NORGES BANK

Reports from the Central Bank of Norway No 5/2003

Inflation Report

3
03

October

The *Inflation Report* is published three times a year, and 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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The text is set in 11½ point Times

ISSN 1502-2730

Monetary policy in Norway

Objectives

The Government has defined an inflation target for monetary policy in Norway. The operational objective is an inflation rate of 2½% over time. 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. Norges Bank places particular emphasis on CPI inflation adjusted for tax changes and excluding energy products (CPI-ATE) when assessing underlying inflation.

Horizon and implementation

The effects of monetary policy occur with long and variable lags, and Norges Bank is forward-looking in interest rate setting. The key rate (the sight deposit rate) is set on the basis of an overall assessment of the inflation outlook, normally with a view to achieving an inflation rate of 2½% two years ahead. This time horizon also means that emphasis is placed on dampening fluctuations in the real economy. If extraordinary conditions prompt Norges Bank to apply a different time horizon than two years, the Bank will provide an assessment of this. The same applies if special emphasis is placed on developments in financial markets.

The decision-making process

The key interest rate is set by Norges Bank's Executive Board. Decisions concerning interest rates and other important changes in the use of instruments will normally be taken at the Executive Board's monetary policy meeting every sixth week. The analyses in Norges Bank's *Inflation Reports*, together with assessments of price and cost developments and conditions in the money and foreign exchange markets, form the basis for monetary policy decisions.

The assessment of the inflation outlook is presented in the *Inflation Report*, which is published three times a year, normally in February/March, June and October. The main content of the *Inflation Report* is presented to and discussed by the Executive Board before the report is published. The Central Bank Governor is the editor of the *Inflation Report*. On the basis of the analyses and discussion, the Executive Board assesses the consequences for the monetary policy strategy in the period to the next *Inflation Report*. These assessments are set out in a strategy document which is published at the end of the period.

Communication and reporting

The monetary policy decision is announced on the same day as the monetary policy meeting at 2pm. The Bank gives a press conference at 2.45pm on the same day, also when interest rates are left unchanged. The press release and the press conference are available on http://www.norges-bank.no.

The *Inflation Report* discusses monetary policy in the preceding four-month period. In addition, Norges Bank reports on the conduct of monetary policy in its *Annual Report*. The Bank's reporting obligation is set out in §75c of the Constitution, which stipulates that the Storting shall supervise Norway's monetary system, and in §3[1] of the Central 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). As from autumn 2003, there will be an annual open hearing in the Standing Committee on Finance and Economic affairs in connection with the Storting deliberation on the Credit Report.

[1] A new fourth paragraph is expected to come into force in the near future.

Inflation Report 3/2003

The cut-off date for the Inflation Report was 23 October 2003

Editorial

Inflation will move up

In recent months, inflation has been substantially lower than the inflation target laid down by the Government for monetary policy. The key rate has been reduced markedly, but monetary policy affects the economy with a lag. This *Report* presents analyses of economic developments in the period up to 2006. The analyses in this *Report* thereby provide a basis for assessing developments in inflation, output and employment over a longer horizon.

The interest rate is now low as warranted by the situation in the Norwegian economy. It is also lower than what would be expected to be a normal situation over time. This *Report* is based on the technical assumption that the interest rate will move in line with expectations in financial and foreign exchange markets, implying that the interest rate will remain at the current level well into 2004. Thereafter, the interest rate in Norway is assumed to rise gradually in pace with interest rates in other countries. The forward exchange rate implies a moderate depreciation of the krone through the projection period. According to the analysis in this *Report*, inflation will move back to target in the autumn of 2005 and stabilise at this level.

The monetary policy easing that has been implemented implies that inflation will increase gradually and be considerably higher than the current level as early as next spring. After a period of very low inflation as we have now witnessed, it is appropriate to be particularly vigilant in monetary policy in the event that inflation does not increase as projected. The aim of monetary policy in the period ahead is higher inflation.

Jarle Bergo
27 October 2003

Summary

Economic growth has picked up in the US and a number of Asian countries. In the euro area, growth is low, but there are now signs that the trough may have been reached. However, the global economy appears to be vulnerable to new disturbances.

In Norway, capacity utilisation in the mainland economy has fallen and is now at the level recorded in 1995-1997 before cost inflation accelerated. The output gap, as estimated here, has closed again (see Chart 1). At the same time, wage growth has moderated to a more sustainable level.

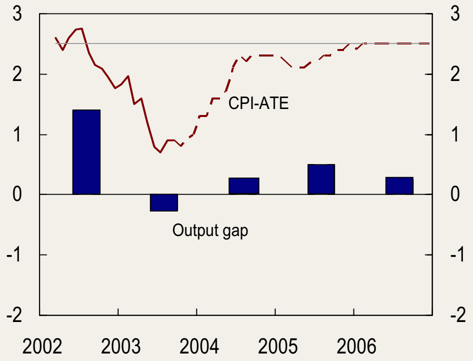
The key rate has been reduced since the June *Inflation Report* and the real interest rate is now low. The krone has reverted to the level prevailing in the mid-1990s. Monetary policy is stimulating growth in the Norwegian economy.

Preliminary figures indicate that total mainland output increased in the second quarter. Growth in private consumption is robust and households are more optimistic than earlier this year. Strong income growth, a subdued rise in prices for consumer goods and lower interest rates point to high growth in household consumption in the period ahead. The fall in employment seems to have moderated. Business surveys and reports from Norges Bank's regional network indicate that activity is still low in many business sectors, but that optimism about future prospects has improved somewhat.

It may take time for higher demand and production to have a substantial impact on employment and investment. The business sector is still feeling the effects of the sharp rise in labour costs over several years. At the same time, there is still excess capacity in a number of industries. A rise in demand can probably be accommodated to some extent using existing capacity in enterprises. After a period, however, higher demand is likely to lead to renewed growth in employment and investment. In the public sector, lower wage growth may also create scope for higher employment since a smaller share of growth in expenditure will be used to cover higher wages.

In this report, the projections are based on the assumption that interest rates shadow forward interest rates and that the krone moves in line with the forward exchange rate. Forward rates imply that short-term money market rates will remain fairly low over the next year. Looking further ahead, interest rates are assumed to show a gradual rise, broadly in tandem with the rise in interest rates among our trading partners. The assumptions imply that short-term money market rates, which are normally somewhat higher

Chart 1 Projections for the CPI-ATE and the output gap[1]. Per cent



[1] The output gap is a measure of the difference between actual and trend output. See box in IR 1/03.

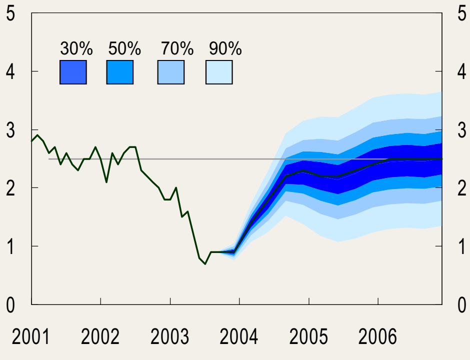
Sources: Statistics Norway and Norges Bank

than the sight deposit rate, remain at around 3% up to mid-2004, moving up to 3¾% towards the end of the year. Two years ahead towards the end of 2005, the forward rate is 4½%.

The krone is assumed to move in line with the forward exchange rate, reflecting movements in the interest rate differential between Norway and other countries. This implies a moderate weakening of the krone during the projection period. At the end of 2005, the krone is expected to be around 1% weaker than the average for the past three months.

The underlying rise in prices is low and will remain low for a period ahead (see Chart 1). The assumed path for the interest rate and the exchange rate implies that inflation will gradually return to the inflation target of 2½%. The interest rate cuts have narrowed the interest rate differential between Norway and other countries. As measured by the import-weighted index (I-44), the krone has depreciated by 9% since the beginning of 2003. Inflation is expected to increase as a result of the krone depreciation.

Chart 2 Projections and uncertainty for the CPI-ATE. 12-month rise. Per cent



The bands in the fan indicate different probabilities for the CPI-ATE.

Sources: Statistics Norway and Norges Bank

Higher activity growth in the Norwegian economy will also gradually exert upward pressure on inflation. The monetary policy easing will initially stimulate private consumption, which will lead to higher activity in industries that supply goods and services to households. When global demand picks up and excess capacity in service industries is reduced to a sufficient extent, demand for labour may rise in other sectors of the economy. Unemployment is projected to edge down again.

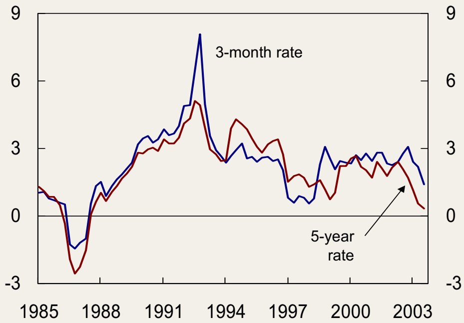
External inflationary impulses are expected to pick up in line with the projected upswing in the global economy. Higher activity in the Norwegian economy and a further fall in the value of the krone will also contribute to bringing inflation back to target at the two-year horizon. There are prospects that inflation will thereafter be in line with the inflation target (see Chart 2).

1 | Recent developments

1.1 The economic situation

Growth in the Norwegian economy came to a halt last winter. Underlying inflation is low. Norges Bank's key policy rate has been reduced by a total of 4.5 basis points since December 2002. Real interest rates are low by historical standards (see Chart 1.1). The interest rate differential against other countries has narrowed substantially, and the krone has depreciated by about 9% so far this year. There are now emerging signs that the monetary policy stimulus is feeding through, and that activity in the Norwegian economy is picking up.

Chart 1.1 Real interest rate after tax.[1)]
1985 Q1 – 2003 Q3.

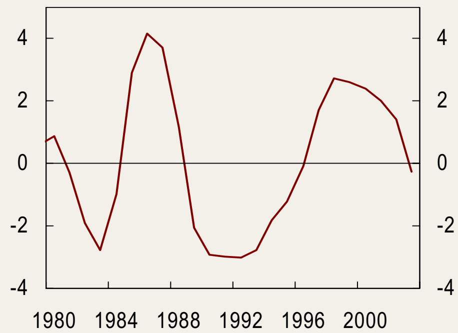


[1)] 3-month money market rates deflated by the CPI excluding energy products up to 1995, Norges Bank's estimates for the CPI adjusted for tax changes and excluding energy products from June 1995 to July 2000, then the CPI-ATE. The same deflator is used for 5-year government bond yields, but from 2001 Q2 the inflation target of 2.5% is used.

Sources: Statistics Norway and Norges Bank

Capacity utilisation in the mainland economy has fallen and is now at the level prevailing in 1995-1997 before cost inflation accelerated. The output gap, as estimated here, has fallen from a positive level in 2002, and appears to be closing this year (see Chart 1.2). Indicators of pressures in the real economy are discussed in a box on page 47.

Chart 1.2 The output gap.
Percentage deviation from trend GDP.
Annual figures. 1980-2003.[1)]

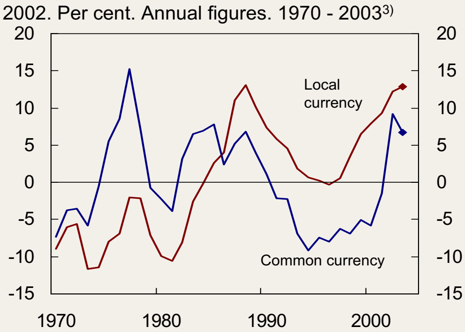


[1)] GDP figures for 2003 are based on estimates.

Source: Norges Bank

Internationally, the recovery is underway in the US and some Asian economies. Financial market volatility indicates, however, that market participants remain uncertain as to the sustainability of the recovery. Owing to low growth in Europe, growth for our trading partners as a whole remains weak. The global downturn that started in 2000 spilled over into the Norwegian economy through the fall in equity markets, and led to extensive restructuring in service industries. At the same time, our export markets have shown sluggish growth and prices for many of our export goods have been low. High wage growth over several years has eroded business sector competitiveness. The effects of high wage growth on export industries were amplified by the appreciation of the krone. The krone has now reverted to around the level prevailing in the mid-1990s, while labour costs in the manufacturing sector have increased by almost 15% more than among our trading partners in the same period (see Chart 1.3). The deterioration in competitiveness has weakened the prospects for renewed growth in Norwegian manufacturing ahead.

Chart 1.3 Relative labour costs[1)]: Norway and trading partners[2)]. Deviation from average 1970 - 2002. Per cent. Annual figures. 1970 - 2003[3)]



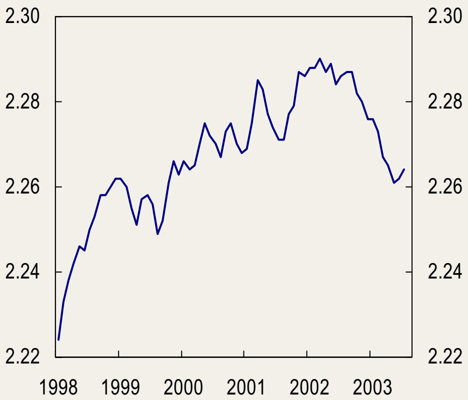
[1)] Hourly labour costs in manufacturing
[2)] Estimates for 2003. For relative labour costs in common currency, the projection for 2003 is based on a continuation of the average exchange rate in October (at 23 October) for the remainder of the year.
[3)] Wage growth for 2003 is based on projections.

Sources: TRCIS, Ministry of Finance and Norges Bank

Sharp growth in labour costs and intensified competition in many industries have compelled many businesses to cut costs. As a result, many companies and public entities have scaled back investment activity and reduced their workforces. Unemployment has increased.

The counterpart to low profitability in the business sector is the strong growth in purchasing power among households that have not been affected by the rise in unemployment. Private consumption has exhibited brisk growth.

Chart 1.4 Employed persons according to the LFS. In millions, Jan 98 – Jul 03. Seasonally adjusted



Source: Statistics Norway

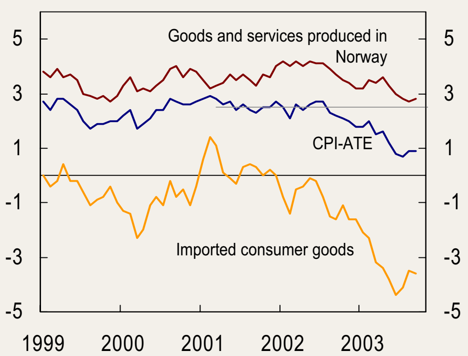
In the central government budget for 2004, the Government proposes a 5.4% increase in public spending, which is somewhat higher than projected trend growth in the value of mainland GDP. The tax level remains virtually unchanged in real terms. The growth estimate for public consumption in 2003 has been revised upwards. For 2003 and 2004 as a whole, fiscal policy will probably generate some stimulus to activity in the Norwegian economy.

Recent developments would suggest that growth in the Norwegian economy is picking up. Provisional figures indicate that total mainland output increased in the second quarter, after falling last winter. Private consumption is showing solid growth, and households are far more optimistic than earlier this year. Strong income growth, subdued consumer price inflation and lower interest rates point to strong growth in household consumption in the period ahead. House prices have edged up in recent months. The decline in employment appears to have moderated (see Chart 1.4). Business surveys and reports from Norges Bank's regional network indicate that activity is still low in many business sectors, but that optimism about future prospects has improved somewhat. The cost cuts that have been implemented in many businesses seem to be having a positive impact on profitability. In conjunction with the prospects for lower wage growth this year and in the years ahead, this should improve the basis for renewed growth in the Norwegian economy.

1.2 Consumer price inflation

Underlying price inflation is low. The consumer price index adjusted for tax changes and excluding energy products (CPI-ATE) has fallen gradually since the summer of last year. Annualised CPI-ATE inflation fell to 0.7% in July, rising to 0.9% in August and September. Inflation has been somewhat lower than projected in the June *Inflation Report*.

Chart 1.5 CPI-ATE. Total[1)] and by supplier sector.[2)] 12-month rise. Per cent. Jan 99. - Sept 03



[1)] Norges Bank's estimates up to and including July 2000, thereafter figures published by Statistics Norway

[2)] Norges Bank's estimates

Sources: Statistics Norway and Norges Bank

Low external inflation and the krone appreciation up to January 2003 have led to falling prices for imported consumer goods. The fall in prices for imported consumer goods is the main source of downward pressure on prices (see Chart 1.5). Prices for domestically produced goods and services have also increased at a slower rate in recent months.

Prices for imported consumer goods fall at a slower pace

Prices for imported consumer goods in the CPI have fallen since the beginning of 2002. The price fall accelerated gradually up to July, when prices were 4.5% lower than in the same month one year earlier. In the past two months, the year-on-year price fall has been about 3.5%. The rise in prices for imported consumer goods is expected to pick up further during the autumn and winter as the price effects of the krone appreciation up to January 2003 gradually unwind.

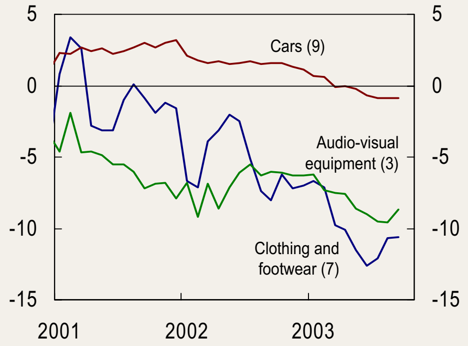
The fall in prices for imported consumer goods is not solely attributable to exchange rate developments. Clothing prices have exhibited a falling trend over the past few years (see Chart 1.6). In September, clothing prices were 12.3% lower than in the same month one year earlier, and almost 30% lower than in 1995. In addition to low external price inflation for these goods, lower tariffs for clothing have translated into lower consumer prices. The removal of quota regulations has also led to shift in clothing imports away from high-cost countries to countries with considerably lower production costs. The same trend has been observed for the audiovisual industry. International producers have moved production to low-cost countries, allowing them to reduce prices charged to Norwegian importers. In addition, technological advances and intensified international competition have exerted downward pressure on prices. Since the mid-1990s, prices for audiovisual equipment have fallen markedly (see Chart 1.7). In September, prices for these goods were 8.7% lower than one year earlier.

Cars account for about a third of imported consumer goods. The rise in car prices slowed, but remained positive throughout the period when the krone appreciated. During spring and summer, prices edged down, and in September car prices were 0.9% lower than in the same month of the preceding year. Earlier this year, car prices were expected to continue to fall as a result of the appreciation of the krone. However, it is possible that the planned price cuts have not been implemented because of the krone depreciation this year. Private car imports increased sharply last year, but have fallen somewhat after the krone depreciated this year. Lower private car imports imply an easing of the pressures on Norwegian dealers to reduce prices.

Lower domestic inflation

Weak external inflationary impulses have also curbed the rise in prices for a number of domestically produced goods (see Chart 1.8). Goods that are influenced by world market prices either as a result of strong foreign competition or a large import content, have exerted downward pressure on domestic price inflation. As a result of the strong krone last year and intense competition, lower input costs for Norwegian producers have probably translated into lower retail price inflation. The rise in prices for domestically produced goods that are not exposed to international competition has largely remained unchanged.

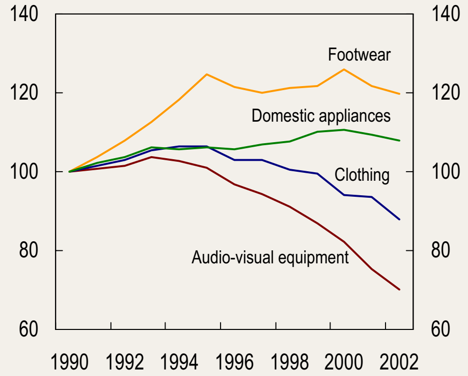
Chart 1.6 Prices for some imported consumer goods adjusted for tax changes. 12-month rise. Per cent. Jan 01 - Sept 03.



Percentage share of CPI-ATE in brackets

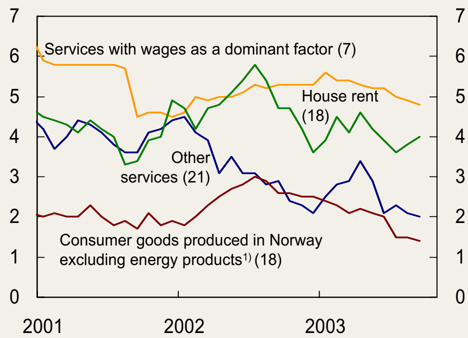
Sources: Statistics Norway and Norges Bank

Chart 1.7 Prices for some imported consumer goods adjusted for tax changes. Index. 1990=100. Annual figures. 1990 - 2002.



Sources: Statistics Norway and Norges Bank

Chart 1.8 Goods and services produced in Norway in the CPI-ATE. 12-month rise. Per cent. Jan 01 - Sept 03.



[1)] Excluding agricultural and fish products

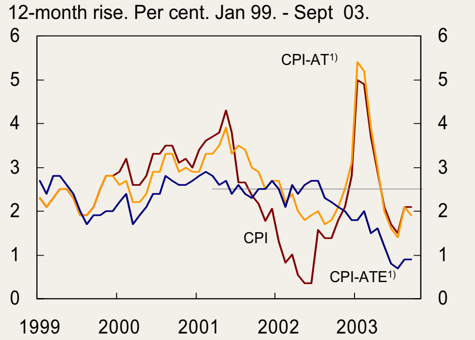
Percentage share of CPI-ATE in brackets

Sources: Statistics Norway and Norges Bank

The rise in house rents has edged down in recent months, but is still exerting upward pressures on domestic price inflation. The fall in interest rates this year may, in isolation, curb the rise in house rents in the short term, but this direct effect is likely to be marginal. The impact of the interest rate on house rents is discussed further in a box on page 39.

After edging up in the first six months of the year, the rise in prices for services where cost factors other than wages are dominant has slowed fairly markedly in recent months. The movements in the krone also appear to have had an impact on this component. In the CPI, prices for charter trips are only measured in June each year. In June 2003, prices for charter trips showed a fall. Charter agencies have probably purchased and priced these trips in the period when the krone was strong. The slower rise in prices for this services component may also reflect the reduction in fees for day care places. On the other hand, prices for insurance services have risen by more than 9% over the last year.

Chart 1.9 Consumer prices. Total and adjusted for tax changes and excluding energy products. 12-month rise. Per cent. Jan 99. - Sept 03.

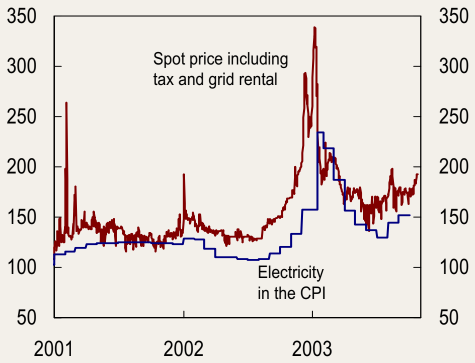


CPI-AT: CPI adjusted for tax changes
CPI-ATE: CPI adjusted for tax changes and excluding energy products

[1] Norges Bank's estimates up to and including July 2000, thereafter figures published by Statistics Norway

Sources: Statistics Norway and Norges Bank

Chart 1.10 Electricity prices. Index. 1 January 1998=100



Sources: Statistics Norway, Nordpool, the Norwegian Water Resources and Energy Directorate and Norges Bank

The rise in prices for services with wages as a dominant cost factor has edged down, but remains high. The annual rate of increase in prices for craftsmen services has remained stable at 4.7% over the past year, but fell to 3.9% in August. The rise in prices for hair and beauty care has also weakened in recent months from a rate of increase of 5% over a longer period. The rise in prices for non-institutional health services has remained high, however, at about 6%.

Higher electricity prices exert upward pressure on CPI

The sharp rise in electricity prices at the turn of the year pushed up annual CPI inflation appreciably, i.e. the consumer price index including taxes and energy products (CPI), (see Chart 1.9). Electricity prices have fallen fairly markedly since winter (see Chart 1.10). Annualised, the rise in electricity prices slowed gradually to about 20% in July, rising again to more than 30% in August and September. Water reservoir levels are still below the normal level of recent years.

Petrol prices followed the decline in oil prices through the spring of this year, but edged up in the summer. In September, petrol prices fell again to a level slightly higher than that observed in September of last year.

Annual CPI inflation was 2.1% in September. The path for electricity prices implies that CPI inflation will be higher than CPI-ATE inflation to the end of the year. Electricity prices are not expected to be as high in January 2004 as in January 2003. As a result, electricity prices will push down CPI inflation at the beginning of 2004.

1.3 Financial markets

Since the summer, international financial market developments have reflected growing optimism concerning the growth outlook. Equity prices and long-term interest rates have increased, but the increase has been uneven and there have been wide fluctuations between major currencies. This may be a reflection of the uncertainty surrounding the resilience of the global economic recovery.

In the months leading up to the summer, security policy concerns and the uncertainty surrounding the international economic outlook resulted in a fall in long-term interest rate to historically low levels. The fall in long-term interest rates was also triggered by statements issued by the Federal Reserve indicating that interest rates may remain low for a considerable period as a safeguard against a small, but genuine risk of deflation. In recent months, major central banks have left their key policy rate unchanged. Somewhat improved optimism concerning global economic prospects has led to some increase in long-term interest rates.

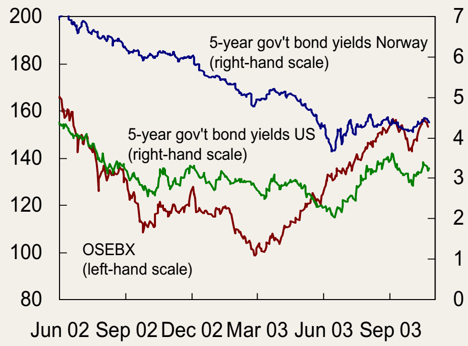
In Norway, long-term interest rates have largely shadowed international developments (see Chart 1.11). Even though interest rates have edged up from their lowest level in June, they are low by historical standards also in Norway.

Since the beginning of March, equity prices have advanced between 30% and 40% in the US, the euro area and in the UK. The rise in equity prices came to a temporary halt in September, probably reflecting the weak labour market in the US and concerns that equity prices had risen more than warranted by corporate profits. Employment growth from September and the positive corporate results reported in the third quarter led to renewed stock market advances in October. On the Oslo Stock Exchange, share prices have risen by 48% since the beginning of March.

Market interest rates indicate that it will take time before international key policy rates are raised from the unusually low levels prevailing at present. Both in the US and in the euro area, interest rates are expected to increase in mid-2004 at the earliest. In the UK, however, there are expectations that the key rate may be raised by ¼ percentage point in December 2003. From today's level, an increase in the key rate of 1½ percentage points has been priced into the market in the UK, 1¼ percentage points in the US and ¾ percentage point in the euro area by the end of 2004.

