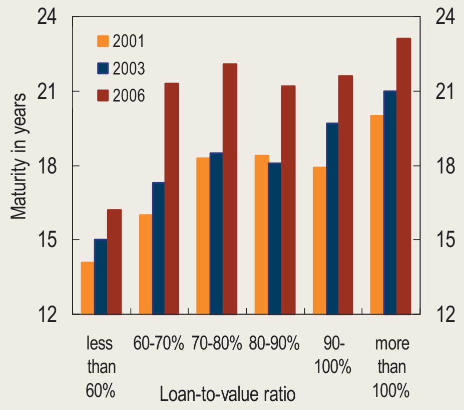
The terms of trade have also influenced equity prices. Equity values on the Oslo Stock Exchange have surged by close to 400% since the cyclical turnaround in 2003. This has probably amplified the fall in the saving ratio.[2] In addition, increased stock market wealth may also have an effect on house prices, particularly for expensive dwellings.

The share of interest-only loans to households has risen sharply in recent years. According to the mortgage loan survey conducted by Kredittilsynet (Financial Supervisory Authority of Norway), these loans accounted for almost 20% of all new loans raised last year. The average maturity for new loans has also increased (see Chart 7). International loan markets have become more flexible in recent years.[3] Combined with the decline in long-term interest rates, this may partly explain why saving has fallen simultaneously in many countries. Australia, the UK and the US are some examples. In Sweden and Germany, however, household credit markets have shown little change and the household saving ratio in these countries has shown a smaller decline (see Chart 8). These two countries have also seen a deterioration in their terms of trade (see discussion above).[4]

On the whole, there is reason to believe that changes in Norway's terms of trade and credit markets may have contributed to moving forward household consumption, reducing household saving and increasing housing and stock market wealth. Household adaptation to new spending and saving plans may span several years. In spite of higher interest rates, it may therefore take time for the saving ratio to revert to a more normal level.

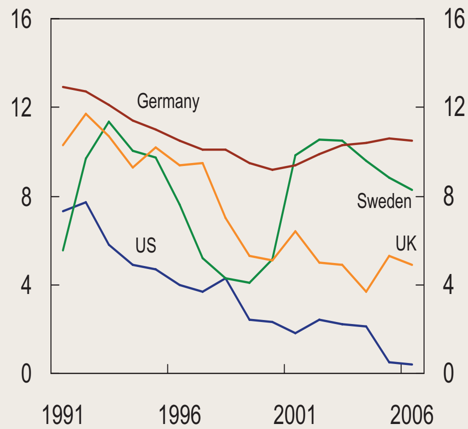
The projections in this *Report* are based on the assumption that the household saving ratio will increase gradually by about 2½ percentage points over the next three years (see Chart 1). Continued high expectations concerning future growth in income and the effects of changes in credit markets may contribute to curbing the rise in the saving ratio, at least for a period. On the other hand, households will sooner or later have to increase saving from today's low level and it is possible that households have not fully registered the interest rate hikes over the past two years. This could result in a faster rise in household saving than projected here.

Chart 7 Maturity of new mortgage loans for different loan-to-value ratios



Source: Kredittilsynet (Financial Supervisory Authority of Norway)

Chart 8 Household saving ratio in selected countries. Annual figures. 1991 – 2006



Sources: OECD and Reuters (EcoWin)

[1] The method for estimating the household saving ratio may vary across countries and differences in levels should thus be interpreted with caution. The source for the saving ratio in New Zealand is: Hodgetts, B., P. Briggs and M. Smith (2006):"Household saving and wealth", article presented at the Reserve Bank of New Zealand workshop on 14 November 2006.
[2] Higher equity prices can also lead to a technical decline in the household saving ratio as measured in the national accounts. This is because share price gains are not recorded as household income in the national accounts, while tax on realised equity gains is recorded as an expense. Greenspan (2001) argued that this could explain about one percentage point of the fall in the household saving ratio in the US at the end of the 1990s (speech in Jackson Hole on 31 August 2001). See also the box "Low household saving" in *Financial Stability Report* 1/07 for a discussion of possible effects on the saving ratio of changes in the taxation on dividends.
[3] See, for example, Bank for International Settlements (2006): "Housing finance in the global financial markets", CGFS Papers No. 26, for an international survey.
[4] Changes in the pension system have probably also had an impact in Sweden.

Fiscal policy and local government finances

In the government budget proposal for 2008, the structural, non-oil budget deficit measured as a percentage of trend mainland GDP is estimated to increase from 4.3% in 2007 to 4.5% in 2008. This indicator stood at 3.6% in 2006. By this measure, fiscal policy will boost demand for goods and services this year and next. This is also reflected in underlying spending growth in the government budget, which is estimated at 7.9% in 2007 and 6.5% next year. This is somewhat higher than the Government's estimate for nominal mainland GDP growth (see Chart 1). There is uncertainty surrounding growth in expenditure with a risk of both supplementary appropriations in the Final Budget Bill of this year's budget in December and in the revised budget for 2008 next spring, and upward drift in social security and other benefit schemes. The projections for growth in underlying expenditure in the central government budget for 2007 has thus increased by 1.5 percentage points since last autumn.

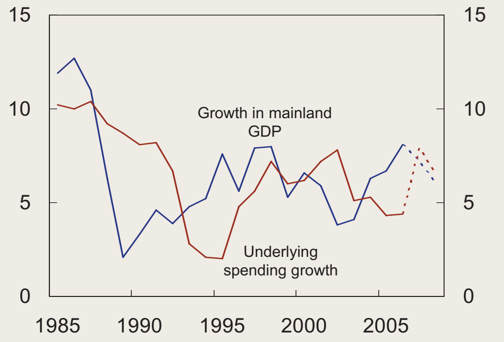
The estimates in the National Budget for 2008 show a surplus before loan transactions of NOK 294bn this year. The surplus is estimated at NOK 265.4bn in 2008. Adjusted for revenues from petroleum activities and capital income earned by the Government Pension Fund – Global (GPFG), there is an estimated deficit of NOK 25.3bn this year and of NOK 36.4bn next year.

The non-oil deficit is smaller than the structural, non-oil deficit because the economic expansion is generating higher tax revenues and lower spending on unemployment benefits. The Ministry of Finance estimates that the structural, non-oil budget deficit this year is NOK 40.5bn higher than the non-oil deficit as a result of the expansion, or 2.5% of trend mainland GDP. For 2008, the Ministry expects this difference to be NOK 38.1bn. The withdrawal of purchasing power over the government budget due to the expansion provides an important contribution to smoothing fluctuations in the Norwegian economy.

Several years of high revenue growth, particularly in 2006, has improved local government finances. The fiscal leeway for the local government sector has increased. Revenue growth is expected to be somewhat lower this year and next than in the previous three years. Total local government revenues are estimated to increase by 5% between 2006 and 2007. This is just under 1 percentage point higher than estimated in the Revised National Budget for 2007 as a result of higher-than-expected tax revenues this year. Revenue growth in 2008 is estimated at 5.7% relative to the estimated 2007 accounts.

Government policy is based on a gradual increase in the use of petroleum revenues and capital income from the GPFG. As a reference, the annual budget deficit excluding these revenues and adjusted for cyclical fluctuations in some revenue and expenditure items will over time be the equivalent of the expected real return on the GPFG, i.e. 4% of the Fund. This structural deficit is estimated at 3.8% of the GPFG this year and 3.7% in 2008 (see Chart 2). This is in line with the fiscal rule, which implies that the structural deficit is less than 4% during an economic expansion. The structural, non-oil budget deficit is also expected to be somewhat lower than the expected real return on the GPFG in the coming years. Since the capital in the Fund is rapidly growing, public sector activity will continue to stimulate aggregate demand.

