Norwegian economy

Output in the Norwegian economy, as measured by GDP, has fallen over the past year. The decline continued in the first quarter of 2003, albeit at a slower pace than earlier. On the other hand, the decline in mainland GDP appears to have levelled off. The decline in output reflects both reduced resource-based production (oil and electricity production) and a clear fall in manufacturing output. The fall in electricity production is temporary and production is expected to be higher this winter than last winter. However, the decline in manufacturing output is ascribable to many factors, not least the deterioration in cost competitiveness. Competitiveness has improved somewhat as a result of a weaker krone. Moderate inflation and wage growth ahead, combined with a steady krone exchange rate and the projected cyclical turnaround abroad, will probably reverse the trend in the manufacturing sector.

Unemployment has continued to rise in 2003. Employment has been falling, and even if labour force participation has declined, it has not prevented a rise in unemployment. Evidence suggests that unemployment will edge up in the period ahead even with higher growth in the Norwegian economy in 2004 and 2005. This is because it will take some time before

Macroeconomic indicators 2001-2003
Growth from previous period unless otherwise noted. Per cent

			Seasonally adjusted			
	2001	2002	02.3	02.4	03.1	03.2
Demand and output						
Consumption in households and non-profit organizations	2.6	3.6	0.8	1.3	- 0.4	1.3
General government consumption	2.7	3.2	2.3	- 0.2	0.3	0.8
Gross fixed investment	- 4.2	- 3.6	- 6.9	6.6	- 1.1	- 4.0
- Mainland Norway	0.7	- 4.6	- 1.2	1.5	- 1.7	- 0.2
-Extraction and transport via pipelines	- 1.0	- 4.6	2.3	5.6	6.6	6.5
-Service activities incidential to extraction	..	..	..	..	..	..
Final domestic demand from Mainland Norway[1]	2.3	2.1	0.9	1.0	- 0.4	0.9
Exports	4.1	- 0.5	- 3.4	- 1.2	- 1.9	2.6
- Crude oil and natural gas	5.2	0.2	- 7.2	- 0.6	- 2.6	1.7
- Traditional goods	3.7	1.3	2.3	- 3.8	- 0.2	4.7
Imports	0.9	1.7	- 3.1	2.1	1.4	- 2.3
- Traditional goods	2.9	4.7	1.2	3.1	- 0.3	1.0
Gross domestic product	1.9	1.0	- 1.5	- 0.2	- 0.2	- 0.1
- Mainland Norway	1.7	1.3	0.3	- 0.5	- 0.3	0.3
Labour market[2]						
Man-hours worked	- 1.0	- 0.9	- 0.2	- 0.4	- 0.3	- 0.3
Employed persons	0.5	0.2	- 0.2	- 0.3	- 0.3	- 0.5
Labour force	0.7	0.6	- 0.2	0.0	- 0.3	0.0
Unemployment rate, level[3]	3.6	3.9	3.8	4.1	4.1	4.6
Prices						
Consumer price index (CPI)[4]	3.0	1.3	1.4	2.2	4.5	2.2
CPI adjusted for tax changes and excluding energy products (CPI-ATE)[4]	2.6	2.3	2.4	2.0	1.8	1.2
Export prices, traditional goods	- 2.9	- 8.7	- 4.1	0.3	0.5	- 0.5
Import prices, traditional goods	- 0.2	- 8.0	- 0.8	- 1.0	1.2	- 0.6
Balance of payment						
Current balance, bill. NOK	238.5	200.6	46.5	47.2	54.9	43.0
Memorandum items (Unadjusted, level)						
Money market rate (3 month NIBOR)	7.1	6.9	7.2	7.0	5.7	4.7
Lending rate, banks	8.8	8.4	8.1	8.6	7.6	6.7
Crude oil price NOK[5]	220.2	197.4	202.3	196.1	222.1	183.1
Importweighted krone exchange rate, 44 countries, 1995=100	100.2	91.6	89.1	87.7	88.7	91.9
NOK per euro	8.1	7.5	7.4	7.3	7.6	8.0

[1] Consumption in households and non-profit organizations + general government consumption + gross fixed capital formation in Mainland Norway.
[2] Figures for 2001 and 2002 are from national accounts. The quarterly figures are from Statistics Norway's Labour force survey (LFS), since the new quarterly national accounts series for employment are too short for seasonal adjustment.
[3] According to Statistics Norway's labour force survey (LFS).
[4] Percentage change from the same period the previous year.
[5] Average spot price, Brent Blend.
Sources: Statistics Norway and Norges Bank.

labour demand starts to pick up in the business sector. We believe that unemployment will peak this winter and may edge down through 2004 and 2005.

Inflation has declined in the third quarter of this year. This primarily reflects the lagged effects of the krone appreciation in 2002. When the weakening of the krone in 2003 gradually feeds through to import prices, consumer price inflation is expected to edge up. Low domestic inflation will, however, restrain overall inflation. Moreover, last winter's record-high electricity prices will hardly be witnessed again this winter, which will contribute to subdued overall inflation ahead.

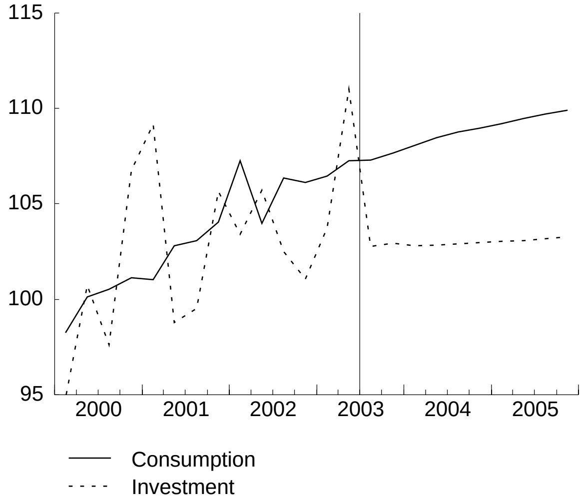
The pronounced shift in monetary policy since the end of last year is expected to lead to a marked upswing in domestic demand. According to our projections, this will lead to a marked increase in output growth in the coming quarters. Moreover, petroleum investment now appears to be higher than previously assumed, which will also boost output growth. Even if an international cyclical turnaround will also fuel growth in Norway, the recovery is expected to be moderate with only a small increase in key interest rates in Europe and the US. We have assumed that this will also be the case in Norway in 2004 and 2005. Our calculations indicate that this is consistent with a more or less unchanged nominal krone exchange rate (import-weighted) and inflation in line with the target.

Fiscal policy – moderate impulses

Preliminary quarterly national accounts figures (QNA) show growth in public consumption of goods and services in the first half of this year. Gross public investment showed the strongest growth at 2.7 per cent higher in the first half of 2003 compared with the same period of 2002. Public spending is also rising, primarily on defence and health, not least in the hospital sector. The deficits in the regional health enterprises in 2003 imply that growth will probably slow in the period ahead. We assume that growth in public consumption of goods and services will be moderate in the period ahead.

There is no new information on fiscal policy since the June *Economic Survey*. The estimates for 2003 and 2004 therefore remain virtually unchanged. The current cyclical downturn is contributing to a deterioration in the budget balance. This is not due to policy changes. It is the regulatory framework, in conjunction with developments in the Norwegian economy, that is weakening the budget balance. The pronounced expansionary shift in monetary policy in the course of 2003 will stimulate the economy both this year and next. We have therefore assumed that the central government budget for 2004 will not provide further stimulus to the economy beyond the approved reforms in 2003. This was also the assumption underlying our projections for tax rates, consumption and gross public investment in the June report.

General government
Seasonally adjusted volume indices, 2000=100



Source: Statistics Norway.

Developments in crude oil prices in NOK imply in isolation that the government's cash flow from petroleum activity will be somewhat higher than assumed in the Revised National Budget for 2003 (RNB) in both 2003 and 2004. This implies an increase in the Petroleum Fund's capital. Higher-than-expected petroleum investment in 2004 and 2005 has the opposite effect. Developments in international financial markets are generating capital gains that will result in higher values for the Fund than previously estimated. Some of these gains have already been realized in 2003. We now expect the capital in the Petroleum Fund to be higher at the end of 2004 than previously assumed. This provides room for increasing the structural deficit in 2005, in line with the guideline on the use of the return on the Petroleum Fund. We have therefore assumed personal tax cuts of around NOK 5 billion in 2005 compared with unchanged (real) tax rates from 2004. This implies an impulse in 2005 of about 0.4 per cent to mainland GDP growth in Norway. This means that fiscal policy is more expansionary in 2005 than previously assumed.

Expansionary monetary policy

Since the June report, Norges Bank has lowered its key policy rate by 2 percentage points. The most recent interest rate cut came on 13 August, and the key rate now stands at 3 per cent. Norges Bank has also signalled further interest rate cuts. Since the easing of monetary policy started in December last year, the three-month money market rate has fallen by a little more than 4 percentage points to about 2.9 per cent at the beginning of September.

The interest rate differential against Norway's trading partners has narrowed considerably in the course of the year. This has contributed to the depreciation of

Effects of interest rates and the krone exchange rate on the Norwegian economy

During the summer, Statistics Norway's macroeconomic model KVARTS has been re-estimated on the basis of data from the latest revised national accounts figures. In this work, special emphasis has been placed on quantifying the importance of interest rates and the exchange rate for price developments. In the standard version of the model both these variables are determined exogenously, ie they must be determined by the model user. Table 1 shows average effects over three years of a lasting shift in one of them, given that the other is kept constant. In the estimation period, unemployment in the baseline scenario is about 4½ per cent. The interest rate is increased by 2 percentage points and the value of the krone is increased by 10 per cent (ie the price of foreign currency is reduced by 10 per cent). As a result of both shifts, mainland GDP is reduced by an average 1 per cent over the three-year period. Otherwise, the effects of the two shifts are entirely different.

With a constant exchange rate, a higher interest rate primarily curbs domestic demand, particularly private consumption and housing investment. This has the strongest impact on sheltered industries even though manufacturing is also influenced by lower demand. Unemployment rises and wages are reduced, although this effect is not seen clearly until the third year. Lower wages and reduced capacity utilization gradually result in lower prices. In spite of this, consumer prices increase the first year and a half, and the rise in prices is higher in the first two years as a result of the interest rate increase (see figure 1). This is because higher interest rates have historically tended to push up house rents (which have a high weight in the consumer price index) and to increase mark-ups in retail trade (due to higher inventory costs and costs associated with overdrafts). In the first two years, the direct cost effects dominate over the indirect effects via wages and capacity utilization.

With lower wages and higher prices, real wages are reduced, thereby resulting in a further weakening of domestic demand. At the same time, lower wages lead to an improvement in manufacturing industry's cost competitiveness, which curbs the effect of the fall in demand on manufacturing. Lower real wages also curb the supply of labour, with the result that labour is to some extent replaced by other factor inputs in enterprises, which in turn limits the effect on unemployment.

