Economic Survey

Statistics Norway

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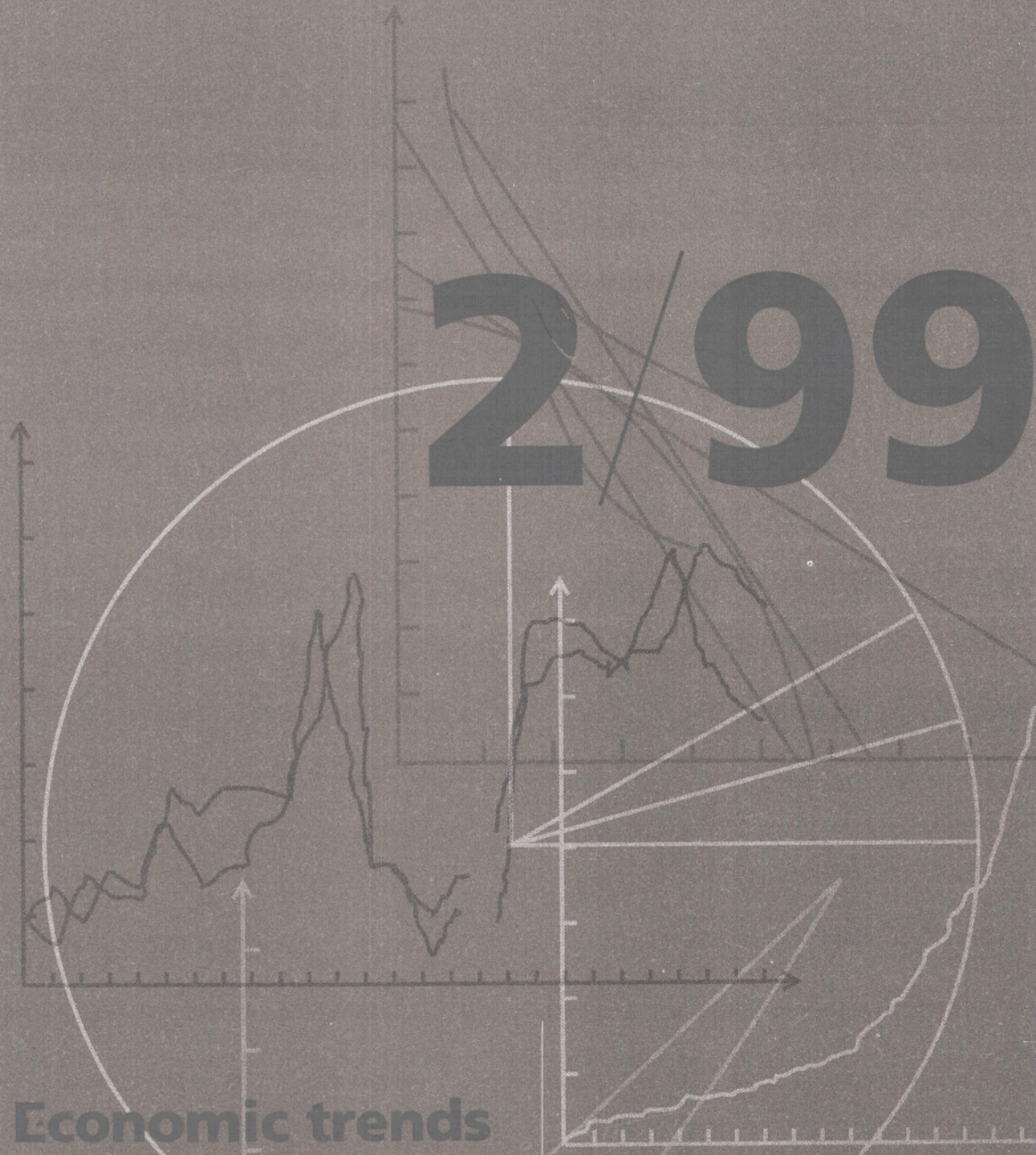
2/99



Economic trends

- National accounts for 1 quarter 1999
- Overview of international and Norwegian economic developments
- Forecasts for the Norwegian economy for 1999 and 2000

Articles

- Regional value added and household income
- Interregional labour force mobility in Norway

Economic Survey

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Contents

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Economic Survey

is published four times a year by the Research Department of Statistics Norway. The Research Department was established in 1950. The Department has about 100 employees (January 1999). The Research Department is today organized in four divisions. Head of Department is *Ådne Cappelen.*

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The next edition of Economic Survey will be published at the end of September 1999.

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Not for publication	: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

Economic trends

According to preliminary figures from the quarterly national accounts (QNA), mainland GDP expanded, on a seasonally adjusted basis, by 1.3 per cent from the fourth quarter of 1998 to the first quarter of this year, noticeably higher than the growth recorded during the previous four quarters. Growth in demand from mainland Norway, seasonally adjusted, was also stronger in the first quarter than through the previous year. The figures on demand and production into 1999 thus do not seem to confirm that the economy has already passed a cyclical peak.

Mainland demand was primarily fuelled by household consumption in the first quarter of 1999. Brisk consumption growth may indicate that households quickly decided to interpret the increase in interest rates in the second half of 1998 as temporary. The continued rise in household demand and in production in some service industries may, however, also be related to the time it takes before the weaker growth impetus from exports and investment spreads to the rest of the economy. According to new national accounts figures, these demand components exhibited declining growth through 1998 and into 1999. Figures up to end-March this year also indicate that employment is now levelling off. Moreover, it appears that the decline in unemployment has come to a halt. This may indicate that the broadly based upturn in the period 1993-1998 is nevertheless in the process of coming to an end.

The sharp growth in employment over several years has resulted in very high labour force activity and growing pressures in the labour market. In the years ahead developments in productivity will therefore probably set a clear limit for growth in the mainland economy. However, several factors now indicate that developments in demand will pull the Norwegian economy this year towards growth well below the long-term average. Weaker growth among Norway's main trading partners in 1999 compared with last year and a deterioration in cost competitiveness over a period of several years point to continued sluggish growth in traditional merchandise exports. In addition, the orientation of fiscal and monetary policy will have a contractionary effect on the Norwegian economy in 1999, and a substantial fall in petroleum investment will generate a negative demand impetus to the Norwegian economy both in 1999 and particularly next year.

Further, following several years with a relatively high level of investment and the completion of several major domestic investment projects, investment in the mainland economy is set to decline this year. Household consumption is thus the main factor behind growth in total domestic demand and output from 1998 to 1999. Employment will probably show little change in 1999, but unemployment is expected to edge up through the year. Less extensive imbalances in the labour market in the period ahead compared with the last few years, and reduced profitability in parts of the business sector imply that wage growth will be slightly lower in 1999 than in 1998. Support for the recommendations presented in the Arntsen Committee's report so far in this year's wage settlements point to the same. The rise in consumer prices in 1999 is likely to be a little higher than in 1998, and a good one percentage point above consumer price inflation in the euro area. With a slight decline in imports and an oil price of about $14 a barrel through the remainder of 1999, the current account will again show a surplus.

Household income is expected to show slightly stronger growth in 2000, primarily as a result of a projected decline in interest rates through this year. A slight rise in GDP growth among our European trading partners points to moderately higher growth in Norway's traditional merchandise exports. Combined with a levelling off in investment, this will contribute to some improvement of growth in the mainland economy. However, mainland GDP will also expand clearly slower in 2000 than the average for the last 25 years, which is around 2.5 per cent. On an annual basis, unemployment may be slightly higher than in 1999. Wage growth will slow further, and the inflation will move towards inflation in the euro area. Higher petroleum exports will contribute to a further improvement in the current account and to large surpluses in general government accounts.

Main indicators for the Norwegian economy
Growth from previous year. Per cent

	1996	1997	1998	1999	2000
GDP	4.9	4.3	2.1	1.3	3.1
-mainland Norway	3.8	4.4	3.3	0.5	1.1
Consumption in households and non-profit organizations	5.3	3.7	3.1	2.5	2.5
Unemployment rate	4.8	4.1	3.2	3.5	3.9
Consumer price index	1.3	2.6	2.3	2.5	2.1
Current balance[1]	6.7	5.2	-1.5	0.6	4.1

[1] Per cent of GDP.

International economy

It appears that GDP growth among Norway's trading partners will be lower in 1999 than in 1998, and then edge up in 2000. Inflation remains very subdued. Interest rates have been reduced in Europe, but may be raised in the US in the course of 1999. Commodity prices are expected to rise as the situation in Asia gradually stabilizes, and oil prices have already increased sharply.

The EU

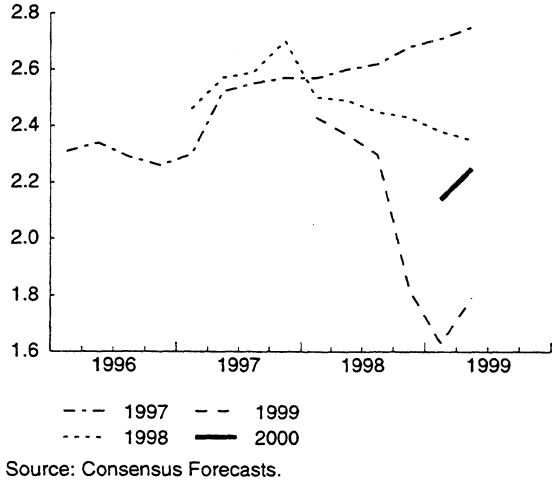
EU countries supply almost 70 per cent of Norwegian imports and account for more than 75 per cent of Norwegian exports. Economic developments in these countries are therefore very important for both growth and price developments in Norway. Furthermore, the objective of Norway's monetary policy is a stable krone exchange rate against the euro in the medium term.

After expanding by 2.6 per cent in 1998, GDP in the EU is expected to grow by 1.9 per cent in 1999. Falling exports and fiscal tightening prior to the introduction of the Economic and Monetary Union (EMU) on 1 January 1999 contributed to slower growth from the second half of 1998 onwards. So far in 1999, the growth impetus from Asia has been weak and new orders for manufacturing industry in the EU have declined. The euro has depreciated against the dollar and several other currencies. Although in isolation, this has stimulated exports, the business sector is still reporting low profit margins and is expected to reduce investment in 1999. However, slightly higher employment and very low inflation have contributed to a rise in household real income, and private consumption is expected to generate stronger growth impulses through 1999 and next year. The reduction in interest rates by the European Central Bank (ECB) in April may point to the same. However, growth is not be likely to high enough to close the output gap in the EU in the period ahead.

Aggregated figures for the EU conceal considerable differences between countries. With the establishment of EMU and the introduction of the euro, the conversion rates of the euro against the participating currencies were fixed, and the responsibility for monetary policy was transferred to the ECB. The ECB's objective is low, stable inflation, and the bank orients policy on the basis of average price developments in the euro area as a whole. The countries' fiscal policies are largely influenced by the Maastricht requirements for participation in EMU and the Stability Pact. The 11 EMU countries thus have the same interest rate, fixed bilateral exchange rates and fairly similar fiscal policies. Nevertheless, the considerable differences between the economies are perhaps the most striking when considering recent economic developments, with GDP growth projections for 1999 that vary between 1.4 (Italy) and 7.2 per cent (Ireland). In the UK, which does not participate in EMU, growth this year is estimated at 0.8 per cent. The forecasts for 2000 suggest a clear convergence of growth rates. This may partly be an indication of real convergence, but may also partly reflect a decline in the information content of such forecasts as the time horizon is extended.

With the introduction of EMU, Germany's importance for Norwegian interest rates has been reduced somewhat inasmuch as the country is no longer a benchmark for interest rate movements in Europe. The new monetary policy means that interest rates shall be adapted to the inflation outlook for an average of euro countries. However, as the euro area's largest economy and one of our most important trading partners, Germany is still important for Norway. The sluggish trend in Germany in 1999, with projected

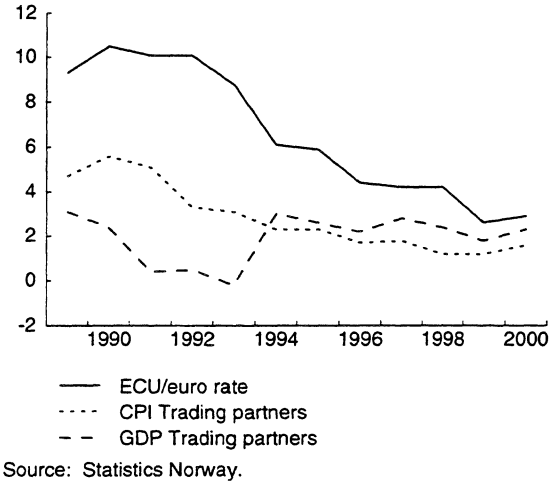
GDP-growth forecasts for Norway's main trading partners for 1997 - 2000 given on different dates



Source: Consensus Forecasts.

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

Per cent



Source: Statistics Norway.

GDP growth of 1.6 per cent, contributes to lower growth impetus from the EU to Norway in 1999 than in 1998. Germany was severely affected by the problems in Asia and Russia, and weaker export and investment activity pointed to slower growth in the last half of 1998. Falling industrial production and low investment in the business sector are also expected in 1999. On the other hand, it appears that higher private consumption, the low euro exchange rate and a stabilization of the situation in Asia and Russia will boost growth in the German economy. Increased activity in other EU countries may also improve the growth prospects for Germany, and GDP is expected to expand by 2.6 per cent in 2000.

Like Germany, Italy – as a result of its pattern of trade – was more exposed to the crises in Asia and Russia than the average of EU countries. In spite of historically low real interest rates, low investment has contributed to a weak trend in the level of activity. Growth in private consumption was lower than in other EU countries in 1998, partly because of an uncertain labour market and substantial fiscal tightening to satisfy the Maastricht requirements. In 1999, fiscal policy has been somewhat less tight. Due to the difficult economic situation in the country, Italy received in May the reluctant acceptance of other EU countries to budget larger general government deficits in 1999 than called for by the Stability Pact. Continued low interest rates, increased public sector activity and declining fears of a rise in unemployment are expected to contribute to some growth in investment and private consumption in the period ahead. In 2000, a rise in exports to other EU countries may contribute to considerably stronger GDP growth.

France's pattern of trade shielded the country from the Asian crisis and other turbulence in the world economy, while high growth in household demand and buoyant investment contributed to favourable economic developments in 1998. Forecasts for 1999 suggest slightly lower growth both in private consumption and in investment, and surveys of French industry have signalled slightly reduced activity in the first quarter of 1999. GDP growth is expected to slow to 2.3 per cent in 1999 before edging up again in 2000, fuelled in part by low interest rates. A slight increase in employment does not appear to be resulting in any significant reduction in France's main problem: unemployment. Unemployment in 1999 is estimated at 11.3 per cent of the labour force.

Unemployment in the EU is now around 10 per cent. There are considerable national differences, from Luxembourg and the Netherlands with 3.1 and 4.2 per cent respectively in 1998, to Spain's 18.8 per cent. Unemployment is expected to edge down in most countries in 1999 and 2000. A common monetary policy cannot, by definition, be adapted to special conditions in the various countries. Fiscal policy is a national responsibility and may therefore be used to some extent. However, the Stability Pact places strict limitations on the possibilities for conducting an expansionary policy, and in several countries fiscal leeway is small. Within the existing agreements, structural policy is therefore a key element in efforts to combat unemployment. Considerable attention is now being focused on the effect of various measures, including active labour market policies, a tightening of unemployment benefits, etc.

Two of our most important trading partners in the EU remain outside the euro area and thus have their own

Economic forecasts for Norway's main trading partners
Annual per cent change

Country (Share of Norwegian exports[1])	1997	1998	1999	2000
USA (7.1)				
GDP	3.9	3.9	3.8	2.4
Consumer price	2.3	1.6	2.0	2.5
Unempoyment rate[2] (level)	4.9	4.5	4.3	4.5
Japan (3.5)				
GDP	1.4	-2.8	-1.3	0.2
Consumer price	1.8	0.6	-0.3	-0.2
Unempoyment rate[2] (level)	3.4	4.1	4.8	5.2
Germany (12.4)				
GDP	1.8	2.0	1.6	2.6
Consumer price	1.9	0.9	0.7	1.5
Unempoyment rate[2] (level)	11.4	11.1	10.6	10.3
France (6.0)				
GDP	2.3	3.2	2.3	2.7
Consumer price	1.1	0.6	0.6	1.1
Unempoyment rate[2] (level)	12.5	11.8	11.3	10.7
United Kingdom (12.5)				
GDP	3.5	2.1	0.8	2.1
Consumer price[3]	2.8	2.6	2.3	2.3
Unempoyment rate[2] (level)	5.5	4.7	4.9	5.4
Italy (3.4)				
GDP	1.5	1.4	1.4	2.3
Consumer price	1.8	1.7	1.4	1.5
Unempoyment rate[2] (level)	12.3	12.3	12.2	12.0
Sweden (12.7)				
GDP	1.8	2.9	2.3	2.7
Consumer price	0.5	-0.1	0.4	1.2
Unempoyment rate[2] (level)	8.0	6.5	5.6	5.3
Denmark (7.7)				
GDP	3.1	2.8	1.6	1.9
Consumer price	2.1	1.8	2.0	2.2
Unempoyment rate[2] (level)	7.7	6.3	5.7	5.8
The Netherlands (5.4)				
GDP	3.6	3.8	2.3	2.2
Consumer price	2.2	2.0	2.0	2.0
Unempoyment rate[2] (level)	5.5	4.2	3.9	4.1
Memo				
GDP trading partners	2.8	2.4	1.8	2.3
CPI trading partners	1.8	1.2	1.2	1.6
ECU interest rate	4.2	4.2	2.6	2.9

[1] Exports traditional goods. Figures for 1998 in per cent, according to Monthly Bulletin of External Trade, Statistics Norway.
[2] Per cent of labour force.
[3] Exclusive interest rates.
Sources: Consensus forecasts. Unemployment rates for Sweden, Denmark and the Netherlands from OECD.

exchange rate and monetary policy. The UK has experienced a long period of expansion which appears to be levelling off in 1999. The strong pound sterling has created problems for export industries, while an easing of monetary policy has had a positive impact on household consumption and private investment. General government expenditure is also contributing to growth in total demand. The result appears to be a pause in growth, but in contrast to what many feared a few months ago, it looks like the UK will avoid a severe recession. Manufacturing output, however, is expected to decline by about 2 per cent in 1999. It nevertheless appears that a substantial increase in unemployment will be avoided. The positive trend is expected to gather momentum in 2000, when GDP growth is projected at 2.1 per cent, against 0.8 per cent this year.

In Sweden, on the other hand, growth is robust, fuelled by both private consumption and investment. General government demand has risen following a period of fiscal consolidation, both interest rates and inflation are low, and the situation in the labour market has improved. International conditions are expected to contribute to slower growth in 1999, with growth edging up in 2000.

The US

Developments in the US are less important for the Norwegian economy than developments in the EU. By virtue of its size, however, the country is very important for the international economy as a whole, and thereby indirectly for Norway as well. For a long period the US has been the driving force in the international economy. Consumption is high, saving is low, and the US consumer has been dubbed "rescuer of the world economy". The US is experiencing its longest upturn in the postwar period, and inflation is at its lowest level in thirty years. There are no clear indications that growth will level off. The combination of high growth and subdued inflation has surprised analysts for some time, and the growth projections for 1999 have been revised upwards month after month. In May, the forecast had reached 3.8 per cent. The forecasts for 2000 remain unchanged, with growth projected to slow without any dramatic effects.

Along with continued brisk growth, inflation is projected at 2.0 per cent in 1999. Even though substantial changes to US productivity growth seem to have occured, factors of a temporary nature most likely take part in explaining the favourable inflation trend. The Asian crisis and the turbulence in Latin America and Russia have resulted in falling commodity prices, including oil prices. The US has therefore experienced a decline in import prices, entailing that domestically determined prices could rise without resulting in an increasing overall price level in the US. A stronger dollar has also contributed to low price increases. Wage growth has been surprisingly low, but this may be due to positive circles: low inflation means that smaller nominal pay increases are required to increase real wages. Oil prices have now risen, and other commodity prices are expected to edge up as the situation in Asia gradually stabilizes. The inflation figures for April showed higher inflation than for several years, even when higher oil prices are excluded. As a result, a turnaround can not be ruled out, particularly if the exchange rate were to depreciate.

Share prices in the US have risen sharply, and there is a widespread perception that they are considerably overvalued. The Federal Reserve announced in mid-May that it is now more likely to raise interest rates than to lower them. Higher interest rates have a cooling effect on the economy, particularly through private investment. Moreover, US households have a high proportion of their wealth in equities, entailing that if higher interest rates result in falling share prices, household wealth will be reduced substantially. With very low private saving, a reduction in wealth as a result of falling share prices may quickly translate into reduced consumption. Furthermore, with low interest rates in the euro area, higher rates in the US may strengthen the dollar further, to the detriment of US competitiveness. In view of large balance of trade deficits, the Federal Reserve might take this factor into account. Based on an overall picture of stable and positive developments, the OECD has therefore recommended that interest rates should not be raised too quickly. Nevertheless, the uncertainty surrounding the US economy is perhaps greater now than has been the case in recent months.

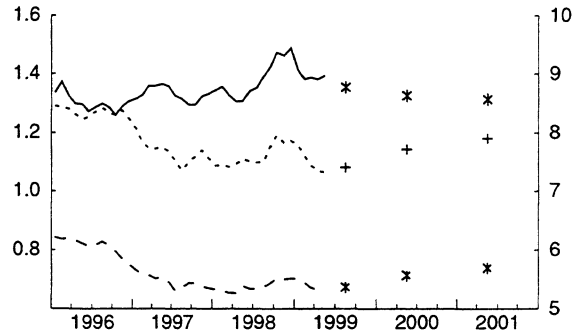
Asia

Considerable attention has been focused on the Asian crisis the last 18 months. An increasingly integrated international economy entails that problems in some parts of the world easily spread to others. Falling oil and other commodity prices over the past year are largely ascribed to the problems in Southeast Asia. Norwegian exports to Asia are small, and the crisis therefore had little direct impact on the volume of Norwegian exports. At the same time, Norway's exports of raw materials are considerable, and the decline in raw material prices was therefore of substantial importance.

Even though the most dramatic aspects of the Asian crisis appear to be behind us, it takes time for the situation to improve. In Japan, the awaited upturn has also taken longer than expected earlier. It now appears that GDP will continue to contract through 1999 and that growth in 2000 will be marginal. Interest rates are now just above zero, and the expansionary fiscal policy is already creating debt problems for the authorities. Even so, private consumption is not expected to expand in 1999. In contrast to Americans, Japanese consumers are saving an increasingly higher share of their income. At the same time, household income has come under pressure as a result of wage and employment cuts. The possibility that monetary and fiscal policy will be able to accomplish more than just halting the fall in the Japanese economy therefore appears to be limited.

China's situation has been cited as an element of uncertainty for developments in the region in 1999. After continued devaluations in the region through 1998, China has ex-

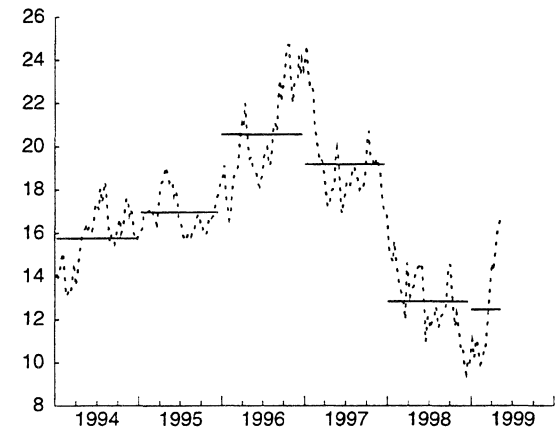
Developments in some important exchang rates
Pound sterling, the US dollar and the Swedish krona per ECU (1996 - 1998) and per euro (1999 - 2001)



—— The Swedish krona per ECU/euro (right axis)
···· The US dollar per ECU/euro
– – Pound sterling per ECU/euro

Sources: Historical figures: Norges Bank.
Forecasts: Consensus Forecasts.

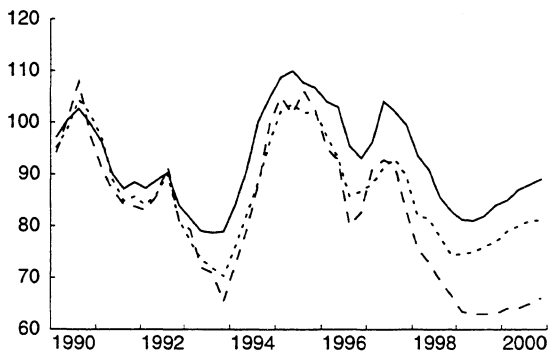
Spot price, Brent Blend. 1994-1999
Dollar per barrel



—— Annual average ···· Spot price

Source: Petroleum Intelligence Weekly.

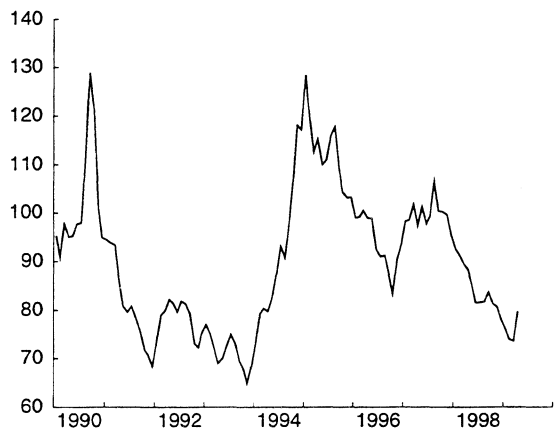
Commodity prices on the world market. 1990 - 2000
Dollar based indices. 1990 = 100



—— Total, excl. energy raw materials
···· Industrial commodities
– – Non-ferrous metals

Source: HWWA-Institut fur Wirtschaftsforschung.

Aluminium price. 1990 - 1999
Dollar based index. 1979=100



Source: World Metal Statistics.

perienced a strong revaluation of its currency in relation to neighbouring countries. The OECD considers the situation in the country to be fairly favourable, but uncertain. If growth slows, it is conceivable that the authorities will devalue to stimulate exports. In May, however, the OECD presented its calculations which show that any devaluation of China's and Hong Kong's currencies will have a limited impact on the US and Europe. With weak direct Norwegian connections to the area, it is therefore likely that any effect on Norway will be limited.

Exchange rates

Norwegian monetary policy shall be oriented towards a stable krone exchange rate against the euro. For Norwegian exports and imports, however, it is not only the exchange rate against the euro, but against the entire trade-weighted currency basket that is important. The euro is the most dominating currency in the trade-weighted exchange rate, but the US dollar, the Swedish krona and pound sterling are also important. All three currencies have appreciated against the euro since it was launched in January this year. As a consequence the Norwegian krone has appreciated less against a trade-weighted currency basket than against the euro so far in 1999. The figure on exchange rate movements reproduces forecasts indicating that both pound sterling and the dollar will gradually depreciate against the euro. This development may possibly be linked to the UK's need for a depreciation if the country is to join EMU with a competitive exchange rate, and the outlook for approximately the same growth in the US and the EU in 2000. At the moment, however, growth in the US is stronger than in the EU, and with prospects for widening, rather than narrowing, interest rate differentials between the regions, it is not given that the path suggested in the figure will be realized.

Oil market

The spot price of Brent Blend averaged a little less than $13 a barrel in 1998. The oil price fell from a level of $15 a barrel in September last year to a little less than $10 a barrel in February 1999. Since then, the oil price has risen, and at the beginning of May stood at $16 a barrel.

Several factors contributed to low oil prices at the beginning of 1999. First, economic problems in Asia contributed to low demand in the region. In addition, a relatively mild winter resulted in moderate demand for heating oil in the OECD area. This resulted in only a small reduction in oil stocks through the winter of 1998/1999, at a time when stocks are normally reduced considerably. This took place in spite of the decision by OPEC and various other countries to reduce production by about 2.5 million barrels a day in 1998.

Oil prices began to drift up in February this year after OPEC announced new production cuts. In March, the cartel decided to reduce production by 1.7 million barrels a day. In addition, Norway, Mexico, Russia and Oman decided that they would reduce production by altogether 0.4 million barrels a day. The war in Kosovo may also have been a factor behind the increase in oil prices the last few months.

According to forecasts from the IEA (International Energy Agency), oil stocks will be reduced in the third and fourth quarters of this year. Demand is expected to increase on the assumptions that the OECD area experiences a normally cold winter and that the economic problems in Asia do not worsen. If OPEC continues to fulfil between 80 and 90 per cent of the reductions in production that it has agreed upon, and Iraq maintains its current oil exports within the limits stipulated in the agreement with the UN, stocks may be reduced by on average 1.4 million barrels a day through the last half of 1999. This will reduce oil stocks by about 250 million barrels. Petroleum Intelligence Weekly indicates that stocks must be reduced by a little more than 300 million barrels before oil prices rise further. Based on such assumptions, the forecasts indicate that oil prices will remain at the current level the remainder of the year, with prices edging up later in the first quarter of 2000.

