

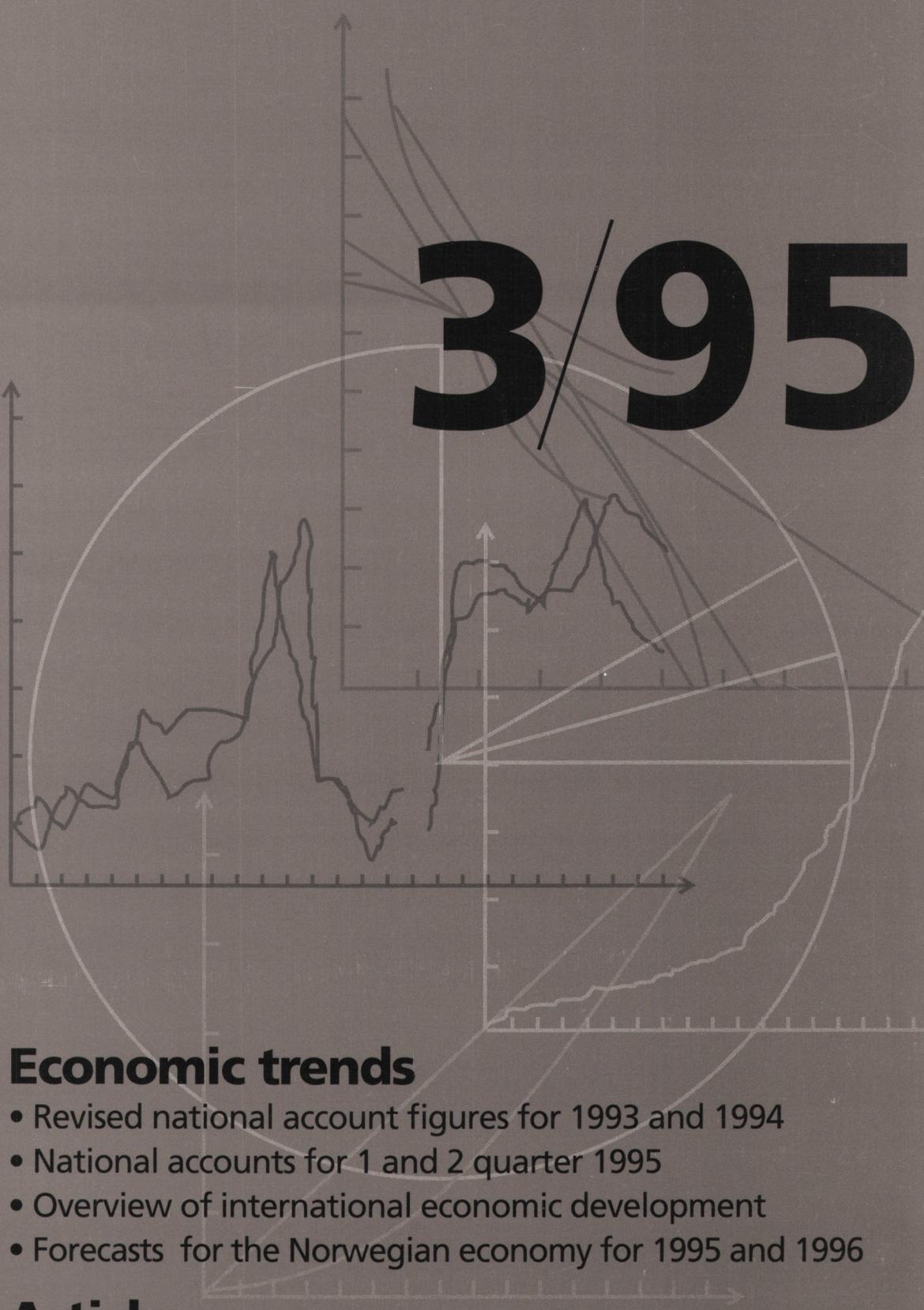
# Economic Survey

Statistics Norway



Statistisk sentralbyrå

# 3/95



## Economic trends

- Revised national account figures for 1993 and 1994
- National accounts for 1 and 2 quarter 1995
- Overview of international economic development
- Forecasts for the Norwegian economy for 1995 and 1996

## Article

- Revised Norwegian national accounts

# Economic Survey

# 3/95

## Contents

<b>Economic trends</b>	<b>3</b>
International background	4
Norwegian economy	7
• Developments thus far this year	7
• Outlook for 1995 and 1996	9
<b>Economic policy calendar 1995</b>	<b>16</b>
<i>Article:</i>	
<b>Revised Norwegian national accounts</b>	<b>18</b>
<b>Research publications in English</b>	<b>29</b>
<b>Appendix: National accounts for Norway</b>	<b>34</b>

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## Economic Survey

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## Economic Survey

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

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<b>Symbols in Tables</b>	<b>Symbol</b>
Data not available	..
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Nil	0
Provisional or preliminary figure	*

# Economic trends

Revised national accounts figures based on a new national accounting standard and improved statistical material show that the upturn in 1994 was stronger than previously assumed. Mainland GDP growth has been revised upwards from 3.9 to 4.8 per cent, while the rise in mainland demand is now estimated at 4.8 per cent, compared with 4.2 per cent according to the old accounts. These estimates place Norway among the fastest growing countries in the OECD area, a ranking which is further amplified if output growth in the petroleum sector and shipping are also included.

On the demand side, the estimates for growth in mainland fixed investment in 1994 have doubled, from 6 to 12 per cent, partly as a result of definitional changes. Growth in general government consumption, on the other hand, appears to have been lower than projected earlier. The estimate for traditional merchandise exports has also been revised downwards by about one percentage point, to 13.3 per cent. New figures for imports among Norway's main trading partners also indicate a market growth of 10 per cent for Norwegian exports last year, which is one percentage point higher than assumed earlier. In spite of these revisions, the figures still indicate substantial growth in market shares for Norwegian exports in 1994.

Even though the figures for production and imports for Norway's main trading partners have been revised upwards for 1994, the growth outlook for 1995 and the first half of 1996 appears to be weaker than was the case six months ago. Although the cut in the Germany discount rate may contribute to a further decline in European interest rates in the months ahead, this is not likely to alter the impression that economic growth is levelling off in our main trading partner countries. Even though the effects of a new upswing in the US economy may influence the second half of 1996, growth on an annual basis will probably be lower than in 1995.

## Main indicators for the Norwegian economy

Growth from previous year. Per cent

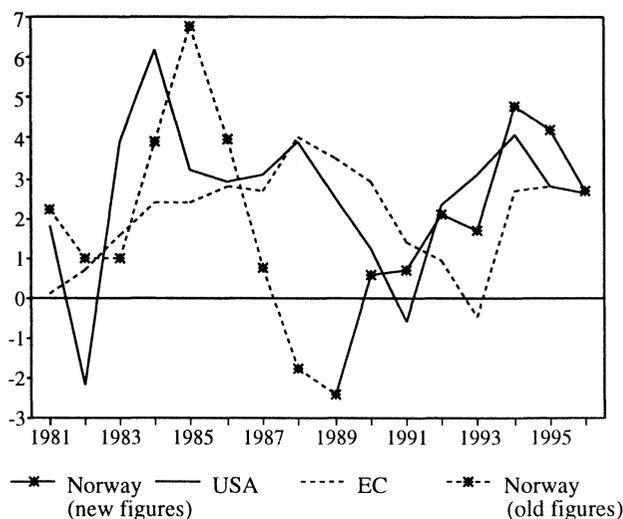
	1994	1995	1996
GDP	5.7	4.8	3.7
Consumption in households and non-profit organizations	4.6	2.9	1.9
Unemployment rate <sup>1)</sup>	5.4	5.1	4.8
Consumer price index	1.4	2.5	2.2

1) Level in per cent.

A number of factors also indicate that growth in domestic demand may be more subdued in 1995 and 1996 than last year. Investments in the petroleum sector are likely to fall both this year and next year, and public sector demand will probably show little change. The expansion in housing investment seems to be levelling off, and after growing sharply this year manufacturing investment is likely to decline in 1996. Buoyant growth in household consumption is being sustained at the moment, but in view of the reduced effects of the interest rate declines that took place in 1993 and 1994, and with approximately the same income growth in 1995 and 1996 as last year, growth in consumption will probably move on a downward trend in the period ahead.

So far there are no signs of escalating price inflation in Norway, after the increase in VAT contributed to slightly higher year-on-year inflation rates from January this year. If there are no further increases in indirect taxes, however, this inflationary impetus will be exhausted at the end of the year. Nor are there any signs of a substantial rise in wage drift. A more sluggish rise in prices of industrial raw materials in the months ahead will contribute to lower growth in profitability in manufacturing industry. Moreover, a stronger krone will contribute to a lower rise in export and import prices, thereby paving the way for an easing of price inflation in 1996 if indirect taxes are not increased.

GDP growth, mainland Norway, USA and European Community (EC). Annual rates



Source: Statistics Norway, OECD and Consensus Forecasts.

## International background

The world economy in 1994 was marked by brisk growth in developing countries, which as a whole recorded growth rates that were nearly double the level of OECD industrial countries, a trend which is expected to continue in the period ahead. Asian countries in particular are advancing rapidly, while Latin America, and to an even greater extent Africa, are lagging behind. The former Soviet republics also recorded sluggish economic trends last year, with a sharp decline in GDP, while a majority of the countries in eastern Europe and the Baltic posted positive growth rates.

In the OECD area economic activity picked up markedly following the serious recession in 1993. For the area as a whole, GDP expanded by 2.9 per cent in 1994, but with noticeable differences between countries. While Anglo-Saxon industrial countries passed a cyclical peak last year, economic growth was rising in continental Europe, particularly towards the end of the year. At the beginning of the year the outlook for 1995 appeared brighter than in a long time for western industrial countries. Later in the spring and early summer months, however, the statistics indicated that optimism had been slightly exaggerated. In line with this, forecasts have gradually been revised down during the last six months. According to the OECD, GDP is set to expand by 2 3/4 per cent for the OECD area combined in both 1995 and 1996, with Norway's main trading partners recording slightly lower growth.

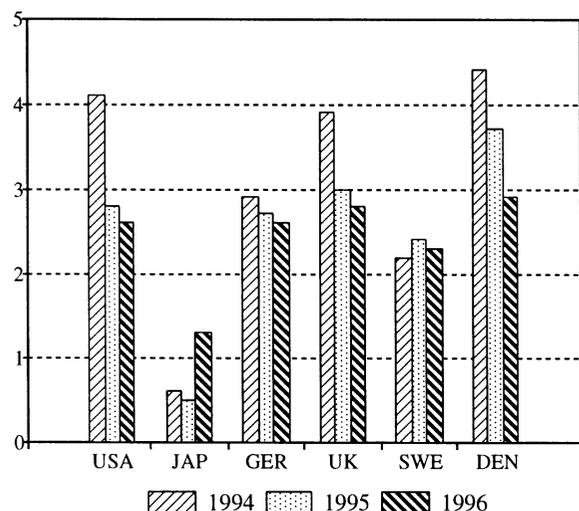
Price inflation was moderate in 1994, averaging about 2 1/2 per cent in western industrial countries. The forecasts indicate that inflation will edge up to 2 3/4 per cent the next two years, perhaps slightly more in Norway's main trading partner countries in 1996. Here as well, however, there are considerable differences between countries in the OECD area. Mexico and Turkey, for example, are recording very high inflation rates, but inflation in some of the

countries in southern Europe, notably Greece, was also high last year. The forecasts indicate a slight easing of inflation in high-inflation countries this year, with the exception of Mexico which is still grappling with problems in the wake of the financial crisis at the beginning of the year. Inflation in the US, Germany and the UK was close to the average recorded by western industrial countries. So far this year consumer price inflation in Germany has exhibited a falling trend, but this is expected to come to a halt and price inflation is projected to remain at about its current level next year. For the US and the UK, on the other hand, the forecasts point to a slight rise in inflation. Japan is experiencing a period of falling prices, with a zero rise in consumer prices or weak deflation being projected for the next two years.

The lack of cyclical synchronization in several of the major OECD countries is reflected in monetary policy. In order to keep inflationary pressures under control, monetary policy was tightened considerably in the US through 1994 as it gradually became clear that economic growth was stronger than expected. Later in the spring of 1995, however, there were indications that economic growth had started to slow, and the Federal funds rate was therefore reduced to 5.75 per cent in July. The forecasts point to a slight decline in US short rates in the period to 1996. In the UK, the central bank raised its base rates on three occasions between September 1994 and February 1995, to a level of 6.75 per cent. Since price inflation appears to be relatively stable, and economic activity has slackened considerably through the first half of 1995, it is unlikely that interest rates will be raised further in the period ahead. The German central bank has cut interest rates gradually since September 1992, most recently at the end of August when the discount and Lombard rates were lowered to 3.5 and 5.5 per cent respectively. This must be viewed against the

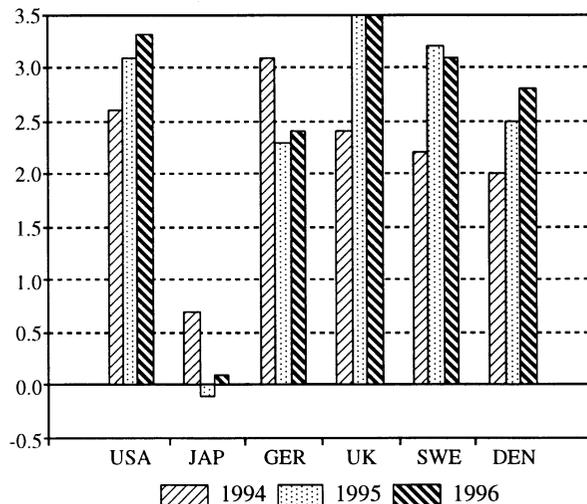
**GNP/GDP growth for selected countries**

Per cent



**Growth in consumer prices**

Per cent



background of short-term data, which indicated somewhat weaker economic activity in the first half of the year than expected earlier, and the slower rise in consumer prices and money supply growth.

It is assumed that key rates will be kept at their present level in the second half of 1995. Interest rates in other continental European countries shadow German rates, with the addition of a certain risk premium. Italy represents an exception to this pattern. A strong depreciation of the Italian lira resulted in a contractionary monetary policy with interest-rate increases totalling 1.25 percentage points since August last year. A continued weak currency and rising consumer prices indicate that Italian interest rates will remain relatively high in the months ahead. In Japan, the economic slump over the past three years has been met with gradual reductions in the discount rate, most recently to 0.5 per cent in September this year.

Growth in world trade approached 10 per cent in 1994, a development which must be viewed in connection with the cyclical recovery in continental Europe and higher growth in North America. In addition, economic activity remained at a high level in Southeast Asia last year, and China continued to record steep growth. One interesting feature of the world economy in recent years has been the increased importance of regional trade agreements. Whereas 30 per cent of Asia's trade took place within this region in 1986, the share had increased to 42 per cent in 1992. A similar trend has also been witnessed in Latin America where the share of internal trade rose from 13 per cent in 1990 to nearly 22 per cent in 1994. Even though developing countries are expected to record the highest growth rates for both GDP and trade, the OECD area - and particularly European countries - will still be the main markets for Norwegian exports the next few years.

Growth in North America remained higher than expected in 1994, particularly when taking into account that the last cyclical trough was passed in the US as early as 1991. The recovery has been broadly based, but has primarily been fuelled by private consumption, housing investment and investments in machinery and equipment. Preliminary national accounts figures for the first half of 1995 indicate, however, that the cyclical peak has now been reached. Monetary policy tightening has curbed growth, and the forecasts point to a rise in GDP of about 2 3/4 per cent this year, edging down to 2 1/4 per cent next year. Buoyant growth in the US had a favourable impact on developments in Canada, which experienced an export-led recovery. Last year GDP grew by 4.5 per cent. The Canadian economy is expected to continue to move on a positive trend the next two years as low inflation and declining deficits in both the public sector and balance of payments gradually provide scope for lower interest rates and thereby higher domestic demand.

Most countries in western Europe recorded a hesitant recovery towards the end of 1993, and growth gathered pace in the first half of last year. Preliminary national accounts

figures for the first two quarters of this year, however, indicate that a preliminary cyclical peak has already been reached. For EU countries combined, GDP expanded by 2.7 per cent in 1994. The forecasts point to growth of about 3 per cent in 1995, and slightly lower growth next year. In spite of the expansion in economic activity, unemployment has remained high. Some improvement in the labour market is expected in the period ahead, but unemployment will probably still average around 10 1/2 per cent in EU countries in 1996.

Japan is currently experiencing its most prolonged period of stagnation since the Second World War. There are many indications that in 1995 the country will record its fourth consecutive year of low or negative growth. The recession must be viewed in connection with a sharp decline in private investment following several years of overinvestment and inflated property and asset values at the end of the 1980s. The subsequent fall in prices has been dramatic; from a peak level in 1991 property prices in the largest cities have fallen by about 50 per cent. Share prices have dropped by about 60 per cent since 1990. While private investment appears to have picked up slightly since the second half of 1994, the financial sector is still facing considerable problems as a result of the fall in prices. Many Japanese banks have invested a large share of their resources in shares, and the fall in property prices has also wiped out the collateral of many outstanding loans. The official estimate of loans that can probably not be repaid is 50 000 billion Japanese yen (around 11 per cent of GDP). The forecasts for GDP growth have been continuously revised downwards the last six months, and most institutes project growth of less than 1 per cent this year.

The average *price of crude oil* so far this year has been \$ 17.20 p/b for Brent Blend, equivalent to about NKr 109. The average figure conceals considerable fluctuations as a result of rapid shifts in expectations concerning future market conditions. The spot price of Brent Blend was down to \$ 16 p/b at the beginning of the year, rising to \$ 19 at the end of April, only to fall again to less than \$ 16 in July. The rise in prices in the spring was primarily ascribable to a temporary fall in oil production as a result of maintenance work and forecasts of demand growth. The subsequent drop in prices can be attributed to the expectation that supplies from non-OPEC countries will increase and the fact that some countries within the cartel have produced more than their allotted quota. The demand for oil is projected to rise considerably both in 1995 and 1996, but the increase will be offset by a projected equivalent rise in oil production in non-OPEC countries. Countries in OPEC will set new quotas for 1996 in November, and speculations concerning possible increases in quotas prior to the meeting may keep oil prices low.

After rising sharply through 1994, *raw material prices* levelled off in the first half of 1995. According to the HWWA commodity price index, raw material prices excluding energy raw materials, rose by 31.3 per cent in the year to January 1995. Prices of non-ferrous metals

showed the highest rise, increasing by 49.1 per cent. The positive price trend for many raw materials last year was related to growing demand both as a result of the cyclical recovery in the OECD area and due to purchases in the commodity market by investment funds. Between January and July this year, the total index, excluding energy, has only risen by 1 per cent and metal prices have declined slightly. Prices for most raw materials are still expected to rise marginally through the remainder of 1995, followed by a sluggish price trend next year.

## Norwegian economy

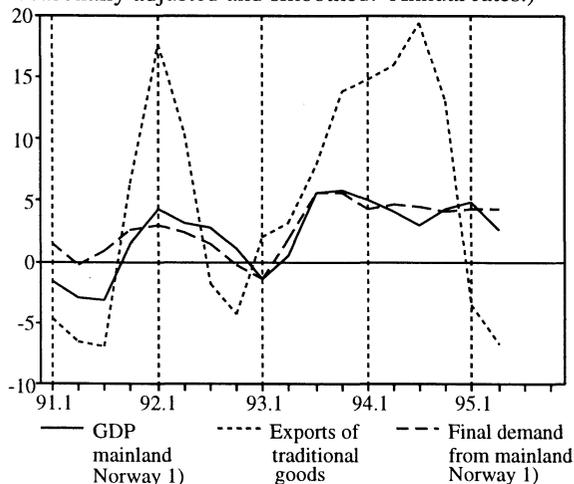
### Developments thus far this year

The vigorous rise in mainland production through 1994 was curbed slightly at the beginning of 1995, but preliminary figures from the new quarterly national accounts (QNA) indicate that growth picked up in the second quarter. Adjusted for normal seasonal fluctuations, mainland GDP expanded by 1.7 per cent from the first to the second quarter of 1995. The growth rate was boosted by an expansion in private services and goods-producing industries other than manufacturing, while manufacturing output showed clear signs of levelling off after rising very sharply over the past two years. Growth in the oil sector was on a par with mainland GDP growth, following a weaker trend in the previous quarter.

While movements in short-term indicators pointed to a levelling off in household demand earlier this year, the situation is now more complex. After exhibiting a relatively sluggish trend over the previous two quarters, consumption in households and non-profit organizations (previously private consumption) expanded markedly between the first and second quarter of this year. Car purchases contributed to boosting the rate of consumption growth, and the figures for July and August indicate that growth in car purchases may be higher in the third quarter. Housing investment, however, has shown slower seasonally-adjusted growth through the last four quarters, and figures for housing starts in the period through July this year point to a continuation of this trend. The rise in house prices over the past two years also seems to have come to a halt, and data from the Norwegian Realtors' Association imply a slight decline in average prices for existing dwellings between the first and second quarter of 1995.

