

Norwegian economy

Developments in 1999

According to preliminary national accounts figures, mainland GDP expanded by 0.8 per cent in 1999 after recording an average annual growth of a good 3.5 per cent over the previous six years. Employment and the labour supply also showed a moderate increase. Unemployment remained at the 1998 level, a good half percentage point above the level recorded during the cyclical peak in the mid-1980s. Through 1999, however, there were clear signs of growing regional and occupational disparities in employment and unemployment trends, indicating that the situation in the labour market may be tighter than implied by the total unemployment figure alone. Labour force participation remains very high, both historically and by international standards. If productivity growth in the period ahead is not stronger than in the last few years, there is thus a risk that new positive demand impulses can quickly bring the Norwegian economy out of balance.

Preliminary estimates indicate that wage growth came to a good 5 per cent last year, noticeably lower than in the previous year but still considerably higher than wage growth among Norway's main trading partners. With the consumer price index showing a rise of 2.3 per cent, real wage growth came to 2.7 per cent, against a little more than 4 per cent the previous year. In the last five years real wage growth has been substantially higher than productivity growth in the mainland economy, whereas the match is somewhat better for the 1990s as a whole. Along with reduced imports, the rise in oil prices contributed to a current account surplus of nearly NOK 44 billion in 1999, an improvement of NOK 60 billion in relation to the previous year.

Developments through 1999 support the earlier impression that the Norwegian economy passed a cyclical peak in 1998, despite signs of slightly stronger growth in the second half of the year. Whereas invest-

ment and traditional merchandise exports made a considerable contribution to the upturn in the Norwegian economy earlier in the 1990s, developments in these two demand components – and particularly investment – contributed to curbing growth the last two years. Household demand has also made a noticeably less positive contribution to growth over the past 18 months than in the previous five years, while economic policy as a whole has been mildly contractionary.

Contractionary fiscal policy

Measured by the Ministry of Finance's non-oil, cyclically adjusted budget indicator net of interest payments, the *fiscal policy* stance has been contractionary the last six years. The annual tightening effect, however, generally got weaker throughout the upturn. This pattern recurs in changes in general government demand, which expanded markedly slower than mainland GDP in the first three years of the upturn, but approximately on a par with activity in the mainland economy the next three. For 1999, the tightening is now estimated at about 1/2 per cent of mainland GDP, according to the Ministry of Finance's indicator.

As a result of the cyclical upturn after 1993 and the sharp growth in the central government's net cash flow from petroleum activities, general government net lending shifted from a negative NOK 12 billion in 1993 to a positive NOK 86 billion in 1997. From 1997 to 1998, the budget surplus was reduced by more than half, but improved slightly last year, to about NOK 48 billion. The fall in net lending from 1997 to 1998 can be ascribed to a reduction of about NOK 35 billion in the central government's net cash flow from petroleum activities, partly as a result of higher investment expenditure for the central government, but primarily as a result of the sharp fall in oil prices. The fact that the surplus did not increase to the same extent in 1999, even though the oil price was almost back to the level of 1997, is partly related to the payment of oil taxes in arrears. The central government's

Demand impulses 1990-1999

Change in demand as a percentage of mainland GDP. Constant 1996-prices. Per cent

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Consumption in households and non-profit organizations	0.4	0.8	1.3	1.3	2.3	2.0	3.1	2.2	1.8	1.2
Mainland investment excl. general government	-1.1	-1.0	-0.6	-0.1	2.0	1.9	1.9	1.8	0.3	-0.5
General government demand	1.0	1.5	1.6	0.1	0.4	0.2	0.8	1.4	1.0	0.4
Petroleum investment	0.6	1.2	0.7	1.0	-0.8	-1.0	0.2	1.0	1.8	-1.2
Traditional exports	1.5	-0.4	0.9	0.5	2.0	0.8	1.8	1.5	0.7	0.5
Memorandum item ¹ :										
Mainland GDP, percentage growth from previous year	1.0	1.4	2.2	2.8	4.1	2.9	3.8	4.4	3.3	0.8

¹ As some exports and all imports as well as petroleum production and shipping are excluded from the table, the demand impulses do not add up to GDP growth. Source: Statistics Norway.

Macroeconomic indicators. 1998-1999

Growth from previous period unless otherwise noted. Per cent

	1998	1999	Seasonally adjusted			
			99.1	99.2	99.3	99.4
Demand and output						
Consumption in households and non-profit organizations	3.1	2.1	1.1	0.4	1.2	0.7
General government consumption	3.7	2.5	-0.1	1.8	-0.4	1.5
Gross fixed investment	8.1	-7.0	-10.2	-5.1	9.4	-9.1
- Mainland Norway	2.4	-3.5	-2.8	-3.8	2.7	1.0
- petroleum activities ¹	25.7	-14.0	-22.3	-8.9	12.8	-26.0
Final domestic demand from Mainland Norway ²	3.1	1.1	-0.1	-0.1	1.1	0.9
Exports	0.5	0.6	-1.1	1.8	-1.1	6.0
- crude oil and natural gas	-3.8	-0.3	-2.5	1.9	-0.2	7.0
- traditional goods	3.4	2.6	-0.1	0.7	2.5	4.2
Imports	9.1	-3.6	-5.7	-2.9	3.8	-2.0
- traditional goods	9.6	-2.4	-0.2	-6.1	1.4	4.0
Gross domestic product	2.1	0.8	0.4	-0.6	1.9	0.9
- Mainland Norway	3.3	0.8	0.4	-0.3	1.2	0.7
Labour market³						
Man-hours worked	2.2	0.2	-0.9	0.1	-0.5	0.1
Employed persons	2.3	0.5	-0.0	0.1	-0.6	0.8
Labour force	1.2	0.4	0.0	0.0	-0.3	1.1
Unemployment rate, level ⁴	3.2	3.2	3.0	3.0	3.3	3.6
Prices						
Consumer price index ⁵	2.3	2.3	2.3	2.4	2.0	2.7
Export prices, traditional goods	1.0	0.0	-1.7	1.4	1.7	2.3
Import prices, traditional goods	1.3	-2.2	-1.8	2.0	-1.9	0.8
Balance of payment						
Current balance, bill. NOK	-16.3	43.8	-0.3	5.7	11.8	26.6
Memorandum items (Unadjusted, level)						
Money market rate (3 month NIBOR)	5.7	6.4	7.1	6.4	6.0	5.8
Average borrowing rate ⁶	7.4	8.4	9.3	8.5	8.0	7.7
Crude oil price NOK ⁷	96.3	141.2	86.7	120.5	162.9	191.4
Importweighted krone exchange rate, 44 countries, 1996=100	101.7	100.5	10.9	99.5	100.1	100.6
NOK per ECU/euro	8.46	8.31	8.60	8.24	8.22	8.19

1 Figures for petroleum activities now covers the sectors oil and gas extraction proper, transport via pipelines and service activities incidental to oil and gas extraction.

2 Consumption in households and non-profit organizations + general government consumption + gross fixed capital formation in Mainland Norway.

3. Figures for 1998 and 1999 are from the 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.

4 According to Statistics Norway's labour force survey (LFS).

5 Percentage change from previous year.

6 Household's borrowing rate in private financial institutions.

7 Average spot price, Brent Blend

Sources: Statistics Norway and Norges Bank.

non-oil deficit is provisionally estimated at NOK 18 billion for 1999, approximately the same as the previous year, but an improvement of more than NOK 50 billion compared with the record deficit in 1993.

Modest cyclical impulses from interest and exchange rates after 1993/94

With the exception of 1993/94, when interest rates fell sharply and possibly 1998/99, *monetary policy* as a whole has not made a particularly strong contribution to cyclical developments the last few years. Monetary policy influences economic conditions primarily through changes in interest rates and the exchange rate. Through 1998, the krone depreciated both against the euro and against a trade-weighted basket, which includes the currencies of our main trading

partners. To help reverse this trend, Norges Bank raised interest rates. In 1999, the situation was the reverse. The krone appreciated both against the euro and the currencies of our trading partners, and Norges Bank lowered its key rates. Whereas the rate of exchange between the krone and the euro at the end of last year was back to the level prevailing at the beginning of 1998, the krone was still considerably weaker against the trade-weighted currency basket than two years earlier. It must also be noted, however, that interest rates have not been reduced to the level prevailing in the first half of 1998. Movements in the trade-weighted krone exchange rate must partly be seen in connection with the fact that pound sterling and the US dollar appreciated considerably more against the euro than the krone did.

When monetary policy is oriented towards stabilizing the krone exchange rate, interest rates will normally be raised when there are signs of a weaker krone and be lowered with signs of a stronger krone. Higher interest rates have a contractionary effect on the rest of the economy, while a weaker krone has an expansionary effect. It is likely that movements in interest rates and the exchange rate through 1998 generally had a contractionary impact on the Norwegian economy, while developments through 1999 had an expansionary effect. If we look at developments from the beginning of 1998 to the end of 1999 as a whole, monetary policy, like fiscal policy, can probably be characterized as slightly contractionary.

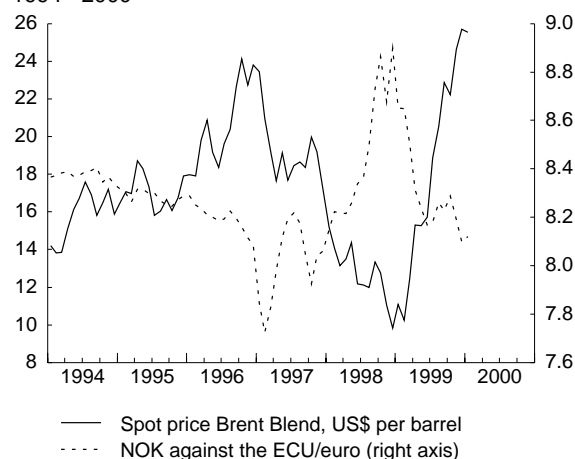
The substantial – albeit narrowing – interest rate differential between the Norwegian krone and the euro may have contributed to an appreciation of the krone through 1999. It is also natural to view movements in the exchange rate the past two years in connection with changes in oil prices, which are of considerable importance to Norway's current account. From a level of a good \$19 a barrel as an average for 1997, the spot price of Brent Blend fell to less than \$13 a barrel as the average for 1998, before increasing to more than \$18 as the average for 1999. Combined with a decline in the value of imports from 1998 to 1999, the increase in crude oil prices contributed to reversing a deficit to a considerable current account surplus in 1999.

The exchange rate may, however, also have been influenced by wage developments in Norway. In isolation, high wage growth erodes Norwegian producers' cost competitiveness and therefore contributes to lower current account surpluses in the future than would otherwise have been the case. Stronger wage growth in Norway than in the ECU/euro area in recent years has contributed to widening the inflation differential against this area after 1997. This may have contributed to a depreciation of the Norwegian krone through 1998 and explain why the krone did not appreciate to a greater extent through 1999 in spite of rapidly increasing oil prices and a relatively high interest rate differential.

Slower growth in household consumption

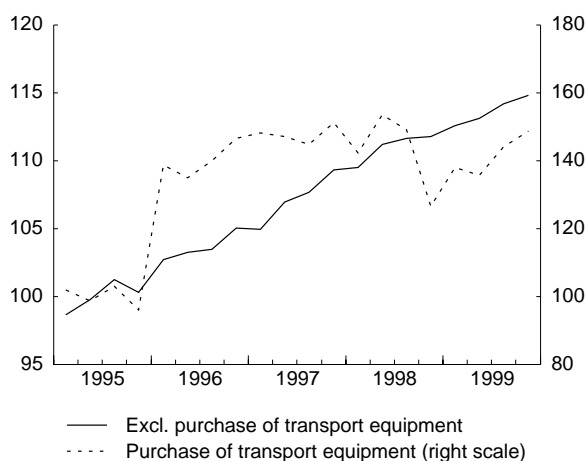
Household consumption generated a considerably weaker growth impetus to total demand in 1999 than through previous years. Whereas household real disposable income rose, according to preliminary estimates, by 2.9 per cent in 1999, consumption only expanded by 2.1 per cent. The saving ratio thus increased for the third consecutive year, to a level above the historically high level at the beginning of the upturn in 1993. Whereas the consumption of goods in the period 1993-1998 generally increased at a faster pace than total consumption, the situation was reversed in 1999. It is natural to view this development in connection with the increase in interest

NOK against the ECU/euro and the spot price of Brent Blend 1994 - 2000



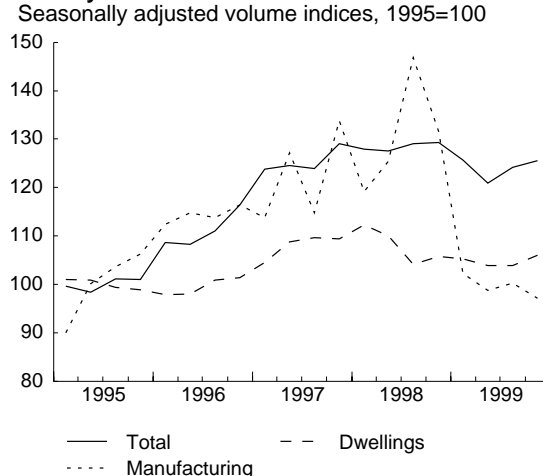
Source: Norges Bank.

Consumption in households. 1995 - 1999 Seasonally adjusted volume indices, 1995=100



Source: Statistics Norway.

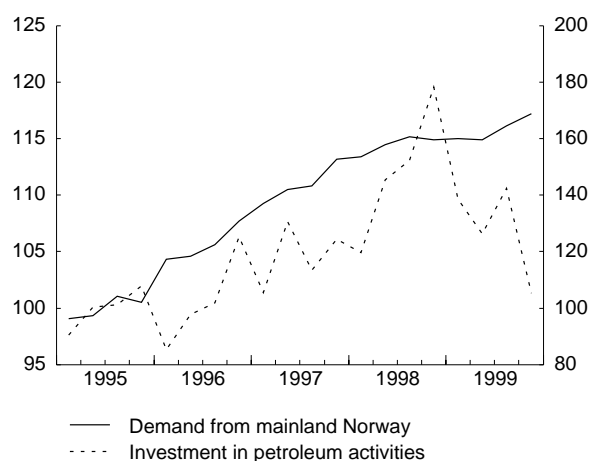
Gross fixed capital formation, mainland Norway. 1995 - 1999 Seasonally adjusted volume indices, 1995=100



Source: Statistics Norway.

Demand from mainland Norway, 1995 - 1999

Seasonally adjusted volume indices, 1995=100



Source: Statistics Norway.

Exports, 1995 - 1999

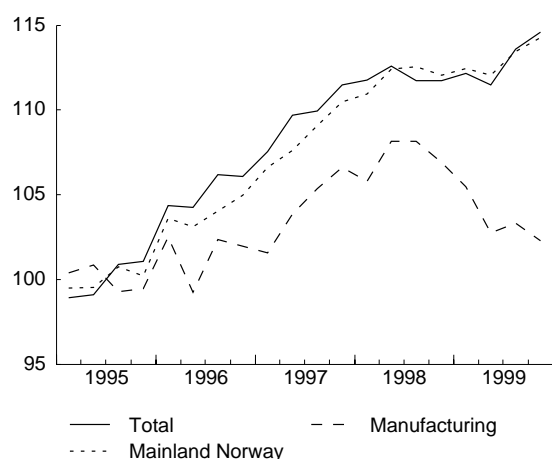
Seasonally adjusted volume indices, 1995=100



Source: Statistics Norway.

Gross domestic product, 1995 - 1999

Seasonally adjusted volume indices, 1995=100



Source: Statistics Norway.

rates in the second half of 1998, which made it considerably more expensive to debt-finance purchases of cars and other consumer durables. Even though interest rates edged down again in 1999, they are still 1 1/2 to 2 percentage points higher than 18 months ago.

In isolation, changes in interest rates contributed to pushing down the growth in household real disposable income last year because Norwegian households have more debt than assets at floating rates. As a result of a further rise in household net financial assets, however, net asset income only fell moderately from 1998 to 1999. Due to lower real wage growth compared with 1998 and virtual stagnation in man-hours worked, income growth was appreciably lower in 1999 than in the previous year even though social benefits again showed a sharp rise.

The increase in interest rates in the second half of 1998 resulted in a slower rise in house prices for only a brief period, and it now appears that the rise in prices on an annual basis was approximately the same in 1999 as in the previous two years. Relatively strong income growth and a sluggish trend in residential construction have contributed to this. The pronounced rise in house prices from the trough in early 1993 has contributed to a considerable improvement in households' capacity to furnish security for loans. According to figures from Norges Bank, household debt nevertheless only increased in real terms by 2 per cent from 1992 to 1996, while real disposable income rose by more than 14 per cent in the same period. In the last three years, however, it appears that household debt has expanded approximately in line with income. Household net lending is provisionally estimated at about NOK 30 billion in 1999, noticeably higher than the average for the previous five years. Along with sharp advances in equity prices through the year, this contributed to renewed brisk growth in household net financial assets in 1999. The financial position of households as a group is now considerably more favourable than at the end of the cyclical upturn in the 1980s.

Investment decline

Mainland investment, which in the four-year period 1994-1997 made an annual contribution to growth in total demand equivalent to about 2 per cent of mainland GDP, showed a seasonally adjusted decline through 1998 and the first half of 1999. Preliminary figures indicate, however, that this demand component picked up moderately towards the end of 1999. On an annual basis, the demand impetus from mainland investment was nevertheless negative. Developments in investment in the general government sector, housing and particularly in manufacturing industry pushed down the total, while investment appears to have increased slightly in goods-producing industries excluding manufacturing. Petroleum investment also made a substantial negative contribution to

demand growth last year, while it boosted growth in the level of activity substantially in the previous two years.

Loss of export market shares for three years

Traditional merchandise exports expanded by 2.6 per cent last year, or approximately the same as in 1998. This demand component thus also made a considerably weaker contribution to growth in the level of activity in the mainland economy than in the period 1994-1997. Even though exports picked up considerably through the second half of 1999, it now appears that Norwegian exporters on an annual basis lost market shares for the third consecutive year following four years when traditional merchandise exports on average increased by 2.5 percentage points more per year than merchandise imports among our main trading partners. It is natural to view this in connection with developments in hourly wage costs the past few years. Value data from external trade statistics show some shift from 1998 to 1999 in exports of traditional goods, from EU countries to Japan, South Korea and the US. The decline in exports to Germany and the UK was particularly pronounced.

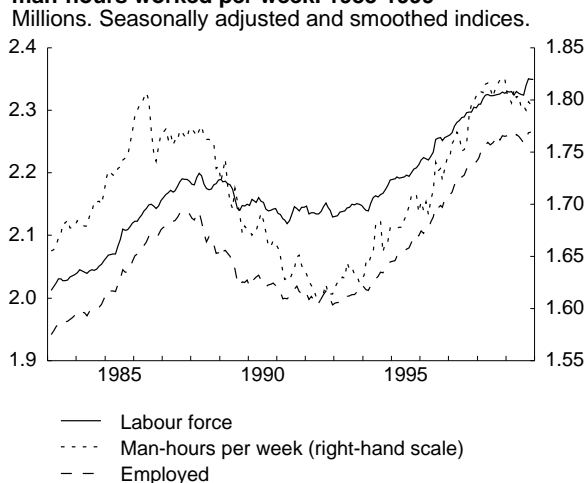
Measured in Norwegian kroner, there was, on an annual basis, no change in prices for traditional export goods from 1998 to 1999, following a very moderate rise in the previous three years. The fact that the sharp decline in prices for metals and industrial raw materials on the world market through 1997 and 1998 is only marginally reflected in the average export price is partly related to the depreciation of about 4.5 per cent in the export-weighted krone exchange rate from 1997 to 1998. This exchange rate indicator was more stable through 1999, and there are signs that some Norwegian export prices shadowed rising commodity prices and moved on an upward trend at the end of last year.

