NORGES BANK’S INFLATION REPORT

Pursuant to the Norges Bank Act, the central bank shall be the executive and advisory body for monetary, credit and exchange rate policy. The projections in the Inflation Report provide a basis for the Bank’s conduct of monetary policy. The monetary policy to be conducted by Norges Bank shall be aimed at maintaining a stable krone exchange rate against European currencies. There are two fundamental conditions that must be fulfilled to achieve this. First, price and cost inflation must over time not exceed the corresponding aim for inflation in the euro area. Second, monetary policy must not generate deflation through a recession.

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

Gradual fall in interest rates

Norges Bank implements monetary policy with a view to promoting exchange rate stability vis-à-vis the euro. In order to achieve exchange rate stability, we must over time bring price and cost inflation down to the corresponding aim for inflation in the euro area. On the other hand, interest rates must be set with a view to avoiding a recession with deflation, as this would undermine confidence in the krone. The orientation of monetary policy instruments is left to Norges Bank's discretion. The outlook for the Norwegian economy, as presented in the Inflation Report, is important when exercising this discretion.

The mainland economy will now slow down after six years of strong expansion. It is uncertain how long it will take before the economy again turns from contraction and stagnation to renewed growth. Some factors indicate that the slowdown will span a few years. First, the Norwegian business sector has been hit by a rise in relative costs as well as a downturn in world demand and prices. Profitability has declined in many enterprises, which must consolidate their position and rationalise and streamline operations. Second, the high rise in costs in the local government sector following the income settlements last year will curb growth in local government services and employment. Third, parts of the business sector will be facing major structural changes. Among others, this will apply to enterprises supplying goods and services to the petroleum sector. In these industries, restructuring is inevitable and will take time, to a large extent independently of economic policy. How long it takes to bring relative costs in Norway into line with developments in Europe will be of major importance for production and employment.

Market participants expect a substantial reduction in interest rates over the next year. Such expectations may find support also in the assessment of the outlook for the Norwegian economy that is presented in this report. In setting interest rates, Norges Bank will pursue a gradualist strategy.

In view of the current outlook for the mainland economy, a gradual reduction in interest rates will be robust to negative exogenous shocks of the kind experienced by the Norwegian economy last summer. A tightening of monetary policy in response to a renewed decline in the petroleum sector or other export industries will not have a stabilising effect on the Norwegian economy, and even less so on the exchange rate, when the economy is already facing a significant slowdown in growth.

The main uncertainty associated with the central bank's setting of interest rates is related to developments in the more sheltered sectors of the Norwegian economy, where price pressures are still substantial. In this situation, higher-than-expected growth in private consumption or a relaxation of the fiscal stance would generate uncertainty about the inflation outlook. The best basis for lower interest rates would be provided by maintaining the fiscal stance adopted in November last year, with the tightening this entailed.

Svein Gjedrem

The cut-off date for the Inflation Report was 18 March 1999

1 SUMMARY

Norges Bank's projection for consumer price inflation is 2¼% in 1999, 1¾ % in 2000, and 1½% in 2001. Projected inflation is lower than in the December *Inflation Report*. The downward revision of the inflation projections reflects lower international price inflation and a fall in prices of imported goods. The estimate for import prices has been adjusted downwards for both 1999 and next year. The projections for wage growth are also lower than in the December *Inflation Report*.

There are still strong pressures in the Norwegian economy. Although the number of vacancies is declining, labour shortages exist in many industries, particularly in the public sector and private services. Inflation is being restrained by the very low rise in prices for imported goods. The rise in prices for many domestically produced goods and services is high, particularly for services where wages account for a large share of costs. The inflation differential between Norway and other European countries is substantial. This differential could give rise to an acceleration in consumer price inflation in Norway if prices abroad were to pick up sooner than expected.

The projection for the real economy remains virtually unchanged from the previous *Inflation Report*. Mainland GDP is expected to remain at the 1998 level up to and including 2000 and then edge up in 2001. In some industries, higher costs and low product prices have resulted in substantially reduced profitability. Lower demand for labour and lower investment levels are expected next year, particularly in the construction industry and some manufacturing sectors. The decline in petroleum investment will contribute to sluggish output growth both this year and next. If export prices were to pick up sooner than expected, the decline in business fixed investment may be more moderate than projected.

Continued growth in household demand will attenuate the contraction in the business sector. Households have recorded substantial income growth in recent years, and have a relatively solid financial position. House prices have developed more favourably than expected after interest rates were increased last year. Experience shows that higher house prices will reduce households' propensity to save, thereby boosting consumption growth.

While the krone has depreciated against our traditional trading partners over the last two years, it has appreciated against many of our other trading partners, particularly in Asia. By including a broader selection of trading partners, we find that the effective krone exchange rate was more stable in 1998 than indicated by the usual measure for the import-weighted exchange rate. This is an important explanation for the relative stability of consumer prices in spite of strong price and cost pressures in the Norwegian economy.

The projections in this report are based on the assumption that interest rates remain unchanged for the next six months and then decline in line with market expectations. It is assumed that the krone exchange rate will return to its initial range against European currencies in the course of the next six months. Subsequently, the exchange rate is assumed to remain unchanged through the remainder of the projection period. The effects on price inflation given that the krone exchange rate remains at the average for the last month are discussed in a separate box in this report.

