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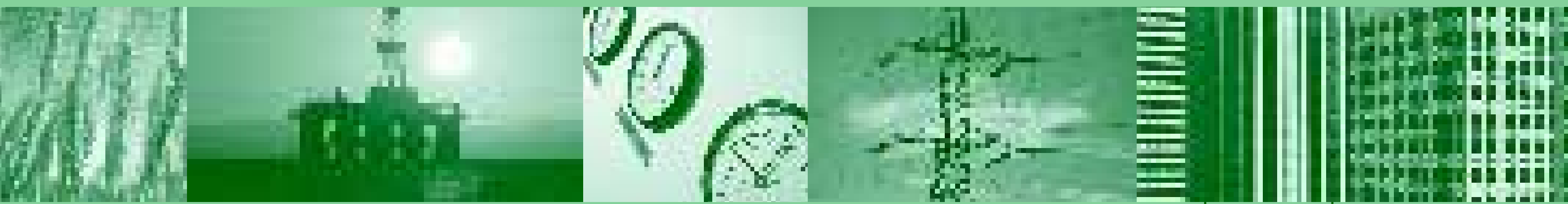
No. 1/2001



Inflation Report

1
01
March

Norges Bank's Inflation Report

Pursuant to the Norges Bank Act, the central bank shall be the executive and advisory body for monetary, credit and exchange rate policy. The projections in the *Inflation Report* provide a basis for the Bank's conduct of monetary policy. As the executive authority, Norges Bank shall orient monetary policy instruments with a view to maintaining stability in the krone exchange rate against European currencies. There are two fundamental preconditions that must be fulfilled to achieve this. First, price and cost inflation must over time not exceed the level aimed at by the euro area. Second, monetary policy must not in itself contribute to deflationary recessions.

The *Inflation Report* provides a survey of developments in prices and factors that influence price and cost inflation. It contains an assessment of the outlook for the Norwegian economy and Norges Bank's evaluation of the outlook for price inflation for the next two years. The December *Inflation Report* includes a longer time horizon and highlights the challenges to the Norwegian economy over a period of 4-5 years. Norges Bank's assessment is presented in a leader to the report.

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Asymmetry

In recent months, there has been growing evidence of a growth pause in the US economy. It is uncertain how deep and prolonged the slowdown will be. The Federal Reserve has cut interest rates substantially in order to dampen the downturn. The outlook for the Japanese economy is also uncertain. In Europe, on the other hand, there are prospects of an upturn.

High oil prices have reduced income growth in many countries and are contributing to the turnaround in the US. The effect of high prices for oil and other commodities is different for the Norwegian economy, with large profits in some export industries and substantial surpluses on government budgets and the current account. The high level of oil prices is boosting petroleum investment and holding up household income expectations.

Since the effects on the Norwegian economy are different, the orientation of policy is also different. The differential between short-term interest rates in Norway and abroad may widen.

The Norwegian economy features some aspects that are associated with a boom period. The economy is operating at capacity limits, but there are no signs of a downturn. Household income shows solid growth, and the outlook for manufacturing industry has improved. The public sector is underpinning demand growth. There is a shortage of labour in the public and private service sector. Price and cost inflation is high.

In the light of the current outlook, Norges Bank considers that the probability that the next change in interest rates will be a reduction is the same as the probability of an increase. Expectations of an impending fall in interest rates are still factored into the Norwegian money market. The projections in this report suggest that such a fall in interest rates would make it difficult to bring down price and cost inflation towards the corresponding aim for inflation in the euro area.

Deputy Governor Jarle Bergo

Inflation Report 1/2001

The cut-off date for the *Inflation Report* was 1 March 2001

1 | Summary

The Norwegian economy is characterised by high petroleum revenues, growth in government expenditure, high capacity utilisation, a tight labour market and relatively high price and cost inflation. Economic growth slowed towards the end of last year, but there is still a shortage of labour.

Norges Bank projects consumer price inflation at 3% in 2001. At the beginning of March, forward rates reflected expectations of a decline in short-term interest rates in 2001 and 2002. With a decline in interest rates in line with these expectations, price inflation is projected at 2½% in 2002 and 2¼% in 2003. If interest rates instead remain unchanged at the current level, price inflation may approach 2% from the end of 2002. The effects of alternative assumptions concerning developments in interest rates are discussed further in section 3.1.

The relatively high rate of increase in prices and costs in recent years primarily reflects labour market pressures. There are no signs of a decline in the number of vacancies, with labour shortages in the public and private service sector. The projection for the increase in labour costs in 2001 remains the same as in the December 2000 *Inflation Report*, ie 5%. For 2002 and 2003, wage growth is projected at 4¾% and 4½% respectively. The projections imply somewhat higher real wage growth over the next two years compared with the previous report. The wage estimates are also influenced by interest rate assumptions. With an interest rate at about the current level, wage growth may move down to 4% in 2003.

Consumer price inflation is influenced by the increase in oil prices. The sharp rise in oil prices in 1999 and 2000 is expected to continue to have an impact on prices for goods and services, particularly this year. It is uncertain how quickly these effects will be exhausted. It is estimated that these spillover effects account for about half a percentage point of price inflation this year. Unless oil prices rise further, the underlying rise in prices may thus edge down, which in turn implies that the nominal increase in labour costs may gradually slow.

The rise in prices for imported input goods and capital goods has picked up over the last year. This may feed through to consumer prices after a period. On the other hand, slower growth in the world economy may lead to weaker external inflationary impulses, which could contribute to countering the inflationary impetus from the labour market.

Mainland GDP is projected to grow by 1¼% in 2001, 1¾% in 2002 and 2% in 2003. With unchanged interest rates in the period ahead, mainland GDP growth may be 1½% the next two years. Increased optimism in some manufacturing sectors and higher petroleum investment would indicate more positive developments in manufacturing than estimated earlier. On the other hand, international developments have been somewhat weaker than expected.

The uncertainty surrounding international developments is primarily associated with the severity of the downturn in the US and how long it takes before growth picks up again. A pronounced downturn that has an impact on the world economy will contribute to reducing consumer price inflation internationally. The effects of such a turnaround on the Norwegian economy will, however, be mixed and depend on the dominating factors. Among other things, the effects on developments in commodity prices and exchange rates are uncertain.

On the other hand, we may have underestimated labour market pressures. Regional statistics show that unemployment is falling in many parts of the country. Moreover, there are signs that the number of vacancies remains high despite low growth in the economy the last six months.

2 | Price developments

Underlying consumer price inflation on the rise

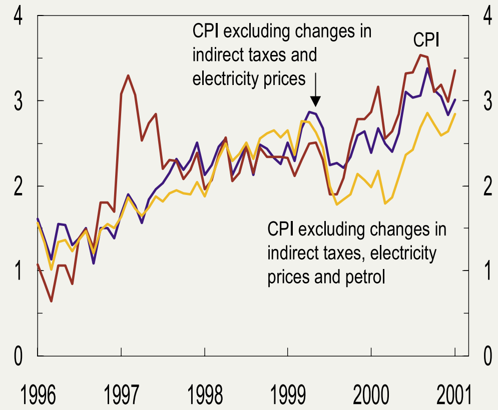
Consumer prices increased by an average of 3.1% between 1999 and 2000. Excluding changes in electricity prices and indirect taxes, price inflation averaged 2.9% in 2000 (see Chart 2.1). If fuel prices are also excluded, the underlying rise in prices was 2.4% last year. The direct effects of higher fuel prices contributed to pushing up consumer price inflation by about half a percentage point.

The year-on-year increase in the CPI moved up from 3.0% in December to 3.4% in January, primarily reflecting higher indirect taxes. If fuel prices are also excluded, the underlying rise in prices was 2.8% in January this year. Measured in this way, the underlying rise in prices has increased by nearly 1 percentage point during 2000. The increase primarily reflects a faster rise in prices for services, excluding house rent, through last year (see Chart 2.2). The main factors behind the increase are high growth in wages and a higher rise in prices for transport services. In the year to January 2001, prices for transport services rose by 11.3%, with air fares rising by 21.5%. To some extent this probably reflects the feed-through of the increase in oil prices.

Capacity and demand developments in the economy influence price setting among enterprises. If demand is high in relation to production capacity, it is easier for enterprises to pass on cost increases to prices. There is a shortage of labour. The increase in service prices where wages are a dominant factor has hovered around 6% in recent months. This is higher than nominal wage growth, and may indicate that pressures in the Norwegian economy are also boosting margins for enterprises.

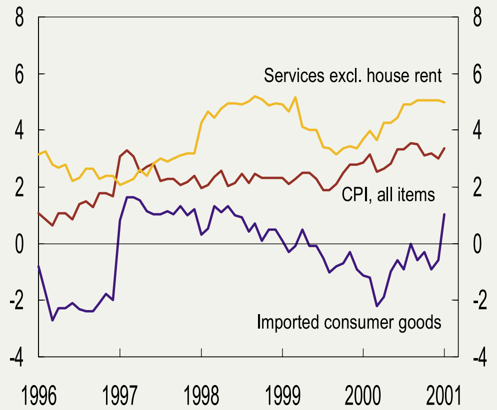
If we compare, for example, the increase in prices for transport services in Norway and the euro area, we also find that the strong pressures in the Norwegian economy have made it easier for enterprises to pass on higher costs to prices. Fuel prices are one of several cost components in the transport industry. As a result of the sharp rise in oil prices, fuel prices rose by about 15% last year, both in Norway and in the euro area. In the euro area, the increase in prices for transport services was about 2½% last year, while the increase was close to 10% in Norway. Wage growth differentials may explain part of the difference. Moreover, competition in the aviation sector in Norway has been reduced. There are also signs that the deregulation of the taxi industry has contributed to higher taxi fares. Although competitive conditions may explain differences in the extent to which cost increases are passed on to prices, cyclical desynchronisation may also play a part.