Measured at constant prices, exports of oil and natural gas showed little change from 1998 to 1999. The trend was considerably weaker than expected earlier, partly due to technical problems and the delayed start of some new projects on the Norwegian shelf. Production limitations with effect from May 1998 thus do not appear to have had any particular effect on actual production.

Lower imports

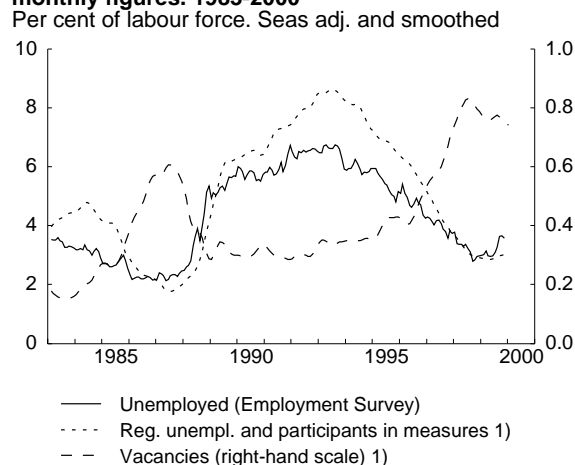
Traditional merchandise imports showed a pronounced fall in volume through the first half of 1999 following signs of levelling off through 1998. In the third and fourth quarter of 1999, however, these imports resumed an upward trend as a result of the rise in demand from mainland Norway and in traditional merchandise exports. Prices for traditional import goods edged up through last year. On an annual basis, they were still a good 2 per cent lower than in the previous year. If we look at the 1990s as a whole,

Labour force, employment and number of man-hours worked per week. 1983-1999



Source: Statistics Norway.

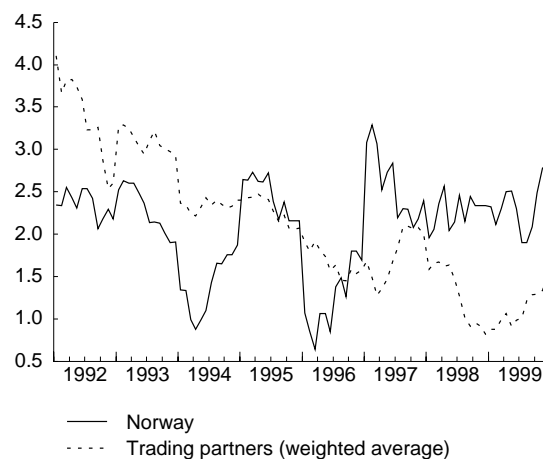
Unemployed and number of vacancies, monthly figures. 1983-2000



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

Consumer price indices. 1992-1999

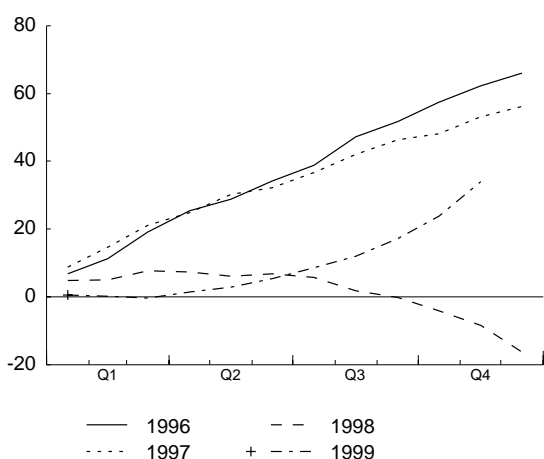
Pct. change from the same month the previous year



Source: Statistics Norway.

Current external balance 1996-1999

Cumulative figures in Nkr billion month by month



Source: Statistics Norway.

the price index for traditional merchandise imports has been fairly stable, and thus in general contributed to reducing the contribution to price inflation in Norway.

Low growth in the mainland economy

The markedly lower growth in mainland GDP in 1999 compared with the previous year is partly due to developments in manufacturing and mining. Value added in this industry fell by 3.4 per cent after showing an average annual growth of nearly 2.5 per cent the previous seven years. Other goods-producing industries also exhibited a fairly sluggish trend last year, while output growth in private service industries remained buoyant. Developments during the past year therefore show signs of two divergent trends in the Norwegian economy, with industries supplying goods for investment on the one hand and a number of service industries on the other. This is what we would expect following a period of losses in competitiveness. Shifts in the composition of domestic demand have, however, played an equally important role. Value added in petroleum activities showed little change from 1998 to 1999 after declining the previous year.

Following average annual growth in employment of 2.2 per cent the previous five years, the number employed rose by a moderate 0.5 per cent last year. Employment growth in service industries was appreciably weaker than in previous years, while both manufacturing and other goods-producing industries recorded a decline. In 1999, 71 per cent of the population in the age group 16-74 years was employed, the same figure as in 1998. This is the highest employment rate registered in Norway the last fifty years, and is also very high by international standards. The sharp expansion of the labour force in the years after 1993 slowed through 1998 and 1999. On an annual basis, the labour force grew by 0.5 per cent from 1998 to 1999, and the unemployment rate came to 3.2 per cent, the same as in 1998. Adjusted for the revision to Statistics

Norway's Labour Force Survey (LFS) in 1996, this was about 3/4 percentage point above the level during the period of strong expansion in 1986/1987.

Seasonally adjusted and smoothed monthly figures from the LFS indicate relatively stable employment through 1999, and a slight rise in unemployment in the second half of last year. The latter tendency is also found in changes in the Directorate of Labour's figures on registered unemployed and persons participating in labour market programmes up to end-January this year. The number of vacancies has moved on a downward trend the last 18 months, while the sharp growth in the number of lay-offs from the second half of 1998 came to a halt in the second half of 1999.

Lower wage growth and stable consumer price inflation

The decline in unemployment after 1993 was accompanied by a gradually tighter labour market, which contributed to considerably higher wage growth in the period 1996-1999 than in the previous four-year period. Wage growth in 1999 is provisionally estimated at 5.1 per cent, 1.4 percentage points lower than in 1998, but noticeably higher than among our main trading partners. Real wages rose by 2.7 per cent last year. For the 1990s as a whole, real wages have increased by about 2 per cent annually, compared with an annual rise of less than half a per cent in the 1980s. Whereas real wages grew at a noticeably slower pace than productivity in the mainland economy in the 1980s, the tighter labour market has contributed to reversing this situation the last few years.

Wage growth in recent years has so far not translated to any great extent into quickening inflation. For 1999 as a whole, the consumer price index increased by 2.3 per cent, the same as in the previous year. Unlike 1998, however, changes in indirect taxes made no contribution to price inflation last year. Movements in the consumer price index over the past two years have been heavily influenced by changes in electricity and petrol prices. When these two consumption groups are excluded, price inflation was rising markedly at the beginning of 1998 and slowing through 1999.

Consumer prices have risen by an annual average of 2.4 per cent in the last decade. This is lower than the average for Norway's main trading partners in the same period. However, in the last three years price inflation has been about 1 percentage point higher in Norway than the average of our main trading partners, and also higher than in the ECU/euro area.

Large current account surplus

The increase of NOK 60 billion in the current account surplus from 1998 to 1999 must, as noted, be viewed

Main economic indicators 1999-2001. Accounts and forecasts

Percentage change from previous years unless otherwise noted

	Accounts 1999	Forecasts				
		2000			2001	
		SN	MoF	NB	SN	NB
Demand and output						
Consumption in households and non-profit organizations	2.1	2.7	2.0	2	2.8	2
General government consumption	2.5	2.0	1.5	2 1/4	1.9	2
Gross fixed investment	-7.0	-5.8	-11.6	-9	2.3	-3/4
Petroleum activities	-14.0	-21.6	-34.1	-25	0.3	-5
Mainland Norway	-3.5	-0.6	-3.0	-3 1/2	2.8	1/2
Firms	-3.3	-2.8	-5.0	-6 1/4	-0.2	-1 1/4
Housing	-2.8	9.1	2.5	3 1/2	14.7	4 3/4
General government	-4.5	-1.5	-1.5	-1 1/2	2.0	2
Demand from Mainland Norway ¹	1.1	1.9	..	1	2.6	1 3/4
Stockbuilding ²	0.0	0.0	0.1	..	0.0	..
Exports	0.6	6.2	9.1	5 3/4	4.5	4
Crude oil and natural gas	-0.3	10.1	16.9	10	3.5	3
Traditional goods	2.6	5.0	4.0	3 3/4	4.7	5 1/2
Imports	-3.6	0.8	-1.1	-1	4.6	3 1/2
Traditional goods	-2.4	2.2	0.0	-1	5.7	3 1/2
Gross domestic product	0.8	2.7	2.9	2 1/4	2.6	1 3/4
Mainland Norway	0.8	1.3	0.7	3/4	2.3	1 1/2
Labour market						
Employed persons	0.5	0.1	-0.3	-1/2	0.2	0
Unemployment rate (level)	3.2	3.6	3.6	3 3/4	3.8	4
Prices and wages						
Wages per standard man-year	5.1	3.7	3 1/4	3 3/4	3.5	3 3/4
Consumer price index	2.3	2.4	2.0	2 1/4	2.0	1 3/4
Export prices, traditional goods	0.0	7.2	2.0	2 1/4	1.8	1 1/4
Import prices, traditional goods	-2.2	2.4	0.0	1	1.3	1
Real prices, dwellings	6.6	6.8	..	5	6.6	1 1/2
Balance of payment						
Current balance (bill. NOK)	43.8	130.1	87.4	101	144.8	90
Current balance (per cent of GDP)	3.7	10.1	7.1	8	10.7	7 1/4
Memorandum items:						
Household saving ratio (level)	7.5	6.9	6.6	6 1/2	6.7	6 3/4
Money market rate (level)	6.4	5.7	4.7	5.7	5.3	5.7
Average borrowing rate (level) ³	8.4	8.0	7.5	..
Crude oil price NOK (level) ⁴	142	169	125	164	160	133
International market growth	5.4	6.9	5.6	..	6.5	..
Importweighted krone exchange rate (44 countries) ⁵	-1.2	-0.6	-0.6	..

1 Consumption in households and non-profit organizations + general government + gross fixed capital formation in Mainland Norway.

2 Change in stockbuilding. Per cent of GDP.

3 Household's borrowing rate in private financial institutions.

4 Average spot price Brent Blend.

5 Increasing index implies despreciation.

Sources: Statistics Norway (SN), Ministry of Finance, Nasjonalbudsjett 2000 (MoF), Norges Bank, Penger og kreditt 1999/4 (NB).

in connection with the sharp rise in oil prices. About two thirds of the improvement can be ascribed to a higher value for crude oil and natural gas exports, while the surplus on the balance of goods and services also increased by a little more than NOK 23 billion. The deficit on the interest and transfers balance rose by nearly NOK 7 billion, primarily as a result of higher net interest expenditure abroad. This may appear paradoxical in the light of an estimated increase in Norway's net foreign assets of NOK 33 billion, but

is assumed to be related to a portfolio shift from interest-bearing papers to other securities and to a wider interest rate differential between Norway and other countries.

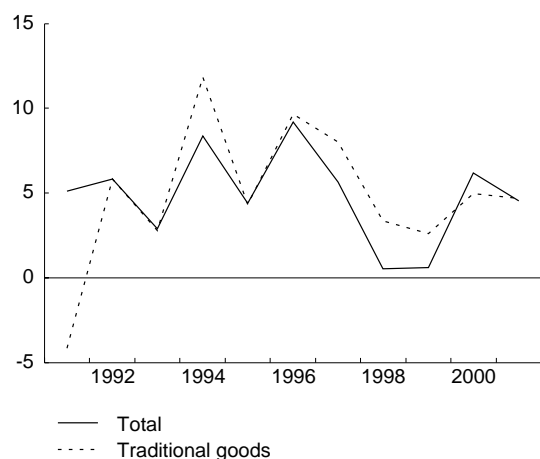
Outlook¹ for 2000 and 2001

While neither total GDP nor mainland GDP showed little change from the first half of 1998 up to mid-1999, there are now signs that the growth pause in the Norwegian economy may be over. Several factors

1 As usual, the forecasts are drawn up using Statistics Norway's macroeconomic quarterly model KVARTS.

Exports

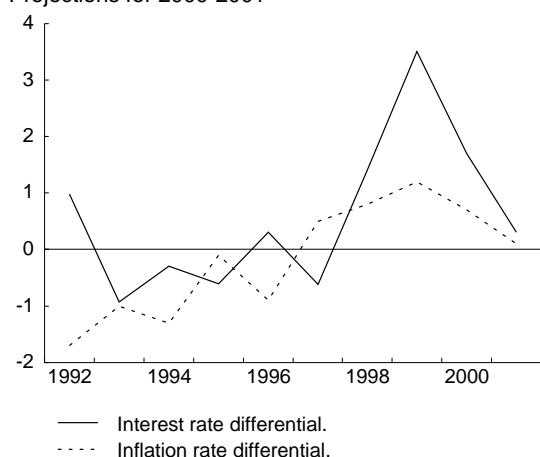
Percentage growth



Source: Statistics Norway

Interest rate and inflation differential between NOK, and the ECU/euro. 1992-2001

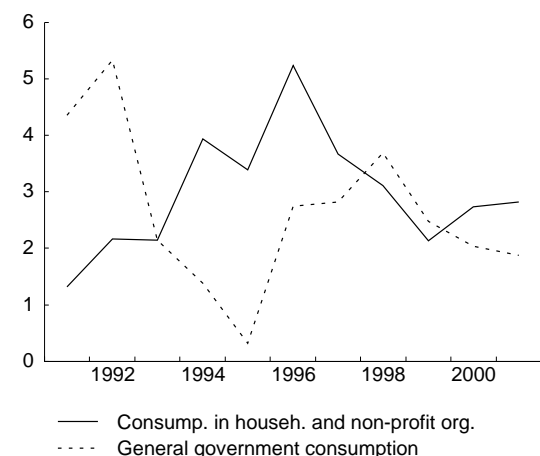
Projections for 2000-2001



Sources: Central Bank of Norway and Statistics Norway.

Consumption

Percentage growth



Source: Statistics Norway

presently point to resumed growth, but in 2000 the negative contributions to growth from petroleum investment will nevertheless result in moderate mainland GDP growth. As a result of higher oil and gas production, total GDP will increase at a faster pace than GDP in the mainland economy. In 2001, mainland GDP growth is expected to approach the trend rate. The most important factor behind the pick-up in mainland growth next year is the assumption that the fall in petroleum investment will come to a halt in 2001.

From Norway's point of view, the international economic outlook is now quite positive. A number of commodity prices have increased from the low levels recorded at the beginning of 1999. Growth in Europe appears to be rising and a number of Asian countries that experienced considerable economic difficulties (particularly) in 1998, now appear to have worked their way through the worst problems. Growth in the US is steadily higher than expected, which is positive in the short term, but which also increases the likelihood of a sharp downturn in the future. Against this background, we project slightly higher inflation and nominal interest rates internationally than assumed earlier.

Moderate cyclical upturn among Norway's trading partners

Whereas GDP among Norway's trading partners is estimated to have expanded by 2.5 per cent the previous two years, growth in 2000 is expected to be nearly 3 per cent. For 2001, the growth projection is slightly lower, but still higher than in the last few years of the 1990s. The inflation rate, which was very subdued in both 1998 and 1999, is expected to quicken to between 1.5 and 2 per cent.

The sharp rise in international commodity prices through 1999 is also an indication that the cyclical situation for many Norwegian exporters is improving. However, the strong rise in Norwegian costs after 1996 will contribute to reducing the possibilities for Norwegian enterprises to benefit from the international economic upturn. A further loss of market shares abroad is therefore expected both this year and next. Following the sharp rise in 1999, the price of crude oil is now at a relatively high level. It is assumed, however, that the oil price will edge down fairly quickly, so that on average it will be about \$21 in 2000 and 2001.

Monetary policy and estimates for interest and exchange rates

It is still assumed that monetary policy will be oriented with a view to achieving a stable krone exchange against the euro. So far this year, the krone exchange rate has been about 1 per cent stronger than the level implied by the authorities' long-term stability target. Against the background of developments in

the external account, the krone exchange rate and the inflation differential between Norway and the euro area, the differential in money market rates between Norway and the euro area has in the last three quarters been in line with the level projected by the KVARTS model. Following this model, the projection for developments in Norwegian money market rates in the period ahead will depend on our perceptions concerning the inflation differential, interest rates in the euro area and a risk premium that depends on changes in Norway's current account balance.

Against the background of the cyclical upturn and lower unemployment in the EU, the stronger dollar exchange rate and higher commodity prices internationally, the rate of inflation in the euro area and the EU more generally is expected to rise. It is assumed that this will result in a pronounced rise in euro interest rates this year. We have assumed that the money market rate will increase to 5 per cent at the end of this year, while the inflation rate will increase to between 1.5 and 2 per cent. The inflation differential between Norway and EU11 will then fall from more than 1 per cent in 1999 and at the beginning of 2000 to less than half a per cent towards the end of this year. On this basis, it is assumed that Norwegian money market rates will remain fairly stable in 2000. If the inflation rate in Norway were to decline to 2 per cent towards the end of this year, Norwegian interest rates might fall slightly in 2001, but probably not by more than half a percentage point. Compared with the last quarterly survey, we have thus adjusted upwards Norwegian interest rates both for 2000 and 2001, primarily as a result of changes in assumptions about the international economy.

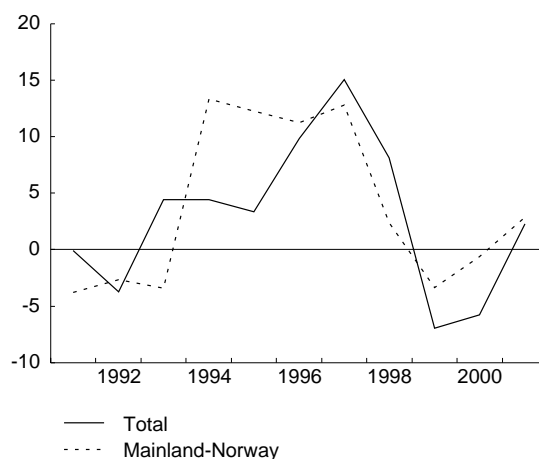
It is assumed that the krone exchange rate will depreciate slightly against the euro in the course of the projection period and then return to the long-term target range for the krone exchange rate. We also assume that the dollar exchange rate will gradually depreciate both against the euro and the Norwegian krone, falling to NOK 7.50 from the second quarter of next year. Pound sterling is also expected to depreciate against the Norwegian krone, so that overall we assume a slight strengthening of the import-weighted krone exchange rate.