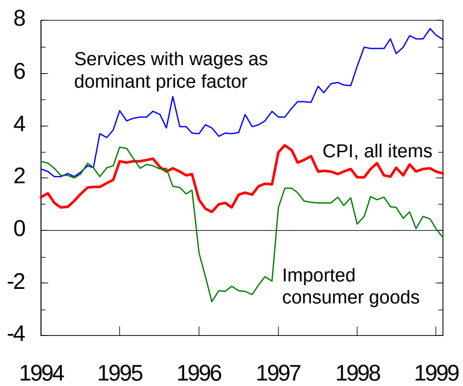
2 THE ECONOMIC NEWS

2.1 Price developments

Lower-than-expected price inflation

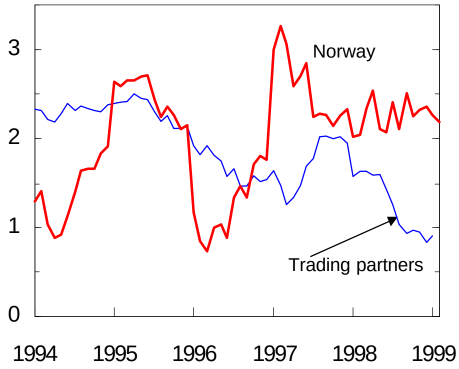
In recent months price inflation has been somewhat lower than expected. The year-on-year rise in consumer price inflation was 2.2% in February. The rate has hovered between 2 and 2½ % over the last eighteen months in spite of mounting pressures in the economy during the period. The moderate rise in prices reflects the lower rise in import prices, which has compensated for the higher rise in domestically produced goods. While prices for imported consumer goods fell by 0.3% from February last year, some service prices, where wage costs have a substantial effect on the rise in prices, rose by 7.3% during the same period, see Chart 2.1.
Subdued international price inflation has also contributed to the moderate rise in prices among trading partners. Evidence suggests that the spillover effects of the Asian crisis have influenced international price trends through a sharp fall in commodity prices and a decline in producer prices. Consumer price inflation among trading partners has dropped considerably since the second half of 1997, and was 0.9% in January 1999. In spite of moderate and fairly stable price inflation in Norway, the inflation differential against other countries has widened substantially, see Chart 2.2.
The underlying rise in consumer prices – excluding changes in indirect taxes and electricity prices – has been virtually on a par with the rise in the total CPI so far this year, see Chart 2.3. Electricity prices are still restraining the rise in the CPI to some extent, whereas indirect taxes are not making any contribution to price inflation this year. In February, the year-on-year rise in underlying price inflation was 2.3%.

Chart 2.1 *CPI, all items and by supplier sector. 12-month rise. Per cent*



Source: Statistics Norway

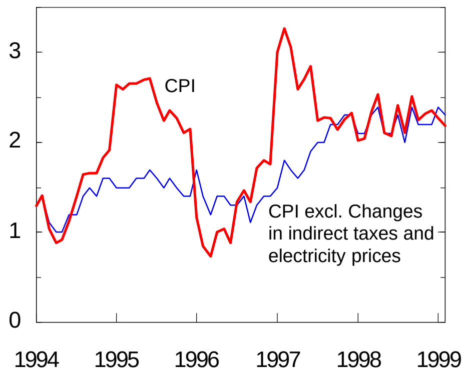
Chart 2.2 *Consumer prices in Norway and abroad. 12-month rise. Per cent*



Sources: Statistics Norway and OECD

In the euro area the rise in prices was 0.8% in January, measured by the Harmonised Index of Consumer Prices (HICP), whereas the index showed a rise in prices of 2.0% in Norway in February. The planned broadening of the coverage of the HICP is expected to bring price inflation in Norway, when measured by this index, up to the level shown by the normal CPI. The broadening of the coverage will probably not influence HICP inflation in euro countries.

Chart 2.3 *Consumer prices (CPI). Total and excluding indirect taxes and electricity prices. 12-month rise. Per cent*



Sources: Statistics Norway and Norges Bank

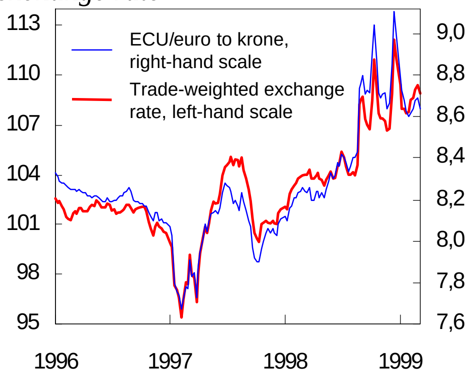
2.2 Interest rates and exchange rates

Lower interest rates and a stronger krone exchange rate

Since the December *Inflation Report*, Norges Bank has lowered its key interest rates on two occasions by a total of 1.0 percentage point. Short-term money market rates are still considerably higher than corresponding rates in the euro area.

After depreciating in mid-December, the krone appreciated towards the end of the year and stood at 8.86 against the euro on 4 January. The krone appreciated markedly against the euro in January and has since remained stable. In the period to 18 March the krone was quoted at a little more than 8.50 against the euro.