Chart 2.1 Consumer prices (CPI). Total and underlying. 12-month rise. Per cent



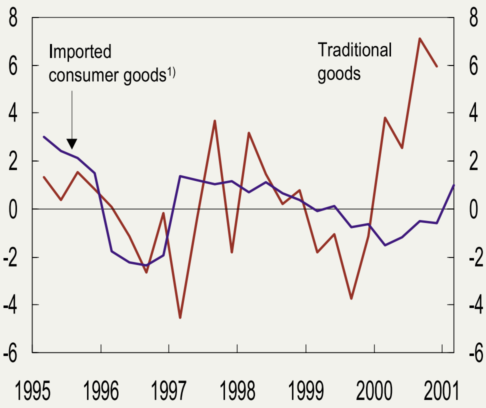
Sources: Statistics Norway and Norges Bank

Chart 2.2 Consumer prices. All items and by supplier sector. 12-month rise. Per cent



Source: Statistics Norway

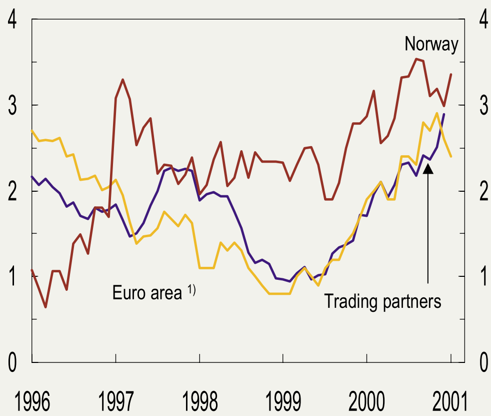
Chart 2.3 Import prices. Rise on same quarter previous year. Per cent



1) The first quarter of 2001 comprises January

Source: Statistics Norway

Chart 2.4 Consumer prices in Norway and abroad. 12-month rise. Per cent



1) Price rise in euro area measured by the Harmonised Index of Consumer Prices.

Sources: Statistics Norway, Eurostat and OECD

Subdued rise in prices for imported consumer goods

Prices for traditional import goods, ie excluding ships, oil platforms and crude oil, increased faster than expected towards the end of last year, rising by 6.1% between 1999 and 2000. This represents a sharp increase compared with earlier years, primarily reflecting high commodity prices. In addition, the effective krone exchange rate depreciated somewhat. However, the year-on-year rise in prices for imported consumer goods was still low.

Traditional import goods are made up of 2/3 input goods and 1/3 finished goods. Import prices for finished goods have a direct impact on consumer prices in Norway, whereas an increase in import prices for input goods may take longer to feed through, as illustrated by developments in 2000. Import prices for traditional goods showed a rise of more than 6%. However, this primarily applied to input prices, which were quickly influenced by high oil prices. Import prices for consumer goods fell (see Chart 2.3). This can partly be explained by a shift in demand among Norwegian importers of consumer goods towards low-price countries in eastern Europe and Asia, but may also reflect the fall in international producer prices the preceding year. However, the increase in input prices is eventually expected to lead to an increase in prices for finished goods, both imported and domestically produced. Experience also shows that it takes time before changes in the exchange rate have an impact on Norwegian consumer prices. This may be because Norwegian importers do not change prices in response to short-term fluctuations in the krone exchange rate. Furthermore, some Norwegian importers may hedge their contracts against fluctutations in exchange rates.

Oil prices have varied widely, falling from a peak of USD 36 per barrel in September last year to USD 22 at the end of the year, followed by a rise to almost USD 30 thereafter. Oil prices have recently hovered around USD 25-27. Food prices and prices for industrial raw materials have edged down since the last report.

In the euro area, high oil prices and the depreciation of the euro pushed up price inflation last year. The rate of increase in prices reached 2.9% in November (see Chart 2.4). In January, the rate of increase fell to 2.4%. The underlying rate of increase, which excludes energy and food prices, rose from 1.1% in January 2000 to 1.6% in January 2001. In the US, year-on-year inflation has increased in recent months, to 3.7% in January. Core inflation, which excludes energy and food prices, was 2.6%. Price inflation remains subdued in the UK and Sweden.

3 Norges Bank's inflation projections

3.1 The inflation outlook

Norges Bank projects consumer price inflation at 3% in 2001. With a decline in interest rates in line with the expectations that were factored into the money market at the beginning of March, price inflation is projected at 2½% in 2002 and 2¼% in 2003. These projections are unchanged from the previous inflation report. The projections for 2002 and 2003 may be regarded as estimates for underlying price inflation. The projections for 2002 exclude the temporary effects on price inflation of a decrease in VAT on food from July 2001. Norges Bank will have a basis for providing more precise projections for price inflation in 2002 when the overall tax programme for 2002 is finalised.

Market participants' interest rate expectations, as reflected in forward rates, have risen somewhat since December, but a pronounced decline in money market rates is still expected during the next two years. If the interest rate remains unchanged at the current level, price inflation may approach 2% from the end of 2002. The effects of alternative interest rate assumptions are further discussed below.

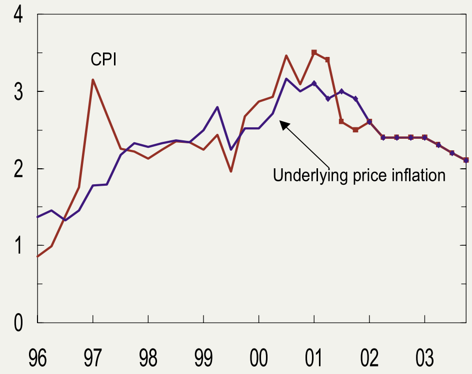
The krone exchange rate assumed to remain stable in the period ahead

Measured against the import-weighted index (44 countries), the krone exchange rate has strengthened somewhat since the December 2000 *Inflation Report*. The projections in this report are based on the technical assumption that the exchange rate, measured against the import-weighted index, will remain at the average level recorded so far this year until the end of the projection period. This implies that the krone will appreciate by 1% on average from 2000 to 2001. This is a somewhat stronger exchange rate than assumed in the December report. From 1999 to 2000, the import-weighted krone exchange rate depreciated by 2.5%. The krone/euro exchange rate has varied between 8.08 and 8.31 since mid-December, and was 8.23 on 1 March 2001.

Expectations of a fall in money market rates

Norges Bank's key rates were raised in four stages by a total of 1.5 percentage points between April and September 2000. The deposit rate is now 7.0%, while the three-month money market rate was 7.4% at the beginning of March. Implied forward rates, calculated on the basis of the yield curve in money and bond markets and the pricing of forward rate agreements, indicate that short-term rates are expected to fall by about ½ percentage point through 2001 and a further ¾ percentage point through 2002. Forward

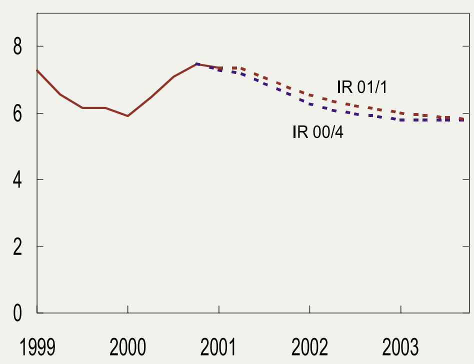
Chart 3.1 Estimated consumer prices. Total and underlying[1]. Rise on same quarter previous year. Per cent



[1]CPI excluding changes in indirect taxes and electricity prices

Sources: Statistics Norway and Norges Bank

Chart 3.2 Technical assumption concerning short-term money market rates.[1] Per cent



[1] Three-month money market rates up to 1 March. Three-month forward rates are estimated using four money market rates and five government bond yields with different maturities as observed on 1 March.

Source: Norges Bank

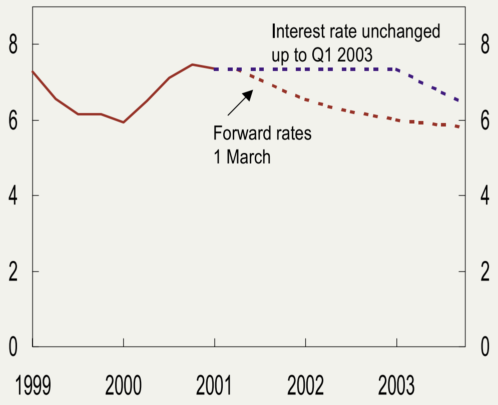
Table 3.1 Technical assumptions

	2000	2001	2002	2003
3-month money market interest rate (annual average)[1]	6.8	7.2	6.3	5.9
Import-weighted exchange rate[2]	2.5	-1.0	0	0
Real rise in gov't spending	1½	2¼	1¾	1¾
Oil price NOK/barrel[3]	252	230	200	175

[1] Interest rates are assumed to shadow market expectations as reflected in forward rates at 1 March.
[2] Annual percentage change. Positive figures denote a depreciation of NOK. The import-weighted exchange rate includes 44 countries.
[3] It is assumed that the oil price will gradually decrease to USD 20 per barrel.

Source: Norges Bank

Chart 3.3 Various forward rate scenarios



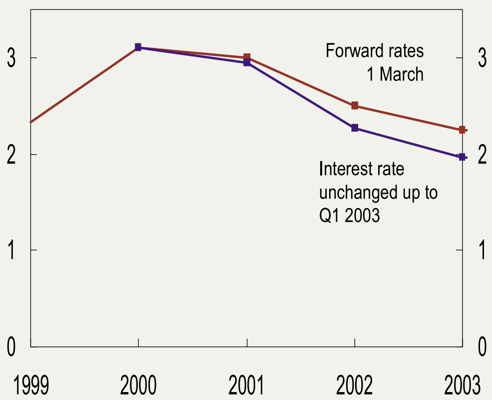
Source: Norges Bank

Table 3.2 Projections assuming unchanged interest rate for the next two years. Percentage change from previous year

	2001	2002	2003
Consumer prices	3	2¼	2
Labour costs	5	4½	4
Mainland demand	1¼	1½	1½
Mainland GDP	1¼	1½	1½
Employment	¾	¼	¼
Unemployment (level)	3¼	3¼	3½

Source: Norges Bank

Chart 3.4 Annual consumer price inflation for various interest rate scenarios. Per cent



Source: Norges Bank

rates indicate that the three-month rate is expected to be below 6% in 2003 (see Chart 3.2). Market participants thus expect a substantial reduction in the interest rate differential against the euro area during the next two years. Key technical assumptions are shown in Table 3.1.