With a constant interest rate, a stronger krone has a direct impact on prices and wages through a fall in export and import prices. The feed-through takes place gradually, but the effect on inflation is clearly strongest the first year (see figure 1). Because it takes a long time before prices and wages adapt to the change in the exchange rate, the result is a sharp deterioration in Norwegian enterprises' competitiveness accompanied by a pronounced fall in manufacturing output. This reduces domestic demand, and hence also production in sheltered enterprises, but this is offset to some extent by an increase in real wages, which in isolation contributes to increasing demand. At the same time, higher real wages lead to an increase in the supply of labour and shifts factor inputs away from labour, which amplifies the effect on unemployment.

In brief, the KVARTS model, as it is now constructed, indicates that the interest rate primarily steers domestic demand and mainland GDP, while the krone exchange rate primarily steers inflation and manufacturing output. The isolated effect of an interest rate change on inflation, measured by the CPI-ATE, is in the short term the opposite of what one wishes to achieve. This means that the way in which interest rates influence the exchange rate will be absolutely decisive for monetary policy's ability to achieve the inflation target. The stronger the interest rate change that is required to change the exchange rate, the less effective monetary policy will be for inflation targeting within a two-year horizon.

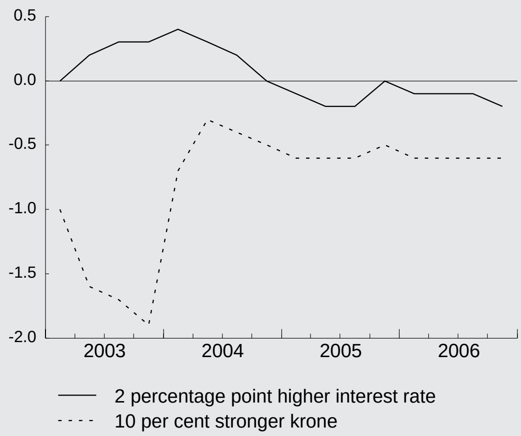
We have not yet established any relationship between the interest rate and the exchange rate that we have decided to include in the standard version of the model, but Bjørnland and Hungnes (2003) have quantified a relationship that is now being tested. It is based on the assumption that the exchange rate in the long term is determined by purchasing power parity ((PPP), but in such a way that a lasting interest rate increase has a lasting effect on the exchange rate. Purchasing power parity means that prices for Norwegian and foreign products must shadow each other when converted into a common currency. The following presents some calculations based on an expansion of the KVARTS model using this relationship. These are compared with a set of KVARTS calculations based on the exchange rate following uncovered interest parity (UIP) in the short term. Uncovered interest parity means that a (surprising) increase in interest rates - which entails a higher return on NOK in relation to foreign investments - must result in an immediate appreciation of the krone to the extent that it is expected to depreciate again, so that the expected

Tabell 1. Average effects for years 1-3 of higher interest rates and stronger krone. Per cent/percentage point

	Higher interest rates	Stronger krone
Interest rate	2	0
Exchange rate	0	-10
Final domestic demand from Mainland Norway	-1.7	-0.1
GDP Mainland Norway	-1.0	-1.0
Manufacturing	-0.4	-3.5
Unemployment rate	0.2	0.4
Wages	-0.2	-2.0
Real wages[1]	-0.5	0.6
Consumer price index[1]	0.3	-2.6
Consumer price growth[1]	0.1	-1.1

[1] Measured by the CPI-ATE

Figure 1. Effect on consumer price inflation of higher interest rates and stronger krone



Source: Statistics Norway.

Table 2. Average effect for years 1-3 of higher interest rate with endogenous exchange rate. Per cent/percentage point

Exchange rate relationship	UIP[2]				PPP[3]		
2 percentage point higher interest rate for:	1 year	2 years	3 years	4 years	1 year	2 years	3 years –
Interest rate	0.7	1.3	2.0	2.0	0.7	1.3	2.0
Exchange rate	-0.3	-1.3	-3,0	-5.0	-5.6	-6.5	-6.5
Final domestic demand from Mainland Norway	-0.7	-1.3	-1.7	-1.7	-0.9	-1.5	-1.8
GDP Mainland Norway	-0.5	-0.9	-1.3	-1.5	-1.0	-1.5	-1.7
Manufacturing	-0.3	-0.8	-1.5	-2.2	-2.2	-2.5	-2.6
Unemployment rate	0.1	0.2	0.3	0.4	0.3	0.4	0.5
Wages	-0.2	-0.5	-0.9	-1.3	-1.2	-1.3	-1.3
Real wages[1]	-0.2	-0.4	-0.3	-0.2	0.1	0.1	0.0
Consumer price index[1]	0.0	-0.1	-0.6	-1.1	-1.4	-1.4	-1.3
Consumer price growth[1]	-0.1	-0.0	-0.1	-0.3	-0.6	-0.7	-0.6

[1] Measured by the CPI-ATE.
[2] Uncovered interest parity
[3] Purchasing power parity, modified using the interest rate variable in the long term (Bjørnland and Hungnes, 2003).

future return on investments in NOK does not change as a result of the interest rate increase. The results of the calculations are presented in table 2.

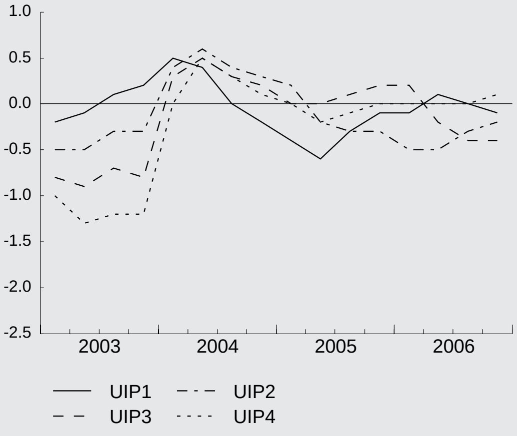
The effect of an interest rate increase will clearly depend on the duration of the interest rate increase, and the table shows calculations of interest rate increases over one, two, three and four years. With uncovered interest parity, the effects for earlier years will change as a result of an expected increased duration for the interest rate shift (see figure 2). This is because the immediate appreciation of the krone is not only dependent on how much interest rates rise, but also on how long a period exchange market participants assume that the interest rate increase will last. With the purchasing power parity equation, the effects for earlier years of a longer duration for an interest rate increase do not change; an interest rate increase for more than three years thereby has the same effect as an interest rate increase for three years, when we confine our study to average effects for the first three years. However, the fourth year differs, as will be seen in figure 3.

With uncovered interest parity, the effect on inflation occurs swiftly as a result of the immediate appreciation of the krone. The effect is stronger, the longer the interest rate increase is expected to last because it results in a stronger immediate appreciation. The second year is marked by a depreciation of the krone again, which means that inflation will be higher than without the interest rate change. The effects in subsequent years vary somewhat, but it is generally the case that the decline in inflation achieved in the first year will be negated by higher inflation in subsequent years (since it is assumed that the long-term exchange rate is unchanged).

With modified purchasing power parity in the long term, both the dynamics and long-term effects are different. The krone appreciates gradually through the first year, and this pushes down inflation. The fall in the inflation rate is strongest in the fourth, fifth and sixth quarters. The effect is weaker thereafter, but does not disappear entirely; as long as the interest rate is kept at a high level, the krone remains strong and inflation lower than previously. This contributes to reducing the level of Norwegian prices and thereby to a further appreciation of the krone. In other words, this initiates a process, which lasts until the interest rate increase is reversed. Inflation then returns to the starting point, while the krone stabilizes at a stronger level then before interest rates were increased.

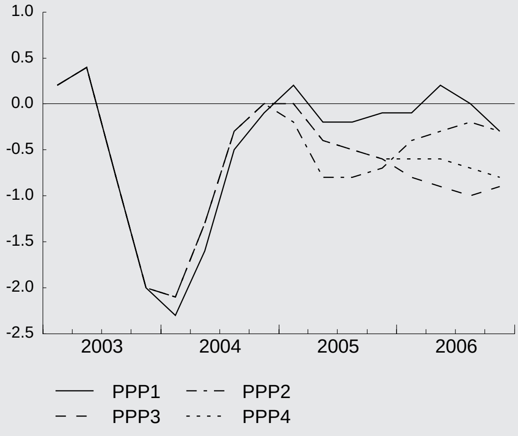
Reference: Bjørnland, H. and H. Hungnes (2003): "The importance of interest rates for forecasting the exchange rate", DP 340, Statistics Norway.

Figure 2. Effect on consumer price inflation of 2 percentage point higher interest rate for 1-4 years, UIP



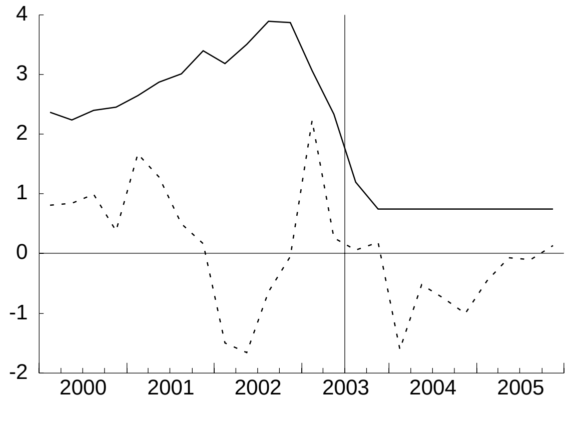
Source: Statistics Norway.

Figure 3. Effect on consumer price inflation of 2 percentage point higher interest rate for 1-4 years, modified PPP



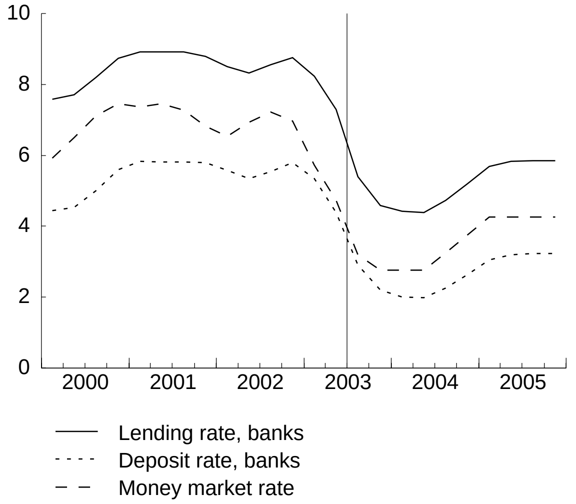
Source: Statistics Norway.