#### Cyclical development

(Per cent growth from previous quarter.  
Seasonally adjusted and smoothed. Annual rates.)



1) Excl. oil and ocean transport.

Source: Statistics Norway.

It is natural to view the slackening in the housing market on the background of developments in financial institutions' lending and deposit rates. Households' real borrowing costs as measured by the real after-tax interest rate fell from about 7.5 per cent in 1992 to about 4.5 per cent last year. The decline in interest rates, however, came to a halt in the second half of 1994, and lending rates at the end of the second quarter of 1995 were less than half a percentage point lower than at the same time one year earlier. Developments in market rates thus far in 1995 do not indicate a further decline in financial institutions' lending rates in the period ahead. After declining in the first quarter and then rising by about the same margin in the second quarter, money market rates have gradually drifted down again in the last two months. At the beginning of September the three-month Euro-krone rate was a little less than 5.2 per cent, i.e. at the same level as recorded in the first quarter of last year.

Following two and a half years of weak underlying growth, manufacturing investment expanded markedly through 1994. The sharp growth continued in the first and second quarters of 1995, and Statistics Norway's investment statistics for the third quarter indicate that growth in manufacturing investment may be between 35 and 40 per cent this year. New national accounts figures show that investment in private services, excluding dwellings, also rose sharply last year, but growth seems to have slowed in the first two quarters of 1995. Some of the steep growth recorded in 1994 can be attributed to the development of the new main airport and other communications-related projects. Gross fixed investment in the oil sector, which is now recorded on an accruals basis, grew sharply in the second quarter of 1995 after moving on a downward trend through the previous three quarters. According to Statistics Norway's investment intentions survey for oil activities, petroleum investment is likely to show a reduction between 1994 and 1995, equivalent to a good half a per cent of mainland GDP.

While it appears that mainland demand grew more or less in tandem with production in the first two quarters of this year, traditional merchandise exports exhibited a more erratic trend. After rising in the first quarter of 1995 at about the same pace as underlying growth through 1994, the volume of traditional merchandise exports fell substantially in the second quarter. Part of the sharp decline can be attributed to the very low figures for the value of exports in June. The export value figures picked up noticeably in July, but the underlying trend in monthly figures still indicates a downward movement. Prices of traditional export goods fell slightly between the first and second quarter of 1995 after rising relatively sharply through 1994. The price index in the second quarter of this year was 8.3 per cent above the level in the second quarter of 1994, and

**Macroeconomic indicators**

Growth from previous period unless otherwise noted. Per cent

	1993	1994	Seasonally adjusted			
			94.3	94.4	95.1	95.2
<b>Demand and output</b>						
Consumption in households and non-profit organizations	2.1	4.6	1.9	0.4	0.1	1.9
General government consumption	1.0	1.1	0.3	-0.3	-1.4	0.0
Gross fixed investment	6.1	9.2	-8.4	-4.3	32.5	-1.2
- mainland Norway	-3.8	12.0	6.2	4.6	4.8	0.6
- petroleum activities <sup>1)</sup>	12.6	-,6	-19.8	-11.6	-1.7	15.6
Final domestic demand from mainland Norway <sup>2)</sup>	0.9	4.8	2.2	0.9	0.5	1.2
Exports	2.0	8.5	-0.3	7.5	-1.9	-3.9
- crude oil and natural gas	5.8	11.6	-5.0	13.8	-3.4	0.0
- traditional goods	2.9	13.3	4.5	1.3	4.2	-7.8
Imports	4.0	6.6	0.3	-0.4	1.8	5.2
- traditional goods	0.3	15.0	5.9	-0.4	3.2	2.7
Gross domestic product	2.1	5.7	1.1	2.4	-1.0	1.2
-mainland Norway	1.7	4.8	1.8	1.5	-0.9	1.7
<b>Labour market<sup>3)</sup></b>						
Man-hours worked	0.0	1.4	1.0	-0.1	0.4	0.2
Employed persons	0.2	1.5	0.7	0.5	0.5	0.4
Labour force	0.0	0.9	0.2	0.5	0.7	0.1
Unemployment rate, level	6.0	5.4	5.2	5.2	5.4	5.2
<b>Prices</b>						
Consumer price index <sup>4)</sup>	2.3	1.4	1.6	1.8	2.6	2.7
Export prices, traditional goods	0.4	0.8	2.5	1.8	4.4	-0.8
Import prices, traditional goods	1.6	0.5	-0.2	0.5	0.3	1.1
<b>Balance of payment</b>						
Current balance, bill. Nkr	25.1	21.1	6.8	6.9	10.7	2.7
<b>Memorandum items (unadjusted, level):</b>						
Eurorkrone rate (3month NIBOR)	7.2	5.7	5.9	6.7	5.4	5.5
Average lending rate <sup>5)</sup>	11.4	8.4	8.1	8.2	8.1	7.9
Crude oil price, Nkr <sup>6)</sup>	121.1	111.3	114.8	111.2	109.9	113.0
Importsweighted krone exchange rate (1992=100)	103.8	105.5	104.7	104.6	103.0	102.9

1 Capital formation in the petroleum sector is now measured on an accruals basis in the national accounts.

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

3) Based on monthly figures, seasonally adjusted.

4) Percentage change from previous year.

5) Private financial institutions.

6) Average spot price Brent Blend.

Source: Statistics Norway.

nearly 7 per cent above the average level for 1994 as a whole.

The vigorous growth in the volume of traditional merchandise imports through 1993 and 1994 was sustained in the first half of 1995. Growth was particularly strong for engineering products and other industrial finished goods, and in the second quarter for cars as well. Prices of traditional import goods also rose through 1994, but the rise in prices was far less pronounced than for traditional export goods. In the second quarter of 1995 the price index for traditional merchandise imports was only 1 per cent higher than in the same period one year earlier.

According to figures from Statistics Norway's labour force survey (LFS), employment grew by 0.4 per cent on a seasonally adjusted basis between the first and second quarter of this year, following slightly stronger average growth through the previous four quarters. In the last four quarters growth in the labour force has been about the same as employment growth, and the number of job-seekers without

income from employment has remained at about 5.2 per cent of the labour force. Viewed over a slightly longer period, however, LFS unemployment has moved on a downward trend, and the Directorate of Labour's figures for the sum of registered unemployed and persons employed on labour market measures, excluding rehabilitation, have shown a clear decline since the first quarter of 1993. The figures for the last few months indicate a continuation of this trend.

The consumer price index increased by 2.6 per cent from January-August 1994 to January-July 1995. Measured on a year-on-year basis, price inflation was stable at 2.6 to 2.7 per cent through the first half of this year, while the July figure was down to 2.4 per cent and the August figure to 2.2 per cent. Price inflation in July was lower because tobacco and petrol taxes were not increased as was the case in July last year. Developments in house rents, prices of farm and fish products and in imported consumer goods facing Norwegian competition have all contributed to curbing the general rise in prices, while developments in prices

of other Norwegian-produced consumer goods have pushed up the inflation rate. The Norwegian krone strengthened against an import-weighted basket of our main trading partners' currencies through 1994 and into 1995, and this has helped to slow the rise in prices of imported goods.

Developments in the wage settlement and other available information indicate that there will be no sharp rise in hourly pay growth from 1994 to 1995.

The current account of the balance of payments showed a surplus of Nkr 13.4 billion in the first half of 1995, Nkr 6.1 billion more than in the same period one year earlier. The trade surplus widened by Nkr 4.4 billion, while the deficit on the interest and transfers balance was reduced by Nkr 1.7 billion.

### Outlook for 1995 and 1996

The estimates for macroeconomic developments in 1995 and 1996 are based on the new national accounts figures up through the second quarter of 1995 and earlier calculations using Statistics Norway's macroeconomic model KVARTS. The results of these calculations have been adjusted in accordance with new information.

The sharp growth in the mainland economy has continued so far in 1995, but growth will probably slow in 1996. Growth in public sector demand will be noticeably less than mainland output growth both in 1995 and next year. The growth impetus from abroad and from households is expected to taper off slightly compared with 1994 and contribute to an economic slowdown towards the end of this year and into 1996. Growth in domestic production through 1993 and 1994 and increased profitability in industry and commerce will contribute to a further pick-up in mainland investment this year, while the petroleum sector's demand for investment goods from domestic suppliers will slow both in 1995 and 1996. Petroleum production, however, will expand sharply and thus contribute to high GDP growth.

According to the calculations, employment will continue to rise throughout the period. The fall in unemployment, however, will be curbed by a substantial growth in the labour force. Price inflation, measured by the consumer price index, will remain at a moderate level in the period ahead. The increase in VAT at the beginning of the year, developments in interest rates and high profits in the business sector will contribute to a slight rise in wage growth.

### Interest rates at about the current level

The reduction in Germany's discount rate in August 1995 to 3.5 per cent may contribute to slightly lower interest rates in Europe in the period ahead than was assumed earlier. A new cyclical upturn accompanied by interest rate rises in the US is expected later in 1996, particularly towards the end of the year, with a potential for an appreci-

### Main economic indicators<sup>1)</sup>

Percentage change from previous year unless otherwise noted

	Accounts 1994	1995	1996
<b>Demand and output</b>			
Consumption in households and non-profit organizations	4.6	2.9	1.9
General government consumption	1.1	1.2	1.6
Gross fixed investment	9.2	13.3	5.7
- mainland Norway	12.0	15.3	2.8
- petroleum activities <sup>2)</sup>	-7.6	-8.4	-1.3
Demand from mainland Norway <sup>3)</sup>	4.8	4.5	2.0
Exports	8.5	4.8	6.3
- crude oil and natural gas	11.6	7.5	8.6
- traditional goods	13.3	5.0	4.5
Imports	6.6	5.6	4.5
- traditional goods	15.0	7.2	2.2
Gross Domestic Product	5.7	4.8	3.7
- mainland Norway	4.8	4.2	2.7
<b>Labour market</b>			
Persons employed	1.5	2.0	1.3
Unemployment rate (level)	5.4	5.1	4.8
<b>Prices and wages</b>			
Wages per man-hour	3.0	3.5	3.5
Consumer price index	1.4	2.5	2.2
Export prices, traditional goods	0.8	7.0	0.3
Import prices, traditional goods	0.5	1.5	1.0
<b>Balance of payment</b>			
Current balance (bill. Nkr)	21.1	27.9	41.3
Current balance (percent of GDP)	2.4	3.0	4.2
<b>Memorandum items:</b>			
Money market rate (level)	5.7	5.3	5.5
Average borrowing rate (level) <sup>4)</sup>	8.4	7.9	8.0
Crude oil price Nkr (level) <sup>5)</sup>	112	107	110
International market growth	9.8	6.5	5.8
Importswighted krone exchange rate <sup>6)</sup>	1.3	-2.7	-0.2

1) The figures for 1994 deviates from previously published ones due to changes in definitions and new information. Also the forecasts for 1995 and 1996 are influenced by the revision of the national accounts.

2) Capital formation in the petroleum sector is now measured on an accruals basis in the national accounts.

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

4) Housholds' borrowing rate in private institutions.

5) Average Norwegian oil production.

6) Positive entails depreciation.

ation of the dollar against European currencies. In order to curb the inflationary impetus from the combination of an economic upturn in the US and a stronger dollar exchange rate, interest rates in the ECU area are expected to shadow US rates to some extent as they move up, albeit with a lag. As a result of a continued favourable current-account balance and slightly lower price inflation in Norway than in the ECU area, Norwegian money market rates will remain lower than the average for ECU countries. Financial institutions' deposit and lending rates are thus expected to remain stable through 1995 and part of 1996, edging up later in the year.

In the projections we have assumed that exchange rates will remain at the level prevailing at the beginning of

September, with the exception of the dollar exchange rate which in 1996 will appreciate somewhat against other currencies. This entails that the import-weighted value of the Norwegian krone will strengthen about 2.7 per cent from 1994 to 1995.

### Unchanged economic policy

The assumptions concerning economic policy are largely based on the Revised National Budget for 1995. The projections for 1996 incorporate the assumption that growth in public sector demand for goods and services will be noticeably lower than mainland output growth. The current tax and excise duty programme is extended to 1996 with unchanged rates in real terms.

Higher revenues from taxes and petroleum production, moderate spending growth and a lower level of unemployment benefits will contribute to an improvement in the public sector's budget balance in the projection period.

### Negative contribution to growth from petroleum investment

Gross investment in the petroleum sector is projected to fall by more than 8 per cent from 1994 to 1995. In the national accounts, this investment is now measured on an accrual basis (accrued both in Norway and abroad). Adjusted for definitional changes, the revised figures implies a slight downward adjustment compared with earlier estimates. The demand for goods and services from Norwegian industries is projected to fall slightly less than total investment in the petroleum sector.

### Noticeably slower growth in exports

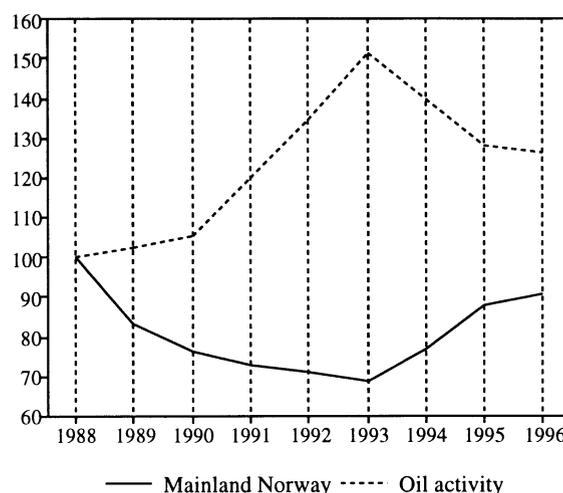
In line with the growth prospects for Norway's main trading partners, it is assumed that market growth for Norway's traditional export products will be slightly weaker in 1995 than in 1994, slowing further next year. A good part of Norway's traditional merchandise exports consists of products from raw materials-based manufacturing industry. Cyclical fluctuations within such industries are often ahead of general cyclical developments. This is one of the reasons that growth in traditional merchandise exports was somewhat stronger than market growth during the economic upturn last year, and also why growth will be slightly lower than market growth during the economic slowdown through 1995 and into 1996.

### Continued moderate price and wage inflation

Price inflation in Norway has now been moderate for several years. Average consumer price inflation in the first seven months of 1995 stood at 2.6 per cent, but the 12-month rise in August slowed to 2.2 per cent. So far there are no signs of any substantial quickening of price inflation. Coffee and potato prices rose sharply through the autumn months of 1994, and the likelihood that this will not reoccur in 1995 is one factor pointing to lower year-on-

### Gross fixed capital formation

Volume indices. 1988=100



Source: Statistics Norway.

year price inflation in coming months. It is conceivable, however, that the house rents index, which has a high weight in the consumer price index, will increase at a faster pace than through the same period last year, as the inflation-curbing effects of the decline in interest rates in 1993 and into 1994 gradually wear off. It is thus probable that the 12-month inflation rate will abate slightly in coming months before edging up towards the end of the year. The consumer price index is likely to show an average rise of 2.5 per cent this year.

In the projections it has been assumed that indirect taxes are not changed other than an adjustment for inflation, and that exchange rates largely show no change from end-August 1995 through 1996. Price inflation is expected to decline moderately from 1995 to 1996. On a 12-month basis, inflation is projected to be particularly low at the beginning of 1996 due to the VAT increase one year earlier, but may edge up later in the year as the effects of rising wage growth and a rise in house rents gradually make themselves felt.

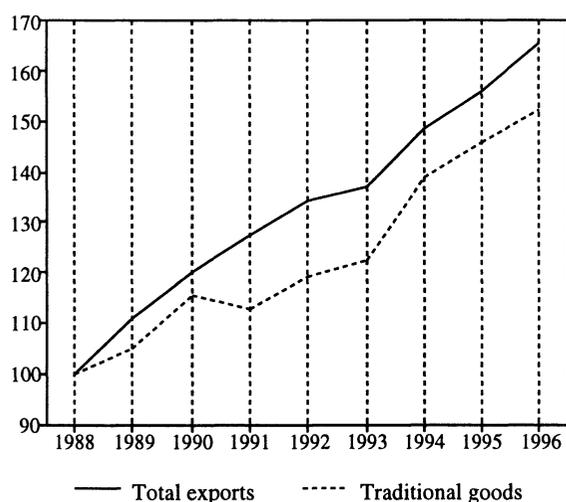
High profitability in enterprises and a gradual improvement in the labour market may push up the rise in hourly wages in 1995 and 1996, compared with last year. The estimate for the growth in hourly wages must also be viewed in light of the fact that there are two fewer working days in 1995 than in 1996. On this basis, average wage growth per normal man-year is estimated at about 3 per cent in 1995 and about 3.5 per cent in 1996.

### Investment-led growth in the mainland economy

Output growth and the decline in interest rates resulted in an upswing in mainland fixed investment in 1994, and the expansion has continued this year. It appears that mainland fixed investment will grow by about 15 per cent in 1995 and 3 per cent next year, following a growth of 12 per cent in 1994.

### Exports

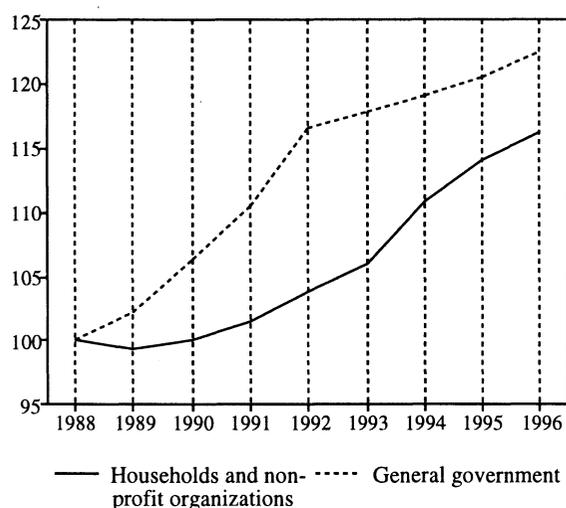
Volume indices. 1988=100



Source: Statistics Norway.

### Consumption

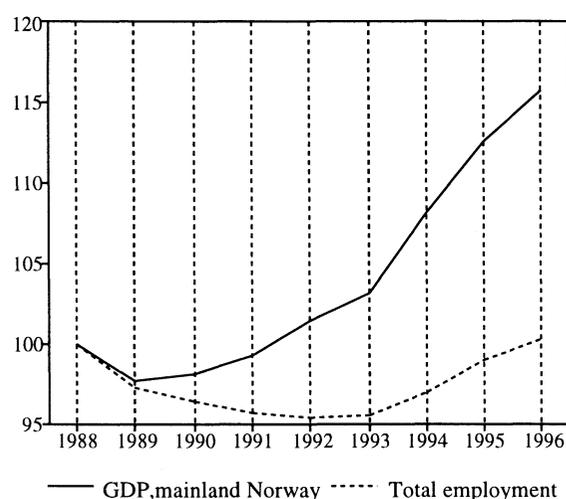
Volume indices. 1988=100



Source: Statistics Norway.

### GDP and employment

Volume indices. 1988=100



Source: Statistics Norway.

The development of Gardermoen airport is an important factor behind the projected growth in mainland investment, but manufacturing investment also appears to be expanding vigorously in 1995, estimated at 36 per cent. Based on a slowdown in the economic recovery and a gradual exhaustion of profitable investment projects, manufacturing investment is projected to fall by about 10 per cent next year, but will still be noticeably higher than the levels recorded earlier in the 1990s.

The effects of the decline in interest rates on house prices, and thus investments in new dwellings, have gradually been exhausted. After expanding by about 26 per cent in 1994, housing investment has flattened out through the first half of 1995, and only marginal growth is expected in the period ahead. The strong investment upturn through 1994 entails that growth in housing investment between 1994 and 1995 may still be as high as 18 per cent.

Household real disposable income increased by 2.8 per cent in 1994, and the calculations indicate approximately the same growth in 1995 and slightly lower growth in 1996. The growth in income can largely be ascribed to higher earnings from employment as a result of employment gains and growth in real wages. The decline in interest rates through 1993 and into 1994 was an important factor underlying the buoyant growth in household consumption in 1994. In the projection period the positive effects of the fall in interest rates will taper off, but higher real income and increases in wealth will contribute to consumption growth of almost 3 per cent in 1995 and nearly 2 per cent in 1996. The household saving ratio is projected to decline from 6.6 per cent in 1994 to a little more than 6 per cent in both 1995 and 1996.