Effects of changes in interest rate assumptions

Assumptions concerning interest rate movements influence the projections for economic developments and price inflation presented in this report. If interest rates remain high for a longer period than expected by the market, price and cost inflation may slow somewhat faster. By way of illustration, an alternative interest rate scenario is presented in Chart 3.3. The scenario is based on the technical assumption that interest rates remain unchanged at the current level for the next two years, before dropping gradually towards forward rates. Table 3.2 presents estimates for a number of key variables based on this interest rate assumption.

The estimates show that price inflation may decline towards 2% at the end of 2002 if interest rates remain at the current level for the next two years (see Chart 3.4). This alternative interest rate scenario implies a stronger import-weighted krone exchange rate in the same period. A high interest rate over a longer period will make it more attractive to invest in NOK. Our calculations are based on the technical assumption that the exchange rate changes in accordance with the theory of uncovered interest rate parity. A higher interest rate for the krone is then matched by an immediate appreciation and thereafter a steady depreciation back to the initial level, so that the expected return on NOK positions is unchanged.

The impact on price inflation occurs relatively rapidly when the exchange rate appreciates at the same time. As the effects via the exchange rate recede, the effects via the real economy will dominate. Higher interest rates will dampen domestic demand growth, particularly growth in private consumption, which in turn will curb production growth. The projections indicate that with this alternative interest rate scenario, growth in mainland GDP will be around 1½% the next two years. Pressures in the labour market may abate somewhat and contribute to a gradual reduction in wage growth to 4%.

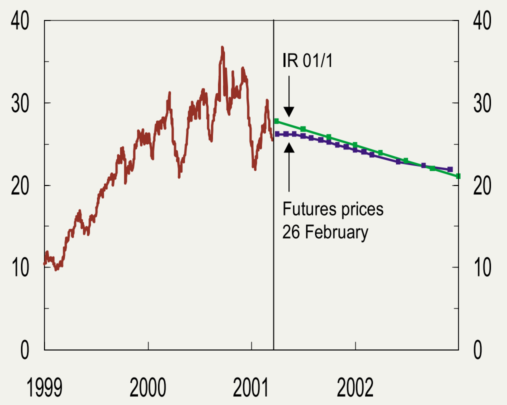
3.2 International inflationary impetus

Lower international inflationary impetus

The strong increase in import prices for traditional goods through 2000 can largely be attributed to the rise in oil prices. The depreciation of the krone exchange rate during the first half of 2000 may also have contributed. Given a somewhat lower oil price in the period ahead, import prices for traditional goods are projected to rise by 1¾% this year and remain unchanged in 2002. Somewhat weaker international developments and an appreciation of the krone have also helped to push down estimates compared with the December report. In 2003, import prices are expected to rise by about 1%.

In the December report we assumed approximately unchanged prices for imported consumer goods in the years ahead. The rise in prices for these goods had then been negative since the beginning of 1999. In January this year, however, the year-on-year rise in prices was 1.0%, primarily reflecting higher VAT, but also higher underlying price inflation. The sharp increase in international producer prices may now be feeding through to prices for finished goods to a greater extent. On the other hand, strong international competition in product markets is expected to continue to curb the rise in prices for these goods. Overall, we now expect some increase in prices for imported consumer goods in 2001 and a slight decline next year. Prices for imported consumer goods are estimated to remain stable in 2003.

Chart 3.5 Oil price, Brent Blend. USD per barrel



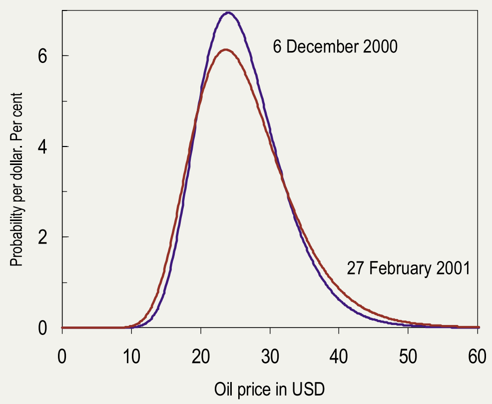
Sources: International Petroleum Exchange and Norges Bank

Greater uncertainty regarding oil prices

Our calculations are based on the technical assumption that the oil price will fall gradually towards USD 20 two years ahead (see Chart 3.5). In isolation, this will contribute to bringing down price inflation the next few years. At the same time, the sharp rise in oil prices through 1999 and 2000 is expected to continue to have spillover effects on prices for goods and services, particularly in 2001.

The pricing of options in the oil market indicates that market participants are now more uncertain with regard to future developments than they were in December (see Chart 3.6). This increased uncertainty must be viewed against the backdrop of low oil stocks, high capacity utilisation in a number of OPEC countries and unrest in the Middle East, which may have contributed to fears of high prices. OPEC has previously stated that the oil price should lie within a target range of USD 22-28 measured as an average of various grades of oil. For North Sea oil (Brent Blend), this corresponds to an interval of USD 23-29. The vertical lines in Chart 3.7 indicate that at the end of February market participants priced in a 10% probability that the oil price in December 2001 would be less than USD 18 per barrel, and a 10% probability that it would be higher than USD 35.5 per barrel.

Chart 3.6 Probability distribution for the oil price in December 2001 (Light Sweet Crude Oil)

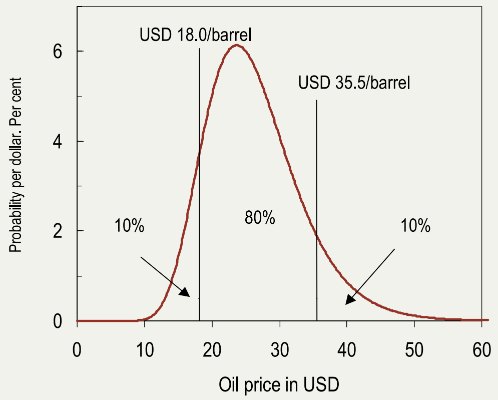


Sources: New York Mercantile Exchange and Norges Bank

Stable consumer price inflation among trading partners

In 2000, consumer price inflation among Norway's trading partners was 2.2%. The projection for 2001 and 2002 is 2% (see Table 3.3). The assumption that oil prices will gradually fall implies a decline in consumer price inflation internationally. At the same time, there are considerable

Chart 3.7 Probability distribution for the oil price in December 2001 (Light Sweet Crude Oil)



Sources: New York Mercantile Exchange and Norges Bank

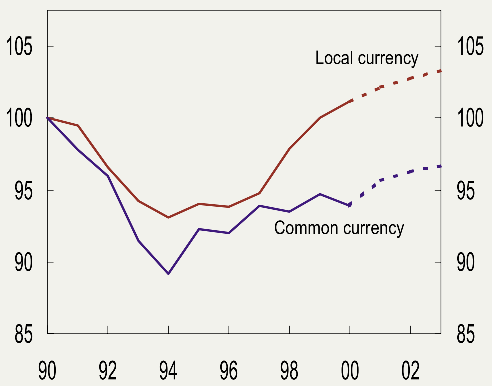
Table 3.3 Consumer prices.
Percentage change from previous year

	2000	2001	2002	2003
US	3.4	2¾	2¼	2¼
Japan	-0.6	-¼	0	¾
Germany	2.1	1½	1¼	1½
France	1.8	1¼	1¼	1½
Italy	2.6	2¼	1½	1½
UK	2.1	2	2¼	2½
Sweden	1.3	1¾	2¼	2
Norway's trading partners[1)]	2.2	2	2	2
Euro area[2)]	2.4	2	1½	1¾

1) Import weights
2) Eurostat weights (country's share of euro area's consumption)

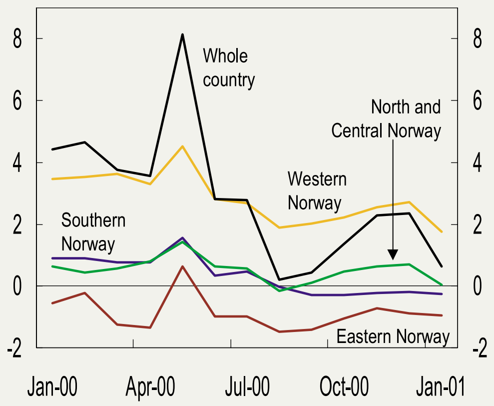
Source: Norges Bank

Chart 3.8 Labour costs in Norwegian manufacturing compared with trading partners. Index: 1990=100



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

Chart 3.9 Change in unemployment on same month previous year. In thousands of persons



Source: The Directorate of Labour

differences across countries. In the US, the decline in price inflation is being reinforced by slower economic growth. In the euro area, the recent appreciation of the euro could help push down price inflation. On the other hand, price inflation in Sweden and the UK is expected to edge up.

3.3 Domestic conditions

Continued high cost inflation

A higher rate of cost inflation than among trading partners over a period of several years is the main reason that price inflation in Norway has also been higher. The relatively high cost inflation must be viewed in conjunction with the shortage of labour.

Unemployment has been fairly stable for the past two years, and is projected to remain at 3¼% in the period ahead. At the same time, the large number of vacancies may be an indication that enterprises and the public sector are having greater difficulty in recruiting qualified labour than implied by unemployment figures.