Interest rate and inflation differential between NOK, and the euro
Percentage points



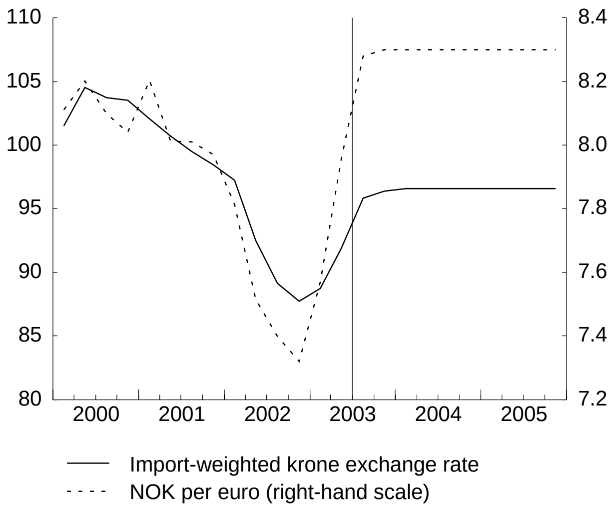
Sources: Norges Bank and Statistics Norway.

Lending rate and deposit rate
Per cent



Source: Norges Bank.

Development in import-weighted krone exchange rate and NOK per euro



Source: Norges Bank.

the krone. After appreciating markedly over the past years, the import-weighted exchange rate weakened by about 8 per cent between mid-January and mid-March this year. Thereafter, the krone appreciated by a few per cent up to end-May, primarily reflecting a depreciation of the US dollar. After the central bank governor issued strong signals that the interest rate would be reduced further than expected earlier, and Norges Bank followed up with two interest rate cuts of 1 percentage point each in the course of the summer, the krone depreciated by about 12 per cent against the US dollar and 4 per cent against the euro. The import-weighted exchange rate has depreciated by about 7 per cent in the same period. Since January, the import-weighted exchange rate has weakened by a total of 13 per cent. At the beginning of September, the krone stood at 8.20 against the euro. We assume that the krone will depreciate to 8.30 against the euro through the autumn, and remain steady at this level to the end of the projection period. This is in line with the forecasts from Consensus Forecasts.

Continued low activity levels and the absence of inflationary pressures point to a further cut in Norges Bank's key rate. Brighter prospects for the world economy would indicate the contrary. Developments in the exchange rate ahead are important for interest rate developments. The weakening of the krone so far this year represents a considerable monetary policy easing in itself. If the krone appreciates again, the need for lower interest rates will increase.

We assume that money market rates will fall to 2.75 per cent through autumn. This is broadly in line with money market expectations at the beginning of September, and implies that Norges Bank will cut the key rate by a further half percentage point. This will result in an interest rate floor that is 1 percentage point lower than assumed in the June *Economic Survey.* It is also assumed that money market rates will edge up from the first quarter of next year, to 4.25 per cent in the first half of 2005. A comparable increase in interest rates is assumed for the euro area, given a pick-up in growth in the euro area economy next year so that the interest rate differential stabilizes at around 0.75 percentage point.

Upward revision of estimates for petroleum investment in 2004 and 2005

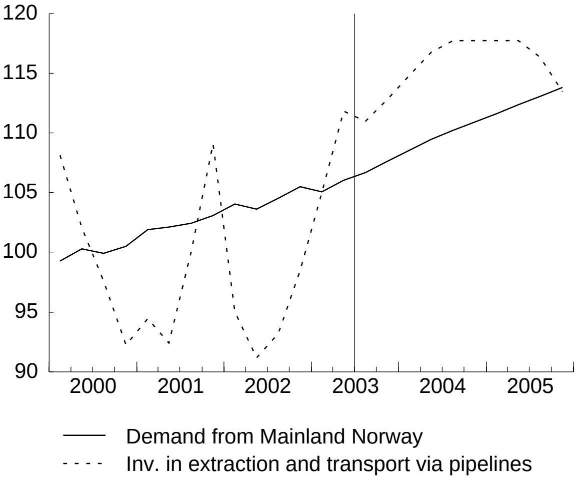
Provisional national accounts figures show that value added for the petroleum industry measured at constant prices remained virtually unchanged from 2001 to 2002. This year value added is expected to fall by close to 2 per cent before edging up again in 2004 and 2005.

Oil prices averaged USD 25 per barrel in 2002, which translated into approximately NOK 200. Oil prices have been higher than this level so far this year, and we assume that the average oil price for 2003 will be

USD 28.4 per barrel. With the exchange rate assumptions above, this implies that oil prices in NOK will be at last year's level, i.e. a good NOK 200 per barrel. From the first quarter of 2004, a constant oil price of USD 25 is assumed, bringing the average price in NOK to 180 per barrel in both 2004 and 2005.

Provisional, seasonally adjusted QNA figures show that the level of production of crude oil and natural gas remained virtually unchanged form the fourth quarter of 2002 to the first quarter of this year. This was followed by a fall of a good half per cent to the second quarter, which was due to temporary production disturbances owing to maintenance work on several fields. Oil production is assumed to remain unchanged from the first to the second half-year, with production falling by 2.5 per cent between 2002 and 2003. Gas production is assumed to increase somewhat, but not to the extent that total production of oil and gas will not show a fall. Gas production is expected to increase further in 2004 and 2005,while oil

Demand from Mainland Norway and investment in petroleum activities
Seasonally adjusted volume indices, 2000=100



Source: Statistics Norway.

Effects of upward revisions in petroleum investment

Historically, there has been considerable uncertainty associated with petroleum investment. Compared with the June report, our projections for petroleum investment have been revised upwards sharply in both 2004 and 2005. The level in 2004 has been revised up by about 8 per cent, while the projection for 2005 is about 20 per cent higher than in June. In order to shed light on the importance of petroleum investment for the Norwegian economy, we have carried out stylized calculations using Statistics Norway's macroeconometric model KVARTS. In the calculations, petroleum investment is increased by NOK 6.1 billion in 2004 and 2005, which is estimated to correspond to 10 per cent of the level in 2003. The increase is assumed to be evenly spread among different types of petroleum investment. It is assumed that fiscal and monetary policy are unaffected. The results of the calculations are shown in the table below.

Higher production in the supplier industry to cover higher deliveries of capital goods to the petroleum industry increases the need for labour as well as for capital. This results in higher employment and higher investment. Higher employment leads to lower unemployment and higher wages. Household real disposable income thereby increases, which in turn leads to higher consumption of both imported and domestically produced goods. Higher demand for domestically produced goods is general and amplifies the impact on wages, which gradually translates into higher prices. The results show that both wages and employment increase by 0.1 per cent in 2004 and that unemployment is reduced by 0.1 percentage point. Domestic prices remain unchanged, so that nominal wage growth of 0.1 per cent is the same as real growth. As a result of this, along with higher income from self-employment, household real disposable income rises by 0.2 per cent. This leads to an increase in consumption of 0.1 per cent and a rise in imports of traditional goods of 0.5 per cent. The latter includes imports of intermediate goods for private mainland enterprises. The increase in income leads to a rise in house prices of 0.1 per cent, while housing investment is 0.3 per cent higher than in the baseline scenario. Investment in private mainland industries rises by 0.4 per cent.

Effects of increasing petroleum investment by NOK 6.1 billion in 2004 and 2005
With the exception of the unemployment rate, all figures are percentage deviations from the baseline scenario

	2004	2005	2006
Consumption in households	0.1	0.1	0.1
Gross fixed investment, Mainland Norway	0.3	0.5	0.3
Exports	0.0	0.0	0.0
Imports	0.6	0.6	0.1
- Traditional goods	0.5	0.5	0.2
GDP	0.3	0.3	0.0
- Mainland Norway	0.3	0.3	0.1
- Manufacturing	0.3	0.3	0.0
Man-hours worked	0.1	0.2	0.1
Total employment	0.1	0.2	0.1
Unemployment rate, percentage points	-0.1	-0.1	0.0
Wages	0.1	0.2	0.1
CPI	0.0	0.0	0.1
Household real disposable income	0.2	0.2	0.1
Housing prices	0.1	0.4	0.7

In 2005, the effects are broadly the same as in the previous year, with the exception of house prices, which rise by an additional 0.3 per cent, and mainland investment, which rises by a further 0.2 per cent.

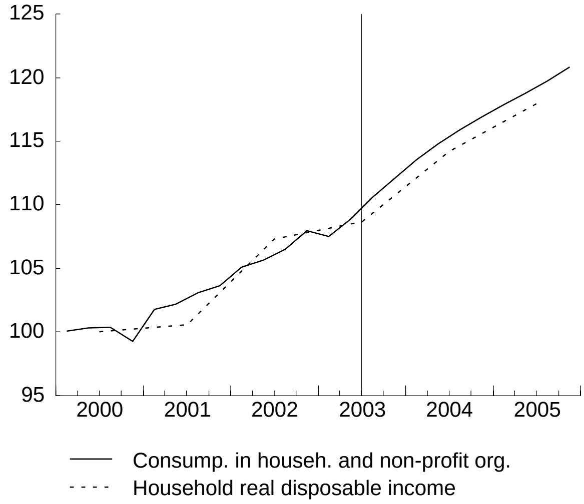
In 2006, we have reversed petroleum investment, with investment returning to the level in the baseline scenario. The activity level in the economy is nevertheless higher than in the baseline scenario. This is the result of delayed responses and multiplier effects. The effects on consumer prices have now reached 0.1 per cent.

The calculations show that our upward revisions in petroleum investment have, in isolation, contributed to boosting our growth projection for the mainland economy by about 0.3 per cent next year and in 2005. This has also increased the projection for consumption growth somewhat, whereas most nominal effects, except for house prices, are small.

production will edge up in 2004 followed by a decline again in 2005. Total production is assumed to fall by 1 per cent between 2002 and 2003, and then to increase by 1 per cent in 2004. In 2005, production is assumed to show a moderate fall. These estimates are in line with the estimates in the Revised National Budget.

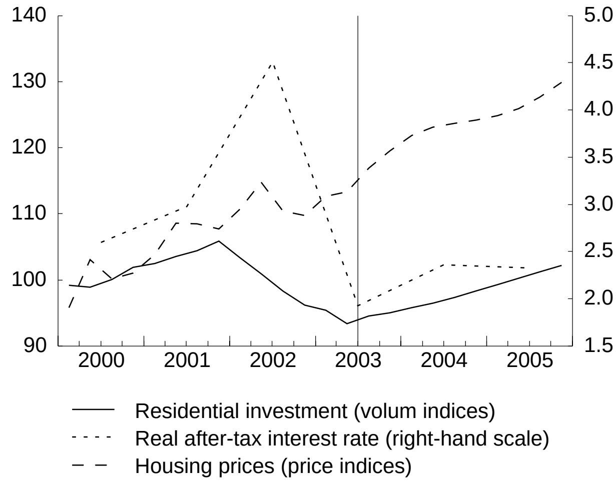
According to QNA figures, gross investment in oil extraction and pipeline transport showed a seasonally adjusted increase of a good 5 per cent from the fourth quarter of 2002 to the first quarter of this year, and an increase of about 5 per cent to the second quarter. As a result, for the year as a whole gross investment will be a good 16 per cent higher than in 2002. A further increase is expected next year, with the investment level at 7 per cent above this year's level. In 2005, the level is expected to be virtually the same as in 2004. This represents a clear upward revision of the investment projections for 2004 and 2005 compared with the estimates in the June report (see box on the effects of the upward revision). The projections are broadly in line with Statistics Norway's investment intentions survey for the industry. Historically, these projections have shown a clear tendency to underestimate investment levels six months before the investment year. Several recent discoveries have prompted us to take this tendency seriously. We still expect activity to be high as a result of several major development projects and upgrading of fields in operation. We also assume that investment in pipeline transport and exploration will pick up through 2004 and 2005. Investments associated with the development of the Snøhvit field are expected to increase further from 2003 to 2004, particularly for on-shore installations.