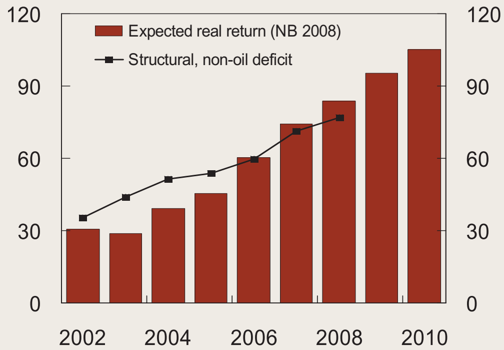
Chart 1 Underlying spending growth in the government budget and nominal growth in mainland GDP. Per cent. Annual figures. 1985 – 2008[1)]



[1)] Projections for 2007 and 2008 from the Ministry of Finance.

Sources: Ministry of Finance (National Budget 2008) and Statistics Norway

Chart 2 Expected real return on the Government Pension Fund - Global. In billions of 2008 NOK. Annual figures. 2002 – 2010



Source: Ministry of Finance (National Budget 2008)

High petroleum investment

Petroleum investment has expanded at a brisk pace in recent years and the level of investment is now historically high. The investment intentions survey for the petroleum sector points to continued growth through 2008 (see Chart 1). Sharp price increases related to investment probably account for some of the growth. The increase in investment volume, measured at constant prices, is therefore uncertain in the survey.

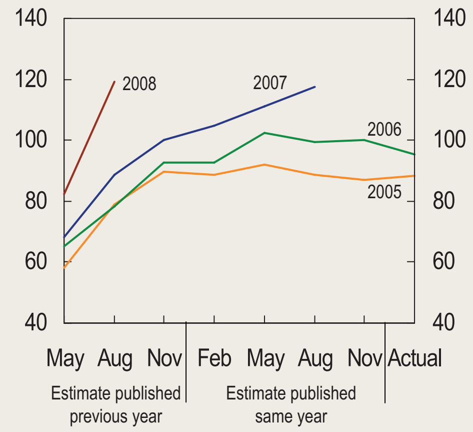
Field development of Snøhvit and Ormen Lange has contributed to the high investment level. These fields are now moving into the production phase. In isolation, this will contribute to reducing investment. According to the investment intentions survey for the petroleum sector, investment in field development will this year be considerable for the Gjøa, Vega, Vega Sør and Rev fields. In addition, investment in fields in operation has been substantially higher this year than in preceding years. In 2007, the investment level has been particularly high for the Ekofisk, Troll, Valhall and Snorre fields.

Oil prices are high and oil futures prices indicate that prices will remain elevated through the projection period. The discovery rate on the Norwegian continental shelf is likely to show an increas this year, and the number of applications for exploration acreage is unusually high. Combined, these factors will contribute to increased activity on the Norwegian continental shelf in coming years.

Investment in exploration activity has accounted for a steadily growing share of total investment in recent years. In 2008, this growth is expected to be sustained. Skarv/Idun, Goliat, Morvin and Frøy are projects that will most likely be started in 2008. Investment in fields in operation is also expected to increase next year.

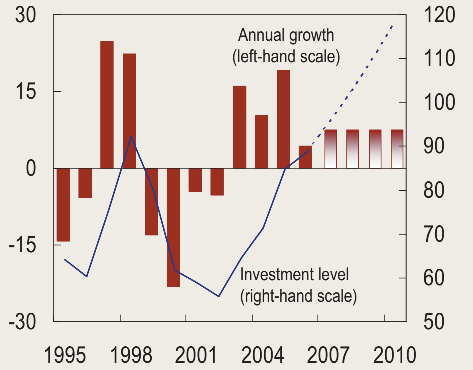
Limited capacity in the supplier industry and a shortage of rigs may make it difficult to implement all planned investment projects. Some projects are thus expected to be postponed so that the path for investment will be smoother than implied by the latest investment intentions survey (see Chart 2).

Chart 1 Investment statistics for the petroleum industry. Estimated and actual investment (current prices). In billions of NOK



Source: Statistics Norway

Chart 2 Investment in oil and gas recovery including pipeline transport. Investment level in billions of NOK (constant 2004 prices) and annual growth (per cent). Annual figures. 1995 – 2010[1)]



1) Projections for 2007 – 2010.

Sources: Statistics Norway and Norges Bank

NEMO – a new projection and monetary policy analysis model

NEMO ("Norwegian Economy Model") is a new projection and monetary policy analysis model in Norges Bank.[1] NEMO is based on international research and model development over the past 10-15 years and has many features in common with similar models in other central banks.[2] The model has been under development since autumn 2004 and has been previously used to analyse specific developments in the Norwegian economy. In the work on this *Report*, NEMO has also been used to make projections together with other models.

NEMO is based on the assumption that Norway with a national currency can determine its own level of inflation over time. A model requirement is therefore that monetary policy anchors inflation expectations. In the model, it is assumed that economic agents look ahead when they make decisions concerning consumption, investment, wages and prices and base these decisions not only on today's economic policy, but also their expectations as to future policy. In addition, the model builds on the experience of the 1970s and 1980s indicating that unemployment could not be reduced permanently by accepting somewhat higher inflation. Because of price and wage stickiness, monetary policy can still influence demand and hence output and employment in the short and medium term.

The various agents' behaviour is modelled explicitly in NEMO (microfoundation). Using household and firm behaviour as a basis, the model is easier to interpret and we can analyse the economic effects of changes of a more structural nature. In NEMO, developments in the Norwegian economy can among other things be explained by changes in firms' technology, competitive conditions in product and labour markets, household preferences between consumption and leisure and monetary policy.

NEMO can be referred to as a new-Keynesian DSGE model (dynamic stochastic general equilibrium model). This class of models is characterised by the bridge it builds between classical theory (where agents have rational expectations and maximise utility/profits over time) and Keynesian theory (where imperfect competition and nominal rigidities lead to wage and price stickiness). As a result, the model takes on classical features in the long term (supply-determined output) and Keynesian features in the short to medium term (demand-determined output).

When constructing NEMO it was considered particularly important that the model should be a useful decision-making tool in monetary policy. The model has therefore been constructed so that it would be a transparent and manageable model. Output, price-setting, wage formation and all the main demand components are modelled and a distinction is made between domestic and imported inflation. The main features of the model can be described through economic agents' behaviour:

- <u>Households</u> derive utility from consumption and leisure and maximise expected utility given their budget constraints and given firms' demand for labour. Households make trade-offs between consumption and saving and between work and leisure. Both history and interest rate and consumption expectations influence their choice. Wage formation in NEMO share features with a negotiation-based model. Among other things, wage earners take into account that firms' demand for labour is lower, the higher wage demands are.

- <u>Firms</u> use labour and capital to produce goods for both the domestic and export market. Firms maximise profits. They have some market power and can set product prices higher than under free competition. There are both indirect and direct costs associated with changing prices.[3] Firms therefore take into account expected future developments in costs and exchange rates in addition to historical developments when setting prices.

- <u>The government authorities</u> conduct fiscal and monetary policy. In the long term, it is assumed that government finances are in balance and that expenditure is a constant share of GDP. Monetary policy anchors inflation expectations. In the model, monetary policy is represented by a simple reaction function (where the interest rate is a function of few variables) or in the form of a loss function that is minimised.

- The foreign sector purchases Norwegian goods and services and exports goods and services to Norway. Norwegian operators have access to international capital markets. The exchange rate is determined by uncovered interest parity adjusted for a risk premium. The risk premium depends on Norway's net foreign assets. In the long term, the exchange rate ensures that the external account is in balance.

