

# Economic Survey

# 3/97

## Economic trends

- National accounts for 1 and 2 quarter 1997
- Overview of international and Norwegian economic developments
- Forecasts for the Norwegian economy for 1997 and 1998

## Article

- Income distribution 1986-1995

# Economic Survey

Volume 7

# 3/97

## Contents

<b>Economic trends</b>	<b>3</b>
International economy	4
Norwegian economy	10
• Developments thus far in 1997	10
• Outlook for the remainder of 1997 and 1998	14
<b>Economic policy calendar 1997</b>	<b>22</b>
<i>Jon Epland:</i>	
<b>Income distribution 1986-1995: Why is inequality increasing?</b>	<b>24</b>
<b>Research publications in English</b>	<b>34</b>
<b>Appendix: National accounts for Norway</b>	<b>39</b>

The cut-off date for information used in the publication was 2 September 1997.

Inquiries should be directed to Knut Moum, tel.: 22 86 48 20, e-mail: knm@ssb.no or Knut A. Magnussen, tel.: 22 86 49 61, e-mail: kam@ssb.no, telefax: 22 11 12 38. Economic Survey is available on internet at <http://www.ssb.no>

## Economic Survey

**Editorial board:** Øystein Olsen (ed.), Iulie Aslaksen, Ann Lisbeth Brathaug, Bodil M. Larsen, Kjersti-Gro Lindquist, Knut Astor Magnussen, Knut Moum, Karine Nyborg and Inger Texmon.

**Editorial assistant:** Wenche Drzwi, tel.: 22 86 49 74, telefax: 22 11 12 38. **Design:** Enzo Finger Design. **Print:** Falch Hurtigtrykk. **Editorial address:** Statistics Norway, Research Department, P.O. Box 8131 Dep., N-0033 Oslo. **Sales- and subscription service:** P.O. Box 8131 Dep., N-0033 Oslo, tel.: 22 86 44 80, telefax: 22 86 49 76.

---

## Economic Survey

is published four times a year by the Research Department of Statistics Norway. The Research Department was established in 1950. The Department has about 90-100 employees (January 1997). The Research Department is today organized in four divisions. Head of Department is *Øystein Olsen*.

- Division for public economics  
*Director of Research Nils Martin Stølen*
  - Public economics, taxes
  - Labour market analysis
  - Micro simulation models
- Division for macroeconomics  
*Director of Research Ådne Cappelen*
  - Business cycle analysis
  - Macroeconomic models
  - General equilibrium models
- Division for resource and environmental economics  
*Director of Research Torstein A. Bye*
  - Environmental economics
  - International energy markets
  - Petroleum and energy analysis
- Division for microeconometrics  
*Director of Research Jørgen Aasness*
  - Consumer and producer behaviour
  - Income distribution analysis
  - Econometric methods

---

***The next edition of Economic Survey will be published at the end of December 1997.***

---

Symbols in Tables	Symbol
Data not available	..
Not for publication	:
Nil	0
Provisional or preliminary figure	*

# Economic trends\*

The mainland economy is now experiencing its fifth year of relatively robust output growth. Even though mainland GDP growth is not likely to be as strong in 1997 as in the previous three years, it will still be higher than the average for the last 25 years. In 1996, the strongest growth impetus for the mainland economy was generated by household consumption and traditional merchandise exports. This year, the contribution to growth from petroleum investment may be broadly on a par with the impetus from household consumption, while the contribution from traditional merchandise exports and mainland investment is set to be considerably lower.

So far during this cyclical upturn price and wage inflation have not deviated to any extent from the average of Norway's main trading partners. Wage growth in 1997 is likely to be lower than last year, while price inflation will be slightly higher. However, the acceleration in price inflation from 1.3 per cent in 1996 to an estimated 2.5 per cent this year may partly be ascribed to indirect tax changes. Next year inflation may be slightly lower than in 1997, while wage inflation is projected to remain approximately unchanged. This will result in a growth in real wages which is approximately the same as the average for the previous five years.

Developments in the labour market will have an influence on wage growth in the period ahead. So far during this upturn employment has generally moved on a path that reflected the growth in production. The rise in employment has thus far been met by a sharp increase in the labour supply, and participation rates are now higher than in the peak year 1987. Unemployment, however, is also appreciably higher than ten years ago, but is now approaching a level where previous experience indicates that a further decline will have a greater influence on wages. Regional and sectoral imbalances in the labour market, illustrated by the pronounced rise in the number of unfilled vacancies during the past year, may amplify the wage impulses generated by a further fall in unemployment in the period ahead. Further strong stimulus to the Norwegian economy the next few years may thus translate into higher price and wage inflation and greater losses of market shares for Norwegian producers than has been the case the last few years. Given the current oil price, this development is not likely to have a perceptible impact on fiscal and balance of payments leeway, but may have noticeable effects on the composition of industries in the Norwegian economy in the future.

## Main indicators for the Norwegian economy

Growth from previous year. Per cent

	1993	1994	1995	1996	1997	1998
GDP	2.7	5.5	3.6	5.3	3.4	3.8
- Mainland Norway	2.8	4.1	3.1	3.7	2.9	2.7
Consumption in households and non-profit organizations	2.2	4.0	2.7	4.7	3.0	2.2
Unemployment rate <sup>1</sup>	6.5	5.9	5.4	4.9	4.1	3.9
Consumer price index	2.3	1.4	2.4	1.3	2.5	2.1

<sup>1</sup> Level in per cent. Adjusted backwards for the statistical revision in January 1996.

\* Translated from Økonomiske analyser no. 6/97 by Janet Aagenæs.

## International economy

Norway's main trading partners are currently expanding at different rates, and economic developments are marked by substantial exchange rate changes. Large continental European countries are still grappling with sluggish domestic demand, as a result of fiscal tightening, and high and mounting unemployment. In Germany and France, however, exports are being buoyed by favourable exchange rate movements. The cyclical situation in Anglo-Saxon industrial countries is considerably more favourable, and both the US and UK are set to record stronger GDP growth in 1997 than last year. An accompanying appreciation of the pound and the dollar will, in isolation, contribute to curbing growth next year. In Japan, production rose sharply last year, but the growth rate will probably be more moderate in the period ahead as a result of fiscal tightening. For Norway's main trading partners as a whole, GDP is likely to expand by 2 per cent both in 1997 and 1998, while price inflation is expected to remain subdued in the same period.

### Economic developments

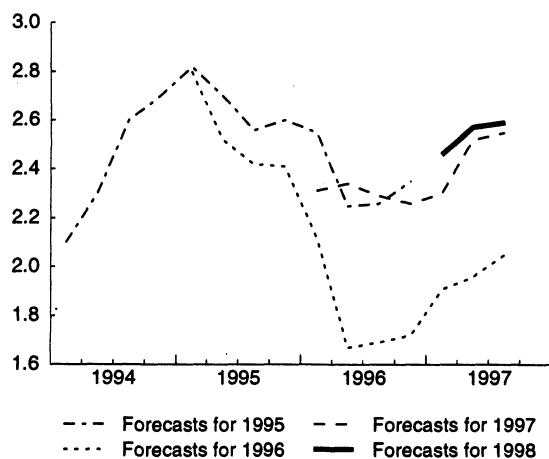
GDP in the US expanded by 2.4 per cent from 1995 to 1996, primarily fuelled by household consumption and private investment. It appears that private consumption has continued to rise this year, stimulated in part by higher real wages and a positive trend in wealth, the latter a result of the strong advances in share prices. The consumer sentiment indicator, which gauges household optimism about the future, reached a new peak in July of this year. Unemployment is still at an historically low level, and stood at 4.8 per cent in July. National accounts figures for the first two quarters indicate that GDP growth may be well above 3 per cent in 1997; measured as seasonally adjusted annual rates, GDP expanded by 4.9 per cent in the first quarter and 3.6 per cent in the second quarter. The strong appreciation of the dollar nonetheless implies more moderate economic

growth in the period ahead, with GDP growth projected at 2.7 per cent next year.

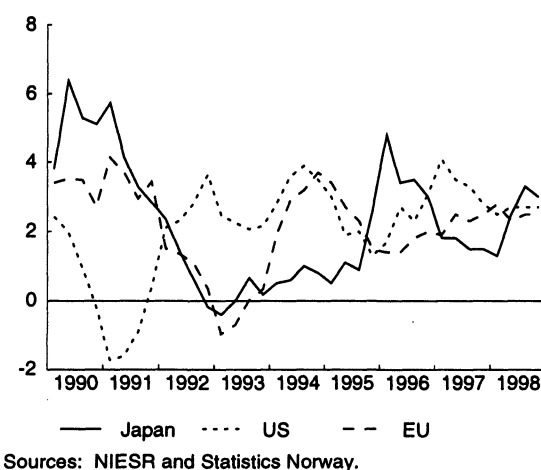
Preliminary national accounts figures for Japan show that output rose by 3.7 per cent last year, with public investment as the main driving force. Towards the end of last year the rate of growth in household consumption also picked up, and in the first quarter of 1997 it was 4.5 per cent higher than in the same period one year earlier. The rise was probably stimulated by the announced tax changes from 1 April. Available short-term data indicate that a moderate recovery is under way, underpinned by very low interest rates and the substantial depreciation of the yen since the beginning of 1995. Activity is being curbed, however, by fiscal tightening following several years of large economic stimulus packages, and domestic demand exhibited a sluggish trend in the second quarter of this year. The forecasts indicate that GDP will expand by 1.5-2 per cent in 1997, whereas growth is projected to be slightly higher next year.

GDP in Germany expanded by 1.4 per cent from 1995 to 1996, primarily fuelled by the growth in exports and public consumption. Private consumption also rose slightly. Economic growth picked up through 1996, and data for this year indicate a further rise. Industrial production grew by 1.8 per cent between the first and second quarter of 1997, foreign orders increased substantially in the same period and capacity utilization (for western Germany) reached 85.5 per cent in June, which is higher than the historical average. With a continued strong contribution to growth from external trade and the prospect of some investment growth in the private sector, GDP is expected to expand by a little more than 2 per cent in 1997, while growth will probably be slightly higher next year. So far the rise in production has not contributed to an increase in employment, and

GDP-growth forecasts for Norway's main trading partners for 1995 - 1998 given on different dates



GDP-growth in US, Japan and EU (per cent)  
Measured from the same quarter the previous year



unemployment is likely to be above 11 per cent in both 1997 and 1998.

Economic developments in *France* were also weak last year, with GDP growing by 1.5 per cent. Growth was primarily spurred by household consumption, which must be viewed in connection with the authorities' temporary policy stimulus for higher car purchases. After the measures were discontinued last autumn, private consumption has moved on a sluggish trend. Private investment slowed last year and fell further in the first quarter of this year. In spite of a slackening in domestic demand, it appears that a weaker trade-weighted franc may contribute to an upswing in economic activity in the period ahead. Industrial output has picked up this year and foreign orders have risen. Against this background, GDP growth is set to be higher in 1997 than in 1996.

In *Italy*, preliminary national accounts figures show that GDP grew by 0.7 per cent last year, fuelled almost exclusively by net exports. However, the nearly 20 per cent appreciation of the lira against the Deutschmark since mid-1995 has reduced the positive impetus from external trade. A substantial increase in taxes and other public austerity measures are also having a strong dampening effect on domestic demand. Consumer optimism has nonetheless picked up in recent months, possibly reflecting the likelihood that real wages will grow at a faster pace in 1997 than last year. GDP fell in both the fourth quarter of 1997 and first quarter of this year, and the forecasts point to GDP growth of about 1 per cent this year. Developments next year will partly depend on whether Italy can participate in (the possible establishment of) EMU at the beginning of 1999. If it does participate, greater optimism in the business sector may translate into higher investment.

In the *UK*, GDP expanded by 2.5 per cent from 1995 to 1996, primarily underpinned by household consumption, whereas net exports made a negative contribution as a result of the strong appreciation of the currency. It appears that the sharp rise in consumption has been sustained this year. Private consumption grew by 1 per cent between the first and second quarter and retail trade figures indicate a continued buoyant increase. This probably reflects the persistent drop in unemployment and substantial improvement in household wealth, partly as a result of higher house and share prices. Unemployment was reduced to 5.5 per cent in July 1997. The new Government has announced a number of measures to stimulate private investment, which will probably pick up this year. Against this background, GDP is projected to grow by about 3 per cent in 1997 and at a slightly lower rate next year.

In *Sweden*, national accounts figures show that GDP rose by 1.1 per cent from 1995 to 1996, i.e. markedly lower than in the previous year. Net exports and private consumption made a positive contribution, but household consumption also edged up through 1996. The reduction in taxes on food and cars probably contributed to the growth in consumption; car purchases surged by 30 per cent in the year

### Economic forecasts for Norway's main trading partners

Annual per cent change

	1996	1997	1998
<b>USA</b>			
GDP	2.4	3.4	2.7
Private consumption deflator	2.1	2.5	2.7
Short term interest rate (level)	5.4	5.6	5.9
General government budget deficit <sup>1</sup>	-1.6	-1.0	-1.0
<b>Japan</b>			
GDP	3.7	1.7	2.5
Private consumption deflator	0.2	1.5	1.3
Short term interest rate (level)	0.5	0.7	1.0
General government budget deficit <sup>1</sup>	-4.4	-3.0	-2.2
<b>Germany</b>			
GDP	1.4	2.1	2.5
Private consumption deflator	1.9	1.9	2.0
Short term interest rate (level)	3.3	3.2	3.5
General government budget deficit <sup>1</sup>	-3.8	-3.3	-2.7
<b>France</b>			
GDP	1.5	2.1	2.6
Private consumption deflator	1.8	1.5	1.7
Short term interest rate (level)	3.9	3.4	3.7
General government budget deficit <sup>1</sup>	-4.2	-3.5	-2.9
<b>United Kingdom</b>			
GDP	2.5	3.0	2.7
Private consumption deflator	2.8	2.4	2.5
Short term interest rate (level)	6.0	6.5	7.0
General government budget deficit <sup>1</sup>	-3.3	-2.0	-1.0
<b>Italy</b>			
GDP	0.7	1.0	1.8
Private consumption deflator	4.4	2.2	2.5
Short term interest rate (level)	8.8	6.9	6.4
General government budget deficit <sup>1</sup>	-6.7	-3.5	-3.3
<b>Sweden</b>			
GDP	1.1	2.1	2.6
Private consumption deflator	1.2	1.5	2.2
Short term interest rate (level)	5.9	4.3	4.1
General government budget deficit <sup>1</sup>	-3.6	-2.0	-0.5
<b>Denmark</b>			
GDP	2.7	3.1	3.0
Private consumption deflator	2.1	2.3	2.6
Short term interest rate (level)	3.9	3.5	3.7
General government budget deficit <sup>1</sup>	-1.4	0.5	0.8
<b>The Netherlands</b>			
GDP	2.7	3.3	3.5
Private consumption deflator	1.9	2.0	2.0
Short term interest rate (level)	3.0	3.0	3.4
General government budget deficit <sup>1</sup>	-2.8	-2.3	-2.0
<b>Memorandum items:</b>			
GDP trading partners	2.1	2.5	2.7
CPI trading partners	1.9	1.9	2.1
ECU interest rate	4.5	4.1	4.3

<sup>1</sup> Per cent of GDP.

Sources: NIESR and calculations by Statistics Norway. National sources for Sweden and Denmark.

to the second quarter of 1997. A substantial rise in household wealth is expected to provide a further stimulus to household consumption this year. General government consumption is still declining, whereas private investment shows signs of picking up. External trade made a positive contribution to GDP growth in the first half of 1997, and the forecasts indicate that this trend will continue. All in all, GDP is projected to rise by about 2 per cent in 1997, with growth edging up in 1998. However, unemployment, which stood at 9.1 per cent in July, is not expected to decline to any extent over the next two years.

In *Denmark*, preliminary national accounts figures show that GDP expanded by 2.7 per cent from 1995 to 1996. The most important growth impetus was generated by domestic demand, particularly public and private investment. As a result of sharp real wage growth and a substantial rise in house prices, consumption growth is expected to be stronger this year. In spite of the projected decline in general government investment, GDP growth may thus reach about 3 per cent in both 1997 and 1998. Unemployment has declined considerably since 1994 and is expected to be reduced to 7.5 per cent next year.

## Price inflation

The forecasts indicate that price inflation among Norway's main trading partners will be 2 per cent in 1997, approximately on a par with the rate recorded last year. In European countries, the projections generally range between 1.5 and 2.5 per cent. Inflation in the US has been stable for a long time and there are no signs that it will quicken in the near term. Producer prices have fallen for six consecutive months and consumer prices have only risen marginally this year. Historically low unemployment (4.8 per cent in July) prompted many to fear higher wage growth, but strong productivity gains in recent quarters may have helped to keep inflation down. The appreciation of the dollar is also curbing price inflation. In Germany, inflation has edged up in recent months, probably as a result of the sharp

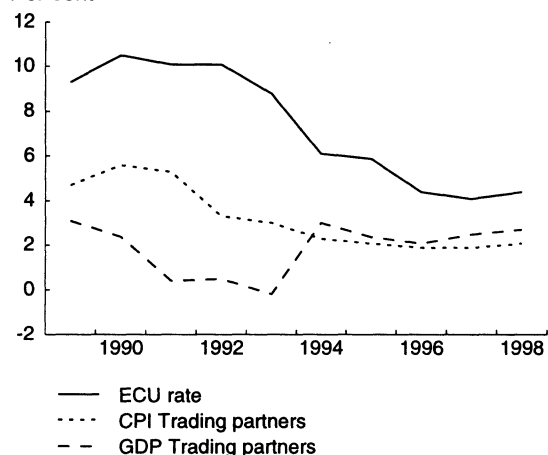
depreciation of the Deutschemark. The rate of inflation is nevertheless still below 2 per cent, and is therefore compatible with the Bundesbank's inflation target. Inflation in France is very subdued, showing a year-on-year rise of only 1 per cent in June, even though the French franc has also depreciated this year. Inflation is expected to drift up in France in the period ahead. Inflation in Italy was high for a long time, but the year-on-year inflation rate fell substantially during 1996 and the beginning of 1997, helped by an appreciation of the lira. In May, the inflation rate was down to 1.6 per cent, the lowest registered rise since 1969. Inflation is expected to remain subdued through this year in spite of relatively strong wage growth. In Sweden, the reduction in indirect taxes, lower interest rates and falling import prices contributed to a drop in consumer prices through 1996, with the consumer price index showing a year-on-year decline at the end of last year. In 1997, higher food and tobacco prices as well as higher rents have resulted in slightly higher inflation. The forecasts indicate a rise of around 1 per cent in the consumer price index this year, while inflation may edge up next year. Japan has recorded a period of falling prices, and the average rise in consumer prices last year was zero. The 2 percentage point increase in the consumption tax in April was the main reason for the higher year-on-year increase in the consumer price index, moving up from 1.2 per cent in April to 1.9 per cent in June.

## Monetary policy

As a result of sluggish economic activity and low price inflation, monetary policy in continental Europe became more expansionary through 1996. So far this year there have been few interest-rate changes of significance, but rising economic growth indicates that monetary policy may be tightened somewhat in the period ahead. In Germany, the repo rate (the "floor" for money market rates) has been stable at 3 per cent since September 1996, while long-term rates have edged down this year and are now 5.5 per cent. The rise in price inflation in recent months has led to expectations of interest-rate changes, but sluggish domestic demand and slower money supply growth indicate that interest rates will remain at a low level. In Italy, the central bank's rates have been held constant since January 1997 after favourable inflation figures in the autumn of 1996 brought the discount rate down to 6.75 per cent. Short-term market rates in Italy have declined by 4 3/4 percentage points since peaking in March 1995. The central bank in Sweden lowered its repo rate a number of times in 1996, most recently to 4.10 per cent on 18 December. The interest-rate cuts must be viewed in connection with the substantial decline in the inflation rate in the same period.

In the UK, the base rate (the "floor" for money market rates) was raised from 5.75 per cent to 6 per cent at the end of October last year, in line with quickening price inflation. Immediately after the change of Government on 1 May this year, the authorities gave the central bank virtual independence by assigning it responsibility for setting interest rates. The base rate was also raised to 6.25 per cent, and

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



Source: Statistics Norway.

the Bank of England has subsequently raised interest rates by the same margin on three occasions. Inflation (excluding mortgage-interest costs) in the UK is now noticeably higher than the central bank's target, entailing that further increases by the central bank cannot be ruled out.

The US federal funds rate (US interbank rate) was last reduced in January 1996 to 5.25 per cent. Indications of robust economic growth prompted the Federal Reserve to raise the federal funds rate to 5.5 per cent in March this year. With inflation remaining subdued, it may take time before interest rates are again increased. In Japan, the economic slump over the last few years has been met with gradual reductions in the discount rate, most recently to a record-low of 0.5 per cent in September 1995. The recovery last year was primarily fuelled by the authorities' economic stimulus measures, and the central bank is not expected to raise interest rates until the upturn in the private sector is firmly entrenched.

### Fiscal policy

Fiscal policy in EU countries has in recent years largely focused on satisfying the convergence criteria in the Maastricht treaty, thereby paving the way for economic and monetary union. Sluggish economic trends the past year have required a further tightening of fiscal policy in several countries. In Germany, preliminary figures show that the general government budget deficit in 1996 was equivalent to 3.5 per cent of GDP. The Government's budget for 1997 contained a number of proposals to curb public spending, with a total reduction in expenditure equivalent to 1.8 per cent of GDP. As a result of higher unemployment, and thus higher social security payments and lower tax receipts than expected when the budget was presented, additional measures are necessary to achieve a budget deficit of less than 3 per cent of GDP. The Government has proposed a reduction in unemployment benefits and the sale of shares in Deutsche Telekom. A proposal to revalue the country's gold reserves to market value (the book value of the gold has been much lower) and transfer part of the revalued amount to the revenue side of the budget was initially rejected by the central bank. However, agreement was reached that the measure will be implemented but not before the period 1998-2000.

In France, the budget deficit in 1996 was equivalent to 4.1 per cent of GDP, or about half a percentage point higher than the Government's estimate. New austerity measures have been proposed in the 1997 budget, including higher social security taxes and an increase in petrol, tobacco and alcohol taxes. An independent audit of government finances recently concluded that the deficit this year will be equivalent to 3.5-3.7 per cent of GDP without additional measures. The new finance minister also presented a package of measures which is estimated to bring the deficit down to 3.1-3.4 per cent even though the Socialist Party opposed further tightening during the election campaign in the interest of employment. Additional revenues may come

from higher taxation of enterprises and some reduction in public spending.

The budget deficit in the UK was reduced substantially in 1996 even though tax revenues were lower than expected. The new Government's budget, which was presented in July, did not contain any tax increases other than the announced one-off windfall tax on excess profits of privatized utilities. This was in accord with Labour's promises during the election campaign, but will probably increase the need for a tight monetary policy. The budget deficit is expected to be reduced to 2 per cent of GDP this year and decline further in the years ahead. The UK has an opt-out protocol regarding EMU participation, and even though the new Government is expected to be more favourably inclined towards the planned monetary union than its predecessor, the UK is not expected to participate at the start in 1999.

In Italy, the general government budget deficit in 1996 was equivalent to 6.7 per cent of GDP, considerably higher than budgeted. The administration has proposed an ambitious budget for 1997, with tighter fiscal measures amounting to L 62.5 trillion or 3.6 per cent of GDP. A supplementary budget was presented in March this year, which aims at further cuts of about L 15.5 trillion. If all the measures are implemented, the budget deficit is estimated at a little more than 3 per cent of GDP this year. About two thirds of the tightening is expected to be reflected in lower spending, while a temporary "Europa tax" and accounting measures constitute the remainder. Economic activity in Italy is, however, weaker than assumed in the budget proposals, and there are many indications that the country will experience problems in satisfying the budget deficit criterion for participation in EMU. One of the problems is that some of the austerity measures are temporary and will only improve government finances this year.

In Sweden, the authorities' continued tightening of policy has contributed to a considerable improvement in government finances. The budget deficit is expected to shrink from 3.6 per cent of GDP in 1996 to 2 per cent in 1997. General government gross debt is also expected to edge down from 1996 to 1997, to a little more than 80 per cent of GDP. Even though Sweden will probably be eligible to participate in the planned monetary union, the Government has stated that participation from the start in 1999 is not being considered. In Denmark, the general government budget deficit has also been substantially reduced in recent years and may be reversed to a small surplus this year. General government gross debt is also declining so that Denmark will probably be eligible for EMU participation even though such participation from the start is very unlikely.

As a result of higher-than-expected tax revenues and a continued tight spending policy, the federal budget deficit in the US for the 1996 fiscal year was reduced to 1.6 per cent of GDP, against 2 per cent the previous year. The deficit was only 0.9 per cent of GDP in the first quarter of 1997,



the lowest since 1981. The forecasts point to further reductions in the deficit in the years ahead, and an agreement between the Government and Republican leaders in Congress aims at balancing the budget in the year 2002.

Japan's budget balance has deteriorated substantially as a result of the many economic stimulus packages launched by the authorities during the protracted recession. The Government has announced that it will aim at reducing the deficit to 3 per cent by 2005, which entails a balanced budget if the state social security fund is included. The consumption tax was raised from 3 to 5 per cent on 1 April this year and the special income tax deduction (introduced in 1994) was removed. Tighter measures are expected in the years ahead, including a scaling back of agricultural support and defence expenditure.

## International commodity markets

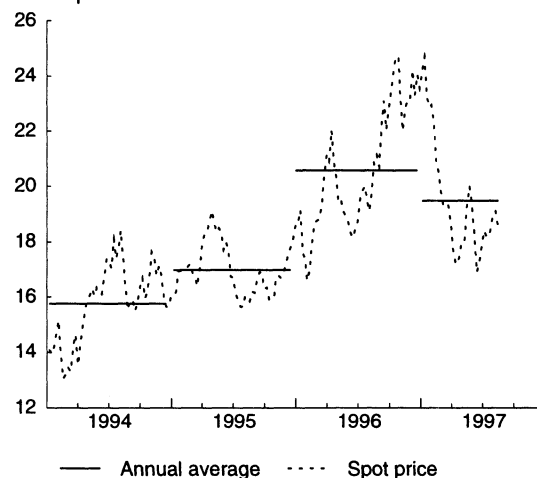
### The oil market

The spot price of Brent Blend fell from a little less than \$ 25 p/b at the beginning of January this year to about \$ 17 p/b at the beginning of April. The price has since edged up and stood at about \$ 18 p/b at the start of September.

The sharp fall in oil prices through the first quarter of 1997 must be viewed in connection with the agreement which allowed Iraq to export about 0.7 million barrels of oil a day from December 1996 to June this year, with the revenues earmarked exclusively for humanitarian purposes. This production came on top of existing excess production in OPEC in addition to a relatively mild winter in 1996/1997. Oil stocks therefore increased by 0.2 million b/d during the first three months of the year at a time when oil stocks are normally reduced. Higher demand for petrol in the US contributed to a rise in the oil price to \$ 20 p/b at the beginning of May, but at the end of the month oil prices resumed a downward trend. This was due to a reduction in production at a number of refineries in Europe and Asia as a result of a decline in the refinery margin and expectations among oil market participants that Iraq would resume limited oil exports for an additional three months. Quite contrary to the predictions of most analysts, the price has risen since mid-June and stood at about \$ 18 p/b at the beginning of September. This is probably related to the continued high level of demand in the second quarter in Europe, Asia and in part Latin America as well as the renewed upswing in petrol demand in the US. Moreover, maintenance work and a temporary halt in operations in the North Sea resulted in slightly lower production, and Iraq did not start exporting oil until the beginning of August.

The IEA expects total global demand for oil to increase by 1.9 million b/d in 1998, roughly the same growth as expected this year. Asia will probably continue to account for most of the growth, while demand in the OECD area will only rise moderately. Consumption in the former Soviet Union is expected to level off at the 1996 level following a decline in domestic demand over several years.

Spot price, Brent Blend  
Dollar per barrel

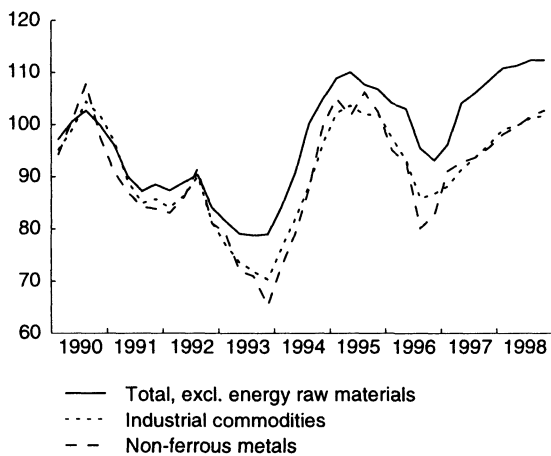


Source: Petroleum Intelligence Weekly.

Oil production in non-OPEC countries is expected to rise by 1.1 million b/d in 1997 and by 2.0 million b/d in 1998. It is assumed that the largest percentage increase in production next year will take place in the British sector of the North Sea and in Latin America. The growth in production is expected to be slightly higher than the increase in demand, which may result in a reduction in residual demand for OPEC oil for the first time in several years. At its meeting in June, OPEC decided to maintain its self-imposed production quotas of 25 million b/d. Even though production in some member countries exceeds the quotas by a substantial margin, OPEC is showing little willingness to limit output at the moment. The cartel is therefore expected to maintain production at a little more than 2 million b/d in excess of the quotas. At the same time it is also uncertain how much oil Iraq will have the capacity to export within a limit of \$ 1 billion before the deadline expires on 6 September. Irrespective, Iraq's export agreement will continue another three months up to December this year. Even if this entails an increase in production of 0.7 million b/d during this period, the effect on the oil price may last some time because there is still room for some increase in stocks. Stocks remained at an historically low level through 1996 and into 1997, thereby contributing to a nervous and tight market with relatively substantial price fluctuations during this period.

With a normal winter this year, the oil price may remain at about the current level the rest of the year. If expectations of continued higher production in non-OPEC countries are met next year, oil production may be fairly high compared with demand. This, however, is contingent on OPEC maintaining its production at a high level, even after the membership meeting in Djakarta in November this year. According to Petroleum Intelligence Weekly (PIW), oil prices must remain low over a longer period before OPEC introduces measures to curb production. Nor does PIW think that the UN will lift all sanctions against Iraq in the near future. In any case it will take time before Iraq can build up its production capacity to 3.5 million b/d, which was the

**Commodity prices on the world market**  
Dollar based indices. 1990 = 100



Source: HWWA-Institut für Wirtschaftsforschung.