Income and consumption in households
Seasonally adjusted volume indices, 2000=100



Source: Statistics Norway.

Residential investment and housing prices
Seasonally adjusted indices, 2000=100



Source: Statistics Norway.

Interest rate reductions rapidly fuels consumption growth

According to seasonally adjusted QNA figures, consumption growth for households and non-profit institutions was 1.3 per cent at constant prices between the first and the second quarter of 2003. The marked increase from the first to second quarter may reflect difficulties in adjusting for seasonal and calendar effects, but may also be a normalization from the low growth in the first quarter. The high electricity bills had largely been paid in the second quarter and the uncertainty surrounding electricity prices had subsided. Developments in goods consumption would indicate that this was a normalization. According to the seasonally adjusted goods consumption index, goods consumption grew by 3.0 per cent at constant prices in April and has since showed more moderate growth (-0.2 in May, 1.0 in June and –0.1 in July).

Growth in household real disposable income is projected at a moderate 1.2 per cent this year, at as high as 5.1 per cent next year and 3.3 per cent in 2005. The projection for 2003 is based on moderate growth in households wage income as a result of some decline in employment, a more moderate wage settlement than last year and weak growth in household income from enterprises' operating results. Developments in net capital expenditure are also pushing down growth in household income, in spite of the marked interest rate cuts. The explanation is that the high dividend payments in 2002 are not expected to recur this year. Consumer price inflation appears to be relatively high this year, which is also pushing down growth in household real disposable income. The high growth in real income in 2004 reflects somewhat stronger growth in wage incomes, lower capital expenditure and low consumer price inflation. Income growth is projected to be somewhat lower in 2005 compared with 2004 because capital expenditure is expected to increase as a result of higher interest rates than in 2004 and consumer price inflation is projected to edge up.

Growth in consumption for households and non-profit institutions is projected at 3.3 per cent in 2003, 5.0 per cent in 2004 and 3.4 per cent in 2005. This is broadly in line with the projected path for real income, and implies that the saving ratio will remain approximately constant in these years. The projected path for consumption can be explained by the fairly rapid impact of changes in nominal interest rates on consumption, while the impact on income growth occurs with a longer lag. This means that the interest rate reductions in the first half of 2003, combined with strong income growth last year, will translate into higher consumption growth in 2003, especially towards the end of the year. Against this background, consumption growth is projected to pick up relatively sharply in the third and fourth quarter of 2003. In the somewhat longer term, consumption growth will primarily be determined by income growth, asset price developments and the real interest rate. The wealth effects are relatively moderate, however, and the real interest rate is expected to remain fairly constant in 2004 and 2005. The main determinant behind the decline in consumption growth from 2004 to 2005 is thus developments in real income.

House price inflation boosts housing investment

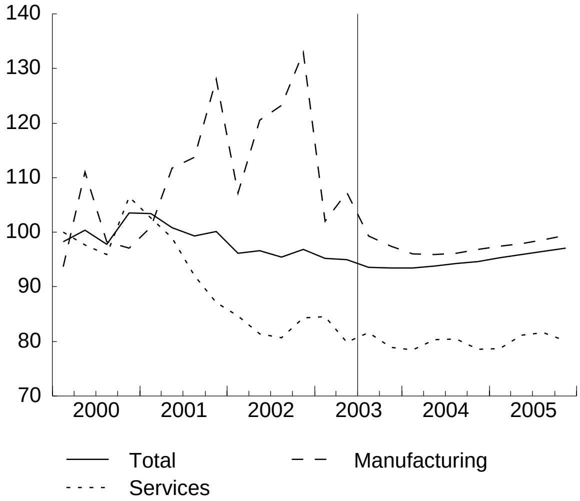
Seasonally adjusted QNA figures indicate that housing investment, at constant prices, fell by 2.1 per cent in the second quarter. This means that the negative trend observed since the fourth quarter of 2001 has continued. Seasonally adjusted housing start figures show a fall in housing starts of 2.9 per cent, measured in square metres, in the period from May to June this year. This is in line with developments so far this year. Housing investment is now projected to fall by 5.1 per cent in 2003. However, the underlying tendency indicates a reversal to positive growth in the latter half of 2003. Housing investment is projected to increase by 2.5 per cent in 2004 and 3.9 per cent in 2005.

This primarily reflects the projected rise in house prices. The rise in prices for owner-occupied dwellings is projected at 3.5 per cent this year. Although price developments appear to have been weak in the first half of the year, the fall in interest rates is expected to push up prices in the latter half of 2003. Annual house price inflation is projected at 6.8 per cent in 2004 and 2.5 per cent in 2005.

Decline in mainland business investment

Mainland gross business investment has declined since the investment peak about two years ago, primarily reflecting the decline in investment in service industries. Manufacturing investment showed growth up to the end of 2002, but has fallen markedly so far this year. Investment in other goods-producing industries has increased and has been on the rise so far in 2003, but the magnitude is fairly moderate and has little influence on macroeconomic figures.

Investment, Mainland Norway
Seasonally adjusted volume indices, 2000=100



Source: Statistics Norway.

The decline in manufacturing investment will continue in the period ahead and is not likely to show a reversal before the end of 2004. The high investment activity in 2002 primarily reflects a few large projects that are nearing completion. The fall in manufacturing production implies that there is no need for any substantial capacity increases in the short term. A substantial production increase will probably have to occur in manufacturing industry for a period, before a new investment upswing takes place. This is not likely to occur before the end of 2004 or in 2005. As regards other goods-producing industries, investment in electricity production is expanding, fuelled by both high capacity utilisation and solid profitability. Primary industries are not expected to contribute to an investment upswing.

Weak growth in the Norwegian economy in 2002 and 2003 will have an impact on investment developments in service industries in the period ahead. The cyclical downturn has resulted in considerable spare capacity, for example in the commercial property market, where investments were high during the period of expansion. The effects of a new upturn will only be felt once a substantial share of this spare capacity is utilized. Admittedly, low interest rates may stimulate investment, but we do not believe that the isolated effect of low interest rates will have a substantial impact here compared with, for example, the interest rate effects on housing investment.

On balance, mainland business investment is now projected to fall by 2 per cent in 2003, after shrinking by a good 6 per cent in 2002. Investment will then edge down in 2004, but pick up towards the end of the year, bringing the increase in investment to 2 per cent in 2005.

Main economic indicators 2001-2005. Accounts and forecasts
Percentage change from previous year unless otherwise noted

	Accounts 2002	Forecasts 2003			2004			2005	
		SN	MoF	NB	SN	MoF	NB	SN	NB
Demand and output									
Consumption in households and non-profit organizations	3.6	3.3	2.9	3 1/4	5.0	2.8	4 1/2	3.4	4 1/4
General government consumption	3.2	1.4	0.3	3/4	1.4	0.8	1 1/2	0.9	1 3/4
Gross fixed investment	-3.6	0.8	1.1	..	2.9	1.0	..	1.1	..
Extraction and transport via pipelines[1]	-4.6	16.4	13.3	15	7.0	1.0	0	0	0
Mainland Norway	-4.6	-1.8	-3.4	-5	0.5	1.0	3	2.3	5 1/4
Firms	-6.4	-2.0	-6.0	..	-0.3	1.3	..	2.5	..
Housing	-4.2	-5.1	-1.1	..	2.5	0.7	..	3.9	..
General government	0.0	2.6	0.1	..	0.3	0.2	..	0.3	..
Demand from Mainland Norway[2]	2.1	2.0	1.8	1 1/4	3.4	1.9	3 1/2	2.6	3 3/4
Stockbuilding[3]	0.4	-0.5	..	..	0.0	..	..	0	..
Exports	-0.5	-1.4	0.0	..	2.4	2.8	..	1.4	..
Crude oil and natural gas	0.2	-1.9	0.5	..	1.3	1.6	..	-1.3	..
Traditional goods	1.3	0.4	-2.2	-2	3.3	4.1	1	4.2	2 1/2
Imports	1.7	3.0	1.3	2	3.7	2.8	2 1/4	3.1	4 1/4
Traditional goods	4.7	3.1	1.9	..	3.7	3.1	..	3.7	..
Gross domestic product	1.0	-0.1	1.1	..	3.0	2.0	..	1.6	..
Mainland Norway	1.3	0.4	0.7	1	3.3	1.9	2 1/2	2.3	3
Labour market									
Employed persons	0.2	-0.7	-0.6	-3/4	0.0	0.0	1/4	0.4	3/4
Unemployment rate (level)	3.9	4.5	4.4	4 1/2	4.6	4.6	5	4.4	4 3/4
Prices and wages									
Wages per standard man-year	5.4	4.4	4 1/2	4 1/2	4.1	4 1/4	4 1/2	3.9	5
Consumer price index (CPI)	1.3	2.7	2 3/4	2 1/4	1.0	1 1/2	1 1/2	1.9	2 1/2
CPI adjusted for tax changes and excluding energy products (CPI-ATE)	2.3	1.2	1 3/4	1 1/4	1.4	2 1/4	2	2.1	2 1/2
Export prices, traditional goods	-8.7	0.7	..	..	7.2	..	..	1.8	..
Import prices, traditional goods	-8.0	2.2	..	..	4.0	..	..	0.6	..
Housing prices[4]	4.0	3.5	..	..	6.8	..	..	2.5	..
Balance of payment									..
Current balance (bill. NOK)	200.6	167.1	203.7	..	156.0	190.1	..	165	..
Current balance (per cent of GDP)	13.2	10.8	..	..	9.8	..	..	10	..
Memorandum items:									
Household savings ratio (level)	7.2	5.2	6.8	..	5.4	6.6	..	5.4	..
Money market rate (level) [5]	6.9	4.1	5.1	4 1/2	3.1	5.0	3 1/2	4.3	4
Lending rate, banks (level)[6]	8.5	6.4	..	..	4.7	..	..	5.8	..
Crude oil price NOK (level)[7]	197.4	202.2	190.0	..	180.4	172.0	..	180.4	..
Export markets indicator	0.2	3.0	..	..	5.6	..	..	6.5	..
Importweighted krone exchange rate (44 countries)[8]	-8.6	2.0	..	1/2	3.4	..	3	0	1 1/4

[1] Forecasts from Ministry of Finance and Norges Bank Incl. service activities incidential to extraction.
[2] Consumption in households and non-profit organizations + general government consumption + gross fixed capital formation in Mainland Norway.
[3] Change in stockbuilding. Per cent of GDP.
[4] Freeholder.
[5] NB use their sight deposit rates.
[6] Households' borrowing rate in private financial institutions.
[7] Average spot price Brent Blend.
[8] Increasing index implies depreciation.
Sources: Statistics Norway (SN), Ministry of Finance, St.meld. nr 2, 2002-2003 (MoF), Norges Bank, forecasts based on forward interest and exchange rates, Inflasjonsrapport 2/2003 (NB).