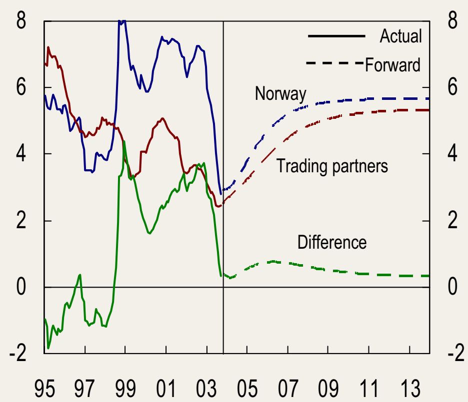
Interest rate expectations in Norway are reflected in forward rates in the money and bond markets and in FRAs. Forward interest rates indicate market expectations of unchanged short-term money market rates up to mid-2004. Interest rates are then expected to edge up (see Chart 1.12). Forward rates imply expectations of a sight deposit rate of about 3½% at the end of 2004. A comparable increase is

Chart 1.11 Movements in the Oslo Stock Exchange OSEBX index, 5-year government bond yields in Norway and the US. Daily figures. 1 Jun 02 - 23 Oct 03



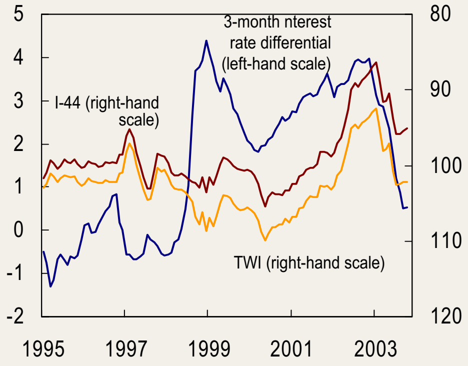
Sources: EcoWin and Norges Bank

Chart 1.12 Three-month money market rates and forward rates. Monthly figures, 1995-2013.



Source: Norges Bank

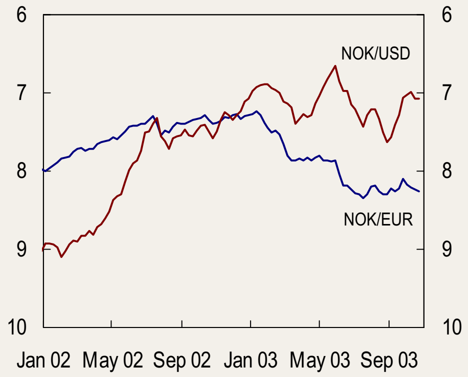
Chart 1.13 Import-weighted exchange rate (I-44), trade-weighted exchange rate index[1)] and interest rate differential against other countries. Jan 95 - 23 Oct 03.



[1)]A risng curve denotes an appreciation of the krone

Source: Norges Bank

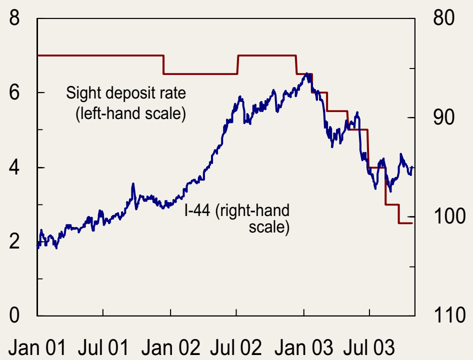
Chart 1.14 The krone exchange rate against EUR and USD[1)]. Weekly figures. 12 Jan 02 - 23 Oct 03



[1)]A risng curve denotes an appreciation of the krone

Source: Norges Bank

Chart 1.15 Import-weighted exchange rate (I-44)[1)] and sight deposit rate. Daily figures. 2 Jan 01 - 23 Oct 03



[1)]A risng curve denotes an appreciation of the krone

Source: Norges Bank

expected among Norway's main trading partners, implying that the interest rate differential will remain fairly stable in the period ahead.

Major currencies have fluctuated widely in recent months. Up to the beginning of September, the US dollar appreciated in response to signs of higher growth in the US economy. This movement was reversed in the wake of the G7 meeting in Dubai in September. In a communiqué, the G7 countries stated that exchange rates should reflect economic fundamentals and called for more flexibility in exchange rates. Market participants' interpretation of the communiqué has led to a depreciation of the US dollar, and appreciation pressures on the Japanese yen and other Asian currencies. Since the beginning of September, the effective euro exchange rate index has also appreciated.

Since the beginning of the year, the import-weighted krone exchange rate index (I-44) has depreciated by about 9%. The weakening must be seen in connection with a considerable narrowing of the interest rate differential between Norway and other countries as a result of the interest rate reductions in Norway (see Chart 1.13). The narrowing of the interest rate differential has made it less attractive to hold NOK in relation to other currencies.

There have been considerable variations between the Norwegian krone and the US dollar since the June *Inflation Report* was published. From end-August to end-October, the value of the dollar fell by 8% to around NOK 7 (see Chart 1.14). The krone has been more stable against the euro, hovering around 8.20. The krone has also remained fairly steady against the Swedish krona recently, while the krone has varied somewhat more against the pound sterling.

Since the publication of the June *Inflation Report*, the import-weighted krone exchange rate index has varied between 93.6 and 97.4. The interest rate change at the end of June was broadly expected, and the impact on the exchange rate was therefore limited (see Chart 1.15). After the interest rate reduction of 1 percentage point in August, the krone depreciated further, but the interest rate cut in September was not followed by a weakening of the krone. The reason for this may be that market participants did not expect further interest rate cuts. The sharp movements in international exchange rates may also have reduced the focus on the Norwegian krone. Forecasts from macroeconomic analysts indicate that the krone will be relatively stable ahead. Forward rates imply a somewhat weaker krone.

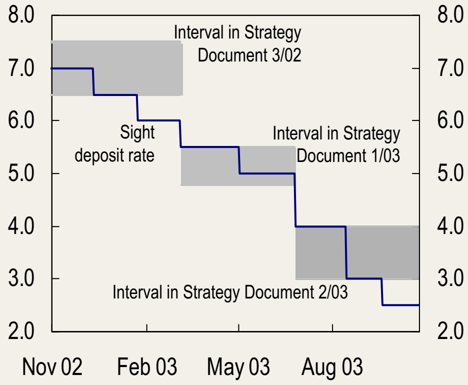
1.4 Monetary policy

Since December 2002, Norges Bank's key policy rate has been lowered by 4.5 percentage points. The interest rate cuts must be seen in connection with the change in the inflation outlook, which has occurred partly as a result of weaker global economic developments and low international interest rates, and partly as a result of a change in the outlook for wage growth in Norway. Global developments, with a number of adverse events such as the stock market decline up to March, the war in Iraq and SARS, have spilled over into some sectors of the Norwegian economy. At the same time, falling international interest rates led to an appreciation of the krone up to January 2003. The Norwegian business sector has felt the effects of the high Norwegian cost level and the strong krone.

Weaker developments both abroad and at home have had an impact on the Norwegian labour market. Unemployment has edged up. With moderate pay increases in this year's wage settlements, the prospects for wage growth falling to a more sustainable level have been an important factor behind the considerable easing of monetary policy. Underlying inflation is likely to be lower than the inflation target for a period ahead. The key rate has been reduced with a view to bringing inflation back to target at the two-year horizon.

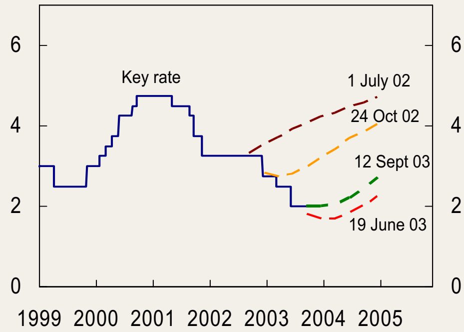
Since the June *Inflation Report*, Norges Bank has reduced its key rate on three occasions by a total of 2.5 percentage points. The sight deposit rate now stands at 2.5%. The decisions to reduce the key rate were based on the analyses in *Inflation Report 2/03* published on 25 June. The analyses in the Report indicated that there were prospects of low underlying inflation for a period ahead. The wage growth projections were revised downwards for both 2003 and 2004. With a sight deposit rate of 4% and a constant exchange rate, there were prospects that inflation would run below target over the projection period. The output gap was projected to remain negative to end-2005. Two scenarios with different interest rate, exchange rate and wage growth assumptions were also presented. Market participants expected that the interest rate would be reduced to 3% fairly rapidly. The calculations showed that inflation could then reach target in the course of 2005, depending on the path for wage growth. The output gap was projected to remain around zero this year and next, and turn marginally positive in 2005. Against the background of these two scenarios, a monetary policy strategy was drawn up for the period between June and October. The Executive Board deemed that a sight deposit rate between 3-4% would be appropriate at the end of October 2003 (see Chart 1.16). However, the interval was contingent on exchange rate developments and the projections for economic developments. The scenario with a fall in interest rates in other countries and low consumer price inflation might warrant

Chart 1.16 Strategy intervals for the sight deposit rate and actual developments. Nov 02 - Oct 03



Source: Norges Bank

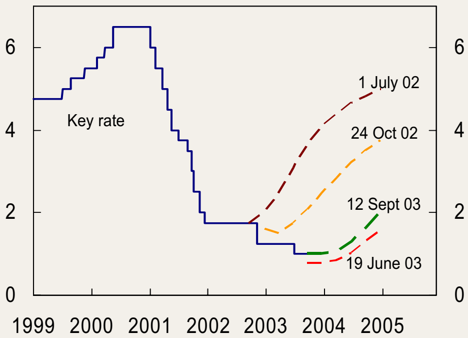
Chart 1.17 Interest rate expectations in the euro area. Actual developments and expected key rate[1]. Daily figures



[1] Based on Euribor futures adjusted for the estimated spread between 3-month Euribor and Refi rates

Source: Norges Bank

Chart 1.18 Interest rate expectations in the US. Actual developments and expected key rate[1]. Daily figures



[1] Based on Fed Funds futures and Eurodollar futures adjusted for the estimated spread between 3-month Libor and Fed Funds rates

Source: Norges Bank

an even lower interest rate (see Strategy Document 2/03 in Annex II for further discussion).

At its meeting of 25 June, Norges Bank's Executive Board decided to reduce the sight deposit rate by 1 percentage point to 4.0%. With an interest rate of 4.0%, Norges Bank's assessment was that the probability that inflation two years ahead would be lower than 2½% was greater than the probability that it would be higher. In the course of June, money market rates fell and the krone depreciated markedly. Key policy rates had been lowered in several countries, including the euro area (see Chart 1.17). At the same time, there were few signs that the easing of monetary policy in Norway had started feeding through to demand and output.

At its meeting of 13 August, Norges Bank's Executive Board decided to reduce the sight deposit rate by 1 percentage point to 3.0%. This decision was in line with Strategy Document 2/03. Norges Bank's assessment remained unchanged, i.e. the probability that inflation two years ahead would be lower than 2½% was greater than the probability that it would be higher. In July and August, developments in the Norwegian and international economy were broadly in line with the projections in the June *Inflation Report*. The krone had depreciated more than assumed in the June Report. However, consumer price inflation was lower than projected. Annual CPI-ATE inflation was 0.7% in July. At the same time, inflation was low in other countries. Since the previous monetary policy meeting, the key rate had been lowered by 0.25 percentage point in the US, Canada, New Zealand, the UK and Sweden.

At its meeting of 17 September, Norges Bank's Executive Board reduced the sight deposit rate by 0.5 percentage point to 2.5%. It was Norges Bank's assessment that with an interest rate of 2.5%, the probability that inflation two years ahead would be higher than 2½% was the same as the probability that it would be lower. In line with the assessment in Strategy Document 2/03, developments over the summer, with a reduction in interest rates in other countries and low consumer price inflation, might warrant a somewhat lower interest rate than 3%.

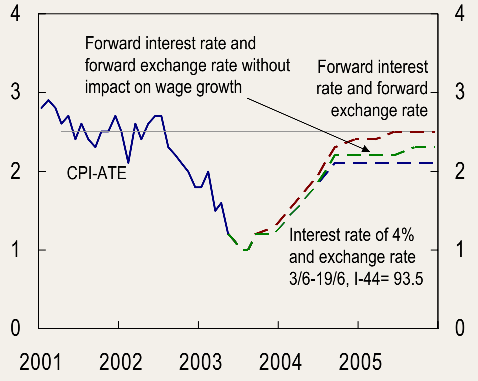
Underlying inflation had been considerably lower than the inflation target in the period preceding the interest rate reduction. Without a pronounced easing of monetary policy, inflation might be too low for an extended period. This might in turn lead to expectations of continued very low inflation. The interest rate cuts were important to prevent inflation expectations from becoming entrenched at a level that is too low.

At the same time, interest rates abroad were reduced further during the summer months. This moderated the effects of the monetary policy easing in Norway on the krone and inflation. International developments implied that external inflation would remain low. There were no signs of an imminent rise in interest rates in other countries.

The outcome of this year's wage settlement suggested more moderate wage settlements ahead than in the period 1998 to 2002, and wage growth closer in line with the inflation target. The projections in the June *Inflation Report* showed that a sight deposit rate of around 3%, combined with a somewhat weaker krone, could bring inflation up to target at the two-year horizon (see Chart 1.19). Prospects for more moderate wage growth than assumed in the previous Report might provide a basis for an even lower interest rate without inflation projections exceeding 2.5% during the period.

The feed-through from the monetary policy easing gradually came into evidence. The national accounts for the second quarter showed a slight pick-up in the mainland economy. The consumer confidence indicator showed greater household optimism in the third quarter. House prices showed a small rise. According to Norges Bank's regional network, there were also some signs of improvement in the business sector in August- September. However, many businesses reported investment plans that would contribute to rationalisation. The labour market outlook also implied that wage growth would be moderate.

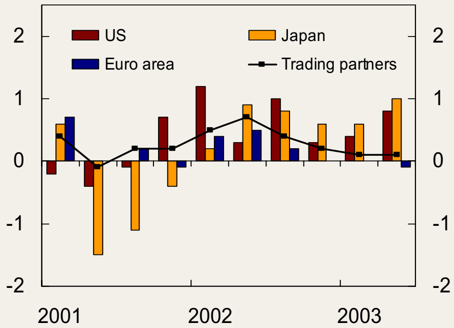
Chart 1.19 Projections for CPI-ATE in IR 2/03 based on different interest rate and exchange rate assumptions. 12-month rise. Per cent



Sources: Statistics Norway and Norges Bank

2 | International developments

Chart 2.1 GDP growth in the US, Japan, the euro area and among Norway's trading partners combined. Quarterly growth. Per cent. Seasonally adjusted



Sources: EcoWin, US Department of Commerce, ESRI (JP), EURO-OP/ Eurostat and Norges Bank

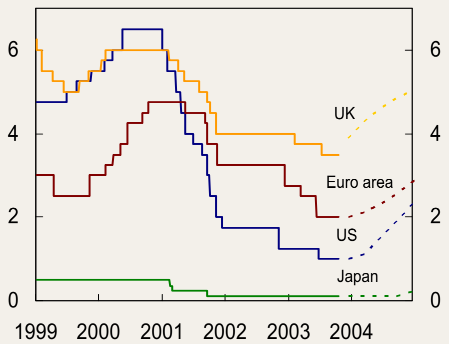
Table 2.1 GDP projections.
Percentage change from previous year.

	2003	2004	2005	2006
US	2¾	3½	3¼	3¼
Japan	2½	1¼	1¼	1¼
Germany	0	1¼	2¼	2¼
France	¼	1½	2½	2½
UK	2	2½	2½	2½
Sweden	1½	2½	2½	2¼
Norway's trading partners[1]	1¼	2¼	2¾	2½
Euro area[2]	½	1½	2½	2½

[1] Export weightings
[2] Weights from Eurostat

Source: Norges Bank

Chart 2.2 Historical and expected key rates as at 23 October 2003[1] Daily figures



[1] See further details on calculation of interest rate expectations in Charts 1.17 and 1.18

Sources: EcoWin, Bloomberg, Bank of England, Bank of Japan and Norges Bank

Activity in the global economy has picked up from the low level prevailing last winter, primarily reflecting high growth in the US and some Asian economies, including Japan, (see Chart 2.1). In the euro area, developments have been considerably weaker, even though there are now signs that the trough has been reached. Growth among Norway's trading partners as a whole is expected to strengthen over the next two years, reaching a more normal level (see Table 2.1). This is broadly in line with previous projections, although with some adjustments to the distribution of growth across countries, with higher growth expected in the US and Japan and weaker growth in the euro area. There will probably be excess production capacity among our trading partners as a whole over the projection period, but the level of excess capacity is expected to edge down in 2005 and 2006. Inflation is projected to be subdued and key policy rates are expected to remain low for a period ahead (see Chart 2.2).

The world economy appears to be vulnerable to new disturbances. The main downward risk is the substantial imbalances that have accumulated in the US economy, both in the private and public sectors (see box on page 43). The US recovery is primarily being driven by the considerable easing of fiscal and monetary policy. It is uncertain whether growth will be self-sustainable as the effects of the expansionary measures start to wane. In addition, production and employment in the industrial countries are feeling the effects of the steady transfer of world industrial production to low-cost countries. In an environment of low and unstable global growth, oil prices also constitute a considerable risk.

The upturn in the US economy has led to higher long-term interest rates and a rebound in equity prices. Market interest rate expectations for the coming year have been revised upwards somewhat, both in the US and the euro area. The US dollar effective exchange rate index has depreciated by about 6% since August. The increase in long-term interest rates and equity prices has been uneven, however, and there have been wide fluctuations between major currencies in recent months. This may reflect some uncertainty in financial markets as to the sustainability of the global economic recovery. On the other hand, bond yields for US companies with a low credit rating have fallen more than government bond yields (see Chart 2.3). This may indicate reduced uncertainty among market participants.

Fiscal and monetary stimulus fuels stronger growth in the US

GDP growth in the US picked up markedly between the first and second quarter of 2003. Growth was primarily driven by private consumption, investment and public consumption, while net exports and inventories detracted from growth. Public consumption was, however, influenced by a boost in government national defence spending. Businesses seem to have improved their financial situation somewhat as a result of substantial cost cuts during the downturn. Both output and new orders have picked up. The fall in investment seems to have come to a halt. Capacity utilisation remains low, however.

Employment in the US has fallen since 2001 (see Chart 2.4). Employment growth has been weaker than during previous recoveries in the US economy. Household demand has nevertheless remained robust, supported by tax cuts and mortgage refinancing at lower interest rates.

The US economy is expected to continue to expand, fuelled by low interest rates, a weaker dollar and strong underlying productivity growth. Household real disposable income is growing as a result of tax reductions and lower inflation, but is being restrained by the decline in employment. Looking ahead, the impetus from fiscal policy will probably start to fade.

Weak growth in the euro area, but signs of improvement

Euro area GDP declined in the second quarter. Growth in domestic demand is weak. Investment has declined since 2001. Euro area business surveys show few signs of optimism in the business sector and do not point to an upswing in demand for capital goods in the near term.

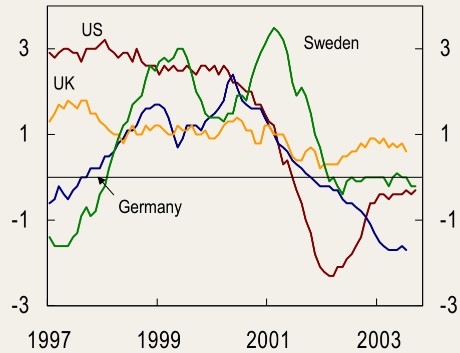
Private consumption and net exports have been the main driving forces behind growth in the euro area in recent years. Net exports have declined over the past three quarters. Private consumption growth has slowed. Consumer confidence indicators have improved somewhat in recent months, but households are still very pessimistic as to the current economic situation and the prospects ahead, primarily reflecting weak labour market developments. Unemployment is high and employment has fallen. Wage growth has moderated.

Various short-term economic indicators point to moderate growth in the euro area in the latter half of the year. Stronger growth in the US and Asia is expected to boost exports. Private consumption is being stimulated by tax cuts, low interest rates and falling inflation. On the other

Chart 2.3 Yield spread between bonds from US enterprises with a low credit rating and US government bonds. Daily figures. Percentage points

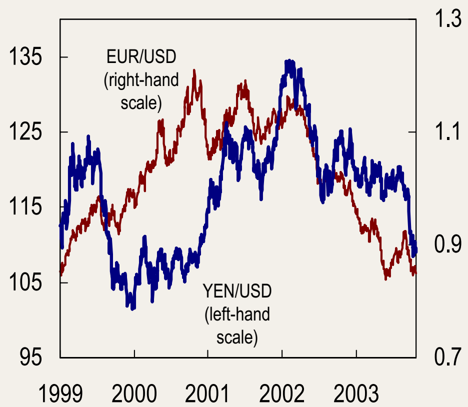
Sources: Standard & Poor's and EcoWin

Chart 2.4 Employment. 12-month growth. Per cent. Jan 97. - Sept 03. Seasonally adjusted.



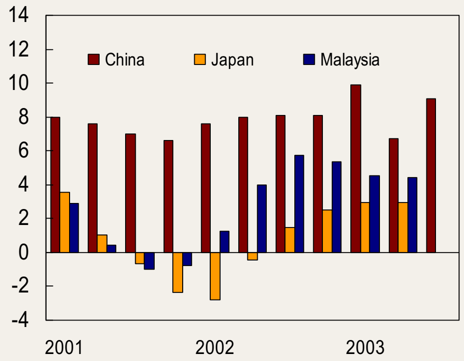
Sources: EcoWin, Bureau of Labor Statistics (US), Federal Statistical Office (DE), ONS (UK) and SCB (S)

Chart 2.5 Exchange rates. Euro per USD and yen per USD. Daily figures. 1 Jan 99 - 23. Oct 03



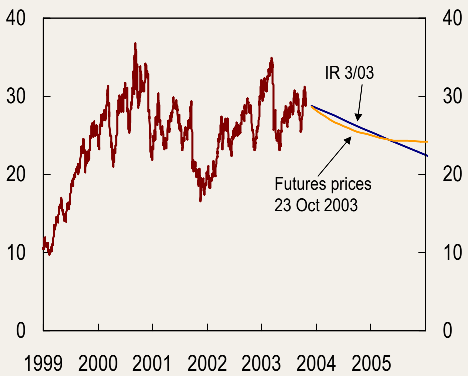
Source: EcoWin

Chart 2.6 GDP growth in China, Malaysia and Japan. Growth on same quarter previous year. Per cent



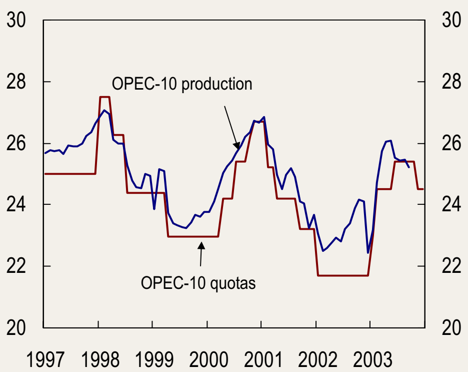
Sources: EcoWin, National Bureau of Statistics (China), ESRI (JP), Bank Negara (MAL) and Consensus Economics

Chart 2.7 Oil price Brent Blend. USD per barrel. Daily figures. 1999 - 2006.



Sources: Telerate, International Petroleum Exchange and Norges Bank

Chart 2.8 OPEC-10[1)] production and quotas. Million barrels per day. Monthly figures. Jan 97 - Dec 03



[1)] OPEC except Iraq

Source: International Energy Agency

hand, the decline in employment is having a negative impact on consumption growth. Since 2002, the euro effective exchange rate index has appreciated and the euro has also strengthened against the US dollar (see Chart 2.5). This may hamper export growth. At the same time, the euro appreciation is expected to boost import growth next year, following three years of very weak growth.

The EU countries outside the euro area, the UK, Sweden and Denmark, have also been affected by the global economic slowdown. However, these economies have performed considerably better than the euro area, and there are signs of a pick-up in activity, particularly in the UK. In all three countries, private sector demand has been the main driving force behind growth.

Rebound in Asia

The negative economic effects of SARS are waning. At the same time, global demand has picked up. Several Asian central banks have recently intervened in the exchange market to prevent their currencies from appreciating, with a view to sustaining export growth. The Asian central banks are now holding about a fifth of outstanding US government bonds.

Growth is strongest in China (see Chart 2.6). There are also signs of an upswing in Japan, Malaysia and Thailand. The largest share of foreign direct investment is currently going to China. Investment has been a major driving force behind growth, which suggests that production is still being moved to China from other countries. Higher activity in China is also generating growth impulses to other Asian countries, with a substantial increase in trade between Asian countries. However, there are a number of imbalances in the Chinese economy. The banking industry is undercapitalised, with substantial holdings of non-performing loans. In several sectors, there are signs of excessive investment, and unemployment remains high as a result of structural changes in the Chinese economy.

Oil prices

Oil prices have remained higher than USD 25 since the June *Inflation Report* (see Chart 2.7). This reflects OPEC quota discipline, continued low oils stock in the OECD, particularly in the US, and lower-than-expected oil supply from Iraq. Oil prices rose further during the autumn after OPEC unexpectedly reduced its quotas at its meeting at the end of September (see Chart 2.8). OPEC was seeking to counteract actual and expected stock increases, and to forestall expected production increases in Iraq and non-OPEC countries, particularly Russia. OPEC will meet again in the beginning of December to determine whether further quota reductions are necessary to hold up oil prices.

OPEC's production cuts imply that oil stocks will be low when winter starts and oil demand shows a seasonal rise. This may contribute to high and variable oil prices in the short term. Factors that influence demand, such as a cold winter, could have a pronounced impact on oil prices. Renewed unrest in the Middle East or production cuts in countries such as Nigeria and Venezuela may also have an impact on oil prices.

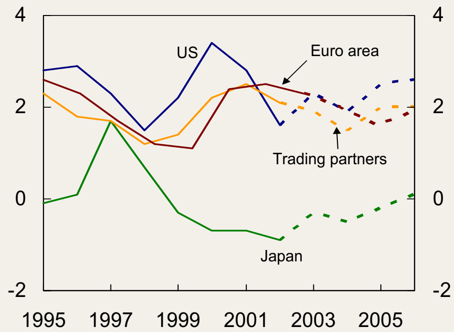
Several OPEC countries have increased their capacity in recent years and have called for higher quotas. Iraq will probably be assigned a formal quota when production reaches the pre-war level. Production in non-OPEC countries is likely to be increased. Even if the global recovery continues, it appears that increased non-OPEC production will on its own be sufficient to cover overall growth in oil demand. This implies that further quota and production restrictions on the part of OPEC may be necessary to stabilise oil prices at a high level. However, OPEC market shares have fallen over the past four years. New quota restrictions may therefore give rise to demands for production limits also for non-OPEC countries.