Chart 2.4 *The ECU/euro to krone exchange rate and the trade-weighted exchange rate*

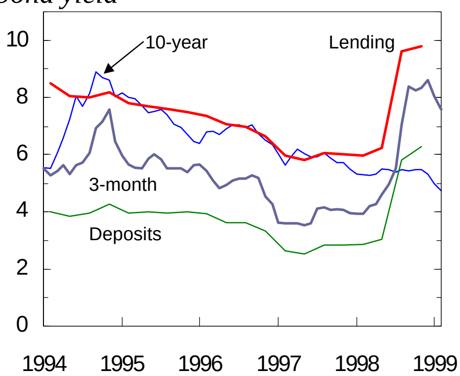


Source: Norges Bank

In the period mid-December to the end of the year money market rates remained fairly steady with three-month rates at about 8%. At the beginning of the year money market rates declined in step with the appreciation of the krone although some of the fall in interest rates was reversed around mid-January.

In response to developments in money and foreign exchange markets and the prospect of reduced pressures in the economy, Norges Bank lowered its key rates by 0.5 percentage point on 28 January and by a further 0.5 percentage point on 3 March. Nominal three-month rates in the money market have dropped from about 8% in early January to 6.9% on 18 March. The interest rate differential against euro countries has narrowed in pace with the drop in Norwegian money market rates, from 4.8 percentage points at the beginning of the year to about 3.7 percentage points on 18 March. Key rates in the euro area have been left unchanged since the introduction of the euro, while the central banks in the UK, Sweden and Denmark have lowered their key rates. In the euro area three-month money market rates have remained

Chart 2.5 *Interest rate movements in Norway. Banks average deposit and lending rates, 3-month Euro-krone interest rate and 10-year government bond yield*



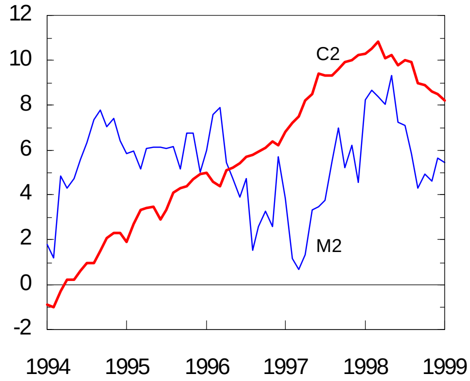
Source: Norges Bank

stable at a little more than 3% since the euro was introduced at the beginning of the year. Norwegian bond yields have shown a substantial decline in the period to the beginning of February and the yield differential against Germany was almost halved, down to ¾ percentage point. Ten-year government bond yields reached a low of close to 4.7% in mid-February, but have since risen to about 4.9% in March. In an historical context European yields have been very low, but some increase has been recorded since the lowest level was seen at the end of January.

Credit growth continues to slow

Twelve-month growth in domestic credit (C2) has slowed over the last year, from a peak of almost 11% in March 1998 to 8.2% in January. The high credit growth in 1998 reflects the sharp expansion in fixed investment. The projected fall in fixed investment suggests that a further contraction in credit growth could be expected in the period ahead. The reduction in credit growth in recent months also reflects the central bank's interest rate increases of a total of 4½ percentage points last year. Moreover, the interest rate increases seem to have resulted in a shift in demand from domestic credit to foreign credit. Twelve-month growth in the money supply (M2) was reduced by more than half between May and September of last year, but edged up thereafter and has remained around 5% in recent months.

Chart 2.6 *M2 and C2. 12-month rise. Per cent*



Source: Norges Bank

2.3 Cyclical developments

Signs of slower growth

Growth in the Norwegian economy slackened towards the end of last year. Preliminary quarterly national accounts figures for 1998 showed an increase in mainland GDP of 1.3% between the fourth quarter of 1997 and the same quarter of last year, whereas growth for the year as a whole was 2.9%. Private consumption fell by a seasonally adjusted 1.5% between the third and fourth quarter, primarily reflecting the decline in purchases of cars and other consumer durables. These are the most interest-sensitive components of household consumption, and developments in the fourth quarter suggest that the interest rate increases last autumn rapidly fed through to some household demand components. At the beginning of 1999 the retail sales index edged up again.

House prices declined slightly in the fourth quarter, albeit by a smaller margin than expected. According to ECON's price index for resale homes, prices fell by 2.4% between the third and fourth quarter. Statistics Norway's index for existing dwellings showed a fall of 2.3% in the same period. Following sluggish trends to the third quarter, housing starts picked up towards the end of last year. This probably reflected a catch-up in housing construction following delays caused by the new Planning and Building Act earlier in the year. Housing starts fell, however, in January.

Statistics Norway's general business tendency survey for the fourth quarter indicates growing uncertainty about future developments. Industrial leaders expect a decline in both production and employment, and new domestic orders are also expected to fall.

Registered unemployment has hovered around a little more than 60 000 in recent months. These figures may indicate that the turnaround in the labour market may come at a slightly later stage than implied by developments towards the end of 1998.