### Lower GDP growth in 1996

According to the calculations, GDP growth will reach 4.8 per cent in 1995, edging down to 3.7 per cent next year. As a result of the investment upswing in mainland Norway, production in the construction industry picked up considerably through 1994 and into 1995. Growth in construction investment is expected to taper off markedly, entailing that this industry cannot expect to maintain the same strong production growth in the period ahead. Lower growth in traditional exports and a reduced impetus from petroleum investments will contribute to slower growth in manufacturing production through the projection period. According to the calculations, output growth in the mainland economy will remain high in 1995, but slow down in 1996. Oil and gas production is projected to advance markedly in both 1995 and 1996. Output in the shipping sector is also expected to expand slightly.

### Sharp growth in employment

The high level of activity will result in a continued improvement in the labour market. Employment growth is projected to rise from 1.5 per cent in 1994 to 2 per cent in

1995, edging down to 1.3 per cent next year. The labour force is also increasing in tandem with employment growth. Demographic factors alone indicate labour force growth of 15 000 a year. Experience shows that higher employment contributes to an increase in participation rates. According to the calculations, the labour force will expand by a good 30 000 in 1995 and about 18 000 next year. This will result in a moderate reduction in unemployment, to about 5 per cent this year and a slightly lower rate in 1996.

### Sizeable current-account surplus

In 1995, slower export growth will be offset by lower import growth, entailing that the balance of trade surplus will remain approximately unchanged from 1994 to 1995. The surplus is expected to increase markedly in 1996. Continued high growth in petroleum exports is an important factor behind this development. Crude oil prices are assumed to fall from NKr 112 p/b in 1994 to NKr 107 p/b in 1995, drifting up to NKr 110 p/b in 1996. The deficit on the interest and transfers balance will decline further in both 1995 and 1996. The current-account surplus is estimated at about NKr 28 billion in 1995, rising to NKr 42 billion next year.

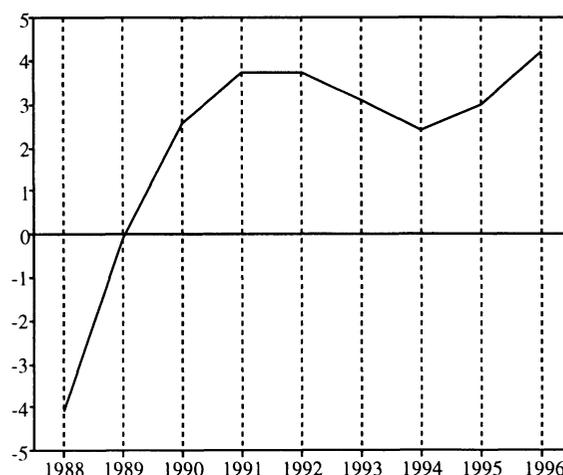
### Uncertainty

Macroeconomic projections are always subject to considerable uncertainty. This time there is particular uncertainty linked to the use of our forecasting tool since it has not been checked in detail to what extent the economic relationships which exist implicitly in the revised national accounts figures now being published deviates from the behavioural relationships in the macroeconomic model. However, in a separate paper it is shown that the trend growth in the main macroeconomic variables are not much influenced by the revisions.

There is also reason to point out that developments in the Norwegian economy in the year ahead are sensitive as to whether - and possibly when - the US enters a new period of expansion, and the effect this will have on international economic growth and interest rates.

Finally, there is reason to note that projections for 1996 are based on a number of assumptions concerning economic policy. The fiscal policy programme is based on unchanged tax rates (in real terms) and a modest growth in public sector expenditure on goods and services, in accordance with the outline for developments in the period 1996-1999 presented in the Revised National Budget for 1995. This entails a continued tightening of fiscal policy. Moreover, the projections embody assumptions of unchanged exchange rates and a slight decline in interest rates. These assumptions - which are in keeping with current monetary policy instructions for the central bank - seem reasonable in view of the overall picture of economic developments indicated by our projections, with a noticeably slower growth in demand and an easing of inflation in 1996 compared with the same growth rates in 1995.

Current balance in percent of GDP



Source: Statistics Norway.

**Norway: Trends in selected macroeconomic variables**

Percentage volume changes in 1992 prices

	Billion 1992-NKr	Growth from the same period previous year						
		1994	1994	94.1	94.2	94.3	94.4	95.1
Consumption in households and non-profit organizations . . .	422.1	4.6	5.6	4.9	4.2	4.0	1.8	4.6
Consumption of goods . . . . .	227.5	5.3	8.1	5.5	4.3	3.8	1.9	4.7
Services . . . . .	192.9	4.2	4.5	4.6	4.2	3.4	2.0	3.5
Direct purchases abroad by resident households . . . . .	16.9	8.6	1.8	8.8	11.1	9.4	-1.9	2.8
- Direct purchases in Norway by non-resident households . . .	-15.3	13.3	32.6	13.5	13.2	-4.5	1.9	-9.4
General government consumption . . . . .	176.7	1.1	1.3	1.3	0.9	1.0	-2.1	-1.5
Central government consumption . . . . .	71.3	-0.6	-0.3	-0.4	-1.0	-0.8	-4.3	-2.0
Central government consumption, civilian . . . . .	51.4	-0.2	0.2	0.4	-0.8	-0.4	-1.6	0.4
Central government consumption, defence . . . . .	19.9	-1.8	-1.7	-2.3	-1.6	-1.8	-11.5	-8.4
Local government consumption . . . . .	105.4	2.3	2.4	2.5	2.2	2.2	-0.6	-1.2
Gross fixed capital formation . . . . .	167.4	5.5	7.9	14.7	6.6	-4.5	6.0	4.2
Oil and shipping . . . . .	51.1	-7.6	-1.6	13.8	-10.9	-29.2	-17.7	-20.4
Ships and oil platforms in progress . . . . .	1.9	60.0	..	..	..	..	..	..
Mainland Norway . . . . .	114.3	12.0	12.0	9.6	12.4	13.8	20.7	17.8
Manufacturing and mining . . . . .	11.7	6.5	-4.1	-3.6	7.7	20.7	42.4	49.3
Production of other goods . . . . .	10.9	-4.4	-9.9	4.1	-12.9	0.6	1.1	-6.8
General government . . . . .	26.6	-0.8	-0.2	-5.4	-1.2	2.1	4.8	4.0
Dwellings . . . . .	22.4	25.9	17.2	26.5	30.7	28.0	32.8	20.8
Other services . . . . .	42.7	22.1	28.6	18.4	24.2	18.3	23.2	23.9
Stocks . . . . .	20.5	53.2	..	..	..	..	..	..
Gross capital formation . . . . .	187.8	9.2	5.5	32.6	3.0	0.3	13.0	14.1
Final domestic use of goods and services . . . . .	786.6	4.9	4.6	9.8	3.1	2.5	3.7	5.6
Demand from mainland Norway . . . . .	713.1	4.8	5.3	4.6	4.6	4.9	3.5	5.0
Exports . . . . .	332.2	8.5	11.4	4.2	7.8	10.7	6.3	0.5
Traditional goods . . . . .	126.5	13.3	11.0	9.3	19.8	13.5	15.4	1.1
Crude oil and natural gas . . . . .	114.7	11.6	18.9	10.2	8.4	9.3	3.9	4.5
Ships and oil platforms . . . . .	10.9	-11.0	-13.2	-53.6	-21.0	82.4	-0.8	43.1
Services . . . . .	80.1	0.8	5.3	1.8	-2.5	-0.7	-3.2	-10.1
Total use of goods and services . . . . .	1118.8	5.9	6.5	8.1	4.5	4.8	4.5	4.1
Imports . . . . .	272.6	6.6	7.6	11.1	4.7	3.6	4.6	5.8
Traditional goods . . . . .	180.5	15.0	14.1	17.9	16.3	11.9	12.3	9.7
Crude oil . . . . .	1.0	-17.8	-16.5	-6.1	-21.1	-25.0	48.5	66.8
Ships and oil platforms . . . . .	12.3	-33.7	-7.8	-10.9	-56.4	-56.0	-37.5	18.1
Services . . . . .	78.8	0.0	-1.6	3.1	-3.0	1.8.0	-4.2	-5.8
Gross domestic product (GDP) . . . . .	846.2	5.7	6.2	7.1	4.4	5.2	4.4	3.5
Mainland Norway . . . . .	708.1	4.8	4.4	5.9	4.5	4.6	4.6	3.9
Oil activities and shipping . . . . .	138.0	10.3	15.9	13.8	3.7	8.5	3.7	1.8
Mainland industry . . . . .	639.7	4.5	3.9	5.5	4.4	4.3	4.3	3.6
Manufacturing and mining . . . . .	97.2	5.6	2.8	8.0	5.7	5.9	8.7	2.0
Production of other goods . . . . .	72.3	2.2	0.5	5.8	2.2	1.2	10.0	15.5
General government . . . . .	131.8	1.8	1.9	1.8	2.0	1.4	0.2	0.7
Private services . . . . .	338.5	5.8	5.9	6.3	5.5	5.7	3.5	3.2
Correction items . . . . .	68.4	8.0	9.9	9.2	6.1	7.1	6.9	6.2

**Norway: Trends in selected macroeconomic variables**Percentage volume changes in 1992 prices<sup>\*)</sup>

	Billion 1992-NKr	Growth from previous quarter seasonally adjusted						
		1994	1994	94.1	94.2	94.3	94.4	95.1
Consumption in households an non-profit organizations . . . .	421.5	4.7	1.7	0.0	1.9	0.4	0.1	1.9
Direct purchases abroad by resident households . . . . .	16.8	8.2	4.2	6.1	3.2	-3.2	-4.6	6.1
- Direct purchases in Norway by non-resident households . . .	-15.3	13.3	8.9	-0.1	-2.2	-6.5	8.2	-6.6
General government consumption . . . . .	176.8	1.0	2.5	-1.0	0.3	-0.3	-1.4	0
Gross fixed capital formation . . . . .	167.3	5.2	-4.6	6.0	-2.6	-4.2	6.7	5.6
Oil . . . . .	51.2	-7.7	-14.1	16.6	-19.8	-11.6	-1.7	15.6
Shipping . . . . .	1.9	60.0	..	..	..	..	..	..
Mainland Norway . . . . .	114.1	11.6	-0.5	3.4	6.2	4.6	4.8	0.6
Manufacturing and mining . . . . .	11.5	4.0	-5.4	6.6	16.4	1.7	14.2	9.6
Production of other goods . . . . .	10.9	-5.3	3.2	5.7	-9.5	1.7	5.1	-3.5
General government . . . . .	26.6	-1.3	-2.7	-0.4	5.1	-0.3	1.3	-3.2
Dwellings . . . . .	22.3	25.8	-1.2	11.3	8.0	7.0	3.7	0.6
Other services . . . . .	42.8	22.4	1.7	0.7	7.7	7.9	4.9	0.9
Stocks . . . . .	20.5	53.2	..	..	..	..	..	..
Gross capital formation . . . . .	187.7	8.9	17.7	-3.4	-8.4	-4.3	32.5	-1.2
Final domestic use of goods and services . . . . .	787.1	4.9	-0.4	2.0	1.4	-0.6	0.4	4.8
Demand from mainland Norway . . . . .	712.4	4.8	1.5	0.3	2.2	0.9	0.5	1.2
Exports . . . . .	331.6	8.4	2.2	0.9	-0.3	7.5	-1.9	-3.9
Traditional goods . . . . .	126.4	13.4	2.5	4.2	4.5	1.3	4.2	-7.8
Crude oil and natural gas . . . . .	114.7	11.6	1.6	-0.5	-5.0	13.8	-3.4	0
Ships and oil platforms . . . . .	10.9	-11.0	-9.1	-7.2	22.8	75.8	-50.5	34.1
Services . . . . .	79.6	0.4	4.0	-1.0	-3.5	0.4	0.6	-7.0
Total use of goods and services . . . . .	1118.8	5.9	0.4	1.7	0.9	1.7	-0.3	2.2
Imports . . . . .	272.5	6.7	1.6	1.9	0.3	-0.4	1.8	5.2
Traditional goods . . . . .	180.6	15.0	4.4	1.7	5.9	-0.4	3.2	2.7
Crude oil . . . . .	1.0	-17.8	-22.6	-2.2	9.2	-9.2	53.3	9.7
Ships and oil platforms . . . . .	12.3	-33.7	-18.2	-13.9	-49.3	23.2	16.3	62.5
Services . . . . .	78.6	-0.1	1.6	6.1	-2.9	-2.5	-4.0	3.2
Gross domestic product (GDP) . . . . .	846.3	5.7	-0.0	1.6	1.1	2.4	-1.0	1.2
Mainland Norway . . . . .	708.3	4.8	-0.6	1.7	1.8	1.5	-0.9	1.7
Oil activities and shipping . . . . .	138.0	10.4	2.9	0.9	-2.4	7.2	-1.6	-1.2
Mainland industry . . . . .	639.9	4.5	0.8	1.5	1.4	0.4	0.5	1.5
Manufacturing and mining . . . . .	97.2	5.6	0.7	3.0	1.0	1.1	1.4	0.4
Production of other goods . . . . .	72.3	2.3	-2.5	0.2	3.4	-0.1	6.3	2.6
General government . . . . .	131.8	1.8	1.5	-0.5	0.4	0.3	-0.2	0.3
Private services . . . . .	338.5	5.8	1.3	2.2	1.5	0.4	-0.7	2.1
Correction items . . . . .	68.4	8.0	-12.7	3.8	5.6	12.0	-12.9	3.1

\*) See, " Technical comments".

## Norway: Price indices for selected macroeconomic variables

	1994	Percentage change from the same periode the previous year				Growth from previous quarter seasonally adjusted. Per cent <sup>*)</sup>			
		94.3	94.4	95.1	95.2	94.3	94.4	95.1	95.2
Consumption in households and non-profit organizations . . . . .	1.3	1.5	1.3	2.3	2.1	0.5	0.4	0.8	0.3
General government consumption . . . . .	2.2	2.4	2.3	2.8	3.2	0.9	0.4	1.0	0.9
Gross fixed capital formation . . . . .	2.2	1.4	2.2	2.8	2.5	0.0	1.1	0.7	0.7
- mainland Norway . . . . .	2.3	1.3	2.2	3.0	3.9	-0.2	1.0	1.5	1.6
Final domestic use of goods and services . . . . .	1.6	1.5	1.6	2.3	2.0	0.3	-0.2	1.9	0.1
- demand from mainland Norway . . . . .	1.7	1.7	1.7	2.5	2.7	0.5	0.5	1.0	0.7
Exports . . . . .	-2.2	-1.5	1.4	5.7	2.8	1.3	-0.4	1.3	0.6
- traditional merchandise exports . . . . .	0.8	0.9	4.5	10.6	8.2	2.5	1.8	4.4	-0.8
Total use of goods and services . . . . .	0.4	0.6	1.5	3.3	2.3	0.6	-0.3	1.8	0.3
Imports . . . . .	1.0	0.8	0.3	1.2	0.1	0.2	0.3	0.4	-0.2
- traditional merchandise imports . . . . .	0.5	-0.1	0.4	0.9	1.0	-0.2	0.5	0.3	1.1
Gross domestic product (GDP) . . . . .	0.3	0.5	1.9	3.9	3.0	0.7	-0.5	2.2	0.5
- mainland Norway . . . . .	1.8	1.8	2.4	4.3	3.9	0.7	0.2	2.4	0.4

\*) See "Technical comments".

#### Technical comments on the quarterly accounts figures

Statistics Norway is currently undertaking an extensive revision of the national accounts. Revised figures for the years 1988-1992 were published in Weekly Statistics no. 27 1995 (extra issue). This issue of Economic Survey presents revised preliminary national accounts figures for the years 1993-1994 as well as figures for the first and second quarters of 1995.

**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. The quarterly national accounts figures for the years up to and including 1992 have been reconciled against the most recently published annual accounts figures.

**Base year and linking the data:** In the quarterly national accounts all volume measures are currently calculated at constant 1992 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 1992 as the base year (common year of recalculation). This is done by recalculating constant-price figures for the years prior to 1992 at 1992 prices. The recalculation of prices is carried out at the sectoral level of the quarterly national accounts.

At the moment the figures from the new quarterly national accounts (QNA) only go back to the first quarter of 1992, which is too short a period for seasonal adjustment. Based on the new annual figures for the period 1988-1992, provisional quarterly figures on an aggregated level have been prepared for Statistics Norway's macroeconomic model MODAG. These figures are linked backwards in time to the quarterly figures from the old national accounts, and forward in time to the new quarterly accounts from the QNA for seasonal adjustment. The new seasonally adjusted series are more aggregated than the figures in the quarterly national figures. In this issue of Economic Survey it has therefore not been possible to provide seasonally adjusted estimates for all variables as previously presented in this way. This applies, for example, to the old classification of competition within manufacturing industry and the old distribution of private consumption on goods and services.

# Economic policy calendar 1995

## June

13. Borregaard in Sarpsborg opens a purification and biocombustion plant which has cost Nkr 200 million to build. The plant is a result of considerable reductions in licenses for emissions from process plants in Sarpsborg.

20. Dyno Industrier is selected as sole supplier of oil chemicals for Norsk Hydro's activities on the continental shelf. The deliveries will extend over a five-year period and are worth about Nkr 150 million.

20. Petroleum Geo-Services (PGS) signs a contract giving them sole rights to engage in seismic surveys of the seabed off China. The contract, worth several hundred million kroner, has a duration of five years.

21. The oil company Shell decides to halt plans for dumping the oil rig "Brent Star" in the North Atlantic due to extensive international protests.

30. The company Advanced Production & Loading from Arendal is awarded a contract worth Nkr 120 million from Norsk Hydro. The contract relates to the company's floating production solution for the Njord field.

## July

1. Norway concludes an agreement with the EU concerning trade in processed agricultural goods. The agreement ensures duty-free import and export quotas between Norway and the EU. The quotas are based on average imports and exports for each type of product between Norway and Sweden, Finland and Austria in the period 1991-1993.

6. Statistics Norway presents revised national accounts figures for the period 1988-1992.

10. Søviknes Verft in Haram concludes an agreement to build a shrimp trawler for the Danish company Ocean Prawn. The contract is worth Nkr 100 million.

13. Norsk Hydro approves the expansion of the smelter in Årdal, costing Nkr 1.7 billion. In addition, Norsk Hydro will use a few hundred million kroner to modernize the power station.

15. Fosen Mekaniske Verksted (FMV) signs a contract, worth about Nkr 1 billion, with the Finnish shipowners United Shipping LTDAB and Birka Line AB to supply four ro-ro ships.

17. Helikopter Service AS is awarded a contract to develop helicopter services for the Hibernia oil field in Canada. The contract is worth about Nkr 250 million.

29. Tandberg Data is awarded a two-year contract, worth about Nkr 125 million, with the US company Sun Microsystem. Sun Microsystem is the world's largest supplier of UNIX workstations, and the contract relates to Tandberg's cartridge-based storage technology QIC (Quarter Inch Cartridge).

## August

10. This is the 300th anniversary of the issuance of the first officially approved currency notes in Denmark-Norway. It was King Christian V who gave merchant Jørgen Thor Møhlen in Bergen permission to issue the notes, the so-called Møhlen notes. The notes were dated 10 August 1695 and were put into circulation immediately.

10. The oil company BP awards Scandinavian Service Partner & Industrial Catering a five-year catering contract for the Ula and Gyda fields. The contract is worth Nkr 220 million.

10. Kongsberg Offshore AS signs a contract for supplying technological equipment to the Brazilian state oil company Petrobras. The contract, worth Nkr 100 million, relates to supplies of newly developed equipment that is used to control oil production at great depths.

11. The company Hydro Agri International, which is owned by Norsk Hydro, concludes a contract with the Japanese yard Hitachi Zosen for building two new gas tankers. The contract is worth about \$ 80 million, or about Nkr 500 million.

18. Following strong pressure from the Gas Negotiations Committee (Norsk Hydro and Statoil), Saga Petroleum abandons its attempt to sell gas to Germany's Wingas, thereby eliminating future gas earnings of Nkr 15 billion in addition to strategic stakes in the German gas network. The Gas Negotiations Committee justifies its position on the grounds that it would be detrimental to sell gas to the main competitor of Ruhrgas, Norway's largest gas customer.

22. The AF Group is awarded a contract for site preparations for the Gardermoen railway. The contract is worth Nkr 176 million, with most being awarded by NSB Gardermobanen AS.

22. Borregaard invests Nkr 190 million in Borregaard ChemCell in order to be able to offer high-quality chemical pulp.

26. Saga Petroleum upgrades recoverable reserves on the Snorre field by 57 million barrels of oil, to a gross sales value of nearly Nkr 6 billion.