Our projections are based on the technical assumption of an oil price of USD 20 three years ahead.

Signs of continued weak inflationary impulses to the Norwegian economy in the period ahead

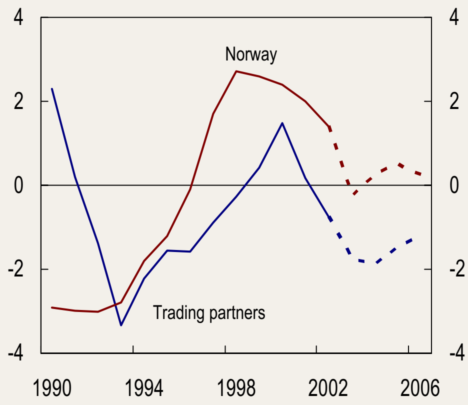
Growth in the global economy is projected to gain momentum in the years ahead. Some of the excess production capacity is expected to be gradually put to use. Nevertheless, all major economic regions are expected to have some excess capacity towards the end of the projection period. The gap between actual and trend output will be widest in the euro area, but nor are the US, the UK and Japan expected to reach full capacity utilisation in the period. With low capacity utilisation over a long period, inflation should be subdued for a considerable period ahead (see Chart 2.9). On the other hand, oil prices have remained high for a longer period than assumed earlier, and other commodity prices have shown a clear rise in recent months. Looking forward, oil prices and exchange rate movements between major currencies are probably the most important risk factors with respect to international inflation.

Chart 2.9 Historical consumer price inflation and projections from Norges Bank. Annual percentage rise. 1995 - 2006.



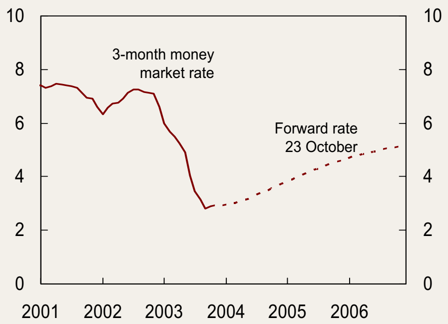
Sources: EcoWin, Bureau of Labor Statistics (US), Ministry of Public Management, Home Affairs, Posts and Telecommunications (JP), EUR-OP Eurostat and Norges Bank

Chart 3.1 The output gap in Norway and among trading partners. Annual figures. 1990 - 2006



Sources: OECD, Statistics Norway and Norges Bank

Chart 3.2 Assumption for the money market rate. Forward rate[1) 2)]. Per cent



1) 3-month money market rate to end-September 2003. Three-month forward rates are estimated using four money market rates and five government bond yields with different maturities as observed on 23 October.
2) The money market rate is normally about ¼ percentage point higher than the sight deposit rate.
Source: Norges Bank

Chart 3.3 Assumption for the krone exchange rate (I-44). Forward rate. Index[1)].

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

After a long period of strong expansion, growth in the Norwegian economy came to a halt last winter. Capacity utilisation has fallen (see Chart 3.1). It appears that wage growth in 2003 will be considerably lower than last year. Inflation is low.

Since December 2002, the key interest rate has been reduced by a total of 4.5 percentage points. The krone has depreciated by about 9% since the beginning of the year. Combined with an upturn in the global economy, these factors will contribute to higher growth in demand and production ahead. Monetary policy has been eased to a greater extent and more rapidly than has been customary. It is uncertain how economic agents will adapt to such a low real interest rate.

Projections for economic developments in the years ahead are conditional on our assumptions concerning the interest rate and the krone exchange rate. The projections in this *Inflation Report* are based on the assumptions that the interest rate shadows forward interest rates and that the krone moves in line with the forward exchange rate. Forward interest rates imply that the short-term money market interest rate will remain fairly low over the next year. It is assumed that the interest rate will rise gradually, broadly in tandem with the increase in interest rates among our trading partners. The assumption implies that short-term money market interest rates, which are normally somewhat higher than the sight deposit rate, will remain at around 3 % up to mid-2004, rising to 3¾ % towards the end of the year. Two years ahead, towards the end of 2005, the forward rate is 4½ % (see Chart 3.2). The krone exchange rate is assumed to move in line with the forward exchange rate, reflecting the change in the interest rate differential between Norway and abroad. This implies a moderate depreciation of the krone through the projection period (see Chart 3.3). At the end of 2005, the krone is around 1% weaker than the average for the past three months (see box on page 46 for more details on exchange rate assumptions).

The past marked decrease in interest rates is expected to stimulate private consumption. Industries supplying goods and services to the household sector will probably show relatively strong growth. In other business sectors, activity is low. In exposed manufacturing, renewed growth will be restrained by the strong increase in costs in recent years and sluggish demand growth in important export markets.

Many service industries have excess capacity and are affected by falling demand in the manufacturing sector. In many sectors, increased competition has limited the scope for passing on higher costs to prices. Instead, the focus has been on cutting costs. These developments are expected to continue in the period ahead, and will hamper growth in employment and investment. Towards the end of the projection period, however, business investment in mainland Norway is projected to pick up and account for a larger share of total demand.

In the central government budget for 2004, the Government proposes a 5.4% increase in spending, or slightly more than estimated trend growth in mainland GDP. The level of taxes remains unchanged in real terms. The projection for growth in public consumption in 2003 has been revised upwards. For 2003 and 2004 as a whole, fiscal policy will probably generate some stimulus to the Norwegian economy.

Overall, growth in mainland GDP is projected at ¾% in 2003[1]. Growth was about zero in the first half of the year, but is projected to pick up in the latter half of the year and remain high in 2004. Mainland GDP growth is projected at 3% in 2004 and 2¾% in 2005 (see Table 3.1). In 2006, mainland GDP is expected to grow below trend, which we estimate at 2½ %. If total output follows this path, the output gap, as we measure it here, will become slightly positive next year and in 2005 and 2006.

Household consumption underpins growth

Household demand will probably be the most important driving force in the Norwegian economy in the period ahead. There are prospects for strong growth in private consumption. Real income growth is still high, even though it is expected to be somewhat lower than in recent years. Household interest-bearing debt is substantially higher than interest-bearing assets. The interest rate reductions since December 2002 are contributing to a reduction in household expenses. In addition, lower real interest rates will normally result in a reduction in household saving. In addition, long-term interest rates are at a historically low level, enabling households to lock the interest rate on their loans at a relatively low level for several years ahead.

The prospect of strong growth in consumption ahead is supported by an increase in household optimism. According to TNS Gallup's confidence survey for Q3 2003, confidence in the country's economy has improved sharply from a low level earlier this year (see Chart 3.4). Moreover, a large majority of households have a positive view of their own future financial position. This is also regarded as a good time to make major purchases.

Growth in credit to households is still high, and considerably higher than income growth, (see Chart 3.5). The high growth in household gross debt probably reflects developments in the housing market in recent years (see box in

[1]The fall in electricity production this year has not been taken into account, which detracts an estimated half percentage point from mainland GDP growth in 2003

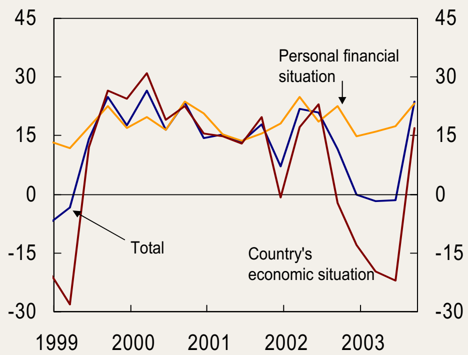
Table 3.1 Key aggregates for Norway 2003 - 2006. Percentage change from previous year

	2003	2004	2005	2006
Mainland demand	1¼	3¾	3¼	2¼
Private consumption	3¼	5	3½	2
Public consumption	1	2	1½	1½
Fixed investments	-5	1	4½	5
Petroleum investment	15	15	-5	-20
Traditional exports	1	2	3¼	3¼
Imports	2	5¼	2½	0
Mainland GDP	¾	3	2¾	2¼
Employment	-1	¼	1	½
LFS unemployment[1)]	4½	4¾	4½	4½

[1)] Percentage of labour force

Source: Norges Bank

Chart 3.4 Consumer confidence indicator[1)]. Unadjusted figures. 1999 Q1 – 2003 Q3



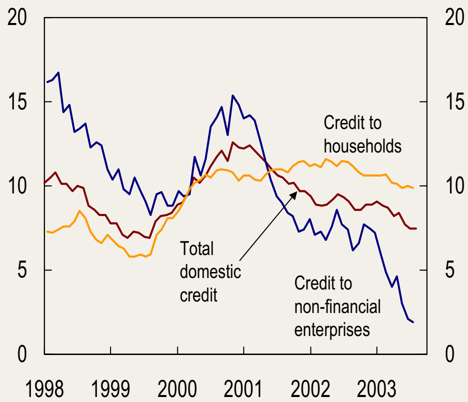
[1)] Indicates the share with a positive assessment of the current situation and outlook for the future less the share with a negative assessment.

Source: TNS Gallup

Inflation Report 2/03). The rise in house prices declined gradually from autumn 2002, and annualised house price inflation fell somewhat this spring. Interest rate changes normally affect the housing market fairly rapidly, and there are signs that both house prices and turnover are increasing somewhat, following the interest rate cuts this spring and summer. Moreover, reports from our regional network show that the market for refurbishing houses has picked up. The interest rate reductions and increased activity in the housing market will probably boost residential investment in the years ahead.

The household saving ratio is projected to fall next year and remain low in 2005. Low consumer price inflation next year will contribute to holding up real income growth despite moderate growth in employment and wages. Overall, we expect strong growth in private consumption over the next two years. Towards the end of the projection period, the saving ratio is expected to stabilise and growth in private consumption to slow.

Chart 3.5 Credit from domestic sources (C2). 12-month rise. Jan 00 - Aug 03.

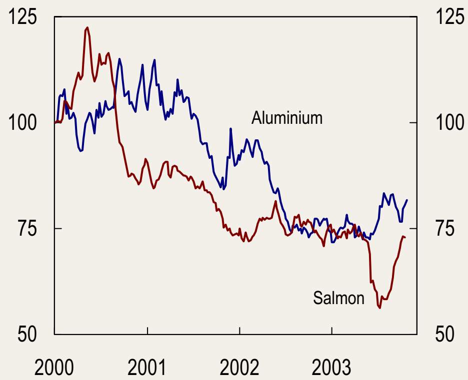


Source: Norges Bank

Moderate rise in business investment

Developments in mainland business sectors have been characterised by low production growth, falling investment and declining profitability. High costs, the repercussions of overinvestment in some industries and low growth in a number of the most important export markets have contributed to these developments. In order to boost returns on invested capital, enterprises have taken steps to reduce costs, primarily by reducing their workforce. Employment has fallen. Some firms have moved parts or all of their production abroad. Low investment demand is reflected in credit to non-financial enterprises, which has declined to a very low level (see Chart 3.5).

Chart 3.6 Prices for aluminium and salmon. Index. Week 1 in 2000=100. Weekly figures. Jan 00 - Oct 03



Sources: Statistics Norway, EcoWin and Norges Bank

There are some positive impulses, however. Interest rates are low, and equity prices have increased sharply since the trough in February 2003. The krone exchange rate has depreciated, and has reverted to the level prevailing in the mid-1990s. There are signs of a global upturn and commodity prices have risen (see Chart 3.6). Wage growth seems to be moderating. Given the high level of costs and excess capacity in a number of sectors, it will, however, take some time before employment and investment in the business sector start to pick up. On balance, investment demand is expected to make only a marginal contribution to growth in the Norwegian economy in 2004. There are limited prospects for renewed growth in investment before 2005 and 2006.

The business confidence indicator for the second quarter indicated continued pessimism, but there were some signs of improvement. The outlook varies across industries, depending on their market. High growth in private consumption points to higher earnings for enterprises supplying goods and services to Norwegian households. This will contribute to growth in retail trade and industries supplying services to households. Industries producing largely for the domestic market will also feel the effect of higher household demand, even if a large share of the increase in demand is covered by imports. Optimism is higher among industrial leaders in the food industry than in other manufacturing sectors.

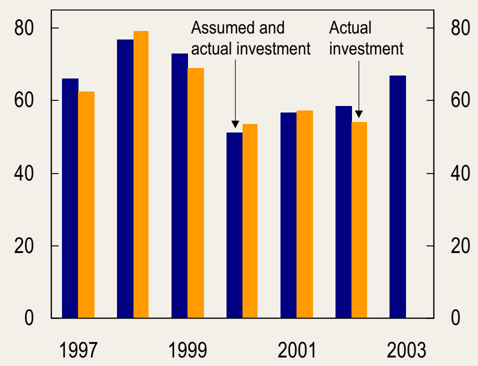
Industries producing intermediate goods are only starting to feel the impact of increased international demand. Aluminium exports have picked up recently, for example. Projects to expand aluminium production will provide the basis for an increase in exports both this year and next.

Manufacturing industries producing capital goods are affected by the impact of strong competition from low-cost countries. At the same time, investment demand is low in Europe, which is the most important export market. Industrial leaders in the engineering industry report historically low capacity utilisation and order backlogs. Low demand and cost problems indicate that growth in investment and employment may be weaker in this sector than in manufacturing as a whole. Growth will probably be particularly sluggish in the engineering industry. New orders are very low for the type of specialised ships that have been built by Norwegian shipyards. According to Norges Bank's regional network, some shipyards see a potential for more contracts ahead, but activity will be very low this autumn and winter.

Petroleum investment is expected to increase markedly in 2003 and 2004 (see Chart 3.7). Investment in on-shore facilities, such as Snøhvit, Kårstø and Aukra, is pushing up overall investment. Even though the share of imports is high, these projects will contribute to holding up activity in oil-related industries. Investment in the petroleum industry is projected to peak in 2004. The current low level of exploration activity on the Norwegian continental shelf and the scaling back of investment in on-shore facilities point to a relatively sharp fall in investment looking further ahead. On the other hand, the market for operations and maintenance is more stable. Demand is also being sustained by investment to keep older fields in operation and the scrapping of old platforms.

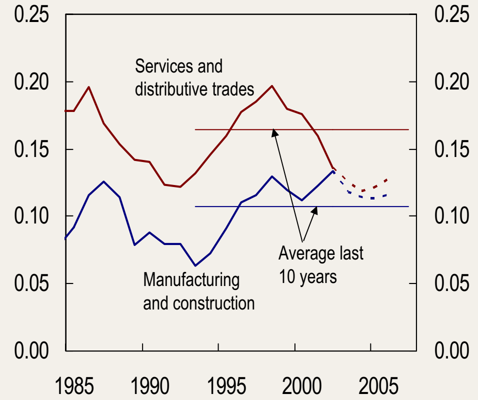
Sluggish developments in manufacturing have amplified the problems in industries supplying services to the corporate market. The number of job-related overnight stays at hotels has decreased, and income from business air travel has fallen in the past two years. In the years up to the turn of the millennium, many service suppliers built up substantial capacity, both in terms of real capital and number of employees (see Chart 3.8). Declining demand has led to considerable overcapacity in a number of service enter-

Chart 3.7 Investment intentions survey in August. Petroleum activities. Assumed and actual investment. In billions of NOK. 1997 - 2003



Source: Statistics Norway

Chart 3.8 Gross investment as a share of value added. Annual figures. 1985 - 2006.

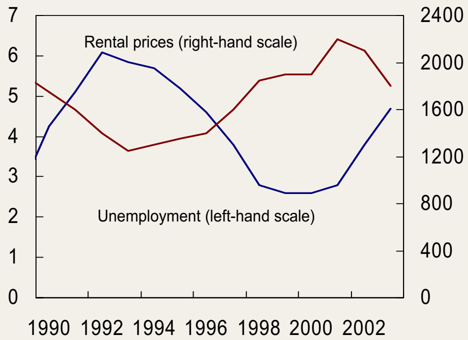


Sources: Statistics Norway and Norges Bank

prises. Many enterprises have therefore found it necessary to rationalise operations. There are now signs of increasing profitability. A number of the largest companies in the private service sector improved their results in the first half of 2003, compared with the same period last year. Reports from Norges Bank's regional network also indicate positive developments in profitability.

Several factors imply that it will take some time for improvements in profitability to translate into new recruitment and investment. Following a period of overcapacity, many enterprises will be cautious about increasing costs. By increasing productivity growth, higher demand can to some extent be met without increasing existing capacity. Reports from the regional network indicate that both retail trade and other service industries can accommodate higher demand without increasing employment. However, higher activity is expected to lead to a pick-up in employment growth in service industries in the course of next year.

Chart 3.9 Unemployment[1)] and rental prices for commercial property[2)]. Annual figures. 1990 – 2003[3)].



1) Registered unemployment in Oslo. Per cent of labour force
2) Rental prices office premises in Oslo, high standard, centrally located. NOK per square metre per year
3) For 2003 average unemployment in 1st half year. Rental prices for commercial property according to annual survey in June.

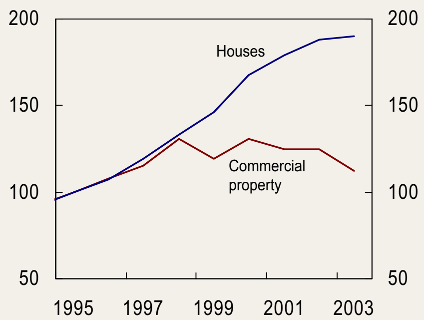
Sources: Directorate of Labour, *Dagens Næringsliv* and OPAC

The potential for investment growth in service industries is being limited by the very high number of vacant office premises, particularly in central areas of Eastern Norway. Rents have fallen (see Charts 3.9 and 3.10). The number of new building projects has declined. Commercial premises account for a large share of investment in service industries. Although lower interest rates will, in isolation, stimulate investment demand, a substantial share of the vacant commercial premises will probably have to be utilised before renewed growth can be expected. This implies that investment in commercial property will only pick up after a period of growth in employment. Investment in service industries is not expected to increase until 2005.

Excess use of petroleum revenues remains stable

According to the fiscal policy guidelines, the use of petroleum revenues over the central government budget shall over time correspond to the expected real return on the Government Petroleum Fund. At the same time, fiscal policy shall contribute to smoothing fluctuations in output and employment. Since the introduction of the fiscal policy guidelines in spring 2001, the scope for manoeuvre in fiscal policy had been considerably reduced. The projection for the Petroleum Fund's expected real return has been revised down considerably since the Revised National Budget for 2001. In 2010 the reduction is NOK 15bn. In addition, figures for the structural deficits from 2001 to 2003 show that more petroleum revenues have been used than a mechanical application of the fiscal rule would imply. In the budget for 2004, the excess use of petroleum revenues will be the same as in 2003.

Chart 3.10 Prices for commercial property and houses.[1)] Index. 1995=100. Annual figures. 1995 - 2003.[2)]



1) Rental prices for commercial property in Oslo, houses whole country.
2) For 2003: House prices in 1st half year. Rental prices for commercial property according to annual survey in June.

Sources: Statistics Norway and OPAC

In recent years, expenditure growth in the government budget has increased at a faster pace than growth in mainland

GDP (see Chart 3.11). Nominal expenditure growth was particularly strong in 2002, but slowed markedly in 2003. In the central government budget for 2004, the Government proposes a 5.4% increase in expenditure, or slightly more that estimated trend growth in nominal mainland GDP.

The level of taxes remains unchanged in real terms from 2003 to 2004 after having been reduced by a total of NOK 22bn, or 1.8% of mainland GDP in the previous two years.

Also when adjusting for cyclical fluctuations, fiscal policy has stimulated economic activity, as reflected in the increase in the structural, non-oil budget deficit (see Chart 3.12). However, the budget deficit is influenced from one year to the next by large one-off measures that may have little impact on demand for goods and services. According to the Ministry of Finance, such measures have made an extraordinary contribution to strengthening the budget in 2003[2]. For 2003 and 2004 as a whole, fiscal policy will probably generate some stimulus to activity in the Norwegian economy.

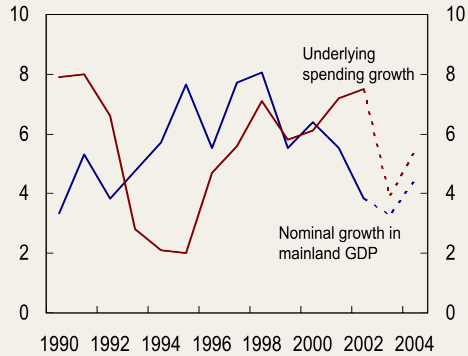
The rise in prices for public sector purchases of goods and services is heavily influenced by wage growth. Wages for government employees account for a substantial share of expenditure, and transfers to households are adjusted in relation to wage growth. In recent years, the rise in prices for public sector expenditure has been high. This partly reflects the considerable increase in public sector labour costs, both in nominal and real terms. The scope for real growth in government consumption and investment and other transfers is reduced when wage growth is high. This is reflected in the change in central government expenditure deflated by the rise in prices for expenditure (see Chart 3.13)

However, growth in spending has financed higher real household income through higher real wages in the public sector and higher real transfers. This effect is captured more clearly when the rise in public sector expenditure in nominal terms is converted to real terms with the help of the price deflator for mainland GDP (see Chart 3.13)

The projections are based on the assumption that public consumption will expand in real terms by 2% in 2004. In 2005 and 2006, projections are based on a technical assumption that the tax level will remain unchanged in real terms and that public consumption will rise by 1½%. This assumption implies that the rise in public expenditure in nominal terms will be approximately the same as the rise in the nominal value of revenues.

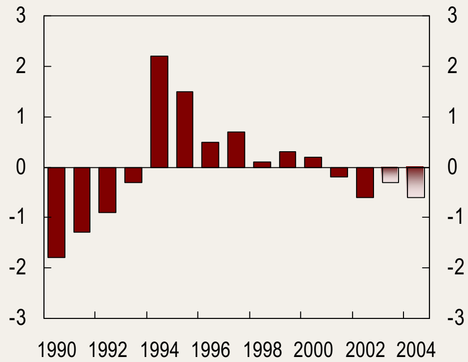
2 See Report no. 1 to the Storting (2003-2004)

Chart 3.11 Underlying spending growth in the government budget and nominal growth in mainland GDP. Growth on previous year. Per cent. 1990 - 2004



Sources: Ministry of Finance and Statistics Norway

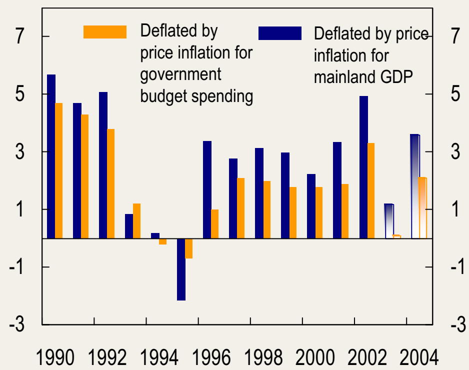
Chart 3.12 Change in structural non-oil budget balance[1)]. 1990 - 2004



1) The budget balance as a percentage of trend mainland GDP. Change on previous year.

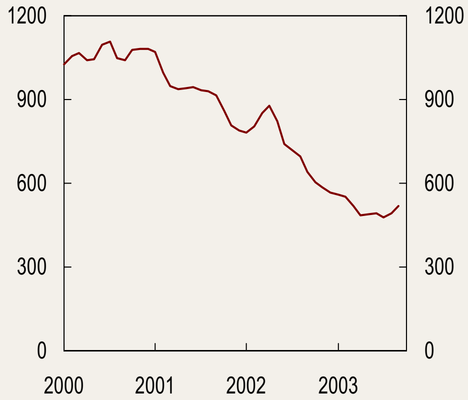
Source: The Ministry of Finance

Chart 3.13 Real underlying spending growth in the central government budget. Growth on previous year. 1990 - 2004



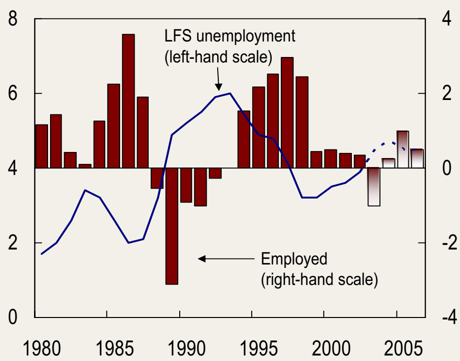
Sources: Ministry of Finance and Statistics Norway

Chart 3.14 Number of job vacancies advertised per business day. Jan 00 - Sept 03 03. Seasonally adjusted



Source: Directorate of Labour

Chart 3.15 Change in employment on previous year. Per cent. Unemployment[1] as a percentage of the labour force. 1980 - 2006.



[1] LFS unemployment.

Sources: Statistics Norway and Norges Bank

Gradual rise in employment and reduction in unemployment

Total employment has fallen since the beginning of 2002. According to the quarterly national accounts, the number employed in the first half of 2003 declined by 19 000 compared with the first half of 2002. From 2002 to 2003, employment will probably fall by about 1%.

The number of vacancies advertised in the media has dropped since 2001 (see Chart 3.14). Demand for labour has fallen both in manufacturing and private services. High wage growth has also led to low growth in public sector activity and employment. The largest decline in the number of employees in the public sector has occurred in education. Employment has risen in the health and social sector. Employment is also on the rise in retail trade.

When labour market conditions deteriorate, there tends to be a withdrawal from the labour force, for example into education. Figures from the Universities and Colleges Admission Service show that applications for higher education have increased over the past two years. The labour force participation rate, i.e. the share of the population in the labour force, has fallen. From Q2 last year to Q2 this year, the labour force participation rate dropped by close to 1 percentage point, to slightly above 73%. The labour force participation rate is, however, still high from a historical perspective. In particular, participation rates have fallen for the age groups 6-19 and 25-39. At the same time, labour force participation has increased in the age group 20-24. This may indicate that a larger share than previously of those pursuing an education is in the age group 25-39. Overall, the labour force participation rate has fallen most for women in the past year. In the age group 25-39, however, the majority of those who have withdrawn from the labour force are men.

Even though activity is projected to pick up fairly quickly in the period ahead, it is expected to take somewhat longer for employment to pick up and unemployment to decrease (see Chart 3.15). In 2004, a moderate rise in employment of ¼% is expected. We also expect the labour force to expand again when labour market conditions improve. Unemployment will probably continue to edge up in the near term, before levelling off next year. As an average for 2004, unemployment is projected at 4¾% measured by the LFS. In 2005, employment is projected to increase at a faster pace than growth in the labour force, bringing LFS unemployment down to 4½%. In 2006, unemployment is expected to remain unchanged at this level.

4 Inflation projections

Underlying inflation is low. Norges Bank's sight deposit rate has been reduced to 2.5%. The krone has depreciated and the appreciation that took place in 2002 has largely been reversed. The easing of monetary policy will contribute to pushing inflation back to the inflation target.