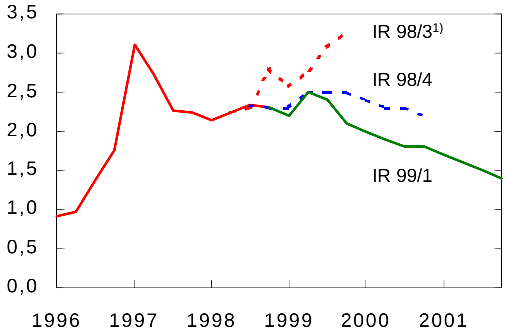
For the first time since 1989 the current account balance showed a deficit last year. Preliminary balance of payments figures point to a deficit of NOK 9.2bn. Brisk growth in imports and the sharp decline in the value of oil and gas exports, as a result of both falling prices and production, are the main reasons behind the deficit.

3 NORGES BANK'S INFLATION PROJECTIONS

3.1 Norges Bank's inflation projections

Norges Bank projects a rise in the CPI of 2¼% in 1999 and 1¾% next year, edging down to 1½% in 2001. The price projections have been revised downwards somewhat compared with the December *Inflation Report*, primarily reflecting lower imported inflation. The price impulse generated by the depreciation of the krone towards the end of last year is weaker than assumed earlier. Moreover, the rise in international producer prices will be more moderate than assumed in the December report.

Chart 3.1 *Current and earlier projections for consumer price inflation. 12-month rise. Per cent*



[1)] Two alternative price scenarios were presented in Inflation Report 1998/3. The scenario based on tight fiscal policy, return of the krone exchange rate to its initial range and lower interest rates is shown here.

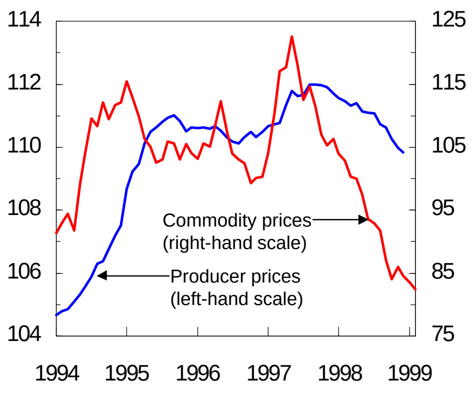
Although the krone depreciated against the currencies of our traditional trading partners, it strengthened against the currencies of many emerging economies, particularly in Asia. This report includes a broader exchange rate index that reflects the actual composition of imports, thereby providing a more accurate indication of the real price impulse generated by changes in the exchange rate. This index shows that the price impulse from changes in the exchange rate last year was much more moderate than previously assumed. See the box on this exchange rate index for a more detailed discussion.

The underlying rise in consumer prices, excluding changes in indirect taxes and electricity prices, is projected to be the same as for the total CPI for the entire period.

Continued low price inflation internationally

The rise in consumer prices among trading partners slowed markedly in 1998, reflecting the contagion effects of the Asian crisis on the global economy, partly through a sharp fall in commodity and energy prices. Oil prices have stopped falling, but there are still no clear signs of a stabilisation of other commodity prices. Metal prices are still nominally higher than the level prevailing during the international recession at the beginning of the 1990s. Commodity prices are assumed to stabilise in the course of 1999, followed by a moderate rise. The rise in both producer and consumer prices internationally will, however, continue to be heavily influenced by the drop in commodity prices over the last year. Producer prices among trading partners are thus expected to fall by 1½ this year, rising by ½ % next year. With a gradual lessening of the negative price impetus from commodity prices, consumer price inflation among trading partners will edge up, but rates will still remain below 2% during the projection period.

Chart 3.2 *Commodity prices, all items, measured in SDRs, and trading partners' producer prices. 1990 =100*



Sources: OECD, *The Economist* and Norges Bank

These projections imply a slightly weaker impulse from import prices calculated in foreign currency over the next two years compared with the December report. Import prices in NOK are projected to fall by ¼ % in 1999 and by a further 1% next year.

Table 3.1 *Consumer prices. Percentage change from previous year*

	1998	1999	2000
US	1.6	2	2¼
Japan	0.3	-½	-¼
Germany	0.9	1	1½
France	0.7	¾	1¼
UK	2.6	2¼	2½
Sweden	-0.1	½	1¼
Finland	1.4	1	1¾
Denmark	1.9	2	2
Norway's trading partners[1)]	1.2	1¼	1½
Euro area[2)]	1.2	1¼	1½

[1)] Weighted by competitiveness weights
[2)] Eurostat weights (country's share of euro area's consumption)

Source: Norges Bank

Exchange rate and interest rate assumptions

Table 3.2 shows the technical assumptions underlying this report. Short-term interest rates are assumed to remain unchanged for a six-month period and then move in line with market expectations, as reflected in forward rates in March. This implies a gradual narrowing of the interest rate differential against European interest rates, from the current level of 4 percentage points to around ¾ percentage point in 2001. The krone exchange rate is assumed to return to its initial range in the course of the next six months. It is further assumed that the krone exchange rate will remain unchanged through the remainder of the projection period. Real public spending growth is assumed to follow trend mainland GDP growth from next year, and oil prices are put at USD 11.50 per barrel in 1999 and USD 12 next year.