29. Kongsberg Offshore is awarded a contract worth between Nkr 2.5 and 3 billion from Statoil. The contract relates to supplies of all facilities for Statoil's subsea production the next five years, and is the largest of its kind ever concluded. Norwegian sub-contractors can expect to receive orders for about half of the contract amount, amounting to between 1000 and 1500 man-years.

31. Kværner Rosenberg in Stavanger is to convert an earlier oil platform to the world's first launching pad for booster rockets. The project has been given the name "Sea Launch" and is a joint venture between the Kværner Group, Boeing (US), NPO Yuzhnoye (Ukraine) and RSC Energia (Russia). The conversion will cost about Nkr 500 million and employ between 400 and 500 people at Rosenberg for 12 to 14 months. The rockets shall launch commercial satellites, primarily telecommunications satellites.

Kværner will also supply a ro-ro ship that shall function as a supply ship and control centre for satellite launches. This order is worth about Nkr 600 million.

31. Helikopter Service's subsidiaries, Bond Helicopter in the UK, and Lloyds Helicopter in Australia are awarded contracts worth altogether Nkr 250 million.

31. Norsk Forsvarsteknologi (NFT) concludes an agreement with the US defence companies GM Hughes Aerospace and Raytheon Company. The agreement relates to the sale of medium-range missiles where NFT has developed and produced the fire control system. The market is estimated at Nkr 30 billion over the next ten years. NFT's share is estimated at Nkr 3 billion.

## September

1. Aker Verdal is awarded the contract for building the steel jacket and piles, as well as the equipment module, for the processing and transport platform in connection with the development of Ekofisk II. The contracts with Phillips Petroleum are worth about Nkr 500 million.

# Revised Norwegian national accounts<sup>1</sup>

*This summer, Statistics Norway has completed the first stages of a main revision of the Norwegian national accounts, with which the recently new international national accounts system has been implemented in Norway.*

*The new figures show a considerably higher level for GDP and other important macroeconomic variables than previously published, while growth rates are generally not much altered. GDP has been revised upwards by 9-12 per cent for the seven years covered so far. GDP growth rates have been revised by less than 0.5 percentage point for four years of the period, slightly more for 1994 and 1.3 percentage point upwards for 1991.*

## Background and objectives of the revision

This paper presents the background and status of the ongoing revision of the Norwegian national accounts, and indicates the main changes in definitions and estimation methods. An overview of the most salient results are also offered. Revised and old estimates of the level of important macroeconomic variables are compared, as are the macroeconomic development according to new and old figures.

## Why national account figures are revised

A main revision of the national accounts is the occasion for making considerable amendments to the time series. Revising the level of national accounts items on a significant scale in the current compilation is not feasible, since the foremost aim is to present best possible growth rates. Generally, the compilation of national accounts figures has to be made in versions that reflect the increasing availability of statistical information. The publication cycle starts with provisional quarterly figures based on monthly and quarterly economic indicators. Such versions are published by Statistics Norway shortly after the reference period and at this stage actuality is given priority to coverage and reliability. The next annual version of the accounts is published about one year later, and then coverage and reliability of the basic statistical information are considerably increased. The quality of the national accounts figures is further improved when a so-called final version is published two years or so following the end of the given accounting year.

However, the compilation process should not be considered as finished with this final version of the ordinary accounts. Three important reasons for later amendments are:

- new statistical information made available
- new and better methods of estimation
- new definitions and classifications agreed upon internationally.

Therefore, it is necessary to carry out main revisions of the national accounts at irregular intervals to implement and

accomplish these challenges. The present main revision of the Norwegian accounts is the fourth one; the previous revision was undertaken about 20 years ago (see Statistics Norway (1975)). In future, main revisions of the Norwegian national accounts are foreseen more often than before, say more frequent than every 10 years.

## Objectives of the 1995 revision

The 1995 revision had three main objectives:

1. Implement new and extensive basic statistics into the national accounts
2. Integrate institutional sector accounts with real economy national accounts data
3. Implement the new international guidelines of national accounts

The first objective is mostly concerned with quality achievement. As about 20 years have elapsed since Statistics Norway last time undertook a main revision of the national accounts, it became evident that extensive basic statistics not utilized so far would have a sizable effect on the national accounts figures. In particular, new statistical information indicated that the contribution to GDP by service industries was underestimated. In fact more than 4/5 of the GDP revision can be traced back to this objective, also taking into account improved or altered estimation methods. A similar sizable effect can be attributed to the incorporation of new basic statistics for the services area: more than 3/4 of their value added revision was caused by non-definitional changes.

The second objective aimed at better coverage and coherence. The integration between the functional national accounts of the real economy and the institutional sector accounts (separate but complete accounting data for the institutional sectors non-financial and financial corporations, central and local government, households and rest-of-the-world) was aimed at providing more details than before, a better coherence, and possibly also an improved foundation to the GDP estimates. The coherent technical solutions involved common data bases for the two main parts of the national accounts and the balance of payments, including a direct link to government accounting data.

<sup>1</sup> Revised annual figures for the years 1988-1992 are given in Statistics Norway (1995b) and revised quarterly and annual figures for 1993 and 1994 are given in Statistics Norway (1995d) and (1995e), along with new figures for the first and second quarters of 1995.

Thus, the main revision of national accounts also had consequences for the compilation of balance of payments statistics and government accounts.

Fulfillment of the third objective will improve international comparability. Since 1973, the Norwegian national accounts has been based on the United Nations' (1968) recommendations made in System of National Accounts or SNA 1968. Later in the 1970's, the European Communities developed a similar system for their own purpose in European System of Accounts or ESA, a system never applied by Statistics Norway for obvious reasons. With the need of revising the international guidelines to reflect changes in the society over the last 25 years, the five international organisations – United Nations, OECD, IMF, the World Bank and the Commission of the European Communities – in 1993 succeeded in publishing a very comprehensive volume on national accounting principles known as SNA 1993 (see United Nations et. al. (1993)). In order to present the same principles in a more articulated way so as to make them more binding for member countries to follow, an European version known as ESA 1995 is printed this year (Eurostat (1995)). Through the EEA Treaty and the so-called ESA Directive, Norway has an obligation to adopt the rules of ESA 1995 and to report to Eurostat comprehensive sets of national accounts data. Since ESA 1995 was adopted quite recently, and the national statistical agencies usually need a couple of years to implement such new and comprehensive systems, the first year for which the EEA countries have to report these data was set to 1999. By implementing the new systems with the 1995 main revision, Norway in fact is the first country to adopt ESA 1995 and will report such data already this autumn – although in a less extensive way than when the ESA Directive applies later on. During an interim period – from 1995 to 1999 – most European countries would adhere to the former system of ESA, a situation which might be difficult for the users.

### New general features of the international system

SNA 1993 and ESA 1995 introduce a number of features that reflect new analytical and policy concerns of countries and international organisations. In general terms, the classifications and concepts of the central framework are internally more closely linked up with each other and more fully harmonized externally with standards of related statistical systems (such as balance of payments of the IMF) than in the SNA 1968. Other general features given much attention are:

- the delineation of the production and assets boundaries
- criteria for the delineation and coverage of the financial sector
- identification and classification of financial instruments.

The central framework retains input-output tables as an integral part of the system, particularly as the basis for balancing supply and demand. Supply and use tables have been strongly emphasized in the Norwegian national accounts from the very beginning. Another Norwegian development

that has been adopted by the international guidelines is the principle of annual chaining for obtaining volume measures in the national accounts. The more extensive treatment and coverage of employment data in the national accounts is another area that aligns with our experience. Other new features of the new system that Statistics Norway would gradually pay more attention to are SAMs (Social Accounting Matrices) and a detailed breakdown of the household sector, and various forms of satellite accounting.

### Specific changes

More than 100 specific changes in the SNA 1993 as compared with SNA 1968 highlights the main differences between the two systems. Among the most important changes are:

1. New balancing items are introduced in the accounting structure, in particular in the area of income accounts. Mixed income replaces operating surplus in the household sector (apart from dwelling services) since it refers to remuneration of work done by the owner as well as return to the owner as entrepreneur. Balance of primary incomes is a new income concept that bring together income generated from production and net property income, such as interest and dividends etc., thus representing a sectoral decomposition of national income. Two different concepts of disposable income are introduced. In households and general government, adjusted disposable income supplements disposable income, reflecting the new consumption concept of actual final consumption (see below). Adjusted disposable income really equals actual final consumption and saving.
2. Private final consumption expenditure and government final consumption expenditure are replaced by two sets of consumption concepts in order to distinguish between expenditures incurred (consumption expenditure) and the actual acquisitions of consumption goods and services (actual final consumption). Accordingly, the concept household final consumption expenditure consists of expenditure incurred by resident households on consumption goods and services. The alternative concept, household actual final consumption (in Norwegian translated to that equivalent of personal consumption) consists of the consumption goods and services acquired by individual households by expenditures or through social transfers in kind received from government or non-profit institutions serving households (NPISH). The social transfers in kind equal the individual or non-collective part of final consumption expenditure in the government and NPISH sectors – covering education, health and social work, plus cultural purposes in local government.
3. Three types of producers are introduced, i.e. market producers, producers producing for own final use and other non-market producers. Criteria are introduced for distinguishing between them, more concisely developed in ESA than in SNA. In reference to the Norwegian natio-

nal accounts, the term industries that was confined to market (or in fact non-government activities in the former accounts) is now an all-inclusive activities term. The former group of industries has been split into market activities, activities by the NPISH, and activities for own final use, the latter consisting mainly of own-account dwelling services, own-account construction and agricultural and fishery production for own final consumption. Other non-market activities are specified in three categories: central government, local government and NPISH activities.

4. Output is valued at basic prices in the new system, i.e. minus any tax payable on the unit and plus any subsidy receivable as a consequence of its production or sale. In the former accounts, Statistics Norway operated a flexible valuation of output, while publishing output and value added at producers' prices (with a net treatment of VAT).
5. Gross capital formation is defined wider in the new system than before. Gross fixed capital formation and changes in inventories are supplemented by a third main category – acquisitions less disposals of valuables – but its magnitude has so far not been really determined. Military expenditures are now partly considered gross fixed capital formation, i.e. to the extent that the assets have alternative civilian use. Hence, consumption of fixed capital is introduced in defence. In the former system, all but military dwellings were treated as government final consumption expenditure. Another important change applies to the construction of oil platforms where gross fixed capital formation now is measured on an accrual basis as in the statistical sources.

### New national terms

On this occasion, Statistics Norway has renamed some of the main items of the national accounts in Norwegian, as well as introducing the new items of SNA 1993 / ESA 1995 in Norwegian terms. Among items renamed in Norwegian are output, intermediate consumption, taxes on products and other taxes on production, subsidies on products and other subsidies on production, current taxes on income, wealth etc., domestic final uses, the various final consumption expenditures by sector, gross fixed capital formation, products and work-in-progress. The new term actual individual consumption is termed (translated to) personal consumption. Among items not renamed in Norwegian are gross domestic product, gross national income, value added, compensation of employees, operating surplus, social benefits, saving, disposable income and disposable income for Norway.

### Further work

In the next stages of the ongoing revision, amended time series back to 1980, and - more aggregated - back to 1970 will be constructed. Revised estimates back to 1980 is planned for release in 1996, and revised estimates further back

to 1970 in 1997. Later the revision work might be continued back to 1949 in a more summarized way. Quarterly estimates are also to be prepared for the period back to 1970.

As to the contents, some important revision tasks had to be postponed:

- Revising non-financial assets and consumption of fixed capital
- Introducing new variables and tables that require new statistical data
- Approaching a more complete coverage of the various types of changes in balance sheets.

It is urgent that revised estimates for non-financial assets and consumption of fixed capital could be prepared already in 1996. Until then, various income aggregates are presented on a gross basis only, while net income concepts usually are considered as most relevant. Furthermore, balance sheet estimates should comprise both financial and non-financial assets, and changes in balance sheets should be decomposed into the proper headings of the new system, such as other changes in volume, revaluation, and neutral and real holding gains and losses. For the sake of international reporting, new variables and tables that require new statistical data should be fulfilled by 1999.

## Main revision results

Below, revision results are summarized for some of the most important variables, industries and sectors, emphasizing the changes in the estimated levels. In order to make a more narrow presentation of the time series, only results for the years 1988, 1990, 1992 and 1994 are reported, with emphasis on 1990. The next section gives a description of macroeconomic developments over the period 1988 through 1994 using revised national accounts figures.

### GDP

The change in estimated GDP level is of the same magnitude as in the 1973 revision, i.e. about 10 per cent. But, while GDP was revised down in the 1973 revision, it is revised up this time.

The 1995 main revision has lifted level of GDP 9.3 per cent in 1990 while as much as 12.4 per cent in 1994. For 1993 and 1994, comparison is made with provisional estimates of both systems, while for 1991 and 1992 between final estimates of the new system and provisional estimates of the former system.

### Final consumption

Final consumption has been quite considerably amended, contrary to what happened in the 1973 revision. Percentage change of revision in final consumption this time is typically 70 - 80 per cent of percentage change of GDP revision, somewhat lower in 1988, however. In absolute

terms, the level of final consumption has been increased by 26 to 50 billion kroner in these years, which contribute to somewhat more than half of the current GDP revision (again somewhat lower in 1988). This implies a lower percentage of GDP for final consumption, reduced by some 2 percentage points in 1990. In relative terms that year, the revision of household (including NPISH) final consumption expenditure was slightly less increased (6.2 per cent) than for government final consumption expenditure (7.5 per cent).

Final consumption expenditure of households and final consumption expenditure of NPISH are now estimated separately at 338 and 19 billion kroner respectively in 1990. NPISH was poorly covered in the former system, implicitly at 2 or 3 billion kroner as part of private final consumption expenditure. The composition of household consumption expenditure is altered substantially as 7 out of 10 main groups were revised more than 10 per cent in 1990. Most significantly, the main group of housing, water, electricity, gas and other fuels has been revised upwards by 17 billion kroner to become the largest of these groups constituting 24 per cent of total household consumption expenditure as compared with 20 per cent before the revision. The main group of food, beverages and tobacco is down by 10 billion kroner, which means reducing its share from 26 to 22 per cent. The third largest group is transport, revised upwards by 13 billion kroner or more than 35 per cent, part of which is explained by a definitional transfer of the group of package tours from the correction item "direct purchases abroad by resident households".

One important reason behind the changes in the composition of total household consumption expenditure is a more extensive use of the household consumer surveys than before. There are also a number of definitional changes, including regroupings from altered classification scheme (new classification of COICOP). All amendments in government final consumption expenditure can be traced back to changes in definitions. In this case, the classification scheme (COFOG) has not been changed, although there has been some changes to the contents of each group of COFOG.

The alternative consumption concept introduced in the new international system – actual final consumption – has also been estimated; the household actual consumption has been given the term personal consumption and counts for 89 per cent of total final consumption in 1990. The government actual final consumption is termed collective consumption. According to new figures, 56 per cent of personal consumption now consists of services, thus leaving only 44 per cent as the share for consumption of goods.

### Gross capital formation

The present main revision – like the one in 1973 – has resulted in a significant increase in the level of gross capital formation, around 25 per cent for the years 1990-1994 measured in kroner, and somewhat below 20 per cent for

### Main macroeconomic indicators. Difference between revised and previously published figures

	1988	1990	1992	1994
<b>A. Macroeconomic variables</b>				
<i>Million NKr</i>				
GDP	56 313	61 521	81 342	96 086
Final consumption	26 184	31 385	45 523	50 366
Gross capital formation	29 216	32 912	32 651	42 500
Exports	187	737	-3 061	-926
Imports	-726	3 514	-6 231	-4 147
Current external balance	-986	-5 700	11 175	-4 494
Compensation of employees	15 489	15 214	19 757	24 784
Gross operating surplus and mixed income	35 371	39 121	51 333	56 142
<i>Percentage of old levels</i>				
GDP	9.7	9.3	11.6	12.4
Final consumption	6.1	6.6	8.7	8.8
Gross capital formation	18.5	24.3	25.2	27.8
Exports	0.1	0.3	-1.0	-0.3
Imports	-0.3	1.4	-2.5	-1.4
Compensation of employees	4.8	4.4	5.4	6.3
Gross operating surplus and mixed income	19.0	15.8	19.9	19.1
<b>B. Employment</b>				
Number of persons employed in 1000	14.1	3.7	4.4	8.2
Number of hours worked in million	52.3	42.6	52.3	51.3

1988 and 1989. In 1988 and 1990, the upward revision in gross capital formation was even larger than the revision in final consumption.

By this revision, the GDP share of gross capital formation has been increased by some 3 percentage points to more than 23 per cent in 1990. About half of the revision is related to oil investment (introducing an accrual basis), while wider coverage and higher estimates for services activities have also contributed. The large revision in gross capital formation in 1973 was mainly due to changes in definitions (repairs). It might be added that gross fixed capital formation and changes in inventories both have been much scrutinized.

### Exports and imports

The revision of the exports figures has been quite modest, as in the 1973 main revision. In all years – except in 1990 when total exports were revised downwards by 1 per cent – revision was lower than 0.5 per cent.

The revision for imports is also modest, although larger than for exports. In the period since 1990 the revision has been downwards - 6 billion kroner in 1992 at the most, which means 2.5 per cent lower level than before the revision.

## Current external balance

Current external balance shows a similar picture after the revision as before, although revised upwards by 11 and 10 billion kroner in 1992 and 1993. In the other five years the revision has been downwards and more moderately.

The revision downwards in 1990 is mostly caused by changes in definitions, explaining almost the whole revision for net primary incomes and transfers and half of the revision in exports less imports. For net primary incomes, the most important reason for revising has been introducing a new treatment for reinvested earnings. Wages from abroad have been revised upwards from a definitional change regarding foreign seamen on Norwegian ships. Changes in definitions also have affected the items travel and imports in relation to oil activities.

## Output and value added

In this part – describing revision results by industries – illustrations have been concentrated about 1990.

### *Agriculture, forestry and fishing*

Value added of agriculture, forestry and fishing is revised upwards by 12 per cent in 1990 when measured in basic prices. In agriculture, value added has been increased by 24 per cent. Output in basic prices is more or less unaffected by the revision, while estimated intermediate consumption in particular has been reduced since internal deliveries of own-account output are eliminated. Another change in definition concerns subsidies, i.e. a switchover from other subsidies on production to new treatment as subsidies on products. The estimated compensation of employees has been increased substantially both in agriculture and fishing. Gross operating surplus or mixed income in these industries is slightly lower than before. Their value added share of GDP is slightly up from 3.1 to 3.2 per cent in 1990.

### *Oil and natural gas extraction, mining and quarrying, manufacturing, electricity, gas and water, and construction*

Value added combined of oil and gas extraction, mining and quarrying, manufacturing, electricity, gas and water, and construction, has not been significantly amended, but has nonetheless reduced their share of GDP from 34.3 to 31.7 per cent in 1990 as a consequence of higher contribution to GDP from service activities. The GDP-share of manufacturing is down by more than 1 percentage point to 11.7 per cent in 1990. Total output of these industries has been reduced by some 5 per cent in 1990.

In the most significant cases, however, there is a parallel and identical effect on output and intermediate consumption, from removing internal deliveries of electricity and a more direct treatment of the building of oil platforms. In the manufacturing area, changes in definitions also include reclassifications of units from introducing NACE Rev.1 as a new activity classification. New principles are introduced in recording oil, gas and pipeline transport activities, the latter output of which is now measured as a margin.

The electricity industry is split into separate activities of production, transportation and distribution of electricity, and the products are differentiated accordingly. Estimates of construction are significantly higher than before, partly as a consequence of a direct utilization of production statistics. For these industries combined, gross operating surplus in 1990 has been revised upwards by moderately 5 per cent, mostly due to an increase in construction.

### *Service activities*

The most striking result of the main revision is the new and higher estimates of the production level of services. The service industries combined has increased their share of GDP from 53 to 58 per cent in 1990. Output level has been revised upwards by close to 115 billion kroner or 20 per cent. The same percentage change is also found for value added (close to 70 billion higher level), while gross operating surplus is up by 43 billion kroner or 33 per cent.

The three most important service industries to which this large-scale revision is attributed are wholesale and retail trade, real estate and business services. These industries combined have their output revised upwards by 61 billion kroner, their combined value added revised upwards by some 42 billion kroner, and their combined gross operating surplus by 34 billion kroner. It should be added, however, that an upward revision is found in most service industries.

In wholesale and retail trade, the basic new sources have been the surveys on trade margins held in 1985 and 1986, while annual accounting statistics have supported the new findings. Within the real estate industry, the revision is particularly large for dwelling services. The assessment of production from owner-occupied dwellings is now based on observed rents for equivalent rented dwellings, as urged by the European Communities. The production level is now similar to the levels of comparable European countries. The value added of dwelling services in Norway is up from less than 5 per cent of GDP to 7 per cent. In business activities, production statistics now eventually can be utilized directly with the proper levels. Utilization of better statistical sources has also given quite radical changes in parts of the transportation industry, in particular for freight transportation by road and for taxi operation. Estimates for producers of non-market services by non-profit institutions serving households have been made, for 1990 an output estimate of 21 billion kroner is offered. In the area of service industries, still one fourth of the revision is caused by changes in definitions as suggested by the new SNA / ESA and the new industry classification introduced.