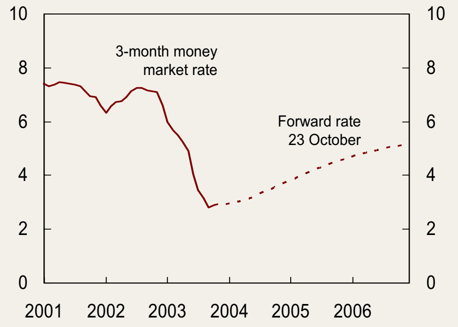
The inflation projections are based on technical assumptions concerning the interest rate and exchange rate. In this *Inflation Report*, the projections are based on the assumptions that interest rates shadow forward interest rates and that the krone moves in line with the forward exchange rate. Forward interest rates imply that short-term money market rates will remain fairly low over the next year. After a period, forward interest rates rise gradually, broadly in tandem with the rise in interest rates among our trading partners. The assumption implies that short-term money market rates, which normally are somewhat higher than the key rate, will remain around 3% in Norway up to mid-2004, rising to 3¾% towards the end of the year. Two years ahead, towards the end of 2005, the forward rate is 4½% (see Chart 4.1). The krone is assumed to move in line with the forward exchange rate, reflecting the change in the interest rate differential between Norway and other countries. This implies a moderate weakening of the krone during the projection period. At the end of 2005, the krone is about 1% weaker than the average for the past three months (see Chart 4.2).

Given this path for the interest rate and exchange rate, inflation is projected to rise gradually to 2½% towards the end of 2005 (see Chart 4.3).

Over the next year, the difference between actual inflation and the inflation target is expected to narrow considerably. The interest rate reductions have led to a substantial narrowing of the interest rate differential against other countries and a weaker krone. As measured by the import-weighted index, the krone has depreciated by 9% since the beginning of January 2003. Due to the depreciation of the krone, the rise in prices for imported consumer goods will pick up.

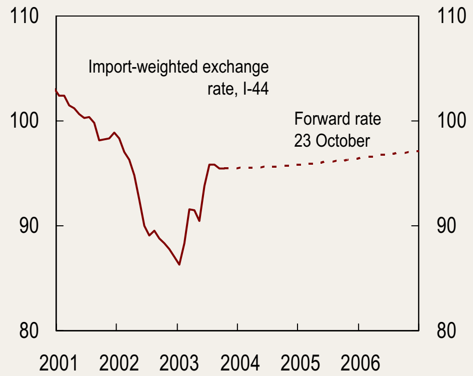
It is also likely that higher capacity utilisation in the Norwegian economy will gradually push up inflation. The stimulus generated by low interest rates and a weaker krone is expected to lead to a marked pick-up in growth in the Norwegian economy over the next few years. The easing of monetary policy will initially stimulate private consumption, which will lead to increased activity in industries that supply goods and services to households. As international demand gradually picks up and excess capacity in service industries is reduced to a sufficient extent, demand for labour may rise in other sectors of the economy.

Chart 4.1 Assumption for the money market rate. Forward rate[1) 2)]. Per cent



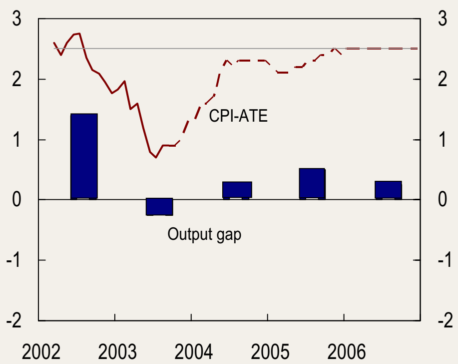
[1)] 3-month money market rates to end-September 2003. Three-month forward rates are estimated using four money market rates and five government bond yields with different maturities as observed on 23 October.
[2)] The money market rate is normally about ¼ percentage point higher than the sight deposit rate.
Source: Norges Bank

Chart 4.2 Assumption for the krone exchange rate (I-44). Forward rate. Index.[1)]



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

Chart 4.3 Projections for the CPI-ATE and the output gap[1)]. Per cent



[1)] The output gap is a measure of the difference between actual and trend output. See box in IR 1/03

Sources: Statistics Norway and Norges Bank

Unemployment is expected to edge down. The output gap, as measured here, is projected to be marginally positive as from 2004 (see Chart 4.3).

4.1 Inflationary impulses

External inflationary impulses

The rise in prices for internationally traded goods, measured in foreign currency, has been low and will probably remain around zero over the next year. Global economic growth is expected to pick up gradually in 2004. Productivity growth is often strong at the beginning of an upturn, which means that the rise in prices will remain lower than normal. As capacity utilisation gradually increases, the rise in prices will probably edge up. In our projections, we have assumed that prices for imported consumer goods, measured in foreign currency, will move up to the trend rise towards the end of 2005. The trend rise in these prices is assumed to be ¾%.

If productivity growth is stronger than assumed, it may take a longer time before the rise in prices moves up to the trend rise. Another factor that may exert downward pressure on inflation is a shift in trade from high-cost to low-cost countries, a tendency observed in recent years. However, it is not certain that this trend will continue. Reports from our regional network indicate that the potential for a further fall in prices as a result of a change in trade patterns has been reduced for clothing. For footwear and audio-visual equipment, however, there is probably a greater potential for a further shift in trade and a fall in prices.

The exchange rate will restrain inflation over the next year

Even though the krone appreciation between 2000 and 2002 has been reversed to a considerable extent so far in 2003, the appreciation will contribute to restraining the year-on-year rise in consumer prices over the next year.

Changes in the krone exchange rate affect consumer price inflation in Norway with a lag. Historical relationships show that it takes several years for the price effects associated with a change in the exchange rate to unwind. Prices for imported consumer goods are influenced more rapidly by exchange rate movements than prices for domestically produced goods and services. As early as spring 2004, the year-on-year rise in prices for imported consumer goods is projected to be positive as a result of the depreciation of the krone since January.

Domestic prices are influenced indirectly by the exchange rate through lower prices for intermediate goods and intensified competition from foreign goods and services. It therefore takes longer for exchange rate changes to feed through to these prices. Due to the lag, an appreciation and a subsequent depreciation may offset each other, and may therefore not affect prices. In the projections, we have assumed that domestic prices are pushed down by the exchange rate in 2004, but that the contribution from the exchange rate is neutral in 2005 and 2006.

All in all, we have assumed that the exchange rate will generate a marginally negative contribution to overall inflation in 2004 and a slightly positive contribution in 2005 and 2006.

However, calculations of the exchange rate pass-through to consumer prices are uncertain. The fall in prices for imported consumer goods is now approximately of the same magnitude as that implied by the past movements in the exchange rate (see Chart 4.4). However, some of this decline in prices can probably be ascribed to factors other than the exchange rate, such as the shift towards imports from low-cost countries. This may imply that the overall exchange rate pass-through to import prices has been less than historical evidence would suggest. The experience of other countries with an inflation target has been that the exchange rate pass-through has diminished over time. This may be because exchange rates fluctuate and it takes longer for economic agents to perceive a change in the exchange rate as a lasting shift. It is also possible that the exchange rate pass-through comes at a later stage than implied by historical evidence. In that case, inflation may be reduced to a further extent by the past appreciation of the krone and be lower than projected.

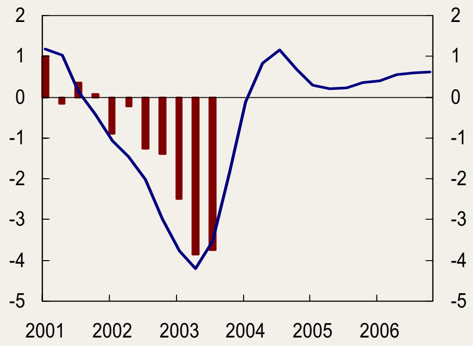
The level of the exchange rate may also influence inflation through its effect on competitiveness. The deterioration in competitiveness has led to lower capacity utilisation in the Norwegian economy. In isolation, this has a dampening impact on inflation.

Moderate wage growth in 2003 and 2004

Wage growth is likely to be moderate in 2003. The pay increases awarded during the spring negotiations were generally low. Several of the industry-level settlements resulted in zero pay increases. The negotiating results probably reflect the increase in unemployment and strong focus on cost cuts in many business sectors. In 2002, substantial pay increases were agreed with effect from 2003. Annual wage growth is therefore projected at 4½% in 2003 despite the low pay increases awarded this year.

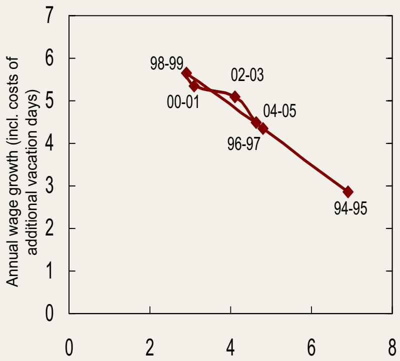
Developments over the past years suggest that little emphasis has been placed on profitability in internationally exposed manufacturing sectors in wage negotiations, both

Chart 4.4 Estimated effects of historical exchange rate movements on rise in prices for imported consumer goods. Contribution in percentage points to 4-quarter rise (blue line). Historical rise in prices for imported consumer goods (red column)



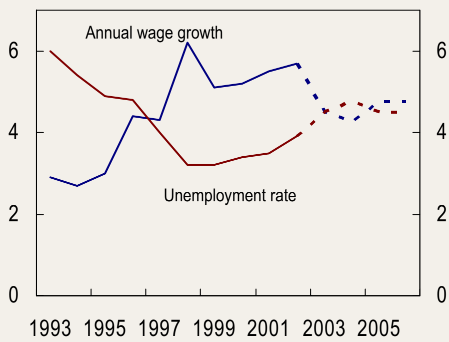
Sources: Statistics Norway and Norges Bank

Chart 4.5 Annual wage growth and unemployment. 2-year average



Sources: TRCIS and Norges Bank

Chart 4.6 Annual wage growth[1)] and unemployment rate[2)]. Per cent. Annual figures. 1993 -2006



[1)] Average for all groups. Including costs of additional vacation days
[2)] LFS

Sources: TRCIS, Statistics Norway and Norges Bank

for manufacturing and for other groups. This was particularly evident in last year's wage settlement. The business sector's competitiveness had clearly deteriorated prior to the wage settlement after many years of high wage growth and an appreciation of the krone. In spite of this, substantial pay increases were awarded in manufacturing and for other groups of employees.

Sluggish developments in the global and Norwegian economy, combined with a sharp rise in costs over several years, have contributed to a rise in unemployment in both the public and private sectors. Prior to this year's wage settlement, job security for many employees had been reduced considerably, with a high number of job-seekers for a limited number of vacancies. In our assessment, this is an important factor contributing to a moderation in wage growth this year.

The projections are based on the assumption that conditions in the overall labour market conditions are the main determinant of wage growth.

There has been a tendency in recent years for a larger portion of pay increases to be agreed in the first year of the two-year period covered by the main agreement. Even though wage growth appears to be moderate this year, the combined outcome of the main settlement in 2002 and the interim settlement in 2003 was high wage growth. In these two years as a whole, wage growth was slightly higher than implied by the relationship between wage growth and developments in the labour market (see Chart 4.5).

Our projections for wage growth ahead are based on the assumption that the relationship between unemployment and wage growth will be more in line with the wage settlements in the period 1994-2001. Unemployment is projected to increase further over the next few months and to stabilise thereafter. In 2004, wage growth is projected to slow from this year's level as a result of higher unemployment. When activity in the economy gradually picks up, demand for labour will increase and unemployment may then edge down. It is assumed that this will result in somewhat higher wage growth in 2005 and 2006 (see Chart 4.6).

It is conceivable, however, that profitability in internationally exposed industries will play a more prominent role in wage determination than has been the case in recent years. The competitive position of Norwegian manufacturing is still weak. Over the next few years, growth in manufacturing is assumed to be lower than growth in the Norwegian economy as a whole. If greater emphasis is placed on competitiveness, overall wage growth may be lower than projected.

Competitive conditions may influence pricing ahead

The low rate of inflation observed recently may partly be the result of a reduction in operating margins by enterprises to prevent a loss of market shares. This may be the result of lower demand and intensified competition. As demand increases and spare capacity is put to use, some market participants may decide to increase their margins, which would contribute to higher prices.

Inflation may also be influenced by competitive conditions of a more structural nature. The telecommunications sector and the airline industry are industries where competition has intensified as a result of deregulation and new entries in recent years. Prices have fallen considerably in these industries. Reports from our regional network indicate that this may continue. The rate of price increases in other industries may also be low as a result of structural changes. For example, the establishment of a foreign low-price chain in Norway may push down grocery prices.

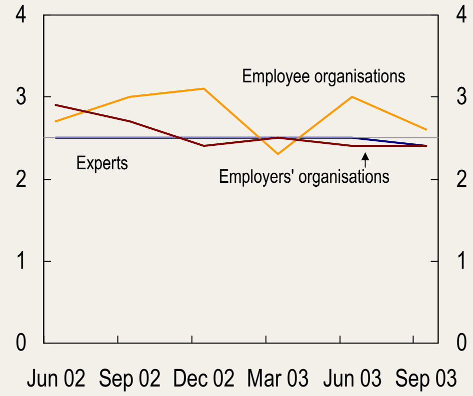
The inflation projections are not based on the assumption that changes in competitive conditions will materially affect inflation. On the one hand, margins may increase in the years ahead as a result of a boost in consumer demand. On the other hand, structural factors may push down air fares and prices for telecom services and groceries.

Long-term inflation expectations do not deviate substantially from the inflation target

Inflation will remain low over the next few months as a result of low external inflationary pressures, continued effects of the krone appreciation in 2002 and moderating wage growth. When inflation deviates from the inflation target, there is a risk that confidence in the inflation target will be reduced. This can influence wage growth and general market pricing and make it more demanding to bring inflation back to the inflation target. However, TNS Gallup's survey, in which participants are asked about inflation expectations one, two and five years ahead, shows that inflation expectations are still firmly anchored to the inflation target in the long term (see Chart 4.7).

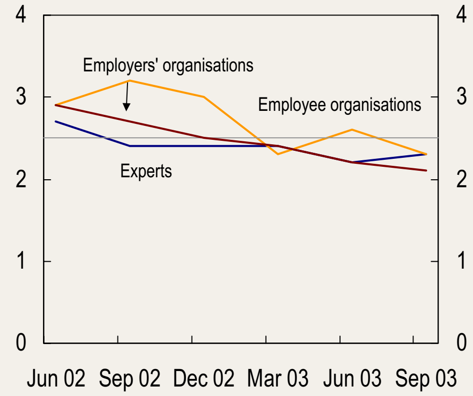
In the shorter term, however, there are signs that economic agents expect inflation to be somewhat lower than the inflation target of 2½%. These expectations have gradually been lowered over the past year in pace with falling inflation (see Charts 4.8 and 4.9).

Chart 4.7 Expected consumer price inflation in 5 years. Quarterly figures. 02 Q2 - 03 Q3. Per cent



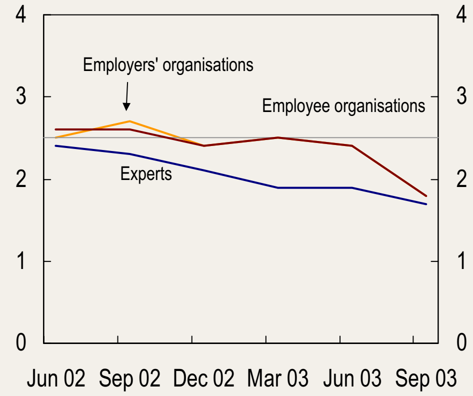
Source: TNS Gallup

Chart 4.8 Expected consumer price inflation in 2 years. Per cent. Quarterly figures. 02 Q2 - 03 Q3



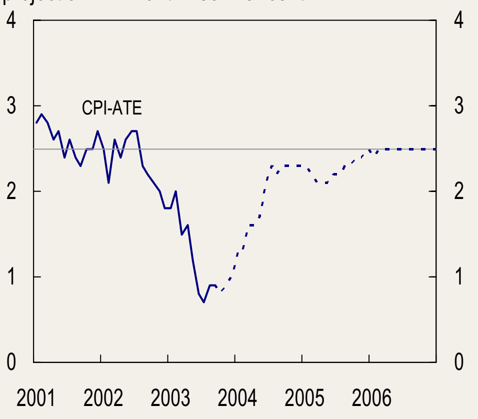
Source: TNS Gallup

Chart 4.9 Expected consumer price inflation in 1 year. Per cent. Quarterly figures. 02 Q2 - 03 Q3



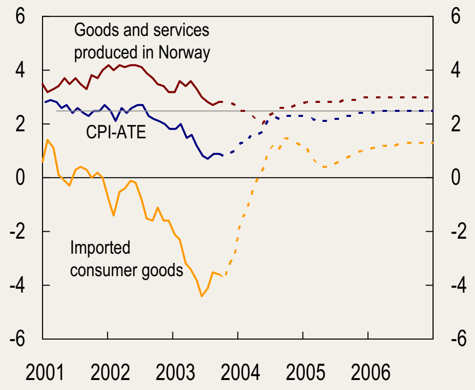
Source: TNS Gallup

Chart 4.10 CPI-ATE. Historical developments and projection. 12-month rise. Per cent



Sources: Statistics Norway and Norges Bank

Chart 4.11 CPI-ATE. Total and by supplier sector. Historical developments and projections. 12-month rise. Per cent



Sources: Statistics Norway and Norges Bank

4.2 Inflation outlook

Given the assumptions underlying the projections in this *Report*, inflation is projected to remain below the inflation target in both 2004 and the first three quarters of 2005 (see Chart 4.10). However, the deviation from the inflation target is expected to be reduced substantially in the course of next year.

The year-on-year rise in the CPI-ATE is projected to increase from about 1% in the fourth quarter of 2003 to around 2¼% next summer. It is primarily past movements in the exchange rate that will determine the path for the CPI-ATE over the next year. Changes in the exchange rate initially have an impact on prices for imported consumer goods. The appreciation of the krone through 2002 is having the strongest effect on these prices this year, while the depreciation since the beginning of 2003 will have the greatest impact around next summer. The appreciation through 2002 will also influence the rise in prices for domestically produced goods and services in 2004. All in all, changes in the exchange rate will push down CPI-ATE inflation somewhat in 2004.

The annual rise in the CPI-ATE is projected at 2% in 2004. In addition to exchange rate effects, low prices for imported consumer goods, measured in foreign currency, and slower wage growth will contribute to CPI-ATE inflation that is lower than the inflation target.

CPI-ATE inflation will edge up gradually in the course of 2005. External inflationary impulses are projected to rise in pace with the expected global economic recovery. Impulses from the exchange rate to inflation are assumed to be positive as a result of the depreciation of the krone through the projection period. Developments in the labour market will lead to somewhat higher wage growth. As a result of a sharper rise in both prices for domestically produced goods and services and prices for imported consumer goods, the CPI-ATE will return to the inflation target in the fourth quarter of 2005 (see Chart 4.11). For the year as a whole, however, inflation may be somewhat lower. The annual rise in the CPI-ATE is projected at 2¼% in 2005. In 2006, inflation is projected to stabilise at around 2½%.

Certain factors, such as lower fees for day-care places and a possible decline in house rents as a direct result of the interest rate cuts since December 2002, may result in lower-than-projected consumer price inflation. The Monetary Policy Regulation of 29 March 2001 states that when setting interest rates Norges Bank shall in general not take into account "the direct effects on consumer prices resulting from changes in interest rates, taxes, excise duties and extraordinary temporary disturbances". Reduced fees for day-care places have a one-time effect on consumer prices and may be looked upon as a temporary disturbance. This will not push down CPI-ATE inflation to any extent in 2003, but the effect may be about 0.1 percentage point in 2004. The fall in interest rates may reduce mortgage expenses, but it is uncertain to what extent this will be reflected in house rents as they are measured in the consumer price index. The direct effect of the interest rate on the house rent index is discussed further in a box on page 40. The projections for consumer prices in this *Inflation Report* do not take into account such temporary factors.

CPI inflation, which includes taxes and energy products, will deviate from CPI-ATE inflation as a result of energy price developments. Due to the sharp rise in electricity and petrol prices in 2003, the year-on-year rise in the CPI is considerably higher than the year-on-year rise in the CPI-ATE. When the level of these prices is gradually normalised, the increase in the CPI may for a period be lower than the rise in the CPI-ATE (see Chart 4.12).

4.3 Risks to the inflation outlook

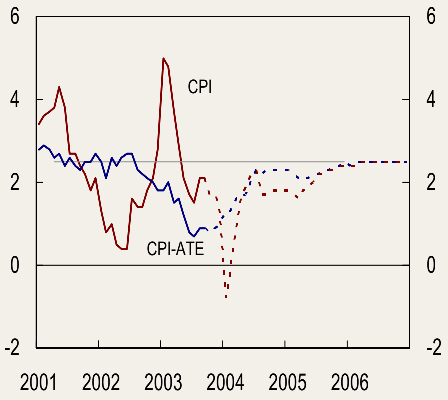
The inflation projections are uncertain. Chart 4.13 shows the uncertainty surrounding the projections, calculated on the basis of historical deviations between projections and actual inflation. Several factors may imply that inflation moves on a different path than projected in section 4.2.

We have little experience concerning the effects of such considerable monetary policy easing as that seen over the past year (see Chart 4.14). It is uncertain how economic agents will adapt to such a low real interest rate. Activity in the Norwegian economy may pick up more swiftly than projected. Excess capacity may be reduced more rapidly and unemployment may fall to a greater extent than we have projected. If new pressures arise in the Norwegian economy, inflation may be higher than projected.

The global economy appears to be vulnerable to new disturbances. It is assumed that the expansionary economic policy will gradually lead to higher growth. Over the past year, however, most observers have been surprised by the duration of global stagnation. There is a risk that we are underestimating the effects of the imbalances in the global economy. If this is the case, it may take a longer time for growth to normalise. Inflation may remain low in many countries. International interest rates may then remain low for a long period.

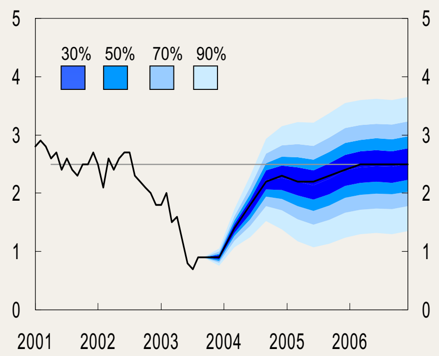
Weaker global developments may have an impact on inflation in Norway. Market opportunities for Norwegian exporters in international markets would then be limited and curb growth in the Norwegian economy. At the same time, lower growth in the global economy will result in a continued subdued rise in prices for internationally tradable goods.

Chart 4.12 CPI and CPI-ATE. Historical developments and projections. 12-month rise. Per cent



Sources: Statistics Norway and Norges Bank

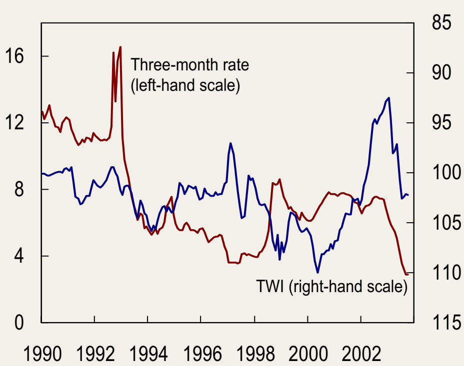
Chart 4.13 Projections and uncertainty for CPI-ATE. 12-month rise. Per cent



The bands in the fan indicate different probabilities for the development of the CPI-ATE.

Sources: Statistics Norway and Norges Bank

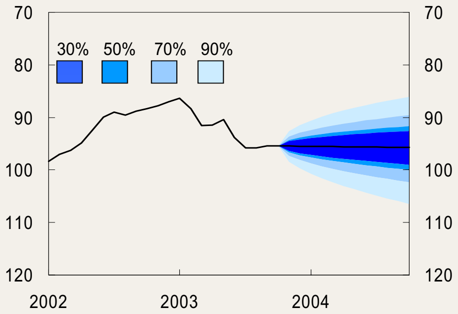
Chart 4.14 Trade-weighted krone exchange rate index (TWI)[1] and 3-month money market rate. Monthly figures. Jan 90 - Sep. 03



[1]A rising curve denotes an appreciation of the krone

Source: Norges Bank

Chart 4.15 Import-weighted exchange rate index (I-44). Actual developments, forward rate[1)] and uncertainty priced into options market. Monthly figures



[1)] Based on the forward rate differential against trading partners 23 October 2003

Source: Norges Bank

In recent months, the krone exchange rate has fluctuated widely. Since the June *Inflation Report*, the interest rate differential has narrowed by 1.1 percentage point, while the krone exchange rate has remained broadly unchanged. Both forward exchange rates and projections for movements in the krone exchange rate in Consensus Forecasts indicate expectations of fairly small exchange rate movements in the period ahead. Prices for currency options are often used as an indicator of market participants' assessment of exchange rate uncertainty. The pricing of such options reflects considerable uncertainty concerning changes in the exchange rate ahead. The calculations, illustrated in Chart 4.15, indicate in isolation that there is a probability of about 50% that the krone (measured by I-44) will appreciate or depreciate by more than 4% over the next year. According to our calculations, such exchange rate movements will change the rise in the CPI-ATE by a little more than ¼ percentage point in 2005.

Boxes

Overview of boxes in Inflation Reports 2000-2003

3 / 2003:
Direct effects of interes rates on house rents (*)
Imbalances in the US
Assumptions concerning the exchange rate
Flexible inflation targeting and indicators of pressures in the real economy

2 / 2003:
Low consumer price inflation
Evaluation of inflation reports in inflation-targeting countries
Why does household debt growth remain high?
Levels of real capital in enterprises still too high?

1 / 2003:
Factors behind developments in the exchange rate (*)
The output gap
Imported price inflation and the exchange rate – the UK experience
Evaluation of Norges Bank's projections for 2001 and 2002

3 / 2002:
The Scandinavia model of inflation – revisited

2 / 2002:
Why has the krone exchange rate appreciated
New expectations survey
Why have clothing prices fallen?
The impact of higher oil prices
How does the krone exchange rate influence the CPI? (*)

1 / 2002:
Evaluation of Norges Bank's projections for 2000.
Wage growth (*)
Have Norges Bank's interest rate decisions been anticipated?