Moderate impetus from fiscal policy

General government consumption rose in 1999 at a considerably faster pace than assumed earlier. It is reasonable to expect slightly lower growth in consumption in 2000 if government budget ceilings are observed. Growth is projected at about 2 per cent in 2000 and 2001. General government investment is expected to edge down this year, but increase slightly again in 2001. Transfers to households are assumed to show a stronger real growth than trend growth in mainland GDP. There are, however, no new changes

Gross fixed capital formation

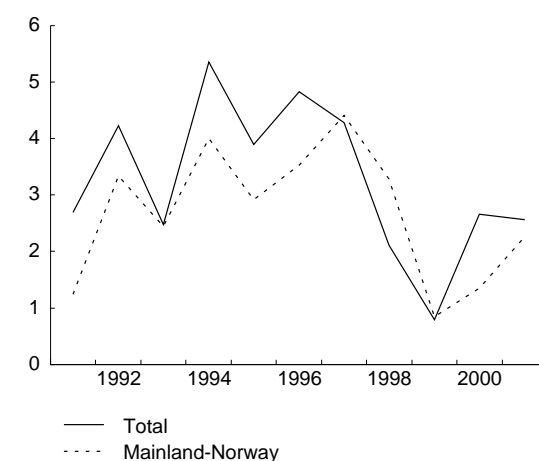
Percentage growth



Source: Statistics Norway

Gross domestic product

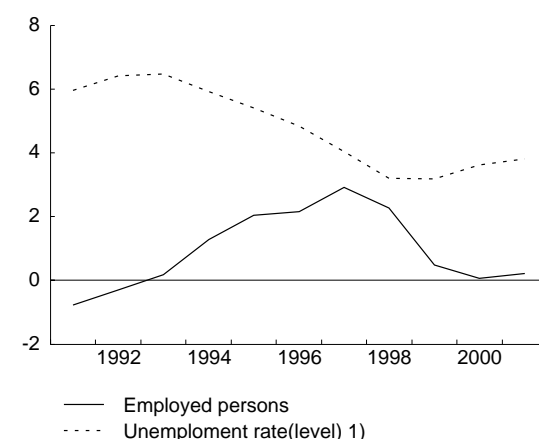
Percentage growth



Source: Statistics Norway

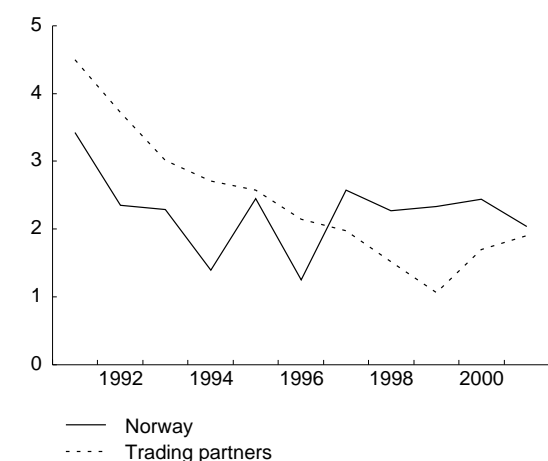
Labour market

Percentage change



1) Adj. for stat. rev. from 1996.
Source: Statistics Norway

Consumer price indices Percentage growth



Source: Statistics Norway

in pension rules that imply increases in pensions, and it may appear that the rise in sickness absenteeism is coming to a halt. On the other hand, expenditure on disability pensions is rising considerably. If unemployment edges up, payments of unemployment benefits will rise in 2000 after having declined for several years.

No major changes in direct and indirect taxes are expected in the period ahead, and we assume unchanged real rates. Several tax reforms are now being discussed, including the VAT system, personal taxation and some indirect taxes, but such changes have not been incorporated in the calculations.

Petroleum sector in harvesting phase

The unexpectedly sharp rise in petroleum investment has been an important factor behind the upturn in the Norwegian economy since 1996. As expected, investment fell considerably in 1999, and the decline is expected to be even greater this year, a good 20 per cent. The sharp rise in crude oil prices through 1999 may prompt oil companies to reassess their investment plans, so it is conceivable that the decline will be slightly less than envisaged earlier. We have to some extent taken this into account in our projections and we have also revised upwards our projection for 2001, with the level from 2000 being maintained. It is difficult to evaluate what effect the high oil price will have on investment in the future, and the possibility that investment may increase next year cannot be ruled out.

It is now assumed that both gas and oil production will increase markedly from 1999 to 2000. Whereas oil production is not expected to increase to any extent in 2001, gas production is expected to continue to rise. All in all, the volume of oil and gas exports is assumed to increase by 10.1 per cent in 2000 and by 3.5 per cent in 2001. Along with high oil prices in Norwegian kroner – NOK 169 a barrel in 2000 and

NOK 160 in 2001 – this will contribute to a very substantial increase in current account surpluses.

Household income and demand

Household real disposable income is estimated to have increased by about 3 per cent in 1999. We have lowered the projection for income growth in 2000 and 2001, and growth is now estimated at a little more than 2 per cent both years. Nominal (and real) interest rates are not expected to fall as much as previously assumed because interest rates abroad are projected to rise to a greater extent than expected earlier. Higher interest rates will contribute to reducing growth in household disposable income. Our projections also show slightly lower growth in real wages and man-hours worked in 2000 compared with 1999, a factor that will contribute to pushing down household income growth.

Household consumption is projected to expand at a slightly faster pace than real disposable income both in 2000 and 2001, with the household saving ratio falling slightly. One reason for this is that it takes some time before households adjust consumption growth to lower income growth. Similarly, the sharp rise in house prices will contribute to stimulating consumption, thereby reducing the saving ratio. On an annual basis, interest rates will fall somewhat from 1999 to 2000, and this will also boost consumption and reduce the saving ratio. Housing investment is projected to expand appreciably the next two years following a period of small changes. All in all, it is projected that households will contribute to an expansion in domestic demand the next few years.

Mainland investment

Total investment in the mainland economy is still projected to fall from 1999 to 2000, although not to any great extent. The sharp fall in manufacturing investment in 1999 is expected to come to a halt through 2000, and the decline for other mainland industries is estimated at a good 2 per cent. As noted earlier, housing investment is projected to rise considerably in the period ahead, while general government investment is expected to show little change. All in all, it is therefore likely that mainland investment will pick up slightly from 2000 to 2001. This is in line with projections in our last quarterly survey. If a licence is granted for building a gas-generated power station and construction starts in 2001, this may boost mainland investment growth by 1-2 per cent next year.

Growth in mainland economy picks up

Following a period with small changes in underlying growth, it appears that mainland growth will approach the trend level in 2001. This is in line with our earlier projections. Manufacturing output is expected to contract appreciably in the period ahead, but as a result of the increase in traditional exports and investment turnaround the decline will probably come to a

halt in 2001. The vigorous growth in housing investment will boost activity in the building sector, while construction activity is likely to show little change. Underlying growth in consumption will contribute to continued growth in service activities.

The sluggish growth in 1999 has contributed to weak productivity gains. Productivity growth was also low towards the end of the cyclical upturn. Productivity growth is, however, expected to pick up in the period ahead. Sharp growth in the capital stock in service industries is an indication of this, even though much of this growth represents a contribution to capacity expansions. If the projected rise in productivity does not materialize, pressures in the labour market may persist and price inflation may be slightly higher compared with our projections.

Slight rise in unemployment

So far unemployment has only risen slightly since the cyclical peak was reached in 1998. As a result of weaker growth, both the labour supply and employment have risen moderately. We assume that the labour force figures and number of unemployed, reported by the Labour Force Survey (LFS) for the fourth quarter of 1999 were erratically high, although it nevertheless supports the perception of a tendency of higher unemployment. We now estimate that employment will remain fairly stable in the period ahead. With an increase in the labour supply on a par with the growth recorded in 1999, unemployment will edge up. Gradually, as growth in the economy picks up, it is likely that employment will again increase slightly and the upward trend in unemployment will level off. We therefore do not expect unemployment to reach 4 per cent in 2001.

The number of vacancies has remained unusually high, even after the cyclical peak was reached in 1998. There are still few signs of any substantial changes, primarily because the downturn is largely affecting manufacturing-related industries, while vacancies are to a large extent found in service sectors. This mismatch in the labour market implies that pressures in some labour market segments will remain strong in the period ahead, even if unemployment edges up.

Lower wage growth – unchanged inflation

Wage growth appears to have been reduced by about one and a half percentage points from 1998 to 1999. A corresponding reduction in the growth rate is now projected for 2000. Moderately higher unemployment will contribute to curbing wage growth somewhat. In manufacturing industry, weaker economic conditions and substantially reduced profitability in previous years will provide less scope for pay increases and wage drift. In the slightly longer term, however, the international economic upturn will result in higher prices for manufactured goods and greater leeway for

wage growth. In service industries, the shortage of some types of labour represents an element of uncertainty in relation to the projections for wage growth. It is assumed that wages in service industries may increase at a somewhat faster pace than in manufacturing in the period ahead, but that the differences in growth will narrow through 2001.

According to the Arntsen Committee on wage settlements, wage growth this year shall be reduced to the level prevailing among our trading partners. It is naturally uncertain at this time how high wage growth will be in other countries in 2000, but preliminary estimates indicate growth in the area of 3-3.5 per cent. Wage growth per normal man-year for the Norwegian economy as a whole is estimated to be slightly higher than this, 3.7 per cent in 2000.

Consumer price inflation is now projected at 2.4 per cent in 2000, slightly higher than estimated earlier. The change can primarily be ascribed to higher import prices. At the beginning of 1999, indirect taxes increased more than the level implied by an inflation adjustment which, along with a revision of the consumer price index with monthly observations of rent, means that price inflation will be high at the beginning of 2000. Towards the end of the year, year-on-year price inflation may be reduced to about 2 per cent. It is worth noting that our price projections depend on a projected increase in productivity growth in Norway. If this growth does not materialize, unit costs will increase in excess of the level we have assumed, and price inflation will be higher. In 2001, lower wage growth and a more moderate rise in import prices are expected to contribute to curbing consumer price inflation in Norway, with the level being reduced to that of our trading partners.

Large current account surpluses

The current account of the balance of payments showed a surplus of NOK 44 billion in 1999. On a monthly basis, the surpluses rose sharply through the year in step with the rise in oil prices. Even though oil prices measured in NOK are expected to decline somewhat through 2000, from a level of a good NOK 200 a barrel in the first quarter to about NOK 160 a barrel towards the end of the year, the level of oil prices is still high. Along with higher oil and gas production, this means the export earnings from oil and gas will rise by a good 30 per cent from 1999 to 2000. Combined with a cyclical rise in the value of traditional exports and low import growth, this will contribute to a substantial rise in the current account surplus from 1999 to 2000. Our current projection now points to a surplus of about NOK 130 billion, or 10 per cent of GDP. A continued high oil price and parallel growth in exports and imports will contribute to a slight increase in the surplus again in 2001.

How accurate were Statistics Norway's forecasts for 1999?

The Economic Surveys published by Statistics Norway over the past two years have presented forecasts for macroeconomic developments in 1999 eight times. The first forecasts were presented in Economic Survey (ES) 1/98, and this was followed by forecasts in each quarterly survey. In addition, alternative scenarios that differ from the baseline scenario have been presented several times. The table below shows how Statistics Norway's forecasts have changed over time as new information and new assumptions have been incorporated.

The first forecasts that were presented at the beginning of 1998 did not foresee the sharp increase in interest rates that took place during the summer of 1998. This meant that domestic demand was overestimated and, thereby, GDP as well. After the increase in interest rates was incorporated in ES 3/98, the forecasts for the real economy were adjusted downwards. For a period, the projections for domestic demand were too low, but were gradually more in line with the actual result. Throughout the period, however, we have underestimated consumption growth in the general government sector, for which the forecasts are largely based on various National Budget documents. Since the end of 1998, this is an important factor behind the underprediction of mainland GDP growth in 1999. Because we overestimated growth in oil and gas production until late in 1999, the GDP projection has nevertheless been fairly accurate since the end of 1998.

The employment projections have varied somewhat, and there has been a slight tendency to underestimate growth in 1999. Viewed in relation to the growth forecast for mainland GDP, productivity growth was slightly overestimated. The forecasts

for unemployment that were presented in the period to mid-1999 were too high, but were extremely accurate after this time.

With regard to nominal developments, the rise in consumer prices was overestimated up to summer 1999. One reason for overestimating price inflation was the overestimation of the rise in import prices. Corresponding forecast errors were made for the export price of traditional goods. This was partly because we expected a slightly weaker effective krone exchange rate than was the case, but more importantly international price inflation was much more subdued in both 1998 and 1999 than assumed in the forecasts. ES 3/99 was in this respect influenced by the pronounced depreciation of the krone through the month prior to the publication of the forecasts. We assumed a markedly weaker import-weighted krone exchange rate in 1999 than the actual level, which contributed to an appreciable overestimation of the rise in import prices and, thereby, consumer price inflation as well. Except for this forecast, the overprediction has not been great. With the exception of the very first forecast, the projection for wage growth has been very accurate in the entire period. Two factors counteracted each other here. First, we overestimated price inflation, a factor that also pushes up wage growth projections. Second, we overestimated unemployment, a factor that pushes down wage growth.

The forecast for the current account surplus was originally not far from the actual outcome. However, around the beginning of last year, when pessimism concerning the oil market was greatest, the forecasts for both oil prices and the current account surplus were too low.

Statistics Norway's forecasts for 1999

Growth rates in per cent

	ES1/98	ES2/98	ES3/98	ES4/98	ES1/99	ES2/99	ES3/99	ES4/99	ES1/2000
Consumption in households and non-profit organization	2.8	2.9	1.6	1.3	1.4	2.5	1.8	2.0	2.1
General government consumption	2.0	1.3	1.2	0.7	0.7	1.2	1.3	1.9	2.5
Gross fixed investment	-3.6	-2.5	-6.9	-11.1	-11.4	-7.5	-8.2	-7.6	-7.0
- Petroleum activities	-10.4	-16.5	-16.3	-18.7	-17.7	-10.0	-7.2	-11.4	-14.0
- Mainland Norway	-1.4	1.7	-4.3	-9.2	-9.6	-6.9	-8.1	-5.4	-3.5
Exports	5.0	7.9	6.2	4.6	5.2	2.4	0.8	-0.6	0.6
- Crude oil and natural gas	6.4	14.5	10.8	8.5	8.3	4.3	1.4	-1.5	-0.3
- Traditional goods	4.7	6.4	4.3	2.6	3.9	2.4	1.3	1.6	2.6
Imports	1.6	3.2	0.1	-2.4	-2.5	-1.9	-3.0	-3.4	-3.6
- Traditional goods	1.3	3.8	-0.5	-1.9	-2.0	-1.8	-2.1	-2.5	-2.4
GDP	4.0	3.1	1.9	0.8	1.1	1.3	0.5	0.6	0.8
- mainland GDP	1.8	1.5	0.5	-0.3	0.0	0.5	0.3	0.8	0.8
Employed persons	0.3	0.2	-0.3	-0.5	-0.4	0.0	0.4	0.2	0.5
Unemployed rate (level)	4.1	3.5	4.0	4.0	3.8	3.5	3.2	3.2	3.2
Wage per man-hour	4.3	5.0	5.4	5.1	5.3	5.0	5.0	5.0	5.1
Consumer price	2.6	2.8	3.6	2.8	2.6	2.5	2.3	2.3	2.3
Export price, traditional goods	1.6	1.7	2.2	0.8	0.2	-0.9	-0.1	-0.1	0.0
Import price, traditional goods	0.1	0.4	3.4	0.9	-0.1	-1.4	-1.5	-2.0	-2.2
Money market rate (level)	4.4	4.7	6.5	5.8	5.8	6.0	6.1	6.4	6.4
Average borrowing rate (level)	6.4	7.3	8.9	8.1	8.3	8.4	8.4	8.5	8.4
Current balance, bill. NOK	68	43	44	24	14	6	22	33	44
Crude oil price, NOK	108	108	113	93	87	106	124	140	142
International market growth	5.2	6.8	5.3	4.5	5.0	4.7	4.9	5.4	5.4

Source: Statistics Norway.

International economy

The projections for GDP growth among Norway's trading partners have been revised upwards substantially over the past year. From January 1999 to January this year, the average has been raised from 1.6 to 2.5 per cent for 1999 and from 2.1 to 2.9 per cent for this year. The changes reflect a sharp upward revision of the estimate for the US and a more moderate upward adjustment of the estimates for Japan and the EU. The projected slowdown in economic growth in the US did not materialize in 1999, and the economies in Asia stabilized. Furthermore, growth picked up substantially in the EU in the last half of 1999 following a relatively sluggish first half-year. It appears that these trends will continue this year and next. The risk picture is also less dominated by threats than it was one year ago. True, the recovery in Japan and the rest of Asia remains uncertain, and the risk of a hard landing in the US still clearly exists. However, the moderate upturn in Europe appears to be reasonably secure, and faster growth in Germany towards the end of 1999 may point to an upward revision of growth forecasts for this year.

The price outlook has also changed considerably. In early 1999 many were concerned about the risk of worldwide deflation, fearing that after many years of focusing on inflation we would not be able to adjust our use of instruments. The concern was short-lived, and attention is again focused on the risk of inflation, with expectations of increases in interest rates in the US, the euro area and the UK. An important reason for this is that the fall in commodity prices has been reversed to a rise. Whereas changes in commodity prices in 1998 and 1999 contributed to restraining inflation, they will probably contribute to the reverse this year. The oil price has risen sharply, while most other commodity prices have recorded a moderate rise.

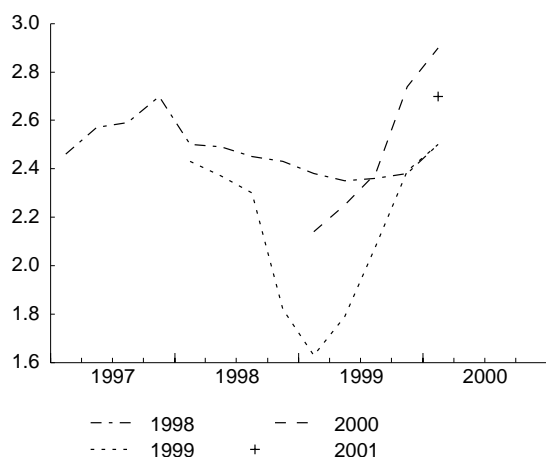
The oil market

The spot price of Brent Blend averaged a little more than \$18 a barrel in 1999, against a little less than \$13 in 1998. It rose from about \$10 a barrel in November 1998 to slightly more than \$25 a barrel at the beginning of 2000. At end-January this year, the price was about \$26 a barrel, the highest since the outbreak of the Gulf War in January 1991.

Several factors have contributed to the sharp increase in oil prices. First, OPEC decided to reduce production by 1.7 million b/d in March 1999, and some non-OPEC countries followed suit by reducing production by altogether 0.4 million b/d. It has later turned out that OPEC implemented between 80 and 90 per cent of its announced cuts, which is high compared with earlier periods of production cuts. Second, demand in Asia increased as a result of positive economic developments in the region following the crisis in 1997/1998. Moreover, economic growth in North America remained brisk, a factor which meant that half of the global increase in demand came in this region. In addition, production in oil-exporting countries that did not implement production cuts was virtually constant from 1998 to 1999, following several years of production increases. As a result of these factors, oil stocks are now down to the same low level as in 1996, the lowest level recorded in the 1990s.