NEMO is estimated on Norwegian data using Bayesian estimation techniques.[4] Under the estimation procedure, we incorporate our assessments and experience concerning the functioning of the Norwegian economy, including the uncertainty surrounding these assessments. This makes the model suitable for analysing monetary policy and takes account of the uncertainty surrounding the projections.[5]

[1] For a more detailed description of NEMO, see Brubakk et. al. (2006).
[2] See for example Bank of England (2004), Adolfson et. al. (2005a), Fenton and Murchison (2006), Coenen et. al. (2007) and IMF (2007).
[3] The ECB has recently conducted a major study on price formation in the euro area (see Altissimo et. al. 2006). The study found for example that the implied cost of a possible loss of reputation in connection with price increases was an important factor behind price rigidity.
[4] For examples of the use of such techniques, see Smets and Wouters (2003) and Adolfson et. al. (2005b).
[5] For a further discussion, see Sims (2006).

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Adolfson, M., S. Laséen, J. Lindé and M. Villani (2005a): "The Role of Sticky Prices in an Open Economy DSGE Model: A Bayesian Investigation", *Journal of the European Economic Association*, vol. 3, pp. 444-457.

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Sims, C. A. (2006): "Improving Monetary Policy Models", http://sims.princeton.edu/yftp/CBModels/CBModelsPaper.pdf, forthcoming in *Journal of Economic Dynamics and Control.*

Smets, F. and R. Wouters (2003): "An Estimated Dynamic Stochastic Equilibrium Model of the Euro Area", *Journal of the European Economic Association*, vol 1, pp. 1123-1175.

Projections in *Monetary Policy Report* 2/07 and 3/07

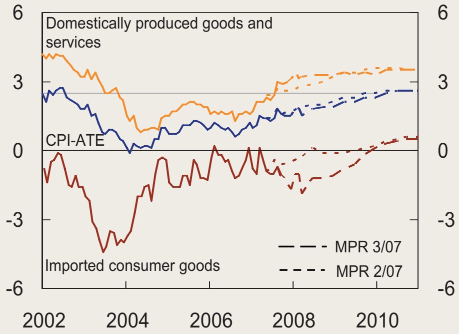
This box provides an account of the changes in projections since the previous *Monetary Policy Report*. New information that has emerged since June influences both the picture of the current economic situation and the assumptions regarding the driving forces that will influence developments in the years ahead. On balance, new information points to a somewhat lower path for the interest rate forecast than that presented in *Monetary Policy Report* 2/07. Norges Bank's projections for 2008 are also compared with projections from other institutions.

News since Monetary Policy Report 2/07

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 turbulence in financial markets through the summer has contributed to lower interest rate expectations abroad. Economic growth among trading partners is expected to be somewhat lower than envisaged in June.
- The krone exchange rate is stronger than assumed previously.
- Inflation measured by the CPI-ATE has been approximately as projected. The rise in prices for domestically produced goods and services excluding energy products has risen somewhat faster than expected, while the fall in prices for imported consumer goods has been somewhat sharper than assumed in the previous *Report* (see Chart 1). Wage growth appears to be approximately as projected.
- Preliminary national accounts figures indicate that mainland GDP increased more than expected through the first half of the year. This is largely attributable to stronger growth in household demand. Employment has risen at a faster-than-expected pace. This effect has been offset by higher growth in the labour supply, particularly among older workers and young people. Unemployment has developed approximately in line with our projections.
- The strong growth in the labour force must be viewed in the light of the strong inflow of foreign labour to Norway. Developments in inward labour migration since EU enlargement on 1 May 2004 may imply that foreign labour has constituted a larger labour reserve than previously assumed. As a result, potential output has probably also been somewhat higher in recent years than previously assumed. On balance, capacity utilisation in recent years is assessed as having been somewhat lower than assumed in the previous *Report*, but is now somewhat higher (see Chart 2).

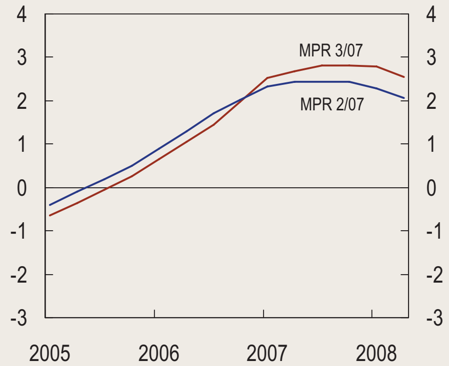
Chart 1 CPI-ATE.[1)] Total and by supplier sector[2)]. 12-month rise. Per cent. Monthly figures. Jan 02 – Dec 10[3)]



1) CPI-ATE: CPI adjusted for tax changes and excluding energy products. A further adjustment is made for the estimated effect of reduced maximum day-care rates in 2006.
2) Norges Bank's estimates.
3) Projections for October 2007 – December 2010.

Sources: Statistics Norway and Norges Bank

Chart 2 Output gap estimates in the baseline scenario in MPR 2/07 and 3/07. Per cent. Quarterly figures. 05 Q1 – 08 Q2



Source: Norges Bank

- Petroleum investment in 2007 appears to be as projected, but will probably grow somewhat more ahead than assumed in the previous *Report*. Fiscal policy will have an expansionary effect both this year and next, but the overall impetus will be slightly weaker than assumed in the previous *Report*.
- Oil prices have risen further.

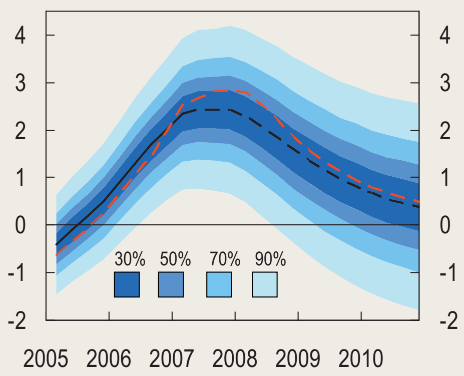
Changes in the projections

The interest rate path on which the projections in this *Report* are based has been revised slightly downwards compared with the path in *Monetary Policy Report* 2/07. Section 1 provides a more detailed account of interest rate developments ahead.

Mainland GDP growth for both 2007 and 2008 is now projected to be higher than it was in the previous *Report* (see Table 1). This is largely due to higher-than-projected growth in the first half of this year, and because the cyclical peak is expected to be reached somewhat later than envisaged previously. At the same time, our projection for potential output has been revised up somewhat for the past few years and for this year and 2008. Overall, the output gap is ¼ percentage point higher in 2007 and 2008 than projected in the previous *Report*, while for the years 2005 and 2006 it is somewhat lower (see Chart 3).

Employment has grown more strongly than assumed, and growth for this year has been revised up by ¾ percentage point, to 3½%. Growth in 2008 and 2009 is now also projected to be somewhat higher. Although the labour force is expected to expand at a slightly faster pace in the coming years, unemployment is expected to be somewhat lower ahead than projected in the previous *Report*. A tighter labour

Chart 3 Estimated output gap in the baseline scenario in MPR 2/07 with fan chart and output gap in the baseline scenario in MPR 3/07 (red line). Per cent. Quarterly figures. 05 Q1 – 10 Q4



Source: Norges Bank

Table 1 Projections for macroeconomic aggregates in *Monetary Policy Report* 3/07. Change from projections in *Monetary Policy Report* 2/07 in brackets

	2007		2008		2009		2010	
Mainland demand	5¾	(1¼)	3¼	(¼)	2	(-¼)	2¼	(0)
GDP mainland Norway	5¼	(1)	2¾	(¼)	1¾	(-¼)	2	(-¼)
Employment	3½	(¾)	1¼	(¼)	¼	(¼)	0	(0)
LFS unemployment (rate)	2½	(0)	2½	(-¼)	3	(-¼)	3½	(-¼)
CPI-ATE[1)]	1½	(0)	1¾	(-¼)	2¼	(-¼)	2½	(0)
CPI	¾	(0)	3¼	(¼)	2¼	(-¼)	2½	(0)
Annual wage growth[2)]	5½	(0)	5¾	(¼)	5¼	(½)	5	(½)

1) 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 projections include estimated costs in 2007 related to the introduction of mandatory occupational pensions.