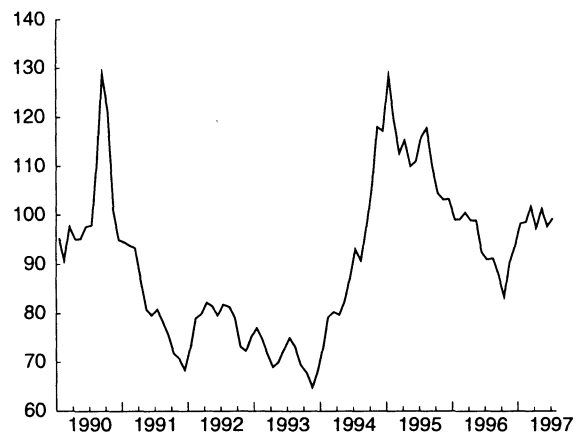
level prior to the Gulf War in 1991. Against this background, the forecasts indicate that oil prices will edge down later in 1998, possibly reaching the price level recorded in 1995.

### Other commodity markets

After declining through the first part of 1996, commodity prices, excluding energy, passed a trough towards the end of 1996. Prices have risen by about 4 per cent between December 1996 and June 1997. The rise in prices was particularly strong for food and beverages, partly as a result of supply side conditions in the coffee market. Some improvement in the cyclical situation in Europe, especially for industrial output in countries like Germany and France, may also have contributed to a slight rise in metal prices. According to the AIECE, commodity prices will increase moderately through the remainder of 1997 and into 1998.

Metal prices passed a trough last autumn, picked up markedly towards the end of 1996 and have been relatively stable this year. Irregularities uncovered in the Japanese firm Sumitomo triggered a sharp drop in copper prices around mid-1996. Prices bottomed out in September but have since rebounded and are now at about the same level as before the Sumitomo scandal. Higher demand, particularly in China, is expected to result in a continued rise in copper prices through the remainder of 1997. Aluminium prices also began to rise last autumn, picked up sharply at the end of 1996 and then remained relatively stable at about \$ 1600 per tonne during the first half of 1997. The rise was primarily fuelled by higher demand, but high prices will probably stimulate increased capacity utilization, thereby dampening a further climb in prices. Weaker demand for steel products contributed to lower nickel prices through most of 1996. In December, prices were at their lowest level in two and a half years, but have since risen slightly. Higher consumption in both western Europe and Asia is expected to boost prices further. The demand for tin rose slightly last year, whereas production expanded by 6 per cent. This resulted in a weak price trend, which has persisted this year.

**Aluminium price**  
Dollar based index. 1979=100



Source: World Metal Statistics.

Zinc prices remained fairly stable through 1996, but have risen considerably so far this year in spite of substantially higher production in China. In July this year, the price of zinc reached its highest level in seven years, but edged down when US investment funds withdrew from the market. A relatively low level of supplies is nonetheless expected to contribute to high zinc prices in the period ahead.

Prices for farm-based industrial commodities fell substantially through the beginning of 1996, primarily as a result of a 50 per cent drop in pulp prices in the course of just a few months. Pulp prices have continued to exhibit a sluggish trend since then in spite of several attempts on the part of producers to gain acceptance for price increases. As a result of higher European demand, the AIECE nonetheless projects that prices will edge up in the latter half of 1997. After declining considerably for a protracted period, prices for wood products bottomed out in the spring of 1996. A buoyant upswing in the US housing market has made a positive contribution to prices, while continued low building activity in Germany and France is having the opposite effect. The AIECE expects wood product prices to drift up during the remainder of 1997.

After falling through the second half of 1996, food and beverage prices rebounded at the beginning of this year. This has particularly been influenced by coffee prices, which surged by about 80 per cent in the first few months of the year. The rise was primarily ascribable to the uncertainty surrounding this year's production in Brazil, particularly the fear that frost would ruin the crops, as well as a harbour strike in Colombia. In addition, it appears that a drought in Indonesia may reduce the 1997/1998 crops by 40 per cent compared with production in 1996/1997. Coffee prices have gradually fallen somewhat because it appears that frost will be avoided in Brazil this year.

## Norwegian economy

### Developments thus far in 1997

According to preliminary, seasonally adjusted figures from the quarterly national accounts (QNA), mainland GDP rose by 1.7 per cent between the first and second quarter of this year. In addition, the growth estimate for the first quarter has been revised upwards to 0.4 per cent, entailing that mainland Norway's seasonally adjusted GDP was 1.6 per cent higher in the first half of 1997 than in the second half of 1996. This is equivalent to an annual rate of about 3.2 per cent, which is slightly lower than the growth recorded in the previous three years, but appreciably higher than the average for the last 25 years. Growth in mainland demand also picked up between the first and second quarter, although annualized growth between the second half of 1996 and first half of 1997 was still nearly two percentage points below the average for the period 1994-1996.

Whereas the manufacturing sector contributed to curbing output growth in the mainland economy in the first quarter, it boosted growth in the second quarter. However, production in other goods-producing industries rose even faster, partly as a result of a pronounced rise in electricity production. Production growth in private service industries in the second quarter was slightly lower than in the first quarter, but for the first half of the year as a whole these industries have still contributed to boosting growth in the mainland economy. Gross output in the general government sector rose at a considerably slower pace than the average for mainland industries, a continuation of the trend seen over the last four years.

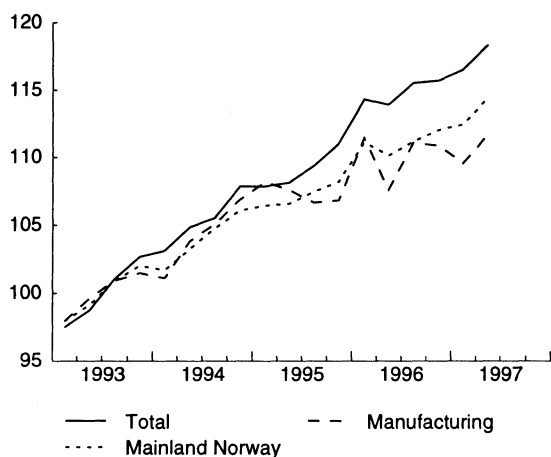
The course of manufacturing production over the last few quarters is related to the export performance. After exhibi-

ting a sluggish trend in the first quarter, preliminary seasonally adjusted figures show a volume growth of nearly 7 per cent both for manufacturing exports and total exports of traditional goods in the second quarter. The sharp turnaround for traditional merchandise exports between the first and second quarter may be related to the occurrence of Easter in the first quarter of 1997. However, the problems associated with adjusting for the occurrence of Easter are eliminated when we look at the first half of the year as a whole, and in this period traditional merchandise exports were almost 5 per cent higher than the level in the second half of 1996. So far this year export figures have been boosted by exports to the US, Japan and Benelux countries, whereas exports to our three largest trading partners Germany, Sweden and the UK have exhibited a sluggish trend. Prices for traditional merchandise exports have also been weak, and in the first half of 1997 as a whole these prices were about 1.5 per cent lower than the average level prevailing last year.

After virtually stagnating in the first quarter of 1997, mainland demand rebounded in the second quarter, partly reflecting relatively buoyant growth in mainland fixed investment. Manufacturing investment made a positive contribution, and Statistics Norway's investment intentions survey for the third quarter points to a slight rise on an annual basis for this investment component in both 1997 and 1998. The implementation of the primary school reform contributed to vigorous growth in general government investment, whereas investment in private services, excluding dwellings, showed a weak trend.

Housing investment continued to expand in the second quarter of 1997, but growth was weaker than in the pre-

**Gross domestic product**  
Seasonally adjusted volume indices, 1993=100



Source: Statistics Norway.

**Exports**  
Seasonally adjusted volume indices, 1993=100



Source: Statistics Norway.

vious quarter. Figures for housing starts up to end-July may indicate a further slowdown in the third quarter. Higher prices in the market for existing dwellings, however, may give rise to renewed momentum in housing investment in the period ahead. According to Statistics Norway's price statistics, prices for existing dwellings in the second quarter of this year were 6.2 per cent higher than the average level in 1996, while the square metre price for cooperative dwellings in the same period rose by nearly 16 per cent on a national basis. Compared with the trough in the first quarter of 1993, average prices for existing dwellings have risen at a faster rate than prices for new dwellings, which may indicate a potential for an upswing in residential construction in the period ahead.

Petroleum investment showed a seasonally adjusted sharp rise in the first and second quarter of 1997 after declining through the previous three years. Estimates from Statistics Norway's investment intentions survey for the third quarter indicate that petroleum investment may expand by more than 25 per cent this year. Following three years of declining petroleum investment, this represents a demand impetus for Norwegian and foreign suppliers equivalent to a good 1.5 per cent of mainland GDP. So far this year, however, there are few signs of this impetus in the production figures for the engineering industry.

The growth in household consumption also picked up in the second quarter of 1997. For the first half of the year as a whole this consumption component was 1.3 per cent

### Macroeconomic indicators

Growth from previous period unless otherwise noted. Per cent

	1995	1996	Seasonally adjusted			
			96.3	96.4	97.1	97.2
<b>Demand and output</b>						
Consumption in households and non-profit organizations	2.7	4.7	1.8	1.1	0.0	1.5
General government consumption	1.0	3.3	1.3	0.5	0.1	0.0
Gross fixed investment	3.7	4.8	5.4	2.7	3.4	5.5
- Mainland Norway	12.9	6.6	3.0	1.6	-1.0	5.9
- petroleum activities <sup>1</sup>	-13.5	-5.5	7.9	-4.1	21.8	10.8
Final domestic demand from mainland Norway <sup>2</sup>	4.0	4.7	1.9	1.1	-0.2	1.9
Exports	3.6	10.0	2.9	2.4	-1.5	2.5
- crude oil and natural gas	8.1	15.5	2.8	0.5	-0.8	0.4
- traditional goods	4.2	10.3	2.2	1.7	0.6	6.9
Imports	5.5	6.5	6.6	3.4	1.2	1.1
- traditional goods	9.4	9.3	4.5	2.5	0.1	3.6
Gross domestic product	3.6	5.3	1.4	0.2	0.7	1.6
- Mainland Norway	3.1	3.7	0.9	0.8	0.4	1.7
<b>Labour market<sup>3</sup></b>						
Man-hours worked	1.2	2.0	0.7	0.9	1.1	0.6
Employed persons	2.1	2.5	1.0	0.5	0.5	0.9
Labour force	1.6	2.1	1.2	0.0	0.4	1.0
Unemployment rate, level <sup>4</sup>	5.4	4.9	4.9	4.4	4.3	4.5
<b>Prices</b>						
Consumer price index <sup>5</sup>	2.4	1.3	1.4	1.8	3.1	2.7
Export prices, traditional goods	7.1	-1.5	-1.2	2.5	-2.0	-2.2
Import prices, traditional goods	0.7	0.4	-0.8	0.7	-2.0	-0.2
<b>Balance of payment</b>						
Current balance, bill. Nkr	31.3	72.7	18.4	17.1	21.7	13.9
<b>Memorandum items (unadjusted, level)</b>						
Eurokrone rate (3 month NIBOR)	5.4	4.8	4.9	4.7	3.4	3.4
Average borrowing rate <sup>6</sup>	7.7	7.1	7.0	6.8	6.3	5.9
Crude oil price, Nkr <sup>7</sup>	107.5	133.1	134.1	151.6	141.2	128.2
Importweighted krone exchange rate	100.4	100.7	100.8	100.2	96.7	100.6
Norges Bank's ECU-index	103.6	102.5	102.6	101.6	97.6	101.3

<sup>1</sup> 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.

<sup>2</sup> Consumption in households and non-profit organizations + general government consumption + gross fixed capital formation in mainland Norway.

<sup>3</sup> Figures for 1995 and 1996 are from the national accounts. The quarterly figures are from Statistics Norway's Labour force survey (LFS), since the new quarterly national account series for employment are too short for seasonal adjustment.

<sup>4</sup> According to Statistics Norway's labour force survey (LFS). The 1995-figure is adjusted in accordance with the alternation of the LFS from the beginning of 1996, and is raised by 0.5 percentage points compared to forecasts published earlier.

<sup>5</sup> Percentage change from previous year.

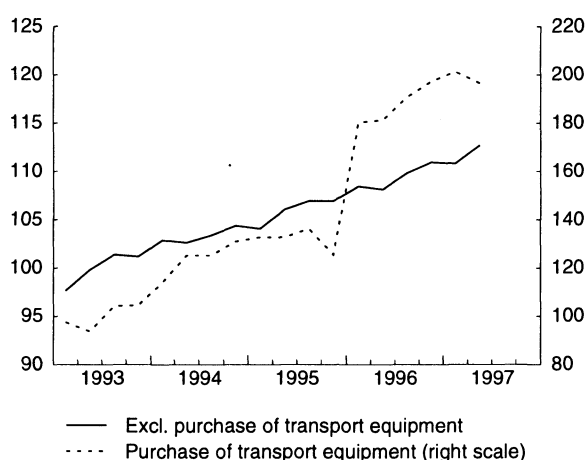
<sup>6</sup> Households' borrowing rate in private financial institutions.

<sup>7</sup> Average spot price, Brent Blend.

Sources: Statistics Norway and Norges Bank.

### Consumption in households

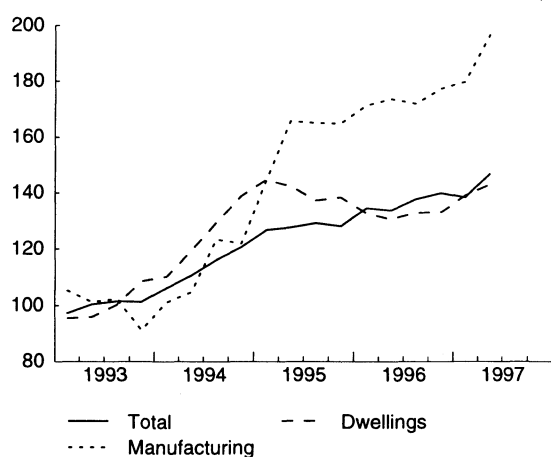
Seasonally adjusted volume indices, 1993=100



Source: Statistics Norway.

### Gross fixed capital formation, mainland Norway

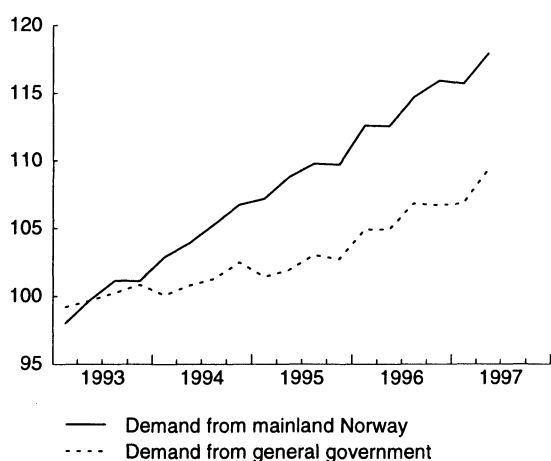
Seasonally adjusted volume indices, 1993=100



Source: Statistics Norway.

### Demand from mainland Norway

Seasonally adjusted volume indices, 1993=100



Source: Statistics Norway.

higher than the level in the second half of 1996 and 2.4 per cent above the average for last year. Household purchases of cars, which with the exception of the tax-motivated fall in the fourth quarter of 1995, have shown a substantial rise since the third quarter of 1993, declined by a seasonally adjusted 2.5 per cent between the first and second quarter of 1997. Figures for new car registrations for July and August 1997 indicate that car purchases will show little change from the second to third quarter and that growth on an annual basis will thus be substantially lower in 1997 than in the previous three years. General government consumption has shown little change during the last two quarters. As a result of growth through 1996, the level in the first half of 1997 was nonetheless a seasonally adjusted 1.2 per cent above the average for last year.

Traditional merchandise imports rose in volume by a seasonally adjusted 3.6 per cent in the first quarter of 1997, and in the first half of the year these imports were 5.7 per cent higher than the average for last year. Imports of cars and other motor vehicles have contributed to curbing the growth in imports the last two quarters, while imports of engineering products have boosted the figures. Prices for traditional imported goods showed little change between the first and second quarter after declining by about 2 per cent, seasonally adjusted, in the previous quarter. In the first half of 1997 prices for traditional imported goods were a good 2 per cent lower than the average level for last year. Compared with prices for traditional export goods, this entails a moderate terms of trade gain.

According to preliminary figures from the new quarterly employment accounts, the number of persons employed advanced by about 64 000, or 3 per cent, from the first half of 1996 to the first half of 1997. Employment rose by 2.5 per cent from 1995 to 1996, while it expanded by 2.1 and 1.3 per cent, respectively, in the previous two years. Unemployment, measured by Statistics Norway's Labour Force Survey (LFS), was reduced by a good 12 000 between the first half of 1996 and first half of 1997. The sharp rise in the labour force over the past few years thus appears to have continued in 1997. Adjusted for normal seasonal variations, LFS unemployment edged up from 4.3 per cent in the first quarter to 4.5 per cent in the second quarter. However, the Directorate of Labour's figure for the sum of registered unemployed and persons participating in labour market programmes, excluding rehabilitation, has continued to decline up to end-August 1997. The number of unfilled vacancies at employment offices, which increased at a fairly moderate pace up to end-June 1996, has risen markedly over the past year. In relation to the labour force the number of vacancies is now on a par with the historically high level recorded in 1987. However, according to Statistics Norway's general business tendency survey, during the last two quarters there has been no further increase in the number of manufacturing enterprises reporting that the supply of labour has a limiting effect on production, while a sharp rise in this indicator through the first half of 1996 brought it on a par with the level recorded at the peak of the boom in the mid-1980s.

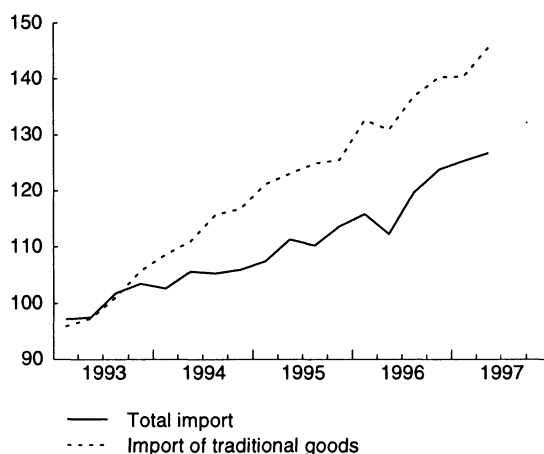
In the first seven months of 1997 the consumer price index was an average 2.8 per cent higher than in the same period last year. The year-on-year rise moved up from 1.8 per cent in the fourth quarter of 1996 to 3.1 per cent in the first quarter of 1997. The rise in prices was 2.7 per cent in the second quarter, but was reduced to 2.2 per cent in July. The increase in electricity prices through the second half of 1996 and up to January 1997, followed by a pronounced decline in April and July, is an important factor behind this performance. In addition, car taxes contributed to pushing down the year-on-year rise in the consumer price index last year, whereas this year a number of excise duties were increased substantially more than the general rise in prices. The elimination of VAT compensation from 1 July 1996 also contributed to reducing year-on-year price inflation from June to July this year. On an annual basis, consumer prices are likely to rise by 2.5 per cent, which will be slightly higher than the average for our main trading partners. About half a percentage point of the rise in prices in Norway this year, however, is ascribable to changes in indirect taxes in excess of an inflation adjustment.

So far the results of this year's wage settlement indicate that wage growth will be lower in 1997 than in 1996. True, the Technical Reporting Committee for Income Settlements projected an average carry-over into 1997 of 2.0 per cent, against 1.2 per cent last year. For large employee groups, however, it appears that the contribution to annual wage growth from the centralised pay increases and from wage drift in the first quarter is substantially lower in 1997 than in 1996. All in all, annual wage growth is likely to be about 4 per cent, or around 0.5 percentage point lower than wage growth from 1995 to 1996.

Through 1995 and 1996 the Norwegian krone appreciated against the ECU, and between October 1996 and up to 9 January this year the krone came under relatively strong appreciation pressures. After Norges Bank for the second time in two months lowered its key rates by half a percentage point on 9 January 1997 and halted its exchange-market interventions to stabilize the currency, the krone depreciated considerably in the period to end-July. Since then the krone has again appreciated slightly, and as an average for the months July and August the rate of exchange between the Norwegian krone and the ECU was back to the average level for 1996. A pronounced rise in the dollar exchange rate this year has resulted in an import-weighted depreciation of the krone in the same period of nearly 3 per cent in relation to the average for 1996.

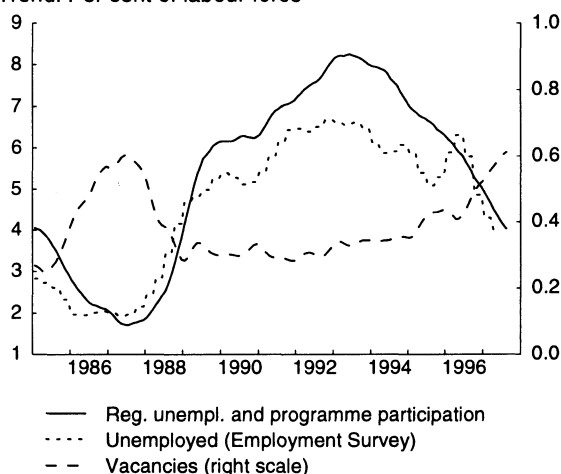
Following a decline at the beginning of 1997, Norwegian money market rates have been fairly stable through the remaining months of the first half of the year. Financial institutions' interest rates, however, declined through the period, and at end-June were a good one percentage point lower than the level one year earlier. The fall in interest rates at the beginning of 1997 may be one of the reasons that credit growth this year has picked up relative to the growth in nominal mainland GDP. Household net financial assets as a percentage of GDP have been growing from

**Imports**  
Seasonally adjusted volume indices, 1993=100



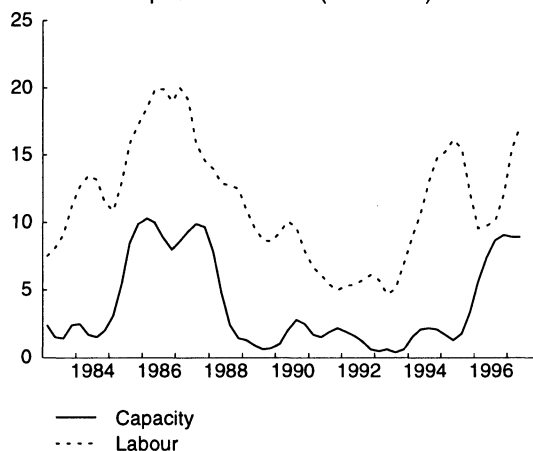
Source: Statistics Norway.

**Unemployed and vacancies**  
Trend. Per cent of labour force



Sources: The Directorate of Labour and Statistics Norway.

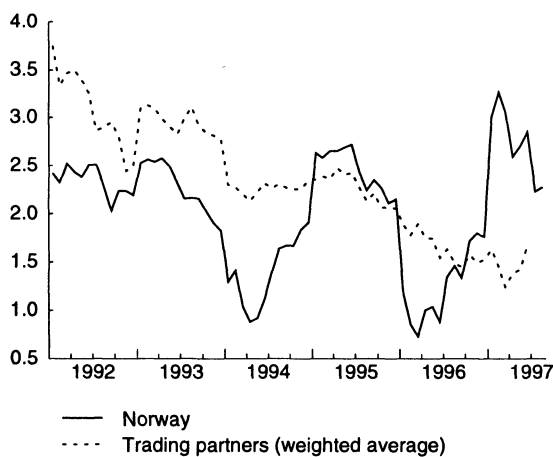
**General business tendency survey.**  
**Factors limiting production in manufacturing**  
Share of enterprises. Per cent (smoothed)



Source: Statistics Norway.

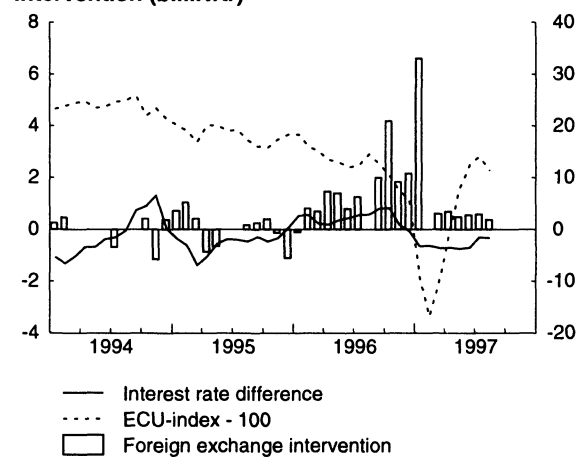
### Consumer price indices

Measured from the same month the previous year



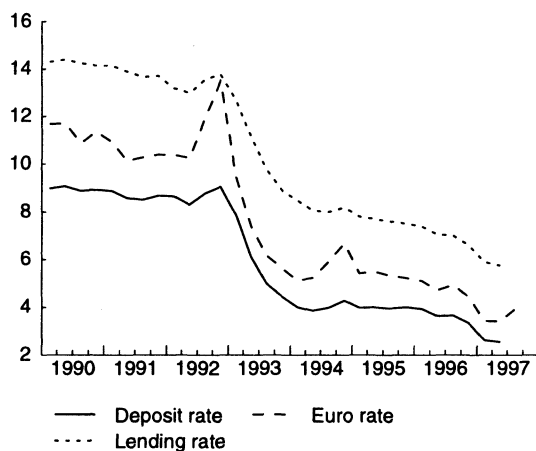
Source: Statistics Norway.

### Interest rate difference and exchange rate against ECU and Norges Bank's foreign exchange intervention (bill.NKr)



Source: Norges Bank.

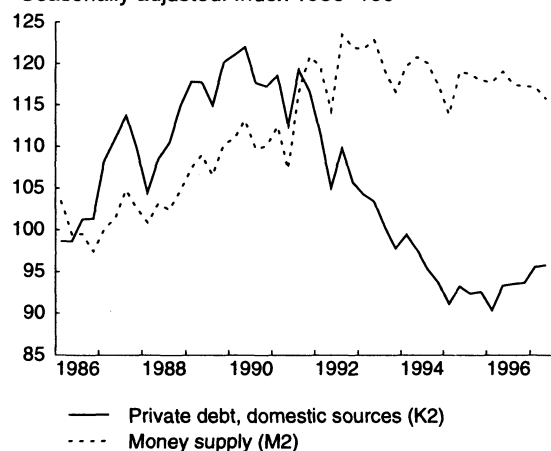
### Average deposit and lending rate in private financial institutions and 3 month NKr euro rate



Source: Norges Bank.

### Money supply and private debt

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



Source: Statistics Norway and Central Bank of Norway.

1988 through the first quarter of 1997, which is the last quarter covered by the data. In July, money market rates began to move up again, and the interest rate differential against the ECU narrowed. On 16 July Norges Bank raised its key rates for banks by 0.25 percentage point. Since then a number of financial institutions have raised their lending rates.

The surplus on the current account is provisionally estimated at NKr 35.6 billion in the first half of 1997, equivalent to 6.8 per cent of GDP. The surplus was NKr 1.5 billion lower than in the first half of 1996. The deterioration can in its entirety be ascribed to an increase of NKr 2.1 billion in the deficit on the interest and transfers balance as a result of higher net transfers abroad (NKr 1.2 billion), higher net interest expenditure (NKr 0.5 billion) and higher net dividend payments (NKr 0.5 billion). The value of oil and gas exports in the first half of 1997 was a good NKr 11 billion higher than the level one year earlier. Net imports of

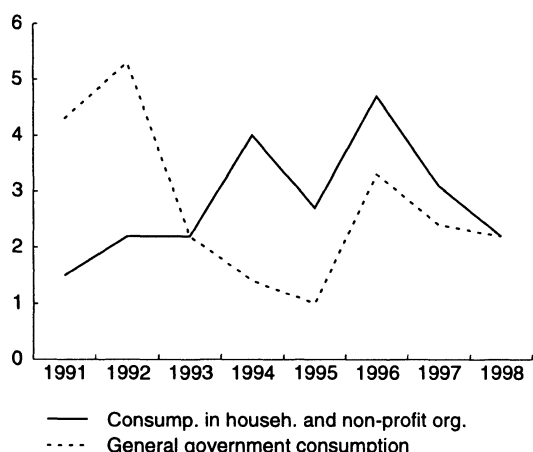
traditional goods, services as well as ships and oil platforms each showed a rise in value of more than NKr 3 billion in the same period.

## Outlook for the remainder of 1997 and 1998

### Slightly higher growth in OECD

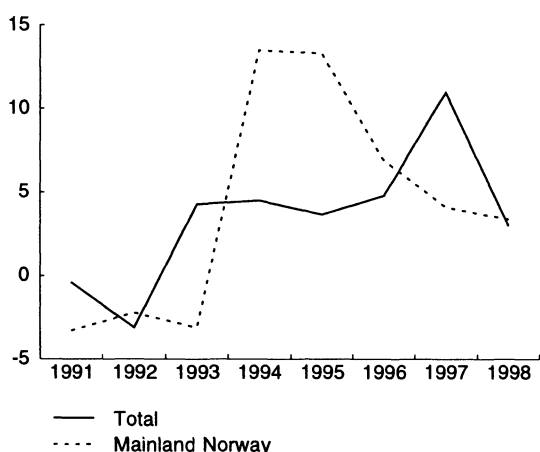
Our assessment of the international cyclical situation has not changed since the last Economic Survey was published in June. GDP growth in Norway's trading partner countries is expected to be higher in both 1997 and 1998 than in 1996. Growth will pick up in most European countries after moving on a sluggish trend in 1996, while growth in the US is expected to slow from a high level in 1997. The inflation rate among our trading partners is projected to remain broadly unchanged or rise marginally in the period ahead. The indicator of market growth for Norway's tradi-

**Consumption**  
Percentage growth



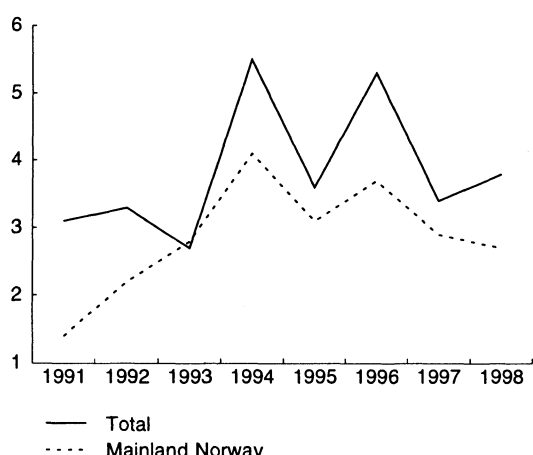
Sources: Statistics Norway

**Gross fixed capital formation**  
Percentage growth



Sources: Statistics Norway

**Gross domestic product**  
Percentage growth



Sources: Statistics Norway

tional merchandise exports, which is based on trading partners' imports, only rose by 3 per cent in 1996. We now project that our traditional export markets will grow by 7 per cent in 1997 and 6 per cent in 1998.