## Compensation of employees

Compensation of employees is revised upwards by some 4 to 6 per cent for the period 1988 - 1994, which is less than in the 1973 main revision. Compensation of employees is revised upwards by 4.4 per cent in 1990. In terms of GDP, the percentage of compensation of employees has been reduced from 51.8 to 49.5 per cent. While the estimated wages and salaries have been increased by moderately 2

per cent, the employers' social contributions have increased by 18 per cent. It should be added that wages in kind have been significantly revised upwards as well. The industry breakdown shows most decisive revisions in business services, health and social services, and also in agriculture and fishing.

### Employment

Employment figures have not been much amended by the revision. In 1990, the total number of persons employed has been revised upwards by moderately 0.2 per cent, while full-time equivalent persons employed is up by 0.3 per cent. However, due to new information about people on leave, total hours worked has been revised upwards by 1.5 per cent. The picture is much the same for the other years of revision.

### Taxes on production

The estimated numbers for taxes on production are of about the same size as before. There has been a regrouping towards more taxes on products. More specifically, a higher VAT amount has been estimated on an accrual basis, up from 55.8 to 58.2 billion kroner in 1990, which means - compared with the recorded amount on cash basis including an investment levy - that theoretical VAT of the national accounts after the revision shows a quite reasonable level.

### Subsidies on production

Subsidies on production have been revised downwards by 19 per cent in 1990 when new definitions are introduced. The former treatment of investment grants as subsidies has ceased, the item is now being recorded as capital transfers instead. Despite the lower level of total subsidies, subsidies on products have been increased from less than 1 billion to almost 8 billion kroner.

### Gross operating surplus and mixed income

Gross operating surplus and mixed income have been revised upwards by 16 to 20 per cent for the entire period 1988 - 1994. Using 1990 as an illustration, a major part of the GDP revision - i.e. 39.1 out of 61.5 billion kroner - has resulted in increased estimates of operating surplus and mixed income, although temporarily recorded on a gross basis. Some 20 billion kroner of the revision relate to dwelling services. The remaining increase is located to various service industries and to construction. Gross mixed income has been estimated at 47 billion kroner in 1992, or 15 per cent of total gross operating surplus and mixed income.

### Institutional sector accounts

Institutional sector accounts have been published in separate tables for households, non-financial corporations (private and public), financial corporations, central government, local government, and rest-of-the-world, for the

### Income, saving and net lending for main institutional sectors. Revised estimates. Millions Nkr

	1988	1990	1992	1994
<b>Non-financial corporations</b>				
Value added	..	..	452 307	493 924
Gross operating surplus	..	..	197 105	221 662
Balance of gross primary incomes	..	..	144 057	163 523
Gross disposable income	..	..	101 737	115 178
Gross saving	..	..	101 737	115 178
Net lending	..	..	- 231	-14 566
<b>Financial corporations</b>				
Value added	35 561	37 334	37 656	42 713
Gross operating surplus	20 648	22 649	23 433	28 638
Balance of gross primary incomes	20 149	22 340	20 860	28 617
Gross disposable income	16 067	12 087	16 562	16 929
Gross saving	14 035	9 947	15 114	15 010
Net lending	8 418	6 549	12 844	12 740
<b>Central government</b>				
Value added	31 574	35 341	39 606	41 159
Gross operating surplus	4 829	5 318	6 162	6 293
Balance of gross primary incomes	110 482	114 463	125 670	133 197
Gross disposable income	86 681	93 994	74 968	90 102
Gross saving	35 565	32 664	3 983	15 008
Net lending	23 119	17 789	-14 438	181
<b>Local government</b>				
Value added	68 614	77 520	89 231	97 695
Gross operating surplus	6 382	7 648	8 319	9 221
Balance of gross primary incomes	1 583	2 180	2 974	4 788
Gross disposable income	89 356	100 841	117 126	127 550
Gross saving	9 718	12 706	15 166	17 159
Net lending	-5 757	-41	861	2 971
<b>Households</b>				
Value added	..	..	124 239	134 842
Gross operating surplus	..	..	107 605	117 322
Balance of gross primary incomes	..	..	473 261	520 417
Gross disposable income	..	..	448 743	489 317
Gross saving	..	..	55 242	54 166
Net lending	..	..	27 715	19 009
<b>Total economy</b>				
Gross domestic product (GDP)	639 591	722 071	784 296	870 330
Gross national income (GNI)	623 200	700 561	766 822	850 542
Gross disposable income for Norway	616 759	693 098	759 136	839 076
Gross saving for Norway	160 838	186 533	191 242	216 521
Net lending for Norway	-27 145	17 582	26 751	19 973

period 1988 through 1994. Each table set is structured in five parts: production account, allocation of primary incomes, secondary income distribution, use of disposable income, and financing and investment leading to net lending. For households and central and local government there are additional tables on social transfers in kind and use of adjusted disposable income. Financial balance sheets and changes in balance sheets by institutional sectors have been published in a separate publication (Bank-

og kredittstatistikk no.8 /95), covering the period 1988-1993. For the government accounts and the period 1988-1994, additional data were issued simultaneously in the ordinary edition of Statistics Weekly (no. 27 / 95).

GDP and value added by institutional sectors have been estimated for the first time. At this juncture, sector value added estimates are in producers' prices, i.e. not in basic prices as in the industry breakdown.

### **Non-financial corporations and financial corporations**

Gross saving of the two main corporate sectors - non-financial and financial corporations - has been estimated at 117 billion kroner in 1992, up from 100 billion kroner in the former accounts. Value added is estimated at 490 billion kroner, of which the non-financial corporations are contributing to 58 per cent of GDP. Furthermore, value added of private non-financial corporations is estimated at 327 billion kroner, and public non-financial corporations at 125 billion kroner. From the financial balance sheets, it is learned that non-financial corporations are the only main sector that exhibited net debt at the end of 1992.

### **General government**

Value added of general government has been revised upwards from 104 to 113 billion kroner in 1990. Correspondingly, gross disposable income is up by 19 billion and gross saving by 9 billion kroner. Most of the revision occurred for central government and is due to a number of changes in definitions. The saving ratio (gross) of general government has been increased by 2.5 percentage points to 23.3 per cent. The ratio of total taxes to GDP has decreased from near 47 per cent to 42.6 per cent (accrued values) in 1990. This implies that if the tax burden is measured against GDP, Norway now ranks below Belgium, France and Netherlands, in addition to Sweden and Denmark.

### **Households**

Value added of the household sector (including NPISH) is estimated at 124 billion kroner in 1992 or 16 per cent of GDP. This is considerably above value added of the total manufacturing industry. Half of the household sector's value added concerns owner-occupiers and other activities for own use. The other half consists of value added from activities of self-employed (49 billion) and of the NPISH (12 billion). Gross operating surplus (of owner-occupiers) is estimated at some 60 billion kroner, while gross mixed income is 47 billion kroner. From the allocation of primary incomes it is shown that 62 per cent of GNI (Gross National Income) is allocated to the household sector. Gross disposable income and gross saving are both revised upwards by 40 and 12 billion kroner respectively in 1992. The ratio of gross saving to gross disposable income in the household sector is slightly up from 10.5 to 12.3 per cent.

### **Total economy and rest-of-the-world**

Gross national income (GNI) has been revised upwards by 8.9 per cent in 1990, slightly less than for GDP. For 1992, GNI was estimated at 766.8 billion kroner as compared to 784.3 billion kroner for GDP. Gross disposable income for Norway was somewhat lower than GNI, i.e. 759.1 billion kroner in 1992. In 1990, the revision upwards was 9.3 per cent both for GDP and gross disposable income for Norway. In 1992, the external current balance was 29.1 billion kroner, while net foreign debt at the end of 1992 was estimated at 81 billion kroner in market values, revealed as part of the balance sheet calculations by sectors including rest-of-the-world.

### **Macroeconomic developments 1988-1994 according to revised national accounts figures**

In the table for main aggregates of the Norwegian economy, comparable growth rates of the new and former system are presented. GDP growth rates have been revised slightly – less than 0.4 percentage point – for 1989, 1990, 1992 and 1993, while more considerably amended for 1991 and 1994. Especially, the 1991 revision by 1.3 percentage points is remarkable. Growth rates for final consumption have been amended significantly in some years, i.e. revised upwards as much as 1.4 and 1.5 percentage points in 1989 and 1991, while less revised in 1990 and 1992, and quite moderately revised in 1993 and 1994 by 0.3 percentage point. Growth rates for gross capital formation have been amended significantly in most years (except 1991), i.e. from 1.2 to 3.4 percentage points. For total exports, growth rates have not been much revised, at most by 1 percentage point in 1992. Growth rates for total imports have been amended rather significantly in some years, i.e. revised by 1.3, 1.5 and 2.1 percentage point in 1989, 1991 and 1992.

In Weekly Statistics no 27/95 (extra issue), Statistics Norway published revised national accounts figures for the period 1988-1992, which in some areas presented a slightly different picture of the size and structure of the Norwegian economy than earlier. For example, the estimates for Gross Domestic Product (GDP) and the importance of service production have been subject to a considerable upward revision. This issue of Economic Survey presents revised estimates for the years 1993 and 1994 as well as the first half of 1995, based on new preliminary figures from the quarterly national accounts (QNA). It is thereby possible to compare new and previously published (old) annual figures from the national accounts for the entire period 1988-1994 to examine whether the extensive revision of the national accounting system has resulted in a new description of the path of the economy in this period. The following provides a summary review of the difference in development paths according to the new and old national accounts figures for the period 1988-1994, focusing on mainland Norway. The conclusion of this review is that the main revision does not provide a basis for major

**Trends in selected macroeconomic variables according to revised and previously published national account figures**  
Percentage change from previous year unless otherwise noted

	Revised figures						Previously published figures					
	1989	1990	1991	1992	1993	1994	1989	1990	1991	1992	1993	1994
Consumption in households and non-profit organizations	-0.6	0.7	1.5	2.2	2.1	4.6	-2.8	2.8	0.0	1.8	2.3	4.4
Goods	-2.2	1.4	1.4	1.7	2.0	5.3	-3.0	2.4	-0.2	1.4	2.6	5.4
Services	1.4	1.1	2.8	2.6	2.7	4.2	0.2	2.8	2.7	1.6	1.7	2.9
General government consumption	2.2	4.1	3.9	5.5	1.0	1.1	2.6	2.1	2.6	4.4	1.8	2.7
Total consumption	0.2	1.7	2.2	3.2	1.8	3.6	-1.2	2.6	0.7	2.6	2.1	3.9
Gross fixed capital formation	-8.8	-12.0	-1.2	-3.3	1.4	5.5	-3.9	-26.8	1.7	4.5	15.2	-12.4
Oil activities and shipping	17.1	-19.6	7.0	-5.0	16.2	-8.2	31.2	-56.9	26.5	10.0	59.4	-37.2
Gross investment mainland Norway	-16.6	-8.5	-4.6	-2.6	-3.8	12.0	-16.5	-8.3	-5.8	2.1	-4.5	6.2
Manufacturing and mining	-31.4	8.6	-9.4	-1.8	-11.3	6.5	-26.5	6.5	-7.9	-0.3	-1.2	2.8
Production of other goods	-22.9	-20.8	-11.0	-6.1	4.9	-4.5	-24.3	-16.8	-10.1	1.7	-1.2	-5.5
General government	0.5	-5.6	9.6	3.7	-10.5	-0.8	0.7	-7.1	14.4	5.3	-11.6	-4.8
Dwellings	-15.4	-18.9	-23.5	-10.5	-1.5	25.9	-17.0	-17.1	-27.3	-12.6	-5.2	33.8
Other service activities	-19.1	-2.3	2.7	-2.3	0.6	22.1	-12.5	-9.3	-2.3	8.7	-0.9	10.2
Gross capital formation	-9.0	-7.9	-4.4	-3.9	6.1	9.2	-7.9	-11.3	-4.9	-1.5	7.3	7.9
Total final uses	-2.5	-0.9	0.5	1.6	1.6	4.0	-2.9	-1.0	-0.5	1.7	3.2	4.7
Demand from mainland Norway	-3.7	-0.4	0.9	2.3	0.9	4.8	-4.7	0.5	-0.4	2.5	1.1	4.2
Exports	10.7	8.6	6.2	5.2	2.0	8.5	10.7	8.1	6.1	6.2	1.6	7.6
- traditional goods	4.8	10.2	-2.5	5.7	2.9	13.3	5.4	9.9	-2.7	4.1	3.0	14.3
- crude oil and natural gas	25.9	3.2	17.2	11.3	5.8	11.6	24.7	1.8	17.0	10.8	5.8	11.2
- services	9.5	7.0	3.1	-2.6	-0.8	0.8	9.4	6.9	3.1	4.1	-3.1	-0.9
Imports	2.2	2.5	0.2	0.7	4.0	6.6	0.9	2.2	1.7	2.8	3.2	7.2
- traditional goods	-4.5	9.6	0.6	3.7	0.3	15.0	-4.8	9.8	0.2	4.2	1.7	15.2
- services	5.5	-0.6	6.5	5.3	1.9	-0.1	4.0	1.1	6.6	10.6	0.5	-1.3
Gross domestic product (GDP)	0.3	1.6	2.9	3.2	2.1	5.7	0.6	1.7	1.6	3.4	2.4	5.1
Mainland Norway	-2.3	0.4	1.1	2.2	1.7	4.8	-2.2	1.1	-0.6	2.1	2.1	3.9
Oil activities and shipping	6.6	4.9	12.5	8.9	4.2	10.3	24.6	5.0	12.2	9.4	3.8	10.3
Mainland industries	-1.8	0.4	1.1	1.9	1.5	4.5	-1.1	0.9	-0.7	1.7	1.9	3.5
Manufacturing and mining	-5.8	1.1	-3.0	2.9	2.1	5.6	-1.4	0.6	-2.2	1.8	1.6	5.0
Production of other goods	4.3	2.4	1.6	-0.1	0.5	2.2	-0.1	1.2	-5.2	2.0	1.9	-0.5
General government	2.4	2.4	2.6	4.1	0.5	1.8	1.8	2.6	3.2	3.6	2.8	2.1
Other private service activities	-1.2	-1.2	1.7	1.1	1.9	5.8	-2.5	0.2	-0.4	0.8	1.6	4.6
Persons employed	-2.8	-0.8	-0.8	-0.3	0.2	1.5	-2.4	-0.8	-0.8	-0.3	0.0	1.5
Man-hours worked	-3.1	-1.4	-1.1	0.4	0.0	1.4	-2.8	-1.4	-1.3	0.3	0.0	1.5
Current balance (per cent of GDP)	-0.1	2.6	3.7	3.7	3.1	2.7	0.3	3.7	4.8	2.5	2.1	3.3

changes in the description of developments presented earlier.

### Production upturn started slightly earlier

The new figures for *mainland GDP* show that the rise in production in the Norwegian economy following the deep recession in the last half of the 1980s started earlier than assumed previously. The trough was reached as early as 1989. Production expanded in each of the following years, and growth has been rising through the period. The old figures indicated that the upturn did not begin until 1992.

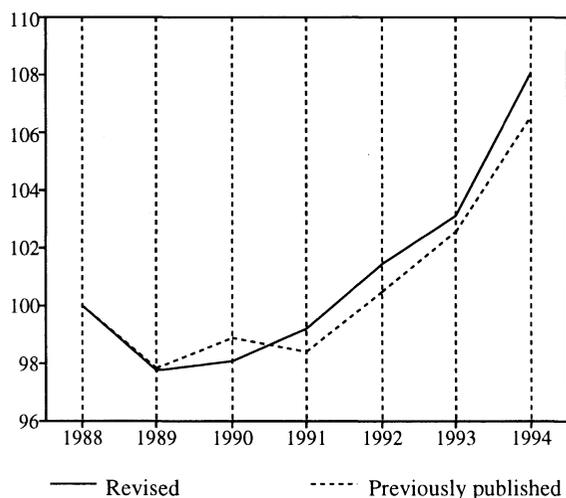
Looking at mainland GDP by industry, the adjustments have been greatest for the production of goods excluding manufacturing and mining (other goods-producing industries), where the new figures indicate that growth gradual-

ly levelled off in 1989-1992, and edged up in 1993-1994. The earlier figures did not show any clear trend. With regard to the contributions to mainland GDP growth, however, the most important revisions relate to private services. For this industry group a slightly erratic growth path has also been replaced by one with a clearer trend: First a decline up to a trough in 1990 followed by an uninterrupted period of recovery in subsequent years, peaking with a growth in volume of almost 6 per cent in 1994.

### Steadier investment trend with new figures

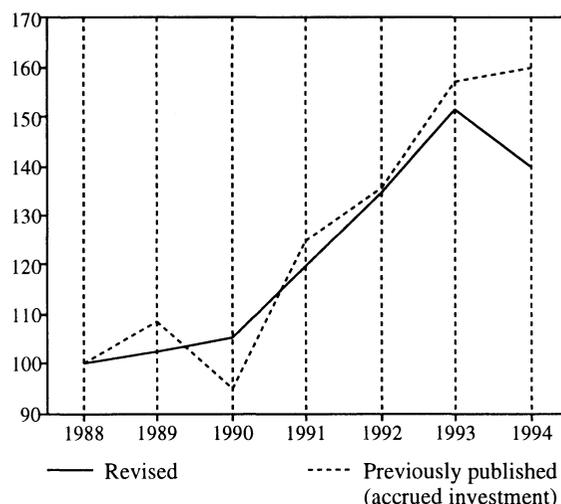
On the demand side, investment has shown the greatest change. The most important change is that the national accounts now only compute investments in the oil sector on an accrued basis, while investments in production platforms were previously recorded at the time they were

**GDP, mainland Norway**  
Volume indices. 1988 = 100



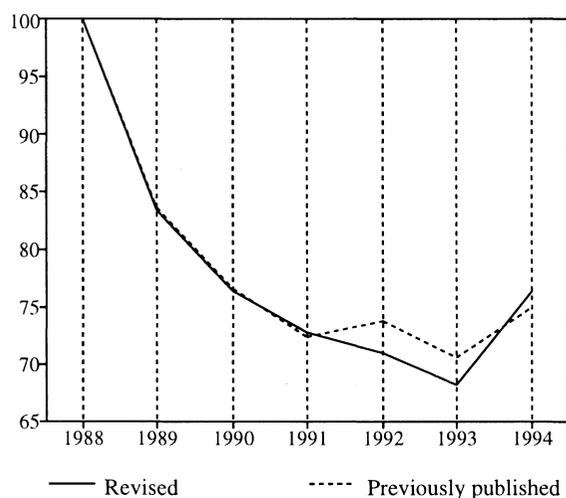
Source: Statistics Norway.

**Gross fixed capital formation, oil activity**  
Volume indices. 1988=100



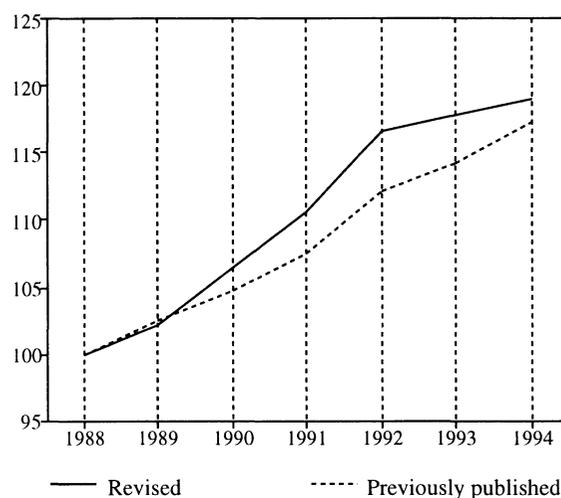
Source: Statistics Norway.

**Gross fixed capital formation, mainland Norway**  
Volume indices. 1988=100



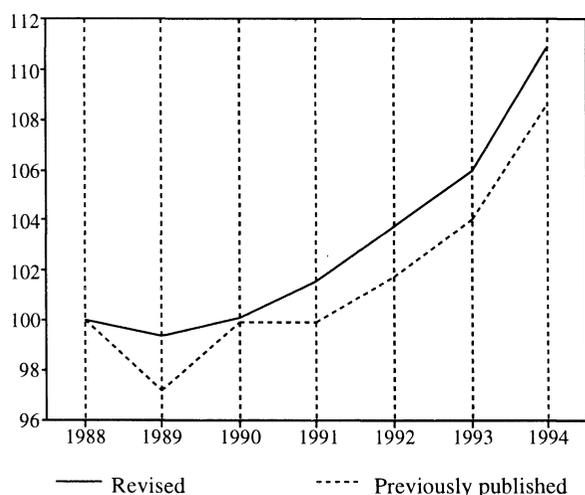
Source: Statistics Norway.