Table 3.2 *Technical assumptions*

	1999	**2000**
3-month money market interest rate (annual average)	6½[1)]	4½
Real rise in gov't spending	1¼	2
Exchange rate measured against euro	8.5[2)]	8.4
Oil price NOK/barrel	87	91[3]

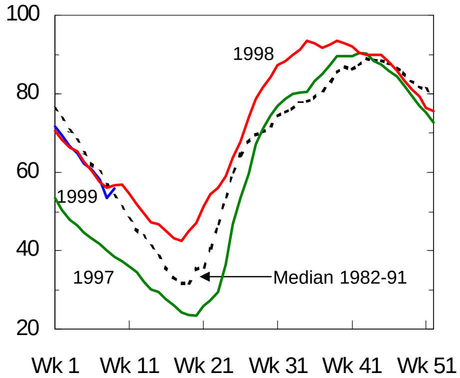
[1)] Interest rates are assumed to remain unchanged for six months and then fall in line with market expectations as reflected in forward rates.
[2)] The krone exchange rate is assumed to return to its initial range in the next six months. This implies that the average for 1999 will be somewhat weaker than for 2000.
[3)] The oil price is assumed to be USD 11.50 in 1999 and USD 12.00 in 2000.

The broad import-weighted exchange rate index implies a weaker impetus from import prices than previously assumed, see separate box for further details. Combined with the assumption of the exchange rate returning to its initial range, this results in an appreciation of the import-weighted krone exchange rate of ¼% in 1999 and 1½ % in 2000.

Lower wage growth

Annual wage growth was 6¼ % last year, or slightly higher than the projection in the December report. A substantial wage carry-over into 1999 implies fairly high wage growth again this year even with moderate pay increases. Labour market pressures are still strong, but are expected to moderate during the year. Experience shows that our model-based wage projections tend to underpredict wage growth in years with main wage settlements and overpredict wage growth in years with interim settlements. The baseline scenario in this report is based on the assumption that the social partners in this year's wage settlement will consider the pay increases awarded last year to apply for two years. Against this background, the projection for wage growth has been lowered to 5½% this year. With reduced labour market pressures in the years ahead, wage growth will gradually slow by a fairly considerable margin. Wage growth is now projected at 3¾% next year, with a possible decline to about 3% in 2001. The estimates for wage growth are discussed further in section 4.5.

Chart 3.3 *Water reservoir levels. Weekly figures*



Source: Statistics Norway

Normal impetus from electricity prices

Electricity prices showed a seasonal increase through the winter months on a par with expectations. The reservoir levels are about the same as one year earlier, and developments so far this year suggest a normal price impetus from electricity prices. Our projections are based on the assumption that seasonal variations will influence electricity prices but, on average, prices are expected to move up in line with overall consumer price inflation.

Shift to fixed-rate loans stabilises rise in house rents

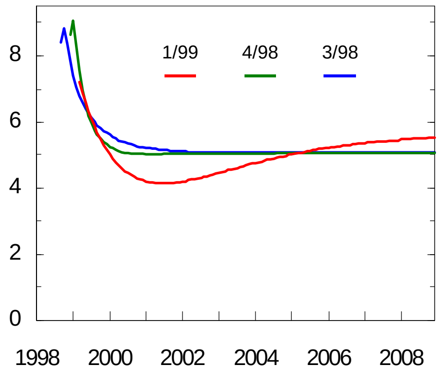
House rents showed a more moderate rise than expected in December. The rent sub-index remained unchanged on the previous three-month period in spite of the rise in interest rates.

The State Housing Bank has reported that 97% of housing cooperatives switched to fixed-rate loans at 5.5%. The impact of the rise in interest rates on the house rent index will therefore be weaker than implied by the increase in interest rates alone. On balance, house rents are expected to rise in pace with the general rise in prices, thereby making no independent contribution to inflation during the projection period.

3.2 Inflation expectations

Market expectations concerning future short-term interest rates are reflected in the forward rate curve in money and bond markets. Forward rates may – under certain conditions – be viewed as the sum of the expected real rate of interest and expected inflation, plus a possible risk premium. In the short term, they probably reflect expected movements in Norges Bank's key rates, but in the longer term changes in forward rates may provide an indication of changes in inflation expectations.

Chart 3.4 *Implied forward Norwegian short-term interest rates. Expected short-term rates. Per cent*

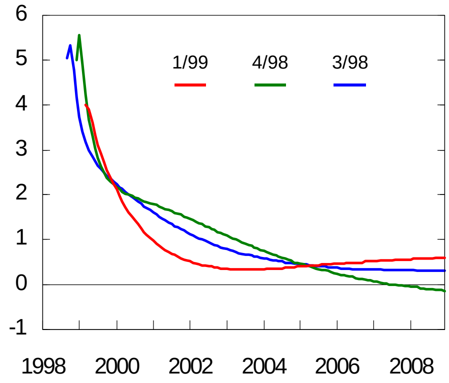


Source: Norges Bank

Chart 3.4 shows that short rates are expected to fall markedly in the near term, in line with expectations three and six months ago. In relation to the December *Inflation Report* forward rates have fallen in the period 2000 to 2005. This may be interpreted to mean that inflation expectations have been lowered for these years, but may also reflect expectations of lower real interest rates. The fall in forward rates probably reflects a combination of these factors.