Economic policy in many OECD countries has in recent years been characterized by a tightening of fiscal policy and a relatively expansionary monetary policy. There are no signs of significant changes in this picture; nor do cyclical developments indicate any adjustments of importance in the short term. With a slightly higher rate of growth for GDP, however, money market rates can be expected to edge up through 1998. The uncertainty concerning the EMU process, however, makes it difficult to make any definite comments on policy formulation in the period ahead.

**Strong contribution to growth from petroleum activities**

Oil companies' investment estimates for 1997 have once again been revised upwards. Total petroleum investment is now projected to expand by about 26 per cent, whereas this investment declined slightly from 1995 to 1996. Investment growth is put at nearly 40 per cent for exploration, field development and pipeline transport, while total investment in fields in operation and land facilities is expected to remain unchanged. Petroleum investment is expected to continue to expand in 1998, but in relation to the high level in 1997 growth is expected to be modest. According to our estimates, the level of investment in 1997 and 1998 will almost be back to the record level of 1993.

Oil and gas production is expected to continue to rise by a substantial margin the next few years. Gas production in particular is projected to increase sharply - a good 10 per cent in both 1997 and 1998, according to our estimates. Oil production is projected to expand by about 5 per cent in 1997 and as much as 9 per cent next year. Gross output in the petroleum sector is estimated to grow by 6 per cent in 1997 and nearly 10 per cent next year, thereby boosting total GDP growth considerably.

Crude oil prices have in recent months been about \$ 18 p/b. The high dollar exchange rate this summer has contributed to increasing the krone price in relation to the level in the second quarter when the average price was about NKr 130 p/b. In July, the Norwegian export price was thus NKr 134 p/b, and the price in August is estimated to have been more than NKr 141 p/b. We now project that the average price will be NKr 134 p/b in 1997 and, as in the previous Economic Survey, NKr 119 p/b in 1998.

**Unchanged growth impetus from fiscal policy**

General government consumption grew by a good 2 per cent in the first half of 1997 compared with the same period one year earlier. Growth is expected to be slightly higher in the second half of 1997, entailing that annual growth will be about 2.5 per cent. Approximately the same increase is projected for next year. General government



**Main economic indicators**

Percentage change from previous year unless otherwise noted

	Accounts 1996	Forecasts					
		SN 1997	NB <sup>1</sup> 1997	MoF <sup>2</sup> 1997	SN 1998	NB <sup>1</sup> 1998	MoF <sup>2</sup> 1998
<b>Demand and output</b>							
Consumption in household and non-profit organizations	4.7	3.0	3 1/2	3.2	2.2	3 1/4	2.4
General government consumption	3.3	2.4	2 3/4	2.0	2.2	1 3/4	1.7
Gross fixed investment	4.8	11.0	10 1/4	8.2	3.0	4 1/2	1.9
-Mainland Norway	6.6	4.1	7 1/2	5.8	3.4	4 3/4	1.9
-petroleum activities	-4.4	26.9	20	18.5	1.9	4	1.5
Demand from mainland Norway <sup>3</sup>	4.7	3.1	4	3.4	2.4	3 1/4	2.1
Stockbuilding <sup>4</sup>	-0.5	-0.2		-0.1	0.0		0.2
Exports	10.0	4.3	5	5.1	6.0	6 1/2	6.8
- crude oil and natural gas	15.5	5.5	7	6.8	9.5	10 3/4	10.1
- traditional goods	10.3	5.5	4	4.0	4.6	5	5.5
Imports	6.5	6.9	7	5.2	2.5	4 3/4	4.5
- traditional goods	9.3	4.9	6	4.0	2.2	4	5.1
Gross domestic product	5.3	3.4	3 3/4	3.9	3.8	4	3.5
- Mainland Norway	3.7	2.9	3 1/4	3.3	2.7	3	2.3
<b>Labour market</b>							
Employed persons	2.5	2.7	2 1/4	2	1.4	1 1/2	1
Unemployment rate (level)	4.9	4.1	4	4	3.9	3 3/4	4
<b>Prices and wages</b>							
Wages per standard man-year	4.4	3.9	4	3.5	3.9	4 1/4	
Consumer price index	1.3	2.5	2 1/2	2.5	2.1	2	
Export prices, traditional goods	-1.5	-0.1	3	2.5	1.1	2	2.6
Import prices, traditional goods	0.4	-1.0	-1/4	0.5	0.1	1 1/4	1.2
Real price, dwellings	7.1	6.5			5.3		
<b>Balance of payment</b>							
Current balance (bill. Nkr)	72.7	73.0	86	81.3	81.2	93	92
Current balance (per cent of GDP)	7.1	6.7	8		7.2	8	
<b>Memorandum items:</b>							
Household savings ratio	5.5	5.5	4 1/2	4.7	6.0	4 1/4	5.0
Money market rate (level)	4.8	3.7			4.3		
Average borrowing rate (level) <sup>5</sup>	7.1	6.1			6.5		
Crude oil price Nkr (level) <sup>6</sup>	132	134	130	125	119	125	118
International market growth	2.7	6.5			6.0		
Importweighted krone exchange rate <sup>7</sup>	0.2	0.0			1.3		

1 NB: Forecasts according to Norges Bank, Penger og kreditt 1997/2.

2 MoF: Ministry of Finance's forecasts. Revised national budget 1997.

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

4 Change in stockbuilding. Per cent of GDP.

5 Households' borrowing rate in private financial institutions.

6 Average, Norwegian oil production.

7 Increasing index implies depreciation.

gross investment has in recent periods been influenced by high investment in school buildings in connection with the school reform (school start for 6-year-olds). It appears that this investment is extending over a longer period, but will be scaled back considerably in 1998. It is assumed that this decline will be offset by higher investment in the health and care sector. Our projections for general government expenditure on goods and services therefore entail growth rates approximately on a par with the growth in mainland GDP.

The estimates for direct and indirect tax rates are based on an inflation adjustment of nominal rates at the beginning

of next year. All in all, fiscal policy is assumed to be cyclically neutral in 1998.

**Brisk growth in output and demand**

The upturn in the mainland economy is continuing at a brisk pace primarily as a result of the high investment growth from 1996 to 1997. Whereas fixed investment rose by about 5 per cent in 1996, it is now projected to expand by 11 per cent in 1997. This is being spurred by both robust growth in petroleum investment and an appreciable rise in housing investment. Total consumption growth remains high but is expected to be noticeably lower than in 1996.

Exports are projected to expand at a slower pace in 1997 than in 1996. This particularly applies to oil and gas exports, but must be viewed in relation to a 15.5 per cent increase last year. Output growth is still expected to decline compared with 1996, and growth in the mainland economy is estimated at a little less than 3 per cent. Total GDP is projected to expand by 3.4 per cent in 1997.

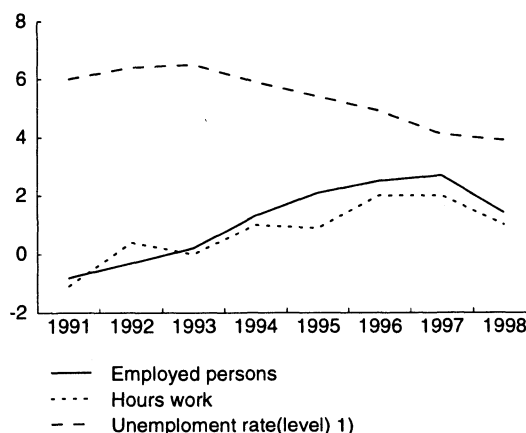
Whereas the contribution to growth from fiscal policy will be maintained in 1998, the contribution from private gross fixed investment will be reduced substantially next year, according to our projections. An important factor here is petroleum investment, which is projected to increase only slightly from 1997 to 1998. Manufacturing investment is expected to expand at a somewhat faster pace in 1998 than in 1997. It is worth noting, however, that both petroleum and manufacturing investment have now reached a high level. Housing investment is expected to rise considerably from 1997 to 1998, partly fuelled by low interest rates and substantial increases in prices for existing dwellings. Total investment in private services is not expected to rise next year, partly because the Gardermoen airport project will be phased out during the second half of 1998. Investment in the power supply sector is projected to increase substantially from 1997 to 1998 as we have assumed that the construction of a gas-generated power station will start in 1998.

The household saving ratio is not expected to show major changes from 1996 to 1997, while the saving ratio will increase slightly next year. This is due to a shift in household demand from consumption to housing investment. Household saving in financial assets is expected to edge down in the period ahead. Since households as a whole are net creditors, the decline in interest rates between 1996 and 1997 will contribute to reducing household income. This situation will be reversed to some extent in 1998 due to a slight increase in interest rates as well as somewhat stronger growth in real wages than in the previous year.

Traditional merchandise exports recorded vigorous growth in 1996, and the rate of growth is projected to be slightly lower in 1997. Exports of farmed fish, which have risen sharply for several years, are expected to be negatively affected by the limitation in export growth to the EU which entered into force in July this year. However, the moderate cyclical upturn among our trading partners will, in isolation, help to boost growth in traditional merchandise exports.

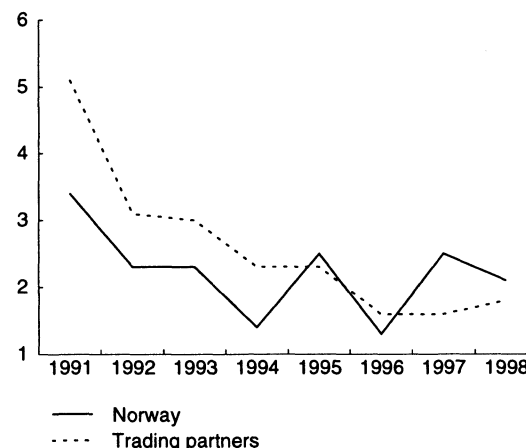
In spite of the slower growth in domestic demand from 1997 to 1998, output growth will show little change. This is particularly ascribable to the lower rate of growth for the most import-intensive investment components from 1997 to 1998, whereas e.g. housing investment, which is to a lesser degree based on imports, is projected to expand sharply. The substantial upward revision in import growth compared with the last Economic Survey is related to higher investment projections, e.g. in the petroleum sector. Output growth in the period ahead is also influenced by our assumption of more normal production in the power supply

**Labour market**  
Percent



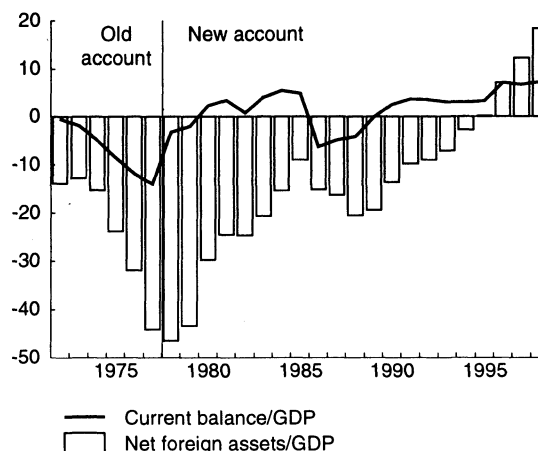
1) Adj. for stat. rev. from 1996.  
Sources: Statistics Norway

**Consumer price indices**  
Percentage growth



Sources: Statistics Norway

**Current balance and foreign assets 1972-1998**  
Per cent of GDP. Forecasts for 1997 and 1998



Source: Statistics Norway.

sector following the low level recorded in the second half of 1996 and first half of 1997. This also results in a decline in electricity imports.

### **Strong employment growth and fall in unemployment**

The brisk growth in employment and fall in unemployment continue. According to Statistics Norway's Labour Force Survey (LFS), unemployment is now declining at a slower pace than the number of registered unemployed according to the Directorate of Labour, a development which is normal when unemployment approaches lower levels. This entails that many who are not entitled to unemployment benefits seek employment without registering. Even though the labour force has expanded sharply, the number of unfilled vacancies has also increased. Pressures have thus arisen in some parts of the labour market. LFS unemployment is projected to fall to about 4 per cent in 1997.

The question is whether the brisk growth in the labour force will continue and thereby help to curb pressures in the labour market. According to our estimates, unemployment will continue to decline slightly in 1998 so that pressures in the labour market will increase in the period ahead. This is based on the assumption that labour force participation will continue to rise but at a somewhat slower pace than in earlier years.

Investment growth in 1997 has gradually been revised upwards by a considerable margin. If this upward adjustment also occurs in 1998, pressures in parts of the labour market will be stronger than assumed here. Petroleum investment is expected to decline substantially in the years after 1998. This will contribute to alleviating pressures in the labour market after 1998, and unemployment may edge up. If, on the other hand, this decline does not materialize, pressures in the labour market will be maintained. In this situation the Norwegian economy will be vulnerable to an unexpected increase in demand or reduction in the labour force e.g. as a result of political reforms. It is worth noting, however, that the cyclical upturn in the Norwegian economy has not primarily been consumption-led, but has to an even greater extent been influenced by high investment growth. This has contributed to substantial increases in capacity in most industries, which partly explains why the cyclical upturn has not triggered accelerating price and wage inflation.

### **Slightly lower inflation and higher real wage growth next year**

As expected, the year-on-year rise for the consumer price index (CPI) fell markedly in July 1997, when it stood at 2.2 per cent. The year-on-year inflation rate is expected to decline further towards the end of this year because electricity prices will not increase this autumn and winter as was the case one year ago. The rise in rents, where a tight housing market is resulting in an increase in prices, has the opposite effect. It is now assumed that the CPI will rise by an average 2.5 per cent from 1996 to 1997.

If the rates for indirect taxes are only adjusted for the general rise in prices, this will in isolation push down the annual rate of increase in the CPI by 0.4 per cent in 1998. In addition, lower electricity prices may further reduce the inflation rate by a few tenths of a percentage point. Based on our assumptions, consumer price inflation will therefore be less than 2 per cent at the beginning of 1998, edging up in the second half of the year so that the annual rise will be a little more than 2 per cent.

The rate of exchange between the Norwegian krone and the ECU is assumed to remain unchanged in the period ahead, while we assume that the dollar exchange rate will weaken somewhat. Due to the appreciation of the krone at the beginning of 1997, the import-weighted krone exchange rate will depreciate slightly measured as an annual average for 1998 compared with 1997.

Wage growth in 1997 is still expected to be about 4 per cent and approximately the same in 1998. This estimate is slightly higher than assumed in the last Economic Survey, and primarily reflects the assumption that unemployment will be a little lower in both 1997 and 1998 than projected earlier. This entails that real wage growth will increase by about half a percentage point more in 1998 than in 1997 when it is estimated at about 1.5 per cent.

### **Substantial current-account surplus**

High oil production and high oil prices will result in a substantial surplus on the current account in 1997. Despite a projected decline in oil prices next year, higher oil and gas production will entail that the value of oil and gas exports may be approximately unchanged from 1997 to 1998. As a result of the shift in the composition of domestic demand from import-intensive to sheltered goods, the growth in imports will be considerably lower in 1998 than in 1997. This, along with a projected moderate rise in import prices, will contribute to an improvement in the balance of trade. In addition, the interest and transfers balance will show an improvement, partly due to higher foreign interest and partly due to the accumulation of foreign assets as a result of current-account surpluses. Norway's net foreign assets at the end of the second quarter of this year came to a good NKr 94 billion. Net foreign assets at the end of 1998 are estimated at a little more than NKr 200 billion, or 18 per cent of nominal GDP.

**National accounts: Final expenditure and gross domestic product**

At fixed 1993-prices. Million kroner

	Unadjusted		Seasonally adjusted							
	1995	1996	95.3	95.4	96.1	96.2	96.3	96.4	97.1	97.2
Final consumption exp. of househ. and NPISHs <sup>1</sup>	439745	460253	111000	110688	113934	113660	115673	116986	116971	118715
Household final consumption expenditure . . . . .	418273	438615	105624	105284	108519	108282	110269	111545	111450	113117
Goods . . . . .	236636	250933	59939	59163	62579	61684	62854	63816	63236	64655
Services . . . . .	178753	183822	44856	45351	45533	45663	46048	46577	46658	46908
Direct purchases abroad by										
resident households . . . . .	17412	18384	4317	4515	4196	4510	4896	4781	5178	5191
-Direct purchases by non-residents . . . . .	-14528	-14524	-3488	-3745	-3789	-3576	-3530	-3629	-3622	-3636
Final consumption exp. of NPISHs . . . . .	21471	21639	5376	5404	5415	5378	5404	5441	5521	5598
Final consump. exp. of general government . . . . .	184282	190313	46289	46689	46898	47331	47934	48151	48176	48170
Final consump. exp. of central government . . . . .	74479	77587	18700	18830	19105	19321	19565	19597	19606	19385
Central government, civilian . . . . .	53687	55914	13491	13595	13709	13909	14112	14184	14259	14120
Central government, defence . . . . .	20792	21673	5209	5236	5396	5412	5453	5413	5347	5266
Final consump. exp. of local government . . . . .	109803	112726	27590	27858	27793	28010	28369	28555	28569	28785
Gross fixed capital formation . . . . .	182235	190998	44006	46967	46566	46055	48543	49835	51528	54364
Petroleum activities . . . . .	45417	42932	11116	12031	10981	10262	11070	10619	12939	14339
Ocean transport . . . . .	3483	5882	-772	1552	534	978	1608	2762	2509	1816
Mainland Norway . . . . .	133336	142184	33662	33384	35051	34814	35865	36454	36080	38208
Mainland Norway ex. general government . . . . .	105647	113171	26560	26848	27604	27789	28442	29336	28903	29711
Manufacturing and mining . . . . .	15823	17156	4080	4076	4231	4290	4251	4383	4440	4861
Production of other goods . . . . .	11459	11290	2792	2885	2871	2707	2777	2935	2723	2894
Dwelling services . . . . .	24544	23080	5988	6043	5783	5697	5795	5805	6068	6237
Other services . . . . .	53821	61644	13699	13844	14718	15095	15618	16213	15672	15719
General government . . . . .	27689	29014	7102	6536	7448	7025	7423	7118	7177	8498
Changes in stocks and stat. discrepancies . . . . .	27455	22872	6575	7584	7099	5756	6103	3914	6411	3988
Gross capital formation . . . . .	209691	213870	50581	54551	53665	51811	54646	53749	57938	58352
Final domestic use of goods and services . . . . .	833718	864437	207871	211927	214496	212802	218252	218887	223085	225238
Final demand from mainland Norway <sup>2</sup> . . . . .	757363	792751	190952	190760	195883	195805	199471	201592	201227	205094
Final demand from general government <sup>3</sup> . . . . .	211971	219327	53391	53224	54345	54356	55357	55269	55353	56668
Total exports . . . . .	355919	391488	89801	91433	96990	95552	98285	100660	99121	101623
Traditional goods . . . . .	131716	145246	33253	32760	36913	35382	36177	36773	36991	39546
Crude oil and natural gas . . . . .	125818	145312	30946	34445	34939	36057	37060	37256	36945	37101
Ships and oil platforms . . . . .	10888	8785	3715	2133	2615	2078	1275	2817	1847	1408
Services . . . . .	87498	92145	21886	22095	22523	22035	23774	23813	23337	23568
Total use of goods and services . . . . .	1189637	1255925	297672	303360	311486	308354	316538	319547	322206	326861
Total imports . . . . .	289675	308520	72103	74395	75772	73446	78326	80975	81978	82864
Traditional goods . . . . .	197477	215786	49860	50123	52928	52253	54619	55987	56033	58055
Crude oil . . . . .	1244	1176	328	185	214	219	226	517	392	317
Ships and oil platforms . . . . .	13206	13925	2423	5024	3732	2248	3612	4333	4936	3348
Services . . . . .	77748	77633	19492	19063	18899	18727	19868	20139	20616	21145
Gross domestic product <sup>4</sup> . . . . .	899962	947405	225569	228965	235714	234907	238212	238571	240228	243997
Mainland Norway (market prices) . . . . .	746445	773844	187093	188472	193466	191756	193566	195056	195749	199163
Petroleum activities and ocean transport . . . . .	153517	173561	38476	40493	42248	43151	44646	43515	44479	44834
Mainland Norway (basic prices) . . . . .	663381	683450	166069	167317	171018	169786	170930	171716	173573	175948
Mainland Norway ex. general government . . . . .	525189	541580	131318	132283	136060	134455	135264	135800	137527	139726
Manufacturing and mining . . . . .	103209	106024	25641	25691	26790	25872	26712	26650	26342	26844
Production of other goods . . . . .	74935	72466	18913	19366	19284	17950	17430	17802	18207	18993
Service industries . . . . .	347045	363090	86764	87226	89985	90633	91123	91348	92978	93889
General government . . . . .	138192	141870	34751	35034	34958	35331	35665	35916	36046	36222
Correction items . . . . .	83064	90394	21024	21156	22448	21970	22636	23340	22176	23215

Notes, see "Technical comments".

**National accounts: Final expenditure and gross domestic product**

Percentage volume change in 1993-prices

	Unadjusted		Seasonally adjusted							
	1995	1996	95.3	95.4	96.1	96.2	96.3	96.4	97.1	97.2
Final consumption exp. househ. and NPISHs <sup>1</sup>	2.7	4.7	0.9	-0.3	2.9	-0.2	1.8	1.1	-0.0	1.5
Household final consumption expenditure	3.1	4.9	0.9	-0.3	3.1	-0.2	1.8	1.2	-0.1	1.5
Goods	2.8	6.0	1.3	-1.3	5.8	-1.4	1.9	1.5	-0.9	2.2
Services	2.8	2.8	1.1	1.1	0.4	0.3	0.8	1.1	0.2	0.5
Direct purchases abroad by										
resident households	0.8	5.6	-10.7	4.6	-7.1	7.5	8.5	-2.3	8.3	0.2
-Direct purchases by non-residents	-6.9	-0.0	-5.6	7.4	1.2	-5.6	-1.3	2.8	-0.2	0.4
Final consumption exp. of NPISHs	-3.5	0.8	0.2	0.5	0.2	-0.7	0.5	0.7	1.5	1.4
Final consump. exp. of general government	1.0	3.3	0.8	0.9	0.4	0.9	1.3	0.5	0.1	-0.0
Final consump. exp. of central government	-0.2	4.2	0.5	0.7	1.5	1.1	1.3	0.2	0.0	-1.1
Central government, civilian	0.5	4.1	0.3	0.8	0.8	1.5	1.5	0.5	0.5	-1.0
Central government, defence	-1.9	4.2	1.1	0.5	3.1	0.3	0.8	-0.7	-1.2	-1.5
Final consump. exp. of local government	1.8	2.7	0.9	1.0	-0.2	0.8	1.3	0.7	0.1	0.8
Gross fixed capital formation	3.7	4.8	-3.1	6.7	-0.9	-1.1	5.4	2.7	3.4	5.5
Petroleum activities	-13.5	-5.5	5.3	8.2	-8.7	-6.5	7.9	-4.1	21.8	10.8
Ocean transport	-32.7	68.9	-148.0	-301.0	-65.6	83.3	64.4	71.8	-9.2	-27.6
Mainland Norway	12.9	6.6	1.3	-0.8	5.0	-0.7	3.0	1.6	-1.0	5.9
Mainland Norway ex. general government	16.3	7.1	0.7	1.1	2.8	0.7	2.3	3.1	-1.5	2.8
Manufacturing and mining	42.0	8.4	-0.4	-0.1	3.8	1.4	-0.9	3.1	1.3	9.5
Production of other goods	3.7	-1.5	-2.0	3.3	-0.5	-5.7	2.6	5.7	-7.2	6.3
Dwelling services	13.0	-6.0	-3.5	0.9	-4.3	-1.5	1.7	0.2	4.5	2.8
Other services	14.6	14.5	3.6	1.1	6.3	2.6	3.5	3.8	-3.3	0.3
General government	1.6	4.8	3.5	-8.0	14.0	-5.7	5.7	-4.1	0.8	18.4
Changes in stocks and stat. discrepancies	100.2	-16.7	-14.4	15.3	-6.4	-18.9	6.0	-35.9	63.8	-37.8
Gross capital formation	10.6	2.0	-4.7	7.8	-1.6	-3.5	5.5	-1.6	7.8	0.7
Final domestic use of goods and services	4.2	3.7	-0.6	2.0	1.2	-0.8	2.6	0.3	1.9	1.0
Final demand from mainland Norway <sup>2</sup>	4.0	4.7	0.9	-0.1	2.7	-0.0	1.9	1.1	-0.2	1.9
Final demand from general government <sup>3</sup>	1.1	3.5	1.1	-0.3	2.1	0.0	1.8	-0.2	0.2	2.4
Total exports	3.6	10.0	3.5	1.8	6.1	-1.5	2.9	2.4	-1.5	2.5
Traditional goods	4.2	10.3	4.7	-1.5	12.7	-4.1	2.2	1.7	0.6	6.9
Crude oil and natural gas	8.1	15.5	2.4	11.3	1.4	3.2	2.8	0.5	-0.8	0.4
Ships and oil platforms	2.1	-19.3	23.8	-42.6	22.6	-20.6	-38.6	121.0	-34.4	-23.8
Services	-2.8	5.3	0.4	1.0	1.9	-2.2	7.9	0.2	-2.0	1.0
Total use of goods and services	4.0	5.6	0.6	1.9	2.7	-1.0	2.7	1.0	0.8	1.4
Total imports	5.5	6.5	-1.0	3.2	1.9	-3.1	6.6	3.4	1.2	1.1
Traditional goods	9.4	9.3	1.5	0.5	5.6	-1.3	4.5	2.5	0.1	3.6
Crude oil	32.0	-5.5	-14.1	-43.7	15.6	2.2	3.6	128.6	-24.3	-19.2
Ships and oil platforms	7.0	5.4	-5.4	107.3	-25.7	-39.8	60.7	19.9	13.9	-32.2
Services	-3.6	-0.1	-6.3	-2.2	-0.9	-0.9	6.1	1.4	2.4	2.6
Gross domestic product <sup>4</sup>	3.6	5.3	1.2	1.5	2.9	-0.3	1.4	0.2	0.7	1.6
Mainland Norway (market prices)	3.1	3.7	0.8	0.7	2.6	-0.9	0.9	0.8	0.4	1.7
Petroleum activities and ocean transport	5.9	13.1	2.7	5.2	4.3	2.1	3.5	-2.5	2.2	0.8
Mainland Norway (basic prices)	2.8	3.0	0.6	0.8	2.2	-0.7	0.7	0.5	1.1	1.4
Mainland Norway ex. general government	3.0	3.1	0.5	0.7	2.9	-1.2	0.6	0.4	1.3	1.6
Manufacturing and mining	3.0	2.7	-0.9	0.2	4.3	-3.4	3.2	-0.2	-1.2	1.9
Production of other goods	8.4	-3.3	2.5	2.4	-0.4	-6.9	-2.9	2.1	2.3	4.3
Service industries	1.9	4.6	0.5	0.5	3.2	0.7	0.5	0.2	1.8	1.0
General government	1.8	2.7	1.1	0.8	-0.2	1.1	0.9	0.7	0.4	0.5
Correction items	5.9	8.8	2.4	0.6	6.1	-2.1	3.0	3.1	-5.0	4.7

Notes, see "Technical comments".

**National accounts: Selected price indices**

1993 = 100

	Unadjusted		Seasonally adjusted							
	1995	1996	95.3	95.4	96.1	96.2	96.3	96.4	97.1	97.2
Final consumption exp. of household and NPHIs <sup>1</sup>	104.0	105.2	104.1	104.8	103.7	105.0	105.8	106.4	107.6	108.0
Final consumption exp. of general government	106.3	109.7	106.5	106.9	109.1	109.6	109.6	110.6	112.1	112.3
Gross fixed capital formation	105.8	109.1	106.7	107.1	107.2	109.5	108.9	110.6	109.4	110.5
Mainland Norway	105.8	109.3	106.4	107.2	107.4	109.2	109.4	111.2	109.1	108.9
Final domestic use of goods and services	104.7	107.0	105.3	105.8	104.8	107.0	107.9	108.4	108.5	108.3
Final demand from mainland Norway <sup>2</sup>	104.9	107.0	105.1	105.8	105.7	106.8	107.3	108.2	109.0	109.2
Total exports	99.3	105.4	97.8	98.7	101.4	104.2	105.3	110.6	108.5	105.8
Traditional goods	108.9	107.3	108.4	108.7	106.7	107.5	106.2	108.8	106.6	104.3
Total use of goods and services	103.1	106.5	103.1	103.7	103.7	106.1	107.1	109.1	108.5	107.5
Total imports	102.7	103.7	102.4	103.0	103.1	103.8	103.1	104.7	103.7	104.1
Traditional goods	102.8	103.2	102.4	102.7	103.6	103.4	102.5	103.2	101.1	100.9
Gross domestic product <sup>4</sup>	103.2	107.4	103.3	103.9	103.9	106.8	108.4	110.6	110.2	108.7
Mainland Norway (market prices)	106.3	107.9	106.8	107.5	105.6	108.2	108.1	109.6	109.6	110.6

Notes, see "Technical comments".