The small increase in unemployment through 2000 primarily reflects lower employment in the oil-related industries of the engineering and offshore sector in western Norway (see Chart 3.9). Weaker domestic demand impulses have not had consequences for employment and unemployment in private and public services. On the contrary, unemployment figures dropped last year in eastern Norway, a region in which private and public services dominate. There are therefore strong indications that the labour market for service industries is very tight.

At the same time, there are signs that manufacturing is more optimistic than it has been for some time, particularly industries supplying goods and services to the petroleum sector. According to Statistics Norway's business tendency survey, the shortage of labour in manufacturing is a growing constraint on production. Relatively stable developments in petroleum investment in the period ahead, and growing job security in manufacturing may contribute to stronger wage impulses from this sector than previously expected.

As in the December 2000 report, the rise in labour costs is estimated at 5% in 2001. This estimate is based on the results of the two-year wage settlement last year and approximately the same wage drift as observed in recent years. Wage growth for 2002 and 2003 is projected at 4¾% and 4½% respectively. These figures have been revised upwards somewhat since the December *Inflation Report.*

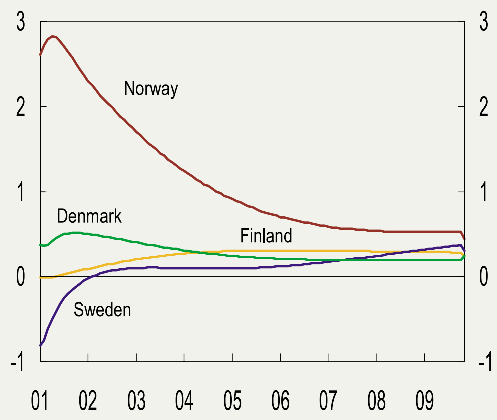
3.4 Inflation expectations and uncertainty

Long-term interest rates can provide information concerning confidence in overall economic policy and inflation expectations in the long term. In addition, they are a reflection of global long-term interest rates. The yield on Norwegian government bonds with a ten-year maturity remains broadly unchanged since the December report. At the same time, German long-term bond yields have fallen slightly. The differential between Norwegian and German bond yields has thus widened, and is now about 1.1 percentage points. US long-term yields have fallen by about 0.1 percentage point.

Long forward rates in Norway have shown little change since the December report. The differential against corresponding German rates is about ½ percentage point. This differential is still somewhat wider for Norway than for the other Nordic countries (see Chart 3.10).

According to Consensus Forecasts' February projections for the Norwegian economy, market observers' inflation expectations for 2001 are unchanged from December. On average, a selection of market observers expects the consumer price index to increase by 2.6% in 2001 and 2.0% next year (see Table 3.4).

Chart 3.10 Forward rate differentials against Germany 1 March 2001. Percentage points



Source: Norges Bank

Uncertainty associated with inflation projections

There is some uncertainty associated with the projections for consumer price inflation presented in the inflation reports. For example, the projections are predicated on key assumptions regarding factors such as interest rates, exchange rates and fiscal policy. At the same time, there is uncertainty regarding the extent to which economic models and their use capture changes in the economy.

The period of slow growth in the US is expected to be relatively short, with limited contagion effects for Europe. If growth in the US should be significantly lower, or the contagion effects on other regions greater than estimated, international price inflation could also be lower. A substantial deceleration in international price inflation will relatively rapidly result in a slower rise in import prices and a gradual deceleration in Norwegian consumer prices. A more pronounced international turnaround may also lead to a sharper decline in the oil price than assumed. If this does not have a substantial impact on the krone exchange rate, this will contribute to lowering import prices and may also influence domestic price inflation directly through lower energy prices.

However, increased uncertainty in the oil market also means a greater probability of a substantially higher oil price. This can be viewed in conjunction with the possibility of swifter reactions also on the supply side. So far there are few signs that the rise in oil prices has translated into higher wage growth internationally or a marked increase in participants' inflation expectations. However, producer prices have increased sharply. Continued high oil prices and stronger cost inflation may result in higher-than-expected price inflation in 2002.

According to the national accounts, productivity growth picked up last year after several years of low growth. Historical figures for productivity growth are highly uncer-

Table 3.4 Various institutions' projections for consumer price inflation in Norway in 2001 and 2002[1]. Percentage change from previous year

	2001	2002
Norges Bank	3	2½
Ministry of Finance	2¾	-
Statistics Norway	2.5	1.4
OECD[2]	2.8	2.6
IMF	2.5	-
Consensus Forecasts[3]		
Highest estimate	2.8	2.4
Average	2.6	2.0
Lowest estimate	2.4	1.4

[1] Latest official projections from the various institutions.
[2] Comsumption deflator
[3] February 2001

Source: Norges Bank

tain. The rise in productivity was partly due to abnormally high electricity production. Norges Bank's projections are based on a productivity increase in line with average growth for the past 20 years. If productivity gains are higher than assumed, price inflation could be lower than expected and corporate profitability higher.

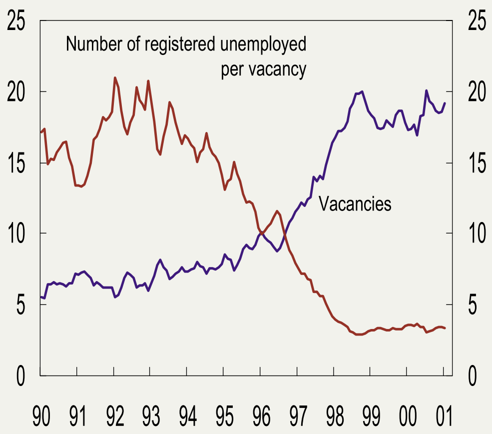
At the same time, there is a risk that growth in the Norwegian economy will not pick up in line with our projections. Growth in household demand has been low for the past six months, and households are less optimistic than they were a year ago. On the other hand, public spending growth may turn out to be higher than assumed in this report. In recent years, public expenditure growth has tended to be higher than the level originally adopted in the budget deliberations.

The labour market remains tight, and there are no indications of a decrease in the number of vacancies (see Chart 3.11). There is a shortage of labour in the public and private service sector. Unemployment has increased somewhat in those parts of Norway in which the offshore industry is important with respect to the labour market, but has declined in eastern Norway.

It is uncertain how wage determination will function with such tensions between sectors in the economy. The projection for wage and price inflation is based on the assumption that wage growth in manufacturing is a benchmark for wage settlements in the sheltered sector. The overall wage estimates are therefore influenced by the high cost inflation of recent years and the increase in labour costs in manufacturing as a share of revenues to a historically high level. In recent years there has been a tendency for conditions in the sheltered sector to exert greater influence on overall wage growth than previously. If this tendency continues or is amplified, wage growth may be higher than projected in this report.

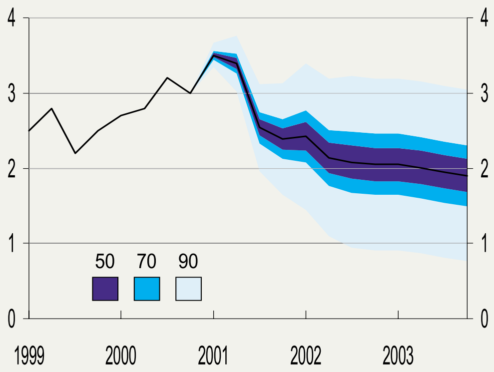
Uncertainty concerning international developments indicates a greater probability of lower-than-projected price inflation than higher price inflation. On the other hand, according to the Bank's assessment there is a greater risk of higher domestic cost inflation than the opposite. An overall assessment therefore suggests that, given unchanged interest rates, the uncertainty surrounding inflation projections is symmetrically distributed (see Chart 3.12). The breadth of the bands in the chart is based on historical deviations between Norges Bank's estimates and actual developments. The uncertainty associated with inflation projections was discussed in a separate box in the December 2000 *Inflation Report*.

Chart 3.11 Number of registered unemployed per vacancy and number of vacancies. Seasonally adjusted. In 1000s of persons. Smoothed



Source: The Directorate of Labour

Chart 3.12 Uncertainty associated with inflation projections in the scenario with unchanged interest rate. Various probabilities for developments in underlying consumer price inflation



Sources: Statistics Norway and Norges Bank

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4 Economic developments

4.1 Main features

Sharp growth in the Norwegian economy from the summer of 1999 to the summer of 2000 was followed by a pause in growth in the latter half of the year. New preliminary national accounts figures indicate stagnating production and demand. The interest rate increases through 2000 contributed to the slowdown. At the same time, petroleum investment showed a substantial contraction, generating negative demand impulses to oil-related industries in Norway for the second consecutive year. The slowdown in growth in the Norwegian economy appears to have been somewhat more pronounced than anticipated in the December *Inflation Report.*

Growth in the Norwegian economy is projected to pick up in the latter half of this year, primarily fuelled by an expected increase in private consumer demand. This must be seen in connection with the sharp fall in interest rates that has been incorporated as a technical assumption underlying the projections. After expanding by 1.8% in 2000, mainland GDP is projected to grow by 1¼% in 2001, 1¾% in 2002 and 2% in 2003. The projections for mainland GDP growth remain unchanged from the December *Inflation Report*.

The projections are based on the assumption of a decline in money market rates in line with market expectations as implied by forward rates at the beginning of March. If interest rates should instead remain at the current level in the period ahead, mainland GDP growth may be around 1½% the next two years.

A turnaround in the world economy has been expected for some time, following the sharp expansion in recent years. The US economy is now expanding at a markedly slower pace. An easing of economic policy may prevent a prolonged and deep recession. Relatively strong growth in Europe is expected to contribute to underpinning growth among trading partners.

At the same time, there are some developments in the Norwegian economy that point to stronger growth than expected earlier. The projection for petroleum investment has been revised upwards and the outlook for manufacturing industry now appears more positive than a few months ago.