3 / 2001:
Consumer price inflation adjusted for changes in real taxes and energy prices
Why has the rise in prices for imported consumer goods been low?
Uncertain oil prices and pressure on OPEC
Growth potential of the Norwegian economy

2 / 2001:
New regulation on monetary policy
Underlying inflation
Assessment of risks to the inflation projection
Effects of a sharper slowdown in the global economy

1 / 2001:
What are the effects on Europe of a cyclical downturn in the US?
The impact of interest rates on private consumption (*)

4 / 2000:
Price developments in Norway, Sweden and the euro area
Effects of a change in interest rates (*)
Uncertainty associated with the inflation projections
Evaluation of Norges Bank's projections for 1999

3 / 2000:
Low price inflation for imported consumer goods
Which factors influence the krone exchange rate?
Interest rates and expectations

2 / 2000:
Consumer confidence indicator
Underlying consumer price inflation
Continued low price and cost inflation in the euro area
Household net investments in financial assets (net lending)

1 / 2000:
New aspects of economic developments
Output gap in the years ahead

(*) = Boxes with special discussion of the effects of monetary policy and the functioning of the economy

Direct effects of interest rates on house rents

According to the Monetary Policy Regulation of 29 March 2001, in its setting of interest rates Norges Bank shall in general not take into account "direct effects on consumer prices resulting from changes in interest rates, taxes, excise duties and extraordinary temporary disturbances". Monetary policy is forward-looking, normally with a horizon of two years. Temporary disturbances in price inflation will not normally influence price inflation two years ahead, and shall therefore not influence monetary policy.

Also in a retrospective assessment of monetary policy, such direct effects and temporary fluctuations that do not influence inflation over time must be disregarded. There is no clearcut way of estimating underlying inflation that adjusts for these factors. Statistics Norway publishes an index for consumer price inflation adjusted for tax changes and excluding energy products (CPI-ATE). This index is not adjusted for potential direct effects of interest rates on consumer prices.

During the past year, interest rates have fallen sharply. In isolation, this contributes to reducing housing costs. For example, lower interest rates mean lower interest expenses for debt-financed homes. This may in turn yield lower house rents. If such effects are reflected in the CPI-ATE, the fall in interest rates will contribute to a fall in the index. This box discusses such potential direct effects of the interest rate on the CPI-ATE.[1]

In countries where mortgage interest payments are directly included in housing costs in the consumer price index, they are often excluded from the price index on which monetary policy is based. This is the case in the UK and Sweden, for example.[2] In the euro area, such housing expenses are excluded from the harmonised consumer price index (HICP).

In Norway, the lending rate is not used directly to calculate the consumer price index (CPI) and the CPI-ATE. Household costs associated with housing consumption are measured by the house rent index, which accounts for 16.7% of the CPI. In principle, the house rent index shall measure developments in both owner-occupiers' and tenants' housing consumption, which account for 11.2 and 2.6% respectively of the CPI.[3] House rents in the rental market are measured using a survey of 1300 tenants. This survey is also used as the basis for estimating the rise in owner-occupiers' housing costs. Developments in the house rent index are therefore essentially determined by developments in prices in the rental market.

Given the manner in which these housing costs are measured in the Norwegian consumer price index, it is thus not possible to exclude the direct effect of interest rates on housing costs from the index. Estimates of the direct effect of interest rates on house rents must therefore be based on an empirical model. We have developed a model that explains the house rent index in the CPI and CPI-ATE in terms of the interest rate, the consumer price index, resale home prices, wages in private services, the output gap, the unemployment rate, the share of the population aged 20-24 and the share of persons in this age group who are students. See annex for further details.[4] The model implies that the house rent index increases by 0.3% in the long term if interest rates increase by one percentage point and the other explanatory factors remain unchanged. This is an estimate of the direct, long-term effect of interest rates on the house rent index. The model implies that, in isolation, the interest rate cuts from December 2002 to September 2003 will push down the annual rise in the CPI-ATE by 0.12 percentage

[1] Interest rates have a direct effect on a price index if the index rises as a result of increased interest rates when all other explanatory factors remain constant (and vice versa when interest rates fall). Such effects may reflect the inclusion of interest rates in the price index, or the fact that interest rates influence the expenses of enterprises, housing cooperatives and owners of rented housing.

[2] Mortgage interest payments account for 5½ and 4% respectively of the consumer price index in these countries. An interest rate change of one percentage point will thus have a substantial effect on consumer price inflation.

[3] The remaining share of the house rent index consists of expenses for leisure homes, insurance and local government taxes.

[4] Interest rate changes may also have direct effects on prices other than house rents. In particular, lower interest rates may result in lower mark-ups in retail trade by reducing the costs associated with inventories and credit facilities. We have analysed this by testing for direct effects of interest rates in models for the other sub-indices in the CPI (by supplier sector). The analyses provide no basis for maintaining that interest rate changes have direct effects on sub-indices other than the house rent index.

point in 2004 and by 0.05 percentage point in 2005 as a result of the direct effect of interest rates on house rents, see Table 1.[5]

Table 1 The effect on inflation in CPI-ATE of the interest rate reduction of 4.5 percentage points from December 2002 till September 2003. Effect through house rents. Isolated interest rate shift, without indirect effects through prices, wages and other variables.

2003	-0.03
2004	-0.12
2005	-0.05
2006	-0.01

Source: Norges Bank

The results of the estimation must be interpreted with caution, for a number of reasons.

- The rental market has become increasingly deregulated in recent years.
- The method for measuring the house rent index was changed several times in the period 1999 – 2002. In particular, the rent for housing cooperative apartments was first given a reduced weighting in August 1999 and then excluded from the index with effect from August 2002.

These changes may have a bearing on which factors influence the house rent index, and to what extent. In particular, interest rates may have a different effect on house rents in the future from that implied by the model.

Our analyses do not provide any evidence that changes in interest rates have strong direct effects

[5] The direct effects of interest rates on inflation implied by Statistics Norway's KVARTS model are stronger than the effects indicated in Table 1 (see box on pages 12-13 in *Economic Survey* 3/2003). In KVARTS, lower interest rates contribute to lower inflation by way of lower house rents and lower mark-ups in retail trade. The house rent equation in KVARTS contains stronger interest rate effects than the equation presented below. The difference may reflect the fact that our equation contains more explanatory variables and that it is estimated using more recent data; the house rent equation in KVARTS is estimated using data from 1971 Q1 to 1991 Q4 (see SØS 85 from Statistics Norway (Social and economic studies – Norwegian text) for further documentation)

Technical annex: An econometric model for the house rent index in the CPI-ATE

The model discussed above is defined as follows:[6]

$$\begin{aligned}
\Delta rent_t = & \underset{(5,12)}{-0.35} + \underset{(1,64)}{0.05}\,\Delta w_{t-4} + \underset{(1,95)}{0.02}\,\Delta ph_{t-3} + \underset{(4,20)}{0.02}\,\Delta_4 stud2024_t + \underset{(5,37)}{0.34}\,\Delta_5 GAP_t + \underset{(3,93)}{0.002}\,\Delta_5 u_t \\
& \underset{(7,33)}{-0.31}\,[rent_{t-1} - \underset{(5,01)}{0.27}\,R_{t-2} - \underset{(8,98)}{0.48}\,w_{t-5} - \underset{(6,10)}{0.37}\,cpi_{t-5} - \underset{(8,74)}{0.15}\,ph_{t-4} - \underset{(1,56)}{0.01}\,u_{t-5} - \underset{(6,53)}{0.49}\,pop2024_t].
\end{aligned}$$

Estimation period: 1986 Q1 – 2003 Q2 (quarterly figures), $R^2 = 0.96$.
Absolute *t*-values are given in brackets under the estimates.
ΔX_t indicates change in the variable X: $\Delta X_t = (X_t - X_{t-1})$, $\Delta_4 X_t = (X_t - X_{t-4})$, $\Delta_5 X_t = (X_t - X_{t-5})$.

The deviation between the actual and modelled house rent index is 0.18% on average.

The variables are defined as follows (small letters indicate that the variable is measured on a logarithmic scale):

rent	= The house rent index in the CPI and CPI-ATE
w	= Wages in private services
ph	= Resale home price
stud2024	= Share of persons aged 20-24 who are students
GAP	= The output gap (measured as a rate), see Figure 1.2 on page 10 in this report
u	= Unemployment rate
R	= Three-month money market rate[7]
cpi	= The consumer price index
pop2024	= The share of the population aged 20-24

[6] The model also takes account of the effects of seasonal variation, the deregulation of the house rental market in 2000 and the change from quarterly to monthly incorporation of house rents in the CPI and CPI-ATE from January 2000.
[7] We have also tested for effects of the real interest rate after tax. This variable had no significant effect.

The expression in square brackets measures the difference between actual house rents in the previous quarter and an estimated long-term relationship between house rents and the explanatory factors.

According to the model, house rents will increase by 0.48% in the long term if wages in private services (w) increase by 1% and the other explanatory factors remain constant. This effect reflects primarily that house rents depend on maintenance costs, but may also capture increased demand for dwellings due to increased income. The effect of consumer prices (cpi) takes account of the fact that rents in existing contracts are often indexed using the rise in the consumer price index.

In isolation, a rise in resale home prices (ph) will make it more favourable to rent (rather than buy) and less favourable to rent out (rather than sell). This will result in increased demand for rental housing and a reduced supply of these dwellings, which will push up house rents. According to the model, house rents will increase by 0.15% in the long term if prices for resale homes rise by 1% (all else being equal).

The effects of the output gap (GAP) and the unemployment rate (u) capture the dependence of house rents on the economic and labour market situation. A one percentage point increase in the output gap will result in a 0.34% increase in house rents in the same quarter. For a given level of the economic situation, house prices and other explanatory factors, higher unemployment will result in higher house rents. This reflects the fact that increased unemployment results in reduced (expected) ability to pay and service loans on the part of those who become unemployed or whose job prospects become more uncertain as a result of the deterioration of the labour market situation. These persons may be more disposed to rent than to buy their own home if they are to change their housing situation when unemployment increases or has increased. In isolation, this will push up house rents.

The model implies that house rents depend positively on the share of persons aged 20-24 (*pop2024*) and (in the short term) on the share of persons in this age group who are studying (*stud2024*). The effects reflect the fact that it is primarily young people and students who want rental housing.

Imbalances in the US

Growth has picked up in the US. There is still an ample supply of labour, productivity growth is solid and there is considerable spare capacity in the business sector. However, the imbalances that have accumulated in the world economy in general and the US economy in particular over the past ten years have increased the uncertainty surrounding the US economic outlook - and consequently the outlook for the world economy. The imbalances deepened during the downturn and it does not appear that they will decline in the period ahead.

What are the reasons behind the current account deficit?

In the past decade, the US was the primary engine behind global growth. In Germany and Japan, which were marked respectively by reunification in 1990 and the repercussions of the burst in the bubble in the property and equity markets in 1991, growth was weak (see Chart 1). Higher growth in domestic demand in the US than in other regions led to a steadily rising current account deficit. The annual deficit now stands at a little more than USD 500bn or a good 5% of GDP (see Chart 2).

Through the 1990s, the deficit primarily reflected rising investment and consumption in the US, accompanied by a considerable accumulation of private sector debt. However, since 2000 the increase in the deficit has primarily reflected the substantial fiscal stimulus in the US. The federal budget moved from a surplus of 1.4% of GDP in 2000 into a deficit estimated at 4.6% of GDP in 2003[1].

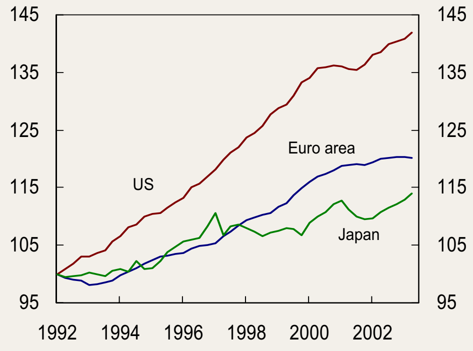
Chart 3 shows developments in net lending for the public and private sectors since 1990. Net lending for households and businesses fell gradually through the 1990s, but has edged up in recent years. Government net lending has moved on the opposite path.

How is the deficit financed?

A current account deficit does not necessarily constitute a problem in itself. It can imply a more even distribution of consumption over different periods, and a more efficient allocation of investment than would be possible if demand were constrained by the country's current revenues.

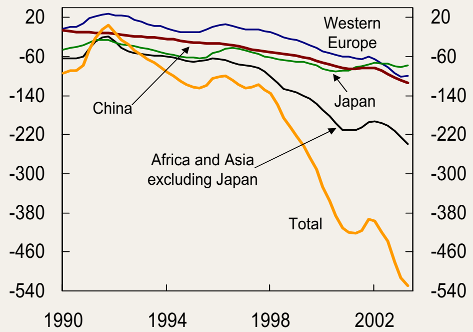
[1] OECD Economic Outlook 73.

Chart 1 GDP in the US, Japan and the euro area
Seasonally adjusted quarterly figures. 1990-2003.
Index. 1992 Q1 = 100



Sources: EcoWin, EUR-OP/Eurostat, US Department of Commerce, ESRI

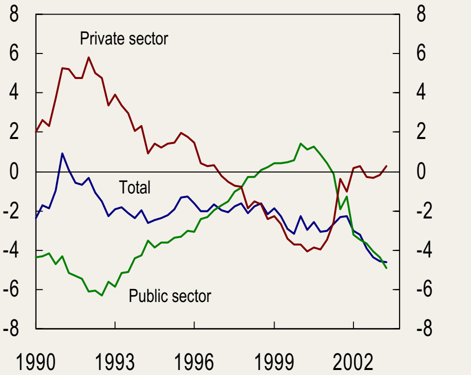
Chart 2 The US current account deficit in relation to western Europe, Japan, China[1], Africa and Asia excluding Japan. In billions of USD. Total over last four quarters. 1990-2003.



[1)] The series for China comprises only trade in goods.

Source: EcoWin / US Department of Commerce

Chart 3 Net lending as a percentage of nominal GDP. Seasonally adjusted quarterly figures. 1990 - 2003.



Sources: EcoWin / US Department of Commerce, Norges Bank

43

In order to determine whether the US has the capacity to service the debt associated with the deficit, it is therefore important to look at how capital inflows from other countries are applied. If the deficit is driven by high investment, it may be sustainable. Assuming that investment is profitable, it will increase the economy's output potential, and thereby debt-servicing capacity. In retrospect, however, it seems clear that investment was excessive towards the end of the 1990s. As a result, investment returns were lower than expected and the contribution to debt-servicing was smaller than assumed. If the current account deficit reflects an increase in consumption, which is based on unrealistic expectations concerning future income growth or interest rates, it may also become difficult to service debt.

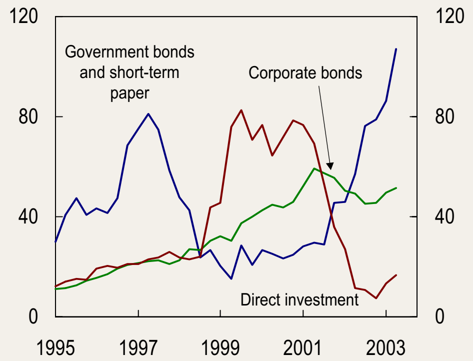
The sustainability of a current account deficit also depends on the level of foreign debt. In 2002, US net foreign debt stood at 25% of GDP. This is not particularly high in relation to many other industrial countries. A persistent deficit of around 5% of GDP will, however, lead to an increase in foreign debt to 35% of GDP by 2007.[2]

Whether the current account deficit can be sustained depends on foreign investors' willingness to finance the deficit. The composition of capital inflows has changed considerably since 2000 (see Chart 4). Up to 2000, direct investment accounted for a rising share of capital inflow. Up to 2002, the US was the world's largest recipient of foreign direct investment, but China has now taken the lead. In recent years, however, there has been a marked increase in the share of capital inflows composed of net purchases of US government and corporate bonds. A portion of the purchases have been made by foreign central banks as part of their exchange market interventions. The decline in private investors' purchases of dollar assets probably reflects lower growth expectations for the US economy.

Possible consequences of a current account adjustment

The imbalances can be corrected in several ways: reduced domestic demand in the US, higher domestic demand in other countries or a depreciation of the dollar. A weaker dollar will increase international demand for US goods and services, with a shift in domestic demand in the US towards domestic production.

Chart 4 Non-residents' net purchases of US assets. Moving average over 4 quarters. 1995 - 2003. In billions of USD.



Sources: EcoWin / US Department of Commerce, Treasury

Relatively high growth in household consumption in the US was the main reason why the recession was rather mild. Households' financial position has strengthened thanks to the rise in house prices and lower interest rates. However, household debt has risen sharply. Debt servicing is close to a historical peak in spite of very low interest rates. The saving ratio is low. Developments ahead will to a large extent depend on labour market conditions. If employment continues to grow at a sluggish pace, the risk of a sharp rise in saving will increase.

A fall in investment may also reduce the current account deficit in the short term. In the longer term, however, lower investment will reduce output capacity and income growth in the economy and thereby aggravate the imbalances.

For a correction to occur through higher demand for US goods relative to foreign goods, the dollar will have to depreciate considerably. Various studies indicate that the dollar will have to depreciate between 15% and 45% (see, for example Obstfeld and Rogoff (2000)[3]. This is partly because exports and imports account for a small share of GDP in the US. Experience also shows that exchange rate corrections are often pronounced and that the exchange rate has a tendency to over- or undershoot the level implied by economic fundamentals. Since January 2003, the effective dollar exchange rate index has depreciated by about 10%.

[2] Hunt B. (2002), "US Productivity Growth, Investor Sentiment , and the Current Account Deficit – Multilateral Implications", "United States: Selected Issues", IMF Country Report No. 02/165, August 2002

A sharp depreciation of the dollar will weaken other countries' competitiveness. This will hamper export growth, which has been the main driving force behind economic growth in other regions. Some Asian countries with strong growth are probably better poised to cope with an appreciation of their currencies than Japan and Germany where domestic demand is weak and inflation is low or negative.

US foreign debt is primarily in US dollars, while assets are to a large extent in foreign currencies such as euros or yen. Consequently, a depreciation of the dollar will not increase US debt, measured in US dollars. The negative effects of a depreciation will therefore be milder for the US than for countries whose foreign debt is denominated in a foreign currency. The counterpart to this is that a depreciation of the dollar implies that the home-currency value of other countries' assets decline.

It would seem that it is crucial that domestic demand picks up in other regions before a current account correction takes place in order to avoid a pronounced and perhaps long-lasting slump in the world economy.

[3] Maurice Obstfeld and Kenneth Rogoff; "Perspectives on OECD Economic Integration: Implications for US Current Account Adjustment", from Global Economic Integration: Opportunities and Challenges, Federal Reserve Bank of Kansas City 2000.

Assumptions concerning the exchange rate

Movements in the exchange rate have a considerable influence on inflation and output in a small, open economy like that of Norway. Movements in the exchange rate can be analysed and explained retrospectively, but experience shows that it is difficult to draw up reliable exchange rate projections. At Norges Bank, substantial work has been devoted to analysing developments in the krone exchange rate. Some of this work has been published in Norges Bank's Occasional Paper no. 31/2003.

The inflation paths in Norges Bank's *Inflation Reports* are usually based on two different sets of technical assumptions concerning changes in interest rates and the exchange rate:

- Interest rates and the exchange rate will remain constant throughout the projection period
- Interest rates shadow movements in forward rates and the krone moves in line with the forward exchange rate

In some *Inflation Reports* we have also analysed the effects of alternative scenarios for the krone exchange rate.

The assumption of a constant interest rate and exchange rate implies that the interest rate is set equal to the key rate at the time the *Inflation Report* is published, while the exchange rate is set equal to the average over a certain period. By applying an average, very short-term variations in the krone exchange rate have less impact on the exchange rate assumption.

A number of studies have found that the current exchange rate is a better short-term forecast than forecasts based on empirical exchange rate models or uncovered interest parity (see, for example, Sarno and Taylor 2002 and the references therein). The reason may be that themes in the foreign exchange market change in a way that is not captured by these models. This is an argument for applying the assumption of a constant exchange rate.

In this report, the inflation projections are based solely on forward interest rates and the forward exchange rate. The sight deposit rate is considerably lower than normal, and it would appear unrealistic to assume that it will remain at the current level throughout the projection period. The forward exchange rate reflects expected changes in the interest rate differential between Norway and other countries. The current forward exchange rate reflects a low interest rate differential against other countries and indicates a moderate depreciation of the krone during the projection period (see Chart 4.2 on page 30 in this Report). An assumption of an unchanged exchange rate from the current level during the projection period would not have deviated substantially from this path.

Norges Bank makes use of several models to analyse movements in the exchange rate. As noted above, such models are not necessarily suitable for forecasting purposes. They may nevertheless provide useful insight into the mechanisms that drive the exchange rate. In *Inflation Report* 1/03 we presented a model which explains movements in the krone from July 1999 to January 2003 (see also Naug 2003). This model includes the effects of oil prices, the interest rate differential against other countries, US equity prices and expected variability between the three major currencies. Market participants have pointed out that these variables have contributed to the variation in the krone exchange rate in recent years. The model indicates that a substantial portion of the krone appreciation from May 2000 to January 2003 was ascribable to a shift in themes in international financial markets. Market participants shifted their portfolios from equities and short-term positions in major currencies to fixed income instruments in countries with a high interest rate.

Since January 2003, the interest rate differential between Norway and other countries has narrowed considerably and has led to a weaker krone. Foreign exchange market participants are now focusing on movements in the major currencies, and there is less interest in investments in NOK. Experience shows that the focus in the foreign exchange market can shift rapidly between different themes. Such shifts in themes may be of considerable importance to movements in the krone exchange rate ahead.

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Flexible inflation targeting and indicators of pressures in the real economy

Norges Bank's operational conduct of monetary policy shall be oriented towards low and stable inflation. The inflation target is set at 2½%. Normally, the interest rate is set with a view to achieving inflation of 2½% at the two-year horizon. It would in general have been possible to attain the inflation target in the nearer term by changing the interest rate more rapidly and more markedly. However, assessments of monetary policy are based on flexible inflation targeting, where variability in both output and inflation are given weight. A time horizon for monetary policy of two years will normally reflect how the inflation target can be achieved when taking reasonable account of stability in production and employment.

Accordingly, interest rate decisions will be based on the inflation outlook and developments in the production of goods and services. A monetary policy stance that results in below-target inflation and slack in the economy will normally be too tight. Similarly, a monetary policy stance that results in above-target inflation and excessive pressures in the economy will normally be too expansionary.

In situations where the central bank's projections indicate that inflation two years ahead will be equal to the target while there is substantial slack in the economy, it may be appropriate to orient monetary policy in such a way that inflation projections may temporarily overshoot the target somewhat in order to remedy the imbalances in the real economy. Similarly, it may be appropriate to orient monetary policy in such a way that inflation projections may fall somewhat below target if the projections indicate that inflation two years ahead will be equal to the target and there is strong pressure on economic resources. If financial and foreign exchange market participants have confidence in the inflation target, Norges Bank will have greater scope for promoting stability in the real economy. This scope will increase also as the inflation target is incorporated as an anchor for wage formation. When there is a risk that inflation may deviate considerably from the target over a longer period, or confidence in monetary policy is in jeopardy, pronounced and rapid interest rate changes may be appropriate.

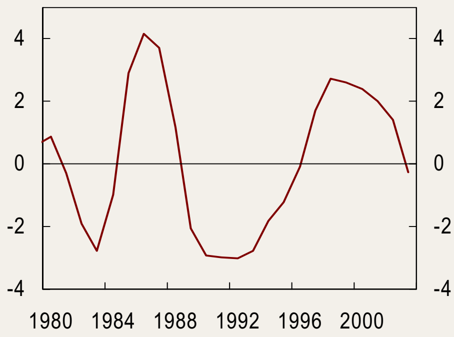
Flexible inflation targeting takes account of stability in output and employment. An assessment of stability in output and employment must be based on the long-term output potential in the economy and how well the labour market is functioning. The output potential depends on productivity in the economy, the capital stock and the labour supply. The share of the labour force that can be used without triggering accelerating wage growth depends on wage formation. Attempts to stabilise output and employment around a level that is higher than the level implied by the output potential and a stable labour market will lead to accelerating price and cost inflation.[1]

Norges Bank bases its assessments on a broad set of analyses. These analyses include economic models that use historical data for the Norwegian economy. These model-based analyses, together with current statistics, assessments of new developments, analyses of financial market data and shifts in themes in Norwegian and international capital markets, confidence surveys and reports from Norges Bank's regional network, provide the basis for our assessments of economic developments. In addition, Norges Bank uses a number of indicators that together can indicate whether growth and the level of activity in the economy are high or low compared with the output potential.[2]

The output gap is a measure of the difference between the level of actual output in the economy and the level that over time is consistent with stable inflation. This level is often termed trend output. This variable is not observable and must be estimated. It is usually assumed that total output over time expands at the trend rate because the labour force grows and productivity rises. The trend may vary because there are variations in labour force growth. New technology and new organisational forms can also affect productivity growth. Developments in the output gap illustrate cyclical developments and provide a basis for assessing output stability. Chart 1 shows how actual output has fluctuated around trend output in the period 1980-2003.

[1] See also "Trade-offs in monetary policy", Analysis paper No. 15 2003 from Norges Bank's Monetary Policy Department, by Svendsen, Røisland and Olsen, Norges Bank's website www.norges-bank.no.
[2] See "Monetary Policy in Real Time: The role of simple rules" by Olsen, Qvigstad and Røisland, *BIS Papers* No. 19.

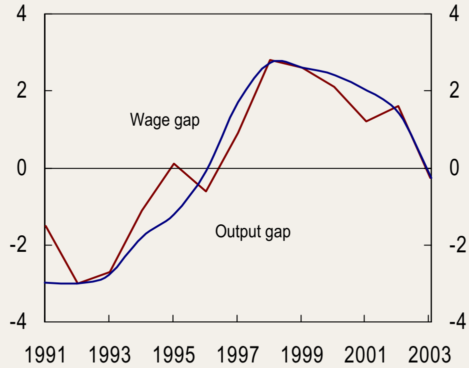
Chart 1 The output gap.
Percentage deviation from trend GDP. Annual figures.
1980 - 2003[1)]



[1)]GDP figures for 2003 are based on projections.

Sources: Statistics Norway and Norges Bank

Chart 2 The output gap and the wage gap[1)]



1) Difference between rise in hourly labour costs in manufacturing in Norway and among trading partners up to 2000. Thereafter wage growth in manufacturing in excess of 4.5%.

Sources: Statistics Norway, TRCIS/IMF and Norges Bank

Other indicators may also shed light on stability in output and employment:

Wage growth is a direct indicator of the social partners' perception of employment and labour shortages. Real wage growth must match productivity growth over time. If real wage growth is higher than underlying productivity growth, profitability in the business sector will deteriorate. Public entities' finances will also weaken, leading to subsequent budgetary tightening and workforce reductions. Wage growth can thus be an indicator of the employment outlook. Productivity growth in mainland Norway in recent years has been about 2%. The inflation target is set at 2½%. This indicates that nominal wage growth of around 4½% will be consistent with stable employment.