Increased market growth fuels upswing in exports

Following the slump in export growth over the preceding six quarters, the volume of traditional merchandise exports showed a pronounced increase in the second quarter of this year. Seasonally adjusted growth in traditional merchandise exports was as high as 4.7 per cent from the previous quarter. Growth was particularly strong for different industrial commodities and semi-finished goods, excluding pulp and paper, i.e. products that tend to react rapidly to an international cyclical turnaround. The strong growth figures are thus a reflection of the signs of a strengthening recovery in the US economy.

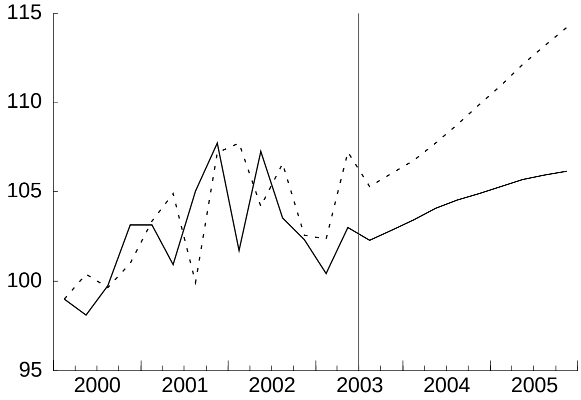
The general improvement in competitiveness in the Norwegian business sector as a result of the marked depreciation of the krone over the past half-year has not yet had a significant impact on export volumes. However, the depreciation has started to have an impact on export prices in NOK. For traditional goods as a whole, seasonally adjusted export prices fell by 0.5 per cent from the first to the second quarter, but excluding refined petroleum products, prices rose by 1.8 per cent after falling markedly in the preceding quarters. For the cyclically sensitive groups metals and chemicals, prices rose both in the first and second quarter.

Market growth for Norwegian export goods is expected to increase from about 3 per cent this year to around 6 per cent over the next two years. For cyclically sensitive intermediate goods, export growth may be in line with this, particularly as regards metals where new and efficient capacity is now being put into production. In general, however, Norwegian export growth is expected to be lower than market growth, with 3-4 per cent growth for traditional goods as a whole.

In line with the assumption that the international recovery is now gaining ground, export prices for cyclically sensitive goods are expected to continue to rise through the remainder of the year and into 2004. For traditional merchandise exports as a whole, the rise in prices may reach 7 per cent next year, following a subdued rise this year and a price decline of close to 9 per cent in 2002.

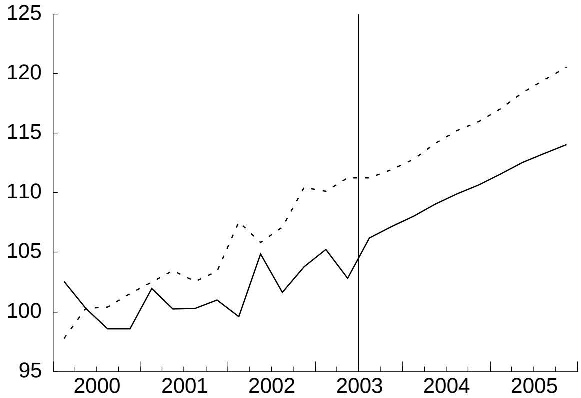
Given a normal business cycle, it could be expected that world market growth would again slow towards the end of 2005 and 2006. Consensus forecasts have not incorporated such a renewed decline and nor have our forecasts as yet.

Exports
Seasonally adjusted volume indices, 2000=100



Source: Statistics Norway.

Imports
Seasonally adjusted volume indices, 2000=100



Source: Statistics Norway.

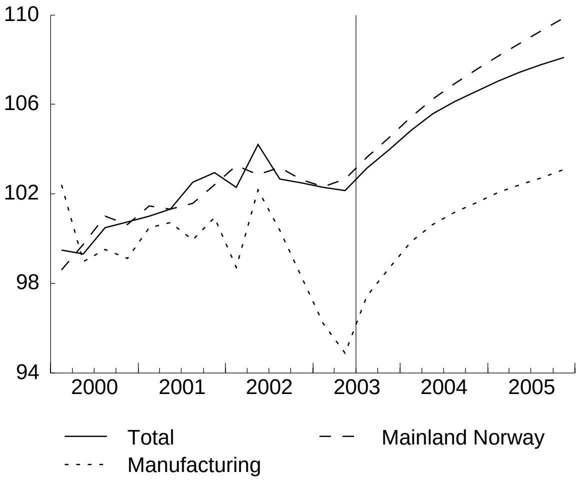
Weak import growth in spite of marked increase in import shares

The volume of traditional merchandise imports expanded by a seasonally adjusted 1 per cent in the second quarter following a moderate decline in the previous quarter. Excluding refined petroleum products, the volume of imports remained virtually unchanged through the first six months. The change in imports of refined petroleum products is primarily ascribable to technical factors, while cyclical developments have only a very limited impact. Weak import growth must be seen against the background of weak domestic demand growth and a shift in demand away from investment, which normally has a relatively high import content. Norwegian enterprises have witnessed a fall in imports of these goods of more than 10 per cent over the last half-year. Import shares have thus increased sharply in this period, reflecting the preceding deterioration in competitiveness in the Norwegian business sector.

However, the depreciation of the krone over the past six months has led to a gradual improvement in business sector competitiveness in Norway. In the second quarter, seasonally adjusted prices for traditional merchandise imports dropped by 0.5 per cent, in line with the fall in domestic prices. In the first quarter, these prices also moved more or less in tandem. In the coming year, import price inflation is expected to be higher than the rise in Norwegian prices. In 2003, annual import price inflation is projected at 2.2 per cent, after falling by 8.5 per cent last year. For 2004, the rise in import prices is projected to move up to 4 per cent, and then level off in 2005.

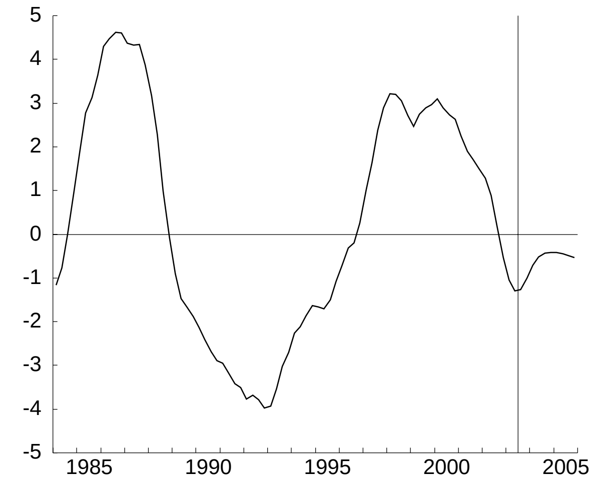
The improvement in competitiveness in the Norwegian business sector implies that the sharp increase in import shares will also level off. In volume terms, imports are projected to grow by 3-4 per cent this year and in the next two years. This is clearly higher than growth in the Norwegian market, but not higher than normal growth in import shares as a result of increased international trade.

Gross domestic product
Seasonally adjusted volume indices, 2000=100



Source: Statistics Norway.

Output gap
Per cent



Source: Statistics Norway.

Output growth will pick up markedly ahead

Total GDP continued to fall in the first two quarters of 2003, after reaching a temporary peak in the second quarter of 2002. However, the decline in mainland GDP came to a halt in the second quarter of this year, when QNA figures showed a moderate increase. Manufacturing production has shown a sharp decline over the past year, and production has also been falling in other goods-producing industries. In service industries, growth was sluggish through 2002, but has picked up in 2003 according to provisional QNA figures.

A fairly broad-based upswing in the mainland economy is expected in the period ahead. The effects of extraordinary developments that have pushed down production, such as electricity production, will subside. A more important factor is higher demand growth in the wake of the expansionary shift in monetary policy in 2003. Household demand is expected to show a particularly strong increase according to our calculations. This will not only affect service industries, where there are already emerging signs of an increase in production in the last quarter, but will also have a favourable impact on the manufacturing sector. Other factors will also have an impact on manufacturing production. First, the international recovery is expected to boost demand for Norwegian manufacturing products, with renewed growth in traditional merchandise exports. Second, parts of manufacturing industry will start using newly established production capacity and increase their production of export goods. The decline in manufacturing production will thus be reversed to growth in the period ahead.

In the public sector, production will not increase to the same extent owing to budget constraints. Production is measured from the cost side here, so that, for example, increased efficiency in the hospital sector will be reflected in the national accounts as an increase in production. Moreover, institutional changes in public agencies mean that production is being transferred from the public sector to mainland enterprises. An increase in purchases of services from private enterprises at the expense of public service production will in isolation translate into lower production in the public sector (without an attendant impact on mainland GDP in the short term).

While total GDP appears to remain steady between 2002 and 2003, growth in the mainland economy is now projected at a little more than 0.5 per cent. The projection is based on the assumption that the recession comes to a halt in the summer of 2003, followed by a moderate upswing that continues into 2004. However, according to our calculations, the upswing will be so moderate that the Norwegian economy can still be said to be in a slump in both 2004 and 2005. This is reflected in unemployment, which will be clearly higher throughout the projection period than the levels recorded over the last six years. An upswing in the international economy, higher petroleum investment and an expansionary monetary stance will thus not suffice – according to our calculations – to return the Norwegian economy to a neutral cyclical situation in 2005.

Unemployment peak reached in the course of this winter

According to seasonally adjusted figures from the Directorate of Labour, the number of unemployed rose by close to 27 000 from January 2002 to August 2003. Unemployment rose steadily up to June of this year. In July, the seasonally adjusted number of registered unemployed fell by about 2 000, followed by a renewed rise in August by close to 3 000 persons. The number of registered unemployed now accounts for 4.3 per cent of the labour force, or an increase of 0.8 percentage point compared with one year earlier. Measured in terms of the number of unemployed, unemployment has risen in particular among manufacturing workers, health workers and in service and commercial occupations.

Statistics Norway's Labour Force Survey (LFS) shows a similar tendency in unemployment, but the increase is less pronounced. From the first quarter last year to the average for May to July this year, seasonally adjusted unemployment rose by 18 000 persons, and came to 4.6 per cent of the labour force.