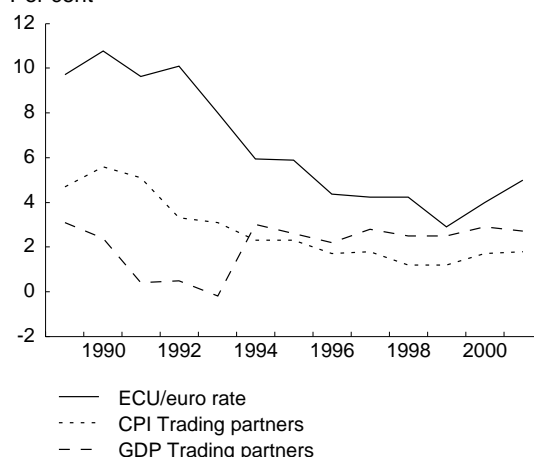
The International Energy Agency (IEA) estimates that the world's total demand for oil will increase by about 2 million barrels a day from 1999 to 2000. Asia and, to some extent, North America, are expected to account for most of the increase. At the same time, the IEA expects non-OPEC production to rise by a little less than 1 million b/d, primarily in Latin America,

GDP-growth forecasts for Norway's main trading partners for 1998 - 2001 given on different dates



Source: Consensus Forecasts.

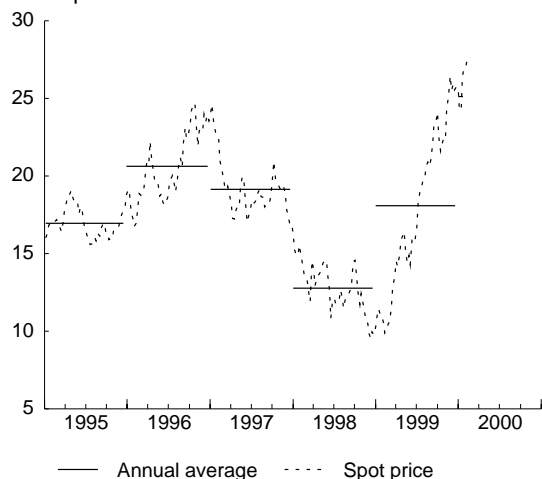
GDP and consumer price growth for Norway's main trading partners, and 3 month ECU/euro rate
Per cent



Sources: OECD and Statistics Norway.

Spot price, Brent Blend. 1995-2000

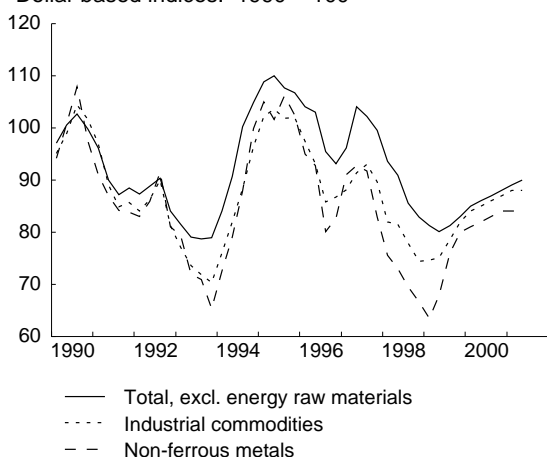
Dollar per barrel



Source: Norges Bank.

**Commodity prices on the world market
1990 to 2nd quarter 2001**

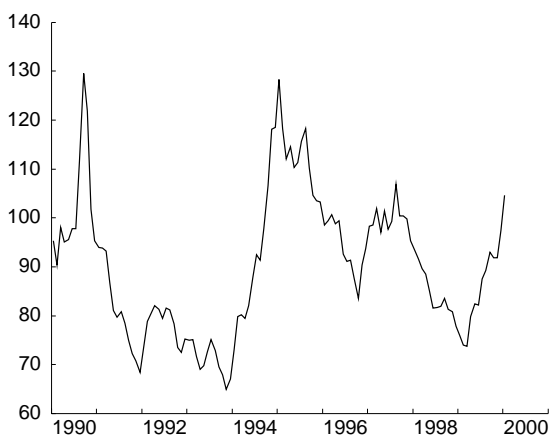
Dollar based indices. 1990 = 100



Source: HWWA-Institut für Wirtschaftsforschung.

Aluminium price. 1990 - 2000

Dollar based index. 1979=100



Source: Norges Bank.

Africa and the Norwegian sector of the North Sea. Even if Iraq is given a new oil-for-food agreement with the right to export more oil, it is doubtful whether the country will manage to increase oil production to any extent this year, following several years without maintenance and access to spare parts. OPEC's current agreement on production cuts expires at the end of the first quarter of this year. Up to that time stocks are expected to be reduced by almost 3 million b/d because the demand for heating oil is high in the winter months. If OPEC increases production in April to the level prior to the last cuts, the pace of stock reduction will slow, but on an annual basis the already low level of oil stocks will still be reduced by on average 1.5 million b/d.

OPEC countries' earnings have increased considerably due to the high oil price, and OPEC's Market Committee has indicated that the cartel is prepared to maintain the production cuts after the first quarter. A high oil price over time will, however, result in a decline in global demand for oil and an increase in production in non-OPEC countries. When the residual demand for OPEC oil falls, the cartel must either reduce production further or the oil price will fall. This is why a strategy involving a high oil price may gradually result in lower earnings. Some key OPEC members indicated earlier this winter a desire for keeping the spot price of Brent Blend at a level of \$24-25 a barrel over a three-month period before considering the possibility of removing the production cuts. This was achieved in early February. Many analysts therefore expect OPEC to decide to increase production at its next ordinary ministerial meeting on 27 March at the latest.

Against this background, it is likely that the oil price can continue to edge up later in the first quarter, but after this time there is reason to expect some downward pressure on the oil price if OPEC decides to increase production.

Commodity prices

Movements in other commodity prices have been less dramatic than the oil price. The tendency has nevertheless been the same, with a sharp fall up to last summer. Prices have risen slightly the last six months, but at the beginning of 2000 only about 10 per cent of the fall from spring 1997 to summer 1999 had been regained. There are, however, considerable differences between commodity groups. Prices for industrial raw materials and metal goods are important to Norwegian exports, and the indices for these groups moved up through 1999. The increase was particularly pronounced for metals and metal goods; these prices have regained 60 per cent of the earlier fall. One main factor behind the rebound in prices is higher demand in the wake of the improvement in the world economy. The reduction in stocks of the most important commodities has had the same effect. For some metals, production cuts have also contributed to the

rise in prices, even though they are of far less importance than the production cuts in the oil market.

With the prospect of higher growth in the world economy, commodity prices are likely to continue to rise the next two years. In October 1999, the commodity group in the Association of European Conjuncture Institutes (AIECE) projected a general increase in commodity prices of about 12 per cent this year. Energy, especially oil, boosts the average. Food prices are expected to remain low, a development which can also be seen in connection with a long-term falling trend due to productivity improvements. Prices for industrial raw materials, metals and metal goods are estimated to rise between 7 and 15 per cent. In 2001, the AIECE expects commodity prices to stabilize at about the same level as in 2000.

Movements in commodity prices, as outlined above, may have consequences for both the US and the euro area. Movements in these prices contributed to restraining inflation in 1998 and 1999, but now appear to be pushing up inflation this year and next. This means that the US must keep its own prices in check if it is to succeed in combining high growth and low inflation in the future. The implications for domestic prices are the same in the euro area. The challenge may be particularly demanding inasmuch as the upper limit of the European Central Bank (ECB) for acceptable price inflation is stringent compared with other countries that have an inflation target.

The crisis economies

An important reason for higher commodity prices was stabilization and higher growth in the earlier crisis economies in 1999. Early last year, Japan appeared to be recovering surprisingly quickly following the pronounced contraction in 1998, and GDP expanded sharply in the first quarter. Growth in the second quarter was lower, and third-quarter figures showed a decline in GDP of 1 per cent. Compared with Consensus Forecasts' projections from January last year, the situation still appears to have evolved better than expected. The annual projection for 1999 was revised upwards from a projected decline of 1.1 per cent in January 1999 to an estimated rise of 0.7 per cent in January this year. One definite risk, however, is that this growth is being maintained by a very expansionary fiscal policy, without triggering an upturn that can be sustained when public sector demand is reduced to more normal levels. Japan's high public debt will probably force this normalization following the election this year. The date for the election has not yet been set, but may be important for the strength of the impetus from public sector demand this year. So far, fiscal policy does not appear to have triggered any substantial growth in private consumption or investment, and critics maintain that more structural changes are necessary to achieve growth in the period ahead. However, a stabilization of economies in neighbouring

countries is making a positive contribution, and low interest rates are expected to persist. The OECD also emphasizes the favourable financial situation of households and survey evidence of considerable optimism concerning future developments. The OECD therefore sees prospects for growth in private consumption, while others are more sceptical. Unemployment is high by Japanese standards, and is expected to increase in the period ahead. At the same time, real wages are falling. According to the latest projections from the OECD, Japan will record growth of 1.4 per cent in 2000 and 1.2 per cent in 2001, while Consensus Forecasts projects growth at 0.7 and 1.3 per cent, respectively. There is considerable uncertainty surrounding the forecast for 2000, and in particular a continued appreciation of the yen may jeopardize an export-led improvement.

The upswing seems stronger and more stable in the rest of Southeast Asia. Growth in 1999 was stronger than expected; for example, the South Korean economy expanded by as much as 9 per cent. The upturn appears to be gaining momentum this year. An expansionary fiscal policy and higher exports are key factors, but private consumption also appears to be picking up. As a result of strong trade ties, the countries may bolster growth in the entire area just as they accelerated the collapse in 1998. Many observers, however, point to the need for restructuring, legislative changes and deregulation in e.g. the financial sector in order to secure growth in the medium term. The outlook for Latin America and Russia has also improved, and it does not appear that the strong recession feared by many will materialize. However, these economies are also very vulnerable to negative shocks and the growth forecast, particularly for Russia, is uncertain.

The US

Developments in the US are one of the main driving forces behind the improvement in Asia and Europe. Despite the turbulent situation in Asia, Russia and Latin America, the combination of high economic growth and subdued inflation persisted through 1998 and 1999. The projection for GDP growth for 1999 was thus revised upwards through last year. Growth in private consumption has been an important driving force in the US economy in recent years. Consumption growth has in turn been underpinned by a sharp rise in households' equity wealth, and has for some time been higher than income growth. The saving ratio was very low in the first half of 1999. In the second half of the year, however, both consumption growth and growth in housing investment slowed somewhat. Business investment, on the other hand, continued to expand, and thereby generated an important growth impetus throughout 1999. Overall, economic growth in the second half of 1999 was buoyant and stronger than expected. In the light of the sustained and sharp growth, inflation figures have

US imbalances?

The forecasts for the US point to continued high growth and low inflation in 2000 and 2001. It thus appears that the US will continue to be a driving force in the world economy. The soon nine-year long strong economic expansion in the US has prompted some analysts to pose the question of whether a "new economy", based on unusually strong technological advances, has changed the relationship between economic growth and inflation. Three links are particularly important for this relationship: between production and employment, between employment and wages and between wages and consumer prices. Productivity growth plays an important role for the link between production and employment. In recent years, productivity growth in the US has been high, and many attribute this to the spread of computer technology. It is uncertain, however, whether this is a permanent change in the rate of productivity growth or a once-only shift in level. For the next link, the relationship between the level of and changes in unemployment on the one hand, and wage developments on the other, is a crucial point. In this area it appears that some change has taken place in the US labour market, with unemployment declining further than assumed earlier without resulting in higher wage growth. This may be related to, among other things, the age composition and educational attainment level of the population, the number of temporary employees and the balance of power between labour market organizations. At the moment, it is unclear whether the changes are of a transitory or more permanent nature. For the link between wages and consumer prices, developments in import prices are of primary importance. In recent years the fall in international commodity prices has contributed to declining import prices, so that wages and domestic prices have been able to increase somewhat more than the average price level. It appears that this is changing as from this year.

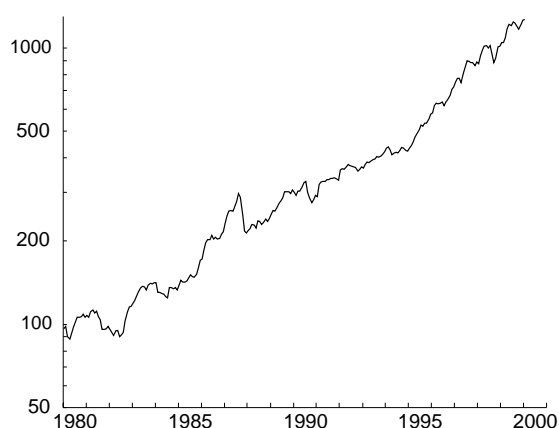
Lower growth can be the result of changes on the supply side or the demand side. Moreover, if the emergence of a "new economy" has only shifted the limit for sharp growth without accelerating inflation, without breaking the relationship between the two, the supply side may still set a

limit for the unusual growth period in the US. However, the possibility that the demand side may create problems in the period ahead provides just as many grounds for concern. There may thus be reason to focus on some potential important imbalances in the US economy.

Equity prices represent one risk factor. Inflation has been low for a long time, but the rise in equity prices has been very high. As the figure shows, the value of the Dow Jones Index from the New York Stock Exchange has trebled the last five years. Equities account for a high portion of US household wealth, and higher equity prices therefore mean higher wealth for households. High wealth has prompted households to save less of their current income, and the result is high growth in private consumption. If the valuation is corrected through a rapid and sharp drop in equity prices, this trend may be reversed, with higher saving and reduced private consumption as the result. Private consumption has helped to fuel the economic expansion in the US the last few years, and a fall in consumption may have a considerable impact on the rest of the economy. In recent months, we have seen several examples of how sensitive the stock market is to changes in perceptions: in October, equity prices fell rapidly against the background of isolated figures and some warnings from Federal Reserve Chairman Greenspan, and twice alone in January this year we have again experienced short pronounced declines. However, prices advanced swiftly again in all cases, and the Dow Jones reached a new all-time high in mid-January.

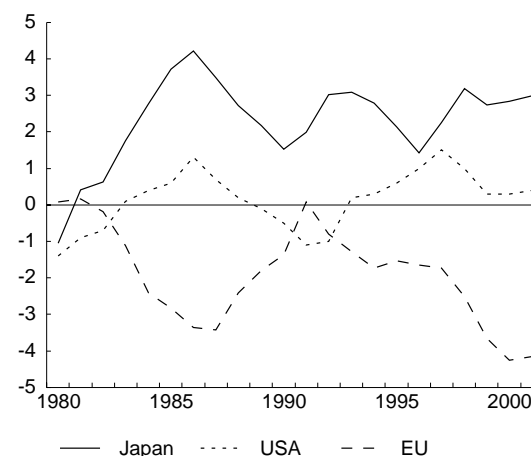
Another cause for concern is the large trade deficit. For a number of years the US has bought far more goods from other countries than it has sold. The OECD estimates that the trade deficit will constitute 4.2 per cent of GDP both this year and next. In relation to GDP, this deficit is even greater than the figures that caused considerable concern under the Reagan Administration in the mid-1980s. At the same time, we see that with one exception the current account balance has shown a deficit every year since 1982. The counterpart is Japan's surpluses, while the EU's current account balance has varied between moderate deficits and

US Equity prices. 1980-2000
Dow Jones Industrials, New York
Log scale. 1980 = 100



Source: Norges Bank.

Current account surplus. 1980 - 2001
Percentage of GDP



Source: OECD Economic Outlook.

surpluses. The result is that the US, over time, has accumulated a considerable foreign debt. This is not a problem as long as willing lenders are queuing up and capital flows to the US are large. If, on the other hand, investors begin to fear that the trade deficits are a problem, the fear can quickly become a self-fulfilling prophecy. If the supply of loans declines, the result may be considerably higher interest rates and/or a sharp depreciation of the US dollar. A weaker dollar will generally mean that foreign products are more expensive in dollar terms. This will probably increase US exports and reduce imports, but may also result in a sudden rise in inflation. If the Federal Reserve then raises interest rates, this may result in a sharp slowdown in the economy. Investors will then have been proved right that the deficits were a problem.

It is also conceivable that these two factors may reinforce each other. If a fall in equity prices results in an abrupt halt to growth in the US economy, it will be less attractive to invest there, and capital flows may be reduced. On the other hand, a capital flight followed by interest rate increases may

make it less profitable to own equities and therefore trigger a fall in prices. Irrespective, the result may be a sharp reduction in the growth rate.

One important factor, however, points to maintenance of the pattern of capital flows in the period ahead. The return on investment is appreciably higher in the US than in Europe and Japan, and definitely more secure than in emerging economies. The considerable financial leeway of the US authorities is another reason that the risk of a dramatic crisis does not seem to be too great. Public finances have improved considerably following several years of high growth and low unemployment, combined with a tightening in government expenditure. This means that the authorities have the possibility of introducing measures quickly if the situation becomes dramatic. Moreover, growth in private consumption is not solely the result of the rise in equity wealth. As a result of the decline in unemployment and rise in employment, higher disposable income has also provided an important basis for higher consumption.

remained remarkably low and ended in 1999 at a 2.2 per cent change compared with the previous year. Subdued price inflation is ascribed to a combination of strong productivity gains and imported deflation as a result of the fall in international commodity prices up to last summer.

Growth is expected to be higher in the US than in the EU again in 2000, albeit lower than in 1999. Higher interest rates, weaker asset growth and higher debt may reduce growth in both private consumption and business investment. However, in 2000 exports are set to make a positive contribution, and no turnaround is expected in other demand components. In line with this, the projections from Consensus Forecasts indicate only a moderate slowing of GDP growth, from 4.0 per cent in 1999 to 3.6 per cent in 2000. This scenario is important for the entire world because despite higher growth projections for the EU, the EU still has a long way to go before it can approach the role of the US as the driving force in the world economy. For 2001, the growth projection for the US is even slightly lower, 3.0 per cent. However, a slower rate of growth has been expected for a long time, so far without materializing to any great extent.

The inflation outlook is shrouded in somewhat greater uncertainty. Prolonged growth in the US has resulted in a tight labour market, and the unemployment rate in January was as low as 4.0 per cent, the lowest in almost thirty years. There is thus growing concern that the tight labour market will translate into higher wage growth, which will then result in higher price inflation. With a stabilization of the situation in Asia and commodity prices moving up, the prospect of continued imported deflation is limited. The rise in import prices means that domestic price inflation must be restrained to prevent an

acceleration in inflation, and it is likely that the increase in interest rates in February was only the first of several. However, there are still only very weak signs of higher inflation, and it is possible that we will be surprised by a low rate of inflation in the US also in 2000.

The main picture for the US economy is therefore optimistic, although there are some clear risks that are discussed in a separate box.

Europe

Developments among our European neighbours have an important impact on Norwegian exports and interest rate level. In the EU, GDP growth appears to have been lower in 1999 than in 1998. Developments through the year, however, were positive, and this year Consensus Forecasts projects economic growth at 3.0 per cent, after 2.2 per cent in 1999 and 2.7 per cent in 1998. Growth in 2001 is expected to be about the same as this year. Growth also appears to be more synchronized than has been the case in recent years. Ireland is in a class by itself, with a growth projection of 7.1 per cent this year, but the projections for the other countries vary between 2.0 per cent and 3.8 per cent. By way of comparison, growth in these countries last year appears to have been between 1.3 per cent and 3.7 per cent. The tendency is amplified by the fact that Denmark has taken over last place from the major countries Germany and Italy. Our most important trading partner among the smaller countries, Sweden, is also one of the countries that is expected to push up the EU average. This reinforces the importance of the improvement in the European economy for Norway.

Expectations of higher and steadier growth are largely related to developments in non-EU countries.