**National accounts: Selected price indices**

Percentage change from previous year

	Unadjusted		Seasonally adjusted							
	1995	1996	95.3	95.4	96.1	96.2	96.3	96.4	97.1	97.2
Final consumption exp. of household and NPHIs <sup>1</sup>	2.8	1.1	0.7	0.7	-1.1	1.2	0.7	0.6	1.2	0.3
Final consumption exp. of general government	3.9	3.3	0.6	0.4	2.1	0.5	0.0	0.9	1.3	0.2
Gross fixed capital formation	3.7	3.1	0.6	0.3	0.1	2.2	-0.6	1.6	-1.1	1.0
Mainland Norway	3.7	3.3	0.5	0.7	0.2	1.6	0.2	1.6	-1.9	-0.2
Final domestic use of goods and services	3.0	2.2	1.0	0.4	-1.0	2.1	0.9	0.4	0.1	-0.2
Final demand from mainland Norway <sup>2</sup>	3.3	2.0	0.7	0.6	-0.1	1.1	0.5	0.8	0.7	0.2
Total exports	2.3	6.2	-2.6	1.0	2.7	2.8	1.0	5.1	-1.9	-2.5
Traditional goods	7.1	-1.5	-0.1	0.3	-1.8	0.7	-1.2	2.5	-2.0	-2.2
Total use of goods and service	2.8	3.3	-0.1	0.6	0.0	2.3	0.9	1.9	-0.5	-0.9
Total imports	1.0	1.0	0.2	0.6	0.1	0.7	-0.7	1.6	-1.0	0.4
Traditional goods	0.7	0.4	-0.6	0.3	0.9	-0.3	-0.8	0.7	-2.0	-0.2
Gross domestic product <sup>4</sup>	3.4	4.1	-0.2	0.6	-0.0	2.8	1.5	2.0	-0.3	-1.3
Mainland Norway (market prices)	4.5	1.5	0.8	0.7	-1.8	2.4	-0.0	1.4	-0.0	0.9

Notes, see "Technical comments".

**Technical comments on the quarterly figures**

## Footnotes:

<sup>1</sup> NPHIs: Non-profit institutions serving households.<sup>2</sup> Defined as total final consumption expenditure plus gross fixed capital formation in mainland Norway.<sup>3</sup> Defined as general governments final consumption expenditure plus gross fixed capital formation.<sup>4</sup> Gross domestic product is measured at market prices, while value added by industry is measured at basic prices.

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

*Base year and chain linking of the data:* In the quarterly national accounts (QNA) all volume measures are currently calculated at constant 1993 prices using weights from that year. The choice of base year influences the constant-price figures and thus the annual rates of change in volume (growth rates). For the sake of comparison, all tables present growth rates with 1993 as the base year (common year of recalculation). The recalculation of prices is carried out at the sectoral level of the quarterly national accounts. Seasonal adjustment is based on revised QNA figures for the period 1988 Q1-1997 Q1.

# Economic policy calendar 1997

## June

3. Norway and the EU reach an accord on a new agreement for exports of Norwegian salmon to the EU. The agreement will protect Norwegian exports against anti-dumping measures and subsidy complaints the next five years. In return, each salmon exporter must sign an individual agreement with the EU Commission. Those who refuse will be subject to punitive duties of 14 per cent. The price shall average Nkr 26.35 a kilo and only as an exception be below Nkr 22.40 a kilo. Norway is obligated to raise its export levy from 0.75 per cent to 3 per cent from 1 July this year. Norway's exports of salmon to the EU will not be permitted to increase by more than 11 per cent this year and 10 per cent each of the next four years. Export growth shall be calculated on the basis of last year's export volume of 220 000 tonnes. Norway can increase exports to other parts of the world on an unrestricted basis.

4. The Norwegian Coast Guard arrests for the first time an EU vessel for illegal fishing in the economic zone around Jan Mayen. Two Scottish fishing vessels were arrested by "KV Andenes" for illegal herring fishing. Both vessels have a licence to fish in this area, but are obligated to notify the authorities in advance.

4. Municipalities and counties earned more than Nkr 1.5 billion in dividends on profits from the sale of electricity in 1996. Norwegian households paid Nkr 1.3 billion more for electricity in 1996 than in 1995.

4. Offshore & Marine AS in Sandnes wins a contract to equip the MST vessel "Odin" before it begins drilling on the Norwegian shelf. The contract is worth Nkr 300 million and was awarded by Smedvig Offshore, which is co-operating with Statoil in the drilling project.

4. Kværner awards Emtunga AB in Gothenburg a contract worth Nkr 170 million for the construction of a new accommodation module with a helicopter deck for the Åsgard B platform.

6. Statoil's methanol plant and the Haltenpipe pipeline at Tjeldbergodden are officially opened by Minister Kjell Opseth.

7. The Ministry of Petroleum and Energy gives Naturkraft AS a licence to construct two gas-generated power stations.

9. Borregaard and a national company will construct a lignin factory in South Africa. The new factory will have a capacity of 55 000 tonnes and will cost Nkr 140 million.

13. Kværner Fjellstrand is awarded a contract worth nearly Nkr 180 million to build a 60 metre long catamaran which shall be used between Helsinki and Tallin. Kværner Kleven wins a contract worth Nkr 160 million to construct

an anchor handling and supply ship for the Japanese company The Sanko Steamship Co.

14. Ulstein Verft wins a contract worth Nkr 350 million from shipowner J. Solstad to build an MST vessel.

14. This date marks the 25<sup>th</sup> anniversary of the Storting's decision to establish Den Norske Stats Oljeselskap, which later changed its name to Statoil.

18. The partly Norwegian-owned Royal Caribbean Cruise Line (RCCL) buys the cruise company Celebrity for Nkr 3.6 billion. In addition, RCCL acquires Celebrity's debt which amounts to Nkr 5.8 billion.

18. Aker Maritime asks Norsk Hydro for Nkr 1 billion in excess of the contract amount to cover additional expenditure in connection with the development of the Njord field. The stipulated contract price is Nkr 3.3 billion.

20. The petrochemical company Borealis, where Statoil and the Finnish company Neste each hold 50 per cent stakes, invests Nkr 1.4 billion in its plant in Stenungsund on the west coast of Sweden. The investment will increase the company's production capacity of ethane from 400 000 to 600 000 tonnes a year.

20. Helikopter Services Group orders four new helicopters costing Nkr 155 million.

24. Haakon-Gruppen AS concludes a ten-year agreement with Norgesfrukt AS to buy fruit and vegetables for about Nkr 1 billion annually.

25. Umoe Haugesund signs a contract with Leirvik Sveis AS for the construction of a combined accommodation and equipment module for the Troll C platform. The contract is worth Nkr 325 million and will use 3-400 man-years.

28. The Kongsberg Group and DCN International are awarded a contract by the Naval Materiel Command for modernizing the weapons system on board Norwegian missile torpedo boats. The Kongsberg Group's share of the contract is worth Nkr 200 million.

## July

3. Kværner Pulping wins a contract to build one of the world's largest recovery plants for chemicals at a paper mill on Sumatra. The contract is worth about Nkr 350 million.

7. As part of its responsibility for managing the Government Petroleum Fund, Norges Bank invites Norwegian and foreign portfolio managers to compete for the management of equities for the Fund. Equity management is scheduled to start in January 1998.

16. Norges Bank raises its sight deposit rate and overnight lending rate by 0.25 percentage point to 3.5 and 5.5 per cent, respectively. Central Bank Governor Kjell Storvik states that the operational target of monetary and exchange rate policy is a stable exchange rate against European currencies and that the decision was taken in response to recent developments in money and exchange markets.

18. Kværner's subsidiary John Brown wins a contract worth Nkr 2.2 billion with the Canadian company Methanex for the construction of a methanol plant in Chile.

21. Statoil invests between \$ 350 and 400 million to expand its network of petrol stations in Poland. Statoil wants to increase the number of petrol stations from the current level of 47 to 150 by the turn of the millennium.

24. British Petroleum concludes the first deep-sea drilling on Nykhøgda southwest of Lofoten without finding oil.

## August

1. Kværner Oil & Gas is awarded a contract by Elf Exploration for the construction of the deck for wellhead platforms for the fields Elgin A and Franklin on the British shelf. The contract is worth Nkr 600 million.

1. The rig company Transocean Offshore extends an existing contract with the oil company Amoco for the operation of two oil rigs for five years. The contract is worth \$ 502 million.

5. Trondheim Energiverk decides to purchase substantial quantities of natural gas from Statoil to use in the power station's district heating in Trondheim. This power station accounts for 15 per cent of total energy deliveries in the city.

12. Statoil awards the main contract for the expansion of the gas treatment plants at Kårstø to the British company M.W. Kellogs Ltd. The expansion comprises a treatment facility for gas from the Åsgard field and Haltenbanken, an ethane recovery plant as well as storage facilities and a quay. Investments totalling about Nkr 7 billion will be made at Kårstø in the period to the end of this century.

15. For the first time in many months Norges Bank purchases Norwegian kroner. The reason for the interventions the last two days is the considerable depreciation of the krone against European currencies.

16. Petroleum Geo Services concludes a contract with Langsten Slip & Båtbyggeri for the construction of a seismic ship costing \$ 85 million.

19. The Dutch airline KLM buys 30 per cent of the shares in Braathens SAFE. Braathens SAFE thus ends its ten-year cooperation with British Airways.

19. Kværner Construction wins a contract worth Nkr 1.7 billion from the company BNFL in the UK to build a facility for encasing atomic waste.

20. Statoil and Norsk Hydro are among the stakeholders, with 13.3 and 10 per cent respectively, in a consortium which makes a large oil find outside Angola. Preliminary estimates indicate that there are between 500 and 700 million barrels of oil in the field.

21. Aker Maritime buys 60 per cent of the shares in the Finnish shipyard Finnyard, which has 1100 employees. The yard is being purchased with the aim of producing hulls for ships for floating oil production and jackets for Spar platforms.

23. Kværner Trollop and Colls, a subsidiary of Kværner Construction, wins three contracts in London. One of the contracts relates to the demolition of a building while the other two relate to construction. The contracts have a total value of Nkr 730 million.

25. The Federation of Offshore Workers Trade Union (OFS) designates 343 members on board 5 rigs to go on strike. OFS rejects an offer from the Norwegian Shipowners' Association of a 7.8 per cent pay increase during the year.

27. The SAS company Commuter orders 15 aircraft of the type Dash 8-400 for a price of about Nkr 2.4 billion. The aircraft shall primarily be used in scheduled air traffic in North Europe and are scheduled for delivery from the summer of 1999 to December 2000.

29. Scana Industrier in Stavanger concludes a cooperation agreement with the authorities in the Sechuan province in China. The agreement secures special rights to contracts for Scana, among other things in connection with the restructuring of a state-owned steel company where costs are estimated at about Nkr 250 million. The total value of the agreement is uncertain, but Scana will evaluate 120 relevant projects.

29. Norsk Hydro signs a contract with three Jordanian companies to build two fertilizer factories in Jordan for Nkr 4 billion. The Jordanian companies will own 40 per cent of the company, while Norsk Hydro will own the remainder. The factories are scheduled for completion in 2001.

30. The board of Vest-Agder Energiverk (VAE) gives the administration in the company authorization to start negotiations for the construction of a windmill park in Lindesnes. The plan is to build five windmills which shall supply electricity to 600 households.

30. The electronics manufacturer Sonex in Arendal signs a contract, including an option to supply a military mobile system to NTF Ericsson. According to the contract, Sonex will produce and assemble 2 000 field radios for the Army with an option for an additional 1 500. The contract is worth nearly Nkr 500 million.

30. The Ministry of Finance gives authorization to six finance companies that want to offer unit-linked life insurance. Customers can choose the unit trusts themselves based on the preferred risk profile. Savings shall not be taxed provided they are locked in for 12 years.



# Income distribution 1986-1995: Why is inequality increasing?

Jon Epland

*New figures from the Income Distribution Survey show that income inequality among households has increased slightly in recent years. Even if we apply different assumptions concerning the degree of economies of scale in households, inequality - measured by the Gini coefficient - has increased by about 9 per cent between 1986 and 1995. The greatest changes have occurred at the top of the distribution. The ten per cent with the highest disposable income recorded a considerably sharper growth in disposable income than the rest of the population, and in 1995 this group's share of total income was considerably higher than in 1986. Changes for persons around the middle of the distribution, however, have been marginal. The article indicates that changes in property income are the main reason for the increase in inequality.*

The aim of the article is to describe changes in the distribution of personal income (income after tax) for the period 1986 to 1995 with the help of various measures of inequality and after income has been adjusted for differences in household size and composition. Possible causes of the observed changes in distribution will also be indicated, among other things by studying changes in the structure of household income during the same period.

Earlier studies of income distribution in Norway present a varied picture depending on the populations that are analyzed and the definition of income applied. Strøm, Wenne and Aaberge (1993) have studied income distribution (income after tax) from 1970 to 1990 for several groups of the population, e.g. single people and married couples with and without children. The conclusion in this study was that income distribution within these groups was stable throughout the period. Bojer (1995) has analyzed the distribution of personal income (income before tax) for all adults and found that income dispersion had narrowed in the period from 1982 to 1990, primarily as a result of increased labour force participation - and thereby greater economic equality - among women in the period. Analyses of the distribution of income for all households combined, where household income (income after tax) was adjusted with the help of the OECD scale again present a different picture. This approach shows that income inequality was reduced from the beginning of the 1980s to the mid-1980s, but then widened again after this (Epland 1992; Andersen et al. 1995).

This article is a continuation of the last approach, but is based on expanded underlying data and the use of several alternative equivalent scales. The article is structured as follows: First, the underlying data and definition of income

are reviewed. This is followed by a further description of the equivalent scales used in order to compare the income of households of varying size and composition. The article concludes with a presentation of the most important findings.

## Underlying data and definition of income

The article is based on data from the annual Income Distribution Surveys for households. The Income Distribution Surveys are sample surveys which obtain most of the information about income from Income Tax Records. The samples of the Income Survey have varied in size in the period, from a good 9 000 persons (1989) to more than 33 000 persons (1994). In addition to income data from Income Tax Records, information about various types of tax-free income was collected, such as family allowances, student scholarships and housing allowances. Social assistance is, in distributional terms, an important source of income which was not included in the Income Distribution Survey until 1990. This has previously created problems for comparisons with earlier years. This source of income, however, has now also become available for the Income Surveys for the years 1986-1989. It is thus possible for the first time to study changes in the distribution of income for the entire period 1986-1995 based on a definition of income which also includes social assistance.

In this article, disposable income is defined as potential consumption without drawing on wealth (Simons 1938). Disposable income is derived on the basis of the following income account:

1. Earned income
  - wage and salary income (including unemployment and sickness benefits)
  - net income from self-employment (before any depreciation)

Jon Epland, adviser at Division for Income and Wage Statistics  
E-mail: jep@ssb.no

2. + Property income
  - interest income
  - share dividends
  - other property income (e.g. various taxable realised capital gains)
3. + Transfers
  - social security benefits
  - occupational pension, annuity benefits, personal pension insurance
  - alimonies etc.
  - family allowances
  - housing allowances
  - scholarships
  - social assistance
  - parent's tax deductions
4. = Total income (1 + 2 + 3)
5. - Assessed taxes
6. = Disposable income (4 - 5)

As will be seen from the above, interest expenditure has not been subtracted in our definition of disposable income, and imputed rent of owner-occupied housing has also been excluded under property income. This classification thereby diverges from e.g. the UN Guidelines for income statistics (UN 1977). These guidelines recommend that debt interest in connection with self-employment and investment in owner-occupied dwellings be subtracted from income (but not, on the other hand, debt interest on loans used for private consumption), and that the rental value of owner-occupied dwellings be imputed. Debt interest has not been deducted here for the following reasons: First, the UN Guidelines recommend that an estimate be made of the rental value of owner-occupied dwellings corresponding to the amount that would otherwise have been obtained if the dwelling had been rented at market price, less any expenses for upkeep, etc. In the Norwegian income statistics, however, the imputed rent of owner-occupied housing is only valued at 2.5 per cent of the dwelling's assessed value less a tax-free allowance of NKr 50 000 (1995). Since the assessed value of dwellings in most cases is far below the market value, this means that the rental value of owner-occupied dwellings is clearly underestimated.

Second, it is virtually impossible in the income statistics to separate debt interest relating to housing investment from other types of debt interest. Moreover, for a number of households part of the loans raised to purchase a private dwelling is also used for private consumption. Similarly, for the self-employed it is often difficult to separate loans for business purposes from private consumption.

Most income components that are included in the definition of income are obtained from Income Tax Records. This means that the income concept will be influenced by changes in tax rules. This can create problems of consistency when the aim is to compare the distribution of in-

come over time. In the period 1986 to 1988, for example, both the concept of wage and salary income and property income was expanded by including a number of fringe benefits (e.g. reasonable loans from employers and the use of a company car) as wage and salary income and by taxing the yield on personal life insurance. These changes nevertheless resulted in only marginal changes for households combined (Andersen et al. 1995). Even though it is reasonable to assume that these changes primarily resulted in an upward adjustment of wage and salary income for high-paid groups, it will emerge in this article that the broadening of the concept of wages and salaries did not result in greater inequality between 1986 and 1988.

The tax reform in 1992 also led to changes in the concept of income, primarily in the calculation of income from self-employment. Among other things, some depreciation and write-down possibilities were scaled back and a number of profit-dependent allocations to funds were eliminated (Thoresen and Aarbu 1995). These changes have nevertheless been taken into account to some extent since we include income from self-employment *before* any depreciation/allocations to funds.

### Unit of analysis

In the analysis, the unit of analysis is the *person*, but each person has been allotted the *household's* income. From an economic welfare point of view, it may be argued that it is better to use the individual rather than e.g. the household as the unit of analysis (Danziger and Taussig 1979; Atkinson, Rainwater and Smeeding 1995). If the household is used as the unit of analysis, for example, a household of six persons will "count" just as much as a single person, i.e. both the single person and the household of six would be counted as one unit of analysis, i.e. the household. When, on the other hand, a person is used as the unit, all persons will count the same - irrespective of how many persons there are in the household. This approach still involves the problem that the household's financial resources are assumed to be equally distributed among the household members.

### Equivalence scales

When comparing the level of income and living standards for households of varying size, income is often adjusted with the help of equivalence scales or consumption units. An equivalence scale, for example, provides an indication of how much income a household of four must have in order to have the same standard of living as a single person with the same income.

A number of different equivalence scales are in use today. Atkinson, Rainwater and Smeeding (1995) for example, list 55 different scales used within the OECD area. Most equivalence scales primarily take account of differences in household size, as well as possibly other family characteristics such as the age of children or head of household. Furthermore, some assign gradually declining weights

with a rising number of household members (e.g. Atkinson, Rainwater and Smeeding 1995).

It may be maintained, however, that other factors are also of importance when adjusting income for differences in needs, e.g. regional differences, differences in the availability and price of public services and climatic differences (Van Praag and Flik 1992), or whether the mother (or father) is economically active or at home looking after children (Bojer 1989). It has also been asserted that equivalence scales should be dependent on income, i.e. that lower consumption weights should be assigned to families with a high income than to corresponding families with a low income (Dubnoff 1985). Other analyses, however, find no systematic differences between the level of income and the equivalence scale (Rainwater 1990).

The equivalence scales that will be used here do not take account of the objections noted above. On the other hand, the three sets of scales used only adjust for differences in household size and composition, but share the feature that they have all been used in several more recent international studies of income distribution and poverty, and they place different emphasis on the economies of scale in households.

The degree of economies of scale may otherwise be expressed through a parameter  $E$ . This parameter can vary from 0 to 1. The larger  $E$  is, the smaller are the economies of scale assumed for the household, and the higher the income a multi-person household must have in order to be able to have the same living standard as a single person.  $E=0$  corresponds to an unadjusted household income, whereas  $E=1$  corresponds to a household income divided by the number of persons in the household (per capita) (Buhmann et al. 1988).

(1)  $E = 0.73$

This is the "original" OECD scale that was devised in connection with the OECD's efforts to construct social indicators in 1982 (OECD 1982). These consumption weights assign the first adult person a weight equal to 1, the second adult household member a weight equal to 0.7, whereas children are given a weight equal to 0.5. In this article children are defined as persons under 16. The OECD scale is a relatively "steep" scale which assumes the degree of economies of scale within the household to be small.

In recent years, however, criticism has been voiced concerning the old OECD scale precisely because it places too little emphasis on economies of scale in large households, based in part on what households themselves report as income needs in interview surveys (Van Praag and Flik 1992).

(2)  $E = 0.5$

For this reason, several more recent income distribution and poverty studies have made use of equivalence scales

that are less "steep" than the original OECD weights. For example, the recent OECD study: *Income Distribution in OECD Countries* (Atkinson, Rainwater & Smeeding 1995) uses an equivalence scale corresponding to  $E=0.5$ . Eurostat also used a very similar equivalence scale in connection with an extensive study of poverty in Europe at the end of the 1980s (Hagenaars, De Vos & Zaidi 1994). The same applies to a Norwegian Government Commission Report on Families with Children (NOU 1996: 13).

(3)  $E = 0.33$

The third equivalence scale is the one that places greater emphasis on economies of scale. It was constructed on the basis of interview surveys in several countries where households' subjective evaluations of the minimum income required to make ends meet are applied. (The Minimum Income Question) (Rainwater 1990; Förster 1993).

Table 1 summarizes the various consumption weights with regard to the weight they assign to households of different size:

**Table 1. Equivalence scales and household size**

Household size	Equivalence scales		
	OECD-82	$E=0.5$	$E=0.33$
1	1.0	1.00	1.00
2	1.7	1.41	1.26
3	2.2	1.73	1.44
4	2.7	2.00	1.58
5	3.2	2.24	1.70
6	3.7	2.45	1.81
$E$	0.73	0.50	0.33

(The table assumes that household member number three and higher are children.)

The table shows, for example, that a household of two adults and two children will, based on OECD-82 weights, need an income of NKr 270 000 in order to have the same economic well-being as a single person with an income of NKr 100 000. For the other weights it will be sufficient for a family with children to have an income of NKr 220 000 ( $E=0.5$ ) or NKr 158 000 ( $E=0.33$ ), respectively, in order to have the same level of income as a single person with an income of NKr 100 000.

### Changes in income distribution 1986-1995

Changes in income distribution are first measured with the help of Gini coefficients. The Gini coefficient ( $G$ ) is a summary measure of inequality which can vary from 0 to 1. The higher  $G$  is, the greater the inequality. If  $G=0$ , income is equally distributed among all individuals in the group, while  $G=1$  means that one person receives all income. Reference is made to Aaberge (1986) for a further discussion of  $G$  and other measures of inequality.

**Table 2. Changes in inequality in the distribution of disposable income with three different equivalence scales. 1986-1995.\* Gini coefficients. Standard deviation in brackets**  
(Persons with negative household income are excluded)

	OECD-82		E=0.5		E=0.33		Number of observations
1986	0.223	(0.002)	0.234	(0.002)	0.246	(0.002)	
1987	0.224	(0.003)	0.235	(0.003)	0.247	(0.003)	9569
1988	0.221	(0.002)	0.227	(0.002)	0.238	(0.002)	9366
1989	0.235	(0.004)	0.245	(0.004)	0.258	(0.004)	9308
1990	0.232	(0.003)	0.241	(0.003)	0.254	(0.003)	16163
1991	0.234	(0.003)	0.244	(0.003)	0.255	(0.004)	24300
1992	0.232	(0.003)	0.243	(0.003)	0.257	(0.003)	23990
1993	0.238	(0.004)	0.248	(0.004)	0.261	(0.004)	9844
1994	0.247	(0.003)	0.258	(0.003)	0.271	(0.003)	33555
1995	0.244	(0.004)	0.254	(0.003)	0.267	(0.003)	26293

\* An extreme observation has been excluded in the 1989 survey.  
Source: Statistics Norway. The Income Distribution Survey.

Table 2 provides a rather unequivocal picture of changes in inequality irrespective of the equivalence scale used. The period 1986-1988 was characterized by a stable and equal income distribution where G showed little change. Between 1988 and 1989, on the other hand, inequality increased considerably and remained stable at this higher level up to 1992. Inequality has again increased after 1992. Even if account is taken of the statistical uncertainty measured by the standard deviation<sup>1</sup>, we can establish that irrespective of the choice of equivalence scale, income was more unequally distributed in 1995 compared with 1986.

We can also establish that for two of the equivalence scales income inequality was greater in 1995 than in 1990.

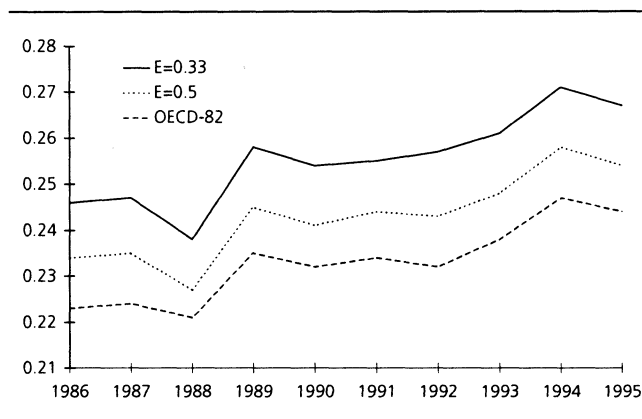
The table also shows that it is the traditional OECD scale which shows the most equal distribution, whereas the scale which considers economies of scale to be greatest ( $E=0.33$ ) shows the greatest inequality. This is then in accord with earlier studies which have shown that G is lowest when using an equivalence scale where  $E$  is in the range 0.6 to 0.7 (Coulter et al. 1992; NOU 1996:13).

Table 2 is presented graphically in figure 1.

In table 3 we will look more closely at changes in the distribution. A summary measure like G cannot indicate where in the distribution any changes occur. One way of shedding light on this is to divide persons into ten equal income classes (deciles) sorted by the size of income. Decile 1 will then be the ten per cent with the lowest household in-

<sup>1</sup> The standard deviation will show whether the observed changes in the Gini coefficient are statistically valid or not. As a rule of thumb, it is common to calculate an interval of  $\pm 2$  times the standard deviation of the Gini coefficient in order to obtain a 95 per cent confidence interval. It is only when the intervals for the two coefficients do not overlap each other that we can say the difference between the two coefficients is statistically valid.

**Figure 1. Changes in inequality in the distribution of disposable income with three different equivalence scales. 1986-1995. Gini coefficients**  
(Same population as table 2)



Source: Statistics Norway. The Income Distribution Survey.

come, whereas decile 10 will be the ten per cent with the highest income. The table shows the percentage of total income available to each decile. If the distribution was entirely equal, each decile group would have available 10 per cent of the total income.

We have, however, now delimited the population by excluding persons in student households<sup>2</sup>. This has been done to take into account the sharp rise in the number of students which occurred between 1986 and 1995, and which may influence the distribution when the sub-groups are small (e.g. decile groups). Most students will in fact have low income since the most important source of income for students - the student loan - is not registered as income in the Income Survey. A rise in the number of persons with low income as a result of enrolment in higher education is nevertheless not perceived as a welfare problem.

In addition, we now use only one of the three equivalence scales ( $E=0.5$ ) since all three showed more or less the same trend with regard to describing changes in the Gini coefficient.

Table 3 confirms that income dispersion has taken place in the period, and that changes have particularly occurred at the top of the distribution. The decile with the lowest equivalent income (decile 1) has recorded a reduction in its share of total income from 4.2 per cent in 1986 to 3.9 per cent in 1995. We also find that deciles 2, 3 and 4 have also gradually recorded a reduction in their share of total income in the period, whereas the changes for decile groups 5-9 are negligible. On the other hand, the decile with the highest equivalent income (decile 10) has increased its

<sup>2</sup> Student households are defined here as households that received student loans during the income year, and where the main income-earner in the household was not economically active or a social security recipient.

**Table 3. Distribution of disposable household income per consumption unit, for persons. (E=0.5). 1986-1995\*. Per cent**  
(Persons with negative household income and persons in student households are omitted)

	Decile									
	1	2	3	4	5	6	7	8	9	10
1986	4.2	5.9	7.1	8.1	8.9	9.8	10.8	12.0	13.7	19.5
1987	4.2	5.9	7.1	8.1	9.0	9.8	10.6	11.9	13.6	19.9
1988	4.2	6.0	7.2	8.1	9.0	9.9	10.8	11.9	13.6	19.2
1989	4.0	5.8	7.0	8.0	8.8	9.7	10.6	11.9	13.7	20.6
1990	4.1	5.9	7.0	8.0	8.9	9.8	10.8	11.9	13.6	20.2
1991	4.0	5.9	7.0	7.9	8.8	9.7	10.7	11.9	13.6	20.5
1992	4.0	5.9	7.0	8.0	8.9	9.8	10.8	12.0	13.7	20.0
1993	4.0	5.8	6.9	7.9	8.8	9.7	10.6	11.8	13.6	20.8
1994	3.8	5.7	6.8	7.9	8.8	9.7	10.7	11.9	13.6	21.1
1995	3.9	5.7	6.9	7.9	8.8	9.7	10.6	11.8	13.6	21.0

	Cumulative distribution								
	1	2	3	4	5	6	7	8	9
1986	4.2	10.1	17.2	25.3	34.2	44.0	54.7	66.7	80.5
1987	4.2	10.1	17.2	25.3	34.2	44.0	54.6	66.5	80.1
1988	4.2	10.2	17.4	25.6	34.6	44.4	55.2	67.2	80.8
1989	4.0	9.9	16.9	24.8	33.6	43.3	53.9	65.8	79.4
1990	4.1	9.9	17.0	25.0	33.9	43.6	54.4	66.3	79.8
1991	4.0	9.9	17.0	24.9	33.7	43.4	54.0	65.9	79.5
1992	4.0	9.8	16.8	24.8	33.7	43.5	54.3	66.3	80.0
1993	4.0	9.8	16.7	24.7	33.5	43.1	53.8	65.6	79.2
1994	3.8	9.4	16.3	24.2	33.0	42.7	53.4	65.3	78.9
1995	3.9	9.6	16.5	24.4	33.3	43.0	53.6	65.5	79.0

\* An extreme observation is omitted in the figures for 1989.  
Source: Statistics Norway. The Income Distribution Survey.

**Table 4. Changes in disposable household income per consumption unit for persons. (E=0.5). 1986-1995. In 1995-NKr.\***  
**Decile average and threshold values**  
(Same population as table 3)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Per cent change		
											1986-1990	1990-1995	1986-1995
<b>Decile average</b>													
Decile 1	66978	69172	69022	64759	65524	67580	66821	67987	63118	66232	-2.2	1.1	-1.1
All	160601	166674	163240	161371	161576	168074	168325	170001	167094	168929	0.6	4.6	5.2
Decile 10	313538	331899	314159	331654	325730	345303	336265	353885	352226	354463	3.9	8.8	13.1
<b>Threshold values</b>													
P10	84303	87789	8998	83211	84273	87964	87036	86764	83550	86591	0.0	2.8	2.7
P50	150008	156756	154466	148693	150908	155142	157767	156843	154944	156452	0.6	3.7	4.3
P90	238984	245490	241252	239104	237998	248720	253010	252453	248910	249569	-0.4	4.9	4.4
D10/D1	4.68	4.80	4.55	5.12	4.97	5.11	5.03	5.21	5.58	5.35			
P90/P10	2.83	2.80	2.74	2.87	2.82	2.83	2.91	2.91	2.98	2.88			

\* Converted to 1995-NKr with the help of the consumer price index.  
Source: Statistics Norway. The Income Distribution Survey.

share of total income by a considerable margin at the expense of all others, i.e. from 19.5 per cent in 1986 to 21 per cent in 1995. The cumulative distribution also shows a gradual reduction in income shares for the 40 per cent of persons with the lowest equivalent income and a corresponding increase in decile 10.