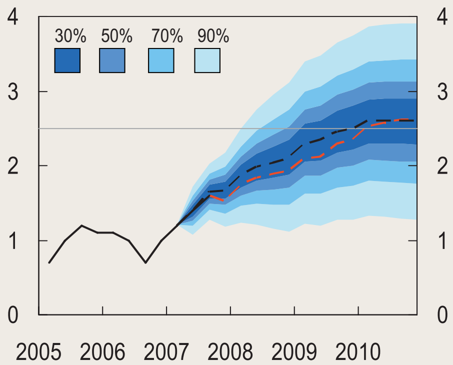
Source: Norges Bank

market implies higher wage growth, and wage growth is not expected to fall below 5% in the projection period.

Higher employment and wage growth and a somewhat lower interest rate path than projected previously will contribute to stronger growth in household disposable real income, both this year and further ahead. Growth in private consumption is projected at 6% this year, i.e. 1¼ percentage points higher than in the previous *Report*. Growth in private consumption is also expected to be higher next year than projected in June. Somewhat weaker external growth impulses and a stronger krone exchange rate are contributing to lower export growth this year and next. Despite lower projected export growth, import growth is expected to remain buoyant this year and next year, fuelled by stronger growth in domestic demand.

Projections for the rise in consumer prices adjusted for tax changes and excluding energy products (CPI-ATE) are somewhat lower for the period to 2009 than those in the previous *Report*, while the projection for 2010 is unchanged (see Chart 4). On the one hand, this reflects somewhat higher projected domestic inflation, as a result of higher capacity utilisation and stronger domestic cost inflation, and on the other hand somewhat lower imported inflation due to the stronger krone exchange rate. As in the previous *Report*, the CPI is expected to rise markedly from a very low level this year, as a result of a sharp fall in electricity prices this year and prospects of higher electricity prices. The projection for the CPI is adjusted up by ¼ percentage point for 2008 compared with the previous *Report*.

Chart 4 Projected CPI-ATE in the baseline scenario in MPR 2/07 with fan chart and CPI-ATE in the baseline scenario in MPR 3/07 (red line). 4-quarter rise. Per cent. Quarterly figures. 05 Q1 – 10 Q4



Sources: Statistics Norway and Norges Bank

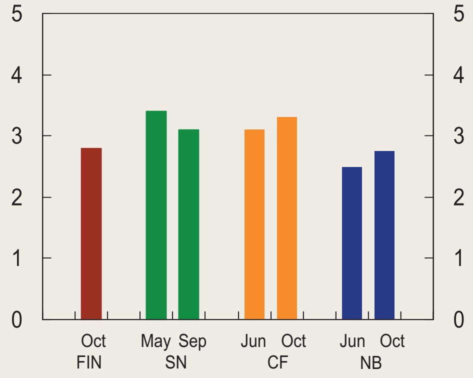
Forecasts from other institutions

Our projection for economic growth in 2008 is on a par with the projection from the Ministry of Finance, and somewhat lower than that of Statistics Norway and the average from *Consensus Forecasts* (see Chart 5). We project mainland GDP growth at 2¾% next year. When Statistics Norway published its forecasts at the beginning of September, mainland GDP growth in 2008 was forecast at 3.1%, which is lower than the forecast of 3.4% at the end of May. In the National Budget for 2008, the Ministry of Finance puts GDP growth at 2.8% in 2008. The average forecast for GDP growth from *Consensus Forecasts* has been revised up from 3.1% in June to 3.3% in October.

In this *Report*, we project CPI inflation at 3¼% next year (see Chart 6). The Ministry of Finance forecasts CPI inflation of 2½%. Since May, Statistics Norway has raised its projection for CPI inflation in 2008 by 0.2 percentage point to 2.7%. The average forecast for CPI inflation from *Consensus Forecasts* has also been revised slightly upwards, from 2.3% in June to 2.4% in October. In this *Report*, inflation measured by the CPI-ATE is projected at 1¾% for next year (see Chart 7). The Ministry of Finance projects the rise in the CPI-ATE at 2%. Since May, Statistics Norway has reduced its projection for CPI-ATE inflation in 2008 by 0.1 percentage point, to 1.8%. Consensus Economics does not compile projections for CPI-ATE inflation.

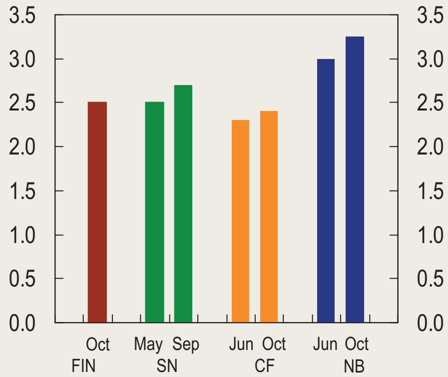
The Ministry of Finance's forecasts were published on 5 October 2007. Statistics Norway published its projections on 31 May and 6 September, while Consensus Economics compiled its forecasts on 11 June and 8 October. As the institutions publish projections at different times, the information on which the projections are based will differ.

Chart 5 Mainland GDP. Projections for 2008 published before MPR 2/07 and 3/07. Percentage growth



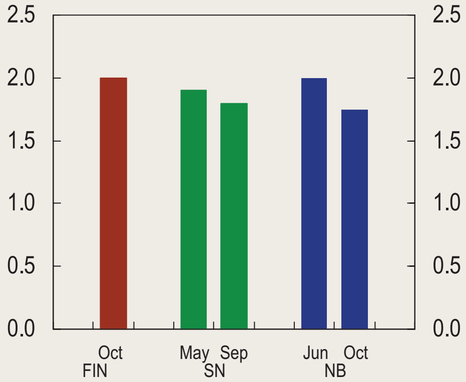
Sources: National Budget 2008, *Economic Survey* 2/2007 and 3/2007, *Consensus Forecasts* June and October 2007, *Monetary Policy Report* 2/07 and 3/07

Chart 6 CPI. Projections for 2008 published before MPR 2/07 and 3/07. Percentage rise



Sources: National Budget 2008, *Economic Survey* 2/2007 and 3/2007, *Consensus Forecasts* June and October 2007, *Monetary Policy Report* 2/07 and 3/07

Chart 7 CPI-ATE. Projections for 2008 published before MPR 2/07 and 3/07. Percentage rise



Sources: National Budget 2008, *Economic Survey* 2/2007 and 3/2007, *Monetary Policy Report* 2/07 and 3/07

Boxes 2003-2007

3 / 07
Household saving
NEMO – a new projection and monetary policy analysis model

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Developments in productivity growth
How often do enterprises change their prices?

1 / 07:
Will the global economy be affected by a slowdown in the US?
Uncertainty surrounding wage growth ahead
Competition and prices
Evaluation of Norges Bank's projections for 2006

3 / 06:
Output gap

2 / 06:
Money, credit and prices – a monetary cross-check
Foreign labour in Norway
Short term forecasts for mainland GDP in Norway

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The yield curve and economic outlook in the US
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3 / 05:
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Output gap uncertainty
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Output gap
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Evaluation of Norges Bank's projections for 2001 and 2002

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 up-to-date 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 who 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:

Region North (Nordland, Troms, Finnmark)	Kunnskapsparken Bodø
Region Central Norway (Nord- og Sør-Trøndelag)	Center for Economic Research at the Norwegian University of Science and Technology
Region North-West (Møre og Romsdal, Sogn og Fjordane)	Møreforsking Molde
Region South-West (Rogaland and Hordaland)	International Research Institute of Stavanger
Region South (Aust- og 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 2/07*

In the contact round conducted in August, interviews were held with roughly 280 regional network contacts. A national summary and a summary from each region are 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 view of economic developments.