Commodity prices

Other commodity prices also fell dramatically through 1998, albeit not as much as oil prices. The fall in prices can be linked to both an abundant supply in the world market and to low demand in the wake of the Asian crisis. The HWWA (Institut für Wirtschaftsforschung-Hamburg) expects prices to level off during 1999, showing an average annual decline of 7 per cent compared with 1998, against a drop of 13 per cent from 1997 to 1998. Prices are expected to edge up in 2000, returning to the level prevailing at the end of 1998. The HWWA assumes, however, GDP growth of 2.2 per cent in the OECD area in 1999, compared with Consensus Forecasts' projection of 1.3 per cent. The possibility that the fall in prices this year may be greater than they predict can therefore not be ruled out. Stabilization followed by a weak rise nevertheless appears reasonable. An improvement in the situation in Asia, continued growth in the US and a weak upturn in the EU imply that the demand for commodities will rise. Stocks are relatively small, and higher demand should therefore result in higher prices. With a continued abundant supply, however, major effects on prices are not expected. The EU countries' agreement on reforming the Common Agricultural Policy (CAP) was substantially moderated and protracted in relation to the original proposals, and is therefore unlikely to have any effect this year or next.

Norwegian economy

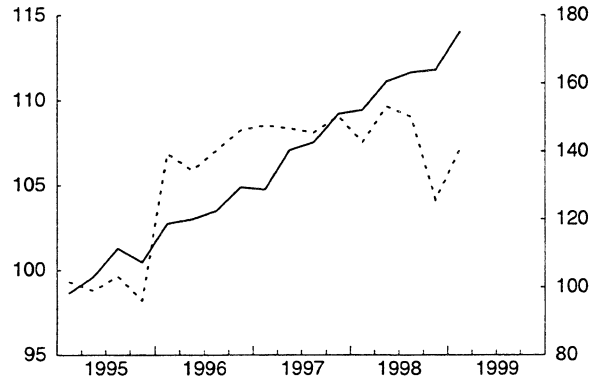
Developments so far in 1999

According to preliminary figures from the quarterly national accounts (QNA), mainland GDP expanded, on a seasonally adjusted basis, by 1.3 per cent from the fourth quarter of 1998 to the first quarter of 1999, noticeably higher than the growth recorded during the previous four quarters. Growth in demand from mainland Norway, seasonally adjusted, was also stronger in the first quarter of this year than through 1998. The figures on demand and production into 1999 thus do not seem to describe an economy that has already passed a cyclical peak. The growth in mainland demand was primarily fuelled by household consumption in the first quarter of 1999. The sharp growth in consumption may indicate that households quickly decided to interpret the increase in interest rates towards the end of last year as temporary. The continued rise in this demand component and in production in some service industries may, however, also be related to the time it takes before the weaker growth impetus from exports and investment spreads to the rest of the economy. These demand components exhibited declining growth through 1998 and into 1999. Figures up to end-March this year also indicate that employment is now levelling off, and it appears that the decline in unemployment has come to a halt. This may be an indication that the broadly based upturn in the period 1993-1998 is in the process of coming to an end.

On the consumption side, it was particularly household spending on goods that increased in the first quarter of 1999, following a sluggish trend towards the end of last year that was probably related to the increase in interest rates. The fact that the seasonally adjusted growth in household purchases of cars from the fourth quarter of 1998 to the first quarter of 1999 was positive, despite a decline in the number of new car registrations in the same period, is due to the national accounting practice that takes into account that passenger cars registered for the business sector are sold to households after some time. The counterpart to the rise in this component of household demand is thus a decline of the same magnitude in a component of gross investment in the business sector. New car registration figures in April and May point to a moderate decline in household car purchases in the second quarter.

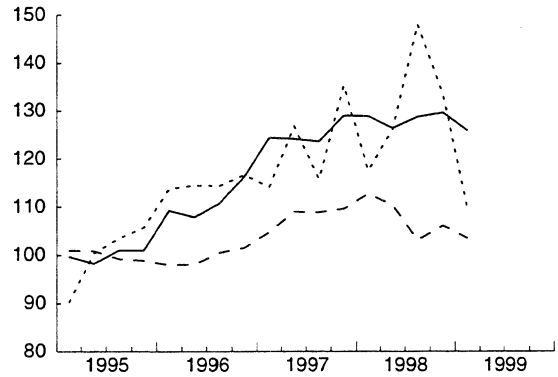
The assessment of developments in other components of spending on goods is hampered by the introduction of the return scheme for white and brown goods with effect from March and the fact that Easter felt partly in March and partly in April, while last year the holiday period was entirely in April. Preliminary, seasonally adjusted figures from the retail sales index indicate, however, that purchases up to end-April remained fairly stable at a level that was about 3 per cent above the average for 1998, a weaker growth than what is implied by developments in the consumption of goods, excluding cars, in the quarterly national accounts.

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



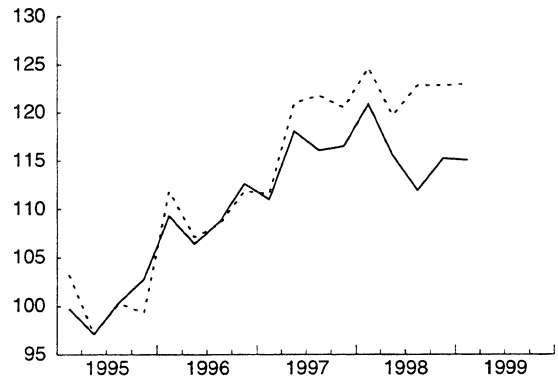
Source: Statistics Norway.

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



Source: Statistics Norway.

Exports. 1995 - 1999
Seasonally adjusted volume indices, 1995=100



Source: Statistics Norway.

Macroeconomic indicators. 1997-1999
Growth from previous period unless otherwise noted. Per cent

			Seasonally adjusted			
	1997	1998	98.2	98.3	98.4	99.1
Demand and output						
Consumption in households and non-profit organizations	3.7	3.1	1.8	0.4	-0.7	2.4
General government consumption	2.8	3.7	0.1	0.8	0.6	-0.1
Gross fixed investment	15.1	8.1	-0.7	4.3	4.7	-10.4
- mainland Norway	12.8	2.4	-1.9	1.9	0.6	-2.9
- petroleum activities[1]	15.6	25.7	21.9	4.3	16.3	-21.9
Final domestic demand from mainland Norway[2]	5.2	3.1	0.6	0.8	-0.2	0.8
Exports	5.7	0.5	-4.4	-3.1	3.0	-0.2
- crude oil and natural gas	2.1	-3.8	-7.5	-7.0	6.5	-1.0
- traditional goods	8.0	3.4	-4.0	2.6	-0.0	0.1
Imports	12.0	9.1	-2.8	-0.2	5.7	-6.3
- traditional goods	8.1	9.6	1.1	-0.4	1.5	0.3
Gross domestic product	4.3	2.1	0.7	-0.5	0.0	1.1
- mainland Norway	4.4	3.3	1.4	0.4	-0.5	1.3
Labour market[3]						
Man-hours worked	2.4	2.2	0.1	-0.9	0.9	-0.2
Employed persons	2.9	2.3	0.1	0.5	0.1	-0.1
Labour force	2.2	1.2	0.1	0.2	0.1	0.0
Unemployment rate, level[4]	4.1	3.2	3.4	3.1	3.1	3.2
Prices						
Consumer price index[5]	2.6	2.3	2.2	2.3	2.3	2.3
Export prices, traditional goods	0.5	1.0	0.8	-0.7	-0.7	-2.0
Import prices, traditional goods	-1.0	1.3	-0.3	0.8	-2.2	-1.4
Balance of payment						
Current balance, bill. NOK	56.1	-16.3	-0.9	-6.9	-16.2	1.3
Memorandum items (unadjusted, level)						
Money market rate (3 month NIBOR)	3.6	5.7	4.4	6.5	7.9	7.1
Average borrowing rate[6]	6.0	7.2	6.0	7.6	9.7	9.5
Crude oil price NOK (level)[7]	135.6	96.3	100.0	95.2	84.1	86.7
Importweighted krone exchange rate, 44 countries, 1996=100	99.5	101.7	101.2	102.3	102.8	101.9
NOK per ECU/eruo	8.02	8.46	8.27	8.53	8.82	8.60

[1] Figures for petroleum activities now covers the sectors oil and gas extraction proper, transport via pipelines and service activities incidental to oil and gas extraction.
[2] Consumption in households and non-profit organizations + general government consumption + gross fixed capital formation in mainland Norway.
[3] Figures for 1997 and 1998 are from the national accounts. The quarterly figures are from Statistics Norway's Labour force survey (LFS), since the new quarterly national account series for employment are too short for seasonal adjustment.
[4] According to Statistics Norway's labour force survey (LFS).
[5] Percentage change from previous year.
[6] Households' borrowing rate in private financial institutions.
[7] Average spot price, Brent Blend.
Sources: Statistics Norway and Norges Bank.

Continued brisk growth in household demand has also had an impact on prices for existing dwellings. After rising by nearly 8 per cent between the first quarter of 1998 and the first quarter of 1999, these prices on a national basis were about 3 per cent above the average for last year. As a result of problems with construction statistics, information about new housing starts into 1999 is not available. It is likely, however, that the historically low growth in the housing stock over the past few years has contributed to the rise in prices.

Mainland investment fell from the fourth quarter of 1998 to the first quarter of this year, with revised national accounts figures indicating a levelling off in this demand component through last year. As a share of mainland GDP, the level of investment in 1998 was 5 percentage points lower than at the cyclical peak in the mid-1980s. Manufacturing investment fell markedly in the first quarter, while general government investment appears to remain at a high level. Petroleum investment was higher in the first quarter of 1999 than in the same period last year, but showed a seasonally adjusted decline compared with the level through the last three quarters of 1998.

Measured at constant prices and adjusted for normal seasonal variations, traditional merchandise exports have remained stable since the third quarter of 1998. Value data from external trade statistics show that between the first quarter of 1998 and the first quarter of 1999 there was a shift in exports from the EU to countries in Asia, particularly Japan. The share of exports to the US, on the other hand, has shown little change. Export prices, measured in

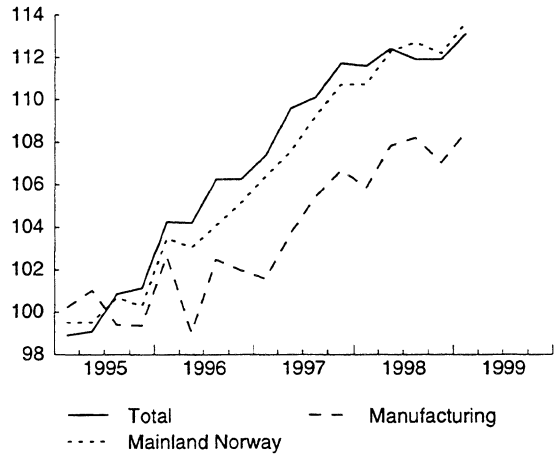
Norwegian kroner, have declined slightly over the last three quarters. The sharp decline in commodity prices on the world market during the last three to four years has thus so far not had a major impact on Norwegian export prices. This can partly be ascribed to the depreciation of the Norwegian krone against the US dollar, and gradually other currencies as well, in the same period. The fact that Norwegian export prices appear to be shadowing changes in world market prices with a lag points to the same, but may also mean that it will take some time before the increase in commodity prices through 1999 feeds fully through to Norwegian export prices.

The sluggish trend in mainland investment and traditional merchandise exports through 1998 and into 1999 is reflected in both a clear slowdown in traditional merchandise imports and in developments in some domestic production sectors. Whereas output growth remained high in service industries through 1998 and into 1999, there are signs of stagnation in production in manufacturing and other goods-producing industries. In manufacturing, seasonally adjusted production figures actually showed a rise in the first quarter, but output nevertheless remained below the level from the third quarter of 1998. New orders and order backlogs point to slightly lower manufacturing production in the period ahead. Expectations of such developments are also reflected in Statistics Norway's general business tendency survey for manufacturing industry over the past year up to the end of the first quarter of 1999.

For some service industries, changes in employment are used as an indicator of production trends when drawing up the preliminary quarterly national accounts figures. The strong seasonally adjusted growth in production in service industries thus indicates that employment continues to increase in this sector of the economy. In the first quarter, growth in the supply of services was generally higher than the growth in demand, as registered in the quarterly national accounts. One possible explanation for this is that growth in the use of services as a factor of production (product input) may be underestimated. In such an event, growth in GDP is overestimated. It is also conceivable, however, that the preliminary national accounts figures do not fully capture the use of services for consumption and investment.

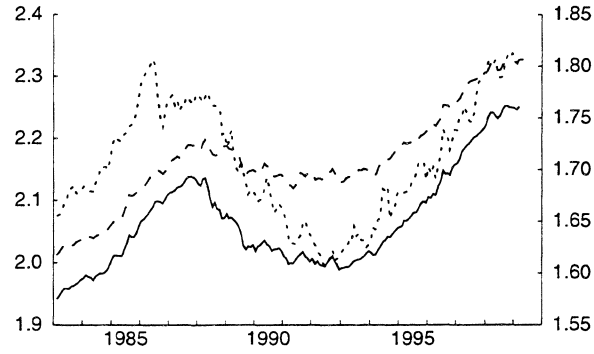
Even though employment in service industries appears to have continued to increase in the first quarter of 1999, the sharp growth in total employment over the last five years slowed markedly through 1998. According to seasonally adjusted figures from Statistics Norway's Labour Force Survey (LFS), the total number employed showed little change from the third quarter of 1998 to the first quarter of 1999. Growth in the labour force has also slowed over the past year, and according to the LFS the number of unemployed increased moderately from the low level seen in the third quarter of last year. The sum of registered unemployed at employment offices and persons participating in ordinary labour market programmes has remained fairly stable over the last six months. As a share of the labour force,

Gross domestic product. 1995 - 1999
Seasonally adjusted volume indices, 1995=100



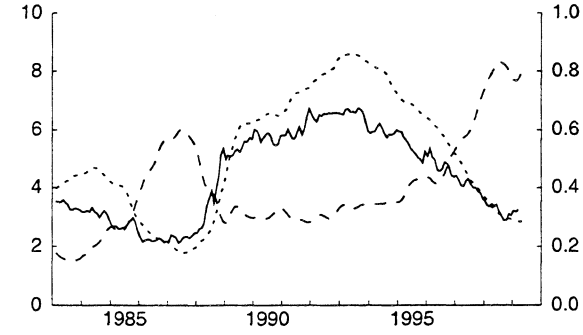
Source: Statistics Norway.

Labour force, employment and number of man-hours worked per week. 1983-1999
Millions. Seasonally adjusted and smoothed indices.



Source: Statistics Norway.

Unemployed and number of vacancies, monthly figures
Per cent of labour force. Seas adj. and smoothed



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

however, this unemployment indicator has declined slightly, while LFS unemployment has levelled off. The number of vacancies at employment offices was a little higher in April and May than in the first quarter, but less than the peak level recorded in the third quarter of last year. After showing a seasonally adjusted decline through 1996 and 1997, the number of persons laid off (entirely or in part) appears to have resumed an upward trend during the last six months.

As an average for the first four months of 1999, the consumer price index was 2.3 per cent higher than in the same period last year. The year-on-year rise in prices in April was 2.5 per cent. Changes in prices for petrol, food, and clothing and footwear contributed to pushing up price inflation, while electricity prices and telecommunication rates had the opposite effect. The harmonized index of consumer prices rose by 2 per cent from the first quarter of 1998 to the first quarter of 1999, about 1 percentage point more than in the EU.

The current account of the balance of payments showed a surplus of NOK 1.3 billion in the first quarter of this year, a decline of NOK 6.4 billion from the same period in 1998, but nearly NOK 17.5 billion higher than in the fourth quarter of last year. The decline in the current account surplus between the first quarter of 1998 and first quarter of this year is entirely ascribable to the lower value of oil and natural gas exports, while reduced imports were an important factor behind the improvement in the current account from the fourth quarter of 1998 to the first quarter of this year. The rise in crude oil prices from mid-March up to mid-May points to a slightly higher current account surplus in the current quarter.

Outlook for the remainder of 1999 and 2000

Growth in the mainland economy is expected to be weaker in the remainder of 1999, particularly in the second half of the year, than through 1998 and into the first quarter of this year. Several factors will contribute to this:

- In the Revised National Budget for 1999, the Government reaffirms that fiscal policy should have a moderately contractionary effect on the Norwegian economy.
- The use of monetary policy instruments through the second half of 1998 and first half of 1999 will contribute to curbing demand and production this year.
- Weaker growth among Norway's main trading partners in 1999 and a deterioration in cost competitiveness over several years point to continued sluggish growth in traditional merchandise exports.
- Petroleum investment will make a negative contribution to demand in 1999.

The factors mentioned above come in addition to a turnaround in investment in the mainland economy. Household consumption will therefore be the main force behind growth in total domestic demand from 1998 to 1999. With a relatively sharp rise in consumption into 1999 and a slightly lower reduction in petroleum investment than previously assumed, mainland GDP growth will probably be slightly higher than estimated in our last quarterly report.

Employment, however, is not likely to increase to any extent from 1998 to 1999, and unemployment is expected to edge up through the year. Developments so far this year and estimates for production during the remainder of the year indicate, however, that unemployment will rise somewhat later than projected in Economic Survey 1/99. Less extensive imbalances in the labour market in the period ahead compared with the last few years and weaker profitability in parts of the business sector nevertheless imply slightly lower wage growth in 1999 than in 1998. Support for the recommendations in the Arntsen Committee's report so far in this year's wage settlements point to the same. The rise in consumer prices in 1999 is likely to be slightly higher than last year, and a good one percentage point higher than consumer price inflation in the euro area. With a slight decline in imports and an oil price of about $14 a barrel through the remainder of 1999, the current account will again show a surplus.

Household income is expected to show slightly stronger growth next year, primarily as a result of a projected decline in interest rates through 1999. Slightly higher GDP growth among our European trading partners points to moderately higher growth in traditional merchandise exports. A fiscal policy that is more or less cyclically neutral has been assumed. It is likely that petroleum investment will generate a markedly stronger negative demand impetus next year compared with 1999, but the decline in mainland investment may level off to some extent. Along with the moderately stronger growth in traditional merchandise exports, this will contribute to slightly higher growth in the mainland economy. Mainland GDP will, however, continue to expand at a noticeably slower pace in 2000 than the average for the last 25 years, which is about 2.5 per cent. On an annual basis, unemployment may be somewhat higher than in 1999. Wage growth will slow further, and price inflation will move towards the rate of inflation in the euro area. Higher petroleum exports will contribute to a further improvement in the current account and to large surpluses in general government accounts.

Exports

The overall outlook for the international economy now appears to be more favourable than a few months ago. Forecasts for GDP growth for Norway's main trading partners have been revised upwards both for 1999 and 2000, and average import growth in these countries is estimated at 4.7 and 5.9 per cent respectively. However, developments in relative labour costs, measured in a common currency, have generally been to Norwegian manufacturing industry's disadvantage since 1994. The exception is 1998 when the weakening of manufacturing industry's exchange rate in the second half of the year counteracted the high wage growth. High cost inflation in Norway has contri-

Main economic indicators. 1998-2000. Accounts and forecasts
Percentage change from previous year unless otherwise noted

	Accounts 1998	1999 SN	1999 MoF	1999 NB	2000 SN	2000 MoF	2000 NB
Demand and output							
Consumption in households and non-profit organizations	3.1	2.5	2.2	2 1/4	2.5	2.0	1 3/4
General government consumption	3.7	1.2	1.2	1 1/4	1.5	1.3	2 1/4
Gross fixed investment	8.1	-7.5	-6.7	-9 1/2	-8.9	-10.0	-9 3/4
- petroleum activities	25.7	-10.0	-12.7	-17	-25.0	-30.5	-25
- mainland Norway	2.4	-6.9	-5.3	-7	-2.5	-2.9	-4 3/4
- firms	2.8	-9.1	-5.6	-8	-5.1	-3.7	-8
- housing	-0.6	-4.1	-5.7	-5	6.8	0.2	0
- general government	3.4	-2.4	-4.2	-5	-2.4	-2.9	2
Demand from mainland Norway[1]	3.1	0.3	..	1/4	1.3		3/4
Stockbuilding[2]	0.9	0.1	-0.1	..	0.0	0.2	..
Exports	0.5	2.4	3.6	4 1/2	7.9	9.6	7 1/2
- crude oil and natural gas	-3.8	4.3	6.7	7	15.2	18.2	15
- traditional goods	3.4	2.4	2.0	2 1/4	3.5	4.4	3 3/4
Imports	9.1	-1.9	-0.9	-1/4	-0.8	-0.3	2 3/4
- traditional goods	9.6	-1.8	-0.7	-1/2	0.6	0.5	2 3/4
Gross domestic product	2.1	1.3	1.4	3/4	3.1	3.2	1 1/4
- mainland Norway	3.3	0.5	0.7	1/4	1.1	0.8	-1/4
Labour market							
Employed persons	2.3	-0.0	0.3	1/4	-0.3	-0.3	-3/4
Unemployment rate (level)	3.2	3.5	3.5	3 1/2	3.9	3.8	4 1/4
Prices and wages							
Wages per standard man-year	6.5	5.0	4 1/2	5 1/2	3.5		3 3/4
Consumer price index	2.3	2.5	2.4	2 1/4	2.1	2.0	1 3/4
Export prices, traditional goods	1.0	-0.9	-1.3	-3/4	3.0	1.6	2
Import prices, traditional goods	1.3	-1.4	-0.9	-1/4	0.9	0.1	-1
Real price, dwellings	6.6	5.1	..	..	5.5		
Balance of payment							
Current balance (bill. NOK)	-16.3	6.3	7.5	-6	46.9	61.4	29
Current balance (per cent of GDP)	-1.5	0.6	0.6	-1/2	4.1	5.0	2 1/2
Memorandum items							
Household savings ratio	6.6	5.5	6.7	7 1/4	6.0	6.6	7 1/4
Money market rate (level)	5.7	6.0	..	6 1/2	4.5		4 1/2
Average borrowing rate (level)[3]	7.2	8.4	..	..	6.4		..
Crude oil price NOK (level) [4]	96	106	110	87	107	117	91
International market growth	6.3	4.7	..	..	5.9		..
Importweighted krone exchange rate (44 countries)[5]	2.2	-1.3	..		-0.5		-

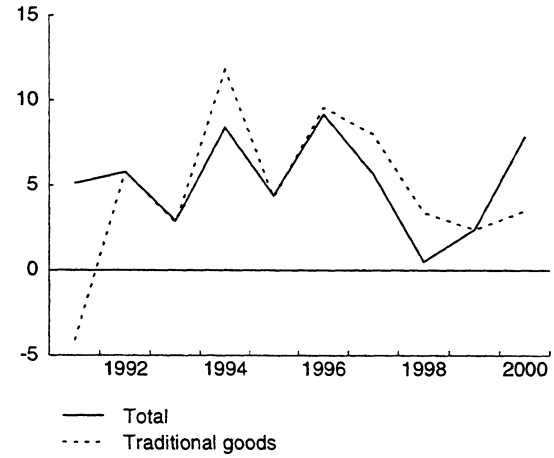
[1] Consumption in households and non-profit organizations + general government + gross fixed capital formation in mainland Norway.
[2] Change in stockbuilding. Per cent of GDP.
[3] Households' borrowing rate in private financial institutions.
[4] Average, Norwegian oil production.
[5] Increasing index implies depreciation.
Sources: Statistics Norway (SN), Ministry of Finance, Revidert nasjonalbudsjett 1999 (MoF), Norges Bank, Penger og kreditt 1999/1 (NB).

buted to a deterioration in manufacturing industry's competitive position, and preliminary figures indicate that Norwegian manufacturing lost market shares on export markets in 1998. So far this year the krone has appreciated, and in our model-based calculations we assume unchanged exchange rates from now until the end of 2000. As it appears that wage growth from 1998 to 1999 will also be higher in Norway than among our main trading partners, a further loss of market shares is likely in the period ahead. Growth in traditional exports is thus expected to be lower than the growth in trading partners' imports both in 1999 and 2000.

Monetary policy and developments in interest and exchange rates

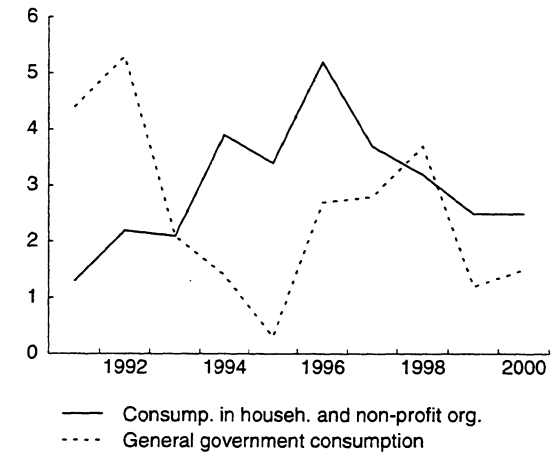
Since the beginning of 1993 and up to the end of the first quarter of 1998 monetary policy generally had an expansionary effect. To counter growing depreciation pressures on the Norwegian krone, Norges Bank doubled its key rates from the end of March to mid-August last year. Given this orientation of monetary policy, it was considered likely that growth in the Norwegian economy would over time be dampened. Money market rates rose to a level that was nearly 4 percentage points higher than corresponding ECU rates, and financial institutions' lending and de-

Exports
Percentage growth



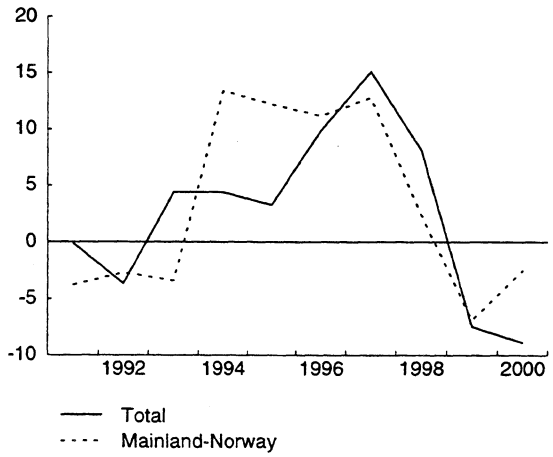
Source: Statistics Norway

Consumption
Percentage growth



Source: Statistics Norway

Gross fixed capital formation
Percentage growth



Source: Statistics Norway

posit rates shadowed movements in money market rates with a slight lag. At the end of 1998 the average lending rate in private financial institutions was a good 9.5 per cent, 3.5 percentage points higher than the level at end-1997. So far this year Norges Bank has lowered its key rates by a total of 1.5 percentage points. Money market rates have fallen by about the same margin, and approximately interest rates in private financial institutions are now 1 percentage points below the level at the beginning of the year.

In spite of Norges Bank's interest rate reductions, Norwegian money market rates are still nearly 4 percentage points higher than the level of corresponding euro rates. The interest rate differential between Norway and other countries is thus as high as in the period following the upward adjustment of Norwegian rates through the second and third quarters of last year. The exchange rate between the Norwegian krone and the ECU/euro, however, is now approximately back to the level prevailing in the period February/April last year, ie close to the "strong" end of the band around which the exchange rate should be stabilized, according to the existing guidelines. It is likely that the rise in oil prices during the last few months is an important reason for the swift and fairly substantial appreciation of the krone.

As in earlier quarterly reports, we assume that Norges Bank will in the period ahead reduce the interest rate differential against the euro in order to counter a further appreciation of the krone as the current account position gradually improves. However, because the central bank has repeatedly emphasized the flexibility of the Exchange Rate Regulation during the last five months, we have revised our views concerning how quickly interest rates will be reduced. The interpretation of the following sentence in the Regulation is considered particularly important: "In the event of significant changes in the exchange rate, monetary policy instruments will be oriented with a view to returning the exchange rate over time to its initial range". First, Norges Bank has stressed that the initial range should be considered a broadly defined central rate around which the krone exchange rate can fluctuate. Second, the central bank has indicated that changes in the exchange rate are only to be perceived as significant if they influence expectations concerning price and cost inflation in such a way that exchange rate changes become self-reinforcing. Third, the Bank has stated that in the event of significant exchange rate changes, the following factors will be emphasized: 1) that price and cost inflation should not exceed the level aimed at by euro countries, and 2) that monetary policy in itself shall not contribute to deflationary recessions.