Economic forecasts for Norway's main trading partners

Annual per cent change

Country (Share of Norwegian exports ¹)	1998	1999	2000	2001
USA (8.0)				
GDP	4.3	4.0	3.6	3.0
Consumer price	1.6	2.2	2.6	2.5
Unemployment rate ² (level)	4.5	4.2	4.1	4.3
Japan (4.5)				
GDP	-2.5	0.7	0.7	1.3
Consumer price	0.6	-0.3	0.0	-0.1
Unemployment rate ² (level)	4.1	4.7	4.8	4.8
Germany (11.3)				
GDP	2.2	1.4	2.7	2.7
Consumer price	1.0	0.6	1.4	1.6
Unemployment rate ² (level)	11.1	10.5	9.9	9.3
France (6.0)				
GDP	3.4	2.7	3.4	3.0
Consumer price	0.6	0.6	1.1	1.1
Unemployment rate ² (level)	11.8	11.2	10.4	9.7
United Kingdom (11.7)				
GDP	2.2	1.9	3.1	2.7
Consumer price ³	2.6	2.3	2.1	2.4
Unemployment rate ² (level)	4.7	4.3	4.0	3.8
Italy (3.1)				
GDP	1.3	1.3	2.4	2.6
Consumer price	2.0	1.7	1.9	1.7
Unemployment rate ² (level)	11.8	11.4	11.1	10.8
Sweden (12.9)				
GDP	3.0	3.7	3.6	3.1
Consumer price	-0.1	0.3	1.5	2.0
Unemployment rate ² (level)	6.5	5.5	4.5	4.0
Denmark (7.6)				
GDP	2.7	1.5	2.0	2.3
Consumer price	1.8	2.5	2.5	2.2
Unemployment rate ² (level)	6.4	5.7	5.8	6.0
The Netherlands (5.5)				
GDP	3.7	3.4	3.3	3.1
Consumer price	2.0	2.2	2.3	2.6
Unemployment rate ² (level)	4.2	3.2	3.2	3.4
Memorandum items:				
GDP trading partners	2.5	2.5	2.9	2.7
CPI trading partners	1.2	1.2	1.7	1.8
ECU-/Euro interest rate	4.2	2.9	4.0	5.0

¹ Export traditional goods. Figures for 1999 in per cent, according to Monthly Bulletin of External Trade, Statistics Norway.

² Per cent of labour force.

³ Exclusive interest rates.

Sources: Consensus Forecasts. Unemployment rates for Sweden, Denmark and the Netherlands from OECD.

Continued brisk growth in the US and an improvement in the crisis economies are expected to generate an export stimulus that will boost growth in all EU countries. This is particularly important for Germany and Italy, which due to their trading patterns were hardest hit by the earlier decline in demand. Germany in particular may also benefit from an improvement in the situation in Central and Eastern European

countries that have applied for EU membership. Trade between the various parts of Europe is expanding sharply, and positive trends in Western Europe and Central/Eastern Europe will be mutually reinforcing. The depreciation of the euro over the past year has also generated a positive impetus to exports.

However, growth prospects in the EU are not solely based on expectations of higher exports. In several countries, domestic factors also made an important contribution to the turnaround in 1999, and it appears that this trend will continue this year. Unemployment is expected to fall, albeit to a level that must still be characterized as high. The decline in unemployment may result in higher private consumer demand through an increase in household real disposable income. Higher demand both domestically and abroad will also contribute to higher business investment, and the construction sector in particular is expanding in several countries. A period with a reduction in inventories also appears to be coming to an end. With an approximately neutral or slightly contractionary fiscal policy, public sector demand will neither contribute to the projected growth nor represent an obstacle to this growth. Relatively considerable trade within the EU also means that domestic impulses in individual countries will push up growth in other countries.

The most important growth impulses vary somewhat between countries. Among the four major EU countries, Germany is the country that is most dependent on external demand, while a combination of internal and external factors is fuelling growth in Italy. Internal factors are even more important in France, with positive impetus from both private consumption, investment and the build-up of inventories. Following several years with substantially higher growth than the EU average, the UK appears to have avoided a hard landing in 1999, and growth is expected to be higher both in 2000 and next year. Both private consumption and exports are important driving forces. The same is the case for Sweden, a small country, but important for Norway. The export impetus is making a positive contribution to growth in Sweden, as in the rest of the EU, while household demand is being boosted by higher disposable income. Unemployment has fallen sharply in recent years and is estimated at about 4 per cent this year. Real wages are also projected to rise considerably.

In response to variations in economic growth, the ECB lowered its key interest rates in the first half of 1999, and raised them again in the second half of the year and in February this year. The money supply, measured by M3, rose more than the ECB's reference value, which may be an indication of future price inflation. However, many observers maintain that the reference value has been set at too low a level, and this measure is interpreted in a flexible manner.

International trends 1960-2000

Forecasts for economic developments in industrial countries in 2000 imply higher economic growth, higher inflation and lower unemployment than in 1999. However, compared with earlier fluctuations in these variables, the projected changes from 1999 to 2000 are small, and the preceding years have not been very dramatic in a historical context either. This is illustrated by the figure which shows changes in OECD countries over time for three important variables: economic growth, inflation and unemployment. The use of averages masks considerable differences across countries, but provides a rough indication of some main trends in the world economy the last 40 years.

Annual GDP growth has varied substantially through the period. We can particularly note two periods of deep recession, one in the mid-1970s and one at the beginning of the 1980s. In the early 1990s we see a somewhat milder recession. GDP growth also shows a weak downward trend because growth following each downturn has not fully picked up to the level of the previous period of expansion. The pattern recurs in unemployment figures. Each period of downturn resulted in higher unemployment, which was only reversed to a limited extent when growth gradually picked up again. Unemployment has therefore exhibited a clear upward trend throughout the period. Since 1994, however, unemployment has gradually edged down. Developments in the US, the UK and some smaller European countries have made an important contribution to this decline in unemployment.

Price inflation shows even greater fluctuations. Inflation was low and stable in the 1960s, high and fluctuating in the 1970s, with two clear peaks in 1974 and 1980 respectively, and was then sharply reduced through the 1980s and 1990s. The level prevailing in the early 1960s, however, was not reached until 1999.

Many factors can help to explain the details in these developments, but the main features are due to some key elements. The 1960s were characterized by a combination of high and relatively steady growth, low inflation and low unemployment. The higher quality of factor inputs, including a more highly trained workforce and buoyant investment, was probably an important factor. Real wages expanded, there was considerable optimism about the future, and the spread of consumer durables to large parts of the population contributed to keeping demand at a high level. At the same time, imbalances accumulated, with large trade deficits in the US and the UK. Faith in fine-tuning demand waned, and the international system of pegged exchange rates came under growing pressure before breaking down in 1971. The break in the trend was then triggered by the first oil crisis, OPEC I, with a virtual quadrupling of oil prices in two months. As a result of the West's strong dependence on oil, consumption only showed a moderate reduction, and expenditure on oil purchases rose dramatically. This reduced the demand for other goods, at the same time that OPEC did not use its higher earnings to purchase goods from the West to any great extent. The result was lower output and higher unemployment. Along with stagnation in economic growth, high oil prices resulted in a sharp in-

Real GDP growth, inflation rate and unemployment rate in the OECD area. 1961-2000
Per cent



Source: OECD.

crease in inflation. The combination of stagnation and inflation was new and came to be known as stagflation.

Growth picked up again in the last half of the 1970s. Inflation fell sharply from the peak level in 1974, but remained at an appreciably higher level than prior to OPEC I. The moderate improvement was abruptly replaced by a new oil crisis in 1979 when the war between Iran and Iraq resulted in a further reduction in oil production. Inflation flared up again, and the US and a number of other industrial countries raised interest rates in an attempt to curb inflation. The result was again lower growth and higher unemployment.

In 1980, Reagan became president of the US and the Congress adopted substantial tax reductions and higher expenditure on military programmes, with large government budget deficits as the result. The combination of high interest rates and debt-financing of budget deficits contributed to a sharp appreciation of the dollar. Higher demand and deteriorating competitiveness resulted in current account deficits in addition to the government budget deficits, the so-called "twin deficits".

Other Western countries were also concerned about inflation, and the appreciation of the dollar made it even more difficult to combat the rise in prices. The consequence was higher interest rates throughout the Western world. A contractionary monetary policy gradually reduced inflation, but also resulted in a severe recession in the early 1980s. At the same time, high demand in the US along with the stronger

dollar generated a demand impetus to other countries, and later in the 1980s economic growth picked up while inflation and unemployment fell. In 1986, Saudi Arabia glutted the oil market, and oil prices fell by 80 per cent, to the delight of Western economies.

The reunification of Germany in 1990 resulted in a sharp rise in government expenditure, and to keep inflation under control Germany raised interest rates sharply. The rest of the EC was linked to German interest rates through the European Monetary System (EMS), and the tightening did not accommodate their needs. Inflation continued to edge down, but GDP growth also fell, and unemployment rose again. Later in the 1990s growth slowly picked up. Even though it is still well below the level of the 1960s, it has contributed to a gradual decline in unemployment. The prolonged and sharp period of expansion in the US has been a key element in this improvement. Many associate this with strong technological advances (see separate box about the US). In the same period, inflation has continued to move down, and at a more rapid pace than unemployment. At the transition to the 21st century, we are thus experiencing moderate but stable growth, low inflation and high, but falling unemployment, compared with the past decades.

Overall, the figure indicates that important structural changes have taken place over the last decades. This appears to have been beneficial for the relationship between inflation and growth, but many industrial countries are still grappling with very high unemployment.

Inflation in the euro area remains subdued despite some increase in the last few months of 1999. The ECB has pointed to presumably transitory conditions, such as higher oil prices and a weaker euro, as the main factors behind accelerating inflation, and like most forecasters, it expects inflation to remain below the limit of 2 per cent the next two years. One important element of uncertainty is the spring wage negotiations where large German trade unions have already announced high wage demands. Higher economic growth also means that additional interest rate increases may be necessary to contain inflation.

Expectations of interest rate increases are even stronger for the UK where the prospect of price pressures is related to the rise in house prices and wages in particular. The Bank of England raised its interest rates as early as mid-January this year, and this increase is considered only the first of several to keep prices under control. Inflation and interest rates are also moving up in Sweden.

General government sector and economic policy in 1999

Fiscal policy

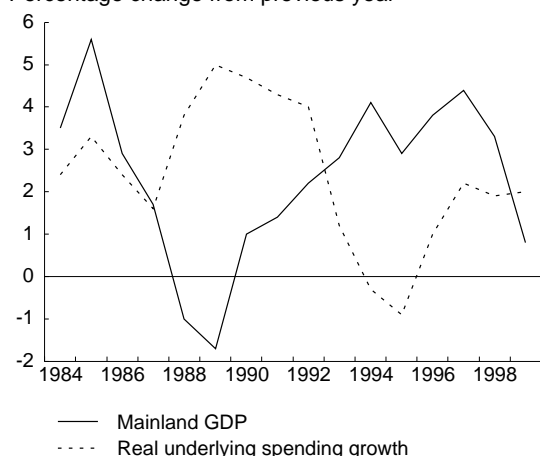
Through the management of central government expenditure and revenues, fiscal policy has a considerable influence on changes in total domestic demand and activity in the mainland economy. When formulating fiscal policy, it is emphasized that it shall contribute to stabilizing economic developments without undermining the scope for manoeuvre in the medium and long term. In the last 20 years the orientation of fiscal policy has on the whole contributed to curbing cyclical fluctuations in the Norwegian economy. Real underlying spending growth in the government budget was thus lower than mainland GDP growth through both periods of expansion 1984-1986 and 1993-1998, while the reverse was true during the cyclical downturn in 1988-1992. The Ministry of Finance's non-oil, cyclically adjusted budget indicator net of interest payments generally indicates the same. According to this indicator, however, fiscal policy contributed to amplifying the cyclical effects in 1985 and 1998, and to a moderate degree in 1984 and 1993. Moreover, both this indicator and developments in government budget underlying spending indicate that fiscal policy gradually become less tight through the upturn in the 1990s, and the budget in 1998 can be characterized as cyclically neutral. Policy was tightened somewhat again in 1999, equivalent to a good per cent of mainland GDP when measured by the Ministry of Finance's budget indicator. The approved budget for 2000 is again cyclically neutral, according to this indicator.

Due to the guidelines for transfers between the government budget and the Government Petroleum Fund, it is most appropriate to consider the balance on the government budget and the Government Petroleum Fund as a whole in order to compare the government budget position over time. The consolidated balance on the government budget and the Petroleum Fund was reversed from a deficit of about NOK 44 billion in 1993 to a surplus of about NOK 70 billion in 1997. This improvement in the budget balance reflects both a sharp upturn in the economy and a considerable increase in central government revenues from petroleum activities. The total surplus on the government budget and Petroleum Fund was reduced by more than half from 1997 to 1998. The decline in the surplus from 1997 to 1998 must be seen in connection with the fall in average oil prices from NOK 135 in 1997 to NOK 96 in 1998. Despite higher oil prices, the surplus in 1999 is expected to be about the same as in 1998.

Government budget for 1999

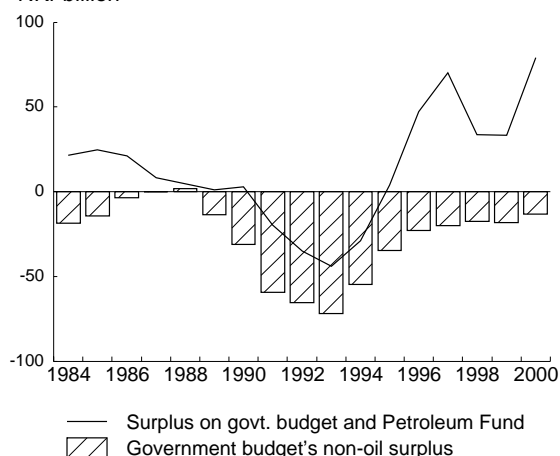
Estimates for the accounts show a government budget surplus before allocations to the Government Petroleum Fund of NOK 26.6 billion. This is approximately the same as in 1998, but NOK 40 billion less than the surplus in 1997. The projected surplus in the approved government budget for 1999 amounted to NOK 50.7 billion. The reduction in the surplus reflects higher expenditure of an estimated NOK 9.5 billion and lower revenues of an estimated NOK 14.6 billion.

Government budget's real underlying spending growth and growth in mainland GDP. 1984 - 1999
Percentage change from previous year



Source: Statistics Norway and Ministry of Finance.

Surplus on government budget and Government Petroleum Fund. 1984 - 1999 and forecast for 2000
NOK billion



Source: Ministry of Finance.

Main figures for government budget and Government Petroleum Fund. 1998-2000

NOK bn.

	1998 ¹	1999 ²	2000 ³
Total revenue	471.3	491.5	548.9
Petroleum revenues	72.7	74.7	105.6
Revenues excl. petroleum rev.	398.7	416.9	443.3
Taxes from mainland Norway	357.4	376.0	393.6
Other revenues	41.3	40.8	49.7
- Total expenditure	443.7	464.9	477.1
Expenditure on petroleum activities	27.6	30.0	20.4
Expenditure excl. petroleum activities	416.1	434.9	456.6
= Surplus before transfer to Government Petroleum Fund			
- Cash flow from petroleum activities	27.6	26.6	71.8
= Non-oil surplus	-17.4	-18.0	-13.3
+ Transferred from Government Petroleum Fund	17.0	18.0	13.3
= Surplus on government budget	-0.4	0	0
+ Net allocation to Government Petroleum Fund	28.0	26.6	71.8
+ Interest and dividends, Government Petroleum Fund	6.2	6.8	7.4
= Total surplus on government budget and Government Petroleum Fund	33.8	33.4	79.2

1 Accounts 1998.

2 Estimates for the accounts 1999.

3 Approved budget 2000.

Source: Ministry of Finance.

The net cash flow from petroleum activities is estimated at NOK 44.6 billion in 1999. An oil price of NOK 110 a barrel and an increase of a little less than NOK 10 billion in the central government's net cash flow from 1998 to 1999 were used as underlying assumptions in the National Budget for 1999. In the Revised National Budget and Final Budget Bill, the average oil price in 1999 was adjusted up to NOK 125 a barrel. In spite of a higher oil price in 1999 compared with the level assumed in the National Budget for the same year, the central government's net cash flow from petroleum activities is expected to be approximately the same as in 1998. This is due to a fall in production in 1999, estimated at about 20 billion Sm³ oil equivalents. The downward adjustment partly reflects delayed starts and technical problems on some fields in the North Sea.

The budget surplus less the net cash flow from petroleum activities shows the budget balance, expressed by the non-oil deficit. The deficit is estimated at NOK 18.0 billion in 1999, which is NOK 12.5 billion lower than estimated in the government budget for 1999. NOK 7.4 billion of this change is due to changes in estimates and the postponement of sales of bank shares. The largest supplementary allocations during the year related to the crisis in Kosovo, activity-based

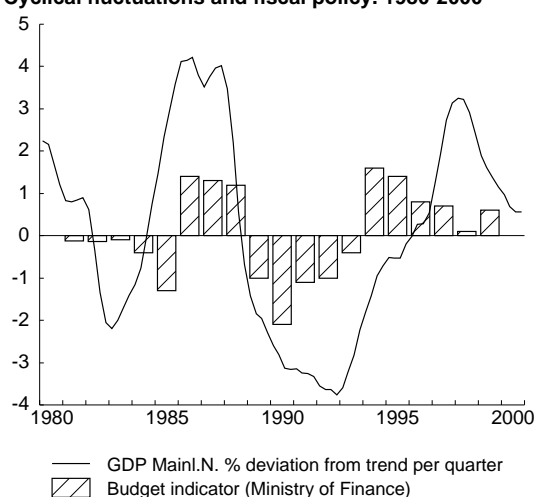
Cyclical fluctuations and fiscal policy

Over the past 20 years mainland GDP has shown an average annual growth of about 2.2 per cent. However, growth in the level of activity in the economy is not stable over time, but fluctuates around a more long-term average (trend growth). In periods of expansion actual growth is normally higher than trend growth, while the reverse is true in periods of contraction. It may be said that the economy is experiencing a boom when the level of activity is higher than the estimated trend path, while a recession is characterized by a level of activity that is lower than the trend path. Since the underlying trend in the level of activity cannot be directly observed, the delimitation of cyclical phases will always be of a tentative nature.

The figure below shows the percentage deviation from an estimated trend in seasonally adjusted and smoothed quarterly figures for mainland GDP. A rising series indicates periods of expansion and a falling series periods of contraction. The series is above the zero line during a boom and below it during a recession. The figure illustrates the substantial cyclical fluctuations in the mainland economy the last 20 years, with two pronounced periods of contraction and two pronounced periods of expansion. The periods 1984-1986 and 1993-1998 can be characterized as periods of expansion, while 1980-1983 and 1988-1992 can be characterized as periods of contraction.

The figure also shows developments in the Ministry of Finance's budget indicator, which indicates the change in the non-oil, cyclically adjusted government budget surplus net of interest payments as a percentage of mainland GDP. When the budget indicator is above the zero line, fiscal policy is described as contractionary, and when it is below the zero line it indicates an expansionary fiscal policy.

Cyclical fluctuations and fiscal policy. 1980-2000



Source: Statistics Norway and Ministry of Finance.

funding of hospitals and higher expenditure in connection with the relocation of the National Hospital. According to estimates for the accounts, underlying real spending growth in the government budget was about 2 per cent from 1998 to 1999. This is one percentage point higher than in the approved budget.