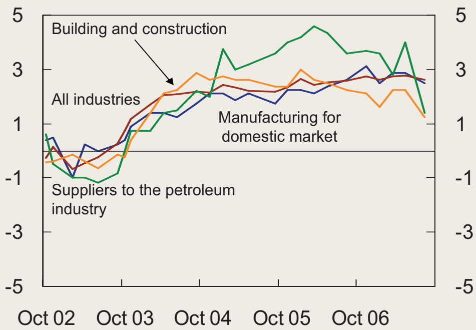
Demand, output and market outlook

Enterprises in the regional network continued to report solid growth in demand and production in all industries, but growth is a little slower than in early summer (see Chart 1). Enterprises' expectations for the next six months indicate continued solid growth, but the expected growth rate has fallen somewhat. Several industries report that little available capacity has been a constraint on growth and will limit opportunities for growth in the period ahead.

In domestically oriented manufacturing, growth is solid and broad-based. Growth is strongest for suppliers to building and construction and for subcontractors to the fish farming and offshore industries. The level of activity is high overall, and growth is expected to remain high for the next 6 months. The export industry reports continued solid growth in demand and output. Growth is also high in manufacturing supplying the shipbuilding industry and offshore-related activities. The favourable developments are expected to continue for the next 6 months.

The growth rate among suppliers to the petroleum industry has declined. This is partly because the large Snøhvit and Ormen Lange projects are now being phased out, combined with delays in other large projects. Offshore shipowners and equipment manufacturers are exhibiting particularly strong growth. Activity in offshore shipyards is high, and there is no capacity for further growth. As a result of capacity problems, there does not appear to be scope for more than moderate growth 6 months ahead.

Chart 1 Norges Bank's regional network. Growth in demand and production. Index[1]. Oct 02 – Aug 07



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

Source: Norges Bank

Growth in building and construction appears to be continuing, but the growth rate is the lowest since autumn 2003. Many companies stress that it is not demand that is limiting growth, but their capacity and willingness to expand. Capacity utilisation is very high and further growth will be difficult given today's tight labour market. In addition, many prefer to concentrate on maintaining sound project profitability, rather than building up excess capacity. Growth in residential construction appears to have come to a halt in all regions, but this is partly or fully offset by growth in commercial building starts. Several regions report solid growth in public sector contracts.

Retail trade and corporate services are the industries with strongest growth. Retail trade reports that growth has increased through the year. Growth is broad-based. The increase in sales is most pronounced for cars, furniture and electrical goods. The building materials industry continues to expand, even after a long period of strong growth. The contacts expect the high growth to continue in the next six months.

Growth in corporate services is strong. Most sectors report growth, but as earlier this year, commercial and financial services are contributing most. This applies to industry segments such as auditing, financial advisory services and legal services. Demand is vigorous in the transport industry, but limited capacity is constraining growth. As a result of capacity constraints in many industries, the recruitment services industry continues to experience strong growth. The market outlook is characterised by optimism and continued confidence in growth, but many report that little spare capacity will be a constraint on growth in the future. Household services report somewhat lower growth than corporate services. Solid to strong growth is reported for the telecommunications, banking, restaurant and well-being industries, but more moderate growth in the real estate and tourist industries.

Capacity utilisation, the labour market and investment

61% of the contacts in the August interview round report that they would have difficulty in accommodating a rise in demand (see Chart 2). This is approximately the same as in the two previous interview rounds, and indicates that the margin of spare capacity is now stable. Half of the contacts report that the supply of labour will limit any increase in production. Here, too, the situation is stable, and labour market tightening appears to have come to a halt. However, it is emphasised that the labour market is very tight, and that employee turnover is increasing. Many contacts in the manufacturing sector also report that physical constraints such as production capacity and the supply of commodities and other deliveries limit production growth. The margin of spare capacity is still smallest for the building and construction industry. A shortage of engineers and project managers is the main problem in the industry, but other specialists are also difficult to obtain. There are labour shortages in many occupational categories, such as auditors, economists, engineers, architects and lawyers. There is also a shortage of workers with lower educational attainment.

All industries report moderate growth in planned investment over the next 12 months. On balance, there appears to be slower growth in planned investment now than earlier this year. However, the manufacturing contacts report increased plans for investment growth in relation to spring. Investment is geared both towards increasing capacity and automation to enhance production efficiency. Investment growth is not planned in retail trade and the public sector, but the current level is high.

Employment

The high activity level has contributed to a marked increase in employment. Growth is still strongest in services. Enterprises are planning growth at the same pace as earlier this year for the next three months, but many contacts say there is uncertainty associated with this because of problems with the labour supply.

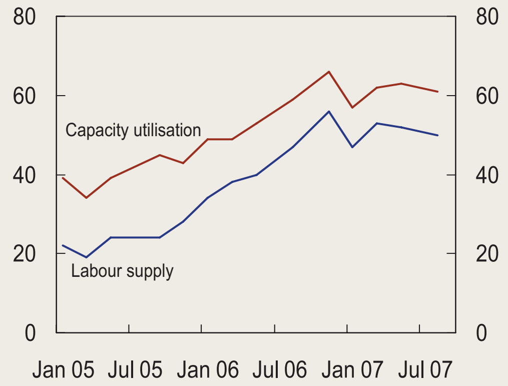
Costs, prices and profitability

Expectations regarding annual wage growth have risen throughout 2007 for all industries. Compared with early summer, contacts are now expecting half a percentage point higher wage growth. On average, annual wage growth of 5½% is expected this year. Expectations vary between 5% and 6% in the various industries. Building and construction and services are expecting the strongest growth.

Selling prices have exhibited a solid increase in the past 12 months, and the rise is the strongest recorded to date in the regional network. The rise is strongest in building and construction and in corporate services. Compared with earlier rounds this year, a lower number of contacts expect prices to continue to rise (see Chart 3). In this round, 22% of contacts expect a sharper rise in prices in the next 12 months, while 32% believe prices will rise more slowly. The highest number of contacts that expect stronger growth is in retail trade, while the number is lowest in the building and construction industry. The largest change is found in building and construction, where the number of contacts that now expect slower price rises has risen considerably.

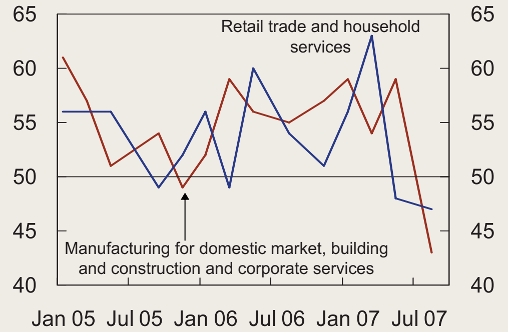
Profitability is rising in all industries, but contacts report slower growth than earlier this year. Growth is strongest among suppliers to the petroleum industry, while developments are weakest in retail trade and the export industry.

Chart 2 Norges Bank's regional network. Capacity utilisation and supply of labour. Share who respond that they will have problems accommodating an increase in demand. Per cent. Jan 05 – Aug 07



Source: Norges Bank

Chart 3 Norges Bank's regional network. Expected growth in selling prices in selected industries over the next 12 months. Diffusion index[1)]



1) Share of contacts expecting higher growth in prices +(0.5 * share of contacts expecting stable price growth).