There is still little slack in the Norwegian economy. If growth approaches trend growth in the course of the year, in line with projections, pressures in the economy may persist in the years ahead. Total employment is estimated to grow in pace with the demographic increase in the supply of labour. Higher public sector employment is expected to account for a large share of growth in overall employment. At the same time, it is assumed that the labour force cannot increase more than implied by demographic trends. Labour force participation rates are expected to remain at a record level. It now appears that unemployment could remain stable through the projection period.

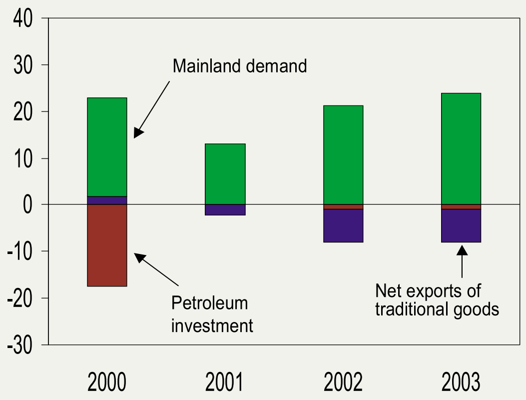
Table 4.1 Key aggregates for Norway 2000-2003. Percentage change from previous year

	2000	2001	2002	2003
Mainland demand	2.2	1¼	2¼	2½
Private consumption	2.1	1½	2½	3
Public consumption	1.4	3	2	2
Fixed investment	3.5	-1	1½	1
Traditional exports	3.0	3¼	3¾	3¾
Traditional imports	2.4	2¾	4	3¾
GDP	2.2	2	1¾	1½
Mainland GDP	1.8	1¼	1¾	2
Employment	0.4	¾	½	½
LFS unemployment[1]	3.4	3¼	3¼	3¼
Consumer prices	3.1	3	2½	2¼
Labour costs	5	5	4¾	4½
Annual wages	4¼	4¼	4¾	4½

[1] Percentage of labour force

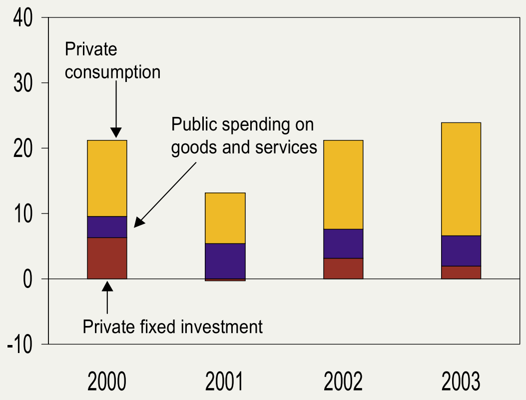
Sources: Statistics Norway and Norges Bank

Chart 4.1 Contributions to overall demand. Changes in billions of NOK from previous year. Constant 1997 prices



Sources: Statistics Norway and Norges Bank

Chart 4.2 Components of domestic demand. Changes in billions of NOK from previous year. Constant 1997 prices



Sources: Statistics Norway and Norges Bank

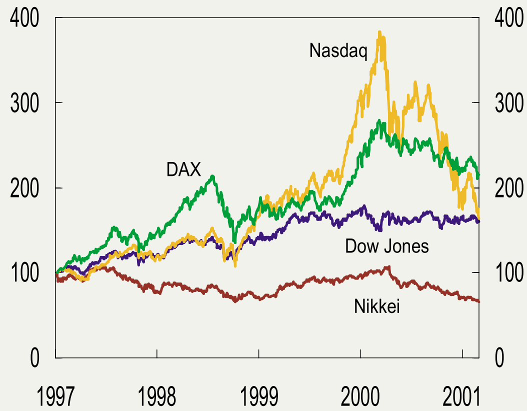
Table 4.2 GDP estimates.
Percentage change from previous year

	2000	2001	2002	2003
US	5.0	1¾	3	3¼
Japan	1.5	1¼	1¾	2
Germany	3.0	2½	2½	1¾
France	3.2	2¾	2½	2¼
Italy	2.8	2½	2¾	2½
UK	3.0	2½	2½	2½
Sweden	3.9	3¼	2¾	2¼
Norway's trading partners[1)]	3.6	2¾	2¾	2½
Euro area[2)]	3.4	2¾	2¾	2¼

1) Weighted by export weights
2) Weighted by the IMF's GDP weights adjusted for puchasing power

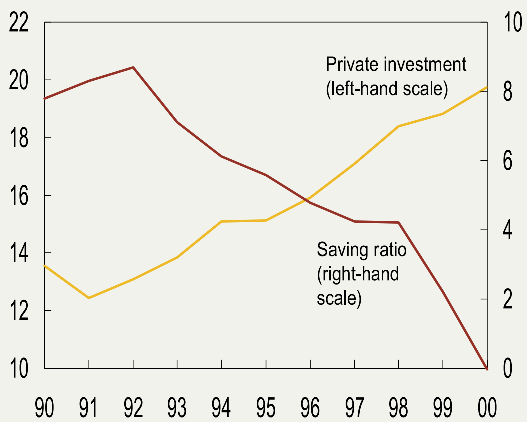
Source: Norges Bank

Chart 4.3 Equity prices. Index: January 1997=100



Source: EcoWin

Chart 4.4 Household saving in the US. Percentage of disposable income. Private investment in the US as a percentage of GDP. Annual figures



Sources: OECD and Datastream

4.2 The international environment

Slower-than-expected growth in the world economy

The slowdown in the US economy is more pronounced than expected in the December *Inflation Report.* Consumption growth slowed in the US between the third and fourth quarter, accompanied by a decline in private investment and exports. Annualised GDP growth was 1.1% in the fourth quarter. The sharp decline in the NAPM index in recent months – a leading indicator for developments in manufacturing industry – indicates that the US economy is now in a cyclical downturn. The index level has not been so low since 1991. Consumer confidence indicators have also declined, but from a high level. Equity prices for high-technology stocks (Nasdaq) showed steep declines through last year and the US dollar depreciated in December. The Federal Reserve lowered its key rate in two steps by a total of 1 percentage point in January. World financial markets and stock markets have been relatively stable since the interest rate cuts. Tax cuts have also been announced in the US. So far, this has contributed to stabilising the exchange rate and share prices.

Our projections incorporate a relatively short period of low growth in the US, followed by a gradual pick-up, although this assumption is naturally uncertain. Tax and interest rates cuts will contribute to growth in household disposable income. In spite of this, GDP growth in the US is expected to slow from 5% in 2000 to 1¾% in 2001, moving up to 3% in 2002. The estimate for this year has been revised downwards by 1¼ percentage points compared with the last report.

The main uncertainty is now associated with the length and depth of the downturn in the US and possible spillover effects on the world economy. The household saving ratio is now very low in the US (see Chart 4.4). Business investment has been high for some time, primarily financed by debt or equity issues. In addition, the current account deficit is high. If business investment slows more than expected, or households should choose to increase saving markedly, demand in the US may move on a weaker-than-expected trend.

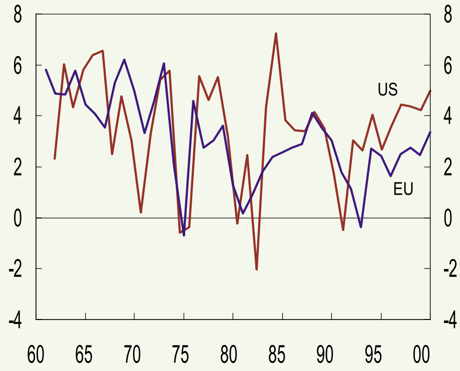
Historical experience and model simulations show that a cyclical downturn in the US can have a substantial effect on Europe (see separate box). Our projections are based on the assumption that the slowdown in the US will have a limited impact on developments in Europe in the present situation. Thus far, developments in the US have only had a limited impact on international financial markets. Internationally, share prices have been relatively stable so far this year. The risk premium on bonds issued by emerging economies has fallen somewhat despite the financial crisis in Turkey in February (see Chart 4.5). Furthermore, tax cuts in the euro area, continued strong competitiveness in most countries and lower interest rates are expected to help to sustain growth in Europe.

On the other hand, lower activity in the US may spill

What are the effects on Europe of a cyclical downturn in the US?

Historically, the correlation between economic developments in the US and Europe has been high. This is illustrated in Chart 1, which shows GDP growth in the US and EU countries over the last 40 years[1]. This box discusses possible effects of a turnaround in the US on the European economy and the transmission channels.

Chart 1 GDP in the US and the EU. Annual percentage growth



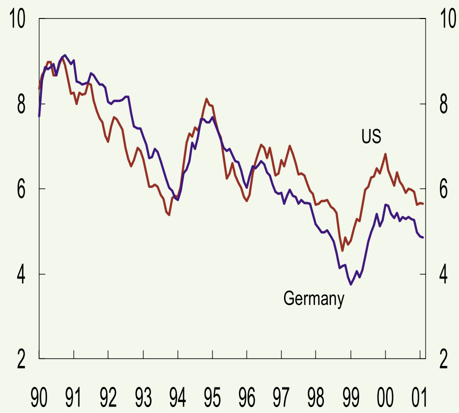
Source: OECD

The underlying causes of this correlation may be that, historically, Europe and the US have been exposed to the same shocks or that cyclical developments in one region have spread to the other. Attempts to adjust for the effect of a common oil price shock show that this can explain part of the correlation, but that contagion effects are also important.

A cyclical downturn in the US might spread to Europe *directly* through trade, capital movements and expectations formation or *indirectly* through developments in the rest of the world.

The *trade channel* implies that lower growth in the US will affect the demand for imports from Europe. Historically, growth in US imports has closely shadowed the country's GDP growth. Nevertheless, the trade channel is probably of little significance for economic developments in Europe. Euro area exports to the US, measured as a share of GDP, increased in the 1990s, but is still low, at an estimated 2.5% in 2000. This means that even substantial changes in US imports from the euro area have little influence on total demand in Europe. If the dollar depreciates markedly, however, Europe's competitiveness will weaken, with further negative consequences for net exports.