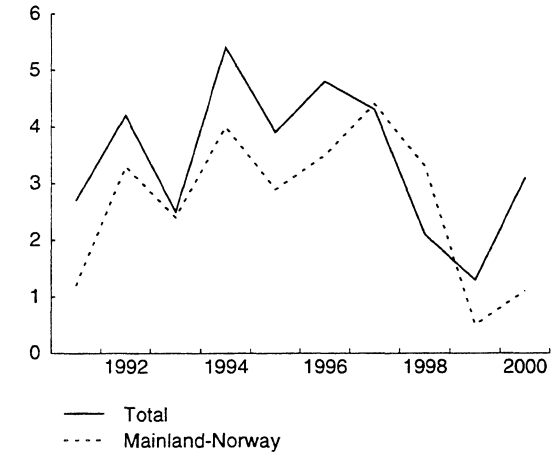
Both the increase in interest rates and the appreciation of the exchange rate have a contractionary effect on the Norwegian economy. Against this background, we consider it likely that Norges Bank will counter a further appreciation of the krone by lowering interest rates. It is still uncertain, however, how Norges Bank will operationalize its definition of "significant exchange rate changes", and this uncer-

tainty influences our assessment of the use of instruments. It is also uncertain how exchange market participants will respond to the Bank's description of its future pattern of behaviour and how they evaluate the outlook for Norway's external account. In the light of this and Norges Bank's emphasis on achieving price and cost inflation that does not exceed the level aimed at by euro countries, we have in this report assumed that Norwegian interest rates will decline more slowly this year than envisaged in Economic Survey 1/99. It is also assumed that it may take longer than expected earlier before the interest rate differential between Norway and the euro area is again on a par with the inflation differential. Against this background, we have now assumed that the Norwegian three-month rate will be about 4.5 per cent next year. This is expected to result in an average interest rate differential against the euro of nearly 1.5 percentage points in 2000, while the inflation differential is estimated at about half a percentage point. The projected path for money market rates in the period ahead will probably result in an increase in the average lending rate of private financial institutions of 1 percentage point from 1998 to 1999, and a decline of 2 percentage points next year, to a level of 6.4 per cent.

We have assumed that these movements in interest rates will be compatible with an approximately unchanged rate of exchange between the Norwegian krone and the euro in the period ahead. In such an event the krone will appreciate by 1.7 per cent against the ECU/euro from 1998 to 1999 following a depreciation of 5.5 per cent the previous year. If the rate of exchange between the euro and other currencies of importance to Norwegian imports also remains constant in the period ahead, the import-weighted krone exchange rate will appreciate by about 1.3 per cent from 1998 to 1999, and by 0.5 per cent next year. Due, in part, to the sharp depreciation of many Asian currencies against the ECU last year, this exchange rate index only depreciated by 2.2 per cent from 1997 to 1998. If the US dollar and pound sterling should gradually depreciate against the euro, this will in isolation contribute to a further appreciation of the import-weighted krone exchange rate. However, with the possibility of a rise in short US interest rates and perhaps a decline in the euro interest rate as well, this scenario must be considered less probable than earlier.

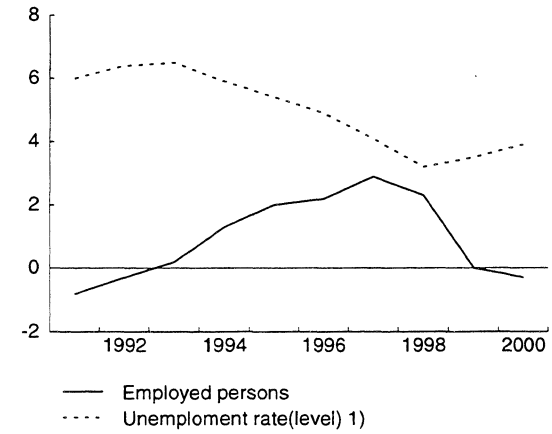
Prices for Norwegian merchandise imports from OECD countries, measured in foreign currency, increased by an estimated 1.5 per cent through the period 1996-1998. In these three years the import-weighted krone exchange rate depreciated by about the same margin, while prices for Norwegian imports of traditional goods rose by less than 0.5 per cent. The OECD has estimated that member countries' export prices will as a whole not increase to any extent in 1999, but will then rise by about 1 per cent in 2000. On the basis of this projection and the exchange rate assumptions described above, import prices for traditional goods are projected to decline by 1.4 per cent from 1998 to 1999, followed by a rise of 0.9 per cent next year.

Gross domestic product
Percentage growth



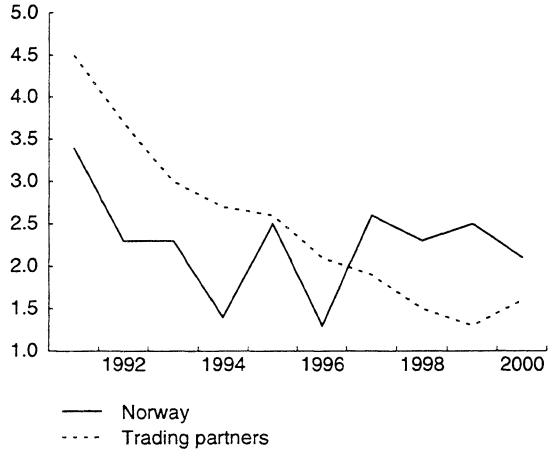
Source: Statistics Norway

Labour market
Percentage change



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

Consumer price indices
Percentage growth



Source: Statistics Norway

Moderate tightening of fiscal policy this year

In contrast to monetary policy, which until last autumn had an expansionary effect, fiscal policy has to some extent contributed to curbing growth in the Norwegian economy during this cyclical upturn. Measured by the Ministry of Finance's fiscal policy indicator, however, the tightening effect was reduced from one year to the next until end-1998. For 1999, the Government estimates in the Revised National Budget that the fiscal programme will contribute to a tightening equivalent to about 0.5 per cent of mainland GDP, slightly less than in the budget proposal of last autumn. The approved budget entails that indirect tax increases will make less of a contribution to price inflation this year than in 1998.

Our projections for 1999 are based on the Government's programme. All in all, this results in an estimated real growth in general government consumption, investment and transfers to households of a good 2 per cent. The estimates for next year are based on the assumption of unchanged real tax rates and an aggregate real growth in the three above-mentioned items that is slightly higher than the estimate for this year. Spending growth will thus be approximately on a par with the underlying trend rate of growth in mainland GDP.

Petroleum activities: lower investment, but gradually higher production

Developments in petroleum investment are of considerable importance to the Norwegian economy. In 1998, this investment corresponded to more than 8 per cent of mainland GDP. This investment is projected to decline by about 10 per cent in 1999 and by 25 per cent in 2000, i.e. a slightly smaller reduction both years compared with the development assumed by the Government in the Revised National Budget. The projected decline entails a negative demand impetus corresponding to about 0.8 per cent of mainland GDP this year and 1.9 per cent next year. We assume that the decline in both years will be strongest for import-intensive investment, entailing that the negative effects for the Norwegian economy will be slightly less than the calculations above would imply.

The Government's production limitations will contribute to a very moderate increase in petroleum production in 1999. In the calculations, the current production limitations are continued in 2000. The completion of a number of new fields, however, will give a substantial rise in production next year.

In the calculations in this report, it is assumed that crude oil prices will be somewhat lower in the second half of 1999 than in the last two months. On an annual basis, the spot price of Brent Blend is expected to be NOK 106 a barrel in 1999, NOK 10 above the average price for 1998 and NOK 10 below the price in April/May. In 2000, oil prices, measured in Norwegian kroner, are expected to be negligibly higher than this year.

Households

In the light of the rise in interest rates through 1998, growth in household consumption in the first quarter was remarkably strong. It is natural to view this as a sign that households – in line with our estimates and those of others – look upon the high level of interest rates as a temporary phenomenon. Our projections entail a decline in the average household lending rate in private financial institutions from over 9 per cent in the first quarter of 1999 to less than 6.5 per cent in the second half of next year. Since households have more debt than assets at floating rates, and the return on shares and bonds has not moved in step with lending rates, the change in interest rates entails a pronounced rise in households' net interest expenses from 1998 to 1999, and a decline from 1999 to 2000. The change in net interest expenses thereby contributes to curbing growth in household real disposable income this year, while it will push up income growth next year. Developments in real wages and employment will, irrespective of this, contribute to noticeably lower income growth both in 1999 and 2000 than in 1998.

From 1997 to 1998 household income increased at a considerably faster pace than consumption, and the saving ratio rose by about 1.5 percentage points. The saving ratio is projected to fall this year and then edge up next year, to a level close to the average for the period 1992-1998. This path entails that households allow consumption to fluctuate less than income through the period, which is in line with previous experience. Net lending will remain at a relatively high level through the period, and households' net assets will continue to increase at a faster pace their their income.

Declining investment in most sectors

Investment is expected to be the main factor behind the cyclical downturn. It appears that investment will fall in most sectors in mainland Norway as well as in the petroleum sector, and the prospect of sluggish economic developments can largely be ascribed to this timing. Investment in the economy as a whole is expected to be reduced by 7.5 per cent this year and by 8.9 per cent in 2000. In the mainland economy, manufacturing investment will probably fall sharply this year, a development supported by Statistics Norway's investment intentions survey. This survey provides far more uncertain indications of developments in 2000, but our calculations point to approximately zero growth from the previous year. Investment in private services is also expected to decline substantially in the period ahead.

According to the calculations, housing investment will decline by 4.1 per cent in 1999. The decline in interest rates and substantial rise in prices for existing dwellings as well as excess capacity in the construction industry are factors that may contribute to a marked increase in housing investment from 1999 to 2000. After reaching a very high level in the course of the previous two years, general government investment is expected to show a moderate decline this year and next.

Weak growth in the mainland economy in 1999, slightly higher in 2000

Mainland GDP is projected to move on a sluggish trend the remainder of 1999, with annual growth down to 0.5 per cent. The prospect of a decline in investment in many production sectors in the period ahead is the main driving force behind this, but traditional merchandise exports are also expected to be weak. It is thus primarily the level of activity in the construction sector and manufacturing industry that will be adversely affected, while output growth in service sectors will remain at a higher level. Value added in the petroleum production sector and ocean transport will probably increase at a faster pace from 1998 to 1999 than mainland GDP, entailing that total GDP may expand by 1.3 per cent.

Activity in the construction sector and manufacturing industry is also expected to be sluggish in 2000. However, slightly higher general government demand as well as a shift in investment demand to goods that are produced in Norway will probably contribute to a slightly smaller decline in these industries, entailing that mainland GDP will expand at a slightly faster pace than this year. In 2000, a sharp increase in petroleum production is expected to result in GDP growth of more than 3 per cent.

Labour market

The strong growth in employment in recent years has now come to a halt and the weak production trend will result in a slight decline in employment through the second half of 1999 and into 2000. The situation varies considerably, however, between individual sectors and reflects differences in production developments. The decline in employment is relatively substantial in manufacturing industry, particularly in the segment with extensive deliveries to the petroleum industry. The sluggish employment trend will contribute to reducing growth in the labour supply, measured by number of persons, in relation to the level implied by demographic factors. This will result in a very moderate rise in the labour supply in the period ahead, and unemployment will edge up. As an average for the year, the unemployment rate is now estimated at 3.5 per cent in 1999 and 3.9 per cent in 2000. As a result of a fairly high proportion of foreign workers in such industries as construction, there is considerable uncertainty associated with developments in the labour supply in the period ahead. If a decline in employment particularly affects foreign labour, this will curb the impact on unemployment. Another element of uncertainty is related to labour force participation among older workers, partly as a result of the expansion of the early retirement scheme.

Price and wage inflation relatively high, but will decline next year

Compared with our last quarterly report, the projection for wage growth has been revised downwards this year and next. This may largely be ascribed to this year's wage settlements, where pay increases were slightly lower than assumed earlier. This in turn is related to the report submitted by the Arntsen Committee, where most of the large labour market organizations agreed that pay increases should be limited so that annual wage growth could be reduced to approximately 4.5 per cent. So far, this approach appears to have been virtually fully accepted in the wage settlements. Inasmuch as the wage carry-over into 1999, according to the Technical Committee on Income Settlements, was a good 3 per cent, and wage drift for many groups is normally considerable, this entailed low pay increases. Our projection for wage growth of as much as 5 per cent is related to the fact that "approximately" can quickly entail a few extra tenths of a point and that some of the large groups of employees who are not covered by the wage settlements may record slightly higher wage growth. Moreover, it is conceivable that wage drift for some groups that were covered by the settlements will be higher than assumed.

The moderate wage *settlements* in 1999 also point to relatively moderate wage *growth* in 2000. First, price inflation will be lower than it would otherwise have been and second, the carry-over into 2000 will probably be considerably lower than into 1999.

There is one more working day in 1999 than in 1998, indicating that wages per normal man-year will on an annual basis rise more than wages per man-hour. A continuation of the trend towards increased paid absences, however, may counteract this effect. In 2000, on the other hand, there will be two fewer working days than this year, a factor which may contribute to noticeably higher wage growth measured per man-hour than measured per normal man-year. The growth in wages per normal man-year is estimated at 3.5 per cent in 2000.

In April, the consumer price index was 2.5 per cent higher than in the same month one year earlier. The rate of increase in the consumer price index is expected to remain at approximately this level the remainder of the year. In 2000, the rise in import prices for consumption-related goods is expected to remain low which, combined with higher productivity gains and lower wage growth, will contribute to reducing the rate of price inflation.

Improvement in the current account – particularly in 2000

In 1998, Norway recorded a current account deficit for the first time in the 1990s. This year the current account is again expected to show a surplus, with an improvement of about NOK 23 billion compared with 1998. A further improvement is expected in 2000, with the surplus reaching nearly NOK 47 billion. The improvement in the current account balance is primarily a result of the improvement in the balance of trade: Higher oil prices and increased oil production will boost export revenues from petroleum activities, while reduced investment in the petroleum sector as well as in other production sectors will contribute to low import growth. The interest and transfers balance will probably also make a positive contribution to the current account both in 1999 and next year.

National accounts: Final expenditure and gross domestic product. 1997-1999
Seasonally adjusted. At fixed 1996 prices. Million kroner

	97.1	97.2	97.3	97.4	98.1	98.2	98.3	98.4	99.1
Final consumption exp. of housh. and NPISHs[1]	124118	126665	127141	129231	129129	131463	131956	130978	134173
Household final consumption expenditure	117949	120366	120877	122963	122847	125283	125782	124840	128001
Goods	66965	68133	68673	70167	69732	71991	72365	70719	73480
Services	49761	50560	50541	51178	51309	51753	51821	52401	52846
Direct purchases abroad by resident households	5053	5501	5409	5454	5582	5406	5634	5637	5767
-Direct purchases by non-residents	-3830	-3827	-3746	-3835	-3775	-3867	-4038	-3917	-4092
Final consumption exp. of NPISHs	6168	6299	6264	6268	6281	6180	6174	6138	6171
Final consump. exp. of general government	52842	52846	53060	53860	54797	54826	55250	55566	55503
Final consump. exp. of central government	21070	20861	21007	21324	21863	21687	21844	21965	22145
Central government, civilian	15328	15174	15309	15527	15991	15894	16016	16088	16307
Central government, defence	5742	5687	5697	5797	5873	5792	5828	5876	5838
Final consump. exp. of local government	31772	31985	32053	32536	32933	33139	33406	33601	33358
Gross fixed capital formation	60720	63115	61123	63523	65348	64912	67698	70903	63496
Petroleum activities	13231	16406	14207	15478	15008	18299	19078	22184	17334
Ocean transport	3088	2390	2778	1978	4340	1485	2634	2442	1236
Mainland Norway	44401	44319	44138	46067	46001	45128	45986	46277	44926
Mainland Norway exp. of general government	34347	34617	35421	37227	36766	34837	36835	36417	34827
Manufacturing and mining	4437	4929	4505	5260	4571	4909	5753	5182	4262
Production of other goods	4073	3918	4132	3764	4335	3936	4011	3694	3751
Dwellings	7131	7427	7421	7471	7677	7516	7022	7228	7052
Other services	18706	18343	19364	20734	20183	18476	20049	20312	19762
General government	10053	9703	8717	8839	9235	10291	9150	9860	10100
Changes in stocks and stat. discrepancies	4118	2474	5708	6723	6219	8576	6847	6702	7584
Gross capital formation	64838	65589	66831	70246	71567	73488	74544	77605	71080
Final domestic use of goods and services	241798	245100	247031	253338	255492	259778	261750	264150	260756
Final demand from mainland Norway[2]	221361	223830	224338	229158	229926	231417	233191	232821	234602
Final demand from general government[3]	62896	62549	61776	62699	64031	65117	64401	65427	65602
Total exports	105316	112070	110138	110583	114748	109651	106228	109406	109221
Traditional goods	39592	42951	43209	42777	44250	42482	43599	43593	43633
Crude oil and natural gas	38256	41942	39203	40553	41569	38459	35782	38097	37713
Ships and platforms	3136	2635	2300	2133	3519	3342	1825	2032	2811
Services	24332	24543	25426	25120	25409	25369	25022	25684	25063
Total use of goods and services	347114	357170	357169	363920	370240	369429	367978	373556	369976
Total imports	87810	92533	91261	94139	100794	97989	97788	103364	96864
Traditional goods	57520	60053	59853	63259	65468	66175	65929	66899	67108
Crude oil	534	315	437	348	586	457	490	437	396
Ships and oil platforms	7228	6682	5770	4587	8501	5081	5237	9568	2585
Services	22527	25484	25202	25946	26239	26276	26132	26460	26775
Gross domestic product[4]	259305	264637	265907	269781	269446	271439	270190	270192	273112
Mainland Norway (market prices)	213164	215404	218832	221755	221738	224913	225703	224655	227510
Petroleum activities and ocean transport	46140	49233	47075	48026	47708	46526	44488	45536	45602
Mainland Norway (basic prices)	185073	186421	189714	191863	192868	195321	194981	196188	199119
Mainland Norway ex. general government	145200	146626	149605	151268	151995	154477	153803	154712	158031
Manufacturing and mining	28447	29046	29529	29880	29650	30201	30306	29974	30382
Production of other goods	19727	20756	21409	21185	21074	21170	21744	21434	21518
Service industries	97026	96824	98666	100203	101270	103106	101752	103304	106131
General government	39873	39795	40110	40595	40873	40844	41178	41476	41089
Correction items	28092	28982	29117	29892	28870	29592	30722	28468	28391

National accounts: Final expenditure and gross domestic product. 1997-1999
Seasonally adjusted. At fixed 1996 prices. Percentage volume change from previous period

	97.1	97.2	97.3	97.4	98.1	98.2	98.3	98.4	99.1
Final consumption exp. of housh. and NPISHs[1]	-0.0	2.1	0.4	1.6	-0.1	1.8	0.4	-0.7	2.4
Household final consumption expenditure	-0.1	2.0	0.4	1.7	-0.1	2.0	0.4	-0.7	2.5
Goods	-0.3	1.7	0.8	2.2	-0.6	3.2	0.5	-2.3	3.9
Services	0.3	1.6	-0.0	1.3	0.3	0.9	0.1	1.1	0.8
Direct purchases abroad by resident households	2.3	8.9	-1.7	0.8	2.3	-3.2	4.2	0.1	2.3
-Direct purchases by non-residents	2.3	-0.1	-2.1	2.4	-1.6	2.4	4.4	-3.0	4.5
Final consumption exp. of NPISHs	0.2	2.1	-0.6	0.1	0.2	-1.6	-0.1	-0.6	0.5
Final consump. exp. of general government	1.0	0.0	0.4	1.5	1.7	0.1	0.8	0.6	-0.1
Final consump. exp. of central government	1.4	-1.0	0.7	1.5	2.5	-0.8	0.7	0.6	0.8
Central government, civilian	0.5	-1.0	0.9	1.4	3.0	-0.6	0.8	0.5	1.4
Central government, defence	3.9	-1.0	0.2	1.7	1.3	-1.4	0.6	0.8	-0.7
Final consump. exp. of local government	0.7	0.7	0.2	1.5	1.2	0.6	0.8	0.6	-0.7
Gross fixed capital formation	2.3	3.9	-3.2	3.9	2.9	-0.7	4.3	4.7	-10.4
Petroleum activities	-15.4	24.0	-13.4	8.9	-3.0	21.9	4.3	16.3	-21.9
Ocean transport	39.5	-22.6	16.2	-28.8	119.4	-65.8	77.4	-7.3	-49.4
Mainland Norway	7.0	-0.2	-0.4	4.4	-0.1	-1.9	1.9	0.6	-2.9
Mainland Norway exp. of general government	3.9	0.8	2.3	5.1	-1.2	-5.2	5.7	-1.1	-4.4
Manufacturing and mining	-2.2	11.1	-8.6	16.8	-13.1	7.4	17.2	-9.9	-17.8
Production of other goods	5.3	-3.8	5.5	-8.9	15.2	-9.2	1.9	-7.9	1.5
Dwellings	3.2	4.1	-0.1	0.7	2.8	-2.1	-6.6	2.9	-2.4
Other services	5.4	-1.9	5.6	7.1	-2.7	-8.5	8.5	1.3	-2.7
General government	19.1	-3.5	-10.2	1.4	4.5	11.4	-11.1	7.8	2.4
Changes in stocks and stat. discrepancies	73.6	-39.9	130.7	17.8	-7.5	37.9	-20.2	-2.1	13.2
Gross capital formation	5.0	1.2	1.9	5.1	1.9	2.7	1.4	4.1	-8.4
Final domestic use of goods and services	1.5	1.4	0.8	2.6	0.9	1.7	0.8	0.9	-1.3
Final demand from mainland Norway[2]	1.5	1.1	0.2	2.1	0.3	0.6	0.8	-0.2	0.8
Final demand from general government[3]	3.5	-0.6	-1.2	1.5	2.1	1.7	-1.1	1.6	0.3
Total exports	-1.5	6.4	-1.7	0.4	3.8	-4.4	-3.1	3.0	-0.2
Traditional goods	-0.3	8.5	0.6	-1.0	3.4	-4.0	2.6	-0.0	0.1
Crude oil and natural gas	-4.3	9.6	-6.5	3.4	2.5	-7.5	-7.0	6.5	-1.0
Ships and platforms	4.9	-16.0	-12.7	-7.2	65.0	-5.0	-45.4	11.3	38.3
Services	0.4	0.9	3.6	-1.2	1.2	-0.2	-1.4	2.6	-2.4
Total use of goods and services	0.6	2.9	-0.0	1.9	1.7	-0.2	-0.4	1.5	-1.0
Total imports	-0.8	5.4	-1.4	3.2	7.1	-2.8	-0.2	5.7	-6.3
Traditional goods	-0.5	4.4	-0.3	5.7	3.5	1.1	-0.4	1.5	0.3
Crude oil	-12.9	-41.1	38.8	-20.4	68.5	-22.0	7.2	-10.9	-9.2
Ships and oil platforms	-7.2	-7.6	-13.6	-20.5	85.3	-40.2	3.1	82.7	-73.0
Services	1.0	13.1	-1.1	3.0	1.1	0.1	-0.5	1.3	1.2
Gross domestic product[4]	1.1	2.1	0.5	1.5	-0.1	0.7	-0.5	0.0	1.1
Mainland Norway (market prices)	1.2	1.1	1.6	1.3	-0.0	1.4	0.4	-0.5	1.3
Petroleum activities and ocean transport	0.3	6.7	-4.4	2.0	-0.7	-2.5	-4.4	2.4	0.1
Mainland Norway (basic prices)	1.1	0.7	1.8	1.1	0.5	1.3	-0.2	0.6	1.5
Mainland Norway ex. general government	1.3	1.0	2.0	1.1	0.5	1.6	-0.4	0.6	2.1
Manufacturing and mining	-0.4	2.1	1.7	1.2	-0.8	1.9	0.4	-1.1	1.4
Production of other goods	1.6	5.2	3.1	-1.1	-0.5	0.5	2.7	-1.4	0.4
Service industries	1.7	-0.2	1.9	1.6	1.1	1.8	-1.3	1.5	2.7
General government	0.5	-0.2	0.8	1.2	0.7	-0.1	0.8	0.7	-0.9
Correction items	2.0	3.2	0.5	2.7	-3.4	2.5	3.8	-7.3	-0.3

National accounts: Final expenditure and gross domestic product. 1997-1999
Seasonally adjusted. Price indices. 1996 = 100

	97.1	97.2	97.3	97.4	98.1	98.2	98.3	98.4	99.1
Final consumption exp. of households and NPISHs[1]	101.7	102.3	102.6	103.2	103.8	104.9	105.4	106.1	106.6
Final consumption exp. of general government	101.3	102.3	103.4	103.5	104.3	106.6	109.3	110.8	110.5
Gross fixed capital formation	100.1	101.7	103.4	103.3	105.2	106.6	107.4	106.6	106.5
Mainland Norway	99.8	100.2	101.7	101.8	103.1	105.2	106.0	106.2	105.7
Final domestic use of goods and services	100.8	102.9	102.7	103.1	104.6	105.7	106.6	107.2	107.2
Final demand from mainland Norway[2]	101.2	101.9	102.6	103.0	103.8	105.4	106.4	107.2	107.4
Total exports	103.3	98.3	104.8	103.3	95.9	95.2	94.4	90.4	89.9
Traditional goods	99.0	97.4	102.2	102.7	101.4	102.2	101.5	100.8	98.7
Total use of goods and services	101.6	101.4	103.4	103.2	101.9	102.6	103.1	102.3	102.1
Total imports	99.0	100.5	103.9	101.9	103.2	103.4	103.4	101.5	100.8
Traditional goods	97.5	98.1	101.2	99.2	100.7	100.4	101.2	98.9	97.5
Gross domestic product	102.4	101.8	103.2	103.6	101.4	102.3	102.9	102.6	102.6
Mainland Norway (market prices)	101.1	102.6	102.8	104.3	104.6	106.5	107.9	109.3	108.6

National accounts: Final expenditure and gross domestic product. 1997-1999
Seasonally adjusted. Price indices. Percentage change from previous period

	97.1	97.2	97.3	97.4	98.1	98.2	98.3	98.4	99.1
Final consumption exp. of households and NPISHs[1]	0.6	0.6	0.3	0.6	0.6	1.1	0.5	0.6	0.5
Final consumption exp. of general government	-0.1	1.0	1.1	0.1	0.8	2.1	2.6	1.4	-0.3
Gross fixed capital formation	-0.8	1.6	1.7	-0.2	1.9	1.3	0.8	-0.8	-0.1
Mainland Norway	-1.1	0.4	1.5	0.1	1.3	2.1	0.7	0.2	-0.4
Final domestic use of goods and services	-0.6	2.1	-0.1	0.4	1.4	1.0	0.8	0.6	0.1
Final demand from mainland Norway[2]	0.1	0.6	0.7	0.4	0.8	1.5	1.0	0.7	0.1
Total exports	-1.4	-4.8	6.6	-1.4	-7.2	-0.7	-0.8	-4.2	-0.6
Traditional goods	-2.3	-1.6	4.9	0.5	-1.3	0.8	-0.7	-0.7	-2.0
Total use of goods and services	-0.9	-0.1	1.9	-0.2	-1.2	0.7	0.5	-0.8	-0.1
Total imports	-1.7	1.5	3.3	-1.8	1.3	0.2	-0.1	-1.8	-0.7
Traditional goods	-2.7	0.7	3.1	-1.9	1.4	-0.3	0.8	-2.2	-1.4
Gross domestic product	-0.6	-0.6	1.4	0.4	-2.1	0.8	0.7	-0.4	0.0
Mainland Norway (market prices)	-1.0	1.5	0.2	1.4	0.3	1.8	1.4	1.2	-0.6

Technical comments on the quarterly figures

Footnotes:
[1] NPISHs: Non-profit inistitutions serving households.
[2] Defined as total final consumption expenditure plus gross fixed capital formation in mainland Norway.
[3] Defined as general government final consumption expenditure plus gross fixed capital formation.
[4] Gross domestic product is measured at market prices, while value added by industry is measured at basic prices.

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

Base year and chain linking of the data: In the quarterly national accounts (QNA) all volume measures are currently calculated at constant 1996 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 1996 as the base year (common year of recalculation). The recalculation of prices is carried out at the sectoral level of the quarterly national accounts.
Seasonal adjustment: Beginning with this publication, seasonal adjustment of QNA figures is based on X12 ARIMA. In emplementing the method, the sum of a seasonally adjusted series over the four quarters of a year is not constrained to equal the corresponding, (unadjusted) annual figure.