Source: Norges Bank

Enterprises and organisations that have been interviewed in the work on this *Report*

7. himmel AS
ADCom Data AS
Adecco Norge AS
Advokatfirmaet Mageli ANS
AF Gruppen ASA
Ahead Frisør
Aker Brattvåg AS
Aker Kværner IPEC AS
Aker Kværner Stord AS
Aker Seafoods J. M. Johansen AS
Aksel Endresen Transport AS
Alfr. Nesset AS
Alta kommune
Alu-rehab AS
Alvdal Skurlag AL
Alvdal Tynset Sport AS
Apropos Internett AS
Arctic Seafood Holding AS
Arendal Auto AS
Arne Johannesen konditori AS
Asator AS
Atelier Ekren AS
Aukra Auto
Avishuset Firda AS
Aviv Capinor AS
B&T Låsservice AS
Bakke El-installasjon AS
BecoTek AS
Bergans Fritid AS
Big Horn Steak House Norge AS
Bilia AS
Bjørge ASA
BoligPartner AS
Borregaard
Br. Reme AS
Bravida Norge AS
Brunvoll AS
Brødrene Flaarønning AS
Brødrene Harsjøen AS
Brødrene Pedersen AS
Bulldozer Maskinlag Entreprenør AS
Buskerud sentralsykehus
Byggkjøp Farsund Bygg
Byggmaker Norgros
Byggmester Markhus AS
Byggmo eiendom AS
Byggservice Nord- Østerdal AS
Børset og Bjerkset AS
Capgemini Norge AS
Chiron AS
Choice Hotels Scandinavia AS
Coop Elektro
Coop Sogn og Fjordane BA
Coop Sunndalsøra
Corrocean AS
Daldata AS
Deal AS
Dedicare AS
Deloitte Stavanger
DnB NOR Eiendom AS
DnB NOR Eiendom AS, avd. Alta
DNH Den Norske Høyttalerfabrikk AS
Dolly Dimple AS
E A Smith AS
EDB Gruppen Norge AS
Eiendomsformidlingen AS
Eiendomsmegler 1 SR-Eiendom AS
Eiendomsmegler Vest AS
Elektro AS
Elkem Aluminium ANS avd. Mosjøen
Elkem Thamshavn
Elkjøp Norge Forus
Elmo
Eltel Networks AS
Elverum kommune
ErgoGroup AS
Ernst & Young Tromsø
Ernst & Young Rogaland
Eurospar Sogndal
Expert ASA
Fabelaktiv AS
Fatland AS
FAV Gruppen AS
Figgjo AS
Finnøy Gear & Propeller AS
Fitjar kommune
Fjeldseth AS
Flora kommune
Fløibanen AS
Fokus Bank Bedriftsmarked
Forestia AS
Fosen Trafikklag ASA
Friskhuset AS
Fædrelandsvennen AS
Gausdal Landhandleri AS
Geomatikk AS
Gjensidige Forsikring avd. Bodø
Gjøco AS
Glen Dimplex Nordic AS
Gresvig ASA
GRO Industrier AS
Hammerfest kommune
Hank Sport AS
Havkrefter AS
Hedmark fylkeskommune
Heimdal Eiendomsmegling
Helgeland Plast AS
Helkama Grepa AS
Helse Bergen HF
Helse Nord RHF
Hennig-Olsen is AS
Herøy kommune
Hunderfossen Familiepark AS
Hunton Fiber AS
Hydro Aluminium Structures Raufoss AS
Hydro Olje og Energi
IBM Norge
Idecon AS
Industriverktøy AS
Innvik Sellgren Industrier AS
Intersport Sortland AS
Island Offshore AS
ISS Norge AS
It Partner AS, Tromsø
Ivar Mjåland, Mandal
JCDecaux
Johs Lunde transport & spedisjon AS
Jonas B. Gundersen
Jotun AS
Julius Jakhelln AS
K. Lund AS
KBS kjøpesenter
Kitron Arendal AS
Klepp Sparebank AS
Komplett ASA
Kongsberg Gruppen ASA
Kongsberg Spacetec AS
Kontali Analyse AS
Kraft Foods avd. Disenå
Kremmertorget kjøpesenter
Kristiansand kommune
Kristiansund kommune
Krogsveen Hamar AS
Krogsveen Raknes
Kruse Smith AS, region vest
Kvestor Pro AS
Langset AS
Leiv Eriksson Nyformidling AS
Leksvik kommune
Lillehammer kommune
Lindex AS
Linjebygg Offshore AS
Litra AS
L'Oréal Norge AS
LPO arkitektur & design AS
Lycro AS
Lyse Energi AS
Maihaugen
Majas Salong
Malvik kommune
Mascot Electronics AS
MaxMat AS
Melhus kommune
Melhus Sparebank
Mesta AS
Mester Grønn AS
Midtre Gauldal kommune
Moelven Limtre AS
Moelven Nordia
Moss kommune
mpDesign AS
Mørenot AS
N.W Damm & Søn AS
NAV Aust-Agder
NCC Construction AS
Nilsson AS
Norac AS
Nor-Cargo AS avd. Stavanger
Norcem AS
Norconsult AS
Nordea Bank Norge ASA
Nordic Comfort Products AS
Nordic Sales Group AS
Nordland Betongindustri AS
Nordlandsbanken ASA
Norgesgruppen ASA
Norgesmøllene DA
Norisol Norge AS
Norpower Brødr. Malo AS
Norsk Sjømat AS
Norsvin
Nortura BA Fjørfedivisjonen
Notar Eiendom Nordland AS
Notar Eiendom Telemark og Vestfold
Nycomed Pharma AS
Nymo AS
Nøsted Kjetting AS
Obos
Olaf Olsens Snekkerfabrikk AS
Olav Thon Eiendomsselskap ASA
Olympic Shipping AS
Optimera AS, Sør
Oracle Norge AS
Orkdal Installasjon AS
Orkidéekspressen AS
Os Husdyrmerkefabrikk AS
Partner Mote AS
Plantasjen Norge AS
Porsgrunds Porselænsfabrik AS
Proffice AS
Prognosesenteret AS
Prosjekt og teknologiledelse AS
Protan AS
PS Data
Quality Hotel Hafjell AS
Radisson SAS Caledonien Hotell
Radisson SAS Hotell Norge
Randaberg kommune
Rapp Bomek AS
REC SiTech AS
Restech Norway AS
Retro AS
Revisorkonsult AS
Rica Hotels Finnmark
Ringerike kommune
Ringnes AS
Rolls-Royce Marine AS
Safari AS
Sandefjord kommune
Savalen Drift AS
SinkaBerg-Hansen AS
Skagen Brygge Hotell AS
Skanem Moss AS
Skedsmo kommune
Skeie AS
Skipsteknisk AS
Solstrand AS
Sparebank 1 Moss
Sparebank 1 Oslo AS
Sparebanken Hedmark
Sparebanken Sogn og Fjordane
Statens Vegvesen Region Sør
Stillasservice AS
Stjern AS
Stokke Gruppen AS
Strand Sea Service AS
Støren Trelast AS
Sult AS
Sveins Auto AS
Sykehuset i Vestfold HS
Systemhus Norge AS
Sør-Norge Aluminium AS
T. Johansen Drift AS
Tannum Møbler AS
Tannum Tekstil AS
Teeness ASA
Teknisk Bureau AS
Telenor Mobil AS
Thommessen Krefting Greve Lund AS
Ticket.no
Tine BA
Tine Meierier Sør BA
TKS AS
Trafikk & Anlegg AS
Trebetong AS
Trehuseksperten AS
Trend-trim
Trondheimsfjorden interkommunale havn
Tvedestrand kommune
Tynset kommune
Ullevål sykehus
Union Hotel
Vakt Service Nord AS
Valldal Høvleri AS
Veidekke Entreprenør AS Indre Østland
Vestvågøy kommune
WellDynamics Norge AS
West Contractors AS
Westco miljø AS
Westnofa Industrier AS
Windy Boats AS
Østerdal Billag AS
Østereng & Benestad AS

Annex II
Statistics, charts and detailed projections

Monetary policy meetings in Norges Bank

with changes in the key policy rate

Date	Key policy rate[1]	Change
13 March 2008		
23 January 2008		
12 December 2007		
31 October 2007	5.0	0
26 September 2007	5.0	+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	3.50	+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
30 June 2005	2	+0.25
25 May 2005	1.75	0
20 April 2005	1.75	0
16 March 2005	1.75	0
2 February 2005	1.75	0
15 December 2004	1.75	0
3 November 2004	1.75	0
22 September 2004	1.75	0
11 August 2004	1.75	0
1 July 2004	1.75	0

[1] The key policy rate is the interest rate on banks' deposits 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.