Chart 2 Yields on 10-year government bonds in the US and Germany. Per cent



Source: Norges Bank

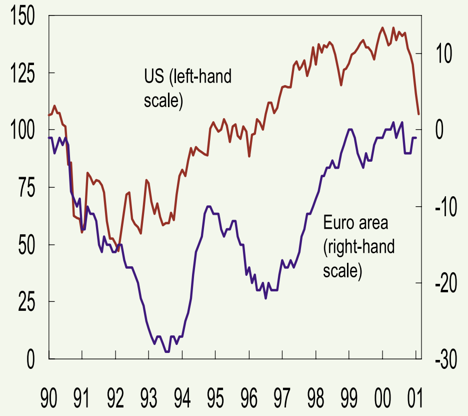
Economic developments in the US could influence financial flows through the *capital channel*, with an attendant impact on interest rates and funding terms in Europe. If the expected return on investments in US financial markets falls, portfolio shifts might result in lower interest rates in Europe. Chart 2 shows that long-term interest rates have largely moved in tandem in the two regions. Short-term interest rates are partly politically determined and show a weaker correlation than long-term rates.

The *expectations channel* can influence economic developments in Europe in several ways. Slower growth in the US might fuel pessimism and caution in the household and business sector. Negative news from the US could also spur a sentiment shift in European financial markets. Chart 3 shows consumer confidence indices. The indices tend to be convergent. Stock indices have largely moved in tandem (see Chart 4). However, it may be difficult to determine the causal sequence, ie whether the confidence indicators show covariation as a result of common features in underlying economic developments or whether there is a genuine spread of confidence effects from region to region.

The spread from the US to Europe could also

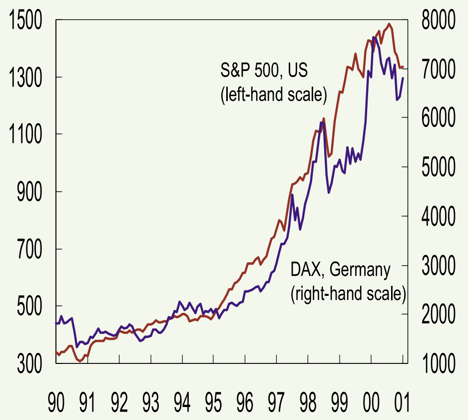
[1] The correlation between GDP growth in the US and EU countries, measured by the correlation coefficient, is 0.48 for the entire period and 0.66 for the period 1993-2000. (A correlation coefficient of 0 denotes no correlation, while 1 indicates full correlation.)

Chart 3 Consumer confidence indicators in the US and the euro area. Monthly figures, index values



Source: Datastream

Chart 4 Equity indices in the US and Germany. Monthly figures.



Source: EcoWin

occur *indirectly* through developments in other regions of the world. For example, a downturn in the US could give rise to financial unrest or slower growth in other parts of the world, with possible effects on the European economy. Cyclical developments in the US may also influence prices for important commodities, such as oil.

The effect via the trade channel on the European economy as a result of a downturn in the US is negative, but relatively limited. The effect via the capital channel could be positive if a drop in US interest rates is followed by a fall in Europe. An indirect spread could influence the European economy in many different ways, although the overall effect will probably be fairly limited. For a downturn in the US to have substantial negative effects on Europe, the expectations channel must play a dominant role. If slower growth in the US leads to reduced confidence among consumers and producers, a decline in equity prices, difficult funding terms and/or widespread financial unrest, growth in Europe may turn out to be markedly lower.

Model-based calculations support this assessment[2]. The effect of a downturn in the US on Europe is limited unless the underlying cause is a common shock or financial markets in Europe are affected by a pronounced downturn and European currencies appreciate sharply. Table 1 illustrates the estimated effect of a pronounced turnaround in the US on a number of key variables, where inflationary pressures result in a rise in interest rates, a 10% depreciation of the US dollar and a decline in equity prices of 20%, with a subsequent spread to the euro area. In this scenario, where the expectations channel plays a decisive role, the transmission to Europe is substantial, with an impact on GDP of about 2/3 the first year.

Table 1. Effect on the US and the euro area of the cyclical downturn in the US

	1st year	2nd year	3rd year
US			
GDP level[a)]	-1.9	-2.1	-1.1
CPI inflation[b)]	0.8	-0.7	-1.0
Real effective exchange rate[a)]	-10.4	-9.2	-9.1
Euro area			
GDP level[a)]	-1.3	-1.4	-1.0
CPI inflation[b)]	-1.6	-0.8	-0.9
Real effective exchange rate[a)]	10.2	8.3	7.8

a) Deviation from the baseline scenario. Per cent
b) Deviation from the baseline scenario. Percentage points

Source: IMF World Economic Outlook, October 2000.

2 IMF World Economic Outlook, October 2000, Chapter 1

over into other countries through expectations of slower growth, growing pessimism and caution in the household and business sectors. The Japanese economy has been in recession for many years. GDP in the US and Japan accounts for close to half of GDP in the OECD area. Stagnating growth in both countries will affect export growth in emerging economies in Asia and Latin America. Uncertainty linked to estimates for growth in the US has prevailed for some time. In the latter half of the 1990s, most forecasters were systematically surprised by the strong growth in the US economy. Over the past four years, OECD forecasts presented in the December *Economic Outlook* have underestimated economic growth in the US for the following year by about 2 percentage points (see Chart 4.6).

Euro area growth slowed in the final half of last year. However, the consumer confidence indicator has remained high (see Chart 4.7) Tax cuts of around ½-¾% of GDP this year and a continued rise in employment are contributing to real household income growth and rising consumption. Business expectations indicate slower growth in industrial output ahead. Investment growth is expected to remain relatively high, partly reflecting low interest rates and expectations of a further decline. In 2000, net exports accounted for about ½ percentage point of GDP growth. The contribution from net exports is expected to fall in the period ahead as a result of slower international growth. All in all, GDP growth in the euro area is projected at 2¾% in 2001 and 2002. In 2003, GDP is expected to expand in line with production capacity, ie at an estimated 2¼%.

Sweden is in a period of strong growth. Both private domestic demand and exports are fuelling growth, while public spending growth is confined to the approved expenditure ceiling. Low interest rates and increased real disposable income as a result of tax cuts, higher employment and real wage growth have generated brisk growth in private demand. However, slower growth in export demand, combined with capacity constraints, is expected to have a dampening impact on growth.

4.3 The balance of payments

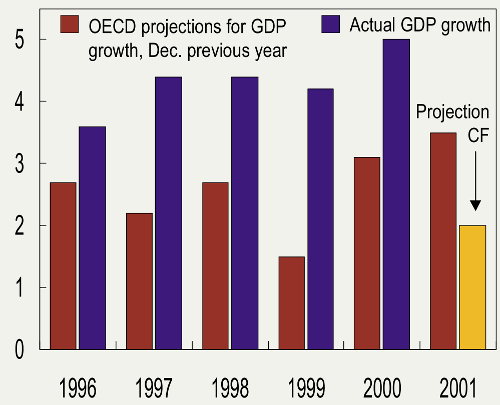
Capacity constraints curb export growth for mainland Norway

Growth in traditional merchandise exports was moderate last year, partly because many export enterprises are now producing at full capacity. According to Statistics Norway's business tendency survey for the fourth quarter, capacity problems are the main constraint on production in traditional export-oriented industries (see Chart 4.8). In addition, relatively high cost inflation in Norway in recent years has eroded cost competitiveness in some manufacturing sectors.

Chart 4.5 Yield spread between government bonds in emerging economies and the US. Percentage points

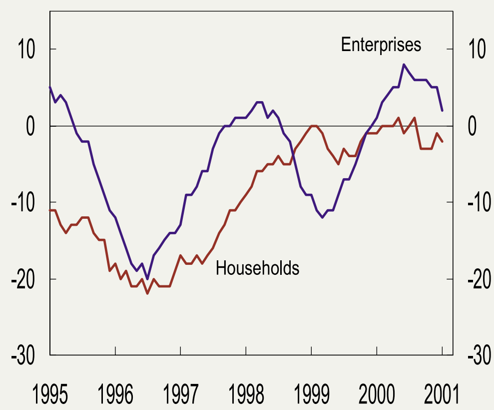
Source: Bloomberg

Chart 4.6 Actual and projected GDP growth in the US. Per cent



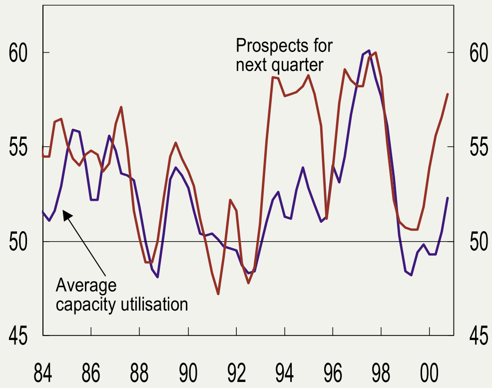
Sources: OECD and Consensus Forecasts (CF)

Chart 4.7 Confidence indicators in the euro area. Monthly figures.



Source: EU Commission

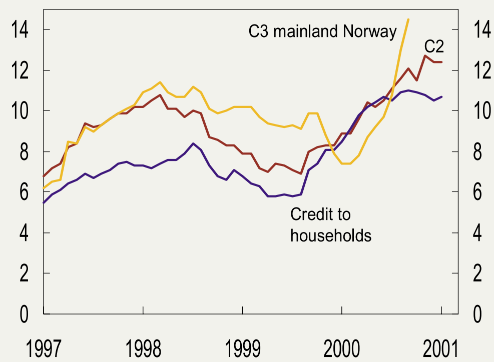
Chart 4.8 Expected developments in capacity utilisation in manufacturing and industrial leaders' expectations for next quarter. Business tendency survey. Diffusion indices[1]. Smoothed



[1] An index over 50 implies that in general industrial leaders expect higher capacity utilisation, or an improved outlook in the next quarter.