Some key concepts

General government net lending indicates the sector's claims on and indebtedness to households, enterprises and the foreign sector. The definition in the national accounts is:

Net lending = Gross saving – Gross fixed investment – Net expenditure on land – Net capital transfers

Net lending in the general government sector indicates the sector's budget balance, and emerges as the difference between total general government revenues and expenditure.

Net lending for general government in accrued values is the sum of net lending in the central and local government sector in accrued values. When calculating net lending for general government, it is important in this connection to adjust public sector accounts for the difference between book and accrued taxes, i.e. between taxes paid in a period and taxes that have been assessed, but not necessarily paid in the same period.

The non-oil, cyclically adjusted budget indicator net of interest payments shows changes in the surplus on the government budget excluding petroleum revenues and expenditure, cyclical conditions and factors that are assumed to have no effect on the level of activity in the economy.

The following is done by the Ministry of Finance to arrive at an estimate for how much of the change in the budget balance is due to cyclical conditions: For direct and indirect taxes, the isolated effect on the budget balance of a deviation in output growth from trend growth is calculated. Separate calculations are also made of how the budget is influenced by the deviation in new car registrations from the trend. Furthermore, payments of unemployment benefits are adjusted by starting with the deviation from a trend-estimated unemployment level. When unemployment is higher than this, the balance is adjusted for estimated additional expenditure on unemployment insurance.

The indicator for real underlying spending growth in the government budget is based on central government budget expenditure minus expenditure on petroleum activities, unemployment benefits and interest expenditure. In addition, adjustments are made for accounting factors that influence the comparability of budget figures for subsequent years.

The total surplus on the government budget and Government Petroleum Fund, including the return on the Petroleum Fund, is estimated at NOK 33.4 billion (more than NOK 20 billion lower than implied by the approved budget for 1999).

Government budget for 2000

The approved budget for 2000 shows an estimated total government budget surplus before allocations to the Government Petroleum Fund of NOK 71.8 billion, an increase of NOK 45.2 billion from the previous year. The non-oil deficit is estimated at NOK 13.3 billion. The central government's net cash flow from petroleum activities is estimated at NOK 85.1 billion,

based on an average oil price of NOK 125 a barrel this year, the same as for 1999. As a result of a projected rise in production, *revenues* from petroleum activities will expand by nearly NOK 30 billion. *Expenditure* on petroleum activities is projected to fall by about NOK 8 billion due to lower investment.

Underlying real spending growth in the approved government budget for 2000 is 2 per cent. Measured by the Ministry of Finance's non-oil, cyclically adjusted budget indicator net of interest payments, the plans prepares a cyclically neutral fiscal policy. The budget agreement between the Government and the Labour Party did not result in any changes in the tightness of the budget, but there was some reranking of priorities. In the agreement, the parties consent to raise indirect and direct tax revenues by NOK 1.4 billion, an amount that shall be used in its entirety for increasing the tax allowance for wages and salaries and an upward adjustment of the threshold for the surtax on higher incomes (which, according to the Government's original proposal, was to be under-adjusted). A substantial portion of real spending growth in the budget is linked to social security expenditure. Transfers to households, excluding unemployment benefits, are estimated to increase by NOK 10.6 billion. Expenditure on sick pay, disability and old-age pensions as well as expenditure on medicine and technical aids, etc. account for a high share of this increase.

Government Petroleum Fund

One of the purposes of the Government Petroleum Fund is to increase the transparency of the use of petroleum revenues through the government budget. This is reflected in the guidelines for accounting procedures. In accordance with these guidelines, the central government's net cash flow from petroleum activities is transferred in its entirety to the Petroleum Fund after first being recorded as income in the government budget. Interest and dividends on the Fund's capital are recorded as income directly in the Petroleum Fund, and are thus separated from the government budget. The Fund's expenditure consists of a transfer from the Fund to the government budget which shall cover the non-oil deficit. In addition, up to half of the central government's increase in lending to state banks may be covered by drawing on the Fund, but so far the authorities have not made use of this possibility. Norges Bank is responsible for the management of the Petroleum Fund. According to the guidelines for the management of the Petroleum Fund, 30-50 per cent of the Fund's capital shall be invested in equities or other equity instruments, while the remainder is invested in bonds. The entire capital of the Fund is invested in foreign securities.

Figures from Norges Bank show that the market value of the capital in the Government Petroleum Fund amounted to NOK 199.5 billion at end-September

Key figures for general government. 1995-1999

	1995	1996	1997*	1998*	1999*
Net lending					
General government, accrued values, NOK bn.	32.3	66.7	85.8	41.6	48.5
General government, book values, NOK bn.	22.9	51.5	83.1	53.2	55.9
Local government, book values, NOK bn.	-0.6	-1.0	-1.8	-6.7	-6.0
General government, accrued values, per cent of GDP	3.5	6.6	7.9	3.8	4.1
The size of general government					
General government expenditure, per cent of GDP	47.7	45.5	44.2	46.5	45.7
General government consumption, per cent of GDP	21.0	20.3	20.0	21.5	21.1
Man-hours worked, per cent of total employment	26.8	27.0	26.7	26.4	26.7
Taxes, recorded, per cent of GDP	41.5	41.5	42.6	43.5	41.9

* Preliminary figures.

Sources: Statistics Norway and Ministry of Finance.

1999. Of this amount, NOK 80.3 billion was invested in equities and NOK 119.3 billion was invested in bonds and other interest-bearing securities. In 1999, an estimated NOK 26.6 billion was allocated to the Government Petroleum Fund, in addition to interest and dividend income amounting to NOK 6.8 billion. According to the National Budget for 2000, the accumulated capital in the Fund, measured at market value, is estimated at NOK 209 billion at end-1999.

The approved budget for this year entails a net transfer of NOK 71.8 billion to the Government Petroleum Fund. When this amount, estimated interest income of NOK 7.4 billion along with foreign exchange and securities gains are added to the Fund, the market value of the total capital in the Government Petroleum Fund is estimated at about NOK 294 billion at the end of 2000.

General government

According to preliminary estimates, the general government sector recorded a surplus of NOK 48.5 billion in 1999, measured as *accrued* net lending, while the surplus in 1998 came to NOK 41.6 billion. Higher oil revenues contributed to the rise in the general government surplus. *Recorded* net lending for the central government sector is estimated at NOK 55.9 billion in 1999, an improvement of NOK 2.7 billion from the previous year. The local government sector's *recorded* net borrowing is estimated at NOK 6.0 billion, i.e. a reduction in the deficit of NOK 0.7 billion from the previous year.

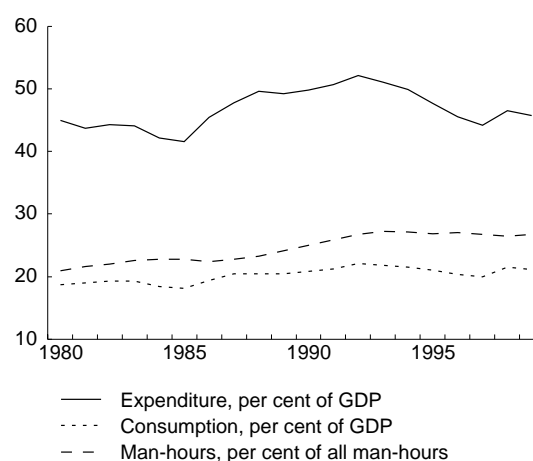
According to preliminary estimates, general government consumption, measured at constant prices, rose by 2.5 per cent from 1998 to 1999, approximately on a par with average mainland GDP growth the last 25 years, but considerably higher than growth in 1998. Total general government expenditure, including expenditure on investment, increased in nominal terms by 5.6 per cent in 1999. General government expenditure thereby came to 45.7 per cent of GDP in 1999, against 46.5 per cent in 1998.

Government budget's real underlying spending growth and growth in mainland GDP. 1984 - 1999
Percentage change from previous year



Source: Statistics Norway and Ministry of Finance.

Expenditure, consumption and man-hours worked in general government sector. 1980-1999



Source: Statistics Norway.

Local government revenues and expenditure by type. Preliminary figures 1999. NOK bn.

	1997*	1998*	1999*	Percentage change 97/98	Percentage change 98/99
A. Current revenues	168 803	178 155	188 640	5.5	5.9
1. Property income, interest	3 937 ²	4 291	4 800	9.0	11.9
2. Tax revenues	85 185	88 640	90 066	4.1	1.6
3. Other current transfers	76 332	81 746	89 656	7.1	9.7
Transfers within general government	73 918	79 103	86 856	7.0	9.8
Other transfers	2 414	2 643	2 800	9.5	5.9
4. Operating surplus ¹	3 349	3 478	4 118	3.9	18.4
C. Total revenues(=A)	168 803	178 155	188 640	5.5	5.9
D. Current expenditure	156 397	170 561	181 044	9.1	6.1
1. Property expenditure, interest	4 352	4 829	5 800	11.0	20.1
2. Transfers to private sector	19 412	19 958	20 550	2.8	3.0
3. Other current transfers	780	1 261	1 000	61.7	-20.7
Transfers within general government	1 634	1 515	1 500	-7.3	-1.0
Transfers to municipal enterprises	-854 ³	-254	-500	-70.3	96.9
4. Local government consumption	131 853	144 513	153 694	9.6	6.4
Compensation of employees	105 907	116 541	123 900	10.0	6.3
Product inputs	37 884	40 534	42 550	7.0	5.0
Depreciation	8 120	8 867	9 676	9.2	9.1
Product purchases for households	3 231	3 449	3 650	6.7	5.8
Operating surplus ¹	3 349	3 478	4 118	3.9	18.4
Fees (-)	-26 638	-28 356	-30 200	6.4	6.5
E. Saving (A-D)	12 406	7 594	7 596	-38.8	0.0
F. Capital expenditure	14 215	14 312	13 604	0.7	-4.9
1. Net fixed investment	14 595	14 670	14 224	0.5	-3.0
Gros fixed investment	22 715	23 537	23 900	3.6	1.5
Depreciation (-)	-8 120	-8 867	-9 676	9.2	9.1
2. Net purchases of land	-467	-442	-700	-5.4	58.4
3. Capital transfers to business activities	87	84	80	-3.4	-4.8
G. Total expenditure (D+F)	170 612	184 873	194 648	8.4	5.3
H. Net lending (C-G)	-1 809 ³	-6 718	-6 008	271.4	-10.6
2. Surplus before loan transactions	-1 809 ³	-6 718	-6 008	271.4	-10.6

1 Operating surplus in local government water supply, sewer system and refuse disposal services.

2 Structural changes in power station activities have resulted in higher interest income.

3 Ørsta municipality's sale of Tussa power station affects transfers to municipal business activities and the surplus before loan transactions.

Source: Statistics Norway.

General government gross fixed investment, measured at constant prices, fell by 4.5 per cent. Central government gross fixed investment declined in volume by 9.3 per cent, while investment in the local government sector, measured at constant prices, fell by about 1 per cent. The local government sector recorded a decline in investment in the education sector, water supply, sewer system and refuse disposal sector and in other services, while investment in the health and care sector pushed up the figure.

In the period 1980-1999, the number of persons employed in the public sector rose by 239 100, corresponding to 184 800 new man-years. In the local government sector, employment increased by about 219 800, while the increase in the central government sector came to 19 300. Whereas employment in the public sector accounted for 23.7 per cent of total employment in 1980, the share reached 28.2 per cent in 1990 and 30.8 per cent in 1999. The public sector's

share of number of man-hours worked rose from 22.3 per cent in 1980 to 26.7 per cent in 1990, while the share last year came to 28.7 per cent. The number of man-hours worked in general government rose by 1.4 per cent in 1999.

Central government

According to preliminary estimates, central government consumption, measured at constant prices, rose by 1.6 per cent from 1998 to 1999. Military consumption increased by 0.6 per cent, while civilian consumption expanded by 1.9 per cent. The consumption of civilian, collective services and the consumption of education services showed the sharpest rise, increasing in volume by 2.9 per cent and 2.2 per cent, respectively. The consumption of health services, social security and welfare services remained at approximately the same level as in the previous year, measured at constant prices.

Product inputs in central government rose by 2.1 per cent, measured at constant prices, from 1998 to 1999. In the civilian central government sector, product inputs increased by 3.3 per cent, while in the defence sector there was a slight decline.

Gross fixed investment was reduced in volume by 9.3 per cent from 1998 to 1999. The decline is spread fairly equally between defence and the civilian central government sector. Developments in investment in other central government services contributed to reducing the figures for civilian central government. This is due to the Norwegian State Railway's purchase of the railway stretch between Eidsvoll-Gardermoen in the first half of 1998, which contributed to boosting the level of gross fixed investment in 1998. Investment in the health and care sector rose in volume by 17.4 per cent, primarily as a result of the construction of the new National Hospital, while investment in the education sector advanced by 14.7 per cent.

Local government

Preliminary estimates for the local government sector indicate approximately the same developments in activity in 1999 as in 1998. In order to measure the change in activity in the local government sector, employment (measured in man-hours), product inputs (measured at constant prices) and gross fixed investment (measured at constant prices) can be weighted with the same cost shares for the three components from the previous year as weights. Measured in this way, preliminary figures for local government show a growth in activity of 1.8 per cent in 1999.

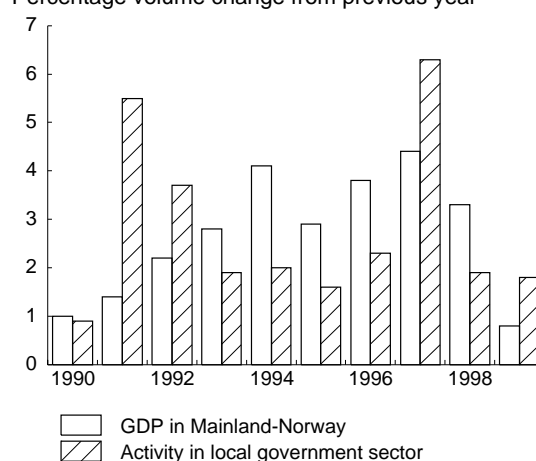
A separate figure shows developments in activity and consumption in local government compared with general cyclical developments in Norway, specified as growth in mainland GDP. In 1991-1992, activity growth in local government was higher than the growth in mainland GDP, while it was lower than mainland GDP growth in the years 1993-1996 and in 1998. The sharp growth in local government activity in 1997 is due to strong volume growth in investment and product inputs, which must be seen in connection with the implementation of the school reform.

Measured at current prices, compensation of employees in local government rose by 6.5 per cent from 1998 to 1999, primarily reflecting a 1.6 per cent rise in the number of man-hours worked, equivalent to about 6600 new man-years, and growth of 4.8 per cent in wage costs per man hour.

The number of persons employed in local government rose by 1.6 per cent last year. The strongest employment growth took place in the health and care sector and in the education sector, where the number of man-hours worked grew by 1.8 per cent and 1.7 per cent, respectively. The number of man-hours worked

Activity in local government sector and GDP in Mainland-Norway, 1990-1999

Percentage volume change from previous year



Source: Statistics Norway.

in other local government services rose by 0.8 per cent.

Product inputs in the local government sector increased by 4.0 per cent in 1999, measured at constant prices. The strongest growth was recorded by the health and care sector, showing a rise in volume of 5.0 per cent.

According to preliminary estimates, local government gross fixed investment fell by about 1 per cent in 1999, measured at constant prices. Investment in the health and care sector showed a sharp rise as a result of the implementation of the Action Plan for the Care of the Elderly. In the education sector, investment declined. Investment in plants for the production of water, sewage and refuse disposal services and investment in other services was reduced.

The local government sector's recorded net borrowing, according to preliminary estimates, was reduced from NOK 6.7 billion in 1998 to NOK 6.0 billion in 1999. Local government expenditure rose in nominal terms by 5.0 per cent, while revenues increased by 5.5 per cent.

Monetary policy and financial developments

Monetary and exchange rate policy

The objective of Norway's monetary and exchange rate policy is set out in the Government's regulation on the exchange rate system for the Norwegian krone of 6 May 1994. This states that Norges Bank's "conduct of monetary policy shall be oriented towards maintaining a stable krone exchange rate against European currencies, based on the range of the exchange rate maintained since the krone was floated on 10 December 1992. In the event of significant changes in the exchange rate, monetary policy instruments shall be oriented with a view to returning the

Interest rate and exchange rate movements in the 1990s

The objective of monetary policy throughout the 1990s was a stable krone exchange against European currencies. The operational focus shifted, however, through the period. Up to end-1992 the aim of monetary policy was to maintain a fixed rate of exchange between the Norwegian krone and the ECU. Following the turbulence in European foreign exchange markets in 1992, Norway shifted to a floating exchange rate regime with an exchange rate target. In 1999, the focus for the formulation of monetary policy then shifted from current exchange rate movements to changes in variables of importance to exchange rate stability in the slightly longer run.

Measured against the ECU/euro, the krone on an annual basis has remained within a fluctuation range of plus/minus five per cent around a "central rate" of NOK 8.30 per currency unit. The krone depreciated by 3.6 per cent against the ECU from 1991 to 1999 and by less than two per cent from 1991 to January 2000. The krone depreciated considerably, however, from 1997 to 1998, 5.5 per cent on an annual basis. It is natural to view this development in connection with growing cost pressures in the Norwegian economy and the sizeable fall in oil prices (see figure). Oil prices picked up again from 1998 to 1999, and the krone appreciated.

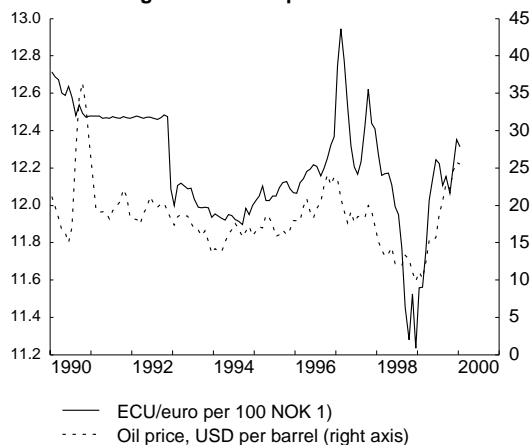
If the market considers it credible that Norwegian monetary policy will result in a stable exchange rate against the ECU/euro, the interest rate differential will also be marginal. With the exception of 1992, the interest rate differential between NOK and the ECU/euro was less than one percentage point on an annual basis (plus-minus) up to end-1997. In the second half of 1998, however, the interest rate differential widened to about 4 percentage points, which resulted in an interest rate differential of nearly 1.5 percentage points as an average for the year. In 1999, Norwegian three-month rates were almost 3.5 percentage points higher than the corresponding euro rate on average. At the beginning of 2000, the interest rate differential was still more than 1.5 percentage points.

Monetary policy influences cyclical developments through both interest rate movements and exchange rate changes. With an exchange rate target for monetary policy, interest rates must normally be raised when there are depreciation pressures on the krone and reduced when there are appreciation pressures. Increases in interest rates have a contractionary effect, while a weakening of the exchange rate has an expansionary impact. It is therefore of interest to examine the total effect of developments in the exchange rate and interest rates. This can be done, for example, by weighting the interest rate change and exchange rate change with coefficients that indicate the effect of changes in the two components on the variables on which we wish to focus, for example the level of activity in the mainland economy. Such coefficients can be calculated through simulations on a macroeconomic model. Estimated in this way, the ratio between the coefficients obviously depends on the properties of the model used, and the time horizon applied. The characterization of the total effect of interest and exchange rate changes that follows from the indicator chosen must therefore be considered tentative.