Table 1 Main macroeconomic aggregates

Percentage change from previous year/quarter		GDP	Mainland GDP	Private con-sumption	Public con-sump tion	Mainland fixed inv.	Petroleum inv.[1]	Trad. exports	Imports
1998		2.7	4.1	2.8	3.4	9.4	22.2	6.5	8.8
1999		2.0	2.6	3.7	3.1	0.2	-13.0	3.5	-1.6
2000		3.3	2.9	4.2	1.9	-1.4	-22.9	4.6	2.0
2001		2.0	2.0	2.1	4.6	3.9	-4.6	0.2	1.7
2002		1.5	1.4	3.1	3.1	2.3	-5.4	-1.7	1.0
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	4.5	3.3	1.8	9.1	19.1	6.7	8.6
2006		2.8	4.6	4.4	3.3	8.0	4.4	9.8	8.2
2006[2]	Q1	0.7	0.8	1.8	2.0	-6.3	-10.8	3.0	-1.2
	Q2	0.2	0.8	1.3	0.7	7.9	3.8	3.2	4.3
	Q3	1.6	1.5	1.1	0.7	-4.1	9.3	1.7	0.5
	Q4	0.4	1.2	1.0	0.6	7.5	-0.8	2.8	3.0
2007	Q1	0.8	1.6	3.0	0.6	-2.3	-7.9	0.8	1.7
	Q2	0.9	1.3	0.9	0.1	2.3	9.4	1.7	1.7
2006 level, in billions of NOK		2152	1563	874	418	286	95	384	610

[1] Extraction and pipeline transport.
[2] Seasonally adjusted quarterly figures

Source: Statistics Norway

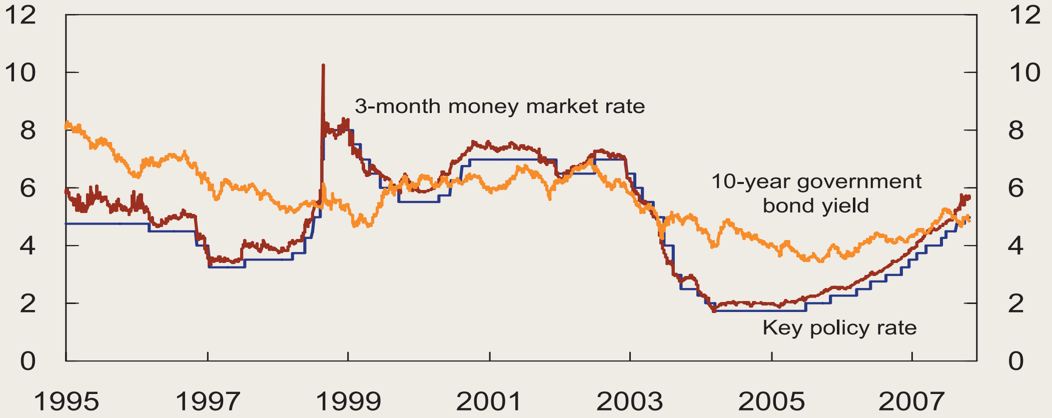
Table 2 Consumer prices

Twelve-month rise. Per cent		CPI	CPI-ATE[1]	CPI-AT[2]	CPI-AE[3]	HICP[4]
1998		2.3			2.9	2.0
1999		2.3			2.3	2.1
2000		3.1			2.3	3.0
2001		3.0	2.6	3.2	2.4	2.7
2002		1.3	2.3	2.2	1.6	0.8
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	Jan	1.2	1.0	1.1	1.1	1.2
	Feb	0.8	1.1	0.6	1.3	0.8
	Mar	1.1	1.5	0.9	1.7	1.3
	Apr	0.3	1.4	0.0	1.5	0.5
	May	0.3	1.4	0.1	1.5	0.6
	Jun	0.4	1.3	0.2	1.4	0.7
	Jul	0.4	1.4	0.3	1.5	0.7
	Aug	0.4	1.8	0.3	2.0	0.6
	Sep	-0.3	1.6	-0.6	1.8	-0.3

[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] HICP: The Harmonised Index of Consumer Prices. The index is based on international criteria drawn up by Eurostat.

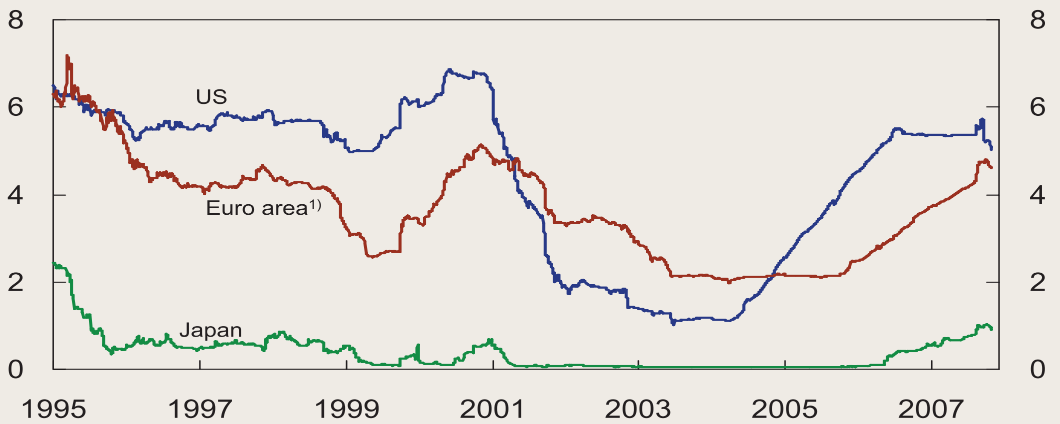
Source: Statistics Norway

Chart 1 Norwegian interest rates. 3-month money market rate, key policy rate and 10-year government bond yield. Per cent. Daily figures. 2 Jan 95 – 25 Oct 07



Source: Norges Bank

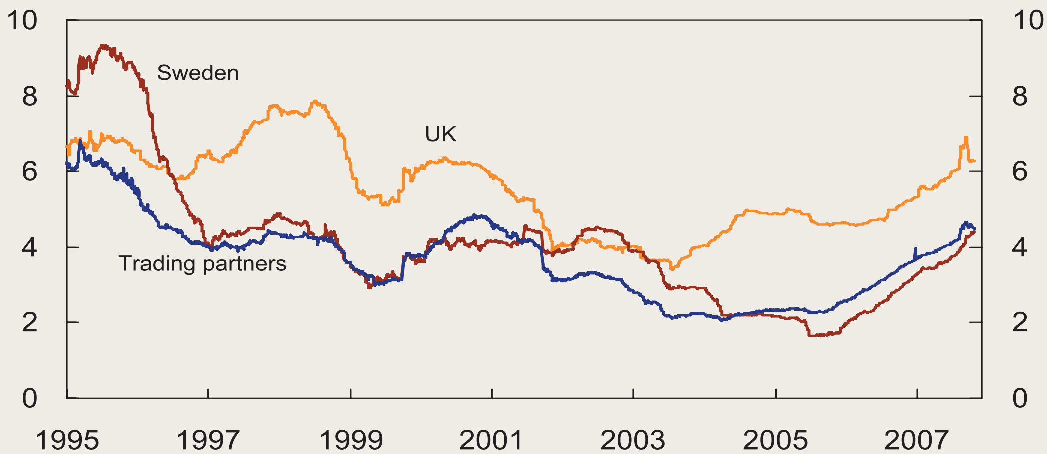
Chart 2 3-month interest rates in the US, the euro area and Japan. Per cent. Daily figures. 2 Jan 95 – 25 Oct 07



1) Theoretical ECU rate up to and including December 98.