Value added and household income: a regional perspective

Hege Marie Edvardsen

This article aims to examine the regional distribution of gross value added (GVA), and the regional distribution of household income (primary and disposable income). A main question is whether value added and household income follow the same pattern when it comes to the regional distribution. We will see that the regional distribution of value added depends, among other factors, upon the regions' composition of industries and workers' productivity. This is compared with the regional distribution of the income of households. We find that regions with a relatively high share of total GVA also have a relatively high share of total household income.

Introduction

The basis for this article is an earlier published document on the Norwegian regional accounts for 1993, Edvardsen (1998), and an article published in Statistics Norway's' Weekly Bulletin, Sørensen (1998), on the regional distribution of household income. The calculations of income are based on the figures of the national accounts for 1993-1996. With the help of tax return accounts, data from the National Insurance Administration, and population figures, the income of households was regionalised. This regional distribution will be compared with the regional distribution of value added, as given in the regional accounts. The regional level is Statistics Norway's' REGIN 2. For certain purposes this classification is accepted when reporting figures to Eurostat, and it is comparable to the NUTS2 classification.

The national accounts figures are not yet regionalised for any of the years after 1993. The analyses will therefore be limited to this particular accounting year. Even though the figures are not up-to-date, they may still be of interest, since they may provide important information on the allocation of certain measures of welfare.

Value added

In the national accounts the value added of an industry emerges as the difference between output and intermediate consumption. Value added is measured at basic prices, which is the amount the producer is left with after taxes are withdrawn and subsidies received. In other words: Value added may be viewed as the total result of the production process.

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Value added = Output - Intermediate consumption
= Compensation of employees
+ Consumption of fixed capital
+ Operating surplus
+ net other taxes on production

Gross domestic product (GDP) emerges when the amount of total net product taxes (VAT, taxes on tobacco, etc.) is added to the value added of the different industries. A correction item is the FISIM, i.e. Financial Intermediate Services Indirectly Measured. FISIM is the interest margin of the financial institutions. It is not allocated to various uses, but is recorded as intermediate consumption, a convention that might be changed if international agreement is reached.

Gross domestic product is measured at purchasers' prices, and similarly for regional gross domestic product (RGDP). In the Norwegian regional accounts of 1993, net taxes on production and FISIM are allocated to the regions according to the region's total GVA. This implies that the regional distribution of value added and of gross domestic product is the same.

REGIN 2:

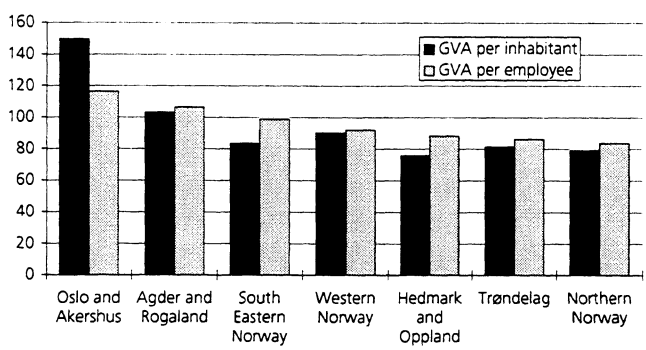
Region 1 - Oslo and Akershus	Oslo and Akershus
Region 2 - South Eastern Norway	Østfold, Buskerud, Vestfold and Telemark
Region 3 - Hedemark and Oppland	Hedemark and Oppland
Region 4 - Agder and Rogaland	Aust-Agder, Vest-Agder and Rogaland
Region 5 - Western Norway	Hordaland, Møre og Romsdal and Sogn og fjordane
Region 6 - Trøndelag	Sør-Trøndelag and Nord-Trøndelag
Region 7 - Northern Norway	Nordland, Troms and Finnmark

Table 1. Main results from the Norwegian Regional Accounts 1993. Ordinary regions

Region	Inhabitants	Employment	Regional Gross Domestic Product (RGDP)
		(1000 persons)	(mill. Nkr)
The whole country	4 311 991	2025	722 527
Oslo and Akershus	902 883	546	226 581
South Eastern Norway	830 129	330	116 272
Hedmark and Oppland	370 343	150	47 086
Agder and Rogaland	595 362	271	102 985
Vestlandet	765 190	352	115 723
Trøndelag	382 125	170	52 182
Nord-Norge	465 961	207	61 698

	RGDP per inhabitant		RGDP per employee	
	Nkr per inhabitant	Index, the whole country =100	Nkr per employee	Index, the whole country=100
The whole country	167 562	100	356 856	100
Oslo and Akershus	250 953	150	415 288	116
South Eastern Norway	140 065	84	213 109	99
Hedmark and Oppland	127 142	76	86 301	88
Agder and Rogaland	172 979	103	188 755	106
Vestlandet	151 234	90	212 102	92
Trøndelag	136 558	81	95 641	86
Nord-Norge	132 410	79	113 083	84

Figure 1. GVA per inhabitant and per employee. Norwegian regions 1993. Index, the whole country, excluding the extra-region = 100



The figures for RGDP are shown in table 1.

In the regional accounts, employment is registered by place of work. Commuting will therefore result in a difference between GVA per capita and GVA per employee. This is why the index of GVA per employee is lower than the index per capita for Oslo and Akershus. For all the other regions the opposite is true. In spite of this, the capital region of Oslo and Akershus is 16 per cent above the country average in the index of GVA per employee.

The composition of industries

An employee's contribution to GVA depends, among other factors, on the degree of capital intensity in the industry, and the employee's own productivity. The contribution to GVA will be higher, the more capital the industry applies in its production. The extreme example is oil-related industries[1]. In general, regions with a high concentration of capital-intensive industries have a high GVA per employee.

On average, a person employed in agricultural industries contributes Nkr 199 1000 to GVA, whereas a person employed in manufacturing industries contributes Nkr 346 600 to total GVA. A person employed in services contributes Nkr 319 900, on average. Such differences in structure can explain much of the variations in the regions' GVA per employee, since the industry mix differs between the regions.

Still, if we take such structural differences into account, some differences in the regions' GVA per employee remain. Such differences may roughly be viewed as regional differences in employees' productivity. Figure 2 shows indices per employee in the main economic activities. The whole country is set 100.

1 The main activities connected to oil and gas extraction on the Norwegian Continental Shelf are allocated to a constructed extra-region. The extra-region also cover the activity on Svalbard, Jan Mayen, and other activity abroad.

Figure 2. GVA per employee in main activities. Norwegian regions 1993. Index, the whole country = 100

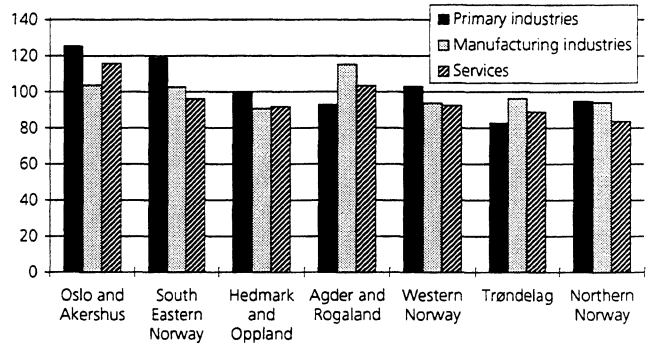
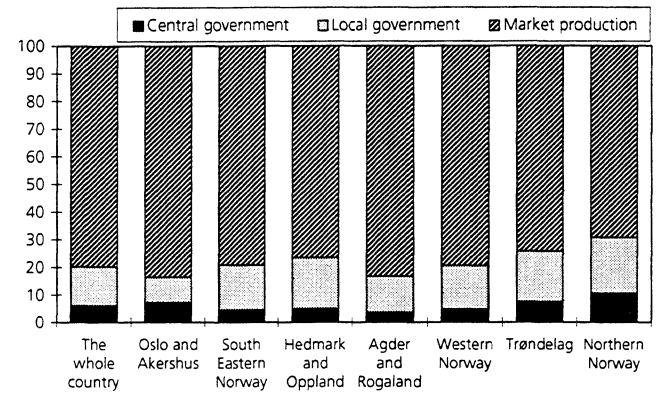


Figure 3. The composition of GVA. Norwegian regions 1993



Altogether we see that it is only Trøndelag and Northern Norway that do not exceed the country average for at least one of the main industries.

Public production of most importance in Northern Norway

Not only the composition of industries varies from region to region. Also the share of total production and GVA that are produced by the government varies. Each region's total GVA may be divided by category. We then distinguish between production for own final use, market production and non-market production of non-profit institutions serving households, non-market production of local government, and non-market production of central government.

Water supply and public sewage and refuse disposal services are considered market production. Production for own final use is mainly the production of housing services, but also the value of own production such as hunting and fishing for own use, etc., are included.

The production of housing services for owner-occupiers is imputed in the national accounts. The imputed services are estimated from market rents paid by tenants for comparable dwellings. The non-market production of local and central government is valued by the product costs: the sum of employment costs, intermediate production, capital consumption and net taxes. The operating surplus is assumed to be zero (non-profit). Figure 3 illustrates the importance of the government sector for the regions' total GVA. As a simplification, "market production" refers to the sum of the categories market production and non-market production of non-profit institutions serving households and production for own final use.

Measured this way, the central government contributes 6 per cent to total GVA, excluding the extra-region. Local government has 14 per cent of total GVA; while the remaining 80 per cent is classified as "market production".

The various regions deviate from this average, particularly the northern region. Central and local government contribute 30 per cent of total GVA in Northern Norway. For Oslo and Akershus is the corresponding share 16 per cent, as for Agder and Rogaland. This is in contrast to the fact that central government is highly centralised in the capital area, and in the oil districts of Agder and Rogaland.

Highest income in Oslo and Akershus

Earlier calculations of household income revealed that Oslo and Akershus in the period 1993-1996 had a relatively large share of household disposable income compared with the share of total population. For 1993, which is the year of primary interest here, Oslo/Akershus was the only region above the country average for disposable income. Measured per inhabitant we find South-Eastern Norway, Agder and Rogaland and Western Norway just below the country average. The lowest levels for household disposable income were found for Trøndelag, Hedmark and Oppland and for Northern Norway. The variations in disposable income are primarily due to the regional variations in primary income. Earned income accounts for approximately 80-85 per cent of households' total income, and measured per employee, earned income varies between the different industries. This implies that the primary income of households reflects one side of the regions' economic base.

The primary income of households also covers property income received minus property income payable by resident households. For the year 1996, Oslo and Akershus and Western Norway were the only regions with positive net property income. In the period 1993- 1996, interest rates declined in Norway, and this has reduced interest costs payable for households in all regions. For Oslo and Akershus, the decline in interest rates had a larger effect in this region because households had relatively more debt than households had in other regions. None of the regions had positive net property income for households in 1993.

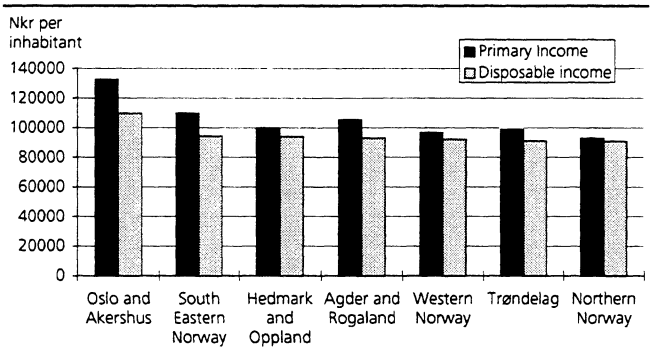
The change in the method for calculating the operating surplus from housing services (see separate box) had some, albeit small impact on the figures. The mid-region of Hedmark and Oppland and Trøndelag are still found on the

Table 2. The income of households 1993, per inhabitant and per person over the age of 17. Index, the whole country = 100

	Per inhabitant		
	Primary income	Disposable income	Property income
The whole country	100	100	100
Oslo and Akershus	123	114	127
South Eastern Norway	92	98	92
Hedmark and Oppland	86	94	92
Agder and Rogaland	102	98	97
Vestlandet	98	96	96
Trøndelag	91	94	94
Nord-Norge	90	96	85

	Per person over the age of 17	
	Primary income	Disposable income
The whole country	100	100
Oslo and Akershus	121	112
South Eastern Norway	91	96
Hedmark and Oppland	84	92
Agder and Rogaland	105	102
Vestlandet	99	98
Trøndelag	92	95
Nord-Norge	90	96

Figure 4.Income of households. Norwegian regions 1993. Nkr per inhabitant



bottom list of well-off regions, measured by income. Whereas Trøndelag in the earlier calculations was found to have the lowest disposable income by person, it is now Hedmark and Oppland. The highest figures are still found for the capital region of Oslo and Akershus. The oil-related-region of Agder and Rogaland comes next.

Table 2 shows indices for the household income with the whole country set at 100. There are indices per person, and per person over the age of 17; regional differences in the age structure are the main explanation for differences in these groups. Regions with relatively many young people, under the age of 17 have a higher index for household income per person over the age of 17, than the index per person.

The primary income of households may illustrate households' own ability to produce income, while the regional allocation of disposable income gives the result after taxes are paid and transfers received. The regional distribution of disposable income may, in other words, be viewed as a policy output. When comparing the indices in table 2, we see that the ranking between the different regions may vary some, with the exception of the regions of Oslo and Rogaland where we find the highest indices. Looking at the distribution of household income per person over the age of 17, we find that these regions are the only ones above the country average.

In general we find the gap between the highest and the lowest index score smallest for disposable income. The maximum gap between highest and lowest score is found for property income. In other words, property income is more centralised than other types of household income.

Conclusions

Regions' contribution to total gross value added depends, among other factors, on the economic base of a region, and the region's comparative advantages: The productivity of its employees, and the stock of capital. In general, industries that are capital-intensive in production contribute more to the total value added of the country than industries that require less capital in their production. Differences in the indices for value added per employee may roughly illustrate differences in the workers' productivity. By this measure industries in agriculture are most efficient in

Regional accounts

Regional accounts are a regional specification of the corresponding national accounts. The first regionalisation of the national accounts was for the accounting year 1965, and it was carried out in 1970. Since then regional accounts have been drawn up for the accounting years 1973, 1976, 1980, 1983, 1986, 1990, 1992 and 1993. In 1995 the main revision of the Norwegian national accounts was finished, and the methods recommended in ESA 1995 adopted. The regional accounts of 1992 and 1993 were compiled on the basis of the revised figures.

The regional accounts are compiled with the help of a system of distribution keys, which allocate the flows of the total economy to the regions. As a basis for such distribution keys, industry-related statistics are used as far as possible. If such statistics were not available, certain simplifications were made e.g. the use of indicators, as closely related to the desired variable as possible, to distribute production etc. to the regions. If there are no data for intermediate consumption, it is allocated proportionately with production.

The general principle for location, "the residence principle", is that all production and intermediate consumption should be allocated to the region where the producer is resident. If a firm has local kinds of activity units (LKAUs) in different regions, the value added should be allocated to the region where the LKAU is resident. The same principle is applied to the allocation of gross fixed capital formation (GFCF): Allocation to the region where the investment takes place.

For most industries the application of the residence principle gives an unambiguous regional distribution. There are some exceptions, however, where the practical implementation of the principle may be discussed. We will below briefly discuss how the residence principle is taken into account for some of these exceptions. For more information on the Norwegian regional accounts of 1993, see Edvardsen (1998).

Fishing

Regionalisation of the production activity is not obvious when it comes to fishing, since the activity takes place on the continental shelf outside the ordinary counties. At county-level the place of landing the fish may often differ from the resident location of the fishing vessel. We have allocated according to the registered county of the vessels. In this way the residence principle as stated above is followed. The problem is of less importance on the regional level in which we are operating, with the 19 ordinary counties adding up to 7 regions.

Construction

Due to the temporary nature of the construction sites, the registration in Statistics Norway's central register of establishments may be insufficient. To allocate the production etc. according to the residence principle a two-step method is applied: Production is, in the first step, allocated in accordance with the information in the central register of establishments. Gross fixed capital investments are in the same step calculated for all industries. In step two we impute a special commodity which redistributes the production according to where it actually was used, as given by the GFCF figures.

Transport

The location of the production may be considered rather difficult for transport industries. For air-traffic and railway transport the GVA is allocated to the regions with the help of traffic indicators and wage shares. We consider this to be in accordance with the ESA principles. For ocean transport the ESA principles state that the GVA should be allocated to the regions where the main harbour is located. When such a main harbour is not found within any of the inland regions, the GVA should be allocated according to wage shares. This pattern has been followed in the Norwegian regional accounts of 1993. As a result, the capital county Oslo has a large share of the total production, intermediate production and employment in these industries.

Hydropower

In the main revision of the national accounts, the hydropower industry was divided in two: Production and distribution of electricity. For the regional accounts of 1992 and 1993 the allocation has followed the same pattern. Production of electricity has been allocated to the regions according to the production sites, while the distribution was allocated according to wage shares.

South Eastern Norway. Agder and Rogaland have the highest indices for value added per employee in manufacturing, while Oslo and Akershus have the highest score in services.

Government production (local and central government) and its contribution to total GVA are measured by the total costs. Its importance varies between the regions: In Northern Norway government production accounts for approximately 30 per cent of the total GVA of the region. For Oslo and Akershus the corresponding share is 16 per cent.

The disposable income of households was highest for Oslo and Akershus, and lowest for Hedmark and Oppland and for Trøndelag. Still, the regional distribution of household income is quite homogeneous, varying between 112 and 95, with the whole country set at 100. The indices for gross value added per employee had variations from 116-84. In other words: the regional distribution of household disposable income varies much less than the regional distribution of GVA per employee.

The regional distribution of net property income showed a more centralised tendency and a larger gap for the index per inhabitant: 127-85, with the country average set at 100.

Household accounts, an overview of the calculations

The figures in this article are a result of a pilot project on the regionalisation of the household income. Results from the project were earlier published in Weekly Bulletin 42/98 from Statistics Norway, and in Røstadsand (1998). A top-down method was applied when regionalising the figures, to ensure consistency with the national accounts: Tax return accounts have been merged with data on population and data from the National Insurance Administration, in order to distribute the national accounts' figures among the regions.

The distribution of the operating surplus from housing services (produced for own consumption by owner-occupiers) differs from earlier accounts. Tax return accounts were used to regionalise this component of the income. In the new calculations we have used the regional distribution from the regional accounts directly, to facilitate comparison between the regional distribution of household income, and the regional distribution of production, intermediate production and value added. For the time being, the last regional accounts are for the accounting year 1993. This method has therefore not been applied to the distribution of household income for the years 1994- 1996.

The institutional sector households

A household is an institutional unit. It is well defined in the ESA (1995) and in Eurostat (1996). The ESA states that a resident unit is regarded as constituting an institutional unit if it enjoys autonomy in decision-making, and that is has-or can compile if required-a complete set of accounts. It also a states that a household always enjoys autonomy of its decision-making in respect to consumption, although it may not always keep a complete set of accounts.

Households as consumers are defined as a "small group of persons who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food. The criteria of the existence of family and emotional ties may be added." The household sector also includes groups of individuals such as persons living permanently in institutions; long-term patients in hospitals, prisoners serving long sentences and elderly persons living permanently in retirement homes. The production of goods and services by unincorporated enterprises is also included in the household sector. Such enterprises are owned by households, and have no assets or autonomy of decision-making separate from those of their owner. Non-profit institutions serving households are not included in our calculations, although they are considered a part of the household sector.

Primary income

" Primary income is the compensation of employees received plus mixed income (or the operating surplus from their own-account production of housing services) of resident households, plus property income received minus property income payable by resident households. "(Eurostat 1995, p.8). The term "mixed income" is used when the operating surplus also includes an element of compensation to the sole-owner. The operating surplus is defined as in box 1.

Primary income = Operating surplus/Mixed income
+ Compensation of employees
+ Net property income

Disposable income

Disposable income is the balancing item of the secondary distribution of income. The starting point is the balancing item of the primary distribution of income, primary income. To the primary income are added social benefits in kind and other current transfers. Taxes on income and other current taxes are deducted. Other current transfers, such as net non-life insurance premiums, are also deducted.

Disposable income = Primary income + net transfers
+ net benefits
- net taxes and social contributions

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Interregional labour force mobility in Norway

Gross-stream analysis and supply-side adjustments

Lasse Sigbjørn Stambøl

This article presents Norwegian results from a Nordic research project investigating the relationship between geographical mobility within each country and status in the labour market. The analysis shows considerably higher migration frequencies among unemployed compared with employed in nearly all population groups and regions. The results show that there has been higher transition from unemployment to employment among unemployed migrants than among their non-migrant counterparts, especially for unemployed with higher education. On the other hand, employed migrants showed higher transition from employment to unemployment and out of the labour force compared with employed non-migrants. The results also reveal the different position of the counties in terms of attractiveness for migrants. A general conclusion is that central counties are significantly more attractive than other counties, both for unemployed and employed. This is found both in a period of economic expansion and in a recession. The migration process has thus contributed to a certain displacement of both employed and unemployed between the counties. Especially in the boom period this indicated a decrease of imbalances between regional labour markets.

Introduction[1]

This article presents Norwegian results from a Nordic research project investigating regional migration patterns within Nordic countries. The main purpose is to compare regional migration processes with emphasis on the relationship between regional migration and changes in regional labour markets. The first stage has been to make comparative analyses of regional migration by using gross-stream-data, analysing the migration patterns broken down by the migrants' and the non-migrants' status in the labour market. The current stage is concentrated on supply-side adjustments in the regional labour markets. One main task has been to answer the question whether unemployed migrants do achieve a better labour market position, particularly compared with their non-migrant counterparts. Further, it has been important to measure the geographical mobility among employed persons, to investigate regional imbalances through employment turnover, and to determine to what extent employed migrants maintain their status in the labour market. Investigations measuring the relative migration frequencies among unemployed compared with employed have also been carried out. The results are mainly presented at a general regional level, aggregating all regional figures to represent national averages. The analysis includes, however, results showing how these processes have taken place at a more detailed regional level. Two periods of investigation have been chosen to cover the migration processes during cyclical upturns and downturns.

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In the next section these analyses are broadly set into a hypothetical and historical framework. This includes a brief discussion of approaches that will also be important to analyse in the further development of the project. Section three presents a short description of the various definitions and the use of data and methods in this study. The fourth section presents some Norwegian results from the first stage of this main project, primarily based on the above-mentioned issues.

Labour market imbalances

Long-distance migration of labour is often considered a 'necessary evil' in all the Nordic countries. Labour market policies have for several years encouraged unemployed to search for jobs outside their local labour markets. Labour market policies have also to some extent emphasised the importance of intersectoral mobility, hence indirectly encouraging geographical mobility. Higher geographical mobility of the labour force is expected to increase the general level of employment. On the other hand, regional policies have given incentives to private firms to locate in regions with a shortage of jobs, as well as establishing mechanisms for regional equalisation of living standards through the taxation systems. The concepts of "regional balance" and

1 This article is an excerpt from a research co-operation project between Finland, Norway and Sweden, represented by researchers from the University of Oulu, The Royal Institute of Technology in Stockholm, The Swedish Institute for Regional Research in Østersund, and Statistics Norway in Oslo (see e.g. Stambøl, ed. 1996, 1997, Johansson et al., 1997, Stambøl, 1998a,b).

"consolidation of the settlement pattern" have been widely accepted statements by politicians. Full interregional balance in terms of migrant flows has, however, never been fully achieved. Population growth in a few metropolitan regions and a number of regional centres and a corresponding decline in peripheral regions have dominated for a long time.

In theory, most long-distance migration is considered to be associated with regional differences in labour supply and demand. Through rational decisions, labour is supposed to move from regions with a limited number of jobs, high unemployment and an overrepresentation of declining industries, to expansive regions with a surplus of jobs. There is no doubt that, in a historical perspective, the mobility patterns have largely reflected the course of structural change of the regional labour markets. However, it seems that adjustment through mobility due to different growth rates between regional labour markets was distorted by institutional features, especially in the 1970s and 1980s. For instance, unlike many other countries, the expansion of the service sector in Norway did not add to the increase of the rate of migration to larger cities. The main reason was the relatively strong influence of the public sector in service production, especially in health care and social services, but also the primary aim to improve accessibility to higher education in all regions might have limited long-distance migration. The equalisation of living standards through the taxation system and the welfare state led to an equalisation also between regions in terms of disposable income. Related to the expansion of public services, labour market participation among women increased to among the highest in Europe. Hence, for many families, migration leads to a necessary search for two jobs in the region of destination (e.g. Wheelock, 1994, Green, 1997). In addition, there has also been a tradition of strong labour unions demanding the same wage for the same job in each region. In spite of earlier findings in Norway, showing positive relationships between regional labour market change and gross and net in-migration (e.g. Stambøl, 1991,1994 and Stambøl et al., 1998), it is likely that institutional features led to some reduction of the importance of the geographical distribution of jobs to migration.

In earlier times problems of accommodation were characterised by structural change in the economy at the industry or sector level. Some industries declined while others expanded, and this was seen as no great problem as it was a natural result of structural change. This process was usually associated with transfers of resources between different companies, industries, and sectors. The problem was merely to channel the newly unemployed to those industries and sectors that needed workers. Today's matching problem is of a different kind, with the existence of both shortages and surpluses of labour within the same companies, industries, and commuting regions. The reason for this is that the labour market has become more and more segmented in terms of competence levels. A segmented labour market consists of a number of sub-markets that are more or less separated from one another by various obstacles, resulting in a heterogeneous and unsubstitutable labour force. These sub-markets have their own supply and demand situations, their own wage structures and their own surpluses or shortages of labour. Mobility between segments is low, while it is high within individual segments. Segmentation of the labour force with respect to the supply side corresponds to its segmentation with respect to the demand side. The composition of the labour market differs in the various regions. The result of these processes has been a further regional segmentation of the labour force, a development which has hampered migration from rural and old industrial areas to more expansive and dynamic ones (e.g. Massey, 1995, Johansson, 1996, Johansson et al., 1997).

Data and definitions

In this analysis Norway is basically divided into 19 regions, which correspond to the 19 counties. The results presented in this article are, however, aggregated to seven broader regions and to the national level. Earlier investigations of geographical mobility have shown that the labour market and education have a tendency to become increasingly important factors in explaining migration at a higher geographical level (see e.g. Stambøl, 1991,1994, Stambøl et al. 1998). An important aspect in our migration analysis is the classification of individuals according to their labour market status; e.g. employed, unemployed and outside the labour force. In earlier migration analyses this division was used on cross-sectional data (see Stambøl 1995), but in this analysis we also take into consideration the change in the labour market status of each individual by using gross-flow data. The aim is primarily to analyse the change of labour market status connected to the migrants and the migration processes. In many cases, however, it has been important to compare changes in labour market statuses among migrants and non-migrants. Necessary data for all individuals of working age are therefore established. The data, which cover the whole population, are collected from register-based data sources at Statistics Norway.

The end of the 1980s and the first years of the 1990s represent a clear cyclical downturn in the Norwegian economy, while the nation experienced a recovery during 1993 followed by significant economic growth in 1994 and 1995. The comparison of the migration analyses are based on changes during two two-year periods, where 1988-89 is chosen to represent a recession period while 1994-95 represents a period with growth in the national economy.

Migrants are defined as individuals living in different counties in the first and second year of each period. Definitions of changes of labour market statuses follow similar patterns, where the Norwegian data show the labour market status of each individual in the first and second year of each period. A definition of socio-economic and socio-demographic groups includes the variables gender, age and education, and in some cases also the marital status. Individuals of working age are defined as persons 16-74 years. Education is divided into three categories: low, intermediate and higher education.

Figur 1. Personal groups by different status in the labour market

<table>
<tr><td colspan="4">The labour force</td><td rowspan="4">Outside the labour force</td></tr>
<tr><td colspan="4">Unemployed</td><td rowspan="3">Employed</td></tr>
<tr><td colspan="4">Unemployed who have been employed part of the year</td></tr>
<tr><td colspan="2">Unemployment insurance constribution</td><td colspan="2">No unemployment insurance contribution</td></tr>
<tr><td>Unemployed 1-6 months</td><td>Unemployed more than 6 months</td><td>Unemployed 1-6 months</td><td>Unemployed more than 6 months</td><td></td></tr>
<tr><td colspan="5">Further division by socio-economic and socio-demographic groups in the initial year of each period:
Gender: Male, female.
Age: 16-24 years, 25-44 years, and 45-74 years.
Education: Unspecified education, lower education (primary school), intermediate education (secondary school), and higher education (university and high school). (1 October in 1987 and 1993).
Marital status: Single, married or cohabitant.</td></tr>
<tr><td colspan="5">Periods of investigation: 1988-1989 Recession, 1994-1995 Cyclical upturn.
Norwegian regions: 19 counties. – Further aggregated to 7 regions.</td></tr>
</table>

The labour market status groups include, in addition to the three categories mentioned above, a fourth status group comprising both employed and unemployed. This is due to the definition of employed and unemployed, where the data cover employed and unemployed during the whole year, thus including individuals who were partly unemployed and partly employed during the same year. One consequence is that the data capture a large share of the unemployed, because the number of unemployed during a year is higher than the stock of unemployed at a certain point of time. In parts of the analysis, unemployed are further divided by length of their unemployment and by their unemployment insurance contribution status.