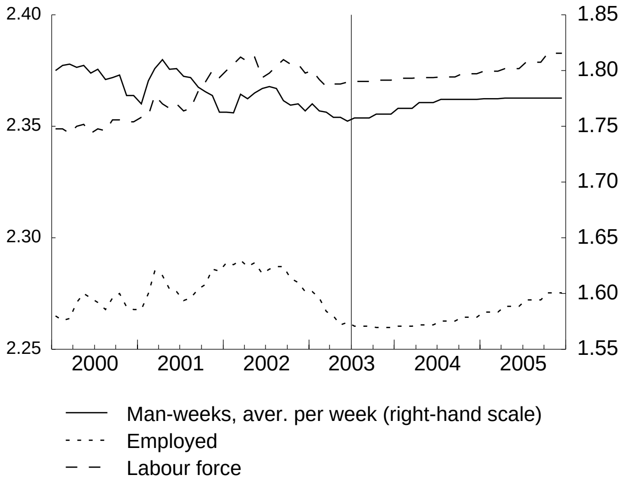
From the second quarter of last year to the second quarter of this year, the number of underemployed, i.e. the number of part-time employees who are seeking increased employment, increased by 16 000. At the same time, overall employment fell by 28 000. The strongest decline in employment was in manufacturing, postal and telecommunication services and education.

It would appear that hidden unemployment has increased markedly when taking into account that the labour force has contracted by 11 000 persons from the second quarter of last year while the population aged 16-74 increased by 28 000 in the same period. Many unemployed choose not to participate in the labour force when the labour market is weak. Not since 1997 has total labour force participation been lower than it was in the second quarter of this year. An average labour force participation rate of 73.2 per cent for the age group 16-74 is, however, still high both from a historical and international perspective.

A turnaround in the economy feeds through to employment with a considerable lag and with an even longer lag to unemployment statistics. In sluggish periods, many enterprises have spare capacity and available labour even if the workforce is scaled down. When activity picks up again, it is primarily productivity that increases in the first round. Thereafter, when employment starts to rise, the labour force expands when previously discouraged workers become more active on the labour market. Finally, unemployment shows a marked decline.

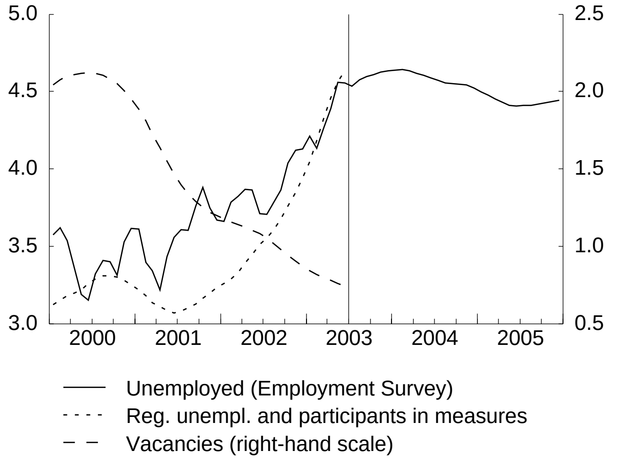
The cyclical upturn ahead implies an increase in productivity growth for the private mainland business sector from 1.0 per cent this year to 2.6 per cent in 2004 and 2.5 per cent in 2005. On the other hand, growth in the public sector is expected to be weak which implies that overall employment will be moderate. Stronger growth in employment is not expected until 2005. In line with this, we assume that unemployment will first stabilize at the current level. The unemployment peak is likely to be reached in the coming winter half-year. Average LFS unemployment is projected at 4.6 per cent in 2004 and 4.4. per cent in 2005.

Labour force, employment and number of man-weeks
Millions. Seasonally adjusted and smoothed indices



Source: Statistics Norway.

Unemployed and number of vacancies
Per cent of labour force
Seasonally adjusted and smoothed



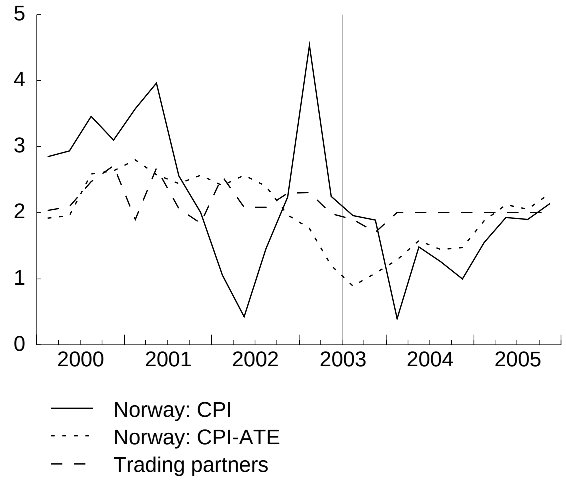
1) Backwards adjusted for breaks in the series from january 1999.
Sources: The Directorate of Labour and Statistics Norway.

Moderate wage growth

High pay increases in all the centralized wage settlements since 1997 were followed by very moderate centralized settlements in 2003. Many employees were not awarded pay increases this year. These developments reflect the situation in the labour market. Norwegian wage formation is very flexible in several areas. About half of total pay increases for private enterprises are awarded at the local or individual level. This provides a high degree of individual flexibility. Moderate negotiated pay increases in a downturn also provide a high degree of collective flexibility, which contributes to stabilising developments in unemployment for example.

Even with moderate pay increases this year, the high pay increases awarded in part late in 2002 imply a continued high level of annual wage growth. This applies in particular to central and local government employees. On the other hand, wage growth is being restrained by a considerable decline in extraordinary increases, bonuses and commissions, etc, particularly in the distributive trades, transport and business services. For the distributive trades, the year-on-year increase in monthly profits moved down from 4.2 per cent in the first quarter to 3.1 per cent in the second quarter. This tendency is expected to continue, bringing growth in wages per normal man-year to 4.4 per cent in 2003 compared with 5.4 per cent in 2002. The carry-over from previous increases awarded in 2002 will account for as much as 2.5 percentage points. Some of the increases for 2003 were already agreed in 2002, which makes a contribution of about 0.5 per cent to average wage growth.

Consumer price indices
Percentage growth from the same quarter previous year



Sources: Statistics Norway and Norges Bank.

The projection for the growth in wages per normal man-year is 4.1 per cent in 2004 and 3.9 per cent in 2005. The low carry-over from 2003 provides room for markedly higher negotiated increases in the main settlement in 2004, which will lead to a higher carry-over in 2005. Given a moderate cyclical upswing in the Norwegian economy during this period, total wage growth must be said to be moderate in these years. The projections reflect historical relationships indicating that wage growth reacts to changes in unemployment with a considerable lag. In addition, unemployment responds with a lag to cyclical turnarounds so that wage growth does not always reflect the current economic situation.

Inflation remains subdued

Underlying inflation, as measured by the year-on-year rise in the consumer price index adjusted for tax changes and excluding energy products (CPI-ATE), was 0.7 per cent in July. CPI-ATE inflation had exhibited a downward tendency over the past year. In the first seven months of this year, inflation fell by 1.1 percentage points after decreasing by 0.9 percentage point in the last six months of 2002. However, developments in electricity prices have made a considerable contribution to the sharp rise in the consumer price index (CPI). While CPI inflation was record low at 0.4 per cent in May and June 2002, it rose to 5.0 per cent in January 2003. Falling electricity prices, coupled with lower underlying inflation, pushed down total CPI inflation to 1.5 per cent in July.

Developments in the krone exchange, particularly the appreciation during the first half of 2002, have been an important factor behind the fall in underlying inflation over the past year. According to QNA figures, prices for traditional merchandise imports were 10.1 per cent lower in the second quarter of 2002 than in the same quarter one year earlier. Thereafter the fall in import prices compared with the same quarter one year earlier has been more moderate, and in the second quarter of 2003, the decline was 1.1 per cent. However, it takes time for a change in import prices to translate into lower consumer prices. In May, the CPI's price index for imported consumer goods for households showed a decline of only 0.9 per cent on the same month one year earlier. This was followed by a steadily steeper decline in the rate of inflation up to June of this year. Against the background of the krone depreciation so far this year and the developments in import prices mentioned above, it is likely that the rise in prices for imported consumer goods will accelerate in the period ahead.

Exchange rate developments are not the only factor behind the fall in prices for imported consumer goods in the CPI. Excise duties and mark-ups in Norway account for a considerable share of the prices for these goods. In the short term, mark-ups are expected to be reduced as a result of a weaker krone, taking into account that they increased when the krone appreciated last year. Another important factor is the global downturn, which has resulted in low international inflation. In addition, there has been a shift in imports to lower cost countries, which has reduced import prices further. The relationship between import prices and the exchange rate is not entirely simple. Future import deliveries can be agreed in Norwegian kroner and remain unaffected by exchange rate developments. In addition, foreign exporters may be inclined to reduce their prices to boost their competitiveness when the Norwegian krone is «weak» and increase prices when the krone is «strong». Various forms of currency hedging can also make it possible for Norwegian importers not to pass on the entire increase in costs in the short term, and in the same way they can wait for a period before passing on cost reductions.

Effects of "abnormally" high electricity prices

The dry autumn of 2002 contributed to a sharp rise in electricity prices at the end of 2002 and beginning of 2003, to levels far higher than observed earlier. The period of abnormally high electricity prices has persisted through the first eight months of 2003 and is expected to continue the rest of the year. Electricity expenses account for a noticeable share of households' total expenses and are an important cost factor for many parts of the business sector. In the short term, there is limited scope for shifting the use of energy away from electricity. Price developments for electricity are therefore also important in a macroeconomic context.

The macroeconomic effects of abnormally low electricity production and abnormally high electricity prices in 2003 are estimated using the econometric model KVARTS. Actual prices and production are seen in relation to prices and production that must be considered more normal. We have applied an overall price for households of 67.7 øre/kWh as a normal annual average and compared this with an estimate of 88.3 øre/kWh, which is our estimate for 2003. Normal electricity production is assumed to be 118 TWh, compared with an estimate of 107 TWh for 2003. The results are shown in the table below.

The largest effects of high electricity prices on the Norwegian economy probably arise through the impact on household behaviour. Households do not have favourable long-term supply contracts and have not hedged against price increases through fixed-price contracts to the same extent as the business sector. It is estimated that electricity prices for households (including grid rent and taxes) are about 30 per cent higher in 2003 than the normal level.

The direct contribution from abnormally high electricity prices to the rise in the CPI in 2003 may be estimated at 1.0 percentage point. Because electricity is a factor input in most parts of the business sector, production costs will rise. This increase in costs will be passed on to prices for almost all goods and services, but this indirect effect is far less than the direct impact. The calculations show a rise in the CPI-ATE of 0.3 per cent and an overall effect on the CPI of 1.3 per cent.