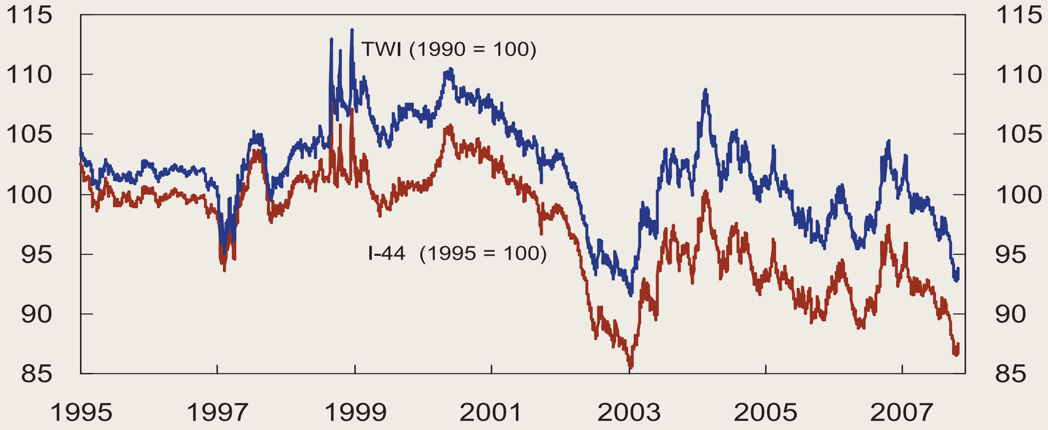
Source: Reuters (EcoWin)

Chart 3 3-month interest rates in the UK, Sweden and among Norway's key trading partners. Per cent. Daily figures. 2 Jan 95 – 25 Oct 07



Sources: Reuters (EcoWin) and Norges Bank

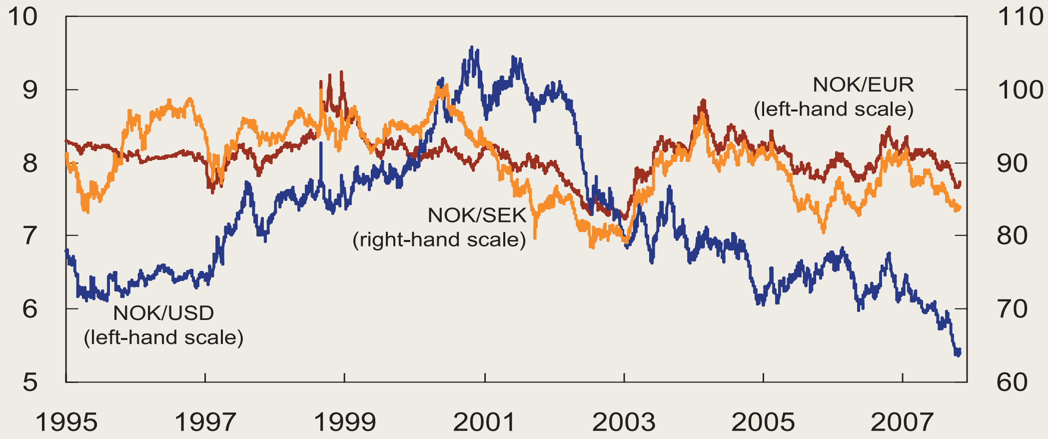
Chart 4 Trade-weighted exchange rate index (TWI) and import-weighted exchange rate.[1)] Daily figures. 2 Jan 95 – 25 Oct 07



[1)] A rising curve denotes a weaker krone exchange rate.

Source: Norges Bank

Chart 5 Bilateral exchange rates[1)]. Daily figures. 2 Jan 95 – 25 Oct 07



[1)] A rising curve denotes a weaker krone exchange rate.

Source: Norges Bank

Table 3 GDP growth in other countries

Percentage change from previous year
Projections for 2007 – 2010

	US	Euro area	Japan	UK	Sweden	China	Trading partners[1)]
2006	2.9	2.9	2.1	2.8	4.5	11.1	3.6
Projections							
2007	2	2½	2	3	3½	11½	3
2008	1¾	1¾	1½	1¾	2¾	10½	2½
2009-10	2¾	2	1½	2¼	2¼	9½	2½

1) Export weights, 26 important trading partners

Sources: Reuters (EcoWin) and Norges Bank

Table 4 Consumer prices in other countries

Percentage change from previous year
Projections for 2007 – 2010

	US	Euro area[1)]	Japan	UK	Sweden	China	Trading partners[2)]
2006	3.2	2.2	0.2	2.3	1.4	1.5	1.8
Projections							
2007	2¾	2	0	2¼	2	4½	2
2008	2¼	2	½	2	2	4	2
2009-10	2¼	2	1	2	2	3¼	2

1) Weights from Eurostat (each country's share of total euro area consumption)
2) Import weights, 26 important trading partners

Sources: Reuters (EcoWin), Eurostat and Norges Bank

Table 5 Main macroeconomic aggregates

	In billions of NOK	Percentage change (unless otherwise stated)				
			Projections			
	2006	2006	2007	2008	2009	2010
Real economy						
Mainland demand[1)]	1578	4.7	5¾	3¼	2	2¼
- Private consumption	874	4.4	6	3½	2	2¼
- Public consumption	418	3.3	3	2¾	.	.
- Fixed investment	286	8.0	8¾	3¼	.	.
Petroleum investment[2)]	95	4.4	7½	7½	7½	7½
Traditional exports	384	9.8	6½	4	.	.
Imports	610	8.2	7¾	4¾	.	.
GDP	2152	2.8	3¼	3¾	1¾	1¾
Mainland GDP	1563	4.6	5¼	2¾	1¾	2
Potential mainland GDP		3¼	3¾[3)]	3¼	3	2¾
Output gap, mainland Norway[4)]		1¼	2¾	2¼	1¼	¾
Labour market						
Employment, persons		3.1	3½	1¼	¼	0
Labour force, LFS		1.6	2¼	1¼	½	½
LFS unemployment (rate)		3.4	2½	2½	3	3½
Prices and wages						
CPI		2.3	¾	3¼	2¼	2½
CPI-ATE[5)]		1.0	1½	1¾	2¼	2½
Annual wage growth[6)]		4.3	5½	5¾	5¼	5
Interest rate and exchange rate						
Key policy rate (level)[7)]		2.7	4½	5¼	5¼	5
Import-weighted exchange rate (I-44)[8)]		92.4	90½	88¼	89½	90¾

1) Private and public consumption and mainland gross fixed investment
2) Extraction and pipeline transport.
3) See footnote page 30.
4) The output gap measures the percentage deviation between mainland GDP and projected potential GDP.
5) CPI-ATE: CPI adjusted for tax changes and excluding energy products. In addition, it is adjusted to take into account that the reduction in maximum day-care rates pushes down the rise in the CPI-ATE by an estimated 0.2 percentage point in 2006.
6) Annual wage growth is based on the Technical Reporting Committee on Income Settlements' definitions and calculations. Estimated costs related to the introduction of mandatory occupational pensions are included in the figures for 2006 and 2007.
7) The key policy rate is the interest rate on banks' deposits in Norges Bank.
8) Level. The weights are estimated on the basis of imports from 44 countries, which comprise 97% of total imports.

. No projections available

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

B-blad/Economique

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