According to calculations based on Statistics Norway's KVARTS model, a sustained interest rate increase of one percentage point will result in a decline in mainland GDP of 0.43 per cent as an average over two years in relation to the level along a reference path. Similarly, an appreciation of one per cent will reduce the GDP level by 0.17 per cent. If the actual interest rate and exchange rate changes through the 1990s are weighted with these coefficients, we find that changes in these two variables only generated relatively modest impulses to cyclical developments in the 1990s, with the exception of 1993 when, as a result of the sharp fall in interest rates, monetary policy had a clearly expansionary effect. On the basis of the coefficients

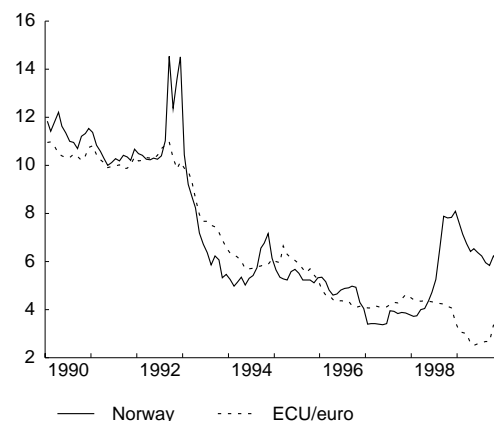
used, the combined effect of interest rate and exchange rate changes can be characterized as (mildly) expansionary in 1991, 1994, 1996 and 1997. Moreover, it can be characterized as mildly contractionary in 1992, 1995, 1998 and 1999.

NOK exchange rate and oil price



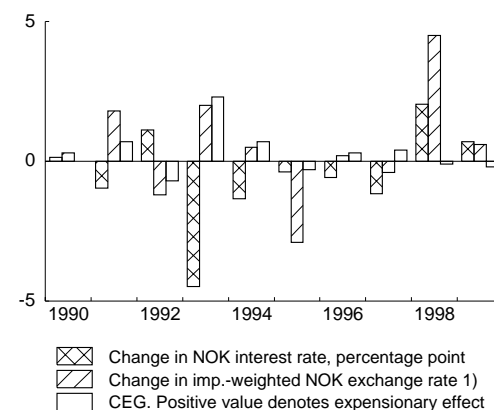
1) Lower value denotes weaker NOK.
Source: Norges Bank.

3-month Euro-rates, 1990-1999
Monthly figures. Per cent



Source: Norges Bank.

Change in interest and exchange rate and an indicator of their combined effect on mainland GDP(CEG)



1) Per cent. Positive figures denote depreciation.
Source: Statistics Norway.

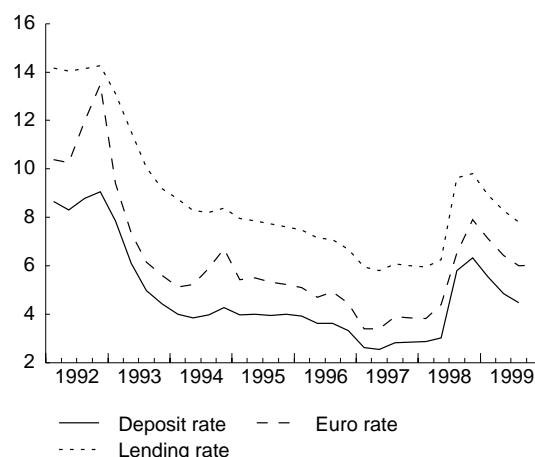
exchange rate over time to its initial range". The regulation does not specify an exact central rate or fluctuation margins for monetary management; nor does it specify the currencies against which the krone shall remain stable. Between October 1990 and December 1992 the Norwegian krone was pegged to the EU's currency unit, the ECU, and up to 31 December 1998 Norges Bank continued to use the exchange rate between the Norwegian krone and the ECU as an indicator of the krone's value against European currencies. Between 10 December 1992 and up to the beginning of May 1994, which can be considered the regulation's reference period, one ECU was generally worth between NOK 8.25 and 8.40, with an average of NOK 8.33 per ECU. On 31 December 1998 the ECU was replaced by the euro with a conversion rate of 1:1 on the changeover date, and Norges Bank has now allowed the euro to replace the ECU as the reference currency for the conduct of monetary policy.

Over the last few years the exchange rate between the Norwegian krone and other European currencies has fluctuated more than earlier. Measured against the ECU, the Norwegian krone reached its strongest level at the beginning of 1997, when its value was about 8 per cent higher than the average in the Exchange Rate Regulation's reference period. The krone recorded its weakest level in the last half of 1998, following the depreciation of the krone from October 1997 to August 1998. The value of the krone was then about 7 per cent less than the middle interval of what is considered the initial range, even though Norges Bank had increased its key rates by a total of 4.5 percentage points.

In 1999, the focus for the formulation of monetary policy shifted from current exchange rate movements to developments in variables considered of importance to exchange rate stability in the slightly longer run. In this context, Norges Bank emphasizes that there are two fundamental preconditions for exchange rate stability. First, price and cost inflation must be reduced to the level aimed at by the euro area. Second, interest rates must not be set at such a high level that this contributes to a downturn that undermines confidence in the krone.

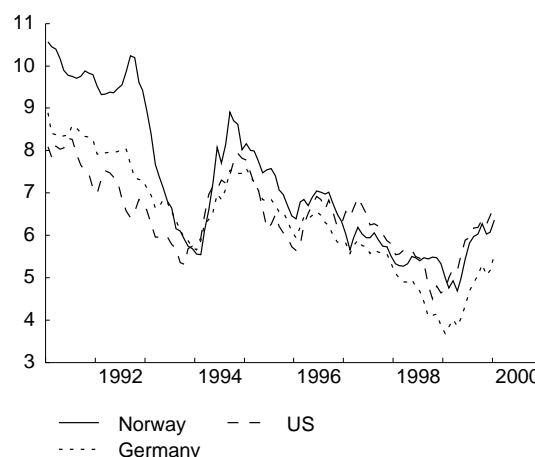
Norges Bank reduced its key rates by 0.5 percentage point with effect from 28 January last year. Following this change, Norges Bank's sight deposit and overnight lending rates were 7.5 and 9.5 per cent, respectively. The krone had appreciated slightly against the euro just before the reduction in interest rates, but was still considerably weaker than what is perceived as the initial range. Norges Bank cited the appreciation of the krone and the prospect of reduced pressures in the economy as the reason for the reduction in rates.

Average deposit and lending rate in private financial institutions and 3 month NOK euro rate. 1990 - 1999



Source: Norges Bank.

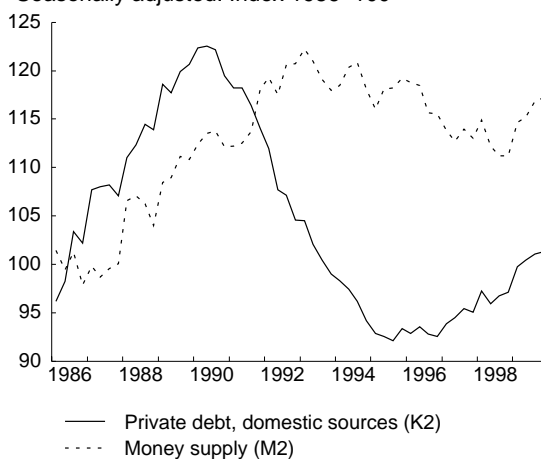
Yield on government bonds with a 10-year residual maturity



Source: Norges Bank.

Money supply and private debt. 1986-1999

Per cent of mainland GDP
Seasonally adjusted. Index 1986=100

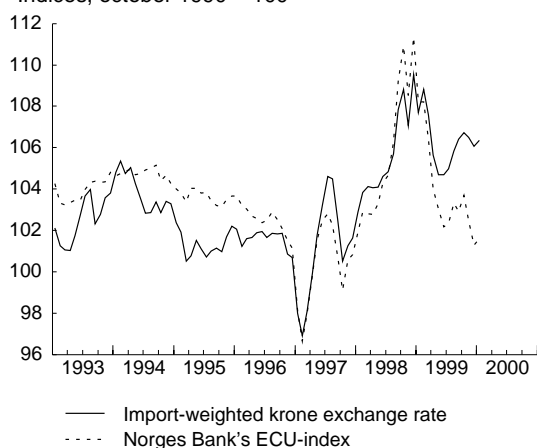


Sources: Statistics Norway and Central Bank of Norway.

According to the regulation on monetary policy, Norges Bank shall stabilize the krone against "European currencies". Up to 31 December 1998 the operational objective was the EU's European Currency Unit, the ECU, and thereafter the euro. In 1998, the countries that are now participating in EMU accounted for 38 per cent of Norway's foreign trade in traditional goods (i.e. imports and exports excluding oil and gas, ships and platforms). By way of comparison, Norway's imports from countries whose currencies formed the basis for calculating the ECU (EU12) accounted for 50 per cent of total traditional merchandise imports, while the export share for the same countries was 54 per cent. The euro is thus to an even lesser extent than the ECU representative of the geographical dimension of Norway's foreign trade. In order to illustrate the importance of exchange rate changes to the Norwegian economy, an ECU/euro index should be supplemented by alternative exchange rate indicators which to a greater extent reflect the pattern of trade. Examples of such indices are the import-weighted exchange rate, the export-weighted exchange rate, the trade-weighted exchange rate and manufacturing industry's effective krone exchange rate. The figure shows changes in the ECU/euro exchange rate and import-weighted krone exchange rate where the weights in the latter are calculated on the basis of the composition of imports of traditional goods.

In 1997 and the first half of 1998, there was little deviation between the ECU exchange rate and the import-weighted exchange rate. During 1998, however, the Norwegian krone depreciated by about 2.6 percentage points more measured against the ECU than against the import-weighted krone exchange rate, and in 1999 the krone appreciated by 5.8 percentage points more measured against the euro than against the import-weighted krone exchange rate. This was because both the US dollar and Swedish krona depreciated against the ECU in 1998 and appreciated against the euro in 1999. Both the US and Sweden are important trading partners for Norway. In December 1999, the value of the Norwegian krone was about 9.0 per cent higher than in the same month one year earlier measured against the euro and 3.2 per cent higher measured by the import-weighted krone exchange rate.

Development in import-weighted krone exchange rate and Norges Bank's ECU-index. 1992 - 1999
Indices, October 1990 = 100



Source: Norges Bank and Statistics Norway.

Following this first change in interest rates by Norges Bank, the Norwegian money market rate was still 4 percentage points higher than the EU rate. The krone appreciated through the first half of the year, and after the first quarter was approximately back to its initial range. In the first half of the year Norges Bank lowered its key rates on four occasions, each time by 0.5 percentage point. The reduction in key rates in September was the only time Norges Bank changed its rates in the second half of the year, again by 0.5 percentage point.

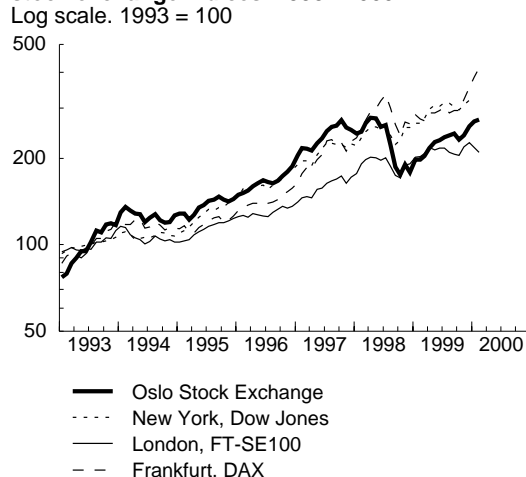
The Norwegian money market rate fell less than key rates in 1999. In January, the Norwegian rate was about 7.6 per cent, while in December it had been reduced to 5.8 per cent. In the first four months of 1999, the money market rate was lower than Norges Bank's deposit rate, which is compatible with market expectations of reductions in Norges Bank's key rates. Between May and September the money market rate generally shadowed Norges Bank's deposit rate, while the money market rate was higher than Norges Bank's deposit rate in the last quarter of 1999. For the year as a whole, the money market rate therefore generally shadowed Norges Bank's deposit rate.

The interest rate differential between Norway and the EU narrowed last year from about 4.5 percentage points in January to 2.5 percentage points in December. This was primarily due to the interest rate decline in Norway, but also to some extent to the increase in the EU rate from 3.1 per cent in January to 3.4 per cent in December.

Financial developments

Since 1993 the yield on Norwegian government bonds has generally shadowed the yield on corresponding German and US bonds. In connection with

Oslo Stock Exchange's all-share index and foreign stock exchange indices. 1993 - 2000
Log scale. 1993 = 100



Source: Norges Bank.

the depreciation pressures on the Norwegian krone in 1998 the yield on Norwegian government bonds was slightly higher than the yield on German and US bonds, and the yield spread was greatest for bonds with short maturities. Through 1999, the yield on Norwegian government bonds with a residual maturity of 10 years was up to 0.5 percentage point lower than corresponding US bonds, but approximately one percentage point higher than the yield on corresponding German bonds. Bond yields rose through 1999, and the yield on Norwegian government bonds with a residual maturity of 10 years increased by about one percentage point. Yields on corresponding US and German bonds rose by 1.75 and 1.5 percentage points, respectively. The yield on both Norwegian and foreign bonds continued to rise in January this year.

Financial institutions' average lending and deposit rates have over the past few years generally shadowed changes in the money market rate. At the end of the third quarter of 1999, banks' average lending rate stood at 7.8 per cent, 2.0 percentage points below the level at the beginning of the first quarter, but also nearly 2 percentage points higher than the level in the first half of 1998. The average deposit rate fell in the same period from 6.3 to 4.5 per cent. The spread between financial institutions' deposit and lending rates has thus narrowed from 3.5 to 3.3 percentage points.

Between 1994 and end-1997, the credit supply (C2) increased, and at the end of 1997 private and municipal domestic debt was about 10 per cent higher than at the same time one year earlier. Credit growth has since slowed, and at the end of December 1999 private and municipal domestic debt was 8.1 per cent higher than 12 months earlier. Measured as a share of mainland GDP, private and municipal gross debt continued to rise, although the share is still more than 20 per cent lower than at the beginning of the 1990s.

The all-share index of the Oslo Stock Exchange advanced by 45.5 per cent in 1999, after plummeting by 26.7 per cent the previous year. At the turn of the year, however, the all-share index was still 4.4 per cent below the historical peak of May 1998, when the all-share index reached a value of more than 1400. The return on the SME list was even higher than on the main list. On average, investments in shares in small and medium-sized enterprises provided a return of 157.7 per cent last year, after the SME index doubled in value from the beginning of November to the end of December.

Welfare effects of multinational trade agreements

Taran Fæhn and Erling Holmøy

The article analyzes the welfare effects of three trade agreements signed by Norway in the 1990s: The EEA Agreement, the WTO Agreement, and an EFTA agreement that limit subsidies to fisheries. By applying a relatively detailed dynamic equilibrium model, we find a modest welfare gain as a result of the trade liberalizing reforms. Measured by the increase in private consumption and leisure, we estimate the gain at 0.8 per cent.

1. Introduction

During the last decade Norway has signed multinational agreements that involve reciprocal obligations concerning trade liberalization. The agreement resulting from the Uruguay Round (World Trade Organization Agreement), which came into force on 1 January 1995, and the EEA Agreement, which was implemented on 1 January 1994, are the two most comprehensive. The EEA agreement is dynamic in that new regulations carried by the EU commission also applies to Norway. In addition, an agreement between the EFTA countries on fisheries came into force from the beginning of 1994. The agreements involve substantial changes in the conditions for Norwegian industries and consumers over a short period. In Fæhn and Holmøy (2000) we focus on how and to what extent these changes can influence our national welfare in the longer term. The purpose of the present article is to communicate the main findings and the methodology in that paper in a less technical language to a broader public.

The conventional argument for not limiting trade is that of *comparative advantage*; under free trade each country can specialize in producing those goods and services they can supply most efficiently in relative terms. By exporting these products, each country can finance imports of goods that other countries produce most efficiently. Free trade is therefore of mutual benefit. Protective measures such as tariffs, import quotas, and subsidies to firms that compete with foreign producers create wedges between world market prices and domestic prices. The result is that scarce resources will be reallocated from industries

with a comparative advantage to industries with lower efficiency. The consequent reduction in efficiency in the economy's use of resources represents a deadweight loss in potential welfare for the country's inhabitants.

This classical free trade argument is based on stylized assumptions including, among other things, perfect competition. This means that consumers and producers face the same prices and that these prices perfectly reflect the marginal costs of higher production and the marginal utility of higher consumption of all goods and services. Taxes, subsidies and monopolistic pricing result in a distortion of relative prices so that producers and consumers do not face the same prices. When the economy is characterized by arbitrary price distortions, resources will not have the same marginal return for all uses. In this situation, there will be welfare effects from any policy, including trade liberalization, which influence the allocation of resources. Trade liberalization will increase welfare *if* the resources are reallocated in such a way that production increases (falls) in markets where the wedge between the consumer price and producer price is greatest (smallest). Little more can be said about the welfare effect on the basis of theoretical analysis alone. Such insight is of limited practical value when evaluating specific changes in policy. The existence of arbitrary price distortions in the economy therefore provides an argument for using numerical models when studying the effects of policy changes.

Theoretical analyses are nevertheless important for identifying and clarifying how and why certain policy effects lead to changes in welfare. In the 1980's, much theoretical literature focused on the effects of trade policy when the economy is not characterized by perfect competition. These theories emphasized, *inter alia*, the welfare implications associated with product differentiation, scale economies and imperfect competition¹. If trade policy reforms increase the number of

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1 See e.g. Helpman and Krugman (1985) for an introduction to this literature.

available product varieties, welfare will improve. To the extent that production is concentrated into fewer product lines, the policy may involve better exploitation of scale economies. Moreover, easier access to foreign products may result in increased competition in domestic markets, thereby improving the efficiency of the economy's use of resources.

If many countries liberalize foreign trade simultaneously, various types of efficiency improvements may lead to a fall in costs and prices. If a country's import prices decline in relation to export prices, that country records a terms-of-trade improvement. This results in real income growth, and the welfare of its inhabitants may increase.

Theoretical analyses of trade policy typically study one or just a few effects within very stylized models. Our attempt to quantify the potential welfare gain for Norway need to take into account *all* effects that are identified in the theoretical literature provided they are relevant to the Norwegian economy with its particular features. Applied general equilibrium (AGE) models are suitable tools for such analyses. This article presents the results of an analysis of the trade agreements, based on an AGE model developed by Statistics Norway, MSG-6. The model provides a relatively detailed and, at the same time, dynamic description of how prices and volumes in markets depend on consumers' preferences, firms' production technology, competitive conditions in markets, international market conditions, government use of resources and other policy instruments, including trade and industry policies.

In section 2 we provide an overview of the changes in trade policy resulting from the agreements. We concentrate on quantifying the agreement points that are most likely to result in changes for Norway. In section 3 we discuss how we calculate welfare effects and provide a brief description of the model MSG-6. We then explain some key macroeconomic adjustments as a result of the policy changes and the factors that determine the size of the welfare effect of the reform. In section 4 we draw some conclusions. We refer to Fæhn and Holmøy (2000) for a more detailed description of the analysis.