Chart 3.5 shows the forward rate differentials between Norway and the euro area. The calculations for the euro area are based on German government bonds, which are now denominated in euros. The narrowing of the differential since the December report roughly corresponds to the fall in Norwegian forward rates for the years 2000 to 2005. This indicates that the fall in forward rates shown in Chart 3.4 is mainly attributable to conditions peculiar to Norway, and thereby further supports the impression that inflation expectations in Norway have receded. However, this is based on the assumption that the expected changes in both real interest rates and the risk premium required to invest in NOK are virtually the same since the last report. If inflation expectations have been lowered, this may reflect further evidence of reduced pressures on production capacity in the Norwegian economy.

Chart 3.5 *Differential between expected short-term rates in Norway and Germany. Percentage points*



Source: Norges Bank

Producer and wholesale prices can also provide an indication of future price movements. The rise in producer prices in manufacturing has been moderate in the year to February, increasing by 1.0%, see Chart 3.6. Producer prices partly reflect changes in commodity prices. The wholesale price index has stabilised the last few months. The slower rise in wholesale prices has shadowed the decline in consumer price inflation among our trading partners since the end of 1997. In February, these prices were 0.1% higher than in the same month one year earlier.

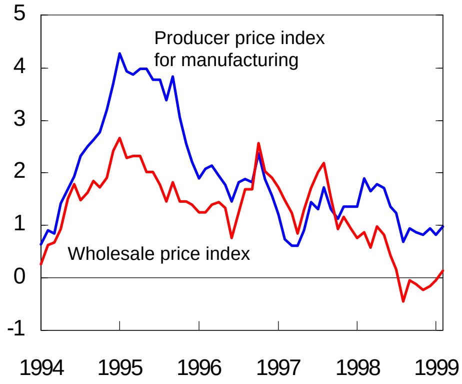
Norges Bank collects inflation projections from 10 private institutions. On average these institutions expect prices to rise by 2½% in 1999 and 2000, see Table 3.3.

Table 3.3 *Various institutions' projections for consumer price inflation in Norway in 1999 and 2000* [1]. *Percentage change from previous year*

	1999	2000
Ministry of Finance	3¼	-
Statistics Norway	2.6	2.7
OECD [2]	3.5	2.8
IMF	3.5	-
Private institutions [3]		
Highest estimate	2.9	2.7
Average	2.6	2.5
Lowest estimate	2.3	2.0

[1] Latest official projections from the various institutions. When some of these estimates were published, the proposed (but not adopted) indirect tax programme was estimated to contribute 0.5 percentage point to consumer price inflation.
[2] Consumption deflator
[3] Based on projections from 10 private institutions

Chart 3.6 *Wholesale and producer prices. 12-month rise. Per cent*



Source: Statistics Norway

3.3 The risks to the inflation outlook

The greatest uncertainty concerning price inflation is associated with international developments. In the last year the rise in prices for imported consumer goods has consistently been lower than expected. In particular, the negative price effects of the Asian crisis have been underestimated.

Prices for imported goods are influenced by the krone exchange rate and by international price levels. The effects of a change in the exchange rate assumption are discussed further in a separate box. International commodity prices have continued to fall in recent months. Experience shows that falling commodity prices will continue to have a dampening impact on producer prices internationally and, with some lag, on Norwegian import prices.

The rise in commodity prices and international producer prices is likely to be moderate in 1999, with the possible exception of oil prices. In the somewhat longer run, however, commodity prices and international producer prices may increase at a faster pace than assumed in this report. Many commodity prices are now near the trough levels recorded in 1986 and 1992-1993. The experience of these periods indicates that commodity prices and international producer prices may rise quickly and by a fairly substantial margin if growth in the world economy rapidly picks up again.

An important share of consumer goods is imported directly from Asia. Stronger exchange rates for Asian currencies may therefore gradually translate into higher prices for imported consumer goods. However, many exporters in countries with weaker currencies, primarily in Asia, may have responded to the currency depreciation by increasing margins. This provides a good basis for keeping prices low, at least for some time, even if exchange rates were to appreciate.

Price movements for goods and services produced in Norway have been in line with expectations, and at present the rise in prices for goods and services that are not exposed to international competition is relatively high. Projections show slower wage growth from this year to the end of the projection period. Pressures in the Norwegian economy remain strong, with labour shortages in service industries and the public sector. Wage growth may be higher than assumed in the event of stronger demand for labour in the public sector and private service sector. Signals from the social partners ahead of the income settlements, however, indicate that we cannot exclude the possibility that wage growth may fall more quickly than estimated.

Over time, price inflation in Norway is influenced by developments in the real economy. The projection of lower price inflation in the years ahead is based on the prospect of a period of zero growth. The amplitude of the slowdown is highly uncertain. The risks to the outlook for the real economy are discussed in further detail in the following section.