In table 4 we look more closely at income changes in the period for the various income groups. The table shows the average equivalent income (E=0.5) for decile groups 1 and 10 and the average for all persons. In addition to average figures, we also examine changes in decile thresholds. Decile threshold 1 (P10) will then be the observation which separates decile groups 1 and 2, while decile three-

shold 9 (P90) is the cut-off between decile groups 9 and 10. (P50) will be the median income, i.e. the middle observation in the distribution. The decile thresholds will, to a lesser degree than the decile means, be influenced by random effects as a result of extreme observations.

The table confirms that average income has increased considerably more for persons at the top of the distribution than for those at the bottom of the distribution. We see that decile group 10 increased its average income by as much as 13 per cent from 1986 to 1995 measured at constant NKr, while real income for decile group 1 actually declined by about 1 per cent. The average equivalent income for all persons rose by a good 5 per cent.

However, shifting our focus from changes in average income to changes in decile thresholds results in a more subtle picture. It is still the case that persons at the top of the distribution have increased their income more than persons at the bottom, but the differences are now considerably smaller. We see, for example, that P90 only rose by 4.4 per cent between 1986 and 1995, while the corresponding increase for P10 was 2.7 per cent. This may be interpreted to mean that the sharp growth in average income for decile group 10 was primarily due to the small number of persons in this group that have recorded a sharp increase in income. This is also confirmed when we look at the ratio of decile 10 to decile 1, respectively, designated by D10 and D1, and P90 and P10. While this ratio has risen substantially with regard to decile averages, the changes are considerably smaller with regard to the ratio of decile thresholds.

### Changes in income structure

In the next section we will examine whether there have been changes in the structure of household income which may help to explain the observed changes in inequality.

According to the income account presented earlier, total household income can be divided into four different types of income: wage and salary income (which in the Income Survey also includes sickness and unemployment benefits), net income from self-employment (before depreciation and write-downs), property income (i.e. interest income and the return on securities) and transfers (pensions and social security benefits).

Table 5 shows how this income is distributed among the various decile groups for the years 1986, 1990 and 1995. We see, for example, that the decile of persons with the highest equivalent income (decile 10) received 18 per cent of all wage and salary income in 1986, whereas the decile with the lowest income only received 1 per cent of all wage and salary income. The distribution of income from self-employment was considerably more skewed than for wages. Here, the decile with the highest income received as much as 47 per cent of all income from self-employment. As expected, the situation was the reverse for trans-

**Table 5. Distribution of different types of household income per consumption unit for persons. Decile distribution of disposable income per consumption unit ( $E=0.5$ ). 1986, 1990 and 1995 (Same population as table 3)**

	Wages, etc.	Income from self- employment	Property income	Transfers
All	100	100	100	100
<b>1986</b>				
1	1.1	1.0	3.1	17.3
2	3.8	2.4	5.1	15.6
3	6.2	3.5	6.1	11.9
4	8.2	4.7	5.7	10.3
5	9.3	4.9	7.5	10.0
6	11.3	4.8	8.1	7.6
7	12.2	7.4	8.8	8.6
8	13.7	12.2	10.3	6.8
9	16.5	12.2	13.8	5.9
10	17.6	46.9	31.5	5.9
<b>1990</b>				
1	1.1	0.3	3.8	14.4
2	2.9	1.7	6.1	17.0
3	5.6	3.3	6.0	12.9
4	7.7	4.4	5.8	10.7
5	9.5	4.4	6.1	9.6
6	10.7	6.4	7.1	8.8
7	12.5	7.6	8.4	7.7
8	14.2	10.2	9.7	6.7
9	16.0	15.7	10.6	6.7
10	19.9	46.1	36.3	5.4
<b>1995</b>				
1	1.2	0.9	2.7	12.7
2	2.6	1.7	3.0	16.7
3	4.8	2.9	3.5	14.9
4	7.4	4.2	3.3	11.5
5	9.4	5.0	3.5	9.5
6	11.3	4.9	4.0	8.0
7	12.5	7.1	4.9	7.8
8	14.7	8.4	5.0	6.6
9	16.8	15.0	7.6	5.9
10	19.4	49.7	62.6	6.3

Source: Statistics Norway. The Income Distribution Survey.

fers. Persons with the lowest equivalent income were also those who received the bulk of the transfers.

The distribution of wage income has been relatively stable in the period from 1986 to 1995. Decile group 10, however, has increased its share of wage income slightly, although this change occurred between 1986 and 1990. The distribution of self-employment income has also been fairly stable in the period even though, here as well, we register an even greater concentration at the top of the distribution. The most dramatic shifts, however, have occurred in property income. The table shows that while decile group 10 accounted for 32 per cent of all property income in 1986, it accounted for as much as 63 per cent in 1995, and most of this change took place in the 1990s.

With regard to the distribution of transfers, the table shows that a smaller share of transfers went to persons in decile

group 1 in 1995 compared with 1986. To a large extent this probably reflects changes in the pensioner group. It is now the younger pensioners who are receiving the largest transfers due to higher supplementary pensions and occupational pensions, and increasingly fewer new pensioners are found in decile 1.

### Share dividends

It is thus particularly property income which has become more unequally distributed in the 1990s, and it appears that it is primarily changes in *share dividends* that have resulted in a more unequal distribution of income. Share dividends have traditionally been a small source of income for households. According to Income Tax Records, only about Nkr 2 billion was paid as dividends to households for each of the years 1990 to 1992. This changed substantially in 1993 when Nkr 7.6 billion (1995-Nkr) was paid as dividends. Dividend payments increased further in both 1994 and 1995. After accounting for less than one per cent of households' gross property income in 1986, share dividends accounted for as much as 36 per cent of property income in 1995.

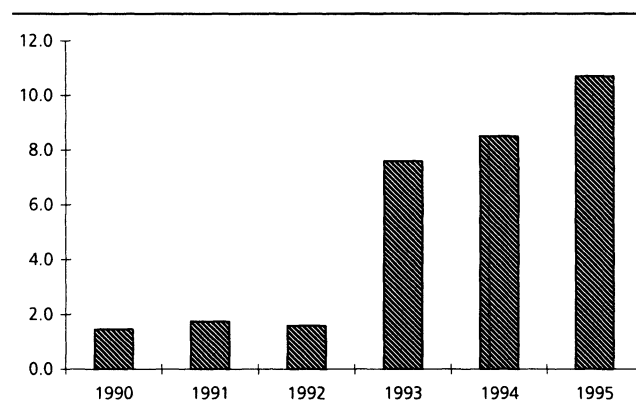
It was previously assumed that the high share dividends in 1993 and 1994 could be due to the after-effects of the tax reform in 1992, and that dividends would be reduced in subsequent years (Thoresen and Aarbu 1995; Weekly statistics 22/96). Figure 2, however, shows that dividends increased sharply again in 1995, to Nkr 10.7 billion. It is therefore more natural to look upon higher dividends as a result of higher earnings and the increase in market value for companies. Stock exchange statistics show, for example, that the ratio of dividend payments to limited companies' market capitalization has been relatively constant during the entire period 1984-1994 (NOU 1995: 16, p. 42).

Share dividends are, however, a source of income that is very unevenly distributed among households. In 1994, for example, the 5 per cent with the highest equivalent income received 88 per cent of all share dividends.

In addition to the fact that the sharp increase in dividends in itself has resulted in greater income inequality, changes in tax rules may also have contributed to amplifying this inequality. After the tax reform in 1992, share dividends became in practice tax-free income for shareholders inasmuch as all taxes on dividends were now to be paid by the company. (In practice the company's tax is "credited" to the shareholder in the form of a tax relief. In 1995, nearly Nkr 3 billion was credited in this way to Norwegian shareholders). The sharp rise in share dividends is thus a factor contributing to a decline in the progressivity of the tax system in recent years (Statistics Norway 1997; chapter 2).

This is illustrated in figure 3, which shows average taxes, i.e. assessed tax in per cent of the tax return's gross income, for all persons 17 and older in 1995 based on differ-

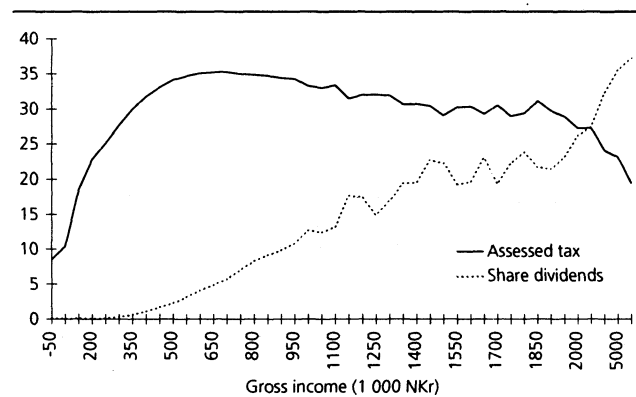
Figure 2. Dividend payments. Billion 1995-Nkr\*



\* Converted to 1995-Nkr with the help of the consumer price index.

Source: Statistics Norway. The Income Distribution Survey and Tax Return Statistics

Figure 3. Assessed tax and share dividends as a proportion of gross income. Persons aged 17 and older. 1995



Source: Statistics Norway. Tax Return Statistics 1995.

ent intervals for gross income. Since the data source here is a register which comprises all residents, it is possible to provide a more detailed breakdown than was previously possible using sample data. As expected, the figure shows that at first the average tax increases with rising income. The assessed tax for persons with Nkr 150 000 in gross income, for example, was equivalent to 19 per cent of gross income, and the tax increased to 28 per cent for those with a gross income of Nkr 300 000. The average tax continues to rise with income, but reaches a peak for persons with gross incomes of about Nkr 650 000. For these, the average tax is about 35 per cent. For persons with incomes higher than this level, the average tax gradually declines. Persons with a gross income of Nkr 1 million had, for example, an average tax of 33 per cent, while persons with Nkr 2 million in gross income had a tax equivalent to 27 per cent of gross income. For those with more than Nkr 5 million in gross income, the average tax was reduced to less than 20 per cent. There were, however, very few persons (fewer than 600) who were registered as having such a high gross income in 1995.

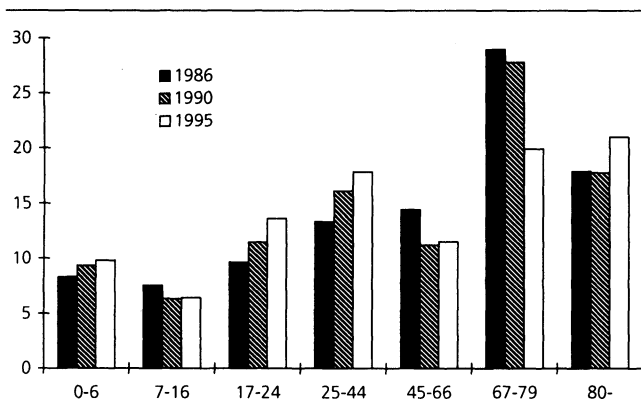
Figure 3 also shows that there is a clear relationship between the level of average tax and dividends received. When the average tax levels off, the share of gross income represented by dividends rises correspondingly. In addition, it must be noted that another reason that the average tax declines for those with high gross incomes is that the composition of income for these persons is different from ordinary wage-earners in that a higher share of gross income generally consists of property income (in the form of dividends, but also in the form of other property income). Property income in Norway is, at least in respect to high-income earners, taxed at a lower rate than income from employment.

### Demographic changes

In conclusion we shall look at persons found at the bottom and top of the income distribution and whether demographic changes have taken place between 1986 and 1995 which influence income distribution. Figure 4 shows the age composition of all persons in decile 1. We see, for example, that in 1986 the largest single group in decile 1 was persons in the age group 67-79 (29 per cent). Persons older than 80 accounted for the second largest group with 18 per cent, while there were relatively few children (aged 0-6) in households with such a low equivalent income (a good 8 per cent).

With regard to changes from 1986 to 1995, we see that the number of children and young people has increased slightly in decile group 1 (age group 0-6, 17-24 and 25-44). It should nevertheless be noted that persons in student households are not included in the underlying data. The greatest increase, however, is found among the eldest group (80 years and older). Whereas 18 per cent of persons in decile 1 were 80 years and older in 1986, the share had risen to 21 per cent in 1995. Since there was also a substantial reduction in the share of younger pensioners (67-79 years) in the group, it is now the eldest category which con-

**Figure 4. Share of persons in decile group 1 for disposable household income per consumption unit, by age. 1986, 1990 and 1995. (E=0.5)**  
(Same population as table 3)

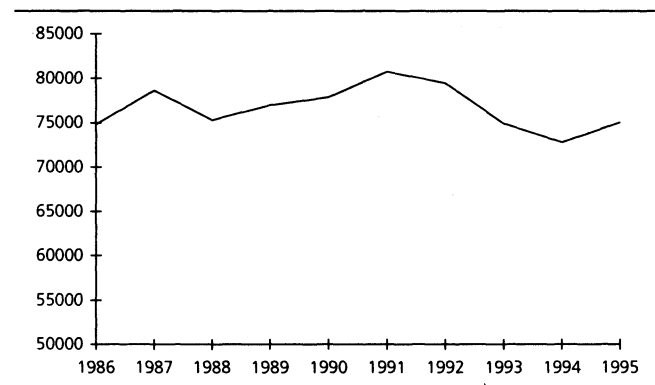


Source: Statistics Norway. The Income Distribution Survey.

stitutes the largest single group in decile 1. This change took place in the 1990s.

It is perhaps surprising that the number of elderly persons in decile 1 has increased since pensioners as a group have recorded a relatively favourable income trend in the same period (Ministry of Finance 1997). It appears, however, that a large share (42 per cent) of the eldest pensioners are single pensioners who only receive the minimum pension from the National Insurance Scheme (minimum pensioners). This group, unlike younger pensioners, recorded a substantial decline in real income in the 1990s. This is illustrated in figure 5, which shows changes in average real disposable income for single minimum pensioners between 1986 and 1995. As the figure shows, single minimum pensioners experienced a steady increase in real disposable income from 1988 to 1991, whereas income was reduced substantially in subsequent years. A single minimum pensioner therefore had a disposable income in 1995 which was not higher than the level in 1986 measured at

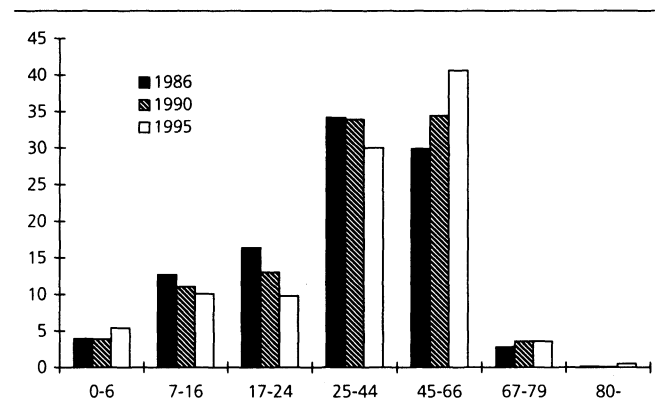
**Figure 5. Changes in real disposable income for single pensioners receiving the minimum pension 1986-1995. 1995-NKr\***



\* Converted to 1995-NKr with the help of the consumer price index.

Source: Statistics Norway. The Income Distribution Survey.

**Figure 6. Share of persons in decile group 10 for real disposable household income per consumption unit, by age. 1986, 1990 and 1995 (E=0.5)**  
(Same population as table 3)



Source: Statistics Norway. The Income Distribution Survey.



constant NKr (about NKr 75 000), and considerably below the level for 1991 (1995-NKr 80 700). The decline in the income of minimum pensioners after 1991 was almost in its entirety due to lower interest income. Single minimum pensioners' interest income was approximately halved from 1991 to 1995 as a result of the fall in interest rates after 1992.

We shall also look at changes in the composition of decile group 10 in the period (figure 6). The figure shows that between 1986 and 1995 the share of persons in the age group 45-66 rose considerably, while there have been increasingly fewer younger persons in the highest income class. In 1995, 4 out of 10 persons in decile 10 were between the ages of 45 and 66.

## Summary

The aim of this article was to describe changes in the distribution of equivalent income for all persons in the period 1986 to 1995. Even though it is probable that the use of alternative equivalence scales would have produced different figures for the composition of the various income classes, it is not very likely that the choice of equivalence scale is of significance when the aim is to describe changes.

The results have shown that income inequality increased slightly in the period and that this primarily reflected changes in property income. As a result of a sharp rise in share dividends after 1992, persons at the top of the distribution recorded a considerably stronger increase in income than others, while reduced interest income entailed that a greater number of elderly pensioners were placed at the bottom of the distribution.

Changes in the distribution of personal income the next few years will to a large extent depend on future movements in share dividends due to this income component's skewed distribution and special tax treatment. Share dividends are not paid to shareholders until the year after the accounting year. The 1994 accounting year is therefore the basis for the sizeable dividend payments in 1995. The very favourable results posted by companies in the 1995 and 1996 accounting years imply that dividend payments will remain high in the 1996 and 1997 income years. In such an event it is not likely that income inequality will be reduced the next few years.

## References

Aaberge, R. (1986): On the Problem of Measuring Inequality, Discussion Papers 14, Statistics Norway.

Andersen, A., J. Epland, R. Kjeldstad and J. Lyngstad (1995): *Husholdningenes økonomi* (Household finances), Statistiske analyser 8, Statistics Norway.

Atkinson, A.B., L. Rainwater and T.M. Smeeding (1995): *Income Distribution in OECD Countries. Evidence from*

*the Luxembourg Income Study*, Social Policy Studies 18, OECD.

Bojer, H. (1989): Forbruksvekter i inntektstatistikk (Consumption weights in income statistics), *Sosialøkonomen*, 7, 16-19.

Bojer, H. (1995): Kvinner, menn og inntektsulikhet i Norge 1970-1990 (Women, men and income inequality in Norway 1970-1990), *Sosialøkonomen*, 7/8, 22-28.

Buhmann, B., L. Rainwater, G. Schmaus and T.M. Smeeding (1988): Equivalence Scales. Well-being, Inequality and Poverty: Sensitivity Estimates Across Ten Countries Using the Luxembourg Income Study (LIS) Database, *The Review of Income and Wealth* 34, 115-142.

Coulter, F.A.E., F.A. Cowell and S.P. Jenkins (1992): Equivalence Scale Relativities and the Extent of Inequality and Poverty, *The Economic Journal* 102, 414, 1067-1082.

Danziger, S. and M.K. Taussig (1979): The Income Unit and the Anatomy of Income Distribution, *The Review of Income and Wealth* 25, 365-375.

Dubnoff, S. (1985): How Much Income is Enough? Measuring Public Judgements, *Public Opinion Quarterly* 49, 285-299.

Epland, J. (1992): Inntektsfordelingen i 80-årene (Income Distribution in the 1980s), *Økonomiske analyser* 1992, 2, Statistics Norway, 17-26.

Förster, M.F. (1993): Comparing Poverty in 13 OECD Countries: Traditional and Synthetic Approaches, Luxembourg Income Study, Working Paper 100.

Hagenaars, A.J.M., K. de Vos and M.A. Zaidi (1994): *Poverty Statistics in the Late 1980s: Research based on micro-data*, Report submitted to Eurostat, Rotterdam: Erasmus University.

Norwegian Ministry of Finance (1997): *Langtidsprogrammet 1998-2001: Fakta og analyser* (Long-Term Programme 1998-2001: Facts and analyses), Special appendix to Report no. 4 to the Storting (1996-1997).

NOU 1995: 16 *Fra sparing til egenkapital* (From saving to equity capital), Norwegian Ministry of Finance, Oslo: Akademika.

NOU 1996: 13: *Offentlige overføringer til barnefamilier* (Public transfers to families with children), Norwegian Ministry of Children and Family Affairs, Oslo: Akademika.

OECD (1982): *The OECD List of Social Indicators*, OECD.

Rainwater, L. (1990): Poverty and Equivalence as Social Constructions, Luxembourg Income Study, Working Paper 55.

Simons, H.C. (1938): *Personal Income Taxation*, Chicago: University of Chicago Press.

Statistics Norway (1996): Endringer i inntektsfordelingen 1986-1994 (Changes in income distribution 1986-1994), *Weekly statistics* 1996, 22, 12-13.

Statistics Norway (1997): *Inntekt, skatt og overføringer 1997* (Income, tax and transfers 1997), *Statistical Analyses* 14.

Strøm S., T. Wennemo and R. Aaberge (1993): *Inntektsulikhet i Norge: 1973-1990* (Income inequality in Norway: 1973-1990), Reports 93/17, Statistics Norway.

Thoresen, T.O. and K.O. Aarbu (1995): Skattereformen og progressivitet i skattesystemet (The tax reform and progressivity in the tax system), *Økonomiske analyser* 1995, 9, *Statistics Norway*, 31-37.

United Nations (1977): Provisional Guidelines on Statistics of the Distribution of Income, Consumption and Accumulation of Households, Study M 61.

Van Praag, B.M.S. and R.J. Flik (1992): Subjective Poverty. Report submitted to Eurostat. Working Party on "Indicators of Poverty", Luxembourg, 13/14 November.

# Research publications in English

## New titles

### Statistical Analyses

#### **Natural Resources and the Environment 1997**

SA 17, 1997. pp. 216.  
ISBN 82-537-4394-7

Statistics Norway compiles statistics on important natural resources and the state of the environment, and develops methods and models for analysing relationship between the environment, natural resource use and economic developments. The annual publication *Natural Resources and the Environment* gives an overview of this work.

*Natural Resources and the Environment 1997* consists of three main parts. Part I contains updated resource accounts for energy and the latest official figures for emissions to air. These are followed by articles and updated statistics on transport, waste management, waste water treatment, agriculture, forests and forest damage, and fishing, sealing and whaling. Part II presents results from Statistics Norway's research into resource and environmental economics. The main emphasis is on analyses of the environment and economic growth, management of the environment and natural resources and international analyses. Part III provides more detailed statistics in the form of tables.

### Reports

*Taran Fæhn and Leo Andreas Grünfeld: Commercial Policy, Trade and Competition in the Norwegian Service Industries* Reports 97/18, 1997. pp. 34.  
ISBN 82-537-4437-4

This report evaluates the relevance of classifying all service industries as sheltered, as done in several applied macroeconomic models. For this purpose, a substantial part of the paper is devoted to establish a conceptual framework for the study of service industries, the particular market structures they are placed in and the political conditions imposed on them. On the basis of the theoretical discussion and the empirical fact that Norwegian services are more and more traded internationally, we conclude that several types of services should be reclassified as tradables. More-

over, our findings suggest that service industries have strong elements of monopolistic competition between differentiated products, fixed costs, as well as governmental regulations and protection. These characteristics are essential to account for, when modelling service activities.

The large appendix discusses the implementation of our conclusions into an input-output price model, the ERA (Effective Rates of Assistance) model of Statistics Norway. As compared to the old version of this model, we suggest a new division between exposed and sheltered industries, and provide a framework for quantifying and modelling regulation and protection of service industries. The ERA model is, however, found too simple to satisfactorily account for all aspects of imperfect competition.

### Discussion Paper

*Taran Fæhn: Non-Tariff Barriers - the Achilles' Heel of Trade Policy Analyses* DP no. 195, 1997. pp. 40.

This study demonstrates the quantitative, as well as the qualitative, role of non-tariff barriers (NTBs). The Norwegian nominal tariff and non-tariff barriers are identified and thoroughly quantified. Computations of effective rates of protection (ERP) show that NTBs entirely dominate tariffs as direct contributors to primary factor income, which again is an important determinant in allocation of resources among industries. The indirect input-output effects play a decisive role. This points to the importance of estimating the nominal trade barrier inputs properly; when a biased estimate is spread throughout the input-output system, not even the direction of the miscalculation will be easy to predict. In order to demonstrate the qualitative role, NTBs are categorised into price-oriented and quantity-oriented, respectively. ERP computations illustrate that the conclusions of policy analyses rely critically on the qualitative interdependency between quantity-oriented NTBs and other measures.

*Rolf Aaberge and Audun Langørgen: Fiscal and Spending Behavior of Local Governments: An Empirical Analysis Based on Norwegian Data* DP no. 196, 1997. pp. 45.

This paper treats local governments as utility maximizing agents when they allocate resources among different service sectors. We present estimates for eight service sectors, based on a modified version of the extended linear expenditure system (ELES) and using observations at the municipal level for Norway. Our econometric model recognizes user fees and budget deficits as endogenous variables. Moreover, the model accounts for heterogeneity in local tastes and production costs. Price information for local public services is not available in the data. However, by allowing for heterogeneity in the marginal budget share parameters, we achieve identification of the complete ELES. The empirical results show that local public services are in general price-inelastic. Welfare services like education, social services and care for the elderly and disabled are income-inelastic, while infrastructure is rather income-elastic. A strong flypaper effect is revealed by the response of user fees to income changes. Finally, results from out-of-sample predictions show that the ELES model is able to simulate local government behavior quite well.

*Anett C. Hansen and Harald K. Selte: Air Pollution and Sick-leaves - is there a Connection? A Case Study using Air Pollution Data from Oslo* DP no. 197, 1997. pp. 18.

In recent years a growing number of studies have been discussing the relationship between air pollution and human health. The evidence in the literature for adverse health effects of several pollutants seems convincing. In our article we are concerned with to which extent these health effects in turn induce sick-leaves or other kinds of reduced labour productivity, which is important for assessment of air pollution costs. We analyse the association between sick-leaves in a large office in Oslo and the concentration of different air pollutants and find a significant relationship between the concentration of particulate matter and sick-leaves, while the asso-

ciations with SO<sub>2</sub> and NO<sub>2</sub> are more ambiguous.

*Erling Holmøy and Torbjørn Hægeland:*  
**Aggregate Productivity Effects of Technology Shocks in a Model of Heterogeneous Firms: The Importance of Equilibrium Adjustment**

DP no. 198, 1997. pp. 35.

This paper studies how productivity shifts at the level of the firm are transmitted to aggregate industry productivity in a model of heterogeneous firms. We analyse both uniform productivity shifts, and catching up by reducing the productivity differentials between firms. The two kinds of shifts affect aggregate productivity in different ways and through different mechanisms. Endogenous equilibrium adjustments play a crucial role for the influence on aggregate productivity. Moreover, when firms sell their output to several markets, and their market power differs between markets, aggregate productivity may inversely related to productivity at the firm level. A by-product of the analysis is to demonstrate that productivity heterogeneity can be incorporated in the standard model of monopolistic competition at a low cost in terms of analytical tractability.

*Elin Berg, Pål Boug and Snorre Kvern-dokk:*

**Norwegian Gas Sales and the Impacts on European CO<sub>2</sub> Emissions**

DP no. 199, 1997. pp. 38.

This paper studies the impacts on Western European CO<sub>2</sub> emissions of a reduction in Norwegian gas sales. The impacts are due to changes in energy demand and energy supply, but environmental and political regulations also play an important role. The gas supply model DYNOPOLY is used to analyse the effects on Russian and Algerian gas exports of a reduction in Norwegian gas supply. The effects on the demand side and the effects of committing to CO<sub>2</sub> targets are analysed using the energy demand model SEEM. If the Western European countries commit to keeping their announced CO<sub>2</sub> emissions targets, regardless of the costs associated with this, a reduction in Norwegian gas sales will have no impact on emissions. However, the consumption of oil and coal will increase slightly, while total energy consumption will go down. A reduction in Norwegian gas sales also seems to have only minor impacts on the CO<sub>2</sub> emissions from Western Europe in the situation where no emissions regulations are considered.

*Hilde Christiane Bjørnland:*

**Estimating Core Inflation - The Role of Oil Price Shocks and Imported Inflation**

DP no. 200, 1997. pp. 34.

This paper calculates core inflation, by imposing long run restrictions on a structural vector autoregression (VAR) model containing the growth rate of output, inflation and oil prices. Core inflation is identified as that component in inflation that has no long run effect on output. No restrictions are placed on the response of output and inflation to the oil price shocks. The analysis is applied to Norway and the United Kingdom, both oil producing OECD countries. A model that distinguishes between domestic and imported inflation, is also specified for Norway. In both countries, core inflation is a prime mover of CPI (RPI) inflation. However, CPI (RPI) inflation overvalues or undervalues core inflation in many periods, of which oil price shocks are important sources behind this deviation for prolonged periods.

---

## Reprints

*Kjell Arne Brekke:*

**The Numéraire Matters in Cost-Benefit Analysis**

Reprints no. 104, 1997. pp. 7.

Reprint from Journal of Public Economics, Vol. 64, 1997.

*Bodil M. Larsen and Runa Nesbakken:*

**Norwegian Emissions of CO<sub>2</sub> 1987-1994. A Study of Some Effects of the CO<sub>2</sub> Tax**

Reprints no. 105, 1997. pp. 16.

Reprint from Environmental and Resource Economics Vol. 9, 1997.

*Knut Einar Rosendahl:*

**Does Improved Environmental Policy Enhance Economic Growth?**

Reprints no. 106, 1997. pp. 24.

Reprint from Environmental and Resource Economics Vol. 9, 1997.

---

## Documents

*Erling Holmøy:*

**Is there Something Rotten in this State of Benchmark? A Note on the Ability of Numerical Models to Capture Welfare Effects due to Existing Tax Wedges**

Documents 97/10, 1997. pp. 8.