Higher consumer prices imply that nominal wages must be expected to increase slightly more than would otherwise have been the case, but real wages will nevertheless be appreciably lower. High electricity prices directly reduce real income for households, which leads to lower household demand than would otherwise have been the case. This reduces the level of activity in those sectors of the economy that directly and indirectly provide goods and services to households.

Macroeconomic effects of abnormally high electricity prices in 2003

Deviations in 2003 from a scenario with a normal path in per cent unless otherwise specified

Consumption in households and non-profit organizations	-0.3
Household real disposable income	-0.9
Gross fixed investment, Mainland Norway	-0.3
Exports, traditional goods	-0.4
Imports	0.5
GDP Mainland Norway	-0.5
Unemployment rate, percentage points	0.0
CPI	1.3
CPI-ATE	0.3
Wages	0.4

According to the calculations, high electricity prices reduce household real disposable income by 0.9 per cent. As a result, consumption is 0.3 per cent lower than would normally be the case. Housing investment is reduced by 0.4 per cent.

Higher electricity prices and slightly higher nominal hourly labour costs reduce cost competitiveness, with a fall in net exports. The negative effects on activity are amplified. Profitability is reduced in all sectors. Household income from self-employment is thereby reduced in relation to a situation with normal electricity prices, which also exacerbates the initial negative effect on household demand.

Demand for labour is influenced through two channels: lower activity levels push down demand, while demand is pushed up as labour becomes cheaper in relation to the factor input electricity. According to the calculations, the overall effect is that employment is reduced by about 1000. Lower employment in turn leads to lower household real income, thereby amplifying the negative impact on the Norwegian economy. However, lower real wages reduce the supply of labour at the same time, with unemployment approximately unaffected by the higher electricity prices.

In the calculations, it is assumed that the electricity prices paid by power-intensive industries are only to a limited extent influenced by fluctuations in the spot market for electricity. Domestic deliveries from these manufacturing sectors are also fairly modest, and deliveries for household consumption in particular are marginal. Power-intensive industries are therefore relatively unaffected by lower domestic demand.

Other industries, however, face noticeably higher electricity prices, and thereby deteriorating cost competitiveness in addition to lower domestic demand. In spite of lower domestic demand, total imports rise by 0.5 per cent. This is largely due, quite naturally, to considerably higher electricity imports, but imports of other energy products also rise. Moreover, as a result of the deterioration in cost competitiveness, imports, excluding energy products, are 0.1 per cent higher than in a normal situation. Higher production costs lead to a 0.4 per cent decline in exports of traditional goods. Mainland enterprises' investment is reduced by 0.3 per cent. All in all, this means that mainland GDP falls by 0.5 per cent. About 0.2 percentage point of the fall, however, is directly ascribable to abnormally low electricity production. Mainland GDP, excluding the power supply sector, is thus reduced by 0.3 per cent as a result of abnormally high electricity prices. National real disposable income is reduced by NOK 6.6 billion (2000-prices), which corresponds to 0.5 per cent.

In the calculations, it is assumed that the orientation of monetary and fiscal policy is not influenced by high electricity prices. Exchange rates and all other variables that are determined outside the model are also assumed to be unaffected. A change has been made in relation to the standard version of the model; market participants' expectations concerning current and future real interest rates are assumed to be unaffected by a (temporary) change in electricity prices. For a further discussion of methodology and assumptions in the calculations as well as a thorough review of the results, see Eika and Jørgensen (2003).

Reference: T. Eika and J.A. Jørgensen (2003): Makroøkonomiske virkninger av høye strømpriser i 2003. En analyse med den makroøkonometriske modellen KVARTS. Notater 62/2003. Statistics Norway (Macroeconomic effects of high electricity prices in 2003. An analysis using the macroeconometric model KVARTS. Notater 62/2003. Statistics Norway).

The fall in underlying inflation over the past year cannot solely be attributed to the direct effects of lower prices for imported consumer goods. Imported goods and services account for a substantial share of inputs in Norwegian production of goods and services. Import prices also influence the competitiveness of Norwegian enterprises and thereby pricing. Therefore, a fall in import prices will also have a dampening impact on the rise in prices for Norwegian products.

Developments in house rents have also contributed to reducing inflation over the past year. The year-on-year rise in house rents has decelerated by 2.2 percentage points in the year to July 2003 and has contributed to reducing inflation by about 0.4 percentage point.

Underlying inflation is primarily influenced by labour costs, productivity and import prices. Over the past 5 years, the increase in hourly labour costs in the private sector has been relatively stable at around 6 per cent. As a result of this, the rise in prices for services, excluding house rents, has been high in this period, generally between 4-5 per cent. However, the rate of increase in prices for these services showed a clear fall, and has since stabilized at around 3 per cent.

Somewhat lower wage growth in 2002 than in the previous year, combined with this year's moderate wage settlement, has led to lower inflation, and will probably continue to exert downward pressure on inflation for a period ahead. Productivity growth will normally pick up in a cyclical upturn, which may also suggest low inflation.

Electricity prices are projected based on forward prices at the end of August. It appears that electricity prices for households will continue to rise through the remainder of the year and into next year. Electricity prices may show sharper than normal fall in the spring, while price developments are expected to normalize thereafter. The annual average increase in electricity prices is projected at about 36 per cent in 2003, followed by a decrease of about 12 per cent in 2004. In 2005, electricity prices for households were projected to fall by about 4 per cent. The surge in electricity prices in December 2002 and in January of this year may contribute to reducing the year-on-year rise in the CPI towards the end of this year and particularly in January next year.

Oil prices, measured in NOK, are projected to rise by an annual average of 2 per cent in 2003, but to fall by 11 per cent in 2004 and remain unchanged in 2005. The projections are not based on any real indirect tax changes in 2004 and 2005. Nor have we incorporated any explicit price changes as a result of the introduction of a maximum price for day-care places.

CPI inflation is projected to remain around 2 per cent this autumn. In January, CPI inflation may show a clear negative rate and reach the lowest level recorded in almost 50 years. Thereafter, CPI inflation will increase and show a more stable trend as the impulses from electricity prices are expected to subside.

Towards the end of the projection period, CPI inflations is projected to be between 2.0 and 2.5 per cent. Underlying inflation is projected to edge up in the period ahead. Annual CPI-ATE inflation is projected to average 1.2 per cent in 2003, rising to 2.1 per cent in 2005.

Balance of payments

Preliminary balance-of-payments figures show a current account surplus of NOK 97.9 billion in the first half of 2003, or a decrease of NOK 9 billion on the same period one year earlier. While the trade surplus of NOK 110.5 billion was virtually unchanged on the figure for the first six months of 2002, the deficit on the interest and transfers balance was far higher at NOK 12.7 billion. The increase in this deficit primarily reflects developments in net value for reinvested earnings abroad. However, the data for calculating the item reinvested earnings are weak and the figures for the interest and transfers balance are thus more uncertain than previously.

On an annual basis, the current account surplus is estimated at NOK 167 billion in 2003, i.e. a decrease of NOK 34 billion on the previous year. The decline primarily reflects strong growth in the volume of imports and a decline in the volume of exports. Moreover, it appears that import prices are on average rising at a somewhat faster pace than export prices. It also appears that the interest and transfers balance will weaken to a considerable extent. The current account balance is expected to show little change over the next two years.

National accounts: Final expenditure and gross domestic product
At fixed 2000-prices. Million kroner

	Unadjusted		Seasonally adjusted					
	2001	2002	02.1	02.2	02.3	02.4	03.1	03.2
Final consumption exp. of housh. and NPISHs	641 829	664 700	164 204	165 118	166 482	168 713	167 997	170 169
Household final consumption expenditure	615 225	638 102	157 601	158 512	159 936	161 859	161 411	163 462
Goods	342 546	356 706	88 461	88 649	88 722	90 816	90 063	92 197
Services	263 866	270 251	67 099	67 143	67 849	68 360	67 720	68 209
Direct purchases abroad by resident househ.	27 131	28 901	6 634	7 305	7 560	7 154	7 837	7 434
Direct purchases by non-residents	-18 317	-17 755	-4 592	-4 585	-4 195	-4 471	-4 209	-4 379
Final consumption exp. of NPISHs	26 605	26 598	6 603	6 605	6 546	6 854	6 587	6 707
Final consump. exp. of general government	288 592	297 914	75 414	73 108	74 793	74 625	74 864	75 431
Final consump. exp. of central government	115 101	161 052	40 563	39 771	40 371	40 353	40 844	41 081
Central government, civilian	88 521	133 445	33 672	32 838	33 494	33 448	33 873	34 066
Central government, defence	26 579	27 606	6 891	6 933	6 877	6 904	6 971	7 015
Final consump. exp. of local government	173 491	136 862	34 851	33 336	34 422	34 273	34 020	34 349
Gross fixed capital formation	261 191	251 728	60 898	65 327	60 795	64 805	64 117	61 570
Extraction and transport via pipelines	54 837	52 312	13 154	12 619	12 907	13 632	14 536	15 481
Service activities incidential to extraction	-797	5 427	61	4 198	99	1 079	508	-325
Ocean transport	10 886	6 663	887	1 485	1 330	2 961	2 750	170
Mainland Norway	196 265	187 326	46 795	47 026	46 459	47 133	46 323	46 243
Mainland Norway ex. general government	156 189	147 269	36 733	36 738	36 484	37 299	36 228	35 442
Manufacturing and mining	21 163	22 614	5 004	5 630	5 753	6 209	4 760	5 010
Production of other goods	16 070	16 790	3 942	4 225	4 282	4 236	4 657	4 715
Dwellings	49 475	47 395	12 313	12 018	11 705	11 452	11 362	11 124
Other services	69 481	60 469	15 473	14 865	14 744	15 402	15 448	14 593
General government	40 077	40 058	10 063	10 287	9 975	9 834	10 096	10 801
Changes in stocks and stat. discrepancies	27 176	29 985	8 365	8 505	7 143	4 904	10 143	2 352
Gross capital formation	288 367	281 713	69 264	73 832	67 938	69 710	74 260	63 922
Final domestic use of goods and services	1 218 805	1 244 296	308 882	312 057	309 212	313 048	317 121	309 522
Final demand from Mainland Norway	1 126 687	1 149 940	286 414	285 251	287 734	290 471	289 184	291 843
Final demand from general government	328 668	337 972	85 477	83 395	84 768	84 459	84 960	86 232
Total exports	713 743	709 868	174 234	183 683	177 362	175 249	172 005	176 430
Traditional goods	222 201	225 163	57 644	55 750	57 023	54 877	54 779	57 371
Crude oil and natural gas	322 590	323 206	75 354	87 079	80 806	80 362	78 239	79 601
Ships and oil platforms	15 716	9 941	3 460	3 287	2 043	1 151	2 304	2 592
Services	153 236	151 558	37 776	37 567	37 489	38 860	36 683	36 866
Total use of goods and services	1 932 548	1 954 164	483 116	495 740	486 574	488 297	489 126	485 952
Total imports	435 146	442 534	107 383	113 026	109 567	111 889	113 433	110 815
Traditional goods	282 860	296 144	73 852	72 684	73 546	75 838	75 631	76 382
Crude oil	1 852	1 021	298	338	319	73	735	161
Ships and oil platforms	14 365	11 171	766	6 615	1 538	2 252	3 374	1 230
Services	136 068	134 198	32 468	33 388	34 165	33 726	33 693	33 042
Gross domestic product	1 497 385	1 511 661	375 733	382 714	377 007	376 408	375 693	375 137
Mainland Norway (market prices)	1 119 842	1 134 240	284 424	283 294	284 123	282 657	281 814	282 727
Petroleum activities and ocean transport	377 543	377 422	91 308	99 420	92 884	93 751	93 879	92 410
Mainland Norway (basic prices)	971 558	982 428	246 681	245 394	245 895	244 805	244 176	244 545
Mainland Norway ex. general government	754 528	765 297	191 147	192 121	191 578	190 651	190 214	190 406
Manufacturing and mining	145 143	144 126	35 632	36 878	36 228	35 475	34 725	34 241
Production of other goods	100 576	102 110	25 762	25 290	25 635	25 198	24 900	24 368
Service industries	508 808	519 061	129 753	129 953	129 715	129 979	130 589	131 797
General government	217 030	217 131	55 534	53 273	54 317	54 154	53 962	54 139
Correction items	148 284	151 811	37 743	37 899	38 228	37 852	37 638	38 181

Source: Statistics Norway.