**General government consumption**  
Volume indices. 1988=100



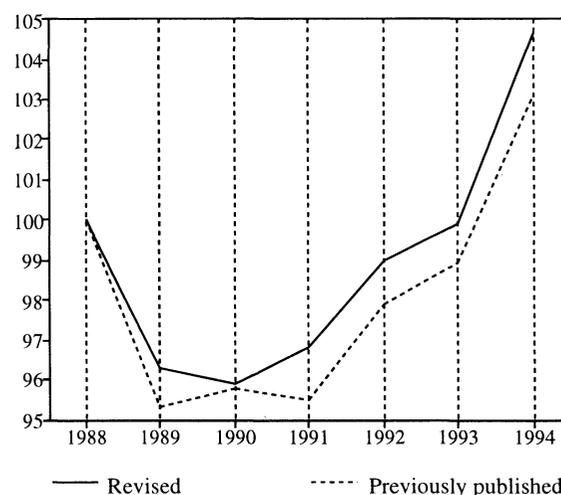
Source: Statistics Norway.

**Consumption in households and non-profit organizations**  
Volume indices. 1988=100



Source: Statistics Norway.

**Demand from mainland Norway**  
Volume indices. 1988=100



Source: Statistics Norway.

towed out to the oil field. However, it was also possible previously to construct an estimate for accrued oil investments based on the figures in the national accounts, but investment work performed abroad did not appear in the figures until the time of delivery. Now the oil sector's investment demand for goods and services from abroad is considered accrued as the work is gradually performed, i.e. the same method of accounting as for deliveries from Norwegian producers. Inasmuch as the deliveries consist of accumulated previously performed work by the supplier, the deliveries will over time show greater variations than work performed. This is the reason that the new figures for *investments in oil activities* show a steadier growth path for the years 1988-1993 than the old figures. Investment did not generate such a strong growth impetus to Norwegian and foreign suppliers in the recession year 1989 as assumed earlier, but the new figures do show continued growth and not a decline for 1990. Because there were major investment deliveries from abroad in 1994, based on work performed in the preceding years, while there was no equivalent investment in projects to be delivered in later years, the new method of accounting entails that accrued oil investment declined in 1994, while the old figures showed a continued rise.

Whereas the old figures showed a slight rise in *mainland investment from 1991 to 1992 and a decline to a new low in 1993*, the new figures show an uninterrupted period of decline through 1993. On the other hand, the upswing in 1994 is clearly stronger than previously estimated, with a growth of 12 per cent compared with a good 6 per cent according to the old figures. The steadier declining path of total mainland investment in the period to 1993 is especially ascribable to a change in the path for investments in private services excluding dwellings through the period 1990 to 1992. Based on the new figures, the service sector's investments remained relatively stable through the period 1989-1993 before picking up again in 1994, while earlier they had passed a trough in 1991. Housing and manufacturing investment continues to follow the same path as the overall figures, a gradual decline up to the trough in 1993. Moreover, public sector investment continues to show a countercyclical path, peaking in 1992, but to a lesser extent than that shown by the old figures.

### **New figures show altered growth path for general government consumption**

In the new national accounts the figures for final consumption expenditure in general government have also been revised considerably. Growth has been revised upwards substantially for the years 1990-1992, and revised downwards sharply for 1994. The changes are more or less entirely ascribable to differences in the distinction between consumption in households, etc. and consumption in general government and between consumption and investment in general government in the new accounts compared with the old accounts. For example, the consumption of health services financed by general government has been moved from households to general government, and some acquisi-

tions that were previously counted as military consumption are now considered military investments. Such changes in accounting conventions, and not new information concerning underlying realities, explain why it may now appear that general government consumption has had a far clearer countercyclical profile than assumed earlier.

### **Steadier trend in consumption in households and non-profit organizations**

Major revisions early in the period have also been made for *consumption in households and non-profit organizations* (previously private final consumption expenditure). An upward revision of the level in 1989 has almost eliminated the previous estimated decline in 1989, but also the rise in 1990. As for mainland GDP, consumption now shows a much steadier trend in which growth has been rising since the trough was reached in 1989. Changes in the path of consumption are partly related to reclassifications, and partly to new methods of calculation and the incorporation of statistical material which had not been used earlier.

### **Slightly brisker growth in total mainland demand**

According to the new figures, total *mainland demand* has not shown a development which differs substantially from the previous picture. The most important difference is that 1990 now emerges as a trough year, while the old figures indicated that demand fluctuated in both directions through the period 1989-1991. Moreover, accumulated growth over the period has been stronger than previously assumed.

### **Definitional changes result in greater fluctuations in the balance of payments**

There have been no considerable changes in the figures for *exports* due to the revision. With regard to *imports*, however, the new figures show a stronger rise at the end of the 1980s and a more vigorous flattening early in the 1990s than assumed earlier. This is primarily a result of oil investments accruing abroad, which are now recorded as imported in the same period in which they accrue. This entails that the new figures for the *current-account external balance* show lower surpluses in 1989-1991, but higher surpluses in 1992-1993 than assumed earlier. The changes in the current-account figures are also related to the accounting method for reinvested earnings on Norwegian foreign direct investment which are now entered as income, while reinvested earnings on foreign direct investment in Norway are charged as expenditure. This has had an effect on the property income and transfers balance.

### **Unchanged employment picture**

The new estimates for the number of people employed and man-hours worked show little revision compared with the old figures. The national accounts revision thus results in approximately the same picture of employment developments as earlier.

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# Research publications in English

## New titles

### Social and Economic Studies

*Tom Kornstad:*

#### **Empirical Life Cycle Models of Labour Supply and Consumption**

SES no. 91, 1995. pp. 115.  
ISBN 82-537-4166-9

The main purpose of this doctoral thesis is to formulate a structural life cycle model of married couples' supply and consumption of durables and nondurables.

According to the life cycle theory households' labour supply and consumption of durables and nondurables are determined conditional on the household's expectations about future prices and variables influencing future preferences. This fact indicates that estimation of life cycle preferences requires very much data for each household, and chapter 2 explores whether estimation of structural life cycle models is possible in the absence of some of these data. The chapter presents the various approaches, and points at the data requirements and what kind of simplifications with respect to model specifications that are invoked. These simplifications may include intertemporal as well as intratemporal separable preferences, no binding constraints in the credit market, and no income taxation. The chapter concludes that we cannot be satisfied with the state of the art.

Chapter 3 presents and estimates a structural life cycle model of married couples' labour supply and consumption of durables and nondurables. This chapter takes the problems with measuring consumption of durables and nondurables seriously, and it allows habit formation in the demand for durables. Using Hicks' composite good theorem, we can estimate a life cycle model of a particular aggregate of durables and nondurables (and leisure) without observing the consumption of nondurables, and the price and the physical stock of durables. The estimation uses data from the Income Distribution Survey 1988, 1989 and 1990, and the Standard of Living Survey 1991. The estimation results suffer from the fact that the time span of the panel data is too short.

In a fourth chapter of the thesis it is studied how the Norwegian income tax system distorts relative user prices between housing, nondurables and leisure for married and unmarried wage income earners. The analysis is based on a general life cycle model where households are assumed to have perfect certainty with respect to future prices and preferences. Empirical calculations are presented for 1985/86, 1989/90 and 1992/93, and they include average distortions and distribution tables. Even after the 1992 tax reform the income tax system still distorts some of the relative user prices considerably. This chapter of the thesis has been omitted in this volume.

### Discussion Papers

*Torstein Bye and Tor Arnt Johnsen:*

#### **Prospects for a Common, Deregulated Nordic Electricity Market**

DP no. 144, 1995. pp. 21.

Electricity markets have typically been regulated all over the world. In Europe, UK and Norway have begun to deregulate their electricity markets. Several more countries will probably join them in the near future, for example Finland, Sweden and Spain. The objectives are twofold: to increase efficiency and to contribute both locally and globally to environmental improvement. Even larger regions like the European Union, plan to deregulate their internal electricity markets. For the EU this implies introduction of third party access to the transmission grid within and between the Union member countries. In this context, the Scandinavian push towards deregulation is an interesting experiment. We discuss the consequences of an international deregulation of electricity markets on the basis from simulations on an empirical energy market model for the Nordic countries. Deregulation may have severe effects on the location both among countries and between electricity producers and consumers. The beneficial effects of deregulation are highly dependent upon the Nordic natural gas trade and prices. In our model, international coordination of environmental instruments like carbon dioxide taxes has a greater impact on emission level reductions than does deregulation. However, deregulation also contributes.

*Thor Olav Thoresen:*

#### **The Distributional Impact of the Norwegian Tax Reform Measured by Disproportionality**

DP no. 146, 1995. pp. 36.

This paper focuses on the measurement of progressivity and the distributional effect on the Norwegian tax reform of 1992. Progressivity is measured by the degree of disproportionality, which implies that the burden of taxes is estimated when income units are ranked according to pretax incomes. The measure of disproportionality is decomposed to estimate the influence from different parts of the tax system on total disproportionality. For instance, the measure of the contribution from net taxes can be decomposed into a tax base effect and a tax rate effect. The results show that the degree of progressivity in the overall tax system, as measured here, has not been altered from 1991 to 1992, but the decomposition analysis reveals that the tax base effects is more dominant and the tax rate effects is less dominant after the reform.

*Erling Holmøy and Torbjørn Hægeland:*

#### **Effective Rates of Assistance for Norwegian Industries**

DP no. 147, 1995. pp. 24.

We measure the effective assistance to 17 Norwegian private industries in 1989 and 1991 caused by government budgetary subsidies, indirect commodity taxes, import protection though nominal tariffs and nontariff barriers, and electricity market distortions. The assistance effects are measured by the change in the net-of-tax value added price due to a removal of the policy measures considered. Most industries were effectively assisted, but the effective assistance differs widely between industries indicating the overall distortive effect on the industry structure. Agriculture, Food Processing and Manufacture of Beverages and Tobacco stand out as the most assisted industries. Budgetary subsidies and non-tariff barriers had the strongest effective assistance effect.

*Jørgen Aasness, Torstein Bye and Hans Terje Mysen:*

#### **Welfare Effects of Emission Taxes in Norway**

DP no. 148, 1995. pp. 18.

The welfare effects of introducing taxes on emissions of carbon dioxide are analysed within an empirical general equilibrium model of the Norwegian economy. A CO<sub>2</sub> tax regime where we aim at stabilising the CO<sub>2</sub> emissions at the 1990 emission level in 2020 is compared to a reference scenario without such taxes. In the simulations introduction of CO<sub>2</sub> taxes reduces gross domestic product, but increases net national real disposable income, private consumption and money metric utility. This difference in sign is due to a positive terms of trade effect, some of the CO<sub>2</sub> taxes will be paid by foreigners through exports. The welfare effects differ from household to household depending on the composition of their total consumption. Poor households are less favourably affected than rich households, due to smaller budget shares for the rich households on consumer goods which imply relatively much CO<sub>2</sub> emissions.

*Einar Bowitz, Taran Fæhn, Leo Andreas Grünfeld and Knut Moum:*

**Transitory Adjustment Costs and Long Term Welfare Effects of an EU membership The Norwegian Case**  
DP no. 150, 1995. pp. 28.

We employ a large scale macroeconomic model to study transitory adjustment problems and long term welfare effects of a Norwegian EU membership. Compared to the present European Economic Area (EEA) treaty, accession would primarily require economic reforms in the fields of agriculture, public finance and trade. When we ignore the yearly net contribution of approximately 1 billion ECU (1 per cent of GDP), integrating the Norwegian economy into EU generates a small welfare gain. The results seem to be strongly affected by a long transition period with underutilisation of resources. With the costs of the net contribution included, we identify welfare loss. This is especially so if fiscal policy is adjusted to maintain public and current account balances. To investigate the stability of the results when the estimated wage rate response and trade elasticities are altered, we present two sensitivity tests. None of them give us reason to cast doubt on the qualitative conclusions presented.

*Ingvild Svendsen:*

**Dynamic Modelling of Domestic Prices with Time-varying Elasticities and Rational Expectations**  
DP no. 151, 1995. pp. 45.

The paper analyses the price on domestic market for an aggregate commodity produced by Norwegian private mainland economy. The long-run solution is modelled as-

suming imperfect competition. The elasticities with respect to unit labour costs and competing prices vary with an indicator for competitive strength in domestic market. I consider two models for the dynamic part of the equation. Model A is a conditional ECM in current and lagged variables. Model B is derived from a multiperiod quadratic loss function which introduces rational expectations to the model. The backward-forward restrictions are not rejected. The estimated elasticities for both models are in line with the previous empirical results for the Norwegian economy. Model A is preferred to Model B, partly on the basis of informal encompassing results.

*Ingvild Svendsen:*

**Forward- and Backward Looking Models for Norwegian Export Prices**  
DP no. 152, 1995. pp. 41.

The Norwegian export price for an aggregated commodity is modelled assuming price-setting behaviour. The focus is on the choice between backward- and forward looking models. The dynamics is modelled according to three different approaches; a backward looking error correction model and two forward looking models where rational expectations are assumed. The first forward looking model is derived from a multiperiod quadratic loss function imposing backward-forward restrictions on the parameters. The results from this specification are not encouraging. We then allow data to choose the lead structure, resulting in a less restrictive forward looking model. The backward- and forward looking models are compared to an estimated cointegrating vector for the long-run solution. An encompassing test on the backward- and forward looking model indicates that further research should look for a model that encompasses both of them.

*Audun Langørgen:*

**On the Simultaneous Determination of Current Expenditure, Real Capital, Fee Income, and Public Debt in Norwegian Local Government**  
DP no. 153, 1995. pp. 31.

An extended commodity preference model including real and financial investments is estimated on accounting time-series data for the local government sector in Norway. The estimation results indicate considerable sluggishness in local public spending, both in current expenditure and investment spending. A positive shift in grants or taxes will in the short run lead to reductions in the net debt, due to the sluggish spending adjustment. But as spending adjustments take place, the effect on the

net debt is reversed, so the long run effect is positive.

The long run elasticities of factor demand and net debt with respect to exogenous income constraints do not differ significantly from unity. The estimated price elasticities suggest that factor demand is close to neutral-elastic in the long run. Higher factor prices involve higher production costs, and local authorities are thus induced to increase user charges.

## Documents

*Hanne A. Gravningsmyhr:*

**Analysing Effects of Removing Survivors' Pensions, Using the Microsimulation Model LOTTE**  
Documents 95/5, 1995. pp. 12.

*Pål Boug:*

**User's Guide. The SEEMmodel Version 2.0**  
Documents 95/6, 1995. pp. 120.

*Einar Bowitz, Nils Øyvind Mæhle, Virza S. Sasmitawidjaja and Sentot B. Widoyono:*  
**MEMLI An Environmental Model for Indonesia. Technical Documentation of Data Programs and Procedures**  
Documents 95/7, 1995. pp. 153.

This is a technical report describing the software systems for the Indonesian environmental model MEMLI. MEMLI is a 29 sector input/output model including the use of energy and the emissions of CO<sub>2</sub>, run on a PC using the model simulation system TROLL. The document describes the file structure for different types of programs. All programs that has been generated in order to establish the model and the databank, to make simulations on the model and to report results from simulations, are also described. The project is a coproject between the Ministry of Environment in Indonesia and Statistics Norway. It is financed by cooperation agreement for environmental research between the two countries.

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# Appendix

## List of tables

## Page

### National accounts for Norway

Table A1	Expenditure on gross domestic product. At current prices. Million kroner .....	1*
Table A2	Expenditure on gross domestic product. At constant 1992-prices. Million kroner .....	1*
Table A3	Expenditure on gross domestic product. Growth rates. Percentage change in volume from preceding year .....	2*
Table A4	Expenditure on gross domestic product. Growth rates. Percentage change in prices from preceding year .....	2*
Table A5	Gross domestic product by kind of activity. At constant 1992-prices. Million kroner .....	3*
Table A6	Gross domestic product by kind of activity. Growth rates. Percentage change in volume from preceding year .....	4*
Table A7	Final consumption expenditure. At constant 1992-prices. Million kroner .....	5*
Table A8	Final consumption expenditure. Growth rates. Percentage change in volume from preceding year .....	5*
Table A9	Gross fixed capital formation by type of capital goods and economic activity. At constant 1992-prices. Million kroner .....	6*
Table A10	Gross fixed capital formation by type of capital goods and kind of activity. Growth rates. Percentage change in volume from preceding year .....	7*
Table A11	Exports of goods and services. At constant 1992-prices. Million kroner .....	8*
Table A12	Exports of goods and services. Growth rates. Percentage change in volume from preceding year .....	9*
Table A13	Imports of goods and services. At constant 1992-prices. Million kroner .....	10*
Table A14	Imports of goods and services. Growth rates. Percentage change in volume from preceding year .....	11*
Table A15	Balance of payments. Summary. Million kroner .....	12*
Table A16	Production and income. Main aggregates. Million kroner .....	13*

**1\***  
**NATIONAL ACCOUNTS FOR NORWAY**

Table A1. Expenditure on gross domestic product. At current prices. Million kroner

	1992	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Gross domestic product . . . . .	784296	821352	870330	208970	211956	216837	232567	226776	226038
Final uses . . . . .	730008	768007	818020	197210	200195	204456	216158	209212	215661
Final consumption expenditure . . . . .	567894	591732	622555	148291	149706	157761	166798	152816	157474
Households . . . . .	373649	390401	414160	97175	98113	105183	113689	101254	104926
Central government . . . . .	70985	74101	75094	18435	18594	18937	19129	18163	18814
Local government . . . . .	101960	105383	110391	27048	27317	27872	28155	27590	27859
Non-profit institutions serving households (NPISH) . . . . .	21300	21846	22910	5633	5682	5769	5825	5809	5876
Gross capital formation . . . . .	162114	176276	195465	48920	50489	46695	49360	56396	58186
Gross fixed capital formation . . . . .	156340	163124	175969	39083	45164	44462	47259	42565	48249
Own final use . . . . .	18029	17919	23191	4822	5251	6142	6976	6696	6614
Market producers . . . . .	106131	115629	122378	28065	33471	30956	29887	28681	34338
Central government . . . . .	16202	13935	13693	2784	2770	2984	5155	2694	2613
Local government . . . . .	13794	13429	14008	2835	3072	3624	4477	3378	3645
Non-profit institutions serving households (NPISH) . . . . .	2184	2213	2698	577	600	756	764	1116	1039
Changes in inventories . . . . .	5774	13151	19496	9836	5325	2234	2101	13832	9937
Exports . . . . .	300094	315545	334746	78934	81978	83946	89888	88693	84756
Imports . . . . .	245806	262200	282436	67174	70218	71565	73479	71129	74379

Table A2. Expenditure on gross domestic product. At constant 1992-prices. Million kroner

	1992	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Gross domestic product . . . . .	784296	800581	846193	206515	205516	209626	224536	215647	212748
Final uses . . . . .	730008	750083	786598	191050	192827	196487	206235	198064	203584
Final consumption expenditure . . . . .	567894	578103	598739	143773	144337	151394	159235	144647	148248
Households . . . . .	373649	382068	400287	94468	94989	101538	109292	96260	99580
Central government . . . . .	70985	71758	71303	17733	17743	17919	17908	16964	17388
Local government . . . . .	101960	102976	105372	26148	26181	26477	26566	25981	25864
Non-profit institutions serving households (NPISH) . . . . .	21300	21300	21777	5424	5424	5459	5469	5442	5416
Gross capital formation . . . . .	162114	171979	187860	47277	48490	45093	47000	53417	55336
Gross fixed capital formation . . . . .	156340	158616	167394	37464	42883	42498	44549	39694	44694
Own final use . . . . .	18029	17784	22386	4753	5109	5888	6636	6314	6169
Market producers . . . . .	106131	111795	115765	26682	31566	29507	28011	26599	31703
Central government . . . . .	16202	13621	13093	2689	2638	2874	4892	2529	2432
Local government . . . . .	13794	13239	13546	2776	2988	3501	4281	3198	3419
Non-profit institutions serving households (NPISH) . . . . .	2184	2178	2604	564	582	729	729	1054	971
Changes in inventories . . . . .	5774	13363	20466	9813	5607	2595	2451	13722	10642
Exports . . . . .	300094	306159	332230	80392	81008	82300	88530	85494	81451
Imports . . . . .	245806	255660	272635	64927	68318	69160	70230	67910	72287

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

Table A3. Expenditure on gross domestic product. Growth rates.  
Percentage change in volume from preceding year