## Previously issued

### Social and Economic Studies

*Knut H. Alfsen, Torstein Bye and Erling Holmøy (eds.):*

MSG-EE: An Applied General Equilibrium Model for Energy and Environmental Analyses. **SES 96, 1996.**

### Reports

*Einar Bowitz, Nils-Øyvind Mæhle, Virza S. Sasmitawidjaja and Sentot B. Widoyono:* MEMLI The Indonesian Model for Environmental Analysis. Technical Documentation. **Reports 96/1, 1996.**

*Knut H. Alfsen, Pål Boug and Dag Kolsrud:*

Energy demand, carbon emissions and acid rain. Consequences of a changing Western Europe. **Reports 96/12, 1996.**

*Marie W. Arneberg:*

Theory and Practice in the World Bank and IMF Economic Policy Models. Case study Mozambique. **Reports 96/13, 1996.**

*Terje Skjerven and Anders Rygh Swensen:* Forecasting Manufacturing Investment Using Survey Information. **Reports 97/3, 1997.**

### Discussion Papers

*Torbjørn Hægeland:*

Monopolistic Competition, Resource Allocation and the Effects of Industrial Policy. **DP no. 161, 1996.**

*Sverre Grepperud:*

Poverty, Land Degradation and Climatic Uncertainty. **DP no. 162, 1996.**

*Sverre Grepperud:*

Soil Conservation as an Investment in Land. **DP no. 163, 1996.**

*Kjell Arne Brekke, Vegard Iversen and Jens Aune:*

Soil Wealth in Tanzania. **DP no. 164, 1996.**

*John K. Dagsvik, Dag G. Wetterwald and Rolf Aaberge:*

Potential Demand for Alternative Fuel Vehicles. **DP no. 165, 1996.**

*John K. Dagsvik:*

Consumer Demand with Unobservable Product Attributes. Part I: Theory. **DP no. 166, 1996.**

*John K. Dagsvik:*

Consumer Demand with Unobservable Product Attributes. Part II: Inference. **DP no. 167, 1996.**

*Rolf Aaberge, Anders Björklund, Markus Jäntti, Mårten Palme, Peder J. Pedersen, Nina Smith and Tom Wennemo:*

Income Inequality and Income Mobility in the Scandinavian Countries Compared to the United States. **DP no. 168, 1996.**

*Karine Nyborg:*

Some Norwegian Politicians' Use of Cost-Benefit Analysis. **DP no. 169, 1996.**

*Elin Berg, Snorre Kverndokk and Knut Einar Rosendahl:*

Market Power, International CO<sub>2</sub> Taxation and Petroleum Wealth. **DP no. 170, 1996.**

*Rolf Aaberge, Ugo Colombino and Steinar Strøm:*

Welfare Effects of Proportional Taxation: Empirical Evidence from Italy, Norway and Sweden. **DP no. 171, 1996.**

*John K. Dagsvik:*

Dynamic Choice, Multistate Duration Models and Stochastic Structure. **DP no. 172, 1996.**

*John K. Dagsvik:*

Aggregation in Matching Markets. **DP no. 173, 1996.**

*Hilde Christiane Bjørnland:*

The Dynamic Effects of Aggregate Demand, Supply and Oil Price Shocks. **DP no. 174, 1996.**

*Annegrete Bruvold and Karin Ibenholt:*

Future Waste Generation. Forecasts Based on a Macroeconomic Model. **DP no. 175, 1996.**

*Taran Fæhn and Leo Andreas Grünfeld:*

Recent Leaps Towards Free Trade. The Impact on Norwegian Industry and Trade Patterns. **DP no. 176, 1996.**

*Ray Barrell and Knut A. Magnussen:*

Counterfactual Analyses of Oil Price Shocks using a World Model. **DP no. 177, 1996.**

*Einar Bowitz and Stein Inge Hove:*

Business cycles and fiscal policy: Norway 1973-93. **DP no. 178, 1996.**

*Hilde Christiane Bjørnland:*

Sources of Business Cycles in Energy Producing Economies - The case of Norway and United Kingdom. **DP no. 179, 1996.**

*Karine Nyborg:*

The Political Man and Contingent Valuation: Motives Do Count. **DP no. 180, 1996.**

*Elin Berg, Snorre Kverndokk and Knut Einar Rosendahl:*

Gains from Cartelisation in the Oil Market. **DP no. 181, 1996.**

*Rolf Aaberge and Iulie Aslaksen:*

Decomposition of the Gini Coefficient by Income Components: Various Types of Applications and Interpretations. **DP no. 182, 1996.**

*Brita Bye:*

Taxation, Unemployment and Growth: Dynamic Welfare Effects of "Green" Policies. **DP no. 183, 1996.**

*Tor Jakob Klette and Frode Johansen:*

Accumulation of R&D Capital and Dynamic Firm Performance: A Not-so-fixed Effect Model. **DP no. 184, 1996.**

*Brita Bye:*

Environmental Tax Reform and Producer Foresight: An Intertemporal Computable General Equilibrium Analysis. **DP no. 185, 1996.**

*Sverre Grepperud:*

Soil Depletion Choices under Production and Price Uncertainty. **DP no. 186, 1997.**

*Nils Martin Stølen and Turid Åvitsland:*

Has Growth in Supply of Educated Persons Been Important for the Composition of Employment? **DP no. 187, 1997.**

*Tor Jakob Klette and Zvi Griliches:*

Empirical Patterns of Firm Growth and R&D Investment: A Quality Ladder Model Interpretation. **DP no. 188, 1997.**

*Jens Aune, Solveig Glomsrød, Vegard Iversen and Henrik Wiig:*

Structural Adjustment and Soil Degradation in Tanzania. A CGE-model Approach

with Endogenous Soil Productivity. **DP no. 189, 1997.**

*Erik Biørn and Tor Jakob Klette:*  
Panel Data with Error-in-Variables: A Note on Essential and Redundant Orthogonality Conditions in GMM-estimation. **DP no. 190, 1997.**

*Einar Bowitz and Ådne Cappelen:*  
Incomes Policies and the Norwegian Economy 1973-93. **DP no. 192, 1997.**

*Solveig Glomsrød, Maria Dolores Monge A. and Haakon Vennemo:*  
Structural Adjustment and Deforestation in Nicaragua. **DP no. 193, 1997.**

*Frode Johansen and Tor Jakob Klette:*  
Wage and Employment Effects of Payroll Taxes and Investment Subsidies. **DP no. 194, 1997.**

## Reprints

---

*Snorre Kverndokk:*  
Tradeable CO<sub>2</sub> Emission Permits: Initial Distribution as a Justice Problem. **Reprints no. 82, 1996.**

*Iulie Aslaksen, Trude Fagerli and Hanne A. Gravningsmyhr:*  
Measuring Household Production in an Input-Output Framework: the Norwegian Experience. **Reprints no. 83, 1996.**

*Iulie Aslaksen and Charlotte Koren:*  
Taxation, Time Use and the Value of Unpaid Labor: Policy Implications for the Redistribution of Income. **Reprints no. 85, 1996.** Reprint from Scandinavian Journal of Economics no. 4, Vol. 97, 1995.

*Knut H. Alfsen, Mario A. De Franco, Solveig Glomsrød and Torgeir Johnsen:*  
The Cost of Soil Erosion in Nicaragua. **Reprints no. 86, 1996.**

*Børn E. Naug and Ragnar Nymo:*  
Pricing to Market in a Small Open Economy. **Reprints no. 87, 1996.**

*Erling Holmøy and Haakon Vennemo:*  
A General Equilibrium Assessment of a Suggested Reform in Capital Income Taxation. **Reprints no. 89, 1996.**

*Snorre Kverndokk:*  
Global CO<sub>2</sub> Agreements: A Cost-Effective Approach. **Reprints no. 90, 1996.**

*Leo Andreas Grünfeld:*  
Monetary Aspects of Norwegian Business Cycles: An Exploratory Study Based on Historical Data. **Reprints no. 94, 1997.**

*Samuel Fankhauser and Snorre Kverndokk:*  
The Global Warming Game - Simulations of a CO<sub>2</sub>-reduction Agreement. **Reprints no. 95, 1997.**

*Rolf Aaberge:*  
Unemployment Duration Models with Non-stationary Inflow and Unobserved Heterogeneity. **Reprints no. 96, 1997.**

*Kjell Arne Brekke and Richard B. Howarth:*  
Is Welfarism Compatible with Sustainability? **Reprints no. 97, 1997.**

*Tor Arnt Johnsen, and Fridtjof F. Unander:*  
Norwegian Residential Energy Demand. Coordinated use of a System Engineering and a Macroeconomic Model. **Reprints no. 99, 1997.**

*Sverre Grepperud:*  
Population Pressure and Land Degradation. The Case of Ethiopia. **Reprints no. 100, 1997.**

*Kjell Arne Brekke, Hilde Lurås and Karine Nyborg:*  
Allowing Disagreement in Evaluations of Sosial Welfare. **Reprints no. 101, 1997.**

*Bodil Larsen:*  
Economic Impacts of Reducing NO<sub>x</sub> Emissions in Norway. **Reprints no. 102, 1997.**

*Sverre Grepperud:*  
Soil Conservation and Governmental Policies in Tropical Areas: Does Aid Worsen the Incentives for Arresting Erosion? **Reprints no. 103, 1997.**

## Documents

---

*Dag Kolsrud:*  
Documentation of Computer Programs that Extend the SEEM Model and Provide a Link to the RAINS Model. **Documents 96/1.**

*E. Bowitz, V.S. Sasmitawidjaja and G. Sugiarto (1996):*  
The Indonesian Economy and Emission of CO<sub>2</sub>: An Analysis Based on the Environmental-Macroeconomic-Model MEMLI, 1990-2020. **Documents 96/2.**

*Elin Berg:*  
Some Results from the Literature on the Impact of Carbon Taxes on the Petroleum Wealth. **Documents 96/4.**

*Olav Bjerkholt, Kjell Arne Brekke and Robin Choudhury:*  
The Century Model on the Long Term Sustainability of the Saudi Arabian Economy. **Documents 96/7.**

*Robin Choudhury:*  
The Century Model. Technical Documentation of Computer Programs and Procedures. **Documents 96/8.**

*Robin Choudhury and Knut A. Magnussen:*  
The Implementation Model. Technical Documentation of Computer Programs and Procedures. **Documents 96/9.**

*Robin Choudhury:*  
The Selection Model. Technical Documentation of Computer Programs and Procedures. **Documents 96/10.**

*Robin Choudhury:*  
The OM95 An Oil Model for the Kingdom of Saudi Arabia. Technical Documentation of Computer Programs and Procedures. **Documents 96/11.**

*Karine Nyborg:*  
Environmental Valuation, Cost-Benefit Analysis and Policy Making: A Survey. **Documents 96/12.**

*Per Richard Johansen and Knut A. Magnussen:*  
The Implementation Model. A Macroeconomic Model for Saudi Arabia. **Documents 96/13.**

*Ådne Cappelen and Knut A. Magnussen:*  
The Selection Model. A General Equilibrium Model for Saudi Arabia. **Documents 96/14.**

*Pål Boug and Leif Brubakk:*  
Impacts of Economic Integration on Energy Demand and CO<sub>2</sub> emissions on Western Europe. **Documents 96/15.**

*John K. Dagsvik:*  
Probabilistic Models for Qualitative Choice Behavior: An Introduction. **Documents 96/16.**

*Knut H. Alfsen and Knut Einar Rosendahl:*  
Economic Damage of Air Pollution. **Documents 96/17.**

*Knut H. Alfsen:*  
Why Natural Resource Accounting? **Documents 96/18.**

*Finn Roar Aune, Torstein Bye, Tor Arnt Johnsen and Alexandra Katz:*  
NORMEN. A General Equilibrium Model of the Nordic Countries Featuring a Detailed Electricity Block. **Documents 96/19.**

*Mette Rolland:*  
Military expenditure in Norway's main partner countries for development assistance. **Documents 96/20.**

*Petter Jakob Bjerve:*  
Contributions of Ragnar Frisch to National Accounting. **Documents 96/21.**

*Nils Martin Stølen:*  
Effects on Wages from Changes in Payroll Taxes in Norway. **Documents 96/22.**

*Torstein Bye and Snorre Kverndokk:*  
Nordic Negotiations on CO<sub>2</sub> Emissions Reduction. The Norwegian Negotiation Team's Considerations. **Documents 96/25.**

*Sverre Grepperud:*  
The impact of Policy on Farm Conservation Incentives in Developing Countries: What can be Learned from Theory? **Documents 97/2.**

*Mette Rolland:*  
Military Expenditure in Norway's Main Partner Countries for Development Assistance. Revised and Expanded Version **Documents 97/3, 1997.**

*Erling Joar Fløttum, Frank Foyn, Tor Jakob Klette, Per Øivind Kolbjørnsen, Svein Longva and Jan Erik Lystad:*  
What Do the Statisticians Know about the Information Society and the Emerging User Needs for New Statistics? **Documents 97/6, 1997.**

*Helge Brunborg and Erik Aurbakken:*  
Evaluation of Systems for Registration and Identification of Persons in Mozambique. **Documents 97/8, 1997.**

# Appendix

## List of tables

Page

### National accounts for Norway

Table A1.	Final expenditure and gross domestic product. At current prices. Million kroner .....	1*
Table A2.	Final expenditure and gross domestic product. At constant 1993-prices. Million kroner .....	2*
Table A3.	Final expenditure and gross domestic product. Percentage change in volume from the same period in the previous year ..	3*
Table A4.	Final expenditure and gross domestic product. Percentage change in prices from the same period in the previous year.....	4*
Table A5.	Gross domestic product and value added by industry. At current prices. Million kroner.....	5*
Table A6.	Gross domestic product and value added by industry. Percentage change in volume from the same period in the previous year .....	6*
Table A7.	Household final consumption expenditure. At current prices. Million kroner .....	7*
Table A8.	Household final consumption expenditure. Percentage change in volume from the same period in the previous year.....	7*
Table A9.	Gross fixed capital formation by type of capital goods and by industry. At current prices. Million kroner .....	8*
Table A10.	Gross fixed capital formation by type of capital goods and by industry. Percentage change in volume from the same period in the previous year .....	9*
Table A11.	Exports of goods and services. At current prices. Million kroner .....	10*
Table A12.	Exports of goods and services. Percentage change in volume from the same period in the previous year.....	11*
Table A13.	Imports of goods and services. At current prices. Million kroner.....	12*
Table A14.	Imports of goods and services. Percentage change in volume from the same period in the previous year .....	13*
Table A15.	Balance of payments. Summary. At current prices. Million kroner .....	14*
Table A16.	Employed persons, employees by industry and total. 1000 .....	15*
Table A17.	Employed persons, employees by industry and total. Percentage from the same period in the previous year .....	16*





## NATIONAL ACCOUNTS FOR NORWAY

Table A1. Final expenditure and gross domestic product. At current prices. Million kroner

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Final consumption exp. of househ. and NPISHs	457 548	484 268	113 660	113 193	123 096	134 319	120 889	122 320
Household final consumption expenditure . . .	434 551	460 217	107 679	107 243	117 064	128 231	114 555	115 990
Goods . . . . .	245 840	262 365	60 376	61 328	64 590	76 071	63 000	66 984
Services . . . . .	185 684	193 423	47 468	45 500	50 085	50 371	51 259	48 001
Direct purchases abroad by resident househ.	18 001	19 652	3 031	4 189	7 936	4 496	3 477	4 930
- Direct purchases by non-residents . . . . .	-14 974	-15 223	-3 196	-3 773	-5 547	-2 707	-3 181	-3 924
Final consumption exp. of NPISHs 4) . . . . .	22 997	24 051	5 981	5 949	6 033	6 089	6 334	6 330
Final consumption exp. of general government .	195 840	208 862	51 162	51 680	52 730	53 289	53 916	53 962
Final consumption exp. of central government .	78 726	84 231	20 628	20 835	21 260	21 509	21 438	21 542
Central government, civilian . . . . .	56 823	60 651	14 850	14 999	15 305	15 496	15 530	15 899
Central government, defence . . . . .	21 903	23 580	5 777	5 836	5 954	6 013	5 907	5 642
Final consumption exp. of local government . .	117 114	124 631	30 535	30 846	31 471	31 781	32 479	32 420
Gross fixed capital formation . . . . .	192 843	208 375	45 735	49 725	52 422	60 493	51 498	59 875
Petroleum activities . . . . .	47 817	46 673	9 900	12 212	12 274	12 287	12 698	17 326
Ocean transport . . . . .	3 899	6 286	1 366	972	1 578	2 369	3 414	1 875
Mainland Norway . . . . .	141 126	155 416	34 469	36 541	38 570	45 837	35 386	40 674
Mainland Norway excl. general government .	111 758	123 649	27 640	29 652	30 550	35 808	28 581	32 304
Manufacturing and mining . . . . .	16 455	18 196	3 434	4 272	4 697	5 793	3 460	4 917
Production of other goods . . . . .	12 019	12 096	2 253	3 211	3 140	3 492	2 179	3 381
Dwelling services . . . . .	26 481	26 089	6 341	6 189	6 586	6 973	6 900	7 106
Other services . . . . .	56 803	67 268	15 612	15 980	16 127	19 549	16 041	16 900
General government . . . . .	29 368	31 767	6 829	6 889	8 020	10 029	6 805	8 370
Changes in stocks and stat. discrepancies . . .	26 951	23 596	12 798	6 048	5 402	-651	8 347	6 208
Gross capital formation . . . . .	219 793	231 972	58 533	55 773	57 824	59 842	59 845	66 083
Final domestic use of goods and services . . . .	873 181	925 102	223 355	220 646	233 651	247 450	234 650	242 366
Final demand from Mainland Norway 2) . . . . .	794 514	848 546	199 291	201 413	214 396	233 445	210 190	216 957
Final demand from general government 3) . . . .	225 208	240 629	57 991	58 569	60 750	63 318	60 721	62 332
Total exports . . . . .	353 296	412 679	99 005	98 612	102 870	112 192	106 968	107 893
Traditional goods . . . . .	143 424	155 849	40 386	37 375	36 785	41 303	39 042	42 001
Crude oil and natural gas . . . . .	113 231	156 688	34 593	36 717	40 000	45 378	43 150	39 422
Ships and oil platforms . . . . .	10 581	9 151	2 604	2 175	1 341	3 031	2 020	1 580
Services . . . . .	86 060	90 991	21 422	22 345	24 744	22 480	22 756	24 890
Total use of goods and services . . . . .	1 226 477	1 337 781	322 360	319 258	336 521	359 642	341 618	350 259
Total imports . . . . .	297 471	319 986	75 636	75 250	81 345	87 755	79 435	88 130
Traditional goods . . . . .	202 935	222 613	53 992	53 525	53 945	61 151	53 260	60 727
Crude oil . . . . .	1 121	1 445	218	255	261	711	436	323
Ships and oil platforms . . . . .	12 863	14 290	3 776	2 340	3 714	4 460	5 107	3 671
Services . . . . .	80 552	81 638	17 650	19 130	23 425	21 433	20 632	23 410
Gross domestic product 1) . . . . .	929 006	1 017 794	246 728	244 008	255 174	271 885	262 188	262 129
Mainland Norway (market prices) . . . . .	793 730	834 819	205 575	200 917	207 942	220 385	212 856	216 315
Petroleum activities and ocean transport . . . . .	135 276	182 975	41 153	43 091	47 232	51 500	49 331	45 814
Mainland Norway (basic prices) . . . . .	695 477	727 088	180 754	175 025	180 701	190 608	188 739	188 569
Mainland Norway excl. general government . .	547 828	569 180	142 066	135 943	140 829	150 342	147 378	147 287
Manufacturing and mining . . . . .	115 043	119 515	30 345	29 313	29 207	30 650	26 661	29 997
Production of other goods . . . . .	79 293	80 875	21 781	16 003	20 930	22 162	22 533	18 710
Service industries . . . . .	353 492	368 790	89 940	90 628	90 691	97 531	98 185	98 581
General government . . . . .	147 649	157 908	38 688	39 083	39 873	40 266	41 361	41 281
Correction items . . . . .	98 253	107 731	24 822	25 892	27 241	29 777	24 117	27 746

1) Gross domestic product is measured at market prices, while value added by industry is measured at basic prices

2) Defined as total final consumption expenditure plus gross fixed capital formation in Mainland Norway

3) Defined as final consumption expenditure plus gross fixed capital formation

4) NPISH: Non-profit institutions serving households

**2\***  
**NATIONAL ACCOUNTS FOR NORWAY**

Table A2. Final expenditure and gross domestic product. At constant 1993-prices. Million kroner

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Final consumption exp. of househ. and NPISHs	439 745	460 253	109 507	107 867	116 841	126 038	111 343	113 369
Household final consumption expenditure . . .	418 273	438 615	104 095	102 509	111 417	120 594	105 805	107 806
Goods . . . . .	236 636	250 934	58 475	58 846	61 582	72 031	58 352	62 420
Services . . . . .	178 753	183 822	45 838	43 294	47 813	46 876	47 020	44 348
Direct purchases abroad by resident househ.	17 412	18 384	2 847	3 939	7 369	4 228	3 407	4 638
- Direct purchases by non-residents . . . . .	-14 528	-14 524	-3 066	-3 570	-5 347	-2 541	-2 973	-3 601
Final consumption exp. of NPISHs 4) . . . . .	21 471	21 639	5 412	5 358	5 424	5 444	5 538	5 563
Final consumption exp. of general government .	184 282	190 313	46 777	46 977	48 258	48 302	47 839	47 959
Final consumption exp. of central government.	74 479	77 587	19 092	19 113	19 727	19 655	19 353	19 373
Central government, civilian . . . . .	53 687	55 914	13 730	13 759	14 210	14 215	13 935	14 272
Central government, defence . . . . .	20 792	21 673	5 362	5 354	5 517	5 441	5 417	5 101
Final consumption exp. of local government . .	109 803	112 726	27 684	27 864	28 532	28 646	28 486	28 586
Gross fixed capital formation . . . . .	182 235	190 998	42 411	45 491	48 333	54 762	47 399	53 592
Petroleum activities . . . . .	45 417	42 932	9 251	11 237	11 332	11 112	11 421	15 192
Ocean transport . . . . .	3 483	5 882	1 229	901	1 449	2 303	3 287	1 719
Mainland Norway . . . . .	133 336	142 184	31 931	33 354	35 552	41 347	32 691	36 681
Mainland Norway excl. general government .	105 647	113 171	25 599	27 089	28 184	32 299	26 446	29 230
Manufacturing and mining . . . . .	15 823	17 156	3 245	4 061	4 433	5 417	3 359	4 699
Production of other goods . . . . .	11 459	11 290	2 117	3 012	2 928	3 234	2 078	3 175
Dwelling services . . . . .	24 544	23 080	5 726	5 461	5 798	6 094	5 970	6 023
Other services . . . . .	53 821	61 644	14 511	14 555	15 025	17 554	15 039	15 334
General government . . . . .	27 689	29 014	6 333	6 265	7 369	9 048	6 245	7 451
Changes in stocks and stat. discrepancies . . .	27 456	22 873	12 028	5 939	5 265	-358	9 019	6 431
Gross capital formation . . . . .	209 691	213 871	54 439	51 430	53 598	54 405	56 418	60 023
Final domestic use of goods and services . . . .	833 718	864 438	210 723	206 273	218 698	228 745	215 600	221 351
Final demand from Mainland Norway 2) . . . . .	757 363	792 751	188 215	188 197	200 652	215 687	191 872	198 009
Final demand from general government 3) . . . .	211 971	219 327	53 109	53 241	55 627	57 350	54 084	55 410
Total exports . . . . .	355 919	391 488	97 491	94 459	97 908	101 629	98 802	101 515
Traditional goods . . . . .	131 716	145 246	37 620	34 741	34 657	38 227	36 839	39 764
Crude oil and natural gas . . . . .	125 818	145 312	35 546	35 613	36 388	37 765	37 501	36 795
Ships and oil platforms . . . . .	10 888	8 785	2 615	2 078	1 275	2 817	1 847	1 408
Services . . . . .	87 498	92 145	21 709	22 028	25 588	22 820	22 616	23 549
Total use of goods and services . . . . .	1 189 637	1 255 926	308 213	300 733	316 606	330 374	314 402	322 865
Total imports . . . . .	289 675	308 520	73 539	72 848	78 817	83 316	77 428	84 455
Traditional goods . . . . .	197 477	215 786	52 162	52 129	52 702	58 794	53 274	60 098
Crude oil . . . . .	1 244	1 176	214	219	226	517	392	317
Ships and oil platforms . . . . .	13 206	13 925	3 732	2 248	3 612	4 333	4 936	3 348
Services . . . . .	77 748	77 633	17 432	18 253	22 277	19 671	18 825	20 691
Gross domestic product 1) . . . . .	899 962	947 405	234 678	227 885	237 787	247 056	236 980	238 410
Mainland Norway (market prices) . . . . .	746 445	773 844	192 163	185 474	193 999	202 208	192 169	194 393
Petroleum activities and ocean transport . . . .	153 517	173 561	42 515	42 411	43 788	44 848	44 810	44 017
Mainland Norway (basic prices) . . . . .	663 381	683 450	170 669	164 135	171 497	177 149	170 929	171 876
Mainland Norway excl. general government . .	525 189	541 580	135 883	129 042	135 658	140 997	135 079	135 915
Manufacturing and mining . . . . .	103 209	106 024	27 428	26 072	25 051	27 473	26 130	27 822
Production of other goods . . . . .	74 935	72 466	19 632	14 357	19 521	18 956	18 144	15 364
Service industries . . . . .	347 045	363 090	88 823	88 613	91 086	94 568	90 805	92 730
General government . . . . .	138 192	141 870	34 786	35 093	35 839	36 152	35 850	35 961
Correction items . . . . .	83 064	90 394	21 494	21 339	22 502	25 059	21 240	22 517

1) Gross domestic product is measured at market prices, while value added by industry is measured at basic prices

2) Defined as total final consumption expenditure plus gross fixed capital formation in Mainland Norway

3) Defined as final consumption expenditure plus gross fixed capital formation

4) NPISH: Non-profit institutions serving households

## NATIONAL ACCOUNTS FOR NORWAY

Table A3. Final expenditure and gross domestic product.  
Percentage change in volume from the same period in the previous year

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Final consumption exp. of househ. and NPISHs	2,7	4,7	5,4	3,3	4,5	5,4	1,7	5,1
Household final consumption expenditure . . .	3,1	4,9	5,6	3,5	4,7	5,6	1,6	5,2
Goods . . . . .	2,8	6,0	7,5	4,5	4,8	7,3	-0,2	6,1
Services . . . . .	2,8	2,8	3,2	2,6	2,8	2,8	2,6	2,4
Direct purchases abroad by resident househ.	0,8	5,6	8,5	-6,9	13,0	4,7	19,7	17,7
- Direct purchases by non-residents . . . . .	-6,9	-0,0	8,0	-3,2	-0,4	-3,6	-3,0	0,9
Final consumption exp. of NPISHs 4) . . . . .	-3,5	0,8	1,8	0,2	0,5	0,6	2,3	3,8
Final consumption exp. of general government .	1,0	3,3	3,4	2,7	3,7	3,2	2,3	2,1
Final consumption exp. of central government.	-0,2	4,2	4,3	3,3	4,8	4,3	1,4	1,4
Central government, civilian . . . . .	0,5	4,1	4,1	3,1	4,8	4,6	1,5	3,7
Central government, defence . . . . .	-1,9	4,2	4,7	3,8	5,0	3,4	1,0	-4,7
Final consumption exp. of local government . .	1,8	2,7	2,8	2,4	2,9	2,5	2,9	2,6
Gross fixed capital formation . . . . .	3,7	4,8	1,7	1,7	9,9	5,6	11,8	17,8
Petroleum activities . . . . .	-13,5	-5,5	-7,7	-1,7	-1,0	-11,2	23,5	35,2
Ocean transport . . . . .	-32,7	68,9	-28,7	-41,2	.	99,5	167,5	90,7
Mainland Norway . . . . .	12,9	6,6	6,6	5,0	6,3	8,3	2,4	10,0
Mainland Norway excl. general government .	16,3	7,1	7,1	5,7	6,8	8,6	3,3	7,9
Manufacturing and mining . . . . .	42,0	8,4	18,0	5,9	4,7	8,2	3,5	15,7
Production of other goods . . . . .	3,7	-1,5	-1,5	-4,7	-1,3	1,7	-1,8	5,4
Dwelling services . . . . .	13,0	-6,0	-8,0	-8,2	-3,6	-4,1	4,3	10,3
Other services . . . . .	14,6	14,5	13,5	14,7	14,2	15,6	3,6	5,4
General government . . . . .	1,6	4,8	4,9	2,0	4,3	7,1	-1,4	18,9
Changes in stocks and stat. discrepancies . . .	100,2	-16,7	7,5	-20,6	4,6	.	-25,0	8,3
Gross capital formation . . . . .	10,7	2,0	3,0	-1,5	9,4	-2,2	3,6	16,7
Final domestic use of goods and services . . . .	4,2	3,7	4,3	1,9	5,5	3,1	2,3	7,3
Final demand from Mainland Norway 2) . . . . .	4,0	4,7	5,1	3,4	4,6	5,5	1,9	5,2
Final demand from general government 3) . . . .	1,1	3,5	3,6	2,6	3,8	3,8	1,8	4,1
Total exports . . . . .	3,6	10,0	10,7	10,1	8,9	10,3	1,3	7,5
Traditional goods . . . . .	4,2	10,3	9,1	11,4	8,6	11,9	-2,1	14,5
Crude oil and natural gas . . . . .	8,1	15,5	15,8	19,3	19,3	8,6	5,5	3,3
Ships and oil platforms . . . . .	2,1	-19,3	28,3	-30,8	-65,7	32,1	-29,4	-32,2
Services . . . . .	-2,8	5,3	4,1	1,1	7,6	8,4	4,2	6,9
Total use of goods and services . . . . .	4,0	5,6	6,2	4,4	6,5	5,2	2,0	7,4
Total imports . . . . .	5,5	6,5	7,3	1,2	8,5	8,9	5,3	15,9
Traditional goods . . . . .	9,4	9,3	9,0	7,0	9,2	11,7	2,1	15,3
Crude oil . . . . .	32,0	-5,5	-38,7	-42,8	-31,1	179,9	83,3	45,0
Ships and oil platforms . . . . .	7,0	5,4	16,8	-12,3	49,1	-13,8	32,3	49,0
Services . . . . .	-3,6	-0,1	1,7	-10,1	2,8	5,6	8,0	13,4
Gross domestic product 1) . . . . .	3,6	5,3	5,9	5,4	5,9	4,0	1,0	4,6
Mainland Norway (market prices) . . . . .	3,1	3,7	4,3	3,4	3,8	3,3	0,0	4,8
Petroleum activities and ocean transport . . . . .	5,9	13,1	14,1	15,2	16,3	7,3	5,4	3,8
Mainland Norway (basic prices) . . . . .	2,8	3,0	3,5	2,9	3,3	2,4	0,2	4,7
Mainland Norway excl. general government . .	3,0	3,1	3,8	3,0	3,4	2,3	-0,6	5,3
Manufacturing and mining . . . . .	3,0	2,7	2,7	0,3	4,5	3,6	-4,7	6,7
Production of other goods . . . . .	8,4	-3,3	5,5	-3,2	-5,7	-8,9	-7,6	7,0
Service industries . . . . .	1,9	4,6	3,7	5,0	5,3	4,5	2,2	4,6
General government . . . . .	1,8	2,7	2,6	2,7	2,7	2,6	3,1	2,5
Correction items . . . . .	5,9	8,8	10,4	7,1	7,7	10,1	-1,2	5,5