In Chart 2, the wage gap is defined as the difference in wage growth between Norway and other countries up to 2000. The wage gap is thereafter defined in relation to wage growth of 4½%. This level of wage growth will over time be consistent with the inflation target. There seems to be a close relationship between this wage gap and resource utilisation in the economy as Norges Bank measures it by the output gap. From 1990 to 1995, when unemployment was relatively high in Norway and actual output was below potential, wage growth in Norway was lower than that of its trading partners. From 1997, however, the wage gap was positive. In this period, resource utilisation increased markedly. Towards the end of the period, the wage gap narrowed as resource utilisation approached a more sustainable level.

Equilibrium unemployment refers to the level of unemployment where wage growth is consistent with stable and sustainable economic developments. The level of equilibrium unemployment primarily depends on how well wage formation functions and must in no way be viewed as a norm for the level of unemployment. Norges Bank has no fixed perception of the level of equilibrium unemployment. In line with the above, equilibrium unemployment can be seen as the level of unemployment consistent with wage growth of about 4½%. With wage growth of 4½% and inflation of 2½%, real wage growth will correspond to growth in productivity. Such wage growth will therefore not change the distribution of income between employees and enterprises.

Credit growth is an indicator of private sector demand, which over time is assumed to grow approximately in pace with nominal GDP. If it is assumed that mainland GDP at constant prices grows at a trend rate of close to 2½% and inflation is on target, credit growth may be around 5%. Credit growth that is considerably higher or lower than 5% is an indication that the activity level in the economy is higher or lower than normal. However, these relationships are uncertain in both the short and long term. A previous sharp rise in house prices may for example influence credit growth for a long period.

Annex I
Regional network

Norges Bank's regional network

Norges Bank's regional network was established in autumn 2002 and consists of enterprises, organisations and local authorities throughout Norway. In six rounds of talks each year, we engage in discussions with business and community leaders on financial developments in their enterprises and industries, with about 200 visits in each round. The selection of contacts reflects the production side of the economy, both industry-wise and geographically. In the course of 2003, the number of contacts in the network will rise to about 1000 persons, who will be contacted once or twice a year.

The regional network is primarily intended to serve as a source of up-to-date information on the state of the Norwegian economy. Regular communication with local contacts in Norway's business and community life will provide us with information earlier and more frequently than available government statistics. It will also provide us with supplementary information on areas not covered by other statistical sources, and we will 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 and enable us 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 form a basis for Norges Bank's projections as presented in the *Inflation Report* and other published material.

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

Region North (Nordland, Troms and Finnmark)	Kunnskapsparken Bodø
Region Central Norway (Nord- and Sør-Trøndelag)	Allforsk in Trondheim
Region North-West (Møre and Romsdal, Sogn and Fjordane)	Møreforskning Molde
Region South-West (Rogaland and Hordaland)	Rogalandsforskning
Region South (Aust- and Vest-Agder, Telemark and Vestfold)	Agderforskning
Region Inland (Hedmark and Oppland)	Østlandsforskning
Region East (Buskerud, Akershus, Oslo and Østfold)	Covered by Norges Bank

Summary of the two contact rounds since Inflation Report 2003/2

In the two contact rounds since the June *Inflation Report*, discussions have been held with a total of approximately 450 contacts in the regional network. A summary for Norway as a whole and summaries for each region from the first of these contact rounds were presented on Norges Bank's website following the monetary policy meeting of 17 September. Summaries from the last round of contacts will be available on our website on 30 October. The main points below are based on the regional reports from the institutes responsible for the various regions, and do not necessarily reflect Norges Bank's view of economic developments:

- Activity remains sluggish, but appears to have bottomed out for manufacturing and services to the business sector.

- Production in the consumer goods industry is rising, while segments of internationally exposed domestic manufacturing are still struggling. The decline in activity in the offshore industry appears to have come to a halt. A low level of exploration activity is generating negative impulses, whereas an increase in operations and maintenance contracts is providing a positive impetus.

- Positive developments in the US and Asia have led to moderate growth in the export industry since the end of the summer. European markets are showing weaker developments, but increased demand and prices for farmed fish are making a positive contribution.

- New orders in manufacturing are edging up, and underpinning a more positive trend. However, there is considerable uncertainty surrounding the strength and duration of the upturn.

- The building and construction sector reports that activity has stabilised following a dip earlier this year. New orders are picking up slightly. Construction activity is rising, but activity in the commercial buildings industry, where there is substantial overcapacity, is still falling. The market for refurbishment of houses and sales of new dwellings appear to be expanding somewhat.

- Growth in retail trade and services to households is buoyant. Growth in household demand is attributed to interest rate cuts and high real wage growth.

- Both the public and the private sector appear to be somewhat more positive with respect to investment plans, but are still not signalling any substantial growth in investment in the year ahead. Manufacturing investment is still primarily aimed at improving productivity and cutting costs.

- The fall in employment is slowing, but few operators in either the public or the private sector report plans to increase employment. At the same time, a satisfactory – and slightly increasing – supply of qualified labour is reported in all sectors.

- Wage growth is estimated to be considerably lower in 2003 than in 2002. Squeezed profitability in many industries is expected to result in low wage drift.

- Profitability in most industries has improved as a result of cost cuts. The focus now appears to have shifted to some extent from cost cutting to strategies for increasing income.

Enterprises and organisations that have been contacted in the work on this Inflation Report

3T Produkter AS
ABB AS
Accenture
Adecco Norge AS
Adidas Norge AS
Advokatfirma Schjødt
Aetat Vestfold
Aker Gaard Gartneri
Aker Langsten AS
Aker Stord
Aksel L. Hansson
Allianse AS
Alta kommune
Amersham Health AS
Ankerløkken Lys og Data AS
Anleggsgartnerfirma Strand-man AS
ARKI arkitektar AS
Arkitektfirmaet C.F. Møller
Arvid Nergård AS
AS Ingeniør Gunnar M. Backe
Asplan Viak Bergen AS
Asplan Viak Trondheim AS
Atmel Norge
Aukra Midsund Offshore AS
Avinor Midt-Norge AS
B&T Låseservice AS
Bakke EL-Installasjon AS
Ballangen Camping AS
Barnekompaniet AS
Bates AS
Bedriftskompetanse AS
Berg Jacobsen Gruppen
Bergen kommune
Bergene Holm AS
Bergens Rørhandel AS
Bergens Tidende
Berle Fisk AS
Berlevåg Bygg AS
BeWi Produkter AS
Big Horn Steak House Norge AS
Bilhuset AS
Bilia Personbil AS
Billettservice AS
Bislett Bilutleie AS
Bjølseth Caravan AS
Bjørge-Gruppen AS
Bladet Nordlys AS
Bodø Energi AS
Bodø Sildoljefabrikk AS
Borgstein AS
Borregaard Industrier
BP Norge AS
Br. Reme AS
Bredesen Tekstil Service AS
Brekke Industrier AS
Brilleland AS
Brødrene Bakk AS
Brødrene Harsjøen
Brødrene Hveding AS
Brødrene Seppola AS
Braathens
Bunnpris
Buskerud Sentralsykehus
By The Way AS
Byggenæringens Landsforening
Bygger'n Orkdal
Byggmakker Ekran AS
Bø kommune
Båtservice Holding ASA
Båtsfjord Industriservice AS
Båtsfjordbruket AS
Caribonum Norway AS
Canal Digital Norge AS
Cap Gemini Ernst & Young Norge AS
CHC Norway
City Syd AS
Coca Cola Drikker AS
Comfort Rørlegger Åsheim AS
Comrod AS
Conseptor ASA
Coop NKL BA
Creato
Daldata AS
Den Norske Bank ASA, Region Sørlandet
Den Norske Bank ASA, Tønsberg
Diakonhjemmets Sykehus AS
Domstein ASA
EFD Induction AS
Eidesvik Holding AS
Eiendomsdrift Nord AS
Eiendomsmegler 1 Midt-Norge AS
Eiendomsmegler 1 Oslo AS
Ekornes ASA
Elektro AS
Elkem Mosjøen
Elkem Thamshavn
Elkjøp Giganten Forus
Elkjøp Stormarked Skien
Elsafe International AS
Elvemo og Hjertås Bygg AS
Emma EDB AS
Enger Lefsebakeri
Engerdal kommune
Eramet Norway
ErgoRunit AS
Esmeralda AS
Esso Norge AS
Expert ASA
Fagbokforlaget
Farveringen AS
FAV Gruppen
Fesil ASA
Figgjo AS
Finnmark Miljøtjeneste AS
Finny Sirevaag AS
Fiskeridirektoratet
Fjord 1
Fjällräven AS
Flatsetsund Møbel- og Trevarefabrikk AS
Fokus Bank ASA
Fredrikstad kommune
Fretex Midt-Norge AS
Frost Entreprenør AS
Fundamus AS
Furnes Hamjern Scandinavian Cast AS
G. W. Nilsen AS
Geoservice AS
Gjensidige Nor ASA
Gjøco AS
Gjøvik kommune
Glamox ASA
Glava AS
Godstrafikk og Bilspedisjon AS
Gravdal Bokhandel
Gresvig ASA
Grieg Seafood AS
Grimstad kommune
Grimstad Planteskole AS
Gro Industrier AS
Grytnes Betong AS
Gunvald Johansen AS
Hafjell Quality Hotell AS
Hakon Distribusjon AS
Halliburton
Hamar Elektro AS
Hamar kommune
Hands ASA
Hank Sport AS
Hansa Borg Bryggerier ASA
Haram kommune
Harila Midt -Troms AS
Hatteland Group
Havforskningsinstituttet
Havprodukter Båtsfjord AS
Havsølv AS
HCL Norway AS
Hedalm Boliger AS
Hedmark fylkeskommune
Hedmark Trafikk FKF
Hegra Sparebank
Heimdal Gruppen AS
Helse Nordmøre og Romsdal
Hemnes Mek. Verksted AS
Hennig-Olsen Is AS
Herøy kommune
Hitec Framnæs AS
Hitec Vision
Hitra kommune
Holm Grafisk AS
Hordaland Reiseliv
Hotell Frøya AS
Hov Dokka AS
Hovden Møbel A/S
Hunton Fiber AS
Hustadmarmor A/S
Hustadvika Gjestegård
Hydraulikk Finnmark AS
Hydro Aluminium Profiler AS
Hydro Automotive Structures AS
Hydro Exploration and Production Norway
Hydrotech Gruppen AS
Høie AS
Håg ASA
I.P. Huse AS
IBM Norge
IGLO Holding AS
IKEA Åsane
IKM Gruppen AS
Ikon AS
Indre Sogn Sparebank
Industriverktøy AS
Interfil AS
Intersport Lillehammer AS
IPEC Instrumentering AS
ISS Norge AS
Joh. Løvold AS
Julius Maske AS
Jørstad AS
Kai Karstensen Kuldeteknikk AS
Kantega AS
Kappahl AS
Karmsund Maritime Service AS
Karmøy Stål
Kirkenesterminalen AS
Kleiven Sogn A/S
Kleven Florø AS
Klingenberg Hotel AS
Klaastad Brudd DA
Knutsen OAS
Komplett ASA
Kongsvinger kommune
Kosbergs Arkitektkontor A/S
KPMG
Kraft Foods Avd. Disenå
Kran og Industriservice Nord AS
Kristiansund Havn KF
Krogsveen AS
Krogsveen Raknes AS
Kruse Betong
Landskapsentreprenørene AS
Legra Industrier AS
Leif Gromstads Auto AS
Lenvik kommune
Leo Burnett Gruppen AS
Lillesand produkter AS
Lindorff AS
Lindstrøm Hotel AS
Linjebygg Offshore AS
Lofotprodukt AS
Loreal Norge AS
LPO arkitektur & design AS
Lufttransport AS
Lycro AS
Lyng Gruppen AS
Malvik kommune
Mandal Industrier AS
Mandal kommune
Mandal Reberbane Christian-sen & CO
Mandal Sykehus
Manpower
Maritech AS
Maritim Hotell AS
Maritime Hydraulics AS
Maritime Pusnes AS
Melhuus Schrøder AS
Mester Grønn AS
Meyer AS
Midnor Group AS
Midsund Bruk AS
Miljøbygg AS
Minde Sjokolade
Mjosundet Båt og Hydraulikk AS
Moss kommune
MTU Telecom AS
Multi Elektro AS
Møre og Romsdals fylkeskom-mune
NCC Norge AS
Nerland Granitindustri AS
Nettbuss Sør AS
NettSpesialisten AS
Norac AS
Norcem AS
Nor-Dan AS
Nordbohus Vinstra AS
Nordmøre Revisjon AS
Nordtrafikk Buss Avd. Lakselv
Norges Råfisklag
Norpower Brødr. Malo AS
Norsk Scania AS
Norsk Stein AS
Norske Skogindustrier ASA
Norsvin
Nortrans Touring AS
Nortronic AS
Notar Tromsø AS
Nova-Group
Nymo Mek. Verksted AS
Nysted AS
Odfjell ASA
Ole Moe Engros
Oljedirektoratet
Optiroc AS
Opus AS

Oracle Norge AS
Orkdal Installasjon AS
Orkdal kommune
Orkla Media AS
Os Husdyrmerkefabrikk AS
Os kommune
Otta Sag og Høvleri AS
Otteren Gullsmed & Urmaker
Outokumpu Norzink
Owens Corning Fiberglas
Norway AS
Pallin AS
Partner Reisebyrå AS
Paulsen Eiendom AS
Pay & Brinck Motor AS
PEC Installasjon AS
Per Aaland AS
Plus Reiser
Poesi Kaffe og The AS
Polimoon AS
Porsanger kommune
Porsgrunds Porselænsfabrik AS
PriceWaterhouseCoopers
Prior NOR BA
Pronova Biocare AS
Protech AS
Protek Telsoft AS
QS Manager AS
Radisson SAS Plaza Hotel
Rana Gruber AS
Rana Plast AS
Rana Trevarefabrikk AS
Rapp Hydema AS
Rautaraukki Profiler AS
Reidar Flokkmann Eftf.
Reime Prosess AS, Jarlsø
Rema 1000
Revisorkonsult AS
Rica Arctic Hotell
Rica Hotel Alta
Rica Hotels Midt-Norge AS
Rica Olrud Hotel
Ringerike kommune
Ringnes AS
Ringsaker kommune
Risa AS
Rissa kommune
Rogaland Kunnskapspark
Rogaland Reiseliv
Romsdals Budstikke
Rosenborg Malerforretning AS
Rygge-Vaaler Sparebank
Rørteknikk AS
SalMar AS
Sandefjord kommune
Sarpsborg kommune
Savalen Fjellhotell AS
Scandiaconsult AS
ScanPartner AS
ScanRope AS
Selje Hotel AS
Selmer Skanska AS
Selmer Skanska Bolig
Sentrum Regnskap - Hitra
Servi Cylinderservice AS
Siemens AS
Sig. Halvorsen AS
Simon Møkster Shipping AS
SINTEF konsernstab
Sjøbruk AS
Sjøsiden Senter AS
Sjøvik AS
Skagen Fondene
Skaidi Kro og Motell AS
Skedsmo kommune
Skjærvøyfisk AS
Skodje Byggvare AS
Skårland AS
SM Triplex AS
Snillfjord kommune
Song Networks AS
Sortland Auto AS
Sparebank 1 Gruppen AS
Sparebank 1 Nord-Norge
Sparebanken Hedmark
Sparebanken Møre
Sparebanken Pluss
Sparebanken Vest
Sparebanken Vestfold
Spenncon AS
Sportshuset AS
St. Olavs Hospital
Stansefabrikken Lillesand AS
Stantek Kongsvinger AS
Statens Vegvesen Region Sør
Statoil Stjørdal
Stiftelsen Betanien Bergen
Stillasservice AS
Stoa Storkjøp AS
Stokke Gruppen AS
Stormoa Butikksenter
Storvik AS
Studentsamskipnaden i Agder
Svaneapoteket i Hamar
SWIX Sport AS
Sykehuset Østfold HF
Sylteosen Betongvarefabrikk AS
Södra Cell Tofte AS
Søgneheimen bo- og aktivitets-senter
Sørhøy Distribusjon AS
Sør-Norge Aluminium AS
Tanum AS
Taubåtkompaniet AS
TDC Norge AS
Teeness ASA
Telenor Mobile AS
Teleplan AS
Thommessen
TI Group Automotive Systems AS
Timpex AS
Tine BA
Titania AS
TNS Gallup AS
Torgkvartalet kjøpesenter
Trafikk & Anlegg AS
Trehuseksperten AS
Trondheim Politikammer
Trondheim Stål AS
Trondheimsfjorden interkommu-nale havn
Turtagrø Hotel
Tverås Maskin & Transport AS
Tysfjord Turistsenter AS
Uldal Vinduer og Dører AS
Ulstein Verft AS
Umoe Mandal AS
Union Hotel AS
Universal Sodexho Norway AS
Universitet i Bergen
Vadsø kommune
Vefsn kommune
Vest Inkasso AS
Vest Sandblåsing AS
Vest-Busscar Stryn
VIBO Entreprenør AS
VINN
Vital Forsikring ASA
Vågan Kommune
Våler Bygg AS
Wartsila Norway
Wennberg Trykkeri AS
Wenaas AS
Westaff Vikartjenester
Westres Bakeri AS
Wikborg Rein & Co
Wist Last og Buss
X-Partner Nord AS
YIT Building Systems AS
YIT Installasjon
Øyer kommune
Aarbakke AS
Årdal Stålindustri AS
Aarsland Møbelfabrikk AS
Åsen & Øvrelid AS

Annex II
Strategy Document 2/03

Strategy Document 2/03

Monetary policy in the period to October 2003.

Discussed by the Executive Board at its meeting of 4 June 2003. Approved by the Executive Board at its meeting of 25 June 2003.

Background

Norges Bank's operational conduct of monetary policy shall be oriented towards low and stable inflation. The inflation target is set at 2½%. Monetary policy influences the economy with long and variable lags, and the Bank must therefore be forward-looking in interest rate setting. The key rate (the sight deposit rate) is set on the basis of an overall assessment of the inflation outlook, normally two years ahead. This time horizon also means that emphasis is placed on dampening fluctuations in the real economy. The key rate will normally be changed gradually so that we can assess the effects of an interest rate change and other new information about economic developments. However, in situations where there is a risk that inflation may deviate from the target over a longer period or when there is considerable turbulence in financial markets or a wage-driven cost shock indicates that monetary policy credibility is in jeopardy, a rapid and pronounced change in the key rate may be appropriate. Inflation may, for example, deviate from the target to a considerable extent over a longer period if international growth and inflationary impulses are weak for a long period.

In the monetary policy discussion of 5 March, the Executive Board deemed that a sight deposit rate in the interval 4¾ – 5½% would be appropriate at the end of June 2003. The interval was conditional on developments in the krone and economic projections. The sight deposit rate was reduced by ½ percentage point at each of the monetary policy meetings on 5 March and 30 April 2003. The press release following the monetary policy meeting of 30 April stated: "With an interest rate of 5.0%, Norges Bank's assessment is that the probability that inflation two years ahead will be lower than 2½% is greater than the probability that it will be higher."

Economic developments, uncertainty and the inflation outlook

The analyses in this section formed the basis for the Executive Board's discussion of 4 June. The analyses were prepared at the end of May.

Developments

Global economic developments are weaker than assumed when the previous strategy discussion was held. In many countries, efforts have been made to sustain activity through low interest rates and an expansionary fiscal stance. Further interest rate reductions are expected. Bond yields are very low. The period of low short-term interest rates is expected to span a longer period.

Economic growth is also low in Norway. Business sentiment indicators for manufacturing have fallen sharply. Norges Bank's regional network reports falling demand and profitability in many industries. Activity is low in both management and service industries. Mainland investment has contracted to a further extent than projected. However, petroleum investment is holding up demand. Public consumption is exhibiting low real growth. Households seem less optimistic about the domestic economy than earlier, and house prices have fallen. Private consumption is growing broadly in line with previous projections. Credit demand in the household sector is high and households are still building up debt.

Employment growth is weaker than projected. The increase in unemployment is broad-based, both across occupations and regions. Employment in the internationally exposed sector, particularly in manufacturing and their sub-contractors, is falling in line with that projected. Developments in other segments of the labour market have been somewhat weaker than anticipated. Earnings are weakening in the service industries, with increased redundancies. Industries such as IT and telecommunications are severely marked by the after-effects of the bubble that burst. Global consultancy firms have scaled down capacity in Norway. The airline industry is restructuring and cutting costs. It also appears that the public sector is increasing its focus on cost-cutting and reducing employment growth compared with previous years.

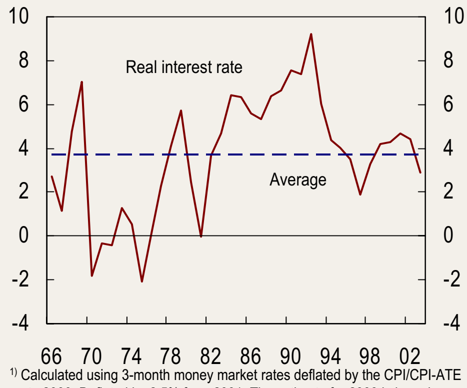
Fiscal policy is less expansionary than assumed in the previous *Inflation Report*. Measured using the traditional budget indicators, the Revised National Budget (RNB) for 2003 will be more or less cyclically neutral.

A positive feature is that this spring's wage settlements resulted in moderate pay increases. This may imply that particular emphasis was placed on weak labour market developments and the situation in the internationally exposed sector. This spring's wage settlement was an interim settlement, however, and next year's main settlement will provide a better indication of whether a more long-lasting shift towards lower pay increases has taken place. For manufacturing, pay increases will have to remain low for a longer period in order to catch up in terms of competitiveness.

Underlying inflation is low. The feed-through from the krone appreciation has been somewhat stronger recently than assumed in the previous *Inflation Report*. CPI-ATE inflation has been lower than projected, reflecting the low rise in prices for imported consumer goods. Inflation expectations, as measured by Norsk Gallup's expectations survey, seem to be well anchored at 2½% in the long term.

Monetary policy has been eased to a considerable extent over the past half-year. The real interest rate is now below its historical average (see Chart 1). The interest rate reductions and expectations of further cuts have led to a weakening of the krone. Around end-May/beginning of June, the krone was a little more than 5% weaker than the peak level in January. This is moderating the contraction in the internationally exposed sector and will lead to higher import price inflation ahead. The real exchange rate is still high from a historical perspective, both measured in terms of relative wages and prices (see Chart 1). International interest rate developments have reduced the effects of domestic interest rate cuts on the krone.

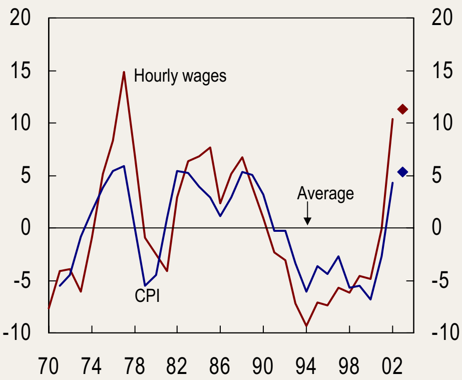
Chart 1a Real interest rate before tax. 1996-2003[1)]



[1)] Calculated using 3-month money market rates deflated by the CPI/CPI-ATE up to 2000. Deflated by 2.5% from 2001. The estimate for 2003 is based on the average of interest rates over the year (the most recent observation is used for the last part of 2003).

Source: Norges Bank

Chart 1b Real exchange rate. 1970-2003[1)]



[1)] Figures for 2003 based on TWI in May and projections for the CPI and wages.

Source: Norges Bank

Outlook for the global economy

Global growth is assumed to pick up toward the end of this year and through next year. An expansionary monetary and fiscal policy in several countries, lower oil prices and improved corporate earnings in the US point to a pick-up in growth. However, the upturn is projected to occur at a later stage than anticipated in the previous *Inflation Report* and the projections for economic growth among trading partners in 2003 have been revised downwards. Inflation is expected to remain subdued.

It is still uncertain when global growth will be self-driven and sufficient to increase capacity utilisation. The effects of the sharp decline in equity prices up to March of this year and earlier overinvestment may prove to be more pronounced than previously assumed. Moreover, house prices have exhibited a marked rise in the UK and US in recent years. A correction in the housing market could have a considerable impact on household saving and reduce consumption growth. In the US, there is a risk that consumption growth will fall to a further extent before investment rebounds. The fall in the value of the dollar will, however, have positive effects on growth in the US, but have a negative impact in Europe and Japan. The fear of SARS is adversely affecting tourism, trade and production, particularly in Asia. Against this background, there is a risk that the world economy may be facing a fairly long period of weak growth or stagnation. This is reflected in the low long-term yields in the US and Europe. Such a development could be particularly inauspicious in today's situation with low key rates and sizeable public budget deficits as it gives rise to the risk of deflation.

However, it is possible that the fall in oil prices, economic policy stimulus and the conclusion of the Iraq war will lead to a faster revival of growth than assumed. Spare capacity in the US is not as high as earlier, and inventories have been scaled down. Many US companies have considerable uncovered pension obligations, but they have improved their balance sheets and profitability, as reflected in higher share prices.

The outlook for the Norwegian economy

Even if economic developments have been somewhat weaker than projected, growth in private consumption may hold up. Lower interest rates are making a positive contribution, but weak labour market developments are having a dampening impact on consumption growth and the housing market.

Mainland investment appears to be falling markedly this year. Investment may remain low ahead even with lower interest rates and a weaker krone. Weaker competitiveness at home and the global downturn are hampering manufacturing investment. Earlier overinvestment, low demand for business services and vacancy rates in the commercial property market are also contributing to sluggish investment in service industries. Even though the feed-through from petroleum investment to the mainland economy may be more limited than previously as a result of the high import content, a sharp increase in investment will still contribute to sustaining activity in oil-related industries.

The Revised National Budget (RNB) for 2003 implies a neutral fiscal stance over the next years in order to keep the structural deficit in line with the real return on the Petroleum Fund. Growth in public consumption is projected to be somewhat higher than this. The estimates in the RNB are conditional on a reduction in local government deficits. Given the strong pressure on local government welfare services, this may be somewhat optimistic. High wage growth has limited the scope for increasing production and employment in the local government sector, however.

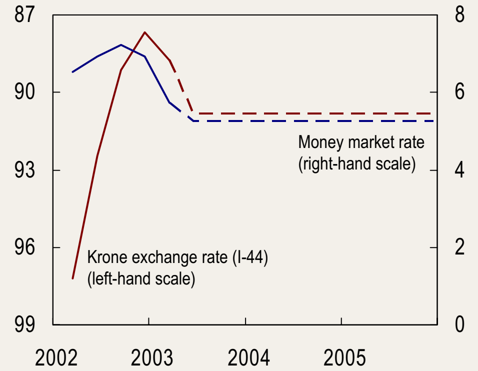
The oil price is assumed to fall gradually to about USD 20 in the period ahead. This is based on the assumption that it will take time for Iraq to build up its production capacity, and commercial stocks are still low.