	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Gross domestic product . . . . .	2,1	5,7	6,2	7,1	4,4	5,2	4,4	3,5
Final uses . . . . .	2,7	4,9	4,6	9,8	3,1	2,5	3,7	5,6
Final consumption expenditure . . . . .	1,8	3,6	4,3	3,8	3,2	3,1	0,6	2,7
Households . . . . .	2,3	4,8	5,8	5,1	4,3	4,1	1,9	4,8
Central government . . . . .	1,1	-0,6	-0,3	-0,4	-1,0	-0,8	-4,3	-2,0
Local government . . . . .	1,0	2,3	2,4	2,5	2,2	2,2	-0,6	-1,2
Non-profit institutions serving households (NPISH) . . . . .	0,0	2,2	2,3	2,3	2,0	2,3	0,3	-0,1
Gross capital formation . . . . .	6,1	9,2	5,5	32,6	3,0	0,3	13,0	14,1
Gross fixed capital formation . . . . .	1,5	5,5	7,9	14,7	6,6	-4,5	6,0	4,2
Own final use . . . . .	-1,4	25,9	17,2	26,5	30,7	28,0	32,8	20,8
Market producers . . . . .	5,3	3,6	8,3	17,6	3,9	-12,3	-0,3	0,4
Central government . . . . .	-15,9	-3,9	4,5	-15,1	-9,3	2,5	-6,0	-7,8
Local government . . . . .	-4,0	2,3	-4,3	5,2	6,6	1,7	15,2	14,4
Non-profit institutions serving households (NPISH) . . . . .	-0,3	19,6	5,8	4,3	37,4	31,1	86,8	66,8
Changes in inventories . . . . .	131,4	53,2	-2,7	-775,5	-33,3	.	39,8	89,8
Exports . . . . .	2,0	8,5	11,4	4,2	7,8	10,7	6,3	0,5
Imports . . . . .	4,0	6,6	7,6	11,1	4,7	3,6	4,6	5,8

Table A4. Expenditure on gross domestic product. Growth rates.  
Percentage change in prices from preceding year

	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Gross domestic product . . . . .	2,6	0,3	-1,3	-0,2	0,5	1,9	3,9	3,0
Final uses . . . . .	2,4	1,6	1,6	1,6	1,5	1,6	2,3	2,0
Final consumption expenditure . . . . .	2,4	1,6	1,6	1,4	1,8	1,6	2,4	2,4
Households . . . . .	2,2	1,3	1,3	1,0	1,5	1,3	2,3	2,0
Central government . . . . .	3,3	2,0	1,8	1,8	2,3	2,0	3,0	3,2
Local government . . . . .	2,3	2,4	2,3	2,2	2,5	2,5	2,7	3,2
Non-profit institutions serving households (NPISH) . . . . .	2,6	2,6	2,5	2,6	2,8	2,4	2,8	3,6
Gross capital formation . . . . .	2,5	1,5	1,6	2,6	0,4	1,6	2,0	1,0
Gross fixed capital formation . . . . .	2,8	2,2	2,2	3,1	1,4	2,2	2,8	2,5
Own final use . . . . .	0,8	2,8	1,2	2,1	3,4	3,9	4,5	4,3
Market producers . . . . .	3,4	2,2	2,5	3,5	1,1	2,0	2,5	2,1
Central government . . . . .	2,3	2,2	2,4	3,1	1,3	2,2	2,9	2,4
Local government . . . . .	1,4	1,9	1,4	1,4	2,0	2,6	3,4	3,7
Non-profit institutions serving households (NPISH) . . . . .	1,6	2,0	1,5	1,5	2,0	2,5	3,5	3,8
Changes in inventories . . . . .	-1,6	-3,2	-0,8	-27,7	-16,5	415,1	0,6	-1,7
Exports . . . . .	3,1	-2,2	-6,1	-2,9	-1,5	1,4	5,7	2,8
Imports . . . . .	2,6	1,0	1,4	1,8	0,8	0,3	1,2	0,1

## NATIONAL ACCOUNTS FOR NORWAY

Table A5. Gross domestic product by kind of activity. At constant 1992-prices. Million kroner

	1992	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Gross domestic product . . . . .	784296	800581	846193	206515	205516	209626	224536	215647	212748
Agriculture . . . . .	12250	13665	13455	3000	764	5979	3712	3135	897
Forestry and logging . . . . .	3084	2763	2804	915	840	273	776	1197	1091
Fishing and fish farms . . . . .	5053	5296	6149	1847	1423	1376	1503	1855	1651
Oil activities . . . . .	93275	98856	111052	27462	27643	25516	30431	28473	28354
Crude petroleum and natural gas extraction . . . . .	90416	96138	108353	26618	26989	24956	29791	27850	27846
Service activities incidental to oil and gas extraction . . . . .	2859	2718	2699	844	655	559	641	622	509
Mining and quarrying . . . . .	1838	1864	1966	416	513	505	533	478	537
Manufacturing . . . . .	88327	90197	95251	23291	24388	22419	25153	25291	24860
Food products, beverages and tobacco . . . . .	16946	16989	17677	4087	4669	4335	4586	4486	4995
Textiles, wearing apparel, leather and leather products . . . . .	2163	2108	2307	567	589	502	649	659	606
Paper and paper products . . . . .	3639	3873	4238	1054	1032	1032	1121	1152	1134
Printing and publishing . . . . .	10037	10081	10404	2636	2570	2456	2742	2749	2601
Petroleum refining . . . . .	1021	1021	1054	257	265	262	270	247	238
Basic chemicals . . . . .	4181	4498	4631	1176	1140	1143	1172	1236	1076
Chemical and mineral products . . . . .	7833	7885	8562	2071	2246	1977	2268	2384	2350
Metal products . . . . .	5632	5733	6244	1513	1587	1558	1586	1601	1534
Machinery, ships and other transport equipment . . . . .	30189	31257	32838	8179	8498	7481	8681	8809	8468
Wood products, furniture and other manufacturing n.e.c. . . . .	6686	6751	7295	1752	1792	1672	2079	1968	1858
Electricity, gas and water supply . . . . .	22079	22517	21274	6371	4668	4390	5845	6490	5297
Construction . . . . .	27972	26483	28574	6071	6673	7658	8172	7354	7664
Wholesale and retail trade . . . . .	78309	78645	85191	19762	20519	20595	24315	20895	20988
Hotels and restaurants . . . . .	10271	10860	12147	2727	2808	3407	3205	2568	2782
Transport via pipelines . . . . .	10938	11548	12746	3141	3198	2938	3469	3317	3452
Other transport and communication . . . . .	47453	50573	55724	12689	13984	14636	14415	14121	15452
Water transport . . . . .	17815	16740	16484	4149	3926	4527	3882	4222	3569
Ocean transport . . . . .	15847	14716	14246	3685	3314	3868	3379	3751	2974
Inland water and costal transport . . . . .	1968	2024	2239	463	612	659	504	471	595
Financial intermediation and insurance . . . . .	36905	36640	38363	9475	9541	9673	9673	9541	9779
Dwelling service . . . . .	58961	59613	60209	14929	14954	15093	15233	15078	15104
Business activities . . . . .	39275	39726	41553	10792	10338	9234	11188	10816	10514
Other private service activities . . . . .	40770	41761	43057	11023	10414	11134	10486	11224	10589
Producers of government services . . . . .	128837	129483	131792	32770	32644	33083	33296	32828	32888
Central government . . . . .	39606	39131	38903	9723	9646	9748	9786	9573	9801
Civilian . . . . .	28978	28770	28999	7221	7209	7265	7305	7171	7342
Defence . . . . .	10628	10361	9904	2502	2437	2483	2482	2403	2458
Local government . . . . .	89231	90352	92890	23047	22998	23335	23510	23254	23087
Financial intermediation services indirectly measured . . . . .	-33859	-32320	-33840	-8358	-8416	-8533	-8533	-8416	-8626
Value added tax and investment levy . . . . .	66929	68375	72554	16941	17301	18149	20163	17651	18226
Other taxes on products, net . . . . .	27814	28574	30612	7330	7621	7808	7852	7757	7919
Statistical discrepancy . . . . .	-0	-1278	-924	-227	-229	-234	-234	-229	-237
Mainland-Norway . . . . .	603352	612111	639748	156541	155084	160114	168009	163343	160686
Market producers . . . . .	398813	417444	448453	107473	107330	112303	121347	120120	116565
Non-market producers . . . . .	204539	205904	209276	51918	51579	52813	52966	52274	52091

## NATIONAL ACCOUNTS FOR NORWAY

Table A6. Gross domestic product by kind of activity. Growth rates.  
Percentage change in volume from preceding year

	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Gross domestic product . . . . .	2,1	5,7	6,2	7,1	4,4	5,2	4,4	3,5
Agriculture . . . . .	11,6	-1,5	-5,0	217,2	-9,6	1,7	4,5	17,4
Forestry and logging . . . . .	-10,4	1,5	-15,9	10,9	9,4	16,4	30,8	29,8
Fishing and fish farms . . . . .	4,8	16,1	12,2	17,2	18,2	18,2	0,4	16,0
Oil activities . . . . .	6,0	12,3	17,7	16,6	4,9	10,6	3,7	2,6
Crude petroleum and natural gas extraction . . . . .	6,3	12,7	17,5	17,2	5,3	11,4	4,6	3,2
Service activities incidental to oil and gas extraction . . . . .	-4,9	-0,7	27,1	-2,6	-9,0	-16,4	-26,3	-22,3
Mining and quarrying . . . . .	1,4	5,5	-6,8	6,2	6,4	15,7	14,9	4,7
Manufacturing . . . . .	2,1	5,6	3,0	8,1	5,7	5,7	8,6	1,9
Food products, beverages and tobacco .	0,3	4,0	1,2	6,0	7,1	1,9	9,8	7,0
Textiles, wearing apparel, leather and leather products . . . . .	-2,5	9,4	0,5	14,9	10,0	12,7	16,3	2,8
Paper and paper products . . . . .	6,4	9,4	6,3	6,3	14,4	11,1	9,3	9,9
Printing and publishing . . . . .	0,4	3,2	1,9	5,7	3,0	2,3	4,3	1,2
Petroleum refining . . . . .	-0,0	3,3	4,5	-1,4	-0,0	10,7	-3,5	-9,9
Basic chemicals . . . . .	7,6	3,0	2,8	-0,4	5,4	4,1	5,1	-5,7
Chemical and mineral products . . . . .	0,7	8,6	3,1	13,4	7,2	10,5	15,1	4,6
Metal products . . . . .	1,8	8,9	12,9	12,6	6,9	4,0	5,8	-3,3
Machinery, ships and other transport equipment . . . . .	3,5	5,1	2,2	8,2	3,6	6,1	7,7	-0,3
Wood products, furniture and other manufacturing n.e.c. . . . .	1,0	8,1	3,3	12,9	7,8	8,5	12,3	3,7
Electricity, gas and water supply . . . . .	2,0	-5,5	0,5	-4,2	-6,1	-11,8	1,9	13,5
Construction . . . . .	-5,3	7,9	3,2	2,7	16,9	8,2	21,1	14,8
Wholesale and retail trade . . . . .	0,4	8,3	9,1	7,9	8,5	7,9	5,7	2,3
Hotels and restaurants . . . . .	5,7	11,9	16,9	12,1	8,5	11,2	-5,8	-1,0
Transport via pipelines . . . . .	5,6	10,4	15,7	15,6	2,3	8,6	5,6	7,9
Other transport and communication . . . . .	6,6	10,2	7,7	12,6	7,2	13,2	11,3	10,5
Water transport . . . . .	-6,0	-1,5	4,5	-4,0	-1,3	-5,1	1,8	-9,1
Ocean transport . . . . .	-7,1	-3,2	4,0	-6,6	-2,9	-7,2	1,8	-10,3
Inland water and costal transport . . . . .	2,8	10,6	8,5	12,8	9,0	12,2	1,6	-2,8
Financial intermediation and insurance . . . . .	-0,7	4,7	5,1	4,3	5,8	3,5	0,7	2,5
Dwelling service . . . . .	1,1	1,0	1,4	0,8	0,9	1,0	1,0	1,0
Business activities . . . . .	1,1	4,6	5,1	6,1	5,7	1,9	0,2	1,7
Other private service activities . . . . .	2,4	3,1	3,3	3,7	3,0	2,5	1,8	1,7
Producers of government services . . . . .	0,5	1,8	1,9	1,8	2,0	1,4	0,2	0,7
Central government . . . . .	-1,2	-0,6	-0,1	-0,5	-0,7	-1,1	-1,5	1,6
Civilian . . . . .	-0,7	0,8	1,1	1,3	0,6	0,2	-0,7	1,9
Defence . . . . .	-2,5	-4,4	-3,2	-5,4	-4,2	-4,8	-4,0	0,9
Local government . . . . .	1,3	2,8	2,8	2,8	3,1	2,4	0,9	0,4
Financial intermediation services indirectly measured . . . . .	-4,5	4,7	5,1	4,3	5,8	3,5	0,7	2,5
Value added tax and investment levy . . . . .	2,2	6,1	7,0	6,0	5,8	5,7	4,2	5,3
Other taxes on products, net . . . . .	2,7	7,1	9,2	9,4	5,1	5,2	5,8	3,9
Statistical discrepancy . . . . .	.	-27,7	-27,7	-28,1	-26,7	-28,2	1,0	3,5
Mainland-Norway . . . . .	1,5	4,5	3,9	5,5	4,4	4,3	4,3	3,6
Market producers . . . . .	4,7	7,4	6,9	8,6	8,1	6,2	11,8	8,6
Non-market producers . . . . .	0,7	1,6	1,8	1,7	1,7	1,4	0,7	1,0

**5\***  
**NATIONAL ACCOUNTS FOR NORWAY**

Table A7. Final consumption expenditure. At constant 1992-prices. Million kroner

	1992	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Final consumption expenditure . . . . .	567894	578103	598739	143773	144337	151394	159235	144647	148248
Final consumption expenditure of households and NPISH . . . . .	394949	403369	422064	99892	100413	106998	114761	101701	104996
Households . . . . .	373649	382068	400287	94468	94989	101538	109292	96260	99580
Non-profit institutions serving households (NPISH) . . . . .	21300	21300	21777	5424	5424	5459	5469	5442	5416
Final consumption expenditure of general government . . . . .	172945	174735	176675	43881	43924	44396	44474	42946	43252
Final consumption expenditure og central government . . . . .	70985	71758	71303	17733	17743	17919	17908	16964	17388
Central government, individual . . . . .	22555	24077	24581	6099	6131	6170	6179	6172	6334
Central government, defence . . . . .	22594	20255	19882	4950	4916	5017	5000	4383	4504
Central government, collective . . . . .	25836	27426	26840	6684	6696	6732	6728	6410	6549
Final consumption expenditure of local government . . . . .	101960	102976	105372	26148	26181	26477	26566	25981	25864
Local government, individual . . . . .	86104	86975	89308	22151	22182	22441	22535	22184	22097
Local government, collective . . . . .	15856	16001	16064	3997	4000	4036	4032	3797	3768
Actual final consumption of households . . . . .	503608	514421	535952	128142	128726	135609	143475	130057	133427
Actual final consumption of general government . . . . .	64286	63682	62787	15631	15611	15785	15760	14589	14821

Table A8. Final consumption expenditure. Growth rates.  
Percentage change in volume from preceding year

	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Final consumption expenditure . . . . .	1,8	3,6	4,3	3,8	3,2	3,1	0,6	2,7
Final consumption expenditure of households and NPISH . . . . .	2,1	4,6	5,6	4,9	4,2	4,0	1,8	4,6
Households . . . . .	2,3	4,8	5,8	5,1	4,3	4,1	1,9	4,8
Non-profit institutions serving households (NPISH) . . . . .	0,0	2,2	2,3	2,3	2,0	2,3	0,3	-0,1
Final consumption expenditure of general government . . . . .	1,0	1,1	1,3	1,3	0,9	1,0	-2,1	-1,5
Final consumption expenditure og central government . . . . .	1,1	-0,6	-0,3	-0,4	-1,0	-0,8	-4,3	-2,0
Central government, individual . . . . .	6,7	2,1	2,3	2,7	1,5	1,9	1,2	3,3
Central government, defence . . . . .	-10,4	-1,8	-1,7	-2,3	-1,6	-1,8	-11,5	-8,4
Central government, collective . . . . .	6,2	-2,1	-1,7	-1,6	-2,9	-2,3	-4,1	-2,2
Final consumption expenditure of local government . . . . .	1,0	2,3	2,4	2,5	2,2	2,2	-0,6	-1,2
Local government, individual . . . . .	1,0	2,7	2,7	2,8	2,6	2,6	0,2	-0,4
Local government, collective . . . . .	0,9	0,4	0,7	0,6	-0,0	0,3	-5,0	-5,8
Actual final consumption of households . . . . .	2,1	4,2	4,9	4,4	3,8	3,7	1,5	3,7
Actual final consumption of general government . . . . .	-0,9	-1,4	-1,1	-1,3	-1,8	-1,5	-6,7	-5,1

**6\***  
**NATIONAL ACCOUNTS FOR NORWAY**

Table A9. Gross fixed capital formation by type of capital goods and economic activity. At constant 1992-prices.  
Million kroner

	1992	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Gross fixed capital formation . . . . .	156340	158616	167394	37464	42883	42498	44549	39694	44694
Buildings and structures . . . . .	62681	57840	64175	12861	14315	17620	19379	17779	18167
Oil exploration, drilling, pipelines for oil and gas . . . . .	17921	18751	19779	4608	6504	4743	3924	3227	4393
Oil platforms etc. . . . .	28207	32000	25111	5546	7901	5959	5705	5466	7251
Ships and boats . . . . .	2168	3921	4250	2489	1297	931	-468	909	1433
Other transport equipment . . . . .	9370	8651	13551	3451	3252	3250	3599	3876	3771
Machinery and equipment . . . . .	35993	37454	40528	8510	9614	9995	12409	8438	9678
Agriculture . . . . .	3474	3954	4244	733	1287	1201	1023	723	1236
Forestry and logging . . . . .	597	596	596	150	149	148	149	150	150
Fishing and fish farms . . . . .	849	1189	1170	396	340	194	239	253	237
Oil activities . . . . .	44649	48067	42563	9630	12664	10584	9686	8995	10998
Crude petroleum and natural gas extraction . . . . .	44466	48869	42967	10239	12763	10329	9635	8967	10960
Service activities incidental to oil and gas extraction . . . . .	183	-801	-403	-609	-99	254	51	28	38
Mining and quarrying . . . . .	281	327	329	46	64	88	130	114	123
Manufacturing . . . . .	12068	10616	11321	2010	2475	3105	3731	2813	3668
Food products, beverages and tobacco . . . . .	2598	3041	2992	618	661	820	893	619	912
Textiles, wearing apparel, leather and leather products . . . . .	111	234	210	39	57	45	68	58	52
Paper and paper products . . . . .	2976	700	425	41	72	112	200	161	295
Printing and publishing . . . . .	644	894	967	183	202	257	326	185	157
Petroleum refining . . . . .	219	473	151	16	28	30	77	46	64
Basic chemicals . . . . .	781	789	1365	218	283	320	544	541	880
Chemical and mineral products . . . . .	608	670	619	98	153	128	240	148	180
Metal products . . . . .	908	536	924	142	176	280	327	296	271
Machinery, ships and other transport equipment . . . . .	2573	2821	2792	528	657	826	781	578	611
Wood products, furniture and other manufacturing n.e.c. . . . .	650	459	876	127	185	288	276	182	245
Electricity, gas and water supply . . . . .	5158	4868	4001	561	1131	1100	1209	706	1046
Construction . . . . .	876	871	958	224	234	243	257	254	258
Wholesale and retail trade . . . . .	12008	11734	14596	3217	3401	3728	4250	4022	4038
Hotels and restaurants . . . . .	1286	1784	1943	464	449	533	498	564	595
Transport via pipelines . . . . .	4730	6517	8182	1530	3275	2211	1166	715	1805
Other transport and communication . . . . .	9810	9370	11831	3131	2557	2702	3441	3277	2992
Water transport . . . . .	1510	2722	2956	2087	951	705	-786	667	1206
Ocean transport . . . . .	910	2001	2322	1880	773	590	-921	506	1065
Inland water and costal transport . . . . .	600	722	634	207	178	115	134	161	141
Financial intermediation and insurance . . . . .	2270	1919	2504	524	562	705	713	706	739
Dwelling service . . . . .	18029	17784	22386	4753	5109	5888	6636	6314	6169
Business activities . . . . .	3128	3850	4613	1056	1109	1185	1263	1390	1430
Other private service activities . . . . .	5621	5589	6561	1486	1500	1804	1771	2304	2153
Producers of government services . . . . .	29996	26860	26639	5465	5626	6375	9173	5728	5850
Central government . . . . .	16202	13621	13093	2689	2638	2874	4892	2529	2432
Local government . . . . .	13794	13239	13546	2776	2988	3501	4281	3198	3419
Mainland-Norway . . . . .	106051	102032	114326	24423	26172	29114	34617	29479	30827