1) Gross domestic product is measured at market prices, while value added by industry is measured at basic prices

2) Defined as total final consumption expenditure plus gross fixed capital formation in Mainland Norway

3) Defined as final consumption expenditure plus gross fixed capital formation

4) NPISH: Non-profit institutions serving households

## NATIONAL ACCOUNTS FOR NORWAY

Table A4. Final expenditure and gross domestic product.  
Percentage change in prices from the same period in the previous year

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Final consumption exp. of househ. and NPISHs	2,8	1,1	-0,4	1,6	1,6	1,5	4,6	2,8
Household final consumption expenditure . . .	2,7	1,0	-0,6	1,5	1,5	1,4	4,7	2,8
Goods . . . . .	2,4	0,6	-0,3	0,0	0,8	1,7	4,6	3,0
Services . . . . .	3,1	1,3	-1,1	3,2	2,1	1,1	5,3	3,0
Direct purchases abroad by resident househ.	0,9	3,4	3,9	5,4	3,8	0,4	-4,1	-0,0
- Direct purchases by non-residents . . . . .	2,2	1,7	1,4	2,0	1,7	1,7	2,6	3,1
Final consumption exp. of NPISHs 4) . . . . .	5,6	3,8	3,4	4,1	3,9	3,8	3,5	2,5
Final consumption exp. of general government .	3,9	3,3	3,1	3,8	2,8	3,4	3,0	2,3
Final consumption exp. of central government.	3,7	2,7	2,6	3,5	2,0	2,7	2,5	2,0
Central government, civilian . . . . .	3,9	2,5	2,5	3,5	1,8	2,2	3,0	2,2
Central government, defence . . . . .	3,3	3,3	2,8	3,7	2,5	4,1	1,2	1,5
Final consumption exp. of local government . .	4,0	3,7	3,5	4,0	3,4	3,8	3,4	2,5
Gross fixed capital formation . . . . .	3,7	3,1	3,3	3,4	2,1	3,5	0,7	2,2
Petroleum activities . . . . .	3,1	3,3	2,8	3,5	2,4	4,3	3,9	4,9
Ocean transport . . . . .	10,8	-4,5	10,4	9,9	54,1	-9,7	-6,6	1,1
Mainland Norway . . . . .	3,7	3,3	3,1	3,1	2,9	3,8	0,3	1,2
Mainland Norway excl. general government .	3,7	3,3	3,2	3,0	3,0	3,8	0,1	1,0
Manufacturing and mining . . . . .	3,1	2,0	3,2	1,2	2,3	1,7	-2,7	-0,5
Production of other goods . . . . .	3,3	2,1	2,8	1,6	2,4	2,0	-1,5	-0,1
Dwelling services . . . . .	3,4	4,8	4,4	4,7	4,9	5,0	4,4	4,1
Other services . . . . .	4,2	3,4	2,8	3,2	2,8	4,5	-0,9	0,4
General government . . . . .	3,8	3,2	2,7	3,5	2,6	3,9	1,0	2,2
Changes in stocks and stat. discrepancies . . .	-7,2	5,1	7,9	-2,0	8,6	102,1	-13,0	-5,2
Gross capital formation . . . . .	2,5	3,5	4,2	2,9	2,7	4,1	-1,3	1,5
Final domestic use of goods and services . . . .	3,0	2,2	1,6	2,4	2,2	2,5	2,7	2,4
Final demand from Mainland Norway 2) . . . . .	3,3	2,0	1,1	2,4	2,2	2,4	3,5	2,4
Final demand from general government 3) . . . .	3,9	3,3	3,1	3,8	2,8	3,4	2,8	2,3
Total exports . . . . .	2,3	6,2	1,0	3,9	7,5	12,2	6,6	1,8
Traditional goods . . . . .	7,1	-1,5	-2,9	-0,9	-2,5	0,5	-1,3	-1,8
Crude oil and natural gas . . . . .	-1,6	19,8	6,7	9,9	27,2	35,4	18,2	3,9
Ships and oil platforms . . . . .	-2,2	7,2	3,3	3,9	10,9	11,1	9,8	7,2
Services . . . . .	1,0	0,4	0,7	3,6	-1,2	-1,3	2,0	4,2
Total use of goods and services . . . . .	2,8	3,3	1,4	2,8	3,7	5,2	3,9	2,2
Total imports . . . . .	1,0	1,0	-0,1	1,6	0,9	1,6	-0,3	1,0
Traditional goods . . . . .	0,7	0,4	0,6	0,3	0,1	0,5	-3,4	-1,6
Crude oil . . . . .	-2,0	36,4	9,2	25,3	40,2	50,3	9,1	-12,6
Ships and oil platforms . . . . .	-3,7	5,4	5,7	10,5	3,3	3,9	2,3	5,3
Services . . . . .	2,5	1,5	-3,3	3,5	1,9	3,1	8,2	7,9
Gross domestic product 1) . . . . .	3,4	4,1	1,8	3,2	4,6	6,5	5,2	2,7
Mainland Norway (market prices) . . . . .	4,5	1,5	0,7	2,1	1,1	2,0	3,5	2,7
Petroleum activities and ocean transport . . . .	-2,6	19,6	9,6	10,1	26,4	32,3	13,7	2,4
Mainland Norway (basic prices) . . . . .	3,8	1,5	0,6	2,1	1,0	2,2	4,3	2,9
Mainland Norway excl. general government . .	3,7	0,8	-0,3	1,6	0,2	1,6	4,4	2,9
Manufacturing and mining . . . . .	9,4	1,1	1,5	1,2	1,5	0,3	-7,8	-4,1
Production of other goods . . . . .	3,5	5,5	2,5	2,3	4,2	12,1	11,9	9,3
Service industries . . . . .	2,0	-0,3	-1,6	1,7	-1,1	-0,1	6,8	3,9
General government . . . . .	4,1	4,2	4,2	4,2	4,1	4,2	3,7	3,1
Correction items . . . . .	10,1	0,8	0,7	1,3	1,1	0,1	-1,7	1,6

1) Gross domestic product is measured at market prices, while value added by industry is measured at basic prices

2) Defined as total final consumption expenditure plus gross fixed capital formation in Mainland Norway

3) Defined as final consumption expenditure plus gross fixed capital formation

4) NPISH: Non-profit institutions serving households

## NATIONAL ACCOUNTS FOR NORWAY

Table A5. Gross domestic product and value added by industry.  
At current prices. Million kroner

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Gross domestic product 1).	929 006	1 017 794	246 728	244 008	255 174	271 885	262 188	262 129
Agriculture and hunting	12 142	12 278	2 523	175	6 097	3 483	2 476	-46
Forestry and logging	3 293	2 977	1 191	754	292	741	1 035	658
Fishing and fish farming	7 416	7 203	2 335	1 532	1 558	1 778	1 917	1 546
Oil and gas extraction incl. services	105 963	150 313	32 708	34 932	38 789	43 885	41 930	37 817
Oil and gas extraction	103 749	147 301	32 086	34 241	37 976	42 998	40 920	36 679
Service act. incidental to oil and gas ext.	2 214	3 012	621	690	813	887	1 010	1 138
Mining and quarrying	1 812	1 827	454	476	426	471	375	495
Manufacturing	113 230	117 688	29 891	28 837	28 781	30 179	26 286	29 502
Food products, beverages and tobacco	16 161	17 433	4 128	4 542	4 330	4 433	4 565	5 322
Textiles, wearing apparel, leather	2 233	2 292	586	553	530	624	524	579
Wood and wood products	4 441	4 068	956	953	981	1 178	795	1 036
Pulp, paper and paper products	7 825	5 842	1 740	1 335	1 366	1 400	924	971
Publishing, printing, reproduction	12 073	13 928	3 562	3 384	3 320	3 663	2 772	2 858
Refined petroleum products	1 367	1 228	245	423	257	304	88	131
Basic chemicals	6 965	6 610	1 617	1 500	1 822	1 671	1 487	1 804
Chemical and mineral products	9 946	10 607	2 773	2 656	2 469	2 709	2 132	2 465
Basic metals	12 012	10 862	2 999	2 883	2 600	2 381	2 208	2 964
Machinery and other equipment n.e.c.	26 080	29 189	7 109	6 940	7 337	7 804	6 744	7 138
Building of ships, oil platforms and moduls.	10 653	11 873	3 172	2 810	2 922	2 969	3 163	3 245
Furniture and other manufacturing n.e.c.	3 475	3 755	1 005	859	847	1 044	884	989
Electricity and gas supply	24 132	21 683	7 379	4 611	3 756	5 937	6 781	5 409
Construction	32 309	36 734	8 353	8 931	9 228	10 223	10 324	11 143
Service industries excluded general government	382 805	401 451	98 385	98 787	99 134	105 145	105 586	106 578
Wholesale and retail trade	88 444	92 868	21 924	21 740	22 597	26 609	22 409	23 929
Hotels and restaurants	11 062	11 776	2 601	2 782	3 059	3 334	2 630	2 941
Transport via pipelines	13 998	16 627	4 014	3 956	4 164	4 493	4 459	4 049
Water transport	16 998	17 762	4 860	4 675	4 778	3 449	3 353	4 453
Ocean transport	15 314	16 035	4 431	4 204	4 279	3 121	2 942	3 947
Inland water and costal transport	1 683	1 727	428	472	499	328	411	505
Other transport industries	36 466	37 723	9 714	10 421	9 583	8 005	10 678	12 010
Post and telecommunications	19 421	20 278	4 902	4 921	4 734	5 721	4 851	5 045
Financial intermediation	37 931	35 627	7 440	9 429	8 537	10 221	11 047	9 717
Dwelling services	62 556	64 141	15 899	16 023	16 079	16 141	16 424	16 598
Business services etc.	48 360	53 583	13 833	12 779	12 139	14 832	15 516	14 617
Personal services	47 568	51 067	13 200	12 063	13 464	12 340	14 218	13 218
General government	147 649	157 908	38 688	39 083	39 873	40 266	41 361	41 281
Central government	44 158	46 722	11 447	11 563	11 798	11 914	12 020	12 028
Civilian central government	32 464	34 596	8 476	8 562	8 736	8 822	8 934	8 967
Defence	11 694	12 126	2 971	3 001	3 062	3 092	3 085	3 061
Local government	103 491	111 186	27 241	27 520	28 075	28 352	29 342	29 253
FISIM 2)	-29 645	-30 018	-7 205	-7 403	-7 314	-8 097	-7 395	-7 618
Value added tax and investment levy	88 345	95 385	22 281	22 607	23 689	26 808	22 724	24 177
Other taxes on products, net	37 409	41 968	9 214	10 452	10 516	11 786	9 119	11 272
Statistical discrepancy	2 144	396	531	235	351	-720	-332	-85
Mainland Norway (basic prices)	695 477	727 088	180 754	175 025	180 701	190 608	188 739	188 569
Market producers	606 863	673 524	163 766	159 551	168 165	182 042	176 566	172 841
Non-market producers	223 890	236 539	58 140	58 565	59 767	60 066	61 505	61 542
Education	39 340	41 940	10 292	10 356	10 563	10 729	10 925	10 856
Health and social work	70 255	75 699	18 563	18 736	19 145	19 254	19 981	19 923

1) Gross domestic product is measured at market prices, while value added by industry is measured at basic prices

2) Financial intermediation services indirectly measured

## NATIONAL ACCOUNTS FOR NORWAY

Table A6. Gross domestic product and value added by industry.  
 Percentage change in volume from the same period in the previous year

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Gross domestic product 1) . . . . .	3,6	5,3	5,9	5,4	5,9	4,0	1,0	4,6
Agriculture and hunting . . . . .	10,0	3,3	4,7	20,7	1,1	3,5	-4,2	-37,9
Forestry and logging . . . . .	12,7	-21,9	-22,0	-21,9	-21,8	-21,8	-3,1	-3,1
Fishing and fish farming . . . . .	7,8	4,8	16,6	7,3	3,0	-6,6	-8,6	21,3
Oil and gas extraction incl. services . . . . .	7,3	14,2	16,5	17,4	17,7	6,4	4,6	2,8
Oil and gas extraction . . . . .	7,6	14,1	17,0	17,0	17,5	6,1	4,0	2,3
Service act. incidental to oil and gas ext. . . . .	-8,3	19,6	-5,6	42,8	28,6	20,4	40,7	25,3
Mining and quarrying . . . . .	2,5	1,3	6,3	-0,8	-2,6	2,5	-9,8	1,6
Manufacturing . . . . .	3,0	2,8	2,6	0,3	4,6	3,6	-4,6	6,8
Food products, beverages and tobacco . . . . .	1,7	1,9	4,8	0,6	1,3	1,2	-1,7	0,5
Textiles, wearing apparel, leather . . . . .	-3,6	1,1	-10,9	-4,3	9,9	13,4	-2,0	14,1
Wood and wood products . . . . .	2,1	1,4	-2,7	1,6	3,6	3,5	-4,1	13,5
Pulp, paper and paper products . . . . .	4,5	-6,8	-5,1	-10,4	-6,7	-4,9	-4,2	8,6
Publishing, printing, reproduction . . . . .	3,3	3,6	4,1	4,8	3,9	1,7	-2,6	4,4
Refined petroleum products . . . . .	-10,2	10,5	0,4	1,8	17,7	23,6	9,1	9,6
Basic chemicals . . . . .	-0,2	-0,5	-1,6	-9,5	5,4	3,9	-4,3	14,6
Chemical and mineral products . . . . .	6,7	3,3	3,3	3,6	3,2	3,3	-8,7	5,4
Basic metals . . . . .	-2,5	3,2	1,6	3,7	3,3	4,4	2,1	9,8
Machinery and other equipment n.e.c. . . . .	7,0	4,7	4,6	0,4	7,6	6,4	-5,7	8,9
Building of ships, oil platforms and moduls. . . . .	1,0	2,7	2,7	-2,1	8,6	2,2	-12,9	1,8
Furniture and other manufacturing n.e.c. . . . .	1,1	5,4	5,0	4,7	7,2	4,9	-2,1	23,3
Electricity and gas supply . . . . .	8,7	-15,0	7,9	-14,0	-29,7	-27,2	-22,9	8,1
Construction . . . . .	7,1	2,4	4,8	1,6	1,8	1,6	5,7	8,1
Service industries excluded general government	1,9	5,0	3,9	5,2	5,8	5,0	2,8	4,9
Wholesale and retail trade . . . . .	1,4	6,3	6,7	5,6	5,0	7,7	-2,1	8,0
Hotels and restaurants . . . . .	-0,5	4,0	3,6	3,6	3,8	4,7	0,2	1,8
Transport via pipelines . . . . .	7,8	18,1	16,8	17,7	21,0	17,0	10,9	8,5
Water transport . . . . .	-3,8	2,2	-1,8	0,7	4,1	6,0	6,1	6,8
Ocean transport . . . . .	-2,9	2,0	-1,9	0,2	3,9	6,1	6,2	7,1
Inland water and costal transport . . . . .	-12,1	4,0	-0,7	5,5	6,6	4,5	5,3	4,4
Other transport industries . . . . .	6,4	12,2	8,1	8,3	21,3	10,2	7,8	11,5
Post and telecommunications . . . . .	8,1	4,4	4,6	6,5	3,0	3,7	1,1	4,0
Financial intermediation . . . . .	-1,9	-0,8	-4,1	7,4	-2,1	-3,9	2,3	-9,5
Dwelling services . . . . .	0,9	0,9	0,9	0,9	0,8	0,8	1,1	1,0
Business services etc. . . . .	1,7	6,5	4,7	6,5	8,7	6,5	7,6	9,8
Personal services . . . . .	2,7	2,9	3,8	2,6	2,6	2,6	2,6	4,0
General government . . . . .	1,8	2,7	2,6	2,7	2,7	2,6	3,1	2,5
Central government . . . . .	1,7	1,9	2,0	1,7	2,1	1,7	1,7	1,1
Civilian central government . . . . .	0,9	2,6	2,6	2,7	2,6	2,6	1,6	1,6
Defence . . . . .	4,0	-0,3	0,3	-1,1	0,6	-0,8	2,0	-0,1
Local government . . . . .	1,8	3,0	2,9	3,1	3,0	3,0	3,6	3,0
FISIM 2) . . . . .	3,0	-0,1	-0,2	-0,1	-0,1	-0,1	-0,9	0,5
Value added tax and investment levy . . . . .	3,0	5,3	6,5	4,0	4,5	6,2	0,9	5,9
Other taxes on products, net . . . . .	4,6	9,0	9,7	7,7	8,0	10,4	-3,9	2,8
Statistical discrepancy . . . . .	918,7	10,5	6,7	6,7	9,2	19,4	-35,9	-37,4
Mainland Norway (basic prices) . . . . .	2,8	3,0	3,5	2,9	3,3	2,4	0,2	4,7
Market producers . . . . .	4,1	5,9	6,7	6,4	7,0	3,8	1,0	5,5
Non-market producers . . . . .	1,2	2,0	2,1	1,9	2,0	1,9	1,9	1,7
Education . . . . .	1,2	2,5	2,5	2,5	2,5	2,5	2,2	1,4
Health and social work . . . . .	2,1	2,9	3,1	3,0	2,8	2,8	3,4	3,1

1) Gross domestic product is measured at market prices, while value added by industry is measured at basic prices

2) Financial intermediation services indirectly measured

## NATIONAL ACCOUNTS FOR NORWAY

Table A7. Household final consumption expenditure. At current prices. Million kroner

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Household final consumption expenditure . . . .	434 551	460 217	107 679	107 243	117 064	128 231	114 555	115 990
Food, beverages and tobacco . . . . .	93 326	96 704	21 697	23 865	24 932	26 210	22 060	24 692
Clothing and footwear . . . . .	25 848	26 578	5 462	6 251	6 255	8 610	5 527	6 833
Housing, water, electr., gas and other fuels . . . .	100 411	104 394	27 219	24 887	24 365	27 923	29 545	26 086
Furnishings, household equipment etc. . . . .	28 107	29 473	6 624	6 096	7 207	9 547	6 727	7 021
Health . . . . .	10 980	11 747	2 802	2 889	2 949	3 107	2 881	3 084
Transport . . . . .	68 951	78 478	17 902	19 875	21 237	19 464	18 923	22 185
Leisure, entertainment and culture . . . . .	40 343	42 852	10 480	8 861	11 534	11 978	10 709	9 994
Education . . . . .	1 965	2 056	489	440	549	577	511	473
Hotels, cafes and restaurants . . . . .	24 212	25 692	5 341	5 901	7 381	7 070	5 610	6 111
Miscellaneous goods and services . . . . .	37 380	37 812	9 828	7 763	8 265	11 957	11 766	8 505
Direct purchases abroad by resident househ. . . .	18 001	19 652	3 031	4 189	7 936	4 496	3 477	4 930
- Direct purchases by non-residents . . . . .	-14 974	-15 223	-3 196	-3 773	-5 547	-2 707	-3 181	-3 924
Goods . . . . .	245 840	262 365	60 376	61 328	64 590	76 071	63 000	66 984
Services . . . . .	185 684	193 423	47 468	45 500	50 085	50 371	51 259	48 001
Services, dwellings . . . . .	80 726	82 897	20 455	20 721	20 780	20 941	21 224	21 473
Other services . . . . .	104 958	110 526	27 013	24 778	29 305	29 430	30 035	26 528

Table A8. Household final consumption expenditure.

Percentage change in volume from the same period in the previous year

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Household final consumption expenditure . . . .	3,1	4,9	5,6	3,5	4,7	5,6	1,6	5,2
Food, beverages and tobacco . . . . .	3,8	1,7	3,4	0,5	0,4	2,6	-2,3	-1,0
Clothing and footwear . . . . .	-4,1	6,3	5,3	4,1	6,6	8,5	-0,9	8,9
Housing, water, electr., gas and other fuels . . . .	1,5	1,5	3,6	1,0	1,0	0,4	1,8	1,6
Furnishings, household equipment etc. . . . .	5,2	3,7	6,4	1,1	2,2	4,7	0,8	14,1
Health . . . . .	-0,3	3,0	1,7	2,5	3,5	4,4	1,0	4,9
Transport . . . . .	3,6	14,0	13,4	11,7	13,1	17,8	2,0	8,4
Leisure, entertainment and culture . . . . .	4,1	6,0	6,9	6,1	3,5	7,8	0,6	10,8
Education . . . . .	-1,2	0,0	-0,4	1,1	-1,1	0,6	0,7	3,7
Hotels, cafes and restaurants . . . . .	4,8	3,9	3,9	3,4	3,9	4,2	2,9	0,2
Miscellaneous goods and services . . . . .	4,4	3,1	3,1	3,3	2,6	3,4	5,0	5,7
Direct purchases abroad by resident househ. . . .	0,8	5,6	8,5	-6,9	13,0	4,7	19,7	17,7
- Direct purchases by non-residents . . . . .	-6,9	-0,0	8,0	-3,2	-0,4	-3,6	-3,0	0,9
Goods . . . . .	2,8	6,0	7,5	4,5	4,8	7,3	-0,2	6,1
Services . . . . .	2,8	2,8	3,2	2,6	2,8	2,8	2,6	2,4
Services, dwellings . . . . .	1,2	0,9	1,2	0,8	0,7	1,0	1,4	1,3
Other services . . . . .	4,1	4,3	4,7	4,1	4,3	4,2	3,5	3,4



## NATIONAL ACCOUNTS FOR NORWAY

Table A9. Gross fixed capital formation by type of capital goods and by industry.  
At current prices. Million kroner

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Gross fixed capital formation . . . . .	192 843	208 375	45 735	49 725	52 422	60 493	51 498	59 875
Buildings and structures . . . . .	78 151	82 932	19 080	19 633	20 604	23 615	19 672	21 793
Oil exploration, drilling, pipelines . . . . .	17 939	20 413	4 119	4 921	5 852	5 521	5 391	7 110
Oil platforms etc. . . . .	25 911	24 176	4 983	6 446	6 256	6 491	7 373	9 983
Ships and boats . . . . .	5 029	7 433	1 680	1 181	1 861	2 711	3 850	2 233
Other transport equipment . . . . .	19 776	25 355	5 876	6 416	5 678	7 385	5 614	6 840
Machinery and equipment . . . . .	46 035	48 066	9 997	11 128	12 170	14 770	9 597	11 915
Agriculture and hunting . . . . .	5 054	5 293	914	1 612	1 493	1 274	915	1 619
Forestry and logging . . . . .	533	550	137	137	137	139	140	141
Fishing and fish farming . . . . .	535	551	148	113	159	131	242	178
Oil and gas extraction, incl. services . . . . .	41 730	40 680	8 676	10 626	10 396	10 983	11 600	15 198
Oil and gas extraction . . . . .	42 066	41 499	8 974	10 777	10 409	11 340	11 544	15 176
Service act. incidental to oil and gas ext. . . . .	-335	-819	-298	-151	-13	-357	57	22
Mining and quarrying . . . . .	462	375	76	66	127	105	39	77
Manufacturing . . . . .	15 993	17 821	3 358	4 206	4 569	5 688	3 421	4 840
Food products, beverages and tobacco . . . . .	3 305	3 230	592	700	674	1 264	631	867
Textiles, wearing apparel, leather . . . . .	196	209	41	46	71	51	61	67
Wood and wood products . . . . .	938	1 373	187	317	524	344	274	232
Pulp, paper and paper products . . . . .	1 826	1 448	339	284	243	582	217	365
Publishing, printing, reproduction . . . . .	880	966	204	228	227	307	194	390
Refined petroleum products . . . . .	425	324	73	43	140	67	21	51
Basic chemicals . . . . .	2 171	1 708	472	464	446	326	320	234
Chemical and mineral products . . . . .	1 523	2 034	345	438	590	661	357	561
Basic metals . . . . .	1 368	2 922	432	735	763	992	753	1 122
Machinery and other equipment n.e.c. . . . .	2 303	2 346	472	530	633	711	412	542
Building of ships, oil platforms and moduls. . . . .	673	777	134	261	134	248	127	277
Furniture and other manufacturing n.e.c. . . . .	384	486	67	161	123	134	53	132
Electricity and gas supply . . . . .	4 953	4 698	797	1 083	1 127	1 691	605	1 146
Construction . . . . .	945	1 004	258	266	224	256	278	297
Service industries excl. general government . . . . .	93 269	105 636	24 543	24 727	26 169	30 196	27 453	28 009
Wholesale and retail trade . . . . .	18 374	21 337	5 057	5 036	5 095	6 149	4 939	5 299
Hotels and restaurants . . . . .	1 806	2 009	522	494	497	496	485	493
Transport via pipelines . . . . .	6 087	5 993	1 224	1 586	1 878	1 304	1 098	2 128
Water transtort. . . . .	4 591	7 009	1 563	1 095	1 747	2 603	3 683	2 055
Ocean transport . . . . .	3 899	6 286	1 366	972	1 578	2 369	3 414	1 875
Inland water and costal transport . . . . .	692	722	197	123	169	233	269	179
Other transport industries . . . . .	11 194	15 571	3 927	4 171	3 301	4 172	3 873	4 046
Post and telecommunications . . . . .	7 693	7 733	1 104	1 483	2 149	2 997	1 277	1 692
Financial intermediation . . . . .	4 234	4 876	1 043	1 095	1 261	1 477	1 217	1 301
Dwelling services . . . . .	26 481	26 089	6 341	6 189	6 586	6 973	6 900	7 106
Business services etc. . . . .	6 433	8 115	2 010	1 984	1 920	2 201	2 148	2 171
Personal services . . . . .	6 378	6 903	1 751	1 593	1 734	1 824	1 833	1 718
General government . . . . .	29 368	31 767	6 829	6 889	8 020	10 029	6 805	8 370
Central government . . . . .	13 466	14 110	3 205	2 989	3 462	4 454	2 496	3 728
Civilian central government . . . . .	10 232	10 810	2 502	2 354	2 751	3 203	1 945	2 631
Defence . . . . .	3 234	3 300	703	635	711	1 251	551	1 097
Local government . . . . .	15 902	17 657	3 624	3 900	4 558	5 575	4 309	4 642
Mainland Norway . . . . .	141 126	155 416	34 469	36 541	38 570	45 837	35 386	40 674
Education . . . . .	5 266	5 474	1 289	1 265	1 358	1 563	1 435	1 514
Health and social work . . . . .	6 722	8 191	1 780	1 798	2 053	2 559	2 010	2 035

## NATIONAL ACCOUNTS FOR NORWAY

Table A10. Gross fixed capital formation by type of capital goods and by industry.  
Percentage change in volume from the same period in the previous year

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Gross fixed capital formation . . . . .	3,7	4,8	1,7	1,7	9,9	5,6	11,8	17,8
Buildings and structures . . . . .	14,3	1,6	4,1	0,3	1,4	0,8	-1,2	6,7
Oil exploration, drilling, pipelines . . . . .	-18,5	10,7	13,8	6,3	6,7	17,1	24,6	34,5
Oil platforms etc. . . . .	-5,4	-10,1	-17,2	-4,3	3,6	-20,2	43,8	49,6
Ships and boats . . . . .	-30,7	51,8	-26,7	-40,7	.	91,1	142,8	86,3
Other transport equipment . . . . .	17,6	22,4	15,4	22,4	19,1	32,7	-2,2	6,4
Machinery and equipment . . . . .	4,6	4,1	4,1	4,3	2,7	5,1	1,5	10,2
Agriculture and hunting . . . . .	9,3	2,6	1,7	3,7	2,2	2,4	2,2	0,6
Forestry and logging . . . . .	2,1	-0,4	-0,6	-0,4	-0,1	-0,4	-0,1	-0,0
Fishing and fish farming . . . . .	-35,1	2,3	-19,7	-35,3	58,5	63,8	73,4	60,7
Oil and gas extraction, incl. services . . . . .	-9,9	-5,8	-12,9	-2,1	3,4	-11,1	28,6	35,9
Oil and gas extraction . . . . .	-10,2	-4,6	-9,6	-0,5	1,2	-9,0	23,8	33,7
Service act. incidental to oil and gas ext. . . . .	-37,3	143,9	.	.	-93,9	160,6	.	.
Mining and quarrying . . . . .	69,8	-21,6	-26,8	-39,6	15,0	-31,9	-46,9	19,1
Manufacturing . . . . .	41,3	9,3	19,7	7,2	4,4	9,4	4,7	15,7
Food products, beverages and tobacco . . . . .	18,6	-4,6	5,5	-20,7	-8,7	5,1	8,6	24,5
Textiles, wearing apparel, leather . . . . .	-3,2	5,5	-34,1	-16,6	76,0	24,5	54,7	53,0
Wood and wood products . . . . .	19,3	45,6	28,6	49,2	135,8	-5,6	55,1	-25,3
Pulp, paper and paper products . . . . .	186,3	-22,4	69,6	-34,2	-62,5	0,3	-31,9	27,8
Publishing, printing, reproduction . . . . .	-14,3	8,4	3,6	53,8	38,8	-20,2	-1,3	70,3
Refined petroleum products . . . . .	57,1	-28,1	-5,7	-74,2	37,8	-34,8	-70,0	25,2
Basic chemicals . . . . .	174,0	-22,7	35,9	-32,8	-34,4	-33,6	-33,4	-48,0
Chemical and mineral products . . . . .	21,8	30,2	22,1	29,2	15,1	54,9	7,1	28,3
Basic metals . . . . .	48,1	106,7	29,5	155,1	115,8	126,9	76,5	51,9
Machinery and other equipment n.e.c. . . . .	40,1	1,3	17,9	13,7	-6,8	-7,9	-9,5	2,5
Building of ships, oil platforms and moduls. . . . .	-4,3	14,6	-4,8	83,1	0,5	-5,7	-0,7	11,6
Furniture and other manufacturing n.e.c. . . . .	34,1	24,0	21,1	47,4	28,5	2,1	-18,8	-17,2
Electricity and gas supply . . . . .	2,0	-7,0	-2,2	-13,9	-10,7	-1,4	-23,5	6,3
Construction . . . . .	22,5	2,8	1,5	7,5	1,8	0,6	8,9	11,8
Service industries excl. general government . . . . .	6,4	9,8	5,4	3,5	17,6	12,8	11,9	11,6
Wholesale and retail trade . . . . .	11,5	12,4	12,4	12,1	10,9	14,1	-1,6	5,1
Hotels and restaurants . . . . .	11,9	7,4	15,7	1,6	6,7	6,2	-7,3	-1,3
Transport via pipelines . . . . .	-32,7	-2,9	59,9	0,7	-20,1	-12,4	-12,9	30,5
Water transtort . . . . .	-29,6	57,4	-26,6	-40,1	.	87,0	149,7	84,8
Ocean transport . . . . .	-32,7	68,9	-28,7	-41,2	.	99,5	167,5	90,7
Inland water and costal transport . . . . .	-8,8	-0,3	-9,9	-30,3	35,5	14,2	35,5	39,2
Other transport industries . . . . .	27,9	33,9	21,3	40,0	26,1	50,6	0,0	-4,2
Post and telecommunications . . . . .	24,2	-0,5	7,8	-2,2	10,5	-9,0	21,4	17,2
Financial intermediation . . . . .	23,4	10,8	9,1	6,1	10,8	16,1	14,1	15,4
Dwelling services . . . . .	13,0	-6,0	-8,0	-8,2	-3,6	-4,1	4,3	10,3
Business services etc. . . . .	2,2	21,3	17,5	19,4	21,1	27,3	6,7	8,5
Personal services . . . . .	6,0	5,5	6,5	4,1	4,9	6,3	4,9	6,7
General government . . . . .	1,6	4,8	4,9	2,0	4,3	7,1	-1,4	18,9
Central government . . . . .	-3,7	1,4	1,2	-6,3	0,2	8,3	-22,2	22,0
Civilian central government . . . . .	-1,0	2,0	5,0	2,0	2,8	-0,8	-24,1	7,8
Defence . . . . .	-11,4	-0,8	-9,7	-28,9	-7,6	41,0	-15,6	77,5
Local government . . . . .	6,7	7,7	8,4	9,2	7,7	6,2	17,1	16,7
Mainland Norway . . . . .	12,9	6,6	6,6	5,0	6,3	8,3	2,4	10,0
Education . . . . .	5,5	1,1	10,4	2,9	4,2	-9,1	10,5	17,5
Health and social work . . . . .	10,3	18,9	17,4	18,1	19,4	20,2	12,4	11,7