The projections for inflation and economic developments ahead are conditional on our interest rate and exchange rate assumptions. Prospects given different assumptions are discussed below.

<u>Unchanged interest rate and constant exchange rate</u>

Without an easing of monetary policy, it appears that GDP growth in Norway will be lower than trend growth this year and next. The output gap will close this year and then turn clearly negative.

Chart 2a Scenario 1: Sight deposit rate of 5% and import-weighted exchange rate (I-44) of 90.8[1)]

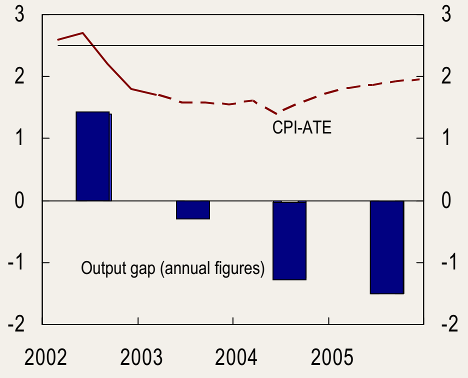


1) Corresponds approximately to the average in May.

Source: Norges Bank

The increase in unemployment will then continue, and wage growth is projected to be lower than the level that is in line with the inflation target over time. Inflation will remain low. This is partly due to the appreciation of the krone through last year, with an attendant low rise in import prices over a longer period. The effects will gradually unwind. However, moderating wage growth will under these assumptions keep inflation below target also in 2004 and 2005. A negative output gap may indicate that capacity utilisation is too low and that there is stronger competition in product markets. This may exert downward pressure on inflation through smaller margins (see Chart 2 and Table 1).

Chart 2b Scenario 1: Sight deposit rate of 5% and import-weighted exchange rate (I-44) of 90.8[1)]



[1)] Corresponds approximately to the average in May.

Source: Norges Bank

Table 1 Scenario 1: Projections based on assumptions of a constant sight deposit rate of 5.0% and krone exchange rate equal to 90.8[1)]. Percentage change on previous year. Changes in relation to baseline scenario in previous Inflation Report in brackets.

	2003	2004	2005
Mainland demand	¾ (-½)	2 (-½)	2¼ (-¼)
Private consumption	2¾ (0)	3 (-¼)	2¾ (-¼)
Public consumption	¾ (0)	1½ (-½)	1¾ (-¼)
Fixed investment	-6 (-2)	½ (0)	2 (0)
Net exports (contribution to growth)	-1 (0)	-½ (¼)	-½ (¼)
Mainland GDP	¾ (-½)	1½ (-½)	2¼ (0)
Output gap	-¼ (-¼)	1¼ (-1)	-1½ (-1)
Employment	-1 (-½)	-¼ (-¼)	¼ (-¼)
Reg. unemployment[2)]	4¼ (¼)	4¾ (½)	5 (¾)
Oil price, USD	26 (-4)	22 (-2)	20 (0)
Annual wages	4½ (-½)	4 (-½)	4 (-½)
CPI	2¾ (-½)	1 (0)	2 (-¼)
CPI-ATE	1½ (-¼)	1¾ (-¼)	2 (-¼)

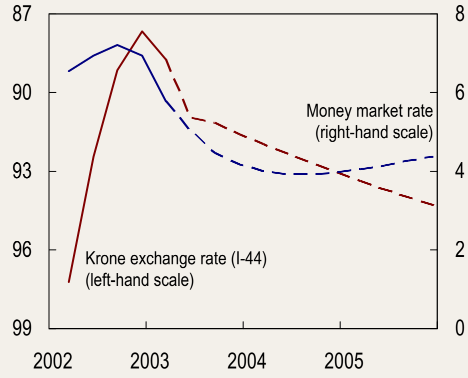
[1)] Corresponds approx. to average of I-44 for May.
[2)] Percentage of labour force

Source: Norges Bank

Market interest rate and exchange rate expectations

There are expectations of an easing of monetary policy ahead. At end-May, the money market expected an interest rate reduction of about 1¼ percentage points through the year. According to the hypothesis of uncovered interest parity, the interest rate expectations correspond to a gradual weakening of the krone by about 5% in the period to end-2005.

Chart 3a Scenario 2: Forward rate at end-May and gradual exchange rate depreciation (I-44) of about 5%



Source: Norges Bank

Our analyses suggest that an easing of monetary policy of this order may lead to more balanced developments in the real economy. The decline in interest rates has relatively strong positive effects on private consumption partly as a result of lower interest rate expenses and partly through higher house prices and thereby higher real wealth. In addition, lower interest rates may boost household optimism, particularly among households in a net debt position.

A weaker krone will gradually improve profitability in the internationally exposed sector. Demand for goods supplied by sub-contractors will gradually be higher than in the scenario with a constant exchange rate. Combined with lower interest rates, this may curb the fall in fixed investment.

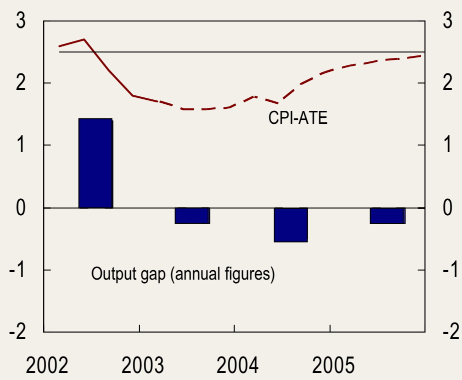
Given these assumptions, the rise in unemployment will gradually level off and edge down toward the end of the projection period. Given this path for labour market developments, wage growth may remain between 4½ and 4¾%. Low consumer price inflation next year may, however, reduce the social partners' inflation expectations. This may entail lower wage growth than we have projected. On the other hand, the low pay increases awarded in this year's interim wage settlement may be motivated by the desire to prevent a further loss of competitiveness. When it becomes clear that the low pay increases and the zero pay increases in many industries are improving competitiveness, there is a risk that wage growth will again exceed 5% after next year's main settlement.

Wage growth in line with our projections will exert continued upward pressure on the rate of increase in prices for domestically produced goods. In addition, a gradual depreciation of the krone will push up import price inflation. On balance, inflation two years ahead will then be about ½ percentage point higher than if the monetary stance had been left unchanged.

At the two-year horizon, inflation, as measured in terms of the CPI-ATE, will be a little less than 2½% (see Chart 3 and Table 2). The output gap will slightly negative in 2005. However, inflation will be about 1 percentage point below target one year ahead. The uncertainty surrounding the inflation projections entail a risk that underlying inflation may be considerably lower than 1½% over the next year.

Beyond the two-year horizon, it appears that GDP growth will be higher than trend growth. The driving force behind growth is a low real interest rate through 2003-2005. In addition, the real exchange rate will also be more conducive to a balanced economy. World economic growth will probably have moved up to trend with a normalisation of external demand. This scenario may imply excess demand, which may gradually result in an inflation rate that is higher than 2½%.

Chart 3b Scenario 2: Forward rate at end-May and gradual exchange rate depreciation (I-44) of about 5%



Source: Norges Bank

Table 2 Scenario 2: Projections based on forward interest rate and forward exchange rate at end-May.[1] Percentage change on previous year. Changes in relation to baseline scenario in previous Inflation Report in brackets.

	2003	2004	2005
Mainland demand	1 (-¼)	3 (½)	3 (½)
Private consumption	3 (¼)	3¾ (½)	3½ (½)
Public consumption	¾ (0)	1½ (-½)	1¾ (-¼)
Fixed investment	-5½ (-1½)	1¼ (¾)	4 (2)
Net exports (contribution to growth)	-1 (0)	-¾ (0)	-½ (¼)
Mainland GDP	¾ (-½)	2¼ (¼)	2¾ (½)
Output gap	-¼ (0)	-½ (-¼)	-¼ (¼)
Employment	-¾ (-¼)	0 (0)	¾ (¼)
Reg. unemployment[2]	4¼ (¼)	4½ (¼)	4½ (¼)
Oil price, USD	26 (-4)	22 (-2)	20 (0)
Annual wages	4½ (-½)	4½ (0)	4¾ (¼)
CPI	2¾ (-½)	1¼ (¼)	2½ (¼)
CPI-ATE	1½ (-¼)	2 (0)	2½ (¼)

[1] Sight deposit rate falls to approximately 3¾% towards the end of the year and the krone exchange rate (I-44) depreciates by about 5% in period to end-2005.
[2] Percentage of labour force

Source: Norges Bank

A sharper interest rate reduction

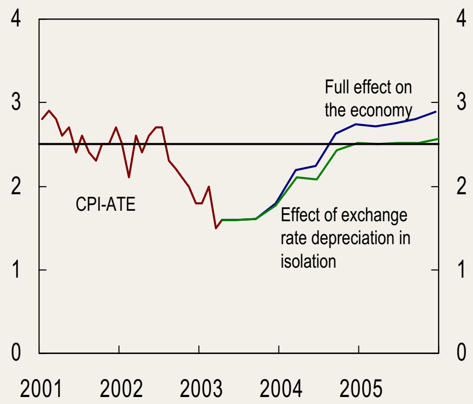
If the interest rate is reduced to a level that is below market expectations, this might have an impact on inflation through a swifter depreciation of the krone than implied by forward rates.

Norway has been among the countries with the highest short-term rates. The key rate in Norway is now 5%. Key rates are higher in Poland, New Zealand and Iceland. In Australia, the UK and Sweden, key rates are 1/4 -1¾ percentage points lower than in Norway. With lower interest rates in Norway, it will become less attractive to maintain short-term krone holdings. This means that a marked interest rate reduction could trigger a depreciation of the krone.

With a technical assumption of an interest rate that is 2% lower and an exchange rate depreciation of 5% over the summer, domestic demand will be higher and the labour market tighter. Wage growth may not change in the short term as a result of an interest rate reduction of this order. If wage growth remains at about 4½%, inflation may move up towards the inflation target in the latter half of 2004 and remain at that level. Inflation would then be about 2½% two years ahead.

With these interest rate and exchange rate assumptions, unemployment may fall to about 4½ in 2005. There is a risk that this may lead to an increase in wage growth. A box in the June 2002 *Inflation Report* describes a simple model for wage formation for mainland Norway. In the model, a fall in unemployment will in isolation contribute to higher wage growth. With inflation expectations of 2.5%, the model predicts that wage growth will be close to 5½% in 2005. With this path for wage growth, inflation will accelerate and exceed the inflation target in 2005 (see Chart 4).

Chart 4 CPI-ATE with 2% lower interest rate and rapid depreciation of 5%.



Sources: Statistics Norway and Norges Bank

Outlook for financial stability

Weaker developments in the Norwegian economy and a sharp rise in the number of bankruptcies have resulted in higher losses and weaker results in the banking sector. Losses are still moderate in a historical context, but are on the rise. In spite of the deterioration in bank performance, capital adequacy ratios remain virtually unchanged.

Growth in household debt remains high at an annual growth rate of close to 11% in March 2003. This partly reflects the preceding long period of house price inflation and continued high turnover in the housing market. With prospects for continued weak growth in the Norwegian economy, growth in household debt is expected to slow somewhat in the period ahead.

Credit growth in the enterprise sector is moderate. In spite of the marked interest rate decline since last autumn, higher bankruptcy figures and somewhat higher bank losses are expected in the period ahead against the backdrop of continued weak economic growth in Norway.

Banks are reasonably well poised to cope with weaker macroeconomic developments. Anecdotal evidence points to the need for stricter credit assessment procedures in the banking sector. At the same time, some banks are seeking to increase their private market share. All in all, supply side conditions in the credit market are not likely to curb credit growth in the period ahead.

Further interest rate reductions from today's level will improve enterprises' debt servicing capacity in the short run, or provide room for higher pricing of risk. The direct effect of lower interest interests on bank earnings is expected to be limited. In the longer term, lower interest rates may sustain growth in household debt.

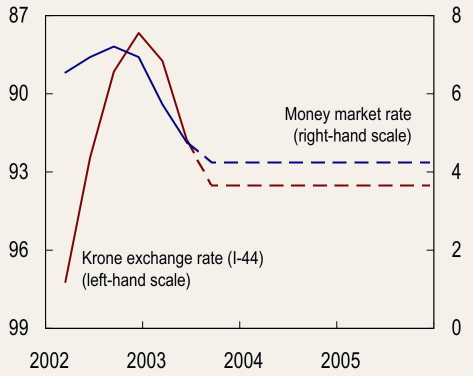
New information and further analysis following the strategy discussion on 4 June

Since the discussion on 4 June, key rates have been lowered in Sweden, Denmark, the euro area and New Zealand. Since the Central Bank Governor's address at the Centre for Monetary Economics at the Norwegian School of Management on 3 June, the krone has weakened by 3-4%, and the money market has factored in expectations of considerably lower key rates in Norway.

Inflation was very low in May. The fall in prices for imported consumer goods pushed down the year-on-year rise in consumer prices adjusted for tax changes and excluding energy products (CPI-ATE) to 1.2%. As a result of lower energy prices, CPI inflation fell from 2.9% in April to 2.1% in May. In isolation, the low rate of increase in prices in spring may influence inflation expectations ahead and contribute to curbing wage growth further.

On the basis of this information, further analyses of the economic outlook were carried out. With an interest rate of 4% and an exchange rate at about the average since 6 June, inflation is expected to remain low. The output gap will be slightly negative through the last part of the period and unemployment will remain at 4½% from 2004. The depreciation of the krone since January of this year will gradually ease the subdued price impulses from the krone appreciation last year. Unemployment will have a dampening impact on wage growth ahead. With wage growth in the area 4-4½%, a neutral contribution from the exchange rate, moderate external price impulses and approximate balance in the real economy, inflation will reach 2% one year ahead, but remain below target two years ahead (see Chart 5 and Table 3).

Chart 5a Scenario 4: Sight deposit rate of 4% and import-weighted krone exchange rate (I-44) of 93.5[1)]

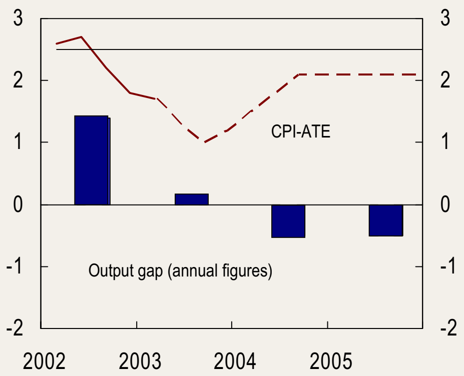


1) The average for 3-19 June.

Source: Norges Bank

Further analyses have been made applying the forward interest rate and forward exchange rate prevailing in mid-June. Forward interest rates imply a reduction in the sight deposit to about 3% towards the end of this year, followed by a moderate rise in the period to end-2005. The krone depreciates gradually by about 3% in the period to end-2005. The marked relaxation of monetary policy may also lead to fairly high level of activity in the Norwegian economy, particularly in sectors supplying goods and services to households. This suggests lower unemployment and somewhat higher wage growth. With a weaker krone and wage growth between 4½-5%, inflation may be somewhat higher than in the scenario with a constant interest rate and exchange rate[1]. Inflation may reach the inflation target in 2005 in this scenario (see Chart 6 and Table 4).

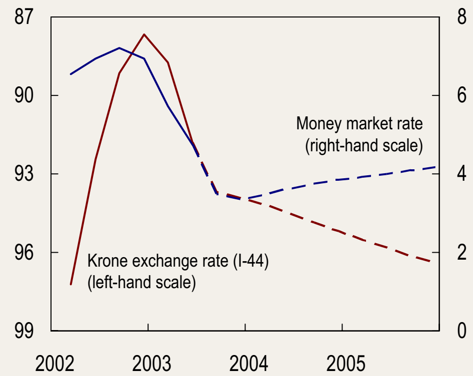
Chart 5b Scenario 4: Sight deposit rate of 4% and import-weighted krone exchange rate (I-44) of 93.5[1)]



1)The average for 3-19 June.

Source: Norges Bank

Chart 6a Scenario 5: Forward rate in mid-June and gradual exchange rate depreciation (I-44) of about 3%



Source: Norges Bank

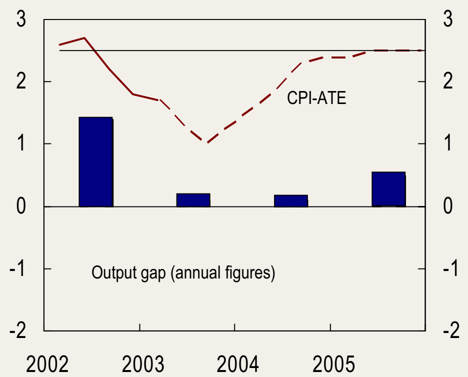
Table 3 Scenario 4: Projections based on assumptions of a constant sight deposit rate of 4.0% and krone exchange rate equal to 93,5[1)]. Percentage change on previous year. Changes in relation to baseline scenario in previous Inflation Report in brackets.

	2003	2004	2005
Mainland demand	1 (-¼)	2½ (0)	3¼ (¾)
Private consumption	3 (¼)	3½ (¼)	3½ (½)
Public consumption	¾ (0)	1½ (-½)	1¾ (-¼)
Fixed investment	-5½ (-1½)	1¼ (¾)	4 (2)
Net exports (contribution to growth)	-1¼ (-¼)	-½ (¼)	-1 (-¼)
Mainland GDP	1 (-¼)	2 (0)	2½ (¼)
Output gap	0 (0)	-½ (-¼)	-½ (0)
Employment	-¾ (-¼)	0 (0)	½ (0)
Reg. unemployment[2)]	4¼ (¼)	4½ (¼)	4½ (¼)
Oil price, USD	26 (-4)	22 (-2)	20 (0)
Annual wages	4½ (-½)	4 (-½)	4½ (0)
CPI	2¼ (-1)	1¼ (¼)	2 (-¼)
CPI-ATE	1¼ (-½)	1¾ (-¼)	2 (-¼)

1) Correspnds to average I-44 in the period 3/6 - 19/6.
2) Percentage of labour force

Source: Norges Bank

Chart 6b Scenario 5: Forward rate in mid-June and gradual exchange rate depreciation (I-44) of about 3%



Source: Norges Bank

[1]Compared with the figures from 4 June (Scenario 3 with sight deposit rate of 3% and immediate krone depreciation of 4%), the projections for wage growth have been revised downwards somewhat. This is partly due to a stronger krone and lower inflation expectations for the period ahead.

Table 4 Scenario 5: Projections based on forward interest rate and forward exchange rate at mid-June.[1] Percentage change on previous year. Changes in relation to baseline scenario in previous Inflation Report in brackets.

	2003	2004	2005
Mainland demand	1¼ (0)	3½ (1)	3¾ (1¼)
Private consumption	3¼ (½)	4½ (1¼)	4¼ (1¼)
Public consumption	¾ (0)	1½ (-½)	1¾ (-¼)
Fixed investment	-5 (-1)	3 (2½)	5¼ (3¼)
Net exports (contribution to growth)	-1¼ (-¼)	-¾ (0)	-1 (-¼)
Mainland GDP	1 (-¼)	2½ (½)	3 (¾)
Output gap	0 (0)	0 (¼)	½ (1)
Employment	-¾ (-¼)	¼ (¼)	¾ (¼)
Reg. unemployment[2]	4¼ (¼)	4½ (¼)	4¼ (0)
Oil price, USD	26 (-4)	22 (-2)	20 (0)
Annual wages	4½ (-½)	4½ (0)	5 (½)
CPI	2¼ (-1)	1½ (½)	2½ (¼)
CPI-ATE	1¼ (-½)	2 (0)	2½ (¼)

[1] Forward interest rates imply that the sight deposit rate falls to 3% at end-2003, and increases somewhat towards the end of 2005. The exchange rate depreciates by about 3% in the period to end-2005.
[2] Percentage of labour force

Source: Norges Bank

Monetary policy ahead

The task of smoothing cyclical fluctuations and inflation primarily rests with monetary policy. The Government focuses on the long-term priorities of budgetary policy and places emphasis on the guideline for phasing in petroleum revenues. According to the Revised National Budget for 2003, this implies a neutral fiscal stance this year and next. This means that the conditions can be put in place to avoid locking in a tight monetary policy and a corresponding krone that is too strong.

Following a long period of expansion, the Norwegian economy was marked by a shortage of real economic resources and strong domestic cost inflation over several years up to autumn 2002. House prices had risen sharply and household borrowing was high. In late autumn 2002, however, new information provided fairly clear indications that the prospects for the international and Norwegian economy had weakened. The weaker prospects have been confirmed, but also amplified by new information in recent months.

Monetary policy has been relaxed markedly since December 2002. The sight deposit rate has been cut on four occasions by a total of 2 percentage points. The exchange rate (I-44) has weakened by about 8% since the beginning of the year, and is now at about the level prevailing at the end of April 2002. The monetary policy easing is stimulating private consumption and sustaining demand in spite of sluggish developments in investment and exports.

With the apparent moderation in wage growth ahead to a level more in line with that of our trading partners, the room for manoeuvre in monetary policy may increase. This increases the possibility of a convergence between interest rates in Norway and other countries.

Without a further easing of monetary conditions, inflation is expected to remain considerably lower than the inflation target throughout the projection period. The output gap closes in 2003 and turns clearly negative through 2004 and 2005. This indicates that monetary policy is too tight.

A rapid interest rate decline of about 1 percentage point and an unchanged exchange rate do not appear to be sufficient to bring inflation up towards the target. A sharper interest rate reduction during the strategy period therefore seems to be appropriate.

There is uncertainty associated with the projections and a risk that inflation may also be lower than projected. A long period of very low inflation may influence inflation expectations. This may make it more difficult to orient monetary policy towards achieving the inflation target at a later stage.

The prospect of low inflation ahead may warrant a rapid and substantial reduction in the key rate. On the other hand, there is a risk that such low interest rates will lead to a renewed rise in house prices, high consumption growth and continued strong debt growth in the household sector. However, higher unemployment and uncertainty as to labour market developments suggest slower debt growth in the household sector.

There is also a risk that the interim wage settlement will not result in a shift in wage developments and that wage growth may follow the path observed after the Arntsen settlement in 1999, when wage growth accelerated again. However, greater vigilance among public employers and a low activity level in many industries would imply that this risk is now limited.

On balance, it is our assessment that the risk of persistently low inflation and low economy activity is predominant. Such a path may influence inflation expectations and weaken confidence in monetary policy. This implies a markedly lower sight deposit rate by the end of October 2003. On the basis of the assessments above, an interval of 3-4% would seem appropriate.

Strategy

- Norges Bank's operational conduct of monetary policy shall be oriented towards low and stable inflation. The inflation target is set at 2½%.
- The key rate is set on the basis of an overall assessment of the inflation outlook, normally two years ahead. The key rate will normally be changed gradually so that we can assess the effects of interest rate changes and other new information on economic developments.
- With financial market confidence in the inflation target, Norges Bank has greater scope for promoting stability in the real economy. This scope will increase further as the inflation target is incorporated as an anchor for wage formation.
- Economic developments broadly in line with projections and the current balance of risks imply a sight deposit in the interval 3-4% at the end of October 2003. Developments since 4 June, with interest rate cuts in other countries and low inflation, may warrant a further reduction in the interest rate.
- Developments in the krone exchange rate and the effects of the appreciation of the krone on inflation and output are uncertain. If the krone remains strong or appreciates further, it may be appropriate to reduce the interest rate to the lower range of the interval or below the interval. If the krone depreciates sharply it may be appropriate with an interest rate in the upper range of the interval or higher than the interval. Any interest rate reaction must be based on an analysis of exchange rate movements and an assessment of the duration of the change in the exchange rate.

Monetary policy meetings in Norges Bank

with changes in the sight deposit rate and a statement regarding the inflation outlook

Date	Sight deposit rate[1]	Change	Bias[2]
Future meetings			
26 May 2004			
21 April 2004			
11 March 2004			
28 January 2004			
17 December 2003			
29 October 2003			
Previous monetary policy meetings			
17 September 2003	2.5	-½	Neutral bias
13 August 2003	3	-1	Downside bias
25 June 2003	4	-1	Downside bias
30 April 2003	5	-½	Downside bias
05 March 2003	5.5	-½	Downside bias
22 January 2003	6	-½	Downside bias
11 December 2002	6.5	-½	Downside bias
30 October 2002	7	0	Neutral bias
18 September 2002	7	0	Neutral bias
07 August 2002	7	0	Upside bias
03 July 2002	7	+½	Upside bias
22 May 2002	6.5	0	Upside bias
10 April 2002	6.5	0	Neutral bias
27 February 2002	6.5	0	Neutral bias
23 January 2002	6.5	0	Downside bias
12 December 2001	6.5	-½	Downside bias
31 October 2001	7	0	Downside bias
19 September 2001	7	0	Neutral bias
07 August 2001	7	0	Neutral bias
20 June 2001	7	0	Neutral bias

[1]The sight deposit rate is Norges Bank's key rate. The sight deposit rate is the interest rate on banks' deposits in Norges Bank. The sight deposit 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 a little higher than the sight deposit rate.

[2] A *neutral bias* indicates that according to Norges Bank's assessment, with an unchanged interest rate (at the level after the change approved the same day), the probability that inflation two years ahead will be higher than 2½% is the same as the probability that it will be lower. A *downside bias* indicates that according to Norges Bank's assessment, with an unchanged interest rate (at the level after the change approved the same day), the probability that inflation two years ahead will be lower than 2½% is greater than the probability that it will be higher. An *upside bias* indicates that that according to Norges Bank's assessment, with an unchanged interest rate (at the level after the change approved the same day), the probability that inflation two years ahead will be higher than 2½% is greater than the probability that it will be lower.