2. Interpreting the content of the trade agreements

Reduction of Norwegian import protection

According to the WTO Agreement, tariffs on manufactured goods shall be reduced by nearly 40 per cent. Since tariffs have already been eliminated on imports from a number of countries, including EU and EFTA countries, this will only have consequences for less

Table 1. Long-run protection rates as a result of non-tariff barriers, measured as percentage increase in import prices before and after trade reforms

Commodity group	Reference path	Reform path
Agricultural products	40	36
Meat and dairy products	66	54
Other processed food	33	34
Beverages and tobacco	42	26
Textiles and clothing	1	0
Chemical and mineral products	7	0
Industrial chemicals	3	0
Hardware and machinery	4	0
Oil platforms	3	0

than 20 per cent of Norwegian imports. The initial rates were already low (unweighted average of 3.6 per cent). Only on textile and clothing imports the WTO Agreement will have a certain impact. In this case the initial unconcessional tariff rates averaged 17 per cent.

In addition, the new trade agreements prohibit *non-tariff barriers (NTBs)*. The agreements go a long way in specifying the prohibitions and pave the way for enforcing the rules. NTBs are more subtle forms of trade barriers that are more difficult to document and quantify. NTBs contribute to increasing import prices either through higher costs or margins for Norwegian imports or indirectly by limiting the volume of imports. Shortages, which then arise, normally result in higher prices, depending on supply and demand conditions. In table 2, NTBs are quantified by means of *protection rates*, which measure the relative increase in import prices as a result of NTBs. In the model-based calculations, we have taken into account that the agreements are implemented over time. The table shows the rates in pre-reform and post-reform long-run equilibria².

A common NTB measure has been to establish national product and packaging standards, which imply additional costs of marketing the products in Norway. With the EEA and WTO agreements these standards have generally been harmonized between countries. Previous protection effects are thus eliminated for pharmaceutical products (in the commodity group *chemical and mineral products*), fertilizer (in *industrial chemicals*), as well as machinery and electrical equipment (in *hardware and machinery*). Technical trade barriers still remain for food, beverages and tobacco.

NTBs in the form of trade quotas have been prohibited by the WTO Agreement. The prohibition applies to export quota agreements, which previously applied to some imported textile goods from low-cost countries. For some of the quotas prevailing before the Uruguay Round, the price effect is estimated to be

² *Long-run equilibria* in our analysis mean that we are so far forward in time that prices and volumes have found their range and no longer vary over time in response to the exogenous conditions that are assumed.

Main features of MSG-6

MSG-6 includes a number of mechanisms, which individually have been given considerable emphasis in the theoretical literature on welfare effects of trade policy. The model allows for classical specialization gains based on comparative advantage by providing a relatively disaggregate description of flows of goods and services in the Norwegian economy. The model specifies 60 commodity and service groups, of which 9 are non-competing import goods and 12 are government-produced goods. Products and factors can be moved at no cost between various uses.

Consumers are assumed to maximize the present value of the utility of leisure and consumer goods over an infinite horizon. Firms maximize the present after-tax value of the cash flow to owners. The model provides a fairly broad representation of policy instruments, such as indirect taxes and subsidies. In the choice of classification of commodities and industries, particular emphasis has been placed on homogeneity within groups when comes to trade policy.

The model is dynamic. The accumulation of real capital and financial wealth implies that the economy's resource constraints change over time. Forward looking dynamics is due to the assumption that consumers and firms make decisions based on perfect, i.e. model consistent, expectations concerning prices and income in the future. The economy obeys an intertemporal budget constraint, specified by the requirement that the net foreign debt shall not explode. Within this budget constraint, households can trade in time by borrowing and saving in international financial markets where the interest rate is exogenous.

The utility function of the representative consumer is parameterized so that the model's labor supply function and demand functions for consumer goods shall be in line with the estimates from microeconomic studies. In the model, most goods are considered composites of imperfectly substitutable imported and domestic varieties. The Norwegian market share is reduced when the Norwegian price increases relative to the corresponding import price, which is equal to the exogenous world market price, including transport costs and other penetration costs caused by trade policy. Some relatively unprocessed goods, on the other hand, are assumed to be homogenous products. The prices of such tradables are equal to the exogenous world prices of equivalent imported goods.

In MSG-6, the production of most goods and services changes both through changes at the firm level and through endogenous entry or exit of firms. Each firm produces its own product variety that is a close but imperfect substitute for varieties produced by other firms in the same industry. The entry/exit of firms thereby gives rise to variations in the product range domestically. As pointed out in the trade theory developed in the 1980s, both producers and consumers benefit as a result of increased product variety per se. The model therefore captures what is often referred to as love-of-variety effects.

In keeping with empirical studies, the model takes into account that there are productivity and size differentials between firms within the same industry. In most industries the firms' product function is characterized by decreasing returns to scale, at the same time that production in itself requires a fixed cost. Variations in the number of firms will thus result in changes in total fixed costs and thereby potential rationalization effects on aggregate welfare. The substitutable production factors consist of labor, three types of real capital and five groups of intermediate goods.

In most industries the firms endogenously allocate their output between the domestic and the foreign market. This entails rising marginal costs for changing the composition of these deliveries. On the export market, Norwegian firms are assumed to face exogenously determined world market prices. This means that MSG-6 calculations do not produce endogenous terms-of-trade gains for individual goods by varying export volumes. On the domestic market, there are varying degrees of monopolistic competition between firms within the same industry, and firms make a (modest) monopoly profit here. This market imperfection contributes to two types of price distortions in the economy. First, the mark-up in prices that is due to monopoly power results in a relative use of resources in these industries that is too low. Second, the monopoly profit contributes to increasing the wedge between the private and social return to employment, which may result in suboptimal employment. It should be emphasized, however, that price distortions that are created by monopolistic pricing are small in the model compared with the distortions that are created by different taxes and subsidies.

on a par with that of tariffs, and come in addition to these (see Melchior (1993)). For *textiles and clothing* as a whole, however, the protection rate is small. The prohibition of quantitative trade restrictions also applies to agricultural products. Quota-type arrangements for imports largely applied within the commodity groups *agricultural products* and *meat and dairy products*. The protection rates that applied are derived from the size of the quotas, and vary over time depending on supply and demand conditions. With the WTO prohibition, quota arrangements have been replaced by tariffs. However, the rates for the most important products are set at prohibitive levels.

The measures therefore function much like quantitative restrictions. Certain minimum import requirements increase import volumes somewhat as a result of the reform, implying a slight decline in protection rates for *agricultural products* and *meat and dairy products*. This is achieved in part by setting lower tariffs on minor products in the Norwegian production and in part through lower tariffs on imports from the poorest developing countries.

The WTO Agreement also prohibits variable import levies, an NTB instrument that previously protected many products in the group *other processed food*.

Variable import levies were imposed on imports to the extent the good contained intermediate goods that competed with Norwegian agricultural products. These have now been replaced by fixed tariffs, and with the EEA Agreement's tariff reductions the level of protection has been reduced for many processed food products. The fact that the protection rate for *other processed food* nevertheless increases as a result of the agreements is due to the increased protection of flour. Formerly quantitative barriers on grains have been replaced by tariff rates of more than 300 per cent, a fact that has increased the costs and prices of sheltered flour production substantially.

There is reason to maintain that producers of cement (in the group *chemical and mineral products*) and fertilizer (in *industrial chemicals*) were previously sheltered against competition in the Norwegian market because collusive market sharing was not effectively prevented. According to the EEA Agreement, the EU's competition rules apply to Norwegian firms. The rules call for an *effective* prohibition of collusion and mergers that hamper international competition, as was demonstrated in 1995 when the EU Commission/EFTA's Surveillance Authority imposed substantial fines for the tacit collusion of European cement producers, including the Norwegian company Aker Norcem. The EEA Agreement also prohibits state-owned import monopolies. This has consequences for the level of protection of alcoholic beverages and pharmaceutical products. Public procurement schemes that favor domestic enterprises have been prohibited. Such protection has thereby been eliminated for deliveries of engineering products to government agencies (such as the Norwegian State Railways, power stations, Telenor and the Directorate of Public Roads), and for deliveries of oil platforms and modules to the large oil companies.

Reductions in subsidies

The role of subsidies in distorting competition has been in focus in recent years' international negotiations, with the result that several types have been prohibited. The WTO Agreement contains detailed rules on subsidies to *agriculture*, with many prohibitions. Many exemptions, however, make it possible, according to Skjeflo et al. (1994), to maintain the Norwegian subsidy level by rechanneling and redefining the support. We assume this to be the case and keep the subsidy rate of 26.4 per cent from 1992 unchanged³. About 40 per cent of the subsidy amount for *fishing* in 1992 stemmed from arrangements that have been prohibited according to the EFTA agreement on fisheries. We have reduced the subsidy rate, which was 7.2 per cent in 1992, by the same extent. Finally, subsidies for ordering new ships from the ship-

building industry will be removed with effect from the year 2001. The subsidy rate for *shipbuilding* was 6.2 per cent in 1992. We have not found that other subsidy regulations in the EEA and WTO agreements will limit Norwegian practices.

Changes in foreign prices

As a result of the EEA Agreement, protection rates in the EU for Norwegian fish are about 2 percentage points lower, thus raising Norwegian export prices⁴. The level of prices in Europe shows little change as a result of the EEA Agreement inasmuch as the EFTA countries' party to this agreement is relatively small. On the other hand, the implementation of the WTO Agreement in all member states has a potential for changing price levels in trading partner countries. We have based our estimates on simulations of the Uruguay Round's effects in a global model, carried out by Haaland and Tollefsen (1994). In most markets consumer prices fall less than the level implied by reductions in trade barriers and increased efficiency. Other production costs have thereby risen, by between a half and one per cent. This influences Norwegian import and export prices. In addition, Norwegian import prices are reduced by Norway's own removal of import barriers. It is important to note that with the removal of many types of NTBs, price reductions occur *before* the good has reached the Norwegian border. Technical barriers entail real costs in the production country linked to the adaptation of products to special Norwegian standards. Export quota arrangements often mean that part of the price increase accrues to agents in the exporting country. In such cases the scaling back of a country's own barriers results in reduced import prices and thereby terms-of-trade gains. On average, we find a fall in import prices at the border of about one per cent.

As a result of the EFTA resolution on subsidy reductions to fisheries, producers' marginal costs in all participating countries increase by approximately the same extent. This does not generate any impetus to Norwegian exports. The removal of shipbuilding subsidies within the EEA will not result in changed world market prices in the long run. On the basis of Hellesjø et al. (1994), we assume that the world market price will be determined by Japan's cost level, independent of EEA countries' subsidies.

3. Welfare effects of the reform

Method for calculating welfare effects

In order to shed light on the magnitude of the effects of trade liberalization, we compare two scenarios generated by the model MSG-6, in which one is

3 The subsidy rate is calculated as the subsidy amount as a per cent of the gross value of production.

4 In periods the EU has introduced minimum prices for Norwegian fish. Anti-dumping rules that applied prior to the EEA Agreement also permitted this, and we do not consider the practice of recent years to be a consequence of EEA rules.

characterized by a status quo policy from 1992 before the reforms, while the second includes the phasing in of the reforms in the three agreements. Box 1 provides a brief description of the model, emphasizing those features that presumably are important for the welfare effects presented in this article. A more detailed description is found in Fæhn and Holmøy (2000), Holmøy and Strøm (1997) and Bye, Holmøy and Strøm (1999).

We confine the calculations to welfare changes for the economy as a whole – distributional effects between persons/households are not calculated. Our method is consistent with a tradition, which assumes that the authorities can eliminate undesirable distributional effects through separate policy instruments. Our welfare measure is based on the same preference structure as assumed for Norwegian consumers in the model. This welfare measure is defined as the present value of the utility that consumers derive from what they consume each year, including leisure. It may roughly be said that the annual utility is measured as the real consumption of goods, services and leisure. Leisure is valued at opportunity cost, which is wages less marginal tax. Our definitions imply that the welfare measure before the trade reform amounts to about 85 per cent of GDP.

Macroeconomic adjustments

In such a complex model like MSG-6 it will be impossible to provide a detailed explanation of all changes that take place when the economy is exposed to exogenous changes. In the following we confine our description to some of the most important macroeconomic adjustments. We refer to Fæhn and Holmøy (2000) for a more detailed explanation.

Trade reforms result in higher export prices, while import prices decline. This improvement in the terms of trade increases real income and thereby welfare for Norwegian consumers. The increase in utility, however, cannot be achieved without changes in relative prices and thereby in the allocation of resources. This is most easily understood when we look at the direct effects of the terms-of-trade gain on supply and demand in the labor market. Consumers will want to use the increase in income to buy more goods and services that are partly produced by Norwegian labor. At the same time, the increase in income implies that they want to work less. This negative income effect on the labor supply dominates the positive substitution effect driven by reduced import prices, which increases the real wage rate. The demand for labor is also amplified by an increase in net exports as a result of changes in export and import prices. In order to achieve labor market equilibrium, the wage rate must increase. In the long run the wage rate rises by 1.75 per

cent as a result of the reforms. Employment falls; the long-run decline is 0.58 per cent. We find that the utility of consumers in the long run increases by 0.81 per cent as a result of the reforms. This increase represents about 0.7 per cent of GDP. Due to price distortions created by taxes, subsidies and market power, the increase in utility is also influenced by the reallocations of resources that take place. We will revert to the gains from reallocations below.

Our measure of welfare consequences is changes in the *present value* of annual utility. This means that utility changes in all future years contribute to the change in welfare, with the greatest effect in the next few years. The calculations show that the increase in utility does not vary to any extent over time, but that in a transitional period it is slightly lower than in the long run. The present value of these changes yields a welfare increase of 0.77 per cent as a result of the international agreements.

The sources of the welfare gain

Several empirical studies of realistic, reciprocal trade reforms find welfare gains of about one per cent, see e.g. Francois et al. (1996) for a survey of welfare studies of the WTO Agreement, Haaland and Tollefsen (1994) for a study of EFTA countries' gains from the EEA Agreement and Krugman (1996) for a discussion of NAFTA. Our estimate of 0.77 per cent is, in other words, well within the bounds of the results of similar studies. Unanimity can nevertheless not be taken for granted, as the specific changes in trade policy are often quite different, and economic realities vary considerably between countries and between periods. Furthermore, different models can attach varying importance to economic relationships and mechanisms. We have therefore decomposed the total welfare gain so that we can see more clearly how the specific sources contribute to the result.

We find that the largest single contribution comes from an improvement in the terms of trade. As an approximation, we estimate this at 0.88 per cent. We emphasize that the improvement in the terms of trade is *not* because Norway has market power in any foreign market and can influence world market prices⁵. The most important reason for the improvement is that several of the Norwegian NTB measures which existed before the implementation of the trade agreements, entailed that import prices were given a mark-up before they reached the border. Important examples are, as noted, technical trade barriers and export quota arrangements. When the trade agreements make it possible to eliminate these mark-ups, the gain for Norway is equivalent to pure income transfers from abroad.

5 We find reason to emphasize this because other models developed in Statistics Norway, such as the forecasting model KVARTS and MODAG, assume that Norwegian behavior influences export and import prices..

We thus find that the estimated welfare gain of 0.77 per cent is smaller than the isolated contribution from the terms-of-trade gain. This means that the reallocation of resources as a consequence of the reform all in all results in an increase in the total deadweight loss. Lower employment is the main reason for this result. The negative contribution to welfare from lower employment is related to the fact that the payroll tax (averaging 17 per cent), the marginal tax on personal labor income (averaging about 40 per cent), and indirect taxes on consumption (averaging 19 per cent) entail high effective taxation of labor in Norway. The private return of working an extra hour appears far lower than the social return, which naturally includes all tax revenues generated by this employment and accompanying consumption. Initially, the labor supply is therefore too low in an economic sense. The positive effect of the trade reforms on income thus leads to a further decline in the labor supply. In the long run employment is 0.58 per cent lower when the reforms are included in the calculations. As an approximation, we estimate the welfare loss of this isolated change in the use of time at about 0.35 per cent of the baseline scenario's welfare level. Somewhat simplified we can say that the increase in income inherent in the terms-of-trade improvement cannot be absorbed in the distorted Norwegian economy without modifying the welfare effect.

The decline in employment also results in a fall in Norwegian production, measured by GDP, of 0.14 per cent. The fall particularly occurs in internationally exposed sectors, which experience a cut in subsidies and protection support. Lower production will contribute to a welfare loss in industries where there is a monopoly profit, scale economies or a utility gain from increased product variety. As noted, the model captures these mechanisms. However, they provide a very modest contribution to welfare in the calculations, both because the wedges they represent are small and because the level of activity shows little change.

Many international analyses find, contrary to our findings, that the level of domestic activity *increases* as a result of liberalization, see e.g. Harris (1984), Ho and Jorgenson (1994) and Keuschnigg and Kohler (1996). An important reason for this is probably that the negative income effect on the labor supply is smaller in these studies than in our study, while the substitution effect is more positive. The studies mentioned thus find that a higher level of activity makes a substantial contribution to welfare when the economy is characterized by high effective taxation of labor, monopoly profits, scale economies, and the utility of increased product variety.

4. Conclusions

Even though MSG-6 captures a number of effects, it provides, like all models, a simplified description of reality. Our model-based calculations can therefore

Table 2. Long-run macroeconomic changes as a result of the trade reform. Per cent

Annual utility (of consumption and leisure)	0,81
Private consumption	1.00
Leisure	0.62
Price index for consumption	0.20
Wage rate/price of leisure	1.75
Employment	-0.58
GDP	-0.14
Export prices	0.6
Import prices	-1.1

not provide a complete answer. There is, however, no alternative to numerical model-based calculations when quantitative assessments of the effects of economic policy is wanted. In the case with trade policy, such models make it possible to study systematically the implications of alternative assumptions, both with regard to the importance of trade agreements to the international market conditions facing the Norwegian economy, and with regard to how economic agents will adapt to changes in these conditions.

We find that the implementation of the three agreements provides an aggregate welfare gain of 0.77 per cent. Recalculated as the same annual NOK amount, the welfare gain amounts to about 0.65 per cent of GDP, i.e. a modest gain. The result does not differ substantially from similar studies of trade policy reforms in other well-developed market economies. The modest gain must be viewed in the light of one important factor: Norway and comparable economies were already very open even without the implementation of the three agreements studied here. The fact that the debate surrounding trade liberalization is so heated is probably due to the impact on individual industries and on distribution.

With regard to the sources of the estimated welfare effects, we will point to the following:

1. Norway's terms of trade improve, primarily because the removal of technical standards, etc. reduces the prices Norway pays to *foreigners* for imported goods. Terms-of-trade gains make an important contribution to the aggregate welfare gain (an estimated +0.88 per cent).
2. The total contribution to welfare from reallocations of resources is slightly negative. This is primarily because part of the increase in income is used to increase leisure. The shift in time spending from labor to leisure has a negative and relatively important welfare effect in the Norwegian economy because there is a high effective tax wedge between the social marginal value of the consumption permitted by labor efforts on the one hand, and leisure on the other. We estimate the welfare contribution from lower employment at a negative 0.35 per cent.

3. Potential sources of welfare gains through freer trade linked to the existence of market power, scale economies and love of variety appear to play a very small role in the Norwegian economy.

We would maintain that the last two conclusions above are of a type that cannot be drawn without applying empirical model tools. Nor is it possible to draw such conclusions unless the model is also supplemented by theoretical insight on the effects that appear as well as a decomposition of the aggregate welfare effect into contributions from various sources.

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