The variables used in the analysis are shown in figure 1.

Empirical results

Migration propensity among unemployed and employed

There are reasons to expect differences in migration rates between unemployed and employed. Unemployed are not tied up by employment and might be more motivated and flexible to search for a job outside their local labour market. There can, however, be factors that prevent the unemployed from moving, such as different types of social arrangements. On the other hand, there are also many types of reasons why employed move, as for example, better position (career migration), better wages or insecurity in the local labour market.

Analyses have been made showing migration rates among unemployed and employed. It has further been essential to study the differences in migration rates between different population groups. The results show a relatively high mobility between regions among unemployed in both periods of investigation. Total female unemployed showed somewhat higher migration frequencies compared with unemployed men. Higher migration propensity by increasing educational level has been observed, and migration frequencies among unemployed with higher education were almost twice as high compared with unemployed with intermediate education and almost three times higher than among unemployed with lower education. Further, there was much higher geographical mobility among short-term unemployed compared with long-term unemployed, among unemployed living alone compared with married unemployed or unemployed cohabitants and finally among unemployed not receiving any unemployment insurance contribution compared with unemployed who received an insurance contribution. The geographical mobility among employed in these periods followed approximately the same patterns for gender and educational level.

The hypothesis entails the expectation of higher geographical mobility among unemployed and employed during an economic upswing than during a recession. During periods with employment growth, there are more jobs to move to, and the employed take a higher risk to change job. In this process the turnover in the labour market is expected to increase. The general optimism that spreads during economic upswings and, correspondingly, pessimism during recessions are expected to support the hypothesis of increased geographical mobility during a boom. A counter hypothesis has, however, been presented, i.e. that during a boom there is also an increase of jobs in each individual's local labour market, which might reduce the need to migrate in order to obtain a job.

In Norway the migration propensity has been somewhat higher during the recession 1988-89 compared with the boom 1994-95. There are no clear reasons that explain the generally higher geographical mobility during the years of economic recession at the end of the 1980s. Lower out-migration of unemployed from the capital region in the

Table 1. Migration rates of unemployed in 1988-89 (recession) and 1994-95 (boom) compared with migration rates of employed. By gender, age and education. All counties. Index for employed migrants = 100

Age and education	Men		Women	
	1988-1989	1994-1995	1988-1989	1994-1995
All age groups				
Unspecified education	306	240	188	211
Lower education	379	383	465	525
Intermediate education	229	285	262	325
Higher education	277	259	319	321
Average	259	247	270	279
16-24 years				
Unspecified education	292	633	189	274
Lower education	184	302	198	313
Intermediate education	121	159	138	160
Higher education	118	88	127	172
Average	138	163	140	167
25-44 years				
Unspecified education	314	182	169	141
Lower education	361	284	343	375
Intermediate education	273	279	277	274
Higher education	266	236	325	268
Average	275	225	234	217
45-74 years				
Unspecified education	209	213	175	407
Lower education	243	320	354	299
Intermediate education	349	323	455	408
Higher education	204	248	203	290
Average	253	274	312	322

mid-1990s has, however, contributed substantially to the general lower migration rates in 1994-95. Another factor is that the chosen recession period follows just after a strong boom, and the boom period 1994-95 follows shortly after a recession. The pessimism which often follows from recession and optimism which follows from boom periods might have had too short a time to take root in these periods. Still another factor is that the level of unemployment in Norway, although decreasing, was in fact higher during the boom 1994-95 compared with the recession years at the end of the 1980s, while the level of employment in the boom was just on its way to recovering to the corresponding 1988-89 level.

Geographical mobility has been remarkably higher among unemployed compared with employed. Table 1 shows that unemployed migrants had higher migration frequencies in all population groups, with the exception of men with higher education in the youngest age group during the mid-1990s period. Among unemployed men the average migration frequency is approximately two and a half times higher compared with employed men, while the migration propensity among female unemployed was almost three times higher than among employed women. Most pronounced were the relatively higher migration frequencies among individuals with lower education, where the migration rates among female unemployed were more than five times higher compared with female employed. Considering the investigation periods, there were relatively small differences in the total unemployed/employed migration indexes. Breaking down the results by age group, there were relatively higher migration frequencies among young unemployed during the boom period, while unemployed in the intermediate age group showed relatively higher migration rates during the economic recession.

To what extent do unemployed migrants find employment?

The hypothesis has been that unemployed searching for a job outside their local labour market increase their possibility of obtaining a job. This hypothesis is logically due to an increase in the number of jobs available. Considering the migration process, the unemployed might either have received a job offer and then make the necessary move or they might migrate to another region and then search for a job. In the latter case the job possibility does not necessarily increase, but is dependent on the number of jobs available in the region of origin and destination. In both cases, however, unemployed show a will to migrate in order to obtain a job. In addition, there are several conditions concerning the type of demand and supply of labour that might affect the job possibility, hence expecting the characteristic of the unemployed to be of immense importance. In this analysis we have, however, examined and compared the unemployed broken down by broader population groups (see the section on data and definitions).

One of the main aims of this analysis has thus been to examine what status the unemployed obtain in the labour market after moving between regions. An important objective of geographically mobile unemployed is to obtain a job. To what extent they have succeeded in achieving this goal during periods of recession and economic upswing can be seen in table 2.

The figures show that approximately one fourth of the unemployed migrants in Norway did obtain a status as employed during the year after migration. The unemployed migrants had slightly higher transition to employment during the boom in 1994-95 compared with the economic recession in the late 1980s, which was due to somewhat higher transition to employment among unemployed men. Unemployed migrants with higher education reached the highest transition to employment, where both the male and female transition rates exceeded 40 per cent in both periods. Breaking down the figures by age group, unemployed migrants in the age group 25-44 generally showed the highest transition to employment. As in the other Nordic countries, the transition rate to employment increased by the educational level of the unemployed. If we include the status group employed/unemployed, the total employment transition rate among unemployed migrants increased to approximately 40 per cent.

Further investigations showed higher transition to employment among short-term unemployed migrants compared

Table 2. Unemployed migrants in 1988 (recession) and 1994 (boom) according to their status in the labour market 1989 and 1995 respectively. By gender and age or gender and education. All counties. Per cent

Gender Age groups and educational level	Became employed		Became employed/ unemployed		Still unemployed		Out of the labour force	
	1988-89	1994-95	1988-89	1994-95	1988-89	1994-95	1988-89	1994-95
Men:								
All age- and educational groups	22.5	26.3	15.1	16.3	42.1	41.4	20.3	16.0
16-24 years	23.7	24.2	15.6	16.0	39.6	41.7	21.1	18.1
25-44 years	22.0	28.9	14.6	16.9	44.2	39.8	19.2	14.5
45-74 years	16.4	14.0	16.4	12.8	43.1	53.6	24.1	19.6
Unspecified education	15.9	11.2	11.5	13.5	40.4	56.6	32.2	18.7
Lower education	16.0	12.9	14.4	17.2	50.6	51.8	18.9	18.1
Intermediate education	25.0	25.5	17.2	18.0	41.0	41.3	16.8	15.3
Higher education	41.7	46.7	14.3	12.0	31.8	25.9	12.1	15.4
Women:								
All age- and educational groups	26.5	26.5	13.7	14.3	35.9	37.6	23.9	21.7
16-24 years	26.0	25.3	14.4	14.9	34.7	35.9	24.9	23.8
25-44 years	27.8	28.1	13.0	14.2	36.2	37.4	23.0	20.4
45-74 years	20.5	20.6	9.6	10.7	51.8	51.8	18.1	16.9
Unspecified education	17.9	13.9	9.7	9.7	35.2	48.2	37.2	28.2
Lower education	18.4	14.3	10.3	10.5	42.6	50.1	28.7	25.0
Intermediate education	28.2	25.3	15.4	15.5	34.5	37.6	21.9	21.5
Higher education	44.8	42.6	14.1	14.8	27.1	25.0	14.1	17.6

with long-term unemployed migrants, among unemployed migrants living alone compared with married unemployed or unemployed cohabitants, and finally among unemployed migrants not receiving any unemployment insurance contribution compared with unemployed migrants who received an insurance contribution.

Unemployed migrants who remained unemployed, also in the region of destination, represented more than 40 per cent of total male unemployed migrants, and a little less of the female unemployed migrants. On the other hand, female unemployed had a somewhat stronger tendency than unemployed men to withdraw from the labour force after migration. Not surprisingly, unemployed with lower or unspecified education (the latter include many immigrants) and unemployed in the oldest age group showed the highest tendency to remain unemployed or to withdraw from the labour force after migration.

Is it profitable for unemployed to migrate?

Does geographical mobility help the unemployed to get a job? To examine this further, we have analysed the transition to employment among unemployed migrants compared with their unemployed non-migrant counterparts. We have here assumed that migrants and non-migrants are mainly comparable within broader population groups. The results of this analysis can be seen from table 3. The table is in index form and shows the proportion of unemployed migrants in each status group after migration compared with corresponding calculations for the unemployed who have not moved. The distribution of unemployed non-migrants in each status group is set at 100, so the indexes show over- and under-representation of unemployed migrants in each status group. All indexes above 100 entail over-representation of unemployed migrants, while indexes below 100 indicate under-representation of unemployed migrants.

The table shows that in general there has been higher transition to employment among unemployed who migrated. During the years of economic recession at the end of the 1980s there was 52 per cent higher transition to employment among unemployed men who migrated compared with their non-migrant counterparts, while female unemployed migrants showed 42 per cent higher transition to employment. These figures decreased to 33 per cent for unemployed men in the period of economic expansion in the mid-1990s, while the situation for female unemployed migrants remained almost unchanged. The relatively lower transition to employment through migration for unemployed men in the latter period was due to disadvantageous results achieved by unemployed migrants with lower, intermediate and unspecified education. The most beneficial effects from migration were observed among unemployed with higher education, where unemployed men nearly doubled their likelihood of obtaining a job through migration during the boom period in the mid-1990s.

The transition from unemployment to the status group employed/unemployed also represents a certain improvement in the labour market status of the unemployed, obtaining a job at least in some periods of the year. As table 3 shows, most of the indexes are above 100, indicating a higher transition rate for unemployed migrants compared with unemployed non-migrants.

Table 3. The relationship between unemployed migrants and unemployed non-migrants in 1988 (recession) and 1994 (boom) according to their status in the labour market 1989 and 1995 respectively. By gender and age or gender and education. All counties. Index: Unemployed non-migrants = 100

Gender Age groups and educational level	Became employed		Both employed/ unemployed		Still unemployed		Out of the labour force	
	1988-89	1994-95	1988-89	1994-95	1988-89	1994-95	1988-89	1994-95
Men:								
All age- and educational groups	152	133	103	103	89	93	87	82
16-24 years	154	116	108	109	89	107	82	71
25-44 years	136	133	87	94	90	90	107	91
45-74 years	168	105	155	98	83	96	87	111
Unspecified education	141	95	118	102	88	101	97	99
Lower education	145	90	105	118	101	101	76	92
Intermediate education	146	117	105	106	89	98	82	80
Higher education	172	195	106	89	78	66	56	66
Women:								
All age- and educational groups	142	143	114	108	87	85	85	90
16-24 years	137	131	121	120	91	91	80	83
25-44 years	139	141	102	100	84	85	95	93
45-74 years	156	160	93	86	109	96	62	81
Unspecified education	144	123	119	108	89	94	93	99
Lower education	119	103	94	93	99	103	94	95
Intermediate education	135	130	117	109	85	87	87	94
Higher education	145	160	108	110	83	69	60	73

Logically, most indexes in the status groups "still unemployed" and "out of the labour force" are mostly below 100, indicating that unemployed non-migrants are clearly over-represented among unemployed who have not succeeded in finding a job.

Net effects of migration among unemployed

In this section gross-stream analyses of migration among unemployed are combined and presented as net results between an aggregation to seven regions. In table 4 net migration of unemployed in 1994 is broken down by their labour market status achieved during 1995. The total net migration shows a surplus or deficit of unemployed migrants in each region from 1994 to 1995, while all decomposed figures show net effects for each region of which labour market status the unemployed migrants achieved during 1995.

The capital region of Oslo/Akershus differed from other regions with a relatively high net in-migration of unemployed, which was a result of positive net in-migration from all other regions. The total net effect was about three times higher than observed during the economic recession at the end of the 1980s. Considering the unemployment situation in the capital region, the migration effect became somewhat reduced, because the transition rate from unemployment to employment was nearly 50 per cent for the total surplus of unemployed "net in-migrants". The total effect of net in-migration of unemployed must, however, not be underestimated, because it is likely that not every unemployed who change their labour market status to employed obtain a job immediately after migration. The other decomposed figures show that the capital region also received a surplus of more permanent unemployed through the migration process, as well as unemployed who withdrew from the labour force.

In this period it was only South Eastern Norway, besides Oslo/Akershus, that experienced net in-migration of unemployed. As the table shows, the net in-migration contributed to a rise in the number of unemployed who were still unemployed or withdrew from the labour force.

Northern Norway and Western Norway were the regions with highest net out-migration of unemployed, but also Hedmark/Oppland and Trøndelag showed considerable net out-migration. Except for Northern Norway, the major part of the net out-migration comprised unemployed migrants who obtained a job the year after migration.

To what extent do employed migrants maintain their status as employed?

The results have shown that the migration rates of employed have been remarkably lower compared with unemployed. On the other hand, the employed represent a clear majority of the labour force, so although their migration rate is low their actual number of migrants is higher than the corresponding number of unemployed migrants. The migration of this group is thus important in order to illuminate the changes both in employment and unemployment in the regional labour markets.

Table 4. Net migration of unemployed persons in 1994 according to the status obtained in the labour market in 1995. By region of origin and destination

Region of destination	Region of origin							
	Oslo/ Akershus	South Eastern Norway	Hedmark/ Oppland	Agder/ Rogaland	Western Norway	Trønde-lag	Northern Norway	Total
Oslo/Akershus								
Became employed	.	143	141	86	112	74	80	636
Employed/unemployed	.	18	41	20	48	41	51	219
Still unemployed	.	-26	7	29	55	68	82	215
Out of the labour force	.	-26	7	29	55	68	82	215
Total	.	109	196	164	270	251	295	1 285
South Eastern Norway 1								
Became employed	-143	.	26	-1	18	14	2	-84
Employed/unemployed	-18	.	6	-11	1	7	-4	-19
Still unemployed	26	.	5	-10	9	5	36	71
Out of the labour force	26	.	5	-10	9	5	36	71
Total	-109	.	42	-32	37	31	70	39
Hedmark/Oppland								
Became employed	-141	-26	.	-7	0	-1	-2	-177
Employed/unemployed	-41	-6	.	4	3	4	0	-36
Still unemployed	-7	-5	.	-1	-10	7	-14	-30
Out of the labour force	-7	-5	.	-1	-10	7	-14	-30
Total	-196	-42	.	-5	-17	17	-30	-273
Agder/Rogaland								
Became employed	-86	1	7	.	31	25	3	-19
Employed/unemployed	-20	11	-4	.	11	7	-1	4
Still unemployed	-29	10	1	.	3	-10	18	-7
Out of the labour force	-29	10	1	.	3	-10	18	-7
Total	-164	32	5	.	48	12	38	-29
Western Norway								
Became employed	-112	-18	0	-31	.	19	-15	-157
Employed/unemployed	-48	-1	-3	-11	.	-3	9	-57
Still unemployed	-55	-9	10	-3	.	-20	5	-72
Out of the labour force	-55	-9	10	-3	.	-20	5	-72
Total	-270	-37	17	-48	.	-24	4	-358
Trøndelag								
Became employed	-74	-14	1	-25	-19	.	-35	-166
Employed/unemployed	-41	-7	-4	-7	3	.	8	-48
Still unemployed	-68	-5	-7	10	20	.	4	-46
Out of the labour force	-68	-5	-7	10	20	.	4	-46
Total	-251	-31	-17	-12	24	.	-19	-306
Northern Norway								
Became employed	-80	-2	2	-3	15	35	.	-33
Employed/unemployed	-51	4	0	1	-9	-8	.	-63
Still unemployed	-82	-36	14	-18	-5	-4	.	-131
Out of the labour force	-82	-36	14	-18	-5	-4	.	-131
Total	-295	-70	30	-38	-4	19	.	-358

[1]The region includes the counties of Østfold, Buskerud, Vestfold and Telemark.

There are several reasons why individuals who already have a job choose to move. A common hypothesis is that employed choose to migrate to improve their position in the labour market. The reasons might be expectations of a better salary or a better return on own know-how. The change of both work and employer has been dominating in the geographical mobility of employed. Nowadays geographical mobility is increasingly connected to advancement in different enterprises. When enterprises grow and become more and more interregional and even international in their locations, many career orientated employed will migrate in order to obtain a better position within the same company. Other reasons for migration can be to accompany a family member, where married partners or cohabitants already have a job, or the background for moving can be a marriage or divorce. Some reasons can be related to the regional push factors; uncertainty in the local labour market can induce employed to move to regions where they obtain more secure employment. In all those examples we might assume that employed intend to be employed also after migration.

Table 5. Employed migrants in 1988 (recession) and 1994 (boom) according to their status in the labour market in 1989 and 1995 respectively. By gender and age or gender and education. All counties. Per cent

Gender	Still employed		Both employed/ unemployed		Became unemployed		Out of the labour force	
Age groups and educational level	1988-89	1994-95	1988-89	1994-95	1988-89	1994-95	1988-89	1994-95
Men:								
All age- and educational groups	78.5	84.4	5.7	4.3	4.3	2.8	11.5	8.6
16-24 years	68.4	73.8	8.4	7.6	7.0	5.5	16.1	13.1
25-44 years	82.0	86.5	5.4	3.9	3.7	2.5	9.0	7.1
45-74 years	77.5	82.1	2.6	3.2	2.5	1.8	17.3	12.8
Unspecified education	66.2	76.1	6.7	6.2	7.9	4.9	19.2	12.8
Lower education	70.0	76.1	9.3	6.2	7.0	5.7	13.7	12.0
Intermediate education	76.1	81.6	7.0	5.8	5.1	3.4	11.9	9.2
Higher education	87.9	89.0	2.2	2.3	1.3	1.5	8.7	7.2
Women:								
All age- and educational groups	71.5	75.2	5.3	5.3	5.3	5.0	17.8	14.5
16-24 years	66.8	68.0	7.6	8.8	6.9	6.7	18.6	16.6
25-44 years	74.4	77.2	4.3	4.5	4.6	4.9	16.8	13.4
45-74 years	72.5	77.1	2.7	3.4	3.8	3.0	21.0	16.6
Unspecified education	65.6	68.0	5.5	5.8	6.0	6.9	23.0	19.3
Lower education	60.5	62.3	7.4	9.8	8.8	8.0	23.3	19.9
Intermediate education	69.5	71.3	6.4	7.4	6.3	6.9	17.7	14.4
Higher education	80.8	80.9	2.5	2.8	2.1	2.8	14.7	13.5

Table 6. The relationship between employed migrants and employed non-migrants in 1988 (recession) and 1994 (boom) according to their status in the labour market in 1989 and 1995 respectively. By gender and age or gender and education. All counties. Index: Employed non-migrants = 100

Gender	Still employed		Both employed/ unemployed		Became unemployed		Out of the labour force	
Age groups and educational level	1988-89	1994-95	1988-89	1994-95	1988-89	1994-95	1988-89	1994-95
Men:								
All age- and educational groups	91	93	116	156	218	274	161	164
16-24 years	102	99	78	100	108	142	104	93
25-44 years	92	93	108	137	224	265	227	227
45-74 years	89	89	93	206	296	373	197	211
Unspecified education	85	92	115	148	223	242	147	117
Lower education	83	86	168	198	363	504	157	157
Intermediate education	90	90	117	180	207	296	176	187
Higher education	94	94	147	193	207	281	192	187
Women:								
All age- and educational groups	84	84	157	206	306	408	178	200
16-24 years	95	94	106	123	140	163	107	102
25-44 years	86	86	129	171	295	379	206	217
45-74 years	82	84	144	243	574	635	222	264
Unspecified education	84	82	141	159	239	321	150	166
Lower education	72	72	199	331	555	617	219	223
Intermediate education	83	80	162	240	276	475	181	210
Higher education	90	88	221	236	338	424	181	210

Table 7. Net migration of employed persons in 1994 according to their status in the labour market in 1995. By region of origin and destination

Region of destination	Region of origin: Oslo/ Akershus	South Eastern Norway	Hedmark/ Oppland	Agder/ Rogaland	Western Norway	Trønde-lag	Northern Norway	Total
Oslo/Akershus								
Still employed	.	-60	300	47	341	240	357	1225
Employed/unemployed	.	-31	6	1	1	0	8	-15
Became unemployed	.	-56	-16	-9	-1	-17	-12	-111
Out of the labour force	.	-80	-38	-6	16	-3	-7	-118
Total	.	-227	252	33	357	220	346	981
South Eastern Norway 1								
Still employed	60	.	15	-25	38	65	88	241
Employed/unemployed	31	.	-3	-6	-3	6	6	31
Became unemployed	56	.	-1	-2	2	9	27	91
Out of the labour force	80	.	1	-20	3	1	31	96
Total	227	.	12	-53	40	81	152	459
Hedmark/Oppland								
Still employed	-300	-15	.	-10	-26	0	15	-336
Employed/unemployed	-6	3	.	-6	3	-8	9	-5
Became unemployed	16	1	.	8	-4	3	-5	19
Out of the labour force	38	-1	.	-3	-9	-10	7	22
Total	-252	-12	.	-11	-36	-15	26	-300
Agder/Rogaland								
Still employed	-47	25	10	.	113	28	145	274
Employed/unemployed	-1	6	6	.	14	5	9	39
Became unemployed	9	2	-8	.	-16	-7	7	-13
Out of the labour force	6	20	3	.	-22	-5	18	20
Total	-33	53	11	.	89	21	179	320
Western Norway								
Still employed	-341	-38	26	-113	.	42	30	-394
Employed/unemployed	-1	3	-3	-14	.	4	-2	-13
Became unemployed	1	-2	4	16	.	-4	6	21
Out of the labour force	-16	-3	9	22	.	-4	28	36
Total	-357	-40	36	-89	.	38	62	-350
Trøndelag								
Still employed	-240	-65	0	-28	-42	.	33	-342
Employed/unemployed	0	-6	8	-5	-4	.	4	-3
Became unemployed	17	-9	-3	7	4	.	9	25
Out of the labour force	3	-1	10	5	4	.	20	41
Total	-220	-81	15	-21	-38	.	66	-279
Northern-Norway								
Still employed	-357	-88	-15	-145	-30	-33	.	-668
Employed/unemployed	-8	-6	-9	-9	2	-4	.	-34
Became unemployed	12	-27	5	-7	-6	-9	.	-32
Out of the labour force	7	-31	-7	-18	-28	-20	.	-97
Total	-346	-152	-26	-179	-62	-66	.	-831

[1]The region includes the counties of Østfold, Buskerud, Vestfold and Telemark

Other reasons for withdrawing from employment and voluntarily changing labour market status for a shorter or a longer period may also exist. This might happen, for example, when individuals already employed decide to continue their education. There can be changes in the status when employed women bear children and when this is closely connected to migration. On the other hand, the change of status can be involuntary when the employed do not find a job in another region after moving. It might also be possible that employed choose to move, although there is unemployment ahead or they withdraw from the labour force.

An essential question to answer is thus which status employed maintain in the labour market after migration. To what extent they have managed to keep their status as employed during the boom and recession periods is seen in table 5.

No population groups succeeded in full in maintaining their status as employed after migration. During the period of economic recession at the end of the 1980s, only 79 per cent of employed men and 72 per cent of employed women kept their status as employed after migration. The corre-

sponding figures during the boom period in the mid-1990s increased to 84 and 75 per cent for employed men and women respectively. Breaking down the results by education, higher educational level increases the chance of keeping the status as employed after migration. Employed with lower education showed a relatively strong tendency to change their status after moving. Employed migrants in the age group 25-44 years showed in general a higher tendency to keep their position as employed compared with younger and older employed migrants.

Considering the transition to the status group unemployed/employed, there were small differences between employed males and females and between the periods. Employed female migrants showed, however, in both periods a stronger tendency than employed men to change their status to unemployment or to withdraw from the labour force. In this respect, the figures both for men and women were somewhat higher during the economic recession compared with the boom period. The latter was especially due to higher transition rates among employed with unspecified, lower and intermediate education, while there were small differences in the transition rates between the periods among employed migrants with higher education.

Another question which has been posed, is to what extent employed migrants maintain their status as employed compared with employed who choose to stay in their own region. In table 6, the results show the relative transition in each group. The interpretation of the indexes is the same as in table 3.

The indexes show clearly that there has been a lower proportion of employed migrants who have managed to maintain their labour market status after moving compared with employed non-migrants. This was most pronounced among female employed migrants in both investigation periods. Broken down by age, it was generally employed migrants in the oldest age group who had highest transition from employment compared with their non-migrant counterparts. The greatest similarity between employed migrants and employed non-migrants has in this respect been found among men in the youngest age group and among men with higher education.

On the other hand, there has been a clear over-representation of employed migrants among those who changed their status to unemployed or withdrew from the labour force. This was most pronounced among female employed migrants in the oldest age group, and among employed migrants with lower education. In Norway there were, however, small differences between boom and recession with regard to employed migrants' and non-migrants' relative ability to keep their status in the labour market.

Net effects of migration among employed

Finally, gross-stream analyses of migration among employed are combined and presented as net results between an aggregation of seven regions. In table 7 net migration of employed in 1994 is broken down by their labour market status maintained during 1995. The total net migration shows a surplus or deficit of employed migrants in each region from 1994 to 1995, while all decomposed figures show net effects for each region of the labour market status the employed migrants maintained during 1995.

The capital region of Oslo/Akershus differed from other regions with a relatively high net in-migration of employed, which was a result of positive net in-migration from all other regions except for South Eastern Norway. The total net effect was, however, lower than observed during the economic recession at the end of the 1980s, when the capital region had a considerable net in-migration of employed in spite of a general employment decrease. The migration effect on employment in the capital region in the mid-1990s was somewhat higher than the total net in-migration of employed suggested. This was due to positive net in-migration of employed who remained employed after migration and negative net in-migration of employed who became unemployed or withdrew from the labour force after migration. South Eastern Norway and Agder/Rogaland also experienced net in-migration of employed during this period, especially among those who remained employed after migration. All other regions experienced net out-migration of employed, mostly comprising those who stayed employed after moving.

Summary

The results show considerably higher migration frequencies among unemployed compared with employed in nearly all population groups and regions. The results show that transition from unemployment to employment among unemployed migrants has been higher than among their non-migrant counterparts, especially for unemployed with higher education. On the other hand, it has, at least partially, been less profitable for employed to move than not to move. It might, however, be unwise to draw hasty conclusions, because there are both voluntary and involuntary changes from the status employed. Detailed figures from the analyses show, however, that the transition to unemployment has been higher among employed migrants than among employed non-migrants.

The results also reveal the different positions of the regions (i.e. counties) in terms of attractiveness for migrants. A general conclusion is that major regional centres and city regions are significantly more attractive than other regions, both for unemployed and employed. This is found both in a period of economic boom and in a recession.

The migration process has thus contributed to a certain displacement of both employed and unemployed between the regions. The highest contribution to imbalances was observed among unemployed migrants who obtained a job, and among employed migrants who remained employed, thus either occupying vacancies in the regions of destination or establishing vacancies in the regions of origin. Reduced pressure in the local labour market might be the consequen-

ce in regions experiencing a surplus through the migration process, depending on to what extent the labour market is able to absorb the increased labour force. Regions with net out-migration might experience higher pressure in the local labour market either through decreased unemployment or increased vacancies through geographical employment turnover.

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New titles

Discussion Papers

Bente Halvorsen and Bodil M. Larsen:
Changes in the Pattern of Household Electricity Demand over Time
DP no. 255, 1999. 29 pages.

Empirical estimates of long run effects on residential electricity demand from changes in the electricity price are usually estimated by cross-sectional variation in the current stock of electric household appliances across households at a certain point in time. Here, we use a discrete-continuous approach modeling the long run effects by investments in new appliances. We apply the annual Norwegian Survey of Consumer Expenditure for the period 1975 to 1994 to estimate the short and long run own price elasticities in the two approaches. We find the estimated long run elasticity only slightly more price elastic than the short run. We also find that the long run elasticity does not differ significantly between the two approaches. The reason for both results is that, since there is no alternative source of energy for these appliances, there are no substitution effects.