4 CYCLICAL DEVELOPMENTS

Table 4.1 *Key aggregates for Norway, 1999-2001.*
Percentage change from previous year unless otherwise indicated

	1999	2000	2001
Mainland demand	¼	¾	1½
Private consumption	2¼	1¾	1¾
Public consumption	1¼	2¼	2
Fixed investment	-7	-4¾	0
Exports	4½	7½	5¾
Imports	-¼	2¾	5½
GDP	¾	1¼	1¾
Mainland GDP	¼	-¼	¾
Employment	¼	-¾	-¾
Unemployment, LFS	3½	4¼	4¾
Consumer prices	2¼	1¾	1½
Annual wages	5½	3¾	3

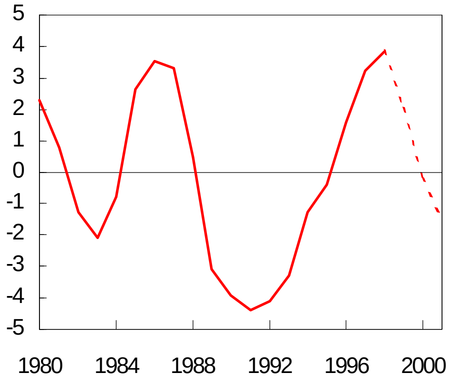
Source: Norges Bank

4.1 Main features

According to the estimates in this report, mainland GDP will remain at about the level as in 1998 up to the year 2000, and edge up in 2001. The turnaround will probably be most pronounced towards the end of 1999 and into next year.

In recent years, mainland output has been considerably higher than implied by the underlying growth in capacity, see Chart 4.1. The associated output gap is about the same as the gap recorded at the cyclical peak in the 1980s. With the turnaround in the mainland economy, the output gap should be closed in the course of the next two years. The downturn will be curbed by household demand, which seems to be maintaining its momentum. Moreover, it appears that price and cost inflation are moving into line with developments in other European countries. Against this background, the economy is not expected to experience the same extensive restructuring as seen in the 1980s.

Chart 4.1 *Output gap. Differential between actual and trend GDP for mainland Norway. Per cent*



Source: Norges Bank

Employment is expected to level off over a period of two years. The number of employed as a percentage of the working age population is expected to fall in the period to 2001, accompanied by some rise in unemployment. LFS unemployment is projected to rise to 4¾% in 2001, which implies an increase in the unemployment rate to about the same level recorded in 1996.Fixed investment will be an important force behind the turnaround. The sharp growth in in vestment in recent years has pushed up production capacity to a high level. Moreover, the sharp rise in costs has contributed to a weakening of profitability in the business sector. These factors will lead to a marked decline in fixed investment in the mainland economy in the next two years. The expected contraction in petroleum investment will alone make a substantial negative contribution to GDP growth this year and next.

The assumption concerning interest rates implies a fairly steep decrease in interest rates, which will partly offset the effect of lower wage growth on household real disposable income and to some extent dampen the fall in fixed investment. Against this background, house prices are expected to remain steady in spite of an increase in unemployment. A fall in interest rates may translate into a decline in household saving. However, demographic factors imply a slight increase in household saving. On balance, the saving ratio is projected to rise moderately this year and remain unchanged in 2000.

The uncertainty attached to the projections for the real economy is primarily associated with developments in the business sector. The high cost level may lead to a greater degree of downsizing and rationalisation than anticipated. This may result in a more pronounced downturn than projected in this report. On the other hand, export prices may be higher than anticipated if the world economy recovers more quickly than assumed. This may result in a more favourable production and investment trend. If oil prices recover, petroleum investment may also fall by a smaller margin than projected. Furthermore, the financial position of households is relatively solid. Against this backdrop, there is a potential for lower saving and thereby higher private consumption growth than projected. This may further moderate the contraction in the business sector. Higher private consumption primarily implies higher employment in service industries and distributive trades.

4.2 The international environment and the balance of payments

The turbulence in financial markets that started in Asia in the summer of 1997, and which spread to Brazil in January of this year, is still fuelling the uncertainty associated with global economic developments. In Europe, growth is forecast to slow in 1999, primarily reflecting slower growth in exports. The performance of the Japanese economy is also expected to be weaker than projected earlier. This is primarily because the fiscal measures implemented to stimulate the economy are still not having the intended effect on domestic demand. Against this background, externally generated demand impulses will be relatively weak, particularly in 1999.

Table 4.2 *GDP estimates. Percentage change from previous year*

	1998	1999	2000
US	3.9	3¼	2
Japan	-2.8	-¾	-¾
Germany	2.8	1¾	2½
France	3.2	2¼	2½
UK	2.3	½	1½
Sweden	2.9	2¼	2½
Finland	4.9	3¼	3
Denmark	2.5	1½	2
Norway's trading partners[1)]	2.8	2	2¼
Euro area[2)]	3.0	2¼	2¾

[1)] Weighted by export weights
[2)] Weighted by the IMF's euro weights

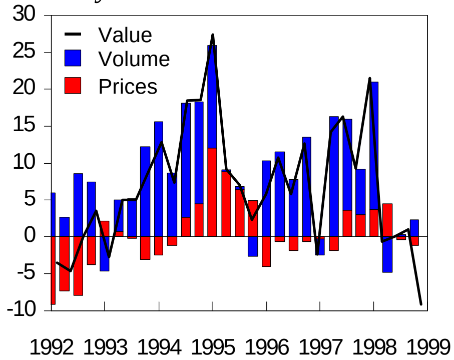
Source: Norges Bank

Weak growth in exports and imports

The volume of traditional merchandise exports rose by 3.7% in 1998, and growth was thus considerably slower than in the preceding four years. The value of exports to Asia decreased by 2.4%, while Europe accounted for a growing share of Norwegian exports. Statistics