Source: Statistics Norway

Chart 4.9 The credit indicator (C2), credit to households and total credit to the non-financial private and municipal sector, mainland Norway (C3 mainland Norway). 12-month rise. Per cent



Source: Norges Bank

Weaker external demand growth is assumed to have little influence on the projections in the period ahead unless this leads to a sharp drop in commodity prices. Growth in traditional merchandise exports is expected to remain moderate in the period ahead.

Export prices for traditional Norwegian goods rose sharply through 2000 after remaining relatively stable during the previous four years. The rise in prices was particularly pronounced for aluminium and refined petroleum products. As a result of the assumption of lower oil prices and a moderate rise in commodity prices, the rise in export prices for traditional goods is expected to slow the next two years.

The volume of traditional merchandise imports increased by 2.4% in 2000 after showing an equivalent decline the previous year. In isolation, subdued growth in private consumption and private investment will push down import growth this year. However, as a result of stable petroleum investment, import growth is expected to be at about the same level as in 2000. Import growth is expected to increase as private consumption and private investment gradually pick up.

Continued large current account surpluses

The surplus on the current account amounted to NOK 196bn in 2000, equivalent to 14% of GDP. The record current account surplus is the result of high oil prices. The assumption of a decline in oil prices implies a lower surplus. On the other hand, total petroleum production is expected to increase this year. The current account surplus is projected at NOK 195bn in 2001, NOK 155bn in 2002 and NOK 120bn in 2003. Measured as a percentage of GDP, the surplus is expected to fall from 13% this year to 8% in 2003.

4.4 Domestic demand

High credit growth

In the assessment of cyclical trends in Norway, developments in enterprise and household debt represent important indicators. Debt rose sharply between 1999 and 2000. Growth in total credit from domestic and foreign sources to mainland Norway (C3 mainland Norway) picked up through the second and third quarter. Growth in credit from domestic sources (C2) rose steadily through 2000 (see Chart 4.9). Twelve-month growth came to 12.4% in January, unchanged from December last year. Municipalities increased their debt by 15% in 2000, with a substantial portion of this growth in borrowing taking place in November and December in connection with the conversion of Oslo City's Pension Fund into a limited company.

Growth in credit to households was high through most of 2000, but slowed somewhat towards the end of the year. Twelve-month growth has since increased from 10.5% in

December to 10.7% in January. The brisk growth in credit last year reflects the increase in housing investment and the sharp rise in house prices in 2000 and earlier years. Experience shows that there is a tendency for credit growth to shadow the rise in house prices with some lag. Increased turnover in the housing market may also have contributed to pushing up credit growth. The somewhat slower credit growth towards the end of the year may reflect the increase in interest rates through 2000.

Moderate growth in consumption

Preliminary national accounts figures indicate that private consumption was slightly weaker than expected towards the end of last year, reflecting the rise in interest rates last summer. Statistics Norway's retail sales index picked up somewhat in November and December, however (see Chart 4.10).

In addition, figures for households' financial accounts show markedly lower net lending in 2000 than estimated in the national accounts (see Chart 4.11). This could indicate that consumption growth was higher last year than implied by the preliminary national accounts figures.

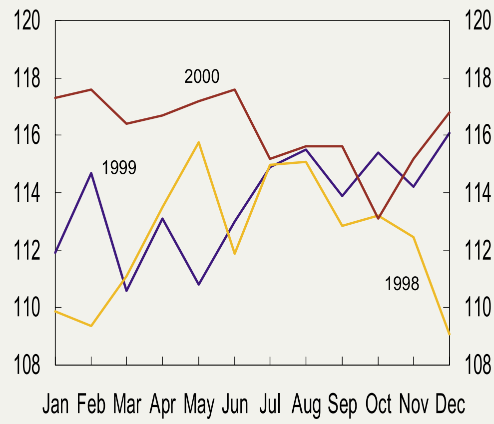
Consumption growth is still expected to be 1½% this year. In isolation, the assumption of somewhat lower interest rates and higher real income contribute to an increase in consumption in the latter half of 2001 and into 2002. Growth in private consumption may then reach 2½% in 2002 and 3% in 2003.

Preliminary estimates indicate a fall in the saving ratio to 6¼% last year. Disposable income growth is expected to be higher than growth in private consumption this year, implying an increase in the saving ratio to about 7¼%. This can be seen in connection with the rise in interest rates through 2000. The estimates imply a relatively stable saving ratio over the next two years. However, high central government saving may gradually prompt households to reduce saving.

Developments in housing investment represent a corollary to the relatively weak growth in consumption through last year. After contracting for two years, housing investment rose by more than 10% in 2000. Brisk growth in housing starts last year indicates continued growth in investment in the first half of this year. Housing investment is projected to expand by 4% in 2001.

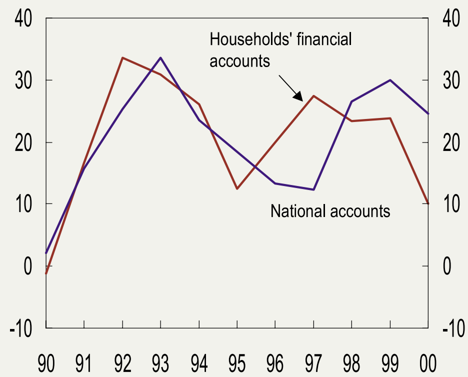
According to ECON's house price statistics, house prices nationwide increased by almost 12% between 1999 and 2000. House prices edged down in the second half of 2000 after rising sharply in the first half of the year (see Chart 4.12). In the Oslo area, there are already signs of a pick-up in activity in the housing market following the relatively sluggish trend last autumn. Prices for OBOS dwellings increased by 6.1% between December and February. The tight housing market in Oslo means that prices have probably risen at a faster pace than in other areas of the country. House prices are projected to increase throughout the country in coming years, albeit at a more moderate pace than observed in recent years.

Chart 4.10 Retail sales index. 1995 = 100. Seasonally adjusted volume.



Source: Statistics Norway

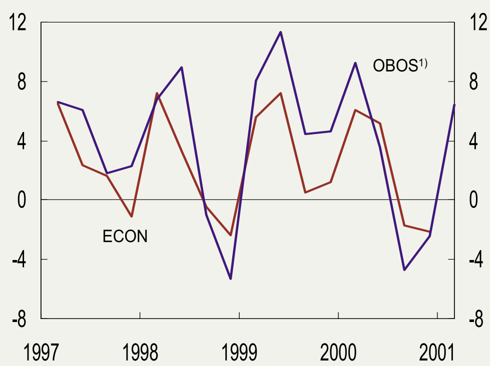
Chart 4.11 Household net lending. Annual figures[1]. In billions of NOK



[1] For households' financial accounts, the figure for 2000 covers net lending for the last four quarters up to the third quarter of 2000.

Sources: National Accounts (Statistics Norway) and households' financial accounts (Norges Bank)

Chart 4.12 House prices. Percentage change from previous quarter



[1] The first quarter of 2001 comprises January and February

Sources: OBOS and ECON

The impact of interest rates on private consumption

Private consumption accounts for about half of mainland demand. Household behaviour is thus of substantial importance for the overall impact of a change in interest rates on demand.

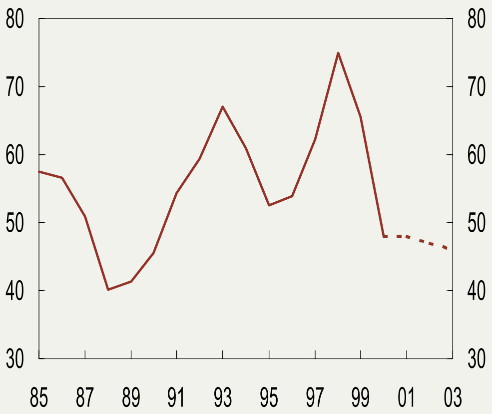
Economic theory suggests various transmission channels for the effect of interest rates on consumer demand. When the household sector is in a net debt position, an increase in interest rates will reduce total disposable income and thereby contribute to reducing consumption (*the income effect)*. An increase in interest rates will also increase the cost of debt-financed consumption and investment, with an attendant increase in the saving ratio (*substitution effect)*. An increase in interest rates will also have a dampening impact on the rate of increase in house prices, thereby resulting in a weaker trend in household wealth. Empirically, the w*ealth effect* will induce households to increase saving as a percentage of income in order to compensate for the wealth loss, see Brodin and Nymoen (1992)[1]. However, it may take some time before a change in interest rates has an impact on housing wealth.

In our work on the inflation reports, we have previously used a consumption equation where household income and housing wealth have a substantial impact on consumer demand. An estimate for house price developments is needed to make projections for developments in housing wealth, which has proved to be difficult. At the same time, developments in recent years suggest that interest rate changes influence private consumption more quickly than implied by the previous estimate for the wealth effect. Since the June 2000 *Inflation Report,* we have used an equation for private consumption where the real rate of interest after tax has a direct impact on household consumption in addition to the income and wealth effects. Support for such a relationship can be found in data for the period from 1988. This would imply that the wealth effect is smaller than previously assumed and that the estimates for private consumption are less dependent on the estimates for developments in house prices.

A possible explanation for the direct effect of interest rates on private consumption is that a rise in interest rates increases the profitability of saving (substitution effect). It could also be argued that the interest rate level is an indicator of household expectations concerning their own financial situation and domestic economic developments. This possible relationship was discussed in a separate box on the consumer confidence indicator in the June 2000 *Inflation Report.* Experience shows that an increase in interest rates coincided with lower expectations, heightened caution and lower consumption. How stable this relationship will be over time is still an open question, however.