Audun Langørgen and Rolf Aaberge:
A Structural Approach for Measuring Fiscal Disparities
DP no. 254, 1999. 28 pages.

Fiscal disparities arise from differences in costs and capacity to produce a standard package of public services. This paper proposes to use a structural modelling approach as basis for measuring fiscal disparities across municipalities. This approach differs from the widely used reduced-form approach, in the sense that identification of minimum required costs or expenditure need is made by reference to a structural model of the fiscal and spending behavior of local governments. The empirical analysis, which is based on data for Norwegian municipalities, relies on various alternative measures of fiscal capacity. One of these measures is defined by the local tax-bases, whilst another also includes grants-in-aid from the central government. This facilitates identification of the equalizing effect from grants. By comparing the effects of the current grant system with the effects of a policy designed to reduce fiscal disparities it is demonstrated that the goal of locational neutrality is far from being fulfilled. Moreover, it is shown that differences in local priorities only give a minor contribution to the observed differences in service levels.

Ingvild Svendsen:
Female labour participation rates in Norway – trends and cycles
DP no. 253, 1999. 34 pages.

Norwegian female labour participation rates have increased steadily since the beginning of the seventies. This paper address several issues concerning female labour participation series for the period 1972-1997. The main purpose is to identify factors that explain the trend-like increase during the last 25 years and a possible cyclical component that is due to labour market conditions. The resulting relations for women in the age-groups 25-39 years and 40-59 years include long-run effects from wages, education and a significant cyclical component. The wage elasticity is the same for the two groups by restriction. For the older women (60-66 years) we find a higher wage elasticity. Children have a negative impact on the labour supply for female 25-39 years. We get no significant effects from the extension of the parental leave and day-care coverage.

Rolf Aaberge:
Samling Errors and Cross-Country Comparisons of Income Inequality
DP no. 252, 1999. 12 pages.

The growing interest in cross-national comparisons of income inequality is primarily a result of the establishment of the Luxembourg Income Study (LIS) database and the wide range of studies on income inequality based on LIS data. These studies suffer, however, from a major weakness since sampling errors neither are reported nor taken into account when nations are ranked according to estimates of the Gini coefficient or some alternative measure of inequality. This paper discusses the impact of accounting for sampling error when making comparisons of income inequality across nations.

Taran Fæhn and Erling Holmøy:
Welfare Effects of Trade Liberalisation in Distorted Economies. A Dynamic General Equilibrium Assessment for Norway
DP no. 251, 1999. 43 pages.

A disaggregated intertemporal CGE model is used to simulate the welfare effects in Norway of the recently implemented trade reforms including the WTO agreement, the EEA treaty, the EFTA fishery agreement and an anticipated EEA resolution on shipbuilding. These reforms affect the Norwegian economy through changes in tariffs, Non Tariff Barriers (NTBs), government procurement and subsidy policy as well as shifts in world prices and demand. Reduction of such import barriers that represent real costs for the country is identified as the most important source of welfare gains, through improved terms of trade. Due to initial distortions caused by taxes and imperfect competition, changes in the resource allocation have first order effects on welfare. In particular, this explains why the simulated reduction of employment has a significant negative impact on the total welfare gain.

Kjell Arne Brekke and Nils Chr. Stenseth:
A Bio-Economic Approach to the study of Pastoralism, Famine and Cycles. Changes in ecological dynamics resulting from changes in socio-political factors
DP no. 250, 1999. 22 pages.

Cycles in abundance of non-human species are well-known to occur in autonomous, ecological systems. The study of such cycles play a major role in ecological theory. It is less studied whether such cycles may occur in systems in which human take part. The study of such systems requires an integration of economic resource management theory and ecological theories.

In this paper we present a model of the ecological dynamic of a pastoral society with private animals grazing on public land. It is demonstrated that the competitive equilibrium may exhibit cycles. On the other hand, the social optimum is stable and consumption paths dominates even the peaks of that of the competitive equilibrium.

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Appendix

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National accounts for Norway

NATIONAL ACCOUNTS FOR NORWAY

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

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Final consumption exp. of househ. and NPISHs	490 353	520 850	550 826	126 995	132 647	142 519	126 124	134 661	141 338	148 702
Household final consumption expenditure	465 695	495 175	523 936	120 638	126 161	135 983	119 612	128 053	134 509	141 762
Goods	265 433	282 650	298 334	67 960	69 982	81 691	66 892	72 307	75 264	83 871
Services	195 985	206 825	218 862	51 629	54 422	52 014	51 729	54 465	57 486	55 182
Direct purchases abroad by resident househ.	19 745	21 367	23 481	4 951	7 483	5 174	4 218	5 354	8 139	5 771
- Direct purchases by non-residents	-15 468	-15 667	-16 741	-3 902	-5 726	-2 896	-3 227	-4 072	-6 380	-3 062
Final consumption exp. of NPISHs 4)	24 658	25 675	26 889	6 357	6 486	6 536	6 511	6 608	6 830	6 941
Final consumption exp. of general government	206 767	218 223	237 644	54 065	55 078	55 817	57 020	58 256	60 599	61 769
Final consumption exp. of central government	82 360	86 359	93 416	21 373	21 771	22 047	22 734	22 975	23 692	24 015
Central government, civilian	60 372	62 893	68 545	15 561	15 842	16 078	16 664	16 837	17 407	17 637
Central government, defence	21 988	23 466	24 871	5 812	5 929	5 969	6 070	6 138	6 285	6 378
Final consumption exp. of local government	124 407	131 864	144 228	32 692	33 307	33 770	34 286	35 281	36 907	37 754
Gross fixed capital formation	216 217	254 190	286 467	63 937	63 333	70 587	64 281	68 446	72 808	80 932
Petroleum activities	51 330	62 421	81 992	17 494	15 194	16 736	16 050	20 459	21 261	24 221
Ocean transport	5 982	10 877	11 455	2 513	3 146	2 125	4 807	1 555	2 686	2 408
Mainland-Norway	158 905	180 892	193 020	43 931	44 993	51 725	43 423	46 433	48 861	54 303
Mainland-Norway excl. general government	127 301	142 943	152 276	34 850	36 146	40 982	34 982	36 379	39 106	41 809
Manufacturing and mining	17 878	19 094	21 176	4 839	4 495	6 348	3 714	5 033	5 940	6 489
Production of other goods	14 759	16 054	16 680	4 397	4 539	3 964	3 525	4 518	4 567	4 070
Dwelling services	27 245	30 336	31 629	7 354	7 767	8 229	7 824	7 817	7 757	8 231
Other services	67 419	77 459	82 791	18 260	19 345	22 441	19 919	19 011	20 843	23 019
General government	31 604	37 949	40 744	9 081	8 847	10 743	8 441	10 054	9 755	12 494
Changes in stocks and stat. discrepancies	15 821	18 670	29 664	5 381	3 991	4 248	12 225	7 458	6 362	3 620
Gross capital formation	232 038	272 860	316 131	69 318	67 324	74 834	76 505	75 904	79 170	84 552
Final domestic use of goods and services	929 158	1 011 933	1 104 600	250 379	255 049	273 171	259 649	268 822	281 107	295 023
Final demand from Mainland-Norway 2)	856 025	919 965	981 489	224 992	232 718	250 061	226 567	239 350	250 798	264 774
Final demand from general government 3)	238 371	256 172	278 388	63 146	63 925	66 560	65 461	68 310	70 354	74 263
Total exports	414 482	448 631	414 077	110 252	114 411	114 966	111 926	102 821	99 418	99 911
Traditional goods	155 849	169 238	176 763	42 372	42 313	45 210	46 407	42 443	42 348	45 564
Crude oil and natural gas	156 688	163 674	118 304	38 947	40 220	41 909	35 444	29 947	25 988	26 925
Ships and oil platforms	9 149	10 761	10 977	2 735	2 482	2 337	3 632	3 499	1 887	1 959
Services	92 796	104 958	108 033	26 198	29 396	25 510	26 443	26 932	29 195	25 463
Total use of goods and services	1 343 640	1 460 564	1 518 677	360 631	369 460	388 137	371 575	371 643	380 525	394 934
Total imports	327 051	371 532	411 595	93 799	96 181	99 318	100 541	100 102	102 647	108 305
Traditional goods	223 165	238 922	265 171	60 384	58 974	66 368	64 779	65 593	64 951	69 848
Crude oil	1 375	1 448	1 313	308	398	333	446	288	316	263
Ships and oil platforms	17 687	26 043	29 516	7 154	6 466	5 010	9 334	5 362	5 374	9 446
Services	84 824	105 119	115 595	25 953	30 343	27 607	25 982	28 859	32 006	28 748
Gross domestic product 1)	1 016 589	1 089 032	1 107 082	266 832	273 279	288 819	271 034	271 541	277 878	286 629
Mainland-Norway (market prices)	832 953	893 308	961 583	219 789	225 711	238 430	228 727	234 763	244 473	253 620
Petroleum activities and ocean transport	183 636	195 724	145 499	47 043	47 569	50 389	42 307	36 778	33 405	33 009
Mainland-Norway (basic prices)	724 009	773 731	836 936	190 347	194 142	204 966	200 747	202 926	213 685	219 578
Mainland-Norway excl. general government	567 143	607 604	656 156	149 293	152 290	162 327	157 678	158 808	167 453	172 216
Manufacturing and mining	113 667	120 214	131 538	30 983	28 325	32 608	32 855	32 566	31 666	34 452
Production of other goods	78 507	86 806	94 659	18 183	23 166	24 456	23 381	19 725	25 975	25 578
Service industries	374 969	400 583	429 959	100 127	100 800	105 263	101 443	106 517	109 812	112 187
General government	156 866	166 127	180 780	41 054	41 851	42 639	43 069	44 117	46 233	47 362
Correction items	108 944	119 577	124 647	29 442	31 569	33 464	27 980	31 837	30 787	34 042

1) Gross domestic product is measured at market prices, while value added by industry is measured at basic prices
2) Defined as total final consumption expenditure plus gross fixed capital formation in Mainland-Norway
3) Defined as final consumption expenditure plus gross fixed capital formation from general government
4) NPISH: Non-profit institutions serving households

NATIONAL ACCOUNTS FOR NORWAY

Table A2. Final expenditure and gross domestic product. At constant 1996-prices. Million kroner

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Final consumption exp. of househ. and NPISHs	490 353	508 333	524 158	124 006	129 417	138 413	121 439	128 189	134 123	140 407
Household final consumption expenditure	465 695	483 336	499 386	117 784	123 165	132 125	115 185	121 990	127 962	134 249
Goods	265 433	274 979	285 468	66 095	68 225	79 488	64 288	68 987	71 962	80 231
Services	195 985	202 106	207 313	50 471	53 157	50 241	49 757	51 682	54 350	51 524
Direct purchases abroad by resident househ.	19 745	21 438	22 286	4 976	7 375	5 152	4 190	5 123	7 666	5 307
- Direct purchases by non-residents	-15 468	-15 188	-15 680	-3 758	-5 593	-2 755	-3 049	-3 802	-6 016	-2 812
Final consumption exp. of NPISHs 4)	24 658	24 997	24 772	6 222	6 253	6 287	6 254	6 199	6 161	6 157
Final consumption exp. of general government	206 767	212 600	220 437	52 908	52 999	53 855	54 909	54 795	55 170	55 563
Final consumption exp. of central government	82 360	84 263	87 361	20 922	21 004	21 326	21 911	21 642	21 840	21 968
Central government, civilian	60 372	61 339	63 992	15 235	15 307	15 529	16 038	15 849	16 012	16 092
Central government, defence	21 988	22 924	23 369	5 687	5 697	5 797	5 873	5 792	5 828	5 876
Final consumption exp. of local government	124 407	128 338	133 076	31 986	31 996	32 529	32 998	33 153	33 329	33 595
Gross fixed capital formation	216 217	248 804	268 965	62 672	61 329	68 359	61 192	64 031	67 891	75 852
Petroleum activities	51 330	59 342	74 581	16 707	14 169	15 729	14 733	18 376	19 001	22 471
Ocean transport	5 982	10 234	10 901	2 390	2 778	1 978	4 340	1 485	2 634	2 442
Mainland-Norway	158 905	179 228	183 483	43 575	44 382	50 652	42 119	44 169	46 255	50 939
Mainland-Norway excl. general government	127 301	141 890	144 865	34 619	35 727	40 180	33 931	34 540	37 131	39 263
Manufacturing and mining	17 878	19 097	20 544	4 871	4 500	6 266	3 675	4 876	5 735	6 258
Production of other goods	14 759	15 972	15 960	4 384	4 472	3 928	3 417	4 329	4 349	3 864
Dwelling services	27 245	29 483	29 299	7 170	7 506	7 891	7 460	7 276	7 093	7 470
Other services	67 419	77 338	79 062	18 193	19 249	22 096	19 379	18 059	19 954	21 670
General government	31 604	37 339	38 618	8 956	8 655	10 472	8 188	9 629	9 124	11 677
Changes in stocks and stat. discrepancies	15 821	18 808	28 608	5 191	4 137	4 297	11 547	7 178	5 921	3 962
Gross capital formation	232 038	267 612	297 573	67 863	65 466	72 657	72 739	71 209	73 811	79 815
Final domestic use of goods and services	929 158	988 545	1 042 168	244 778	247 883	264 924	249 087	254 193	263 104	275 784
Final demand from Mainland-Norway 2)	856 025	900 161	928 078	220 489	226 798	242 919	218 468	227 153	235 548	246 909
Final demand from general government 3)	238 371	249 939	259 055	61 864	61 654	64 326	63 097	64 424	64 294	67 239
Total exports	414 482	437 915	440 221	110 084	109 519	111 339	115 485	108 704	105 560	110 471
Traditional goods	155 849	168 360	174 043	43 003	41 343	44 059	45 620	41 604	41 636	45 183
Crude oil and natural gas	156 688	159 905	153 893	39 928	38 426	41 217	41 519	38 582	35 033	38 759
Ships and oil platforms	9 149	10 205	10 718	2 635	2 299	2 133	3 519	3 341	1 825	2 032
Services	92 796	99 446	101 566	24 518	27 450	23 930	24 827	25 177	27 066	24 497
Total use of goods and services	1 343 640	1 426 460	1 482 389	354 861	357 401	376 263	364 572	362 897	368 664	386 256
Total imports	327 051	366 394	399 893	93 543	92 400	97 044	98 066	97 062	98 720	106 044
Traditional goods	223 165	241 256	264 327	61 753	58 123	66 500	64 854	65 659	63 865	69 949
Crude oil	1 375	1 609	1 983	374	437	348	634	422	490	437
Ships and oil platforms	17 687	24 267	28 387	6 682	5 770	4 587	8 501	5 081	5 237	9 568
Services	84 824	99 263	105 196	24 734	28 070	25 609	24 077	25 900	29 128	26 091
Gross domestic product 1)	1 016 589	1 060 066	1 082 496	261 318	265 001	279 219	266 506	265 835	269 944	280 211
Mainland-Norway (market prices)	832 953	869 717	898 249	213 960	219 703	229 689	218 162	219 584	227 173	233 329
Petroleum activities and ocean transport	183 636	190 349	184 247	47 358	45 298	49 530	48 344	46 250	42 771	46 882
Mainland-Norway (basic prices)	724 009	753 342	780 289	185 482	190 455	197 307	191 482	190 439	196 058	202 310
Mainland-Norway excl. general government	567 143	592 969	615 921	145 598	150 394	156 702	150 540	149 619	154 943	160 819
Manufacturing and mining	113 667	116 898	120 117	30 057	27 601	30 819	30 788	29 996	28 408	30 925
Production of other goods	78 507	82 896	85 513	17 261	23 502	22 804	21 087	17 366	23 966	23 093
Service industries	374 969	393 176	410 291	98 280	99 291	103 079	98 664	102 257	102 569	106 801
General government	156 866	160 373	164 368	39 885	40 062	40 605	40 942	40 820	41 115	41 491
Correction items	108 944	116 375	117 960	28 478	29 248	32 383	26 680	29 145	31 115	31 019

1) Gross domestic product is measured at market prices, while value added by industry is measured at basic prices
2) Defined as total final consumption expenditure plus gross fixed capital formation in Mainland-Norway
3) Defined as final consumption expenditure plus gross fixed capital formation from general government
4) NPISH: Non-profit institutions serving households

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

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Final consumption exp. of househ. and NPISHs	5,3	3,7	3,1	5,2	4,5	4,3	4,2	3,4	3,6	1,4
Household final consumption expenditure	5,5	3,8	3,3	5,4	4,7	4,4	4,5	3,6	3,9	1,6
Goods	7,1	3,6	3,8	6,2	4,8	4,7	5,1	4,4	5,5	0,9
Services	2,9	3,1	2,6	3,5	3,2	3,3	3,2	2,4	2,2	2,6
Direct purchases abroad by resident househ.	6,1	8,6	4,0	9,3	9,1	10,0	6,5	3,0	3,9	3,0
- Direct purchases by non-residents	1,4	-1,8	3,2	-1,4	-2,4	2,5	-1,1	1,2	7,6	2,1
Final consumption exp. of NPISHs 4)	2,6	1,4	-0,9	1,5	1,6	1,8	0,3	-0,4	-1,5	-2,1
Final consumption exp. of general government	2,8	2,8	3,7	2,9	2,1	3,0	3,9	3,6	4,1	3,2
Final consumption exp. of central government.	3,1	2,3	3,7	2,2	1,6	2,7	4,3	3,4	4,0	3,0
Central government, civilian	3,5	1,6	4,3	1,5	1,2	1,9	5,0	4,0	4,6	3,6
Central government, defence	1,9	4,3	1,9	4,3	2,8	4,9	2,3	1,8	2,3	1,4
Final consumption exp. of local government	2,6	3,2	3,7	3,4	2,5	3,2	3,7	3,6	4,2	3,3
Gross fixed capital formation	9,9	15,1	8,1	22,8	13,3	7,3	8,4	2,2	10,7	11,0
Petroleum activities	2,6	15,6	25,7	34,8	11,3	-0,6	15,7	10,0	34,1	42,9
Ocean transport	52,3	71,1	6,5	126,8	80,8	-10,6	40,6	-37,9	-5,2	23,5
Mainland-Norway	11,3	12,8	2,4	15,9	11,3	10,9	3,7	1,4	4,2	0,6
Mainland-Norway excl. general government	13,3	11,5	2,1	13,0	11,7	12,6	8,2	-0,2	3,9	-2,3
Manufacturing and mining	14,1	6,8	7,6	11,9	0,1	14,5	6,2	0,1	27,4	-0,1
Production of other goods	8,6	8,2	-0,1	10,5	11,8	-2,5	7,2	-1,3	-2,7	-1,6
Dwelling services	-0,1	8,2	-0,6	11,4	8,0	8,0	7,9	1,5	-5,5	-5,3
Other services	20,7	14,7	2,2	14,4	16,3	17,0	8,9	-0,7	3,7	-1,9
General government	3,8	18,1	3,4	29,2	9,7	4,8	-11,5	7,5	5,4	11,5
Changes in stocks and stat. discrepancies	-43,9	18,9	52,1	149,8	-24,9	.	122,8	38,3	43,1	-7,8
Gross capital formation	3,0	15,3	11,2	28,1	9,5	14,5	18,0	4,9	12,7	9,9
Final domestic use of goods and services	4,2	6,4	5,4	10,1	5,3	6,6	7,8	3,8	6,1	4,1
Final demand from Mainland-Norway 2)	5,8	5,2	3,1	6,6	5,2	5,3	4,1	3,0	3,9	1,6
Final demand from general government 3)	2,9	4,9	3,6	6,0	3,1	3,3	1,6	4,1	4,3	4,5
Total exports	9,3	5,7	0,5	9,7	6,4	3,6	8,0	-1,3	-3,6	-0,8
Traditional goods	10,0	8,0	3,4	15,5	11,5	7,9	14,2	-3,3	0,7	2,6
Crude oil and natural gas	13,7	2,1	-3,8	3,7	-2,1	1,6	2,9	-3,4	-8,8	-6,0
Ships and oil platforms	-16,8	11,5	5,0	21,5	71,6	-28,6	12,2	26,8	-20,6	-4,7
Services	5,8	7,2	2,1	9,5	8,6	3,8	5,4	2,7	-1,4	2,4
Total use of goods and services	5,7	6,2	3,9	10,0	5,6	5,7	7,9	2,3	3,2	2,7
Total imports	8,0	12,0	9,1	22,3	11,8	6,3	17,6	3,8	6,8	9,3
Traditional goods	9,8	8,1	9,6	14,5	6,4	9,3	18,2	6,3	9,9	5,2
Crude oil	-10,4	17,0	23,3	46,3	65,1	-42,4	41,0	12,9	12,1	25,5
Ships and oil platforms	27,2	37,2	17,0	184,6	56,0	-41,2	17,6	-24,0	-9,2	108,6
Services	0,6	17,0	6,0	23,8	16,8	16,2	15,5	4,7	3,8	1,9
Gross domestic product 1)	4,9	4,3	2,1	6,2	3,6	5,5	4,7	1,7	1,9	0,4
Mainland-Norway (market prices)	3,8	4,4	3,3	6,3	4,9	5,7	5,7	2,6	3,4	1,6
Petroleum activities and ocean transport	11,0	3,7	-3,2	5,6	-2,3	4,2	0,4	-2,3	-5,6	-5,3
Mainland-Norway (basic prices)	2,6	4,1	3,6	6,0	4,7	5,1	6,3	2,7	2,9	2,5
Mainland-Norway excl. general government	2,6	4,6	3,9	7,1	5,4	5,8	7,3	2,8	3,0	2,6
Manufacturing and mining	1,1	2,8	2,8	7,7	2,9	4,8	8,3	-0,2	2,9	0,3
Production of other goods	-3,3	5,6	3,2	11,3	9,9	10,0	9,1	0,6	2,0	1,3
Service industries	4,4	4,9	4,4	6,2	5,1	5,3	6,6	4,0	3,3	3,6
General government	2,5	2,2	2,5	2,3	1,9	2,3	2,8	2,3	2,6	2,2
Correction items	12,6	6,8	1,4	8,4	6,5	10,1	1,6	2,3	6,4	-4,2

1) Gross domestic product is measured at market prices, while value added by industry is measured at basic prices
2) Defined as total final consumption expenditure plus gross fixed capital formation in Mainland-Norway
3) Defined as final consumption expenditure plus gross fixed capital formation from general government
4) NPISH: Non-profit institutions serving households

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

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Final consumption exp. of househ. and NPISHs	1,5	2,5	2,6	2,7	2,3	1,7	1,9	2,6	2,8	2,9
Household final consumption expenditure	1,4	2,4	2,4	2,7	2,3	1,7	1,9	2,5	2,6	2,6
Goods	0,5	2,8	1,7	3,2	2,2	1,6	1,0	1,9	2,0	1,7
Services	2,5	2,3	3,2	2,5	2,7	2,1	2,8	3,0	3,3	3,4
Direct purchases abroad by resident househ.	3,4	-0,3	5,7	-0,1	0,6	0,9	5,4	5,0	4,6	8,3
- Direct purchases by non-residents	1,9	3,2	3,5	3,0	3,5	3,2	3,8	3,1	3,6	3,6
Final consumption exp. of NPISHs 4)	3,4	2,7	5,7	2,9	2,7	2,3	3,1	4,3	6,9	8,4
Final consumption exp. of general government	3,4	2,6	5,0	2,8	3,0	2,1	3,0	4,0	5,7	7,3
Final consumption exp. of central government	3,0	2,5	4,3	2,6	3,0	2,0	3,0	3,9	4,7	5,7
Central government, civilian	2,6	2,5	4,5	2,7	2,7	2,3	2,9	4,0	5,0	5,9
Central government, defence	4,1	2,4	4,0	2,4	4,0	1,2	3,1	3,7	3,6	5,4
Final consumption exp. of local government	3,7	2,7	5,5	2,9	3,0	2,1	3,0	4,1	6,4	8,2
Gross fixed capital formation	2,2	2,2	4,3	2,2	3,7	2,1	5,3	4,8	3,8	3,3
Petroleum activities	4,4	5,2	4,5	4,9	7,0	5,6	6,8	6,3	4,3	1,3
Ocean transport	5,2	6,3	-1,1	5,8	13,5	7,2	10,6	-0,4	-10,0	-8,2
Mainland-Norway	1,4	0,9	4,2	1,0	2,0	0,9	4,1	4,3	4,2	4,4
Mainland-Norway excl. general government	1,2	0,7	4,3	0,8	1,9	0,6	4,4	4,6	4,1	4,4
Manufacturing and mining	-0,2	-0,0	3,1	0,3	-0,0	0,4	2,5	3,9	3,7	2,3
Production of other goods	2,4	0,5	4,0	1,4	1,6	-0,2	4,3	4,1	3,4	4,4
Dwelling services	3,1	2,9	4,9	2,5	3,3	3,8	3,8	4,7	5,7	5,7
Other services	0,6	0,2	4,6	0,1	2,0	-0,4	5,1	4,9	3,9	4,6
General government	1,9	1,6	3,8	1,8	2,3	2,0	2,8	3,0	4,6	4,3
Changes in stocks and stat. discrepancies	2,7	-0,7	4,5	83,2	-13,3	-84,8	8,6	0,2	11,4	-7,6
Gross capital formation	2,5	2,0	4,2	3,8	2,4	-0,1	5,6	4,4	4,3	2,9
Final domestic use of goods and services	2,2	2,4	3,5	3,0	2,5	1,3	3,2	3,4	3,8	3,7
Final demand from Mainland-Norway 2)	1,9	2,2	3,5	2,4	2,4	1,6	2,6	3,3	3,8	4,2
Final demand from general government 3)	3,2	2,5	4,8	2,7	2,9	2,0	3,0	3,9	5,5	6,7
Total exports	7,3	2,4	-8,2	1,5	4,0	-1,4	-4,9	-5,6	-9,8	-12,4
Traditional goods	-1,2	0,5	1,0	-1,8	3,1	1,4	3,3	3,5	-0,6	-1,7
Crude oil and natural gas	21,7	2,4	-24,9	2,3	2,7	-9,1	-19,2	-20,4	-29,1	-31,7
Ships and oil platforms	3,9	5,4	-2,9	3,7	7,3	8,1	1,0	0,9	-4,2	-12,0
Services	1,8	5,5	0,8	5,2	7,3	8,0	5,1	0,1	0,7	-2,5
Total use of goods and services	3,7	2,4	0,1	2,5	3,0	0,5	0,6	0,8	-0,2	-0,9
Total imports	1,7	1,4	1,5	0,8	4,8	1,1	4,0	2,9	-0,1	-0,2
Traditional goods	0,1	-1,0	1,3	-1,7	2,5	-0,9	3,0	2,2	0,2	0,1
Crude oil	37,0	-10,0	-26,4	-11,9	-2,4	-15,8	-22,7	-17,2	-29,2	-37,1
Ships and oil platforms	7,6	7,3	-3,1	7,3	11,4	8,6	7,1	-1,4	-8,4	-9,6
Services	4,4	5,9	3,8	5,6	8,3	5,1	6,1	6,2	1,6	2,2
Gross domestic product 1)	4,3	2,7	-0,4	3,1	2,3	0,3	-0,5	0,0	-0,2	-1,1
Mainland-Norway (market prices)	1,5	2,7	4,2	3,2	2,2	1,9	3,3	4,1	4,8	4,7
Petroleum activities and ocean transport	19,3	2,8	-23,2	2,7	3,1	-6,7	-16,9	-19,9	-25,6	-30,8
Mainland-Norway (basic prices)	1,9	2,7	4,4	2,7	1,6	2,9	2,5	3,8	6,9	4,5
Mainland-Norway excl. general government	1,3	2,5	4,0	2,4	1,2	2,9	2,3	3,5	6,7	3,4
Manufacturing and mining	-0,5	2,8	6,5	2,7	0,8	7,2	7,2	5,3	8,6	5,3
Production of other goods	4,4	4,7	5,7	5,2	1,0	2,7	2,0	7,8	10,0	3,3
Service industries	1,1	1,9	2,9	1,8	1,4	1,6	0,8	2,2	5,5	2,9
General government	4,4	3,6	6,2	3,6	3,3	3,2	3,2	5,0	7,6	8,7
Correction items	-0,9	2,8	2,8	6,9	5,6	-4,1	9,7	5,7	-8,3	6,2