National accounts: Final expenditure and gross domestic product
At fixed 2000-prices. Percentage volume change from previous period

	Unadjusted		Seasonally adjusted					
	2001	2002	02.1	02.2	02.3	02.4	03.1	03.2
Final consumption exp. of housh. and NPISHs	2.6	3.6	1.4	0.6	0.8	1.3	-0.4	1.3
Household final consumption expenditure	2.6	3.7	1.5	0.6	0.9	1.2	-0.3	1.3
Goods	2.8	4.1	1.8	0.2	0.1	2.4	-0.8	2.4
Services	2.4	2.4	0.7	0.1	1.1	0.8	-0.9	0.7
Direct purchases abroad by resident househ.	-1.1	6.5	3.7	10.1	3.5	-5.4	9.5	-5.1
Direct purchases by non-residents	-3.8	-3.1	-2.4	-0.2	-8.5	6.6	-5.8	4.0
Final consumption exp. of NPISHs	1.7	0.0	-1.9	0.0	-0.9	4.7	-3.9	1.8
Final consump. exp. of general government	2.7	3.2	3.1	-3.1	2.3	-0.2	0.3	0.8
Final consump. exp. of central government	2.5	39.9	39.7	-2.0	1.5	0.0	1.2	0.6
Central government, civilian	4.5	50.7	50.4	-2.5	2.0	-0.1	1.3	0.6
Central government, defence	-3.7	3.9	3.8	0.6	-0.8	0.4	1.0	0.6
Final consump. exp. of local government	2.8	-21.1	-21.0	-4.3	3.3	-0.4	-0.7	1.0
Gross fixed capital formation	-4.2	-3.6	-6.3	7.3	-6.9	6.6	-1.1	-4.0
Extraction and transport via pipelines	-1.0	-4.6	-12.9	-4.1	2.3	5.6	6.6	6.5
Service activities incidential to extraction	-118.6	-780.6	-103.8	..	-97.6	989.8	-52.9	-163.9
Ocean transport	-40.0	-38.8	-68.8	67.3	-10.4	122.7	-7.2	-93.8
Mainland Norway	0.7	-4.6	-3.9	0.5	-1.2	1.5	-1.7	-0.2
Mainland Norway ex. general government	0.1	-5.7	-4.4	0.0	-0.7	2.2	-2.9	-2.2
Manufacturing and mining	13.6	6.9	-16.3	12.5	2.2	7.9	-23.3	5.2
Production of other goods	-2.2	4.5	0.3	7.2	1.4	-1.1	9.9	1.2
Dwellings	3.7	-4.2	-2.4	-2.4	-2.6	-2.2	-0.8	-2.1
Other services	-5.1	-13.0	-2.8	-3.9	-0.8	4.5	0.3	-5.5
General government	2.9	0.0	-2.1	2.2	-3.0	-1.4	2.7	7.0
Changes in stocks and stat. discrepancies	-22.3	10.3	251.3	1.7	-16.0	-31.3	106.8	-76.8
Gross capital formation	-6.3	-2.3	2.8	6.6	-8.0	2.6	6.5	-13.9
Final domestic use of goods and services	0.4	2.1	2.1	1.0	-0.9	1.2	1.3	-2.4
Final demand from Mainland Norway	2.3	2.1	0.9	-0.4	0.9	1.0	-0.4	0.9
Final demand from general government	2.7	2.8	2.4	-2.4	1.6	-0.4	0.6	1.5
Total exports	4.1	-0.5	-5.6	5.4	-3.4	-1.2	-1.9	2.6
Traditional goods	3.7	1.3	0.5	-3.3	2.3	-3.8	-0.2	4.7
Crude oil and natural gas	5.2	0.2	-9.2	15.6	-7.2	-0.6	-2.6	1.7
Ships and oil platforms	51.5	-36.7	-35.2	-5.0	-37.8	-43.7	100.1	12.5
Services	-1.0	-1.1	-2.7	-0.6	-0.2	3.7	-5.6	0.5
Total use of goods and services	1.7	1.1	-0.8	2.6	-1.8	0.4	0.2	-0.6
Total imports	0.9	1.7	-1.4	5.3	-3.1	2.1	1.4	-2.3
Traditional goods	2.9	4.7	4.0	-1.6	1.2	3.1	-0.3	1.0
Crude oil	2.5	-44.9	-43.1	13.7	-5.8	-77.0	900.0	-78.1
Ships and oil platforms	-45.4	-22.2	-81.1	763.6	-76.7	46.4	49.8	-63.5
Services	6.0	-1.4	-2.5	2.8	2.3	-1.3	-0.1	-1.9
Gross domestic product	1.9	1.0	-0.6	1.9	-1.5	-0.2	-0.2	-0.1
Mainland Norway (market prices)	1.7	1.3	0.8	-0.4	0.3	-0.5	-0.3	0.3
Petroleum activities and ocean transport	2.7	0.0	-5.0	8.9	-6.6	0.9	0.1	-1.6
Mainland Norway (basic prices)	1.6	1.1	0.8	-0.5	0.2	-0.4	-0.3	0.2
Mainland Norway ex. general government	1.8	1.4	0.5	0.5	-0.3	-0.5	-0.2	0.1
Manufacturing and mining	0.5	-0.7	-2.2	3.5	-1.8	-2.1	-2.1	-1.4
Production of other goods	-3.2	1.5	2.1	-1.8	1.4	-1.7	-1.2	-2.1
Service industries	3.2	2.0	1.0	0.2	-0.2	0.2	0.5	0.9
General government	1.0	0.0	1.5	-4.1	2.0	-0.3	-0.4	0.3
Correction items	2.1	2.4	1.4	0.4	0.9	-1.0	-0.6	1.4

Source: Statistics Norway.

National accounts: Final expenditure and gross domestic product
Price indices. 2000=100

	Unadjusted		Seasonally adjusted					
	2001	2002	02.1	02.2	02.3	02.4	03.1	03.2
Final consumption exp. of households and NPISHs	102.4	103.1	102.0	102.6	103.3	104.0	105.7	105.0
Final consumption exp. of general government	107.3	111.6	108.6	111.2	113.0	113.1	114.8	115.0
Gross fixed capital formation	103.6	103.0	103.5	104.2	106.5	99.8	100.6	104.8
Mainland Norway	103.4	103.5	103.5	104.1	107.2	101.9	100.6	103.2
Final domestic use of goods and services	103.7	104.9	102.8	106.7	105.1	105.1	105.7	108.2
Final demand from Mainland Norway	103.8	105.3	104.0	105.1	106.5	106.0	107.2	107.3
Total exports	97.7	88.8	89.2	87.2	88.2	91.0	93.9	85.1
Traditional goods	97.1	88.7	90.3	90.5	86.9	87.1	87.5	87.1
Total use of goods and services	101.5	99.1	97.9	99.5	98.9	100.0	101.6	99.8
Total imports	100.0	93.8	96.0	94.2	93.1	92.1	92.6	93.7
Traditional goods	99.8	91.9	94.4	91.9	91.1	90.2	91.2	90.7
Gross domestic product	102.0	100.6	98.4	101.0	100.6	102.4	104.3	101.6
Mainland Norway (market prices)	103.8	106.4	103.4	107.4	106.8	108.0	106.7	108.8

Source: Statistics Norway.

National accounts: Final expenditure and gross domestic product
Price indices. Percentage volume change from previous period

	Unadjusted		Seasonally adjusted					
	2001	2002	02.1	02.2	02.3	02.4	03.1	03.2
Final consumption exp. of households and NPISHs	2.4	0.7	-0.2	0.6	0.7	0.6	1.6	-0.7
Final consumption exp. of general government	7.3	4.0	-1.1	2.4	1.6	0.1	1.5	0.2
Gross fixed capital formation	3.6	-0.6	1.2	0.7	2.2	-6.3	0.7	4.2
Mainland Norway	3.4	0.1	0.5	0.5	3.0	-4.9	-1.3	2.6
Final domestic use of goods and services	3.7	1.1	-1.1	3.9	-1.6	0.0	0.6	2.3
Final demand from Mainland Norway	3.8	1.5	-0.3	1.0	1.3	-0.5	1.2	0.0
Total exports	-2.3	-9.1	-1.7	-2.2	1.2	3.1	3.2	-9.3
Traditional goods	-2.9	-8.7	-2.5	0.2	-4.1	0.3	0.5	-0.5
Total use of goods and services	1.5	-2.4	-1.1	1.7	-0.6	1.1	1.5	-1.8
Total imports	0.0	-6.2	-1.8	-1.9	-1.2	-1.0	0.5	1.2
Traditional goods	-0.2	-8.0	-2.3	-2.7	-0.8	-1.0	1.2	-0.6
Gross domestic product	1.9	-1.3	-0.8	2.7	-0.4	1.7	1.9	-2.6
Mainland Norway (market prices)	3.8	2.5	-1.7	3.8	-0.6	1.2	-1.2	2.0

Source: Statistics Norway.

Technical comments on the quarterly figures

Quarterly calculations: The calculations are made on a less detailed level than the calculations for the annual national accounts, and are based on more simplified procedures.

Base year and chain linking of the data: In the quarterly national accounts (QNA) all volume measures are currently calculated at constant 2000 prices using weights from that year. The choice of base year influences the constant price figures and thus the annual rates of change in volume (growth rates). For the sake of comparison, all tables present growth rates with 2000 as the base year (common year of recalculation). The recalculation of prices is carried out at the sectoral level of the quarterly national accounts.