## NATIONAL ACCOUNTS FOR NORWAY

Table A11. Exports of goods and services. At current prices. Million kroner

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Total exports . . . . .	353 296	412 679	99 005	98 612	102 870	112 192	106 968	107 893
Goods . . . . .	267 236	321 688	77 583	76 267	78 126	89 712	84 212	83 003
Crude oil and natural gas . . . . .	113 231	156 688	34 593	36 717	40 000	45 378	43 150	39 422
Ships, new . . . . .	4 138	4 257	641	1 249	596	1 771	1 510	988
Ships, second-hand . . . . .	5 791	3 765	1 584	718	655	808	443	515
Oil platforms and modules, new . . . . .	63	59	11	12	25	11	22	5
Oil platforms, second-hand . . . . .	492	943	344	172	34	393	9	24
Direct exports related to petroleum act. . . . .	97	127	24	24	31	48	36	48
Other goods . . . . .	143 424	155 849	40 386	37 375	36 785	41 303	39 042	42 001
Agriculture, forestry and fishing . . . . .	6 767	7 035	1 683	1 798	1 654	1 900	1 863	1 887
Mining and quarrying . . . . .	2 271	2 342	662	600	549	531	479	610
Manufacturing products . . . . .	133 142	145 484	37 470	34 762	34 485	38 767	36 652	39 414
Food products, beverages and tobacco . . . . .	17 164	19 528	5 277	4 066	4 607	5 578	4 994	4 788
Textiles, wearing apparel, leather . . . . .	2 138	2 207	546	515	540	606	552	594
Wood products . . . . .	3 003	2 864	678	710	710	766	717	794
Pulp, paper and paper products . . . . .	12 864	11 593	3 262	2 807	2 792	2 732	2 556	2 683
Printing and publishing . . . . .	378	559	147	126	131	155	118	121
Refined petroleum products . . . . .	12 996	17 147	3 927	4 036	4 128	5 056	5 088	4 538
Basic chemicals . . . . .	12 019	12 107	3 204	2 775	3 084	3 044	2 939	3 452
Chemical and mineral products . . . . .	8 923	9 597	2 364	2 301	2 516	2 416	2 392	2 711
Basic metals . . . . .	29 798	30 756	8 159	7 723	7 048	7 826	7 540	8 567
Machinery and other equipment n.e.c. . . . .	31 065	35 970	9 109	8 981	8 172	9 708	8 940	10 307
Furniture and other manufacturing products . . . . .	2 794	3 156	797	722	757	880	816	859
Electricity . . . . .	1 244	988	571	215	97	105	48	90
Services . . . . .	86 060	90 991	21 422	22 345	24 744	22 480	22 756	24 890
Gross receipts, shipping . . . . .	45 198	46 801	11 475	11 743	11 777	11 806	11 840	13 325
Petroleum activities, various services . . . . .	624	714	177	177	180	180	186	189
Oil drilling etc. . . . .	1 159	1 131	264	263	374	230	394	423
Pipeline transport . . . . .	2 176	3 424	736	685	855	1 148	1 074	732
Travel . . . . .	14 974	15 223	3 196	3 773	5 547	2 707	3 181	3 924
Other services . . . . .	21 929	23 698	5 574	5 704	6 011	6 409	6 081	6 297
Transport, post and telecommunication . . . . .	7 834	8 631	1 861	2 215	2 296	2 259	1 855	2 172
Financial and business services . . . . .	10 781	11 948	2 799	2 792	2 978	3 379	3 361	3 180
Services n.e.c. . . . .	3 314	3 119	914	697	737	771	865	945

## NATIONAL ACCOUNTS FOR NORWAY

Table A12. Exports of goods and services.

Percentage change in volume from the same period in the previous year

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Total exports . . . . .	3,6	10,0	10,7	10,1	8,9	10,3	1,3	7,5
Goods . . . . .	5,9	11,5	12,8	13,1	9,4	10,9	0,5	7,6
Crude oil and natural gas . . . . .	8,1	15,5	15,8	19,3	19,3	8,6	5,5	3,3
Ships, new . . . . .	-14,2	-1,4	14,5	-46,7	-39,8	365,0	127,1	-23,9
Ships, second-hand . . . . .	21,9	-39,9	12,7	-7,0	-74,0	-50,4	-74,1	-36,1
Oil platforms and modules, new . . . . .	455,4	-9,7	-10,6	.	-47,9	164,2	92,8	-59,9
Oil platforms, second-hand . . . . .	-41,0	91,7	.	364,9	-86,6	125,9	-97,4	-86,0
Direct exports related to petroleum act. . . . .	59,6	26,8	1,9	-3,9	20,2	86,0	43,6	85,4
Other goods . . . . .	4,2	10,3	9,1	11,4	8,6	11,9	-2,1	14,5
Agriculture, forestry and fishing . . . . .	14,8	14,1	11,1	26,5	25,0	-0,7	11,6	9,5
Mining and quarrying . . . . .	-2,2	2,4	24,0	6,8	-0,8	-15,7	-19,8	5,8
Manufacturing products . . . . .	3,4	10,7	8,7	11,1	8,6	14,3	-1,8	15,1
Food products, beverages and tobacco . . . . .	2,2	11,8	16,3	17,0	6,5	8,6	-4,0	13,4
Textiles, wearing apparel, leather . . . . .	-5,0	1,9	-9,2	1,1	5,5	12,0	1,6	15,6
Wood products . . . . .	-4,3	1,0	-10,9	5,7	7,4	3,5	3,5	3,3
Pulp, paper and paper products . . . . .	4,6	3,6	-2,7	3,8	7,8	6,5	-1,9	10,6
Printing and publishing . . . . .	-16,1	56,6	95,3	71,0	28,7	37,6	-24,0	-25,4
Refined petroleum products . . . . .	0,0	10,0	-0,8	-1,6	9,4	42,5	0,8	11,1
Basic chemicals . . . . .	-3,2	6,5	6,4	2,5	2,9	14,6	-9,0	24,5
Chemical and mineral products . . . . .	7,5	8,6	8,6	-2,8	17,3	12,2	9,1	25,4
Basic metals . . . . .	-4,7	13,2	2,6	12,7	12,2	26,9	3,8	14,8
Machinery and other equipment n.e.c. . . . .	15,0	13,4	20,8	23,6	7,4	3,9	-6,7	15,5
Furniture and other manufacturing products . . . . .	8,1	11,0	15,6	14,8	1,8	12,6	6,1	16,8
Electricity . . . . .	80,6	-49,9	32,8	-52,8	-76,8	-84,6	-88,6	-50,1
Services . . . . .	-2,8	5,3	4,1	1,1	7,6	8,4	4,2	6,9
Gross receipts, shipping . . . . .	0,2	2,0	-1,9	0,2	3,9	6,1	6,2	7,1
Petroleum activities, various services . . . . .	-4,4	10,6	12,1	8,9	12,7	8,8	1,3	2,7
Oil drilling etc. . . . .	-34,5	-8,9	-26,8	-11,3	11,1	-6,7	37,0	39,9
Pipeline transport . . . . .	-3,2	47,4	17,4	25,6	55,2	96,5	42,3	39,3
Travel . . . . .	-6,9	-0,0	8,0	-3,2	-0,4	-3,6	-3,0	0,9
Other services . . . . .	-3,5	13,0	17,6	4,4	18,5	11,4	-2,5	5,2
Transport, post and telecommunication . . . . .	9,1	23,9	5,3	12,6	52,2	21,4	-2,0	-4,3
Financial and business services . . . . .	0,8	10,8	29,0	0,9	0,3	16,2	-1,0	6,1
Services n.e.c. . . . .	-32,2	-7,1	12,5	-5,1	-7,4	-24,0	-8,5	31,7

## NATIONAL ACCOUNTS FOR NORWAY

Table A13. Imports of goods and services. At current prices. Million kroner

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Total imports . . . . .	297 471	319 986	75 636	75 250	81 345	87 755	79 435	88 130
Goods . . . . .	216 919	238 348	57 986	56 120	57 920	66 322	58 803	64 721
Ships . . . . .	6 324	6 325	1 799	652	1 494	2 380	3 091	1 259
Oil platforms and modules . . . . .	359	282	33	32	192	25	36	45
Direct imports related to petroleum activities. . . . .	6 180	7 683	1 944	1 656	2 028	2 055	1 980	2 367
Other goods . . . . .	204 056	224 058	54 210	53 780	54 206	61 862	53 696	61 050
Agriculture, forestry and fishing . . . . .	7 890	8 088	2 299	1 907	1 730	2 152	1 936	2 325
Crude oil . . . . .	1 121	1 445	218	255	261	711	436	323
Mining and quarrying . . . . .	2 802	2 906	835	663	667	741	727	870
Manufacturing products . . . . .	191 995	208 274	50 612	50 229	50 365	57 068	49 810	57 284
Food products, beverages and tobacco . . . . .	8 927	9 493	2 162	2 339	2 505	2 487	2 227	2 595
Textiles, wearing apparel, leather . . . . .	15 201	15 344	4 059	2 971	4 519	3 795	4 161	3 473
Wood products . . . . .	3 883	4 104	947	1 031	998	1 128	1 007	1 286
Pulp, paper and paper products . . . . .	6 469	6 370	1 693	1 545	1 486	1 646	1 532	1 614
Printing and publishing . . . . .	2 799	3 386	836	712	852	986	820	842
Refined petroleum products. . . . .	8 828	9 362	2 084	2 232	2 483	2 563	2 548	2 796
Basic chemicals . . . . .	9 449	9 070	2 306	2 363	2 264	2 137	2 172	2 557
Chemical and mineral products. . . . .	20 551	21 757	5 277	5 511	5 285	5 684	5 172	6 235
Basic metals . . . . .	21 043	22 701	5 685	5 735	5 260	6 021	5 439	5 640
Machinery and other equipment n.e.c. . . . .	77 813	83 343	20 618	20 225	19 308	23 192	19 607	23 651
Furniture and other manufacturing products	6 587	7 049	1 683	1 556	1 658	2 152	1 772	1 974
Non-competitive imports. . . . .	10 445	16 295	3 262	4 009	3 747	5 277	3 353	4 621
Electricity . . . . .	248	3 345	246	726	1 183	1 190	787	248
Services . . . . .	80 552	81 638	17 650	19 130	23 425	21 433	20 632	23 410
Operating costs shipping, excl. bunkers . . . . .	19 726	20 052	4 601	4 863	4 920	5 668	5 826	6 455
Operating costs oil drilling, excl. bunkers . . . . .	1 354	1 227	359	288	306	274	219	394
Petroleum activities, various services. . . . .	4 257	4 140	795	1 092	1 095	1 158	801	936
Travel. . . . .	26 923	29 128	5 407	6 581	10 254	6 886	5 782	7 494
Other services. . . . .	28 292	27 091	6 488	6 306	6 850	7 447	8 004	8 131
Transport, post and telecommunication. . . . .	3 410	2 976	677	708	907	684	882	775
Financial and business services . . . . .	15 273	13 350	3 073	3 128	3 245	3 904	4 020	4 215
Services n.e.c. . . . .	9 609	10 765	2 738	2 470	2 698	2 859	3 102	3 140

## NATIONAL ACCOUNTS FOR NORWAY

Table A14. Imports of goods and services.

Percentage change in volume from the same period in the previous year

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Total imports . . . . .	5,5	6,5	7,3	1,2	8,5	8,9	5,3	15,9
Goods . . . . .	9,3	8,9	9,2	5,6	10,9	10,0	4,4	16,8
Ships . . . . .	-13,4	-5,6	-20,4	-58,6	78,2	18,1	66,3	77,9
Oil platforms and modules . . . . .	102,7	-21,4	-32,3	-26,8	198,8	-83,7	-10,1	16,1
Direct imports related to petroleum activities. . . . .	40,0	20,9	132,6	71,5	23,5	-30,8	-1,8	37,5
Other goods . . . . .	9,5	9,2	8,6	6,6	9,0	12,3	2,5	15,4
Agriculture, forestry and fishing . . . . .	7,0	3,8	3,3	-8,9	8,8	13,7	-14,7	14,6
Crude oil . . . . .	32,0	-5,5	-38,7	-42,8	-31,1	179,9	83,3	45,0
Mining and quarrying . . . . .	2,0	1,0	27,3	-16,1	-2,1	-0,8	-16,3	26,9
Manufacturing products . . . . .	9,7	8,5	8,8	7,0	7,6	10,3	1,7	16,1
Food products, beverages and tobacco . . . . .	4,0	4,5	11,2	-0,0	0,7	7,8	6,5	12,8
Textiles, wearing apparel, leather . . . . .	1,6	-1,3	-10,0	-0,1	-0,8	8,4	2,0	14,5
Wood products . . . . .	3,2	8,2	0,0	5,9	15,2	12,0	6,6	28,8
Pulp, paper and paper products . . . . .	5,9	1,5	-1,1	0,5	1,2	5,5	2,2	14,0
Printing and publishing . . . . .	7,6	12,6	14,3	4,6	19,4	11,8	6,0	25,4
Refined petroleum products. . . . .	14,8	-8,2	-4,4	-10,8	-8,9	-8,5	10,6	29,0
Basic chemicals . . . . .	8,3	2,5	9,0	0,5	3,2	-2,3	-8,9	9,0
Chemical and mineral products. . . . .	9,9	9,6	10,6	6,8	8,8	12,3	-2,3	13,5
Basic metals . . . . .	1,0	13,9	17,4	9,2	12,6	16,6	1,4	1,6
Machinery and other equipment n.e.c. . . . .	17,2	7,7	11,2	9,7	6,6	4,0	1,6	20,7
Furniture and other manufacturing products	7,5	3,4	4,4	4,8	3,6	1,5	6,5	24,7
Non-competitive imports. . . . .	-3,8	48,0	28,8	23,8	47,0	96,0	4,1	6,9
Electricity . . . . .	-54,5	.	155,9	391,0	.	.	489,7	-66,0
Services . . . . .	-3,6	-0,1	1,7	-10,1	2,8	5,6	8,0	13,4
Operating costs shipping, excl. bunkers . . . . .	0,2	2,0	-1,9	0,2	3,9	6,1	6,2	7,1
Operating costs oil drilling, excl. bunkers . . . . .	50,6	-11,2	38,7	-15,9	-30,8	-19,8	-41,7	32,9
Petroleum activities, various services. . . . .	-36,7	-6,3	15,0	-31,7	-20,0	55,2	-2,9	-17,5
Travel. . . . .	1,9	4,7	7,4	-3,3	9,6	3,8	11,5	13,9
Other services . . . . .	-5,3	-4,9	-2,4	-18,3	-0,7	3,0	10,5	22,4
Transport, post and telecommunication. . . . .	-11,5	-11,9	-15,3	-25,5	0,8	-7,6	25,7	7,3
Financial and business services . . . . .	-1,9	-12,7	-14,3	-25,6	-9,4	0,3	8,1	27,0
Services n.e.c. . . . .	-7,8	9,4	22,4	-4,3	11,3	10,0	9,4	21,4

## NATIONAL ACCOUNTS FOR NORWAY

Table A15. Balance of payments. Summary. At current prices. Million kroner

	1996	96:1	96:2	96:3	96:4	97:1	97:2
Total exports . . . . .	412 679	99 005	98 612	102 870	112 192	106 968	107 893
Goods . . . . .	321 688	77 583	76 267	78 126	89 712	84 212	83 003
Services . . . . .	90 991	21 422	22 345	24 744	22 480	22 756	24 890
Total imports . . . . .	319 986	75 636	75 250	81 345	87 755	79 435	88 130
Goods . . . . .	238 348	57 986	56 120	57 920	66 322	58 803	64 721
Services . . . . .	81 638	17 650	19 130	23 425	21 433	20 632	23 410
Balance of goods and services . . . . .	92 693	23 369	23 362	21 525	24 437	27 533	19 763
Primary income and transfers from abroad . . . . .	39 793	10 737	9 664	9 385	10 007	10 430	12 457
Compensation of employees . . . . .	1 200	300	300	300	300	300	300
Interest . . . . .	23 203	6 166	5 472	5 454	6 111	6 277	7 999
Dividends etc. . . . .	2 052	1 064	405	280	303	240	1 121
Reinvested earnings . . . . .	3 716	352	1 105	1 170	1 089	1 136	655
Current transfers . . . . .	9 622	2 855	2 382	2 181	2 204	2 477	2 382
Primary income and transfers to abroad . . . . .	59 965	14 707	15 304	12 560	17 394	16 288	18 336
Compensation of employees . . . . .	3 604	895	887	903	919	890	926
Interest . . . . .	22 978	6 066	6 046	3 872	6 994	7 410	7 833
Dividends etc. . . . .	9 513	2 268	3 982	2 777	486	2 984	4 781
Reinvested earnings . . . . .	4 656	1 283	-109	689	2 793	342	-2
Current transfers . . . . .	19 214	4 195	4 498	4 319	6 202	4 662	4 798
Primary income and transfers from abroad, net . . . . .	-20 172	-3 970	-5 640	-3 175	-7 387	-5 858	-5 879
Current external balance . . . . .	72 521	19 399	17 722	18 350	17 050	21 675	13 884
Capital transfer, net . . . . .	-1 018	-17	-20	-62	-919	-73	-262
Net lending . . . . .	71 503	19 382	17 702	18 288	16 131	21 602	13 622

## NATIONAL ACCOUNTS FOR NORWAY

Table A16. Employed persons, employees by industry and total. 1000

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
Total employees . . . . .	1 916,0	1 973,5	1 926,3	1 963,1	2 000,0	2 004,0	2 001,4	2 032,5
Agriculture and hunting . . . . .	16,7	17,1	17,0	17,3	17,3	16,9	16,5	16,3
Forestry and logging . . . . .	3,6	3,5	3,4	3,6	3,6	3,6	3,6	3,6
Fishing and fish farming . . . . .	8,1	8,2	7,7	8,0	8,3	8,6	8,8	9,0
Oil and gas extraction incl. services . . . . .	21,0	21,7	21,2	21,7	22,0	22,0	22,1	22,2
Oil and gas extraction . . . . .	17,1	17,6	17,8	17,6	17,7	17,6	17,5	17,4
Service act. incidental to oil and gas ext. . . . .	3,9	4,1	3,5	4,2	4,3	4,4	4,6	4,8
Mining and quarrying . . . . .	4,5	4,4	4,5	4,6	4,5	4,2	4,2	4,3
Manufacturing . . . . .	292,4	298,6	291,6	297,5	302,8	302,6	307,3	311,5
Food products, beverages and tobacco . . . . .	53,3	54,5	52,8	53,8	55,5	56,1	55,8	55,6
Textiles, wearing apparel, leather . . . . .	8,5	8,4	8,3	8,7	8,6	8,2	7,9	7,9
Wood and wood products . . . . .	15,4	15,5	15,0	15,4	15,9	15,7	16,6	17,0
Pulp, paper and paper products . . . . .	11,1	10,9	11,2	10,9	11,1	10,3	10,5	10,7
Publishing, printing, reproduction . . . . .	38,9	39,7	40,0	39,6	39,7	39,6	41,2	42,4
Refined petroleum products . . . . .	1,9	1,9	1,7	2,0	2,1	1,9	1,9	2,2
Basic chemicals . . . . .	9,3	9,5	9,4	9,6	9,7	9,4	9,3	9,4
Chemical and mineral products . . . . .	20,8	21,6	20,9	21,2	22,1	22,3	21,6	22,3
Basic metals . . . . .	16,4	16,7	15,0	17,3	17,7	16,8	16,4	17,1
Machinery and other equipment n.e.c. . . . .	71,1	72,6	71,7	72,7	72,9	73,0	76,8	76,5
Building of ships, oil platforms and moduls. . . . .	33,4	34,3	33,4	33,8	34,7	35,4	35,9	36,5
Furniture and other manufacturing n.e.c. . . . .	12,3	12,9	12,3	12,5	12,8	13,9	13,5	13,8
Electricity and gas supply . . . . .	20,0	20,0	19,5	20,0	20,5	19,9	20,0	20,2
Construction . . . . .	85,6	88,0	84,1	87,4	90,4	90,2	93,1	96,0
Service industries excluded general government	814,3	846,1	825,0	843,9	858,2	857,1	859,4	880,1
Wholesale and retail trade . . . . .	268,5	283,3	276,4	282,8	286,9	286,8	290,2	298,1
Hotels and restaurants . . . . .	54,4	56,9	53,8	56,5	59,3	57,9	57,5	59,8
Transport via pipelines . . . . .	0,4	0,4	0,4	0,4	0,4	0,4	0,2	0,4
Water transport . . . . .	50,6	50,1	48,4	49,8	51,2	51,0	48,9	49,2
Ocean transport . . . . .	42,5	41,8	40,8	41,5	42,4	42,6	40,7	40,8
Inland water and costal transport . . . . .	8,1	8,3	7,6	8,3	8,8	8,4	8,1	8,4
Other transport industries . . . . .	71,4	73,6	70,6	73,1	75,6	75,1	76,9	79,8
Post and telecommunications . . . . .	50,4	50,2	50,4	50,8	50,5	49,1	49,7	49,6
Financial intermediation . . . . .	51,0	50,7	50,3	50,7	51,1	50,7	50,2	49,9
Dwelling services . . . . .	1,2	1,2	1,2	1,3	1,3	1,1	1,1	1,1
Business services etc. . . . .	111,1	119,3	115,4	119,7	120,9	121,1	123,4	130,3
Personal services . . . . .	155,3	160,4	158,0	158,8	161,0	163,9	161,2	161,9
General government . . . . .	650,0	665,7	652,4	659,0	672,3	679,0	666,5	669,2
Central government . . . . .	149,9	152,0	149,0	150,5	153,5	155,0	150,5	150,7
Civilian central government . . . . .	104,6	106,6	104,5	105,5	107,7	108,7	105,9	106,9
Defence . . . . .	45,4	45,4	44,5	44,9	45,9	46,3	44,7	43,8
Local government . . . . .	500,1	513,7	503,4	508,6	518,8	524,0	516,0	518,6
Mainland Norway . . . . .	1 852,1	1 909,5	1 863,9	1 899,5	1 935,1	1 939,0	1 938,4	1 969,1
Total employees and self-employed . . . . .	2 106,7	2 159,9	2 120,5	2 152,3	2 187,1	2 179,0	2 180,4	2 219,7



## NATIONAL ACCOUNTS FOR NORWAY

Table A17. Employed persons, employees by industry and total.  
Percentage change from the same period in the previous year

	1995	1996	96:1	96:2	96:3	96:4	97:1	97:2
<b>Total employees</b> . . . . .	2,6	3,0	2,7	3,5	2,9	2,9	3,9	3,5
Agriculture and hunting . . . . .	0,8	2,8	4,1	3,3	1,4	2,5	-3,1	-6,0
Forestry and logging . . . . .	1,1	-0,6	1,5	-0,3	-2,1	-1,2	7,7	0,2
Fishing and fish farming . . . . .	2,7	1,1	-3,3	-0,3	1,1	7,0	13,1	12,3
Oil and gas extraction incl. services . . . . .	-2,0	3,7	1,6	4,3	4,0	5,0	4,0	2,5
Oil and gas extraction . . . . .	-1,8	3,5	4,3	3,4	2,9	3,5	-1,5	-0,8
Service act. incidental to oil and gas ext. . . . .	-3,2	4,6	-10,3	8,0	8,8	11,7	32,4	16,3
Mining and quarrying . . . . .	-0,7	-0,0	2,9	3,3	-0,2	-5,9	-5,5	-5,6
Manufacturing . . . . .	3,1	2,1	2,2	2,3	1,6	2,5	5,4	4,7
Food products, beverages and tobacco . . . . .	1,3	2,3	1,7	1,3	1,6	4,6	5,7	3,4
Textiles, wearing apparel, leather . . . . .	-1,4	-0,9	-2,1	2,1	0,1	-3,9	-4,5	-8,7
Wood and wood products . . . . .	3,5	0,5	-0,6	0,4	1,1	1,1	10,7	10,2
Pulp, paper and paper products . . . . .	1,9	-2,0	2,9	-2,1	-2,4	-6,3	-5,4	-2,3
Publishing, printing, reproduction . . . . .	2,1	2,0	3,9	2,8	0,7	0,7	3,1	7,2
Refined petroleum products . . . . .	-4,0	-0,0	-1,6	0,7	0,9	-0,2	10,2	9,6
Basic chemicals . . . . .	2,1	3,0	4,7	4,4	2,3	0,8	-1,5	-1,7
Chemical and mineral products . . . . .	4,9	4,0	2,5	2,1	4,3	7,1	3,2	5,2
Basic metals . . . . .	-0,3	2,0	-3,6	4,5	3,6	3,2	9,2	-1,1
Machinery and other equipment n.e.c. . . . .	5,1	2,1	3,4	3,4	1,0	0,7	7,1	5,2
Building of ships, oil platforms and moduls. . . . .	5,1	2,8	2,1	1,6	2,5	5,0	7,5	8,0
Furniture and other manufacturing n.e.c. . . . .	5,0	5,0	2,9	3,7	2,9	10,2	9,8	10,7
Electricity and gas supply . . . . .	1,2	-0,0	0,3	0,6	-0,2	-0,7	2,4	0,9
Construction . . . . .	8,4	2,9	4,4	3,7	1,1	2,6	10,8	9,9
Service industries excluded general government	2,8	3,9	3,2	4,9	4,1	3,4	4,2	4,3
Wholesale and retail trade . . . . .	5,0	5,5	4,4	6,5	5,8	5,2	5,0	5,4
Hotels and restaurants . . . . .	2,0	4,5	2,4	4,0	5,7	5,7	7,0	5,8
Transport via pipelines . . . . .	-2,0	-0,4	25,0	.	.	-68,8	-50,0	-
Water transport . . . . .	1,8	-1,0	-2,1	-1,3	-0,4	-0,1	0,9	-1,1
Ocean transport . . . . .	1,8	-1,5	-2,5	-1,7	-1,1	-0,7	-0,2	-1,6
Inland water and costal transport . . . . .	1,7	2,0	0,4	1,1	3,1	3,1	6,9	1,4
Other transport industries . . . . .	-1,0	3,1	1,1	3,2	4,0	4,0	8,9	9,2
Post and telecommunications . . . . .	0,7	-0,4	2,6	3,2	-0,4	-6,4	-1,3	-2,3
Financial intermediation . . . . .	0,5	-0,6	-0,8	0,4	-0,8	-1,1	-0,3	-1,6
Dwelling services . . . . .	2,6	2,5	3,2	7,6	7,2	-7,7	-4,9	-9,7
Business services etc. . . . .	4,3	7,4	6,6	9,8	7,2	6,2	7,0	8,8
Personal services . . . . .	2,1	3,3	3,0	3,4	2,8	4,0	2,0	1,9
General government . . . . .	1,6	2,4	2,4	2,4	2,4	2,4	2,2	1,5
Central government . . . . .	-0,7	1,4	1,4	1,4	1,4	1,4	1,0	0,1
Civilian central government . . . . .	0,6	2,0	2,0	2,0	2,0	2,0	1,3	1,3
Defence . . . . .	-3,6	0,0	0,0	0,0	0,1	0,1	0,4	-2,6
Local government . . . . .	2,3	2,7	2,7	2,7	2,7	2,7	2,5	2,0
<b>Mainland Norway</b> . . . . .	2,7	3,1	2,9	3,6	3,0	3,0	4,0	3,7
<b>Total employees and self-employed</b> . . . . .	2,1	2,5	2,7	3,0	2,2	2,2	2,8	3,1

**B**-blad

*Returadresse:*  
Statistisk sentralbyrå  
Postboks 8131 Dep.  
N-0033 Oslo

Statistics Norway  
Sales- and subscription service  
P.O. Box 8131 Dep.  
N-0033 Oslo

Telephone: +47 22 00 44 80  
Telefax: +47 22 86 49 76

ISBN 82-537-4388-2  
ISSN 0801-8324



**Statistisk sentralbyrå**  
Statistics Norway



9 788253 743882