1) Gross domestic product is measured at market prices, while value added by industry is measured at basic prices
2) Defined as total final consumption expenditure plus gross fixed capital formation in Mainland-Norway
3) Defined as final consumption expenditure plus gross fixed capital formation from general government
4) NPISH: Non-profit institutions serving households

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

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Gross domestic product 1)	1 016 589	1 089 032	1 107 082	266 832	273 279	288 819	271 034	271 541	277 878	286 629
Agriculture and hunting	11 879	11 859	12 265	-2	6 427	3 042	2 339	-179	6 969	3 136
Forestry and logging	2 647	2 750	2 582	1 123	516	486	499	941	408	733
Fishing and fish farming	7 076	7 321	9 020	1 617	1 874	2 117	2 020	2 380	2 092	2 527
Oil and gas extraction incl. services	154 565	166 785	116 742	39 280	40 578	43 214	34 725	29 983	26 153	25 880
Oil and gas extraction	150 305	159 561	108 869	37 453	38 876	41 196	32 743	27 749	24 031	24 347
Service act. incidental to oil and gas ext.	4 260	7 224	7 873	1 826	1 702	2 018	1 982	2 234	2 123	1 534
Mining and quarrying	1 931	2 160	2 226	572	558	584	549	606	538	532
Manufacturing	111 736	118 054	129 311	30 411	27 767	32 024	32 305	31 959	31 128	33 919
Food products, beverages and tobacco	17 081	17 754	17 950	4 415	4 447	4 752	4 235	4 385	4 687	4 643
Textiles, wearing apparel, leather	2 285	2 170	1 993	635	453	529	536	515	432	510
Wood and wood products	4 078	4 841	4 791	1 214	1 184	1 365	1 324	1 242	1 159	1 066
Pulp, paper and paper products	5 911	4 750	5 797	1 159	1 145	1 322	1 396	1 395	1 517	1 489
Publishing, printing, reproduction	12 604	13 214	13 922	3 227	3 193	3 549	3 510	3 431	3 329	3 651
Refined petroleum products	1 665	2 354	3 967	624	585	603	923	867	1 056	1 120
Basic chemicals	6 351	6 586	6 758	1 699	1 688	1 691	1 811	1 778	1 606	1 563
Chemical and mineral products	10 950	11 202	10 771	3 141	2 626	2 755	2 727	2 697	2 568	2 778
Basic metals	8 456	8 288	9 999	2 291	1 881	2 385	2 596	2 663	2 432	2 308
Machinery and other equipment n.e.c.	27 834	31 165	35 295	7 952	6 848	8 769	8 791	8 625	8 117	9 762
Building of ships, oil platforms and moduls	10 647	11 586	13 604	2 967	2 785	3 115	3 260	3 277	3 230	3 837
Furniture and other manufacturing n.e.c.	3 874	4 144	4 466	1 086	932	1 187	1 197	1 084	995	1 190
Electricity and gas supply	22 506	25 275	25 365	5 777	4 430	7 734	7 920	5 395	4 999	7 051
Construction	34 399	39 602	45 427	9 669	9 918	11 077	10 602	11 187	11 507	12 130
Service industries excluded general government	404 040	429 523	458 717	107 891	107 791	112 438	109 024	113 313	117 064	119 316
Wholesale and retail trade	91 873	98 626	102 860	24 114	24 025	27 981	24 084	24 978	26 115	27 682
Hotels and restaurants	12 180	13 767	15 276	3 519	3 724	3 613	3 302	3 800	4 136	4 038
Transport via pipelines	12 979	13 018	13 386	3 141	2 989	3 512	3 429	3 164	3 036	3 756
Water transport	18 165	18 291	17 929	5 262	4 655	4 238	4 741	4 286	4 931	3 971
Ocean transport	16 092	15 922	15 372	4 623	4 002	3 663	4 152	3 631	4 215	3 373
Inland water and costal transport	2 073	2 369	2 557	640	653	575	589	655	716	597
Other transport industries	41 273	44 928	47 165	12 069	11 903	10 708	10 808	12 140	12 905	11 312
Post and telecommunications	19 251	19 832	19 982	4 922	4 667	5 503	4 877	4 945	4 713	5 446
Financial intermediation	38 446	36 939	39 873	9 296	9 000	9 515	9 427	9 928	9 329	11 187
Dwelling services	63 761	65 989	68 346	16 407	16 608	16 773	16 883	17 037	17 181	17 245
Business services etc.	55 860	63 465	73 570	15 744	16 382	16 450	16 911	18 178	19 375	19 107
Personal services	50 252	54 668	60 332	13 416	13 837	14 145	14 563	14 856	15 341	15 571
General government	156 866	166 127	180 780	41 054	41 851	42 639	43 069	44 117	46 233	47 362
Central government	46 006	48 481	52 046	11 999	12 207	12 388	12 599	12 735	13 247	13 466
Civilian central government	34 422	36 386	38 922	9 000	9 149	9 320	9 405	9 500	9 930	10 087
Defence	11 584	12 096	13 125	2 998	3 058	3 068	3 194	3 235	3 317	3 379
Local government	110 860	117 645	128 734	29 055	29 645	30 251	30 470	31 382	32 986	33 896
FISIM 2)	-30 354	-28 466	-31 876	-7 298	-7 290	-6 883	-7 346	-7 754	-7 779	-8 997
Value added tax and investment levy	97 018	104 371	110 492	25 517	26 594	28 705	25 354	27 173	27 844	30 121
Other taxes on products, net	42 280	44 089	44 897	11 324	12 371	11 623	9 781	12 207	10 243	12 666
Statistical discrepancy	-0	-416	1 133	-101	-107	20	191	210	480	253
Mainland-Norway (basic prices)	724 009	773 731	836 936	190 347	194 142	204 966	200 747	202 926	213 685	219 578
Market producers	673 016	722 496	717 200	176 333	179 299	192 136	179 422	174 721	179 307	183 750
Non-market producers	234 629	246 959	265 235	61 057	62 411	63 219	63 632	64 983	67 783	68 837
Education	41 836	44 169	48 113	10 924	11 025	11 426	11 540	11 826	12 124	12 622
Health and social work	76 542	82 417	91 525	20 268	20 930	21 218	21 587	22 313	23 613	24 012

1) Gross domestic product is measured at market prices, while value added by industry is measured at basic prices
2) Financial intermediation services indirectly measured

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

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Gross domestic product 1).	4,9	4,3	2,1	6,2	3,6	5,5	4,7	1,7	1,9	0,4
Agriculture and hunting	1,3	-4,3	3,8	-19,1	-2,7	-8,7	1,6	56,0	6,1	3,6
Forestry and logging	-17,0	0,9	-3,9	17,7	12,8	-33,1	-20,3	-15,9	-16,4	61,1
Fishing and fish farming	-2,4	3,1	-1,9	21,2	5,9	3,8	-3,8	-3,2	-9,7	9,6
Oil and gas extraction incl. services	11,7	4,2	-4,0	5,9	-2,1	5,4	0,0	-2,7	-6,5	-7,0
Oil and gas extraction	11,4	3,5	-3,5	4,8	-2,4	5,2	0,7	-2,3	-6,6	-5,9
Service act. incidental to oil and gas ext.	20,3	30,1	-18,2	49,5	8,0	9,4	-17,2	-13,7	-3,8	-34,8
Mining and quarrying	3,2	2,9	-0,8	6,2	10,0	-0,4	6,1	-2,7	-0,6	-5,0
Manufacturing	1,1	2,8	2,8	7,7	2,8	4,9	8,4	-0,2	3,0	0,4
Food products, beverages and tobacco	-10,2	0,6	-1,4	-1,1	1,7	1,9	2,4	-2,6	-2,7	-2,5
Textiles, wearing apparel, leather	10,1	-1,4	-4,1	14,5	-6,9	-7,9	2,3	-12,6	-4,2	-0,9
Wood and wood products	-4,2	7,3	-0,0	3,9	14,6	13,6	17,7	7,3	-2,0	-18,9
Pulp, paper and paper products	0,4	4,4	-0,0	9,3	5,3	8,2	6,4	-1,9	2,5	-6,6
Publishing, printing, reproduction	-3,8	-1,7	0,8	-2,3	0,9	0,9	5,4	1,5	-1,8	-1,8
Refined petroleum products	137,5	2,8	-3,9	6,6	-1,4	-1,7	-0,9	-8,7	0,2	-6,4
Basic chemicals	-2,2	2,3	4,6	15,3	-3,8	2,5	7,6	6,7	5,6	-1,3
Chemical and mineral products	8,2	3,1	-0,2	13,8	2,7	-0,5	1,6	-10,0	6,8	2,3
Basic metals	9,9	3,2	5,2	6,6	0,1	4,9	4,1	2,1	9,8	5,2
Machinery and other equipment n.e.c.	4,1	5,5	5,5	12,9	4,8	7,4	12,9	2,4	4,7	2,5
Building of ships, oil platforms and moduls. . .	-5,7	1,2	8,5	6,0	2,0	12,3	14,9	3,0	5,6	10,7
Furniture and other manufacturing n.e.c.	7,1	8,2	6,7	22,1	11,7	8,4	24,4	-2,1	5,0	1,6
Electricity and gas supply	-9,5	6,6	4,8	9,4	38,0	27,4	17,8	-0,6	3,7	-1,3
Construction	0,6	9,2	3,4	9,2	7,8	10,5	9,6	5,1	1,7	-1,8
Service industries excluded general government	4,7	4,6	4,1	6,1	4,5	4,8	6,3	3,7	3,0	3,6
Wholesale and retail trade	9,5	5,1	5,2	8,3	7,0	6,0	9,0	3,8	6,3	2,5
Hotels and restaurants	3,3	7,6	4,3	6,7	8,2	10,8	7,6	4,3	2,8	3,0
Transport via pipelines	21,6	-1,2	-1,4	-0,1	-8,8	-1,1	1,1	0,8	-5,0	-2,5
Water transport	-1,0	2,9	3,4	7,3	1,5	-1,1	4,0	-1,1	2,6	8,3
Ocean transport	-0,9	2,4	3,3	7,2	0,7	-2,1	3,3	-1,4	2,5	9,0
Inland water and costal transport	-2,0	7,0	4,2	7,9	6,7	6,9	10,0	0,9	3,9	2,8
Other transport industries	5,7	6,9	1,4	12,0	4,2	5,3	3,5	-2,5	2,1	2,9
Post and telecommunications	8,7	5,4	7,7	6,4	5,7	6,7	5,8	8,0	8,1	8,7
Financial intermediation	-0,0	3,4	4,3	2,9	1,0	6,9	11,8	7,0	-9,1	7,1
Dwelling services	-0,4	1,0	1,2	1,0	1,0	1,1	1,1	1,1	1,2	1,2
Business services etc.	5,4	9,2	8,9	10,1	10,2	7,0	9,2	9,2	9,8	7,3
Personal services	1,8	3,0	2,8	2,5	4,1	3,8	5,1	4,3	1,4	0,4
General government	2,5	2,2	2,5	2,3	1,9	2,3	2,8	2,3	2,6	2,2
Central government	1,9	1,8	1,9	1,8	1,6	1,9	2,5	1,1	2,2	1,7
Civilian central government	2,1	2,3	1,6	2,3	2,1	2,6	2,3	0,6	2,1	1,3
Defence	1,2	0,3	2,9	0,4	0,3	-0,0	3,4	2,6	2,5	3,1
Local government	2,8	2,4	2,7	2,4	2,1	2,4	2,9	2,8	2,8	2,4
FISIM 2)	0,0	-2,8	7,0	2,3	1,3	-11,9	11,8	5,8	-9,2	20,1
Value added tax and investment levy	7,3	5,7	3,4	7,9	6,1	5,4	4,5	3,6	4,1	1,5
Other taxes on products, net	13,3	2,5	0,3	5,3	3,9	4,5	1,9	1,8	1,0	-2,9
Statistical discrepancy	-100,0	.	110,5	-95,9	.	-97,8	127,5	129,9	86,7	101,8
Mainland-Norway (basic prices)	2,6	4,1	3,6	6,0	4,7	5,1	6,3	2,7	2,9	2,5
Market producers	4,9	4,6	2,3	7,3	3,7	5,8	6,0	1,6	1,1	0,7
Non-market producers	1,6	2,2	2,0	2,3	2,0	2,3	2,4	1,9	2,0	1,7
Education	2,3	2,1	3,5	2,0	1,7	2,9	3,6	3,2	3,4	3,7
Health and social work	4,4	3,9	3,6	3,7	4,1	4,0	4,6	4,6	3,1	2,1

1) Gross domestic product is measured at market prices, while value added by industry is measured at basic prices
2) Financial intermediation services indirectly measured

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

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Household final consumption expenditure	465 695	495 175	523 936	120 638	126 161	135 983	119 612	128 053	134 509	141 762
Food, beverages and tobacco	95 539	100 864	106 547	24 588	26 384	27 983	22 792	26 943	27 482	29 330
Clothing and footwear	28 572	29 839	31 633	7 430	6 931	9 561	6 241	7 604	7 808	9 980
Housing, water, electr., gas and other fuels	105 664	109 663	112 570	26 317	25 370	28 955	29 789	26 968	26 346	29 467
Furnishings, household equipment etc.	29 091	31 400	34 056	6 850	7 708	10 095	7 672	7 422	8 696	10 266
Health	12 523	13 631	15 168	3 346	3 481	3 703	3 577	3 772	3 798	4 021
Transport	77 564	82 573	84 838	21 948	22 359	19 809	19 390	22 395	23 427	19 626
Leisure, entertainment and culture	44 018	47 906	53 184	11 012	12 284	14 273	11 631	12 065	13 891	15 597
Education	2 131	2 271	2 435	491	613	642	560	518	678	679
Hotels, cafes and restaurants	26 850	29 826	32 478	7 386	8 901	7 406	6 732	8 146	9 584	8 016
Miscellaneous goods and services	39 466	41 502	44 288	10 221	10 376	11 278	10 237	10 939	11 039	12 072
Direct purchases abroad by resident househ.	19 745	21 367	23 481	4 951	7 483	5 174	4 218	5 354	8 139	5 771
- Direct purchases by non-residents	-15 468	-15 667	-16 741	-3 902	-5 726	-2 896	-3 227	-4 072	-6 380	-3 062
Goods	265 433	282 650	298 334	67 960	69 982	81 691	66 892	72 307	75 264	83 871
Services	195 985	206 825	218 862	51 629	54 422	52 014	51 729	54 465	57 486	55 182
Services, dwellings	84 767	87 692	91 130	21 841	22 070	22 235	22 435	22 695	22 957	23 043
Other services	111 218	119 132	127 732	29 788	32 352	29 779	29 293	31 770	34 529	32 140

Table A8. Household final consumption expenditure.
Percentage change in volume from the same period in the previous year

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Household final consumption expenditure	5,5	3,8	3,3	5,4	4,7	4,4	4,5	3,6	3,9	1,6
Food, beverages and tobacco	3,1	1,2	-0,4	-0,2	3,7	2,9	-1,3	3,6	-2,0	-1,7
Clothing and footwear	10,4	4,7	8,3	9,2	4,3	5,5	9,7	3,9	14,6	6,0
Housing, water, electr., gas and other fuels	2,2	0,8	2,1	1,2	0,5	2,2	2,7	1,4	2,6	1,6
Furnishings, household equipment etc.	2,3	7,3	7,7	13,6	7,8	7,6	13,4	7,8	12,1	0,4
Health	9,0	6,2	6,0	6,3	8,7	8,7	11,3	7,6	3,2	2,4
Transport	11,6	3,0	0,7	8,7	2,4	-0,1	2,0	-0,0	2,9	-2,1
Leisure, entertainment and culture	5,7	6,8	9,0	10,6	8,2	7,7	10,8	7,0	11,2	7,3
Education	1,8	3,0	3,3	3,3	3,7	4,9	2,9	1,2	7,3	1,6
Hotels, cafes and restaurants	4,5	7,4	4,0	4,5	7,6	11,3	4,9	6,4	2,7	2,6
Miscellaneous goods and services	5,5	5,3	5,1	6,0	5,9	5,5	5,8	5,9	4,3	4,5
Direct purchases abroad by resident househ.	6,1	8,6	4,0	9,3	9,1	10,0	6,5	3,0	3,9	3,0
- Direct purchases by non-residents	1,4	-1,8	3,2	-1,4	-2,4	2,5	-1,1	1,2	7,6	2,1
Goods	7,1	3,6	3,8	6,2	4,8	4,7	5,1	4,4	5,5	0,9
Services	2,9	3,1	2,6	3,5	3,2	3,3	3,2	2,4	2,2	2,6
Services, dwellings	1,8	0,8	1,3	0,9	0,7	0,6	1,1	1,1	1,6	1,5
Other services	3,8	4,9	3,5	5,5	5,0	5,4	4,8	3,3	2,7	3,4

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

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Gross fixed capital formation	216 217	254 190	286 467	63 937	63 333	70 587	64 281	68 446	72 808	80 932
Buildings and structures	85 218	98 470	104 994	23 575	24 448	28 036	24 500	24 923	26 325	29 247
Oil exploration, drilling, pipelines	20 226	28 046	32 821	7 079	7 593	8 001	7 537	8 699	8 686	7 899
Oil platforms etc.	28 353	32 790	43 478	10 108	7 276	7 991	7 723	10 426	10 811	14 518
Ships and boats	7 555	13 704	13 876	3 128	3 917	2 593	5 798	2 049	3 197	2 831
Other transport equipment	22 859	23 527	23 224	5 980	5 762	6 675	5 047	6 083	5 786	6 309
Machinery and equipment	52 006	57 653	68 073	14 069	14 337	17 291	13 675	16 267	18 003	20 129
Agriculture and hunting	6 448	6 485	6 501	1 994	1 914	1 519	1 068	1 998	1 915	1 521
Forestry and logging	559	563	585	142	140	142	142	147	147	148
Fishing and fish farming	1 049	2 125	2 067	473	605	260	864	433	465	304
Oil and gas extraction, incl. services	45 337	54 253	73 605	15 366	12 606	14 382	14 042	18 346	18 713	22 503
Oil and gas extraction	41 193	53 778	70 277	15 139	12 842	14 269	14 348	18 136	18 684	19 109
Service act. incidental to oil and gas ext.	4 144	475	3 328	227	-236	113	-306	210	29	3 394
Mining and quarrying	364	273	361	70	74	97	44	107	78	133
Manufacturing	17 514	18 821	20 815	4 770	4 421	6 251	3 671	4 926	5 862	6 356
Food products, beverages and tobacco	3 542	3 762	3 885	892	938	1 191	718	875	1 134	1 157
Textiles, wearing apparel, leather	220	298	234	76	62	96	39	85	48	62
Wood and wood products	729	562	431	133	142	149	90	130	114	97
Pulp, paper and paper products	1 335	1 603	2 425	373	407	523	351	805	826	443
Publishing, printing, reproduction	1 423	1 725	2 173	506	344	596	452	424	710	587
Refined petroleum products	491	531	340	106	131	256	106	91	49	95
Basic chemicals	2 708	1 800	2 163	490	361	518	262	372	661	867
Chemical and mineral products	1 818	2 258	2 141	568	565	775	508	505	474	654
Basic metals	2 080	2 434	1 597	746	517	705	346	411	367	474
Machinery and other equipment n.e.c.	1 948	2 493	3 678	533	614	973	499	819	1 008	1 352
Building of ships, oil platforms and moduls	710	860	1 100	216	197	315	195	238	307	360
Furniture and other manufacturing n.e.c.	510	493	647	130	142	155	106	171	162	208
Electricity and gas supply	4 507	4 386	4 862	1 149	1 245	1 385	800	1 251	1 387	1 425
Construction	2 196	2 495	2 666	639	635	659	651	689	654	672
Service industries excl.general government	106 639	126 840	134 262	30 255	32 846	35 149	34 558	30 495	33 833	35 376
Wholesale and retail trade	22 471	26 287	28 830	6 390	6 413	7 616	6 939	7 214	7 126	7 552
Hotels and restaurants	2 001	2 554	2 742	513	755	790	692	681	665	703
Transport via pipelines	5 993	8 168	8 387	2 128	2 588	2 354	2 008	2 113	2 548	1 718
Water transtort	6 655	11 917	12 449	2 747	3 417	2 331	5 175	1 768	2 895	2 611
Ocean transport	5 982	10 877	11 455	2 513	3 146	2 125	4 807	1 555	2 686	2 408
Inland water and costal transport	673	1 040	994	234	271	205	368	214	209	203
Other transport industries	15 531	17 991	17 007	4 293	4 477	5 098	4 129	3 055	4 605	5 219
Post and telecommunications	5 997	6 733	7 630	1 222	1 746	2 655	1 243	1 371	1 961	3 056
Financial intermediation	5 721	6 331	6 943	1 532	1 591	1 723	1 804	1 728	1 651	1 760
Dwelling services	27 245	30 336	31 629	7 354	7 767	8 229	7 824	7 817	7 757	8 231
Business services etc.	8 544	9 451	11 028	2 363	2 365	2 506	2 718	2 835	2 787	2 688
Personal services	6 481	7 072	7 617	1 714	1 727	1 847	2 026	1 914	1 839	1 837
General government	31 604	37 949	40 744	9 081	8 847	10 743	8 441	10 054	9 755	12 494
Central government	14 800	15 238	17 278	3 276	3 719	4 892	3 312	4 652	3 777	5 537
Civilian central government	10 577	11 117	13 342	2 424	2 789	3 441	2 517	3 908	2 886	4 031
Defence	4 223	4 121	3 936	852	930	1 451	795	744	891	1 506
Local government	16 804	22 711	23 466	5 805	5 128	5 851	5 129	5 402	5 978	6 957
Mainland-Norway	158 905	180 892	193 020	43 931	44 993	51 725	43 423	46 433	48 861	54 303
Education	5 947	10 473	8 156	3 208	1 866	1 901	2 084	2 178	1 864	2 029
Health and social work	7 562	8 295	10 645	1 863	2 054	2 501	2 410	2 397	2 627	3 211

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

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Gross fixed capital formation	9,9	15,1	8,1	22,8	13,3	7,3	8,4	2,2	10,7	11,0
Buildings and structures	5,2	12,3	1,6	14,1	10,6	12,6	5,3	1,0	1,9	-1,2
Oil exploration, drilling, pipelines	8,0	29,3	8,8	36,5	19,4	36,4	28,4	11,2	6,8	-5,3
Oil platforms etc.	4,5	11,5	28,4	46,6	3,3	-21,3	-0,8	-0,7	43,1	80,3
Ships and boats	34,4	70,5	2,3	126,7	78,5	-10,8	29,4	-34,1	-9,2	18,2
Other transport equipment	32,0	3,9	-8,7	3,4	5,4	6,0	-12,3	-3,9	-2,9	-15,0
Machinery and equipment	10,7	13,0	15,5	16,9	13,6	10,4	13,4	11,7	21,5	15,1
Agriculture and hunting	10,5	0,2	-3,3	-0,3	-0,1	0,4	-1,4	-3,8	-4,4	-2,6
Forestry and logging	-2,4	0,0	-0,1	0,5	0,2	-0,7	-0,4	-0,5	-0,2	0,8
Fishing and fish farming	-7,7	96,6	-5,8	193,8	84,3	-17,0	2,5	-9,4	-18,8	2,5
Oil and gas extraction, incl. services	3,6	13,5	29,7	35,3	7,8	-7,3	10,0	12,2	42,3	54,9
Oil and gas extraction	-5,9	23,9	24,7	34,3	15,9	20,0	16,4	12,4	39,1	32,1
Service act. incidental to oil and gas ext.	.	-89,5	618,5	230,0	.	-96,8	.	-3,4	.	.
Mining and quarrying	-5,3	-24,8	26,7	-2,7	-36,0	-1,5	26,4	46,9	0,2	32,5
Manufacturing	14,6	7,5	7,3	12,1	1,1	14,8	6,0	-0,6	27,9	-0,6
Food products, beverages and tobacco	30,4	5,8	-0,2	9,3	14,7	0,5	-5,4	-6,2	16,4	-5,5
Textiles, wearing apparel, leather	0,5	37,1	-23,4	70,7	-0,6	35,4	-40,0	8,2	-24,4	-36,8
Wood and wood products	-4,4	-23,0	-26,5	-23,4	-44,6	-16,7	-37,6	-6,8	-23,4	-36,8
Pulp, paper and paper products	-9,5	21,2	48,0	21,1	42,3	11,5	14,9	109,8	97,3	-16,2
Publishing, printing, reproduction	12,8	21,7	22,4	34,7	8,5	38,6	57,8	-19,6	100,7	-4,1
Refined petroleum products	0,4	5,4	-35,7	65,3	-19,6	74,6	177,4	-15,6	-62,6	-62,4
Basic chemicals	7,7	-33,0	16,6	-30,7	-47,6	-21,4	-39,9	-26,6	76,4	63,2
Chemical and mineral products	26,4	23,7	-7,7	35,0	23,7	31,1	40,4	-14,3	-19,0	-16,8
Basic metals	84,4	16,6	-37,0	47,2	-3,7	-10,4	-27,5	-47,2	-32,9	-35,5
Machinery and other equipment n.e.c.	-12,5	28,2	42,0	17,5	21,1	60,5	29,5	46,2	56,5	35,3
Building of ships, oil platforms and moduls.	3,8	21,5	23,9	-6,4	37,5	72,9	44,2	5,6	50,1	11,3
Furniture and other manufacturing n.e.c.	42,7	-2,5	27,1	-13,2	4,5	13,8	54,6	26,1	9,2	32,4
Electricity and gas supply	-12,0	-3,0	6,6	5,8	10,1	-9,0	28,2	4,3	6,2	-0,6
Construction	134,8	14,4	1,3	12,5	19,4	13,9	9,1	2,3	-1,7	-3,6
Service industries excl.general government	14,3	17,2	1,7	19,5	18,9	15,2	14,5	-3,5	0,1	-3,0
Wholesale and retail trade	23,3	17,7	4,5	22,0	19,1	18,8	12,5	7,3	5,8	-5,4
Hotels and restaurants	10,9	26,3	2,8	0,9	49,2	68,7	33,4	26,2	-15,7	-14,9
Transport via pipelines	-4,6	31,5	-0,7	31,4	31,3	74,0	75,9	-5,3	-4,7	-29,4
Water transtort	43,6	68,3	5,9	121,7	78,4	-10,5	36,9	-35,3	-5,8	22,7
Ocean transport	52,3	71,1	6,5	126,8	80,8	-10,6	40,6	-37,9	-5,2	23,5
Inland water and costal transport	-5,1	43,3	-1,2	78,2	54,4	-8,7	2,4	-7,4	-12,6	14,4
Other transport industries	47,0	15,2	-10,0	9,3	17,4	21,3	-6,3	-32,9	1,1	-3,6
Post and telecommunications	-7,8	12,7	9,7	11,1	12,0	13,5	9,7	7,8	7,9	11,9
Financial intermediation	24,3	9,5	5,0	11,5	10,5	8,5	16,9	8,0	-1,2	-2,3
Dwelling services	-0,1	8,2	-0,6	11,4	8,0	8,0	7,9	1,5	-5,5	-5,3
Business services etc.	19,8	10,6	11,0	12,6	9,9	10,4	16,6	13,9	11,8	2,1
Personal services	3,9	8,5	3,5	9,0	8,2	9,4	10,0	6,9	1,6	-4,4
General government	3,8	18,1	3,4	29,2	9,7	4,8	-11,5	7,5	5,4	11,5
Central government	4,0	1,6	9,9	-0,3	2,0	3,3	-3,8	39,5	-2,3	8,9
Civilian central government	1,4	3,1	15,8	2,7	2,7	4,3	-1,0	58,6	-1,6	11,8
Defence	10,8	-2,1	-5,6	-7,8	0,6	0,9	-11,4	-14,1	-4,5	2,4
Local government	3,6	32,7	-1,0	55,2	16,2	6,2	-15,9	-10,6	11,0	13,7
Mainland-Norway	11,3	12,8	2,4	15,9	11,3	10,9	3,7	1,4	4,2	0,6
Education	10,7	73,4	-25,0	132,9	28,2	-1,7	-41,9	-34,3	-4,5	2,7
Health and social work	12,4	8,6	23,4	8,5	8,7	7,7	24,9	23,2	22,0	23,4