## NATIONAL ACCOUNTS FOR NORWAY

Table A10. Gross fixed capital formation by type of capital goods and kind of activity. Growth rates.  
Percentage change in volume from preceding year

	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Gross fixed capital formation . . . . .	1,5	5,5	7,9	14,7	6,6	-4,5	6,0	4,2
Buildings and structures . . . . .	-7,7	11,0	2,6	2,9	21,9	14,3	38,2	26,9
Oil exploration, drilling, pipelines for oil and gas . . . . .	4,6	5,5	22,7	39,2	-3,0	-27,7	-30,0	-32,5
Oil platforms etc. . . . .	13,4	-21,5	-27,1	-5,7	-19,3	-33,9	-1,4	-8,2
Ships and boats . . . . .	80,9	8,4	58,7	-442,0	-31,8	-134,3	-63,5	10,5
Other transport equipment . . . . .	-7,7	56,6	156,3	84,1	37,0	13,7	12,3	16,0
Machinery and equipment . . . . .	4,1	8,2	7,8	6,4	6,2	11,7	-0,8	0,7
Agriculture . . . . .	13,8	7,3	10,6	5,8	1,7	14,4	-1,3	-4,0
Forestry and logging . . . . .	-0,1	0,0	-0,3	0,1	0,0	0,2	0,5	0,4
Fishing and fish farms . . . . .	40,1	-1,7	-9,8	178,5	-41,4	-19,4	-36,2	-30,3
Oil activities . . . . .	7,7	-11,4	-10,1	1,9	-6,7	-28,7	-6,6	-13,2
Crude petroleum and natural gas extraction . . . . .	9,9	-12,1	-4,4	3,2	-16,2	-28,4	-12,4	-14,1
Service activities incidental to oil and gas extraction . . . . .	-538,0	-49,7	.	-272,4	-125,9	-55,2	-104,5	-138,5
Mining and quarrying . . . . .	16,3	0,6	-10,5	-16,8	-22,4	54,3	146,7	92,0
Manufacturing . . . . .	-12,0	6,6	-3,9	-3,2	8,9	19,8	40,0	48,2
Food products, beverages and tobacco . . . . .	17,1	-1,6	-12,1	-16,1	12,4	8,8	0,1	37,9
Textiles, wearing apparel, leather and leather products . . . . .	110,4	-10,3	57,2	76,5	-68,3	94,8	48,8	-9,5
Paper and paper products . . . . .	-76,5	-39,3	-78,6	-58,8	-43,5	47,2	294,8	309,7
Printing and publishing . . . . .	38,8	8,3	9,0	-32,6	34,7	38,1	1,3	-22,0
Petroleum refining . . . . .	115,8	-68,0	-34,8	-61,1	-81,2	-64,4	187,9	128,4
Basic chemicals . . . . .	1,0	73,0	33,1	32,4	86,3	126,8	148,5	211,0
Chemical and mineral products . . . . .	10,1	-7,5	-15,7	43,1	-32,0	-6,9	51,6	17,5
Metal products . . . . .	-41,0	72,4	46,3	54,1	115,1	67,6	108,5	54,0
Machinery, ships and other transport equipment . . . . .	9,6	-1,0	10,6	-1,2	-1,0	-7,5	9,3	-7,0
Wood products, furniture and other manufacturing n.e.c. . . . .	-29,3	90,7	0,4	104,3	165,0	106,7	43,1	32,5
Electricity, gas and water supply . . . . .	-5,6	-17,8	-32,4	-13,8	-23,4	-6,3	25,8	-7,5
Construction . . . . .	-0,6	10,0	8,1	8,1	11,9	11,9	13,0	10,4
Wholesale and retail trade . . . . .	-2,3	24,4	18,4	24,7	28,3	25,6	25,0	18,7
Hotels and restaurants . . . . .	38,7	8,9	8,6	4,6	20,8	2,3	21,5	32,7
Transport via pipelines . . . . .	37,8	25,6	21,9	89,3	26,6	-34,6	-53,3	-44,9
Other transport and communication . . . . .	-4,5	26,3	92,7	18,6	15,4	5,9	4,7	17,0
Water transport . . . . .	80,3	8,6	81,5	-279,7	-31,8	-173,6	-68,0	26,8
Ocean transport . . . . .	119,8	16,1	102,8	-218,7	-32,2	-207,8	-73,1	37,8
Inland water and costal transport . . . . .	20,3	-12,1	-7,2	46,1	-29,7	-37,1	-21,9	-20,9
Financial intermediation and insurance . . . . .	-15,5	30,5	8,4	16,4	45,3	52,6	34,6	31,6
Dwelling service . . . . .	-1,4	25,9	17,2	26,5	30,7	28,0	32,8	20,8
Business activities . . . . .	23,1	19,8	8,4	17,7	26,6	26,7	31,6	28,9
Other private service activities . . . . .	-0,6	17,4	6,7	8,4	28,6	25,7	55,0	43,6
Producers of government services . . . . .	-10,5	-0,8	-0,2	-5,4	-1,2	2,1	4,8	4,0
Central government . . . . .	-15,9	-3,9	4,5	-15,1	-9,3	2,5	-6,0	-7,8
Local government . . . . .	-4,0	2,3	-4,3	5,2	6,6	1,7	15,2	14,4
Mainland-Norway . . . . .	-3,8	12,0	12,0	9,6	12,4	13,8	20,7	17,8

**8\***  
**NATIONAL ACCOUNTS FOR NORWAY**

Table A11. Exports of goods and services. At constant 1992-prices. Million kroner

	1992	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Total exports	300094	306159	332230	80392	81008	82300	88530	85494	81451
Goods	219981	226710	252144	61049	60990	60053	70052	66773	63458
Crude petroleum and natural gas	97158	102834	114741	28974	28264	26267	31236	30096	29525
Ships, new	7634	3367	4646	851	433	1631	1731	613	2146
Ships, second-hand	6485	6951	5327	627	1372	791	2536	1460	631
Oil drilling rigs and modules	50	787	11	7	3	1	-	11	-
Direct exports in relation to oil activities	113	64	55	17	17	10	11	21	18
Oil platforms, second-hand	47	1063	850	648	171	14	17	27	60
Other goods	108494	111643	126514	29925	30730	31338	34520	34545	31077
Products from agriculture, forestry and fishing	5553	6010	6685	1442	1479	1587	2177	1681	1703
Mining products	2309	2262	2342	519	592	640	591	517	546
Manufacturing products	99952	102797	117147	27887	28593	29004	31662	32255	28757
Food products, beverages and tobacco	12961	14236	16872	4139	3803	4028	4902	4491	3565
Textiles, wearing apparel, leather and leather products	1742	1759	2404	452	486	673	792	646	549
Wood products	2491	2682	2764	643	719	656	746	716	651
Paper and paper products	7634	8518	9770	2301	2397	2532	2540	2828	2483
Printing and publishing	342	317	401	77	92	101	131	77	83
Refined petroleum products	11087	11377	14531	3458	3622	3467	3984	4127	3959
Basic chemicals	9018	9646	10256	2414	2761	2451	2629	2728	2300
Chemical and mineral products	7035	6656	7636	1623	2015	2108	1891	2042	2152
Metal products	21223	21780	23875	5972	5972	6119	5810	6368	5536
Machinery and transport equipment	22638	21923	25930	6161	6143	6189	7436	7554	6848
Furniture and other manufacturing products n.e.c.	2103	2167	2377	576	550	602	649	618	566
Electricity	680	574	341	77	67	107	90	92	71
Services	80113	79449	80086	19342	20018	22247	18478	18721	17993
Gross receipts from shipping	42090	39879	38067	9219	9603	9830	9415	9811	9325
Gross receipts from oil drilling	452	487	553	146	145	126	136	146	147
Exports of pipeline transport	1508	1470	1402	356	364	319	363	401	418
Direct purchases in Norway by non-residents	12650	13493	15289	3042	3636	6215	2396	3100	3295
Direct exports in relation to other oil activities	1667	1529	1492	465	311	382	333	302	221
Other services	21746	22590	23283	6114	5959	5375	5835	4962	4586

## NATIONAL ACCOUNTS FOR NORWAY

Table A12. Exports of goods and services. Growth rates.  
Percentage change in volume from preceding year

	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Total exports .....	2,0	8,5	11,4	4,2	7,8	10,7	6,3	0,5
Goods .....	3,1	11,2	13,5	5,1	12,3	14,2	9,4	4,0
Crude petroleum and natural gas .....	5,8	11,6	18,9	10,2	8,4	9,3	3,9	4,5
Ships, new .....	-55,9	38,0	23,2	-79,0	680,7	325,0	-28,0	395,6
Ships, second-hand .....	7,2	-23,4	-64,1	-37,3	-28,4	32,7	132,8	-54,0
Oil drilling rigs and modules .....	.	-98,7	585,6	-90,9	-99,9	-100,0	66,7	-100,0
Direct exports in relation to oil activities ..	-43,0	-14,5	-34,6	-1,9	-31,7	72,1	22,7	5,1
Oil platforms, second-hand .....	.	-20,0	.	.	-98,7	108,1	-95,8	-64,8
Other goods .....	2,9	13,3	11,0	9,3	19,8	13,5	15,4	1,1
Products from agriculture, forestry and fishing .....	8,2	11,2	19,7	6,3	13,1	8,3	16,6	15,1
Mining products .....	-2,0	3,5	15,6	-4,1	3,3	2,5	-0,3	-7,8
Manufacturing products .....	2,8	14,0	10,7	10,2	21,0	14,4	15,7	0,6
Food products, beverages and tobacco ..	9,8	18,5	19,4	12,3	26,6	16,6	8,5	-6,3
Textiles, wearing apparel, leather and leather products .....	1,0	36,6	7,2	10,8	62,7	63,6	42,8	12,9
Wood products .....	7,7	3,0	6,3	7,9	-2,7	1,2	11,3	-9,5
Paper and paper products .....	11,6	14,7	14,7	12,1	26,8	6,8	22,9	3,6
Printing and publishing .....	-7,3	26,6	20,3	31,8	11,2	42,1	-0,5	-10,0
Refined petroleum products .....	2,6	27,7	40,8	2,3	40,7	36,5	19,3	9,3
Basic chemicals .....	7,0	6,3	-10,5	17,7	7,7	13,1	13,0	-16,7
Chemical and mineral products .....	-5,4	14,7	-1,4	20,6	31,4	9,0	25,8	6,8
Metal products .....	2,6	9,6	17,0	8,5	14,2	-0,0	6,6	-7,3
Machinery and transport equipment .....	-3,2	18,3	17,6	16,0	18,6	20,5	22,6	11,5
Furniture and other manufacturing products n.e.c. ....	3,0	9,7	11,9	9,4	20,6	-0,2	7,3	2,9
Electricity .....	-15,6	-40,6	-24,3	-51,9	-36,7	-45,0	19,4	7,0
Services .....	-0,8	0,8	5,3	1,8	-2,5	-0,7	-3,2	-10,1
Gross receipts from shipping .....	-5,3	-4,5	-8,0	-4,2	-1,6	-4,3	6,4	-2,9
Gross receipts from oil drilling .....	7,7	13,6	23,5	22,9	3,7	5,5	-0,4	1,8
Exports of pipeline transport .....	-2,5	-4,7	0,4	-1,1	-10,8	-7,0	12,5	14,8
Direct purchases in Norway by non-residents .....	6,7	13,3	32,6	13,5	13,2	-4,5	1,9	-9,4
Direct exports in relation to other oil activities .....	-8,3	-2,5	75,1	-27,5	-8,9	-19,7	-35,2	-28,8
Other services .....	3,9	3,1	15,3	7,9	-16,5	9,7	-18,8	-23,0

**10\***  
**NATIONAL ACCOUNTS FOR NORWAY**

Table A13. Imports of goods and services. At constant 1992-prices. Million kroner

	1992	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Total imports	245806	255660	272635	64927	68318	69160	70230	67910	72287
Goods	168493	176841	193846	47128	48242	47257	51218	50858	53377
Ships, new and second-hand	6932	10235	8114	3182	2488	1129	1316	1880	1530
Oil platforms and modules, new and second-hand	463	2567	328	140	70	-	118	71	1511
Direct exports in relation to oil activities	3544	5812	3906	1035	1192	771	908	772	1385
Other goods	157554	158227	181497	42771	44493	45357	48877	48134	48950
Products from agriculture, forestry and fishing	5432	4971	6728	1500	1553	1677	1998	2011	1967
Crude petroleum	986	1187	976	243	238	260	236	361	396
Mining products	2423	2608	2486	678	695	568	545	575	702
Manufacturing products	148566	149396	170783	40156	41836	42804	45987	45164	45762
Food products, beverages and tobacco	6957	7894	7888	1725	2026	2007	2130	1737	2118
Textiles, wearing apparel, leather and leather products	13964	14101	15658	4046	3133	4581	3898	4658	3220
Wood products	2419	2821	3582	708	923	926	1025	937	985
Paper and paper products	4649	5063	5671	1416	1396	1380	1480	1568	1457
Printing and publishing	2584	2522	2600	630	562	679	728	656	614
Refined petroleum products	7861	7479	7934	1724	2255	1951	2005	1995	2108
Basic chemicals	6585	7420	8547	1950	2320	2163	2114	2249	2377
Chemical and mineral products	16062	16883	18673	4351	4793	4636	4894	4988	5298
Metal products	15374	16807	19644	4970	4822	5191	4661	4653	5159
Machinery and equipment	57204	56397	65752	14922	16187	15493	19149	18150	18607
Furniture and other manufacturing products n.e.c.	5459	5638	6084	1438	1425	1460	1760	1578	1448
Transport equipment not produced in Norway	9448	6371	8749	2276	1992	2338	2142	1996	2371
Electricity	147	65	525	194	171	49	111	23	123
Services	77313	78820	78789	17798	20076	21903	19012	17052	18910
Gross expenditures for shipping	18376	17592	16672	3895	4375	4191	4211	4249	4397
Gross expenditures for oil drilling	1209	1532	1002	234	254	249	266	247	273
Direct imports in relation to other oil activities	4700	5200	6403	1183	2077	2102	1041	632	1126
Direct purchases abroad by residents	23066	23552	25263	4799	5844	8605	6015	4809	5973
Other services	29962	30944	29449	7687	7527	6757	7479	7115	7143

## NATIONAL ACCOUNTS FOR NORWAY

Table A14. Imports of goods and services. Growth rates.  
Percentage change in volume from preceding year

	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Total imports	4,0	6,6	7,6	11,1	4,7	3,6	4,6	5,8
Goods	5,0	9,6	11,4	14,9	8,8	4,3	7,9	10,6
Ships, new and second-hand	47,6	-20,7	-2,6	111,3	-51,9	-61,8	-40,9	-38,5
Oil platforms and modules, new and second-hand	454,5	-87,2	.	-95,6	-100,0	-69,6	-49,3	.
Direct exports in relation to oil activities	64,0	-32,8	-28,5	-16,5	-46,6	-39,2	-25,4	16,2
Other goods	0,4	14,7	13,9	17,7	16,0	11,6	12,5	10,0
Products from agriculture, forestry and fishing	-8,5	35,4	19,9	14,7	67,5	46,4	34,0	26,6
Crude petroleum	20,4	-17,8	-16,5	-6,1	-21,1	-25,0	48,5	66,8
Mining products	7,6	-4,7	20,6	-1,6	-14,1	-19,7	-15,2	1,0
Manufacturing products	0,6	14,3	13,3	18,0	15,4	11,1	12,5	9,4
Food products, beverages and tobacco	13,5	-0,1	-4,9	5,2	-0,6	-0,3	0,7	4,6
Textiles, wearing apparel, leather and leather products	1,0	11,0	5,4	9,6	13,4	15,8	15,1	2,8
Wood products	16,6	27,0	14,2	35,6	35,3	22,6	32,4	6,7
Paper and paper products	8,9	12,0	17,7	16,1	12,1	3,7	10,8	4,4
Printing and publishing	-2,4	3,1	7,0	12,5	0,5	-3,8	4,1	9,1
Refined petroleum products	-4,9	6,1	11,0	15,2	3,6	-3,9	15,7	-6,5
Basic chemicals	12,7	15,2	11,3	18,3	15,9	14,8	15,4	2,4
Chemical and mineral products	5,1	10,6	9,7	13,5	12,3	7,2	14,6	10,5
Metal products	9,3	16,9	28,5	12,8	26,4	2,3	-6,4	7,0
Machinery and equipment	-1,4	16,6	11,7	21,4	13,6	19,2	21,6	14,9
Furniture and other manufacturing products n.e.c.	3,3	7,9	7,3	15,9	8,2	2,5	9,7	1,6
Transport equipment not produced in Norway	-32,6	37,3	48,3	51,2	58,2	5,0	-12,3	19,0
Electricity	-55,8	707,0	.	.	717,3	245,7	-87,9	-27,8
Services	1,9	-0,0	-1,6	3,1	-3,0	1,8	-4,2	-5,8
Gross expenditures for shipping	-4,3	-5,2	-13,8	-3,1	-0,9	-2,8	9,1	0,5
Gross expenditures for oil drilling	26,7	-34,6	-28,0	-36,7	-46,2	-22,7	5,6	7,4
Direct imports in relation to other oil activities	10,6	23,1	26,6	23,5	19,2	26,8	-46,6	-45,8
Direct purchases abroad by residents	2,1	7,3	2,7	7,6	9,3	7,9	0,2	2,2
Other services	3,3	-4,8	0,7	1,0	-18,1	-1,7	-7,4	-5,1

**12\***  
**NATIONAL ACCOUNTS FOR NORWAY**

Table A15. Balance of payments. Summary. Million kroner

	1992	1993	1994	94:1	94:2	94:3	94:4	95:1	95:2
Exports .....	300094	315545	334745	78933	81979	83946	89887	88693	84756
Goods .....	219981	228334	245572	57495	59852	59286	68939	67560	64141
Services .....	80113	87211	89173	21438	22127	24660	20948	21133	20615
Imports .....	245806	262200	282436	67174	70218	71565	73479	71129	74379
Goods .....	168493	179661	197848	48078	48875	48025	52870	52250	54158
Services .....	77313	82539	84588	19096	21343	23540	20609	18879	20221
External balance .....	54288	53345	52309	11759	11761	12381	16408	17564	10377
Primary income and current transfers from abroad .....	27142	27740	28732	9335	6505	5772	7120	7670	7390
Interest .....	17667	15988	19030	6090	4377	3996	4567	5665	5146
Dividends etc. ....	2222	2340	1869	1009	355	280	224	527	974
Reinvested earnings .....	-3176	-1467	-1418	-355	-355	-355	-355	-600	-600
Current transfers to Norway .....	10429	10879	9251	2590	2128	1850	2683	2078	1870
Primary income and current transfers to abroad .....	52302	55952	59986	15836	16219	11346	16585	14563	15027
Interest .....	25409	25002	24845	6957	6211	4721	6957	6836	6563
Dividends etc. ....	17411	17847	10255	3487	4615	1026	1128	3686	4568
Reinvested earnings .....	-8633	-7305	4169	1042	1042	1042	1042	-910	-910
Current transfers from Norway .....	18115	20408	20717	4351	4351	4558	7458	4951	4806
Primary income and current transfers from abroad, net .....	-25160	-28212	-31254	-6501	-9714	-5574	-9465	-6893	-7637
Current external balance, net .....	29128	25133	21055	5258	2047	6807	6943	10671	2740
Reconciliation .....	-2725	-9978	2470	-2144	2563	3255	-1204	11245	544
Decrease in the net debt of Norway .....	26397	15121	23525	3114	4610	10062	5739	21916	3284

**13\***  
**NATIONAL ACCOUNTS FOR NORWAY**

Table A16. Production and income. Main aggregates. Million kroner

	1991	1992	1993*	1994*
Gross domestic product . . . . .	762774	784296	821352	870330
- Primary incomes to abroad, net . . . . .	25332	17474	18683	19788
= Gross national income for Norway . . . . .	737442	766822	802669	850542
- Current transfers to abroad, net . . . . .	7937	7686	9529	11466
= Gross disposable income for Norway . . . . .	729505	759136	793140	839076
- Final consumption expenditure . . . . .	537601	567894	591732	622555
= Gross saving for Norway . . . . .	191904	191242	201408	216521
- Capital transfers, net . . . . .	930	2377	895	1083
- Gross capital formation . . . . .	163494	162114	176276	195465
= Net lending for Norway . . . . .	27480	26751	24237	19973

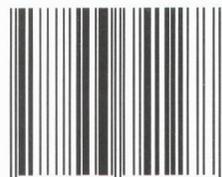
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