Annex III
Statistics

Table 1 Main macroeconomic aggregates

Percentage change from previous year/quarter		Mainland GDP	Private cons-ump-tion	Public spending on goods and services	Mainland fixed investment	Petroleum investment[1)]	Exports trad. goods	Imports
1997		4.9	3.2	2.5	11.8	24.9	8.6	12.4
1998		4.1	2.7	3.3	8.6	22.2	3.5	8.5
1999		2.7	3.3	3.2	-0.1	-13.1	4.0	-1.8
2000		2.5	3.9	1.3	-1.2	-23.0	2.5	2.7
2001		1.7	2.6	2.7	0.7	-1.0	3.7	0.9
2002		1.3	3.6	3.2	-4.6	-4.6	1.3	1.7
2002[2)]	Q1	0.8	1.4	3.1	-3.9	-12.9	0.5	-1.4
	Q2	-0.4	0.6	-3.1	0.5	-4.1	-3.3	5.3
	Q3	0.3	0.8	2.3	-1.2	2.3	2.3	-3.1
	Q4	-0.5	1.3	-0.2	1.5	5.6	-3.8	2.1
2003	Q1	-0.3	-0.4	0.3	-1.7	6.6	-0.2	1.4
	Q2	0.3	1.3	0.8	-0.2	6.5	4.7	-2.3
Level 2002, In billions of NOK		1207	685	332	194	53	200	415

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

Table 2 Consumer prices

Twelve-month rise. Per cent		CPI	CPI-ATE[1)]	CPI-AT[2)]	CPI-AE[3)]	HICP [4)]
1997		2.6			2.3	2.6
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
2002	Jul	1.6	2.7	2.0	2.4	1.2
	Aug	1.4	2.3	1.7	2.1	1.1
	Sep	1.4	2.2	1.8	1.9	1.2
	Oct	1.8	2.1	2.1	1.9	1.3
	Nov	2.1	2	2.5	1.7	1.8
	Dec	2.8	1.8	3.1	1.5	2.6
2003	Jan	5.0	1.8	5.4	1.6	4.2
	Feb	4.8	2.0	5.2	1.7	4.1
	Mar	3.7	1.5	3.9	1.3	3.2
	Apr	2.9	1.6	3.0	1.7	2.5
	May	2.1	1.2	2.0	1.2	1.8
	Jun	1.7	0.8	1.6	0.9	1.5
	Jul	1.5	0.7	1.4	0.7	1.2
	Aug	2.1	0.9	2.1	0.9	2.0
	Sep	2.1	0.9	1.9	1.0	1.9

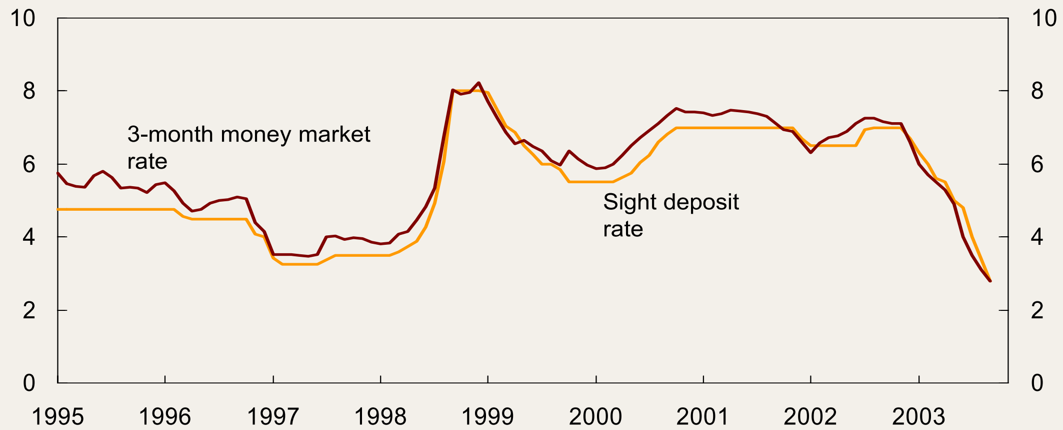
1) CPI-ATE: CPI adjusted for tax changes and excluding energy products
2) CPI-AT: CPI adjusted for tax changes
3) CPI-AE: CPI excluding energy products
4) HICP: The Harmonised Index of Consumer Prices. The index is based on international criteria drawn up by Eurostat.

Table 3 Interest rates

Per cent		Norges Bank's key rate (average)	Money market rates NIBOR[1]			Yield on government bonds[2]
		Sight deposit rate	1-week	3-month	12-month	10-year
1997		3.4	3.6	3.7	4.2	5.9
1998		5.5	5.9	5.8	5.7	5.4
1999		6.3	6.9	6.5	6.0	5.5
2000		6.2	6.6	6.8	7.1	6.2
2001		7.0	7.2	7.2	7.1	6.2
2002		6.7	6.9	6.9	6.9	6.4
2002	Jul	6.9	7.1	7.3	7.4	6.6
	Aug	7.0	7.1	7.3	7.3	6.3
	Sep	7.0	7.1	7.1	7.0	6.1
	Oct	7.0	7.1	7.1	6.8	6.2
	Nov	7.0	7.1	7.1	6.7	6.1
	Dec	6.7	6.9	6.6	6.1	5.9
2003	Jan	6.3	6.4	6.0	5.6	5.7
	Feb	6.0	6.1	5.7	5.3	5.3
	Mar	5.6	5.6	5.5	5.2	5.2
	Apr	5.5	5.6	5.3	5.0	5.3
	May	5.0	5.2	4.9	4.5	5.0
	Jun	4.8	4.8	4.0	3.6	4.5
	Jul	4.0	4.2	3.5	3.2	4.9
	Aug	3.4	3.5	3.1	3.2	5.0
	Sep	2.8	3.0	2.8	3.0	4.9
2003	03 Oct	2.5	2.9	2.8	3.0	4.8
	10 Oct	2.5	3.0	2.8	3.1	4.9
	17 Oct	2.5	2.9	2.9	3.1	5.0
	23 Oct[3]	2.5	2.9	2.9	3.2	5.0

[1] NIBOR= Norwegian interbank offered rate.
[2] Yield on representative 10-year government bond. The yield is calculated by weighting one or two government bonds with the residual maturity.
[3] Average 20-23 October.

3-month money-market rate and sight deposit rate. Monthly figures. Jan 1995 - Sept 2003.



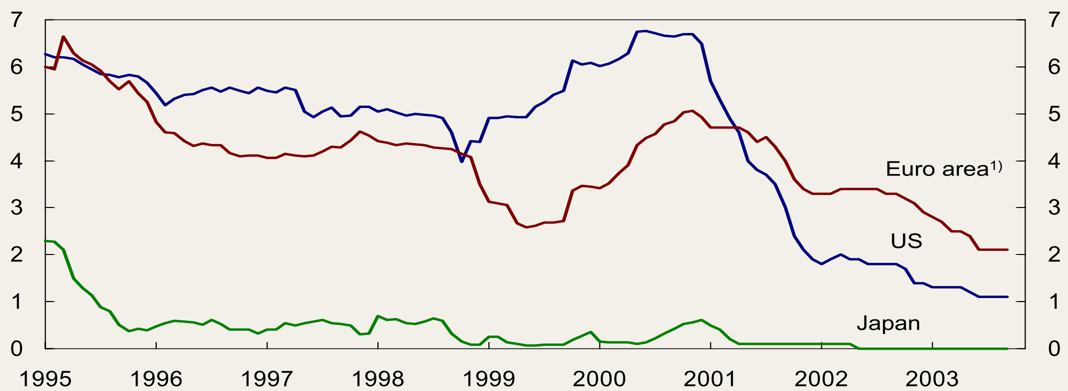
Source: Norges Bank

Table 4 International interest rates

		Short term interest rates1) for key currencies in the Euromarket						Interest rate differential	Yield on government bonds3)	
		USD	JPY	EUR	GBP	SEK	Trading partners2).	NOK/trading partners	US	Germany
1997		5.2	0.5		6.8	4.2	4.1	-0.5	6.4	5.7
1998		4.8	0.5		7.3	4.2	4.2	1.5	5.3	4.6
1999		5.4	0.2	2.9	5.5	3.3	3.3	3.0	5.8	4.6
2000		6.5	0.3	4.4	6.1	4.0	4.4	2.2	6.1	5.3
2001		3.7	0.1	4.2	5.0	4.0	4.0	3.2	5.2	4.9
2002		1.8	0.0	3.3	4.0	4.2	3.2	3.6	4.6	4.9
2002	Jul	1.8	0.0	3.4	4.0	4.4	3.3	3.9	4.6	4.9
	Aug	1.8	0.0	3.3	3.9	4.3	3.2	4.0	4.2	4.7
	Sep	1.8	0.0	3.3	3.9	4.3	3.2	3.9	3.9	4.5
	Oct	1.7	0.0	3.2	3.9	4.3	3.1	3.9	3.9	4.6
	Nov	1.4	0.0	3.1	3.9	4.1	3.0	4.0	4.1	4.6
	Dec	1.4	0.0	2.9	4.0	3.8	2.9	3.6	4.1	4.4
2003	Jan	1.3	0.0	2.8	3.9	3.8	2.8	3.1	4.0	4.2
	Feb	1.3	0.0	2.7	3.7	3.7	2.7	2.9	3.9	4.0
	Mar	1.3	0.0	2.5	3.6	3.5	2.5	2.9	3.8	4.1
	Apr	1.3	0.0	2.5	3.6	3.5	2.5	2.6	4.0	4.2
	May	1.2	0.0	2.4	3.6	3.3	2.4	2.4	3.5	3.9
	Jun	1.1	0.0	2.1	3.6	2.9	2.2	1.7	3.3	3.7
	Jul	1.1	0.0	2.1	3.4	2.8	2.1	1.2	4.0	4.1
	Aug	1.1	0.0	2.1	3.5	2.8	2.2	0.9	4.4	4.2
	Sep	1.1	0.0	2.1	3.6	2.8	2.2	0.5	4.3	4.3
2003	03 Oct	1.1	0.0	2.1	3.7	2.8	2.2	0.5	3.9	4.1
	10 Oct	1.1	0.0	2.1	3.7	2.8	2.2	0.5	4.2	4.2
	17 Oct	1.1	0.0	2.1	3.7	2.8	2.2	0.6	4.3	4.3
	23 Oct4)	1.1	0.0	2.1	3.8	2.8	2.2	0.6	4.3	4.3

1) 3-month rates. Per cent
2) 3-month interest rates in Norway's 25 most important trading partners (geometrical average weighted with the OECD's current trade weights). Per cent
3) Yield on government bonds with a residual maturity of 10 years. Per cent
4) Average 20-23 October

3-month rates in the US, the euro area and Japan. Per cent.
Monthly figures. Jan 1995 - Sept 2003.



1)Theoretical ECU rate up to December 1998

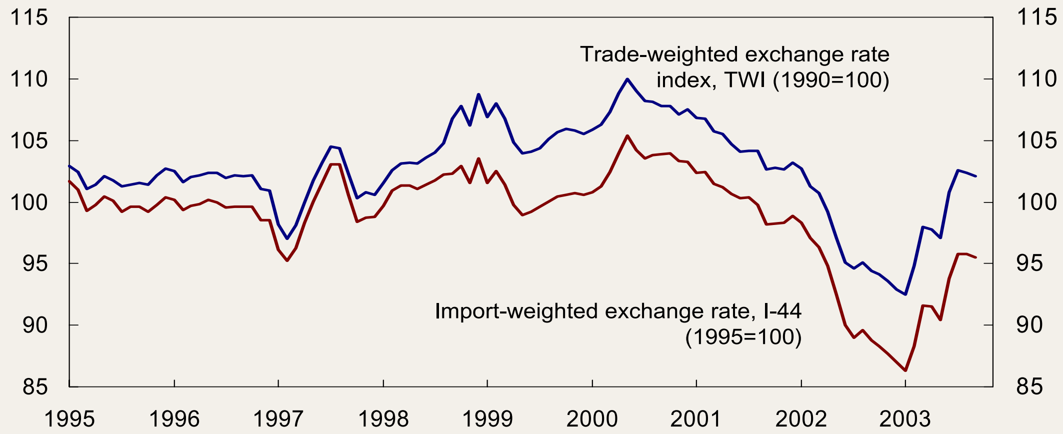
Source: Norges Bank

Table 5 Exchange rates

		Effective exchange rates		Bilateral exchange rates		
		Import-weighted exchange rate[1]	Trade-weighted exchange rate index[2]	NOK/EUR	NOK/USD	NOK/SEK
1997		99.2	101.0		7.1	92.7
1998		101.7	104.7		7.5	94.9
1999		100.4	105.6	8.3	7.8	94.4
2000		103.3	107.8	8.1	8.8	96.0
2001		100.2	104.4	8.0	9.0	87.0
2002		91.6	96.7	7.5	8.0	82.0
2002	Jul	89.0	94.6	7.4	7.5	79.9
	Aug	89.6	95.1	7.4	7.6	80.3
	Sep	88.8	94.4	7.4	7.5	80.3
	Oct	88.3	94.1	7.3	7.5	80.6
	Nov	87.7	93.6	7.3	7.3	80.6
	Dec	87.0	92.9	7.3	7.2	80.2
2003	Jan	86.3	92.5	7.3	6.9	79.9
	Feb	88.3	94.8	7.5	7.0	82.5
	Mar	91.6	98.0	7.8	7.3	85.0
	Apr	91.5	97.8	7.8	7.2	85.6
	May	90.4	97.1	7.9	6.8	86.0
	Jun	93.8	100.8	8.2	7.0	89.5
	Jul	95.8	102.6	8.3	7.3	90.2
	Aug	95.8	102.4	8.3	7.4	89.4
	Sep	95.5	102.1	8.2	7.3	90.4
2003	03 Oct	94.6	101.6	8.2	7.0	90.9
	10 Oct	94.8	101.9	8.2	7.0	91.4
	17 Oct	95.5	102.6	8.2	7.1	91.9
	23 Oct[3]	95.5	102.6	8.3	7.1	91.3

1) Weights are calculated on the basis of imports from 44 countries which cover 97% of total imports. Current weights based on annual import shares.
2) Nominal effective krone exchange rate calculated on the basis of exchange rates for NOK against the currencies of Norway's 25 most important trading partners (geometrical average weighted with the OECD's current trade weights)
3) Average 20-23 October.

Trade-weighted exchange rate index and import-weighted exchange rate I-44. Monthly figures. Jan 1995 - Sept 2003.

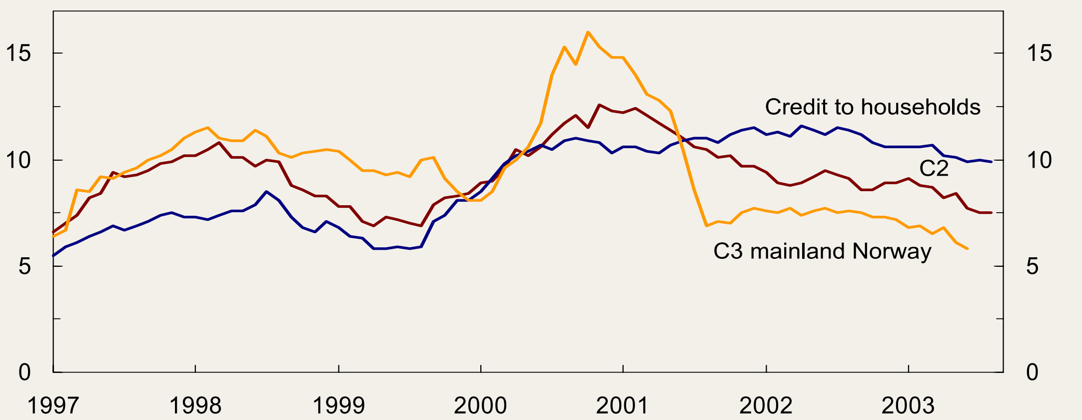


Source: Norges Bank

Table 6 Monetary aggregates

Annual growth / twelve-month rise in per cent		Money supply M2	Domestic credit (C2) Total	To households	To non-financial enterprises	Total credit (C3) Total	To mainland Norway
1997		2.2	8.8	6.7	13.8	8.9	8.7
1998		4.9	9.6	7.5	13.9	11.3	10.9
1999		6.5	7.6	6.6	9.6	10.5	9.6
2000		9.9	10.9	10.3	12.3	9.4	11.8
2001		9.2	11.0	10.9	10.5	8.3	10.8
2002		8.4	9.0	11.2	7.4	7.3	7.5
2002	Jul	9.0	9.3	11.5	7.7	7.4	7.7
	Aug	7.6	9.1	11.4	7.4	7.8	7.5
	Sep	6.3	8.6	11.2	6.2	7.6	7.6
	Oct	8.6	8.6	10.8	6.6	7.1	7.5
	Nov	7.8	8.9	10.6	7.7	6.9	7.3
	Dec	8.3	8.9	10.6	7.5	6.9	7.3
2003	Jan	6.3	9.1	10.6	7.2	6.8	7.2
	Feb	6.2	8.8	10.6	5.9	6.8	6.8
	Mar	5.5	8.7	10.7	4.9	6.4	6.9
	Apr	5.9	8.2	10.2	4.0	5.9	6.5
	May	5.8	8.4	10.1	4.6	6.3	6.8
	Jun	2.8	7.7	9.9	3.0	5.6	6.1
	Jul	3.8	7.5	10.0	2.1	5.4	5.8
	Aug	4.5	7.5	9.9	1.9		
Level last month. In billions of NOK		866	1811	1061	609	2244	2023

The credit indicator (C2), credit to households and total credit to the non-financial private sector and municipalities, mainland Norway (C3). 12-month rise. Per cent. Monthly figures. Jan 1995 - Aug 2003.



Source: Norges Bank

Annex IV
Detailed projections and assumptions

Table 7 GDP growth in other countries

Percentage change from previous year

	US	Japan	Germany[1]	France[1]	UK[2]	Sweden	Trading partners[3]	Euro area[4]
1995	2.7	1.9	1.7	1.8	2.9	4.0	2.7	2.3
1996	3.6	3.4	0.8	1.1	2.6	1.3	2.2	1.4
1997	4.4	1.8	1.4	1.9	3.4	2.4	3.0	2.3
1998	4.3	-1.1	2.0	3.5	2.9	3.6	3.2	2.9
1999	4.1	0.1	2.0	3.2	2.4	4.6	3.2	2.8
2000	3.8	2.8	2.9	4.2	3.1	4.4	3.6	3.6
2001	0.3	0.4	0.6	1.8	2.1	1.1	1.3	1.5
2002	2.4	0.3	0.2	1.2	1.8	1.9	1.5	0.9
Projections								
2003	2¾	2½	0	¼	2	1½	1¼	½
2004	3½	1¼	1¼	1½	2½	2½	2¼	1½
2005	3¼	1¼	2¼	2½	2½	2½	2¾	2½
2006	3¼	1¼	2¼	2½	2½	2¼	2½	2½

1) Export weights, Norway's 25 most important trading partners
2) Eurostat weights

Sources: OECD and Norges Bank

Table 8 Consumer prices in other countries

Percentage change from previous year

	US	Japan	Germany[1]	France[1]	UK[2]	Sweden	Trading partners[3]	Euro area[4]
1995	2.8	-0.1	1.7	1.8	2.8	2.9	2.3	2.6
1996	2.9	0.1	1.2	2.1	2.9	0.8	1.8	2.3
1997	2.3	1.7	1.5	1.3	2.8	0.9	1.7	1.7
1998	1.5	0.7	0.6	0.7	2.7	0.4	1.2	1.2
1999	2.2	-0.3	0.6	0.6	2.3	0.3	1.4	1.1
2000	3.4	-0.7	1.5	1.8	2.1	1.3	2.2	2.4
2001	2.8	-0.7	2.1	1.8	2.1	2.6	2.5	2.5
2002	1.6	-0.9	1.3	1.9	2.2	2.4	2.1	2.3
Projections								
2003	2¼	-¼	1	2	3	2	2	2
2004	2	-½	¾	1½	2½	1¼	1½	1½
2005	2½	-¼	1½	1¾	2½	2	2	1¾
2006	2½	0	1¾	1¾	2½	2	2	2

1) HICP, Harmonised Indices of Consumer Prices
2) RPIX, Retail Price Index excluding mortgage interest rates
3) Import weights, Norways 25 most important trading partners
4) HICP. Eurostat weights (each country's share of total euro-area consumption)

Sources: OECD and Norges Bank

The fiscal rule and Norges Bank's assumptions

The fiscal rule

In March 2001, a new guideline for fiscal policy (the fiscal rule) was introduced (Report no. 29 (2000-2001) to the Storting). According to the fiscal rule, the structural, non-oil budget deficit shall be approximately equivalent over time to the expected real return on the Petroleum Fund. The expected real return on the Petroleum Fund is estimated using a real interest rate of 4%.

The guidelines for the use of the expected real return on the Fund's capital are based on a normal cyclical situation. The guidelines state that in a situation with high activity in the economy, the fiscal stance should be tightened accordingly, while a downturn may necessitate an increase in the use of petroleum revenues. It is also emphasised that in the event of extraordinary, substantial changes in the Fund's capital or in the structural, non-oil deficit from one year to the next, the change in the use of petroleum revenues must be distributed over several years based on an estimate of the size of the real return on the Fund a few years ahead.

The Government's National Budget proposal implies a structural, non-oil budget deficit of NOK 50.7bn in 2004. This is NOK 16.4bn higher than the expected real return on the capital in the Government Petroleum Fund at the beginning of 2004. The use of petroleum revenues in 2003 was higher than estimated in the National Budget for 2003. The projection for the structural, non-oil deficit has been increased by NOK 9.7bn in relation to the National Budget for 2003, and by NOK 2.8bn in relation to the Revised National Budget.

The assumptions in the Inflation Report

Norges Bank's projections are based on the estimates in the National Budget for 2004. Fiscal policy for 2003 and 2004 together will probably provide some stimulus to activity in the Norwegian economy. Central government real underlying expenditure is projected to increase by over 2% from 2003 to 2004 following close to zero growth this year. Total local government revenues are projected to increase by 2.1% from 2003 to 2004. Revenues are projected to rise by 1¾% between 2002 and 2003. It is assumed that a substantial portion of this year's increase in revenues will be used for consumption. In the years ahead, it is assumed that more of the rise in revenues will be used to reduce deficits in this sector. We apply the technical assumption that annual growth in public spending on goods and services will be about 1% in 2003, 2% in 2004 and 1½% in 2005 and 2006. The assumption implies that, in value terms, the rise in public expenditure for 2005 and 2006 will be approximately in line with the rise in revenues.

Table: Change in the structural, non-oil deficit and in the Government Petroleum Fund in the medium term. In billions of NOK (unless otherwise stated). 2004-prices.

	Government Petroleum Fund, at the beginning of the year[1)]	Expected return, 4 per cent rule	Structural, non-oil deficit	Structural, non-oil deficit, percentage of trend GDP for mainland Norway
2001	386.6	-	30.2	2.4
2002	619.3	26.6	38.1	3.0
2003	604.6	25.0	41.7	3.3
2004	856.6	34.3	50.7	3.9
2005	995.7	38.4	50.7	3.9
2006	1133.1	42.1	50.7	3.8
2007	1267.7	45.3	50.7	3.8
2008	1396.3	48.1	50.7	3.7
2009	1526.9	50.7	50.7	3.7
2010	1664.8	53.2	53.2	3.9

1) Current prices.

Source: National Budget 2004

Table 9 Technical assumptions

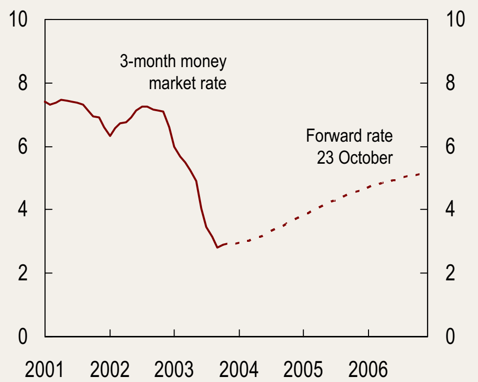
Historical developments		I-44[1)]	Sight deposit rate
1996		99.6	4.5
1997		99.2	3.4
1998		101.7	5.5
1999		100.4	6.3
2000		103.3	6.2
2001		100.2	7.0
2002		91.6	6.7
2002	Q1	97.3	6.5
	Q2	92.5	6.5
	Q3	89.1	7.0
	Q4	87.7	6.9
2003	Q1	88.7	6.0
	Q2	91.9	5.1
	Q3	95.7	3.4
Technical assumptions		Forward exchange rate	Based on forward interest rates[2)]
2003	Q4	95.4	2.7
2004	Q1	95.5	2.7
	Q2	95.6	2.9
	Q3	95.7	3.1
	Q4	95.8	3.4
2005	Q1	95.9	3.6
	Q2	96.0	3.9
	Q3	96.2	4.1
	Q4	96.4	4.3
2006	Q1	96.5	4.5
	Q2	96.7	4.6
	Q3	96.9	4.8
	Q4	97.1	4.9

1) Import-weighted exchange rate, 44 countries. Weights are calculated on the basis of imports from 44 countries which cover 97% of total imports. Current weights based on annual import shares.

2) Three-month forward rates are estimated using four money market rates and five government bond yields with different maturities as observed on 23 October. We have deducted 0.25 percentage points from the forward interest rates to provide an expression of the expected sight deposit rate.

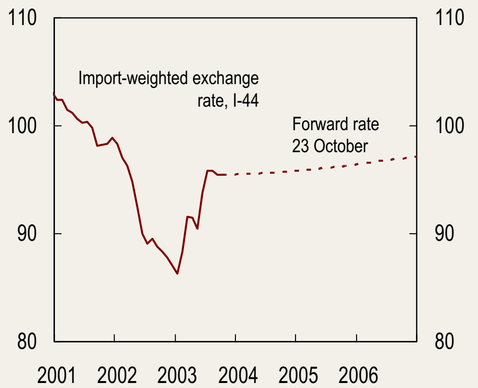
Source: Norges Bank

Assumptions for money market rate. Forward rate. Per cent



Source: Norges Bank

Assumptions for the krone exchange rate (I-44). Forward rate. Index



Source: Norges Bank

Table 10 Main macroeconomic aggregates with forward interest rate and forward krone exchange rate

	In billions of NOK	Percentage change (unless otherwise stated)				
			Projections			
	2002	2002	2003	2004	2005	2006
Real economy						
Mainland demand[1]	1211	2.1	1¼	3¾	3¼	2¼
- Private consumption	685	3.6	3¼	5	3½	2
- Public consumption	332	3.2	1	2	1½	1½
- Fixed investment	194	-4.6	-5	1	4½	5
Petroleum investment[2]	53	-4.6	15	15	-5	-20
Traditional exports	200	1.3	1	2	3¼	3¼
Imports	415	1.7	2	5¼	2½	0
Mainland GDP[3]	1207	1.3	¾	3	2¾	2¼
Labour market						
Employment		0.2	-1	¼	1	½
Labour force, LFS		0.7	-¼	½	½	½
Registered unemployment (rate)		3.2	4	4¼	4	4
LFS-unemployment (rate)		3.9	4½	4¾	4½	4½
Prices and wages						
CPI[4]		1.3	2½	1¼	2	2½
CPI-ATE[5]		2.3	1¼	2	2¼	2½
Annual wages[6]		5.7	4½	4¼	4¾	4¾

1) Private and public consumption and mainland gross fixed investment
2) Extraction and pipeline transport
3) The fall in electricity production this year has not been taken into account, which detracts an estimated half percentage point from mainland GDP growth in 2003
4) Not adjusted for the introduction of maximum prices for day-care places.
5) CPI-ATE: CPI adjusted for tax changes and excluding energy products. Not adjusted for the introduction of maximum prices for day-care places.
6) Annual wage growth is based on the Technical Reporting Committee on Income Settlements' definitions and calculations.

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

Inflation Report No 3 - October 2003