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

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Total exports	414 482	448 631	414 077	110 252	114 411	114 966	111 926	102 821	99 418	99 911
Goods	321 686	343 673	306 044	84 054	85 015	89 456	85 483	75 889	70 223	74 448
Crude oil and natural gas	156 688	163 674	118 304	38 947	40 220	41 909	35 444	29 947	25 988	26 925
Ships, new	4 257	5 267	7 364	1 307	1 121	1 326	2 727	1 889	1 480	1 268
Ships, second-hand	3 765	4 126	2 897	831	723	945	459	1 497	311	630
Oil platforms and modules, new	59	231	66	5	195	9	18	37	9	2
Oil platforms, second-hand	940	1 005	523	558	412	26	399	40	53	31
Direct exports related to petroleum act.	128	132	127	34	31	31	29	36	34	28
Other goods	155 849	169 238	176 763	42 372	42 313	45 210	46 407	42 443	42 348	45 564
Agriculture, forestry and fishing	7 035	7 711	8 830	1 888	1 779	2 181	2 201	2 093	2 183	2 353
Mining and quarrying	2 342	2 284	2 409	617	595	593	561	603	618	627
Manufacturing products	145 484	158 631	165 097	39 777	39 687	42 214	43 571	39 685	39 394	42 446
Food products, beverages and tobacco	19 528	21 430	23 769	4 768	5 007	6 668	6 245	5 468	5 296	6 760
Textiles, wearing apparel, leather	2 207	2 351	2 460	594	575	632	596	592	611	661
Wood products	2 864	2 923	2 827	795	699	712	657	690	671	809
Pulp, paper and paper products	11 593	10 811	12 074	2 683	2 748	2 824	3 041	2 973	3 020	3 040
Printing and publishing	559	473	625	116	114	131	143	124	146	212
Refined petroleum products	17 147	20 619	13 838	4 884	5 381	4 884	4 827	3 048	3 134	2 829
Basic chemicals	12 107	12 963	13 727	3 450	3 336	3 238	3 762	3 432	3 400	3 133
Chemical and mineral products	9 597	10 627	11 241	2 709	2 789	2 737	2 691	2 861	2 879	2 810
Basic metals	30 756	33 792	35 451	8 626	8 808	8 767	9 656	8 736	8 559	8 500
Machinery and other equipment n.e.c.	35 970	39 124	45 346	10 293	9 401	10 607	11 050	10 882	10 785	12 628
Furniture and other manufacturing products	3 156	3 518	3 739	859	829	1 014	903	879	893	1 064
Electricity	988	612	427	90	252	222	74	62	153	138
Services	92 796	104 958	108 033	26 198	29 396	25 510	26 443	26 932	29 195	25 463
Gross receipts, shipping	46 873	52 125	52 066	13 587	13 491	13 035	13 301	12 931	13 204	12 630
Petroleum activities, various services	468	752	736	188	185	193	192	184	170	190
Oil drilling etc.	1 543	1 925	1 722	451	534	511	518	578	304	322
Pipeline transport	3 129	3 987	4 909	890	848	1 173	1 187	1 015	1 070	1 637
Travel	15 468	15 667	16 741	3 902	5 726	2 896	3 227	4 072	6 380	3 062
Other services	25 315	30 502	31 859	7 180	8 612	7 702	8 018	8 152	8 067	7 622
Transport, post and telecommunication	7 648	8 633	9 223	2 023	2 899	1 842	2 149	2 426	2 607	2 041
Financial and business services	14 076	17 461	18 302	4 014	4 691	4 660	4 803	4 599	4 403	4 497
Services n.e.c.	3 591	4 408	4 334	1 143	1 022	1 200	1 066	1 127	1 057	1 084

Table A12. Exports of goods and services.
Percentage change in volume from the same period in the previous year

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Total exports	9,3	5,7	0,5	9,7	6,4	3,6	8,0	-1,3	-3,6	-0,8
Goods	10,5	5,2	0,1	9,8	5,7	3,6	8,7	-2,4	-4,4	-1,6
Crude oil and natural gas	13,7	2,1	-3,8	3,7	-2,1	1,6	2,9	-3,4	-8,8	-6,0
Ships, new	-0,2	22,4	36,8	3,9	82,2	-26,2	76,3	39,4	29,6	-5,9
Ships, second-hand	-38,2	-3,2	-20,6	3,7	-9,6	-1,3	-74,1	92,8	-44,6	-2,4
Oil platforms and modules, new	-7,5	276,2	-71,9	-59,5	649,9	-20,7	-20,6	609,2	-95,5	-78,6
Oil platforms, second-hand	83,5	6,9	-48,0	230,2	904,9	-93,3	.	-92,8	-87,1	19,2
Direct exports related to petroleum act.	26,0	-4,7	-11,9	31,3	-11,1	-42,2	-27,6	-5,2	1,3	-13,0
Other goods	10,0	8,0	3,4	15,5	11,5	7,9	14,2	-3,3	0,7	2,6
Agriculture, forestry and fishing	14,1	7,1	7,0	7,9	-4,7	14,8	18,0	-4,4	14,8	1,8
Mining and quarrying	2,3	-2,1	-0,4	6,6	4,7	2,7	1,8	-11,0	3,5	5,5
Manufacturing products	10,4	8,5	3,3	16,3	12,2	7,0	14,2	-3,1	-0,2	3,0
Food products, beverages and tobacco	11,6	6,5	2,5	12,8	1,6	16,4	13,8	0,3	-5,2	0,8
Textiles, wearing apparel, leather	1,9	10,6	6,8	15,2	12,3	13,8	11,6	8,0	4,0	4,3
Wood products	1,0	-3,2	-2,4	3,4	-8,5	-10,8	-10,4	-11,3	-1,8	15,5
Pulp, paper and paper products	3,6	6,4	2,1	10,6	5,9	11,5	11,5	0,2	-0,8	-2,0
Printing and publishing	56,6	-22,0	26,4	-28,7	-18,4	-9,0	2,6	-4,4	20,5	86,9
Refined petroleum products	9,8	12,5	-14,4	19,7	17,2	4,2	8,1	-24,8	-21,6	-19,0
Basic chemicals	6,5	4,8	7,6	24,5	1,9	5,5	22,8	0,9	9,4	-1,2
Chemical and mineral products	8,6	14,7	4,3	25,3	10,8	14,4	5,5	4,6	7,3	0,1
Basic metals	13,2	9,8	3,4	15,6	17,2	3,0	12,9	-2,4	0,3	3,1
Machinery and other equipment n.e.c.	13,1	8,0	11,1	16,0	21,1	5,1	22,8	0,8	6,8	15,5
Furniture and other manufacturing products	11,0	8,1	3,6	16,8	4,2	6,1	2,2	-3,3	7,8	7,5
Electricity	-49,9	-24,8	-9,5	-49,6	90,0	272,9	12,3	-12,9	46,1	-51,9
Services	5,8	7,2	2,1	9,5	8,6	3,8	5,4	2,7	-1,4	2,4
Gross receipts, shipping	0,8	2,4	3,3	7,2	0,7	-2,1	3,3	-1,4	2,5	9,0
Petroleum activities, various services	-21,9	55,9	-5,6	52,4	48,2	45,1	0,1	-6,2	-11,1	-5,3
Oil drilling etc.	-2,2	7,4	-24,7	11,6	6,8	2,6	-1,9	2,9	-51,9	-43,2
Pipeline transport	81,2	19,1	7,7	24,9	2,8	11,9	6,9	13,0	1,8	9,0
Travel	1,4	-1,8	3,2	-1,4	-2,4	2,5	-1,1	1,2	7,6	2,1
Other services	12,6	19,0	0,7	18,2	33,4	12,9	12,3	9,7	-10,3	-6,0
Transport, post and telecommunication	-3,9	11,3	3,6	6,9	43,6	-7,9	12,9	16,7	-13,4	6,5
Financial and business services	28,5	23,1	0,5	19,7	32,5	18,5	14,8	10,0	-10,4	-9,6
Services n.e.c.	0,7	19,8	-4,2	37,7	14,1	36,3	0,8	-3,8	-0,7	-12,0

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

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Total imports	327 051	371 532	411 595	93 799	96 181	99 318	100 541	100 102	102 647	108 305
Goods	242 227	266 413	296 000	67 846	65 838	71 711	74 559	71 243	70 641	79 557
Ships	6 325	14 041	13 316	2 818	3 784	2 051	5 759	2 513	2 740	2 304
Oil platforms and modules	3 648	2 241	5 023	1 846	305	54	1 013	116	92	3 802
Direct imports related to petroleum activities	7 714	9 761	11 177	2 490	2 377	2 905	2 562	2 733	2 542	3 340
Other goods	224 540	240 370	266 484	60 692	59 372	66 701	65 225	65 881	65 267	70 111
Agriculture, forestry and fishing	8 088	8 323	9 049	2 321	1 828	2 239	2 879	2 171	2 005	1 994
Crude oil	1 375	1 448	1 313	308	398	333	446	288	316	263
Mining and quarrying	2 906	3 397	3 566	881	923	865	984	906	780	896
Manufacturing products	208 826	225 882	251 535	56 934	56 160	63 042	60 585	62 248	62 084	66 618
Food products, beverages and tobacco	9 493	10 669	12 428	2 596	2 966	2 879	2 739	2 950	3 406	3 333
Textiles, wearing apparel, leather	15 344	16 738	18 170	3 473	5 129	3 977	4 830	3 582	5 485	4 273
Wood products	4 104	4 869	5 260	1 286	1 225	1 351	1 307	1 372	1 278	1 303
Pulp, paper and paper products	6 370	6 487	6 653	1 614	1 588	1 753	1 697	1 616	1 614	1 726
Printing and publishing	3 386	3 560	3 891	815	931	1 018	942	836	980	1 133
Refined petroleum products	9 914	10 918	9 782	2 753	2 650	2 981	2 409	2 430	2 521	2 422
Basic chemicals	9 070	9 621	9 933	2 556	2 425	2 474	2 480	2 453	2 421	2 579
Chemical and mineral products	21 757	23 529	26 113	6 167	5 875	6 316	6 260	6 505	6 454	6 894
Basic metals	22 701	23 925	24 821	5 641	5 656	7 189	6 633	6 379	5 913	5 896
Machinery and other equipment n.e.c.	83 343	91 568	106 419	23 435	22 095	26 448	25 244	26 761	25 362	29 052
Furniture and other manufacturing products	7 049	8 169	9 356	1 979	1 964	2 455	2 258	2 109	2 203	2 786
Non-competitive imports	16 295	15 829	18 709	4 619	3 656	4 201	3 786	5 255	4 447	5 221
Electricity	3 345	1 320	1 021	248	63	222	331	268	82	340
Services	84 824	105 119	115 595	25 953	30 343	27 607	25 982	28 859	32 006	28 748
Operating costs shipping, excl. bunkers	20 889	26 078	26 696	6 443	6 973	6 822	6 714	6 848	6 529	6 605
Operating costs oil drilling, excl bunkers	1 135	1 585	2 974	390	506	477	565	674	746	989
Petroleum activities, various services	3 501	5 013	3 384	2 069	1 446	867	900	820	741	923
Travel	29 214	31 614	34 742	7 325	11 071	7 655	6 241	7 921	12 042	8 538
Other services	30 085	40 829	47 799	9 726	10 347	11 786	11 562	12 596	11 948	11 693
Transport, post and telecommunication	3 491	3 393	4 359	792	831	917	1 041	1 180	1 171	967
Financial and business services	14 287	20 773	23 147	4 990	5 088	5 943	5 736	5 658	5 607	6 146
Services n.e.c.	12 307	16 663	20 293	3 944	4 428	4 926	4 785	5 758	5 170	4 580

Table A14. Imports of goods and services.
Percentage change in volume from the same period in the previous year

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Total imports	8,0	12,0	9,1	22,3	11,8	6,3	17,6	3,8	6,8	9,3
Goods	10,8	10,3	10,3	21,7	9,8	3,2	18,3	3,4	8,2	11,9
Ships	-8,3	101,5	0,9	292,1	117,6	-25,2	-1,9	-5,2	-13,6	44,0
Oil platforms and modules	796,7	-43,5	146,5	.	38,9	-98,5	.	-93,5	-65,7	.
Direct imports related to petroleum activities.	19,0	22,6	10,5	46,0	12,2	36,2	25,0	5,2	3,5	10,6
Other goods	9,7	8,2	9,7	14,7	6,7	8,8	18,4	6,4	9,9	5,3
Agriculture, forestry and fishing	3,3	-3,0	4,4	14,5	-8,1	-2,5	33,2	-9,0	10,5	-11,9
Crude oil	-10,4	17,0	23,3	46,3	65,1	-42,4	41,0	12,9	12,1	25,5
Mining and quarrying	0,6	8,6	8,4	27,7	17,5	11,2	45,5	-2,1	-2,2	-2,1
Manufacturing products	9,0	9,4	9,9	15,6	9,2	11,3	19,0	6,7	9,9	5,6
Food products, beverages and tobacco	4,5	9,1	6,3	12,5	9,5	7,9	8,5	1,9	5,9	9,3
Textiles, wearing apparel, leather	-1,3	5,7	4,8	14,2	6,9	0,9	9,9	-0,1	4,0	5,0
Wood products	8,2	18,3	7,9	28,5	19,4	18,2	25,2	2,8	11,7	-3,7
Pulp, paper and paper products	1,5	9,5	0,4	14,0	12,1	9,9	9,9	-2,9	-0,9	-3,7
Printing and publishing	12,6	10,2	7,6	21,3	11,3	8,8	16,5	6,5	1,8	6,7
Refined petroleum products	-2,7	9,4	7,5	19,9	-2,9	19,3	9,6	-3,7	18,6	7,0
Basic chemicals	2,5	6,6	2,2	9,1	8,5	18,7	16,9	-0,5	-5,5	0,1
Chemical and mineral products	9,6	7,2	7,7	11,9	11,2	8,1	16,4	3,3	8,7	3,6
Basic metals	13,9	3,3	7,1	1,6	-4,8	13,9	14,0	13,0	16,0	-9,9
Machinery and other equipment n.e.c.	7,8	14,7	13,8	20,5	17,8	18,6	28,8	9,2	10,1	9,9
Furniture and other manufacturing products	3,4	15,5	10,8	25,8	16,0	14,6	19,9	5,1	9,6	9,5
Non-competitive imports	48,1	-6,2	13,1	10,7	-12,7	-20,2	2,1	13,7	24,4	12,3
Electricity	.	-45,1	-12,8	-66,0	-95,1	-69,2	-59,7	84,0	117,7	48,5
Services	0,6	17,0	6,0	23,8	16,8	16,2	15,5	4,7	3,8	1,9
Operating costs shipping, excl. bunkers	3,3	2,4	3,3	7,2	0,7	-2,1	3,3	-1,4	2,5	9,0
Operating costs oil drilling, excl bunkers	69,5	36,6	80,7	44,6	75,1	88,3	159,6	66,8	41,3	98,2
Petroleum activities, various services	-15,0	39,0	-34,9	122,9	40,4	-13,7	38,4	-62,0	-50,4	2,4
Travel	4,9	8,6	4,0	9,3	9,1	10,0	6,5	3,0	3,9	3,0
Other services	-4,4	32,1	11,1	36,2	33,3	34,2	23,6	21,4	10,0	-6,1
Transport, post and telecommunication	-1,6	-4,8	24,5	-8,4	-16,2	-6,8	18,5	41,9	37,0	4,7
Financial and business services	-9,0	43,9	6,8	49,8	44,8	40,5	18,0	9,3	4,8	-2,8
Services n.e.c.	0,8	28,8	13,9	33,5	36,0	38,5	33,2	33,1	10,9	-12,4

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

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Total exports	414 482	448 631	414 077	110 252	114 411	114 966	111 926	102 821	99 418	99 911
Goods	321 686	343 673	306 044	84 054	85 015	89 456	85 483	75 889	70 223	74 448
Services	92 796	104 958	108 033	26 198	29 396	25 510	26 443	26 932	29 195	25 463
Total imports	327 051	371 532	411 595	93 799	96 181	99 318	100 541	100 102	102 647	108 305
Goods	242 227	266 413	296 000	67 846	65 838	71 711	74 559	71 243	70 641	79 557
Services	84 824	105 119	115 595	25 953	30 343	27 607	25 982	28 859	32 006	28 748
Balance of goods and services	87 431	77 099	2 482	16 453	18 230	15 648	11 385	2 719	-3 229	-8 394
Primary income and transfers from abroad	41 350	47 588	58 458	12 777	11 358	12 327	14 498	15 194	14 314	14 452
Compensation of employees	1 500	1 500	1 500	375	375	375	375	375	375	375
Interest	23 117	28 798	38 107	8 004	6 805	7 700	9 462	10 210	9 233	9 202
Dividends etc	2 052	3 172	3 797	1 116	909	943	763	1 370	615	1 049
Reinvested earnings	6 139	5 410	5 534	1 060	1 116	1 250	1 459	974	1 705	1 396
Current transfers	8 542	8 708	9 520	2 222	2 153	2 059	2 439	2 265	2 386	2 430
Primary income and transfers to abroad	62 783	68 564	77 207	18 130	15 366	18 239	18 163	18 831	18 005	22 208
Compensation of employees	3 192	3 724	3 786	926	990	951	947	967	943	929
Interest	22 928	28 203	33 838	7 928	5 612	7 240	8 065	7 789	7 843	10 141
Dividends etc	11 063	11 660	13 643	5 815	952	1 413	4 845	6 713	1 107	978
Reinvested earnings	7 317	6 223	4 430	-901	3 352	2 905	-521	-1 609	3 221	3 339
Current transfers from general government	7 200	7 328	8 588	1 569	1 635	2 806	1 710	2 122	1 402	3 354
Other current transfers	11 083	11 426	12 922	2 793	2 825	2 924	3 117	2 849	3 489	3 467
Primary income and transfers from abroad, net	-21 433	-20 976	-18 749	-5 353	-4 008	-5 912	-3 665	-3 637	-3 691	-7 756
Current external balance	65 998	56 123	-16 267	11 100	14 222	9 736	7 720	-918	-6 920	-16 150
Capital transfers, net	-820	-1 287	-754	-284	-299	-288	-68	-292	90	-484
Net lending	65 178	54 836	-17 021	10 816	13 923	9 448	7 652	-1 210	-6 830	-16 634
Revaluations, net	-5 077	-15 582	11 648	1 961	-5 556	-519	-497	121	11 810	214
Increase in Norway's net assets	60 101	39 254	-5 373	12 777	8 367	8 929	7 155	-1 089	4 980	-16 420

Tabell A16. Employed persons by industry. Employees and self-employed. 1000

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Total	2 150.0	2 212.8	2 263.1	2 211.4	2 233.5	2 227.3	2 238.1	2 266.3	2 282.8	2 264.8
Agriculture and hunting	79.1	77.4	76.2	79.9	81.4	74.1	74.4	78.1	77.1	75.0
Forestry and logging	5.9	5.9	5.7	6.3	5.8	5.5	5.5	6.2	5.7	5.2
Fishing and fish farming	18.1	18.0	17.9	18.5	17.4	18.5	17.3	18.1	20.1	16.2
Oil and gas extraction incl. services	21.6	22.4	23.1	22.3	22.8	22.6	22.3	22.6	23.5	23.8
Oil and gas extraction	16.5	16.2	16.5	16.0	16.4	16.2	16.1	16.4	16.9	16.7
Service activities incidental to oil and gas ext.	5.1	6.2	6.5	6.2	6.4	6.4	6.2	6.2	6.6	7.1
Mining and quarrying	4.4	4.2	4.2	4.3	4.3	4.1	4.0	4.2	4.3	4.2
Manufacturing	304.4	314.8	316.8	315.1	319.5	313.0	317.0	319.2	317.7	313.4
Food products, beverages and tobacco	54.6	56.0	55.1	56.0	56.6	55.5	55.7	55.5	54.8	54.1
Textiles,wearing apparel, leather	9.6	9.1	8.9	9.1	9.0	9.1	8.9	8.5	9.0	9.1
Wood and wood products	16.4	17.2	17.0	17.1	17.8	17.1	17.1	17.1	17.7	16.1
Pulp, paper and paper products	11.0	11.4	11.5	11.5	11.5	11.3	11.2	11.9	11.9	10.8
Publishing, printing, reproduction	40.6	42.2	42.7	42.6	42.2	41.6	42.2	43.4	41.9	43.3
Refined petroleum products	1.4	1.6	1.5	1.6	1.7	1.6	1.4	1.5	1.5	1.5
Basic chemicals	8.7	8.6	8.7	8.6	8.8	8.6	8.6	8.7	8.8	8.7
Chemical and mineral products	22.4	22.8	22.9	22.7	23.5	22.6	23.7	23.1	22.8	22.1
Basic metals	16.7	17.5	17.6	17.6	18.1	17.2	17.0	17.7	17.8	17.7
Machinery and other equipment n.e.c.	76.6	80.1	80.7	80.1	81.1	79.9	80.9	80.8	81.7	79.6
Building of ships, oil platforms and moduls	32.6	33.8	35.1	33.8	34.4	33.5	34.7	35.6	34.8	35.5
Furniture and other manufacturing n.e.c.	13.8	14.7	15.2	14.5	14.8	14.9	15.5	15.3	15.0	14.8
Electricity and gas supply	19.6	19.6	18.8	19.7	19.9	19.3	18.8	18.8	18.9	18.7
Construction	106.0	115.0	122.1	114.7	117.3	118.5	119.6	122.2	123.5	123.0
Services activities excluded general government	924.3	955.5	988.5	953.9	966.3	963.9	970.6	990.6	1 002.1	990.3
Wholesale and retail trade	302.4	315.1	323.7	313.9	314.6	319.5	319.4	326.7	326.1	322.5
Hotels and restaurants	59.9	62.1	64.1	62.5	65.2	61.4	60.4	63.9	66.9	65.3
Transport via pipelines	0.2	0.3	0.3	0.4	0.3	0.4	0.2	0.3	0.3	0.3
Water transport	49.8	50.3	51.3	49.9	51.4	50.1	50.8	51.2	52.2	50.9
Ocean transport	41.0	41.5	42.4	40.9	42.2	41.4	42.3	42.3	42.9	42.2
Inland water and costal transport	8.9	8.9	8.9	8.9	9.2	8.6	8.5	8.9	9.3	8.7
Other transport activities	88.9	91.0	93.8	90.9	91.6	92.3	91.8	92.6	94.8	96.0
Post and telecommunications	51.5	51.5	52.3	52.4	51.7	49.7	52.0	52.0	53.4	52.0
Financial intermediation	50.3	49.9	48.9	49.9	50.0	49.5	49.4	49.2	49.0	48.0
Dwelling services	1.2	1.2	1.3	1.3	1.3	1.0	1.2	1.3	1.3	1.3
Business services etc.	130.4	141.7	154.2	141.8	145.0	145.0	148.1	154.1	158.4	156.0
Personal services	189.7	192.5	198.6	191.0	195.3	195.0	197.3	199.3	199.7	198.0
General government	666.5	680.0	689.9	676.8	678.8	687.9	688.6	686.2	689.8	695.0
Central government	152.2	152.8	152.1	152.4	152.2	153.5	153.7	150.4	151.8	152.5
Civilian central government	106.8	109.1	109.1	108.8	108.6	110.0	109.9	107.6	109.1	109.6
Defence	45.4	43.7	43.1	43.6	43.6	43.5	43.8	42.8	42.7	43.0
Local government	514.3	527.1	537.8	524.3	526.6	534.4	534.8	535.8	538.0	542.5
Mainland Norway	2 087.2	2 148.6	2 197.3	2 147.8	2 168.3	2 162.9	2 173.4	2 201.0	2 216.1	2 198.4

Tabell A17. Employed persons by industry. Employees and self-employed. Percentage change from the same period in previous year

	1996	1997	1998	97:2	97:3	97:4	98:1	98:2	98:3	98:4
Total	2.1	2.9	2.3	3.2	2.9	2.9	2.8	2.5	2.2	1.7
Agriculture and hunting	-1.7	-2.2	-1.5	-6.7	-0.6	3.6	0.6	-2.2	-5.3	1.1
Forestry and logging	-0.5	-0.5	-4.0	22.4	5.0	-2.6	-9.6	-1.2	-0.9	-4.6
Fishing and fish farming	0.1	-0.3	-0.7	3.4	2.4	5.3	-2.6	-2.5	15.5	-12.2
Oil and gas extraction incl. services	2.1	3.9	2.8	3.7	4.7	4.1	1.1	1.6	3.1	5.4
Oil and gas extraction	-3.6	-2.1	2.0	-2.5	-1.0	-1.6	-0.3	2.3	2.7	3.2
Service activities incidental to oil and gas ext.	26.2	23.1	5.0	24.5	23.1	22.0	5.1	-0.2	4.2	10.8
Mining and quarrying	-3.5	-4.3	-1.4	-7.1	-3.9	-2.7	-3.7	-2.9	-0.9	1.9
Manufacturing	1.6	3.4	0.6	4.2	3.1	2.0	1.8	1.3	-0.6	0.1
Food products, beverages and tobacco	1.3	2.6	-1.7	3.3	1.1	-0.3	-0.3	-0.8	-3.2	-2.4
Textiles,wearing apparel, leather	0.8	-5.2	-2.2	-3.5	-7.1	0.7	-2.4	-5.8	-0.2	-0.3
Wood and wood products	-1.0	4.5	-1.2	7.6	5.3	4.9	2.3	-0.1	-0.8	-6.2
Pulp, paper and paper products	-3.0	3.5	0.8	2.4	0.9	10.9	0.9	3.6	3.2	-4.5
Publishing, printing, reproduction	3.1	4.0	1.2	4.5	3.5	3.4	-0.3	1.9	-0.8	4.1
Refined petroleum products	-25.0	9.1	-6.4	9.1	8.3	8.6	-2.5	-9.2	-10.1	-2.9
Basic chemicals	-6.3	-1.1	0.9	-1.5	-0.8	-1.2	1.1	0.9	0.0	1.7
Chemical and mineral products	7.5	1.9	0.6	1.8	2.9	-0.3	5.5	2.0	-2.8	-2.2
Basic metals	0.5	4.4	0.7	3.9	4.3	4.5	0.3	0.8	-1.3	3.1
Machinery and other equipment n.e.c.	4.0	4.6	0.9	6.1	5.0	1.5	2.3	0.9	0.7	-0.5
Building of ships, oil platforms and moduls	-2.6	3.5	4.1	4.2	2.9	1.6	3.9	5.4	1.2	5.8
Furniture and other manufacturing n.e.c.	4.2	6.3	3.4	5.7	6.5	4.3	7.9	4.9	1.8	-0.7
Electricity and gas supply	-1.2	-0.1	-4.0	0.0	-0.9	-1.0	-3.6	-4.2	-4.9	-3.1
Construction	3.4	8.4	6.2	8.7	6.8	10.7	9.4	6.5	5.3	3.8
Services activities excluded general government	2.3	3.4	3.5	3.9	3.5	2.9	3.5	3.9	3.7	2.7
Wholesale and retail trade	2.4	4.2	2.7	4.5	4.0	3.8	2.3	4.1	3.7	0.9
Hotels and restaurants	2.9	3.6	3.3	5.7	3.2	0.4	2.1	2.2	2.6	6.2
Transport via pipelines	-41.7	25.2	-6.7	53.8	15.4	53.8	-7.2	-7.2	-5.8	-6.5
Water transport	0.2	1.0	1.9	0.5	0.9	-0.7	1.8	2.7	1.6	1.6
Ocean transport	-0.1	1.2	2.3	0.5	1.5	-0.2	2.5	3.2	1.8	1.8
Inland water and costal transport	1.6	0.1	-0.1	0.5	-1.7	-3.2	-1.5	0.1	0.9	0.3
Other transport activities	1.9	2.4	3.0	3.0	1.2	2.6	2.7	1.8	3.5	4.0
Post and telecommunications	1.1	-0.1	1.7	0.7	-0.2	-2.0	-0.2	-0.6	3.2	4.5
Financial intermediation	-1.4	-0.8	-2.0	-0.8	-1.6	-1.3	-1.7	-1.4	-1.9	-3.0
Dwelling services	2.5	-0.0	5.9	3.0	0.4	-11.7	-5.3	0.1	-0.7	37.1
Business services etc.	4.3	8.7	8.9	11.4	9.2	7.1	10.0	8.7	9.2	7.6
Personal services	2.9	1.5	3.2	0.7	3.3	3.0	4.8	4.3	2.2	1.5
General government	2.5	2.0	1.5	2.1	1.6	2.0	1.8	1.4	1.6	1.0
Central government	1.5	0.4	-0.5	0.5	0.2	0.5	0.3	-1.3	-0.2	-0.6
Civilian central government	2.1	2.2	-0.1	2.2	1.9	2.5	0.7	-1.1	0.5	-0.4
Defence	0.1	-3.7	-1.5	-3.6	-3.7	-4.2	-0.9	-1.8	-2.1	-1.3
Local government	2.9	2.5	2.0	2.6	2.1	2.4	2.2	2.2	2.2	1.5
Mainland Norway	2.2	2.9	2.3	3.2	2.9	2.9	2.8	2.5	2.2	1.6

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