[1] Brodin, Per Anders and Ragnar Nymoen (1992). "Wealth effects and exogeneity: The Norwegian consumption function 1966(1)-1984(4). Oxford Bulletin of Economics and Statistics 54, pp. 431-454

Chart 4.13 Gross investment in petroleum activities. In billions of NOK. Constant 1997 prices



Sources: Statistics Norway and Norges Bank

Stable petroleum investment

Petroleum investment is now expected to be somewhat higher than previously assumed. There are signs of an increase in new orders in the engineering industry in the southern and western part of Norway. Petroleum investment is estimated to remain unchanged compared with last year. In the years ahead, a moderate contraction in investment may take place (see Chart 4.13).

Moderate investment growth in mainland Norway

Business investment is expected to edge down this year followed by a pick-up as a result of higher growth in private consumption and the assumption of a fall in interest rates. The estimate for this year has been revised up somewhat compared with the December report, while the estimate for next year has been revised down. The changes in relation to the December report primarily reflect the decision not to impose a supplementary payroll tax on commercial buildings.

Demand and production prospects for the manufacturing sector are somewhat brighter than in December. A constructed sentiment indicator for manufacturing industry indicates that industrial leaders are now as optimistic as they were prior to the Asian crisis (see Chart 4.14). So far, this has not translated into an increase in overall production. The processing industry is producing at full capacity and is benefiting from high aluminium prices. Solid profitability and high capacity utilisation indicate that investment in this industry may pick up later in the projection period. Many technology companies are now experiencing rising demand, particularly in offshore-oriented industries. A high wage burden over several years may induce technology companies in general to restructure by relocating production abroad. In isolation, this will push down domestic manufacturing investment. On balance, investment growth in manufacturing industry is expected to be moderate through the projection period.

Moderate growth in private consumption implies a slight fall in investment in services and distributive trades this year. In the following years, investment growth is expected to be positive but moderate as consumption growth picks up, the investment tax is eliminated and interest rates fall in line with assumptions.

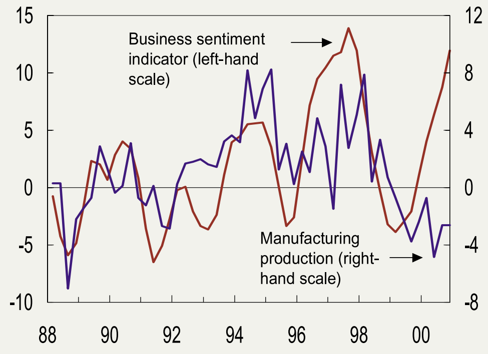
4.5 The labour market

Stable unemployment, but increased pressures in the labour market

Unemployment remains low and stable. At the end of January, the number of registered unemployed had increased by about 2 000 compared with the same month one year earlier (see Chart 4.15). The increase primarily reflects higher unemployment in oil-related industries in western Norway. The number of persons participating in ordinary labour market programmes edged up last year. As a result of growing unemployment in offshore-related industries, allocations to labour market programmes increased in 2000. The number of persons participating in labour market programmes fell in January, as expected.

Manufacturing employment has fallen since the second half of 1998, but in recent months developments indicate a slower decline than previously. Several factors point to a somewhat brighter outlook. Statistics Norway's business tendency survey for the fourth quarter indicates growing optimism among industrial leaders (see Chart 4.16). Technology companies expect increased sales and higher employment ahead. However, a shortage of labour is cited as a growing problem both in the business tendency survey and in the economic report from the Federation of Norwegian Manufacturing Industries. Manufacturing

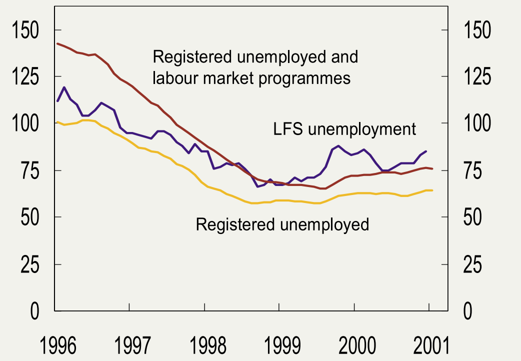
Chart 4.14 Business sentiment indicator for manufacturing[1] (seasonally adjusted) and manufacturing production (12-month growth)



[1]The indicator is arrived at by weighting questions in the business tendency survey concerning production in the coming quarter, actual orders on hand in the same quarter and actual inventories of own products (inverted).

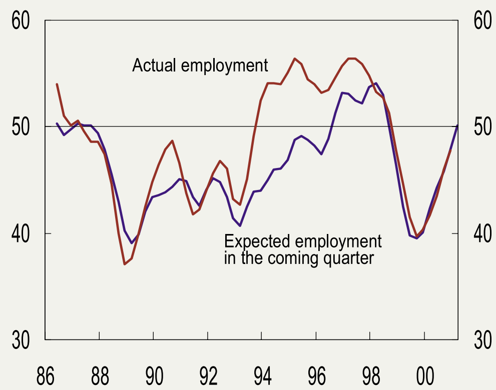
Sources: Statistics Norway and Norges Bank

Chart 4.15 Number unemployed (LFS), number of registered unemployed and persons participating in labour market programmes. In thousands. Seasonally adjusted



Sources: Statistics Norway and the Directorate of Labour

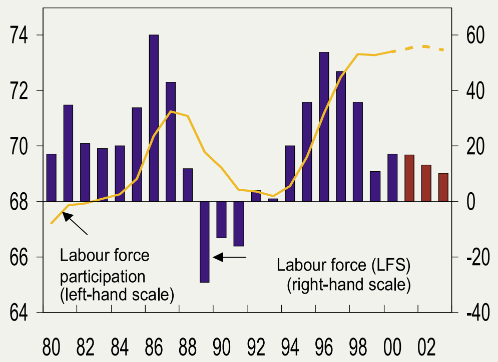
Chart 4.16 Employment in manufacturing. Business tendency survey. Actual and expected developments. Diffusion indices[1]



[1] An index over 50 implies that in general industrial leaders expect higher employment in the next quarter.

Source: Statistics Norway

Chart 4.17 Change in labour force from previous year, in thousands, and labour force as a percentage of population aged 16-74 (labour force participation rate)



Sources: Statistics Norway and Norges Bank

employment is projected to remain virtually unchanged at the current level through the projection period.

Demand for labour remains strong. The number of vacancies is rising in most sectors. In spite of this, employment growth is expected to be moderate ahead. Labour force participation rates are high from a historical perspective, with little potential for growth in the labour force in excess of the demographic supply. Increased sickness absence has reduced the effective supply of man-hours. At the same time, the phasing in of two additional vacation days this year and next will entail a further drop in the supply of labour. With the assumption of lower interest rates and increased public consumption, employment growth is projected at ¾% this year. Employment growth is put at ½% in 2002 and 2003.

Unemployment is expected to show little change in the years ahead. Persons participating in ordinary labour market programmes are expected to account for about ½% of the labour force. On the basis of the National Budget, the number of persons participating in ordinary labour market programmes is projected to edge down this year. Registered unemployment is expected to remain stable at about 2¾%. LFS unemployment is estimated at 3¼% through the projection period.

MAIN MACROECONOMIC AGGREGATES

	NOKbn 1997 prices	*Percentage change from previous year unless otherwise stated*			
	2000	**2000**	**2001**	**2002**	**2003**
Real economy					
Private consumption	562.3	2.1	1½	2½	3
Public consumption	236.0	1.4	3	2	2
Total gross investment	244.8	-2.7	-¾	¾	¼
- Petroleum activities	48.1	-26.6	0	-2	-2
- Mainland Norway	182.1	3.5	-1	1½	1
Enterprises	109.2	2.9	-1¼	1½	1¼
Dwellings	32.6	10.7	4	4½	2½
General government	40.3	0	-4½	-1½	-1½
Mainland demand[1)]	980.5	2.2	1¼	2¼	2½
Total domestic demand[2)]	1028.5	0.4	1¼	2	2¼
Exports	469.7	2.8	4¼	3	2¼
- Crude oil and natural gas	167.8	6.4	6	2	0
- Traditional goods	184.6	3.0	3¼	3¾	3¾
Imports	392.6	1.2	2¼	4	3¾
- Traditional goods	260.7	2.4	2¾	4	3¾
GDP	1152.5	2.2	2	1¾	1½
- Mainland Norway	946.8	1.8	1¼	1¾	2
Labour market					
Employment		0.4	¾	½	½
Labour force, LFS		0.7	¾	½	½
Registered unemployed (rate)		2.7	2¾	2¾	2¾
LFS unemployment (rate)		3.4	3¼	3¼	3¼
Prices and wages					
Consumer prices		3,1	3	2½	2¼
Annual wages[3)]		4¼	4¼	4¾	4½
Labour costs[4)]		5	5	4¾	4½
Import prices, traditional goods		6.1	1¾	0	1
Export prices, traditional goods		12.6	2	-¼	0
Crude oil price, NOK		252	230	200	175
Resale home prices[5)]		11.8	4	4	4
External account[6)]					
Trade surplus, NOKbn (level)		221.8	220	175	140
Current account surplus, NOKbn (level)		195.6	195	155	120
Current account surplus, % of GDP		13.9	13	10	8
Memorandum item					
Household saving ratio		6.3	7¼	7½	7¼

1) Private and public consumption and mainland gross fixed investment
2) Private and public consumption, mainland gross fixed investment and petroleum investment
3) Annual wage growth is based on the Technical Reporting Committee on Income Settlements' definitions and calculations. According to Statistics Norway, wages per normal person-year increased by 4.3% in 2000.
4) When costs associated with additional vacation days are included, the rise in labour costs in 2000 and 2001 is estimated to be 0.8 percentage point higher than growth in disbursed wages.
5) ECON's house prices index with Norges Bank's weight set
6) Current prices

Sources: Statistics Norway, ECON and Norges Bank

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