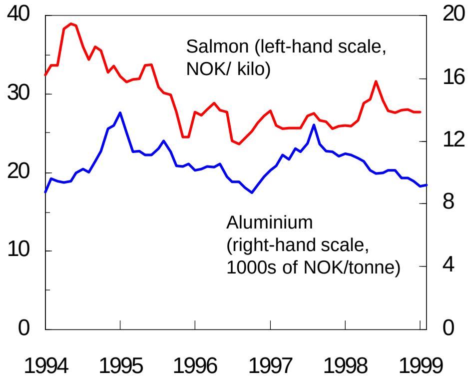
Norway's general business tendency survey for the fourth quarter shows that industrial leaders expect some increase in new orders from export markets in the near future, but expectations have been lowered considerably compared with previous surveys. All told, traditional merchandise exports are projected to expand by 2¼% in 1999 and by a slightly higher rate next year. As activity in the world economy recovers and domestic cost inflation is abating, exports are expected to become one of the driving forces behind higher growth in the Norwegian economy after the turn of the millennium.

Chart 4.2 *Traditional merchandise exports according to* External Trade Statistics*. Volume, price and value. Percentage rise on same quarter previous year*



The last observation for rise in value is the average value so far in the first quarter compared with the same period last year.
Source: Statistics Norway

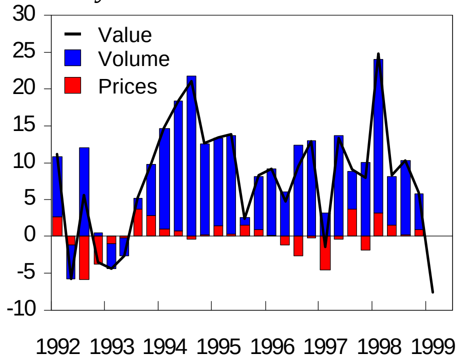
Chart 4.3 *Prices for aluminium and salmon. In NOK*



Sources: Statistics Norway and *Financial Times*

The rise in prices for traditional merchandise exports was 0.7% last year. In the wake of the Asian crisis, international commodity prices dropped sharply, whereas signs of decreases in prices for traditional merchandise exports did not come into evidence until the second half of last year. The depreciation of the krone and long-term price contracts in industries such as the metal industry probably contributed to curbing the feed-through from the price fall in spot markets last year. Prices are assumed to stabilise this year, but with some lag for commodity prices so that this export component is expected to show a price fall this year. Export components with more processed goods are also expected to show a weak price trend. Commodity prices are expected to edge up next year. In conjunction with slightly higher price inflation internationally, this will contribute to a moderate rise in export prices.

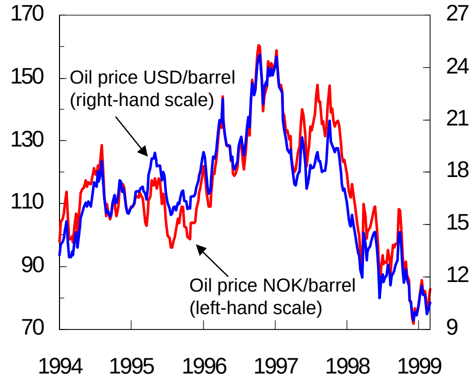
Chart 4.4 *Traditional merchandise imports according to External Trade Statistics. Volume, price and value. Percentage rise on same quarter previous year*



The last observation for rise in value is the average value so far in the first quarter compared with the same period last year.
Source: Statistics Norway

Traditional merchandise imports expanded by 9.5% in 1998, but slowed towards the end of the year. Developments in domestic demand, with a sharp fall in mainland and offshore investment, will contribute to somewhat slower growth in imports. In the first two months of 1999, the value of traditional merchandise imports declined by 7.7% compared with one year earlier.

Chart 4.5 *Oil prices in NOK and USD*



Source: Norges Bank

From a deficit to a surplus on the current account

The volume of oil and gas exports decreased by 3.2% last year, but is projected to rise by 7% in 1999. This corresponds to a production level of about 3m barrels per day and is based on the assumption that last year's production limits will continue to apply. On the basis of the increases in production capacity on the Norwegian continental shelf in 1999, e.g. in the Balder, Visund and Åsgard fields, exports are estimated to increase by a substantial margin of around 15% in 2000.

Oil prices remain low although the prospect of an agreement to limit production has contributed to some increase in the last week. Our projections are based on an oil price of USD 11.5 per barrel in 1999, or about the average for the last six months. The assumption for 2000 is USD 12 per barrel, or the equivalent of about NOK 91 per barrel (1999 kroner). On the basis of these assumptions, the current account is projected to show a deficit of NOK 6bn in 1999, followed by a surplus of almost NOK 30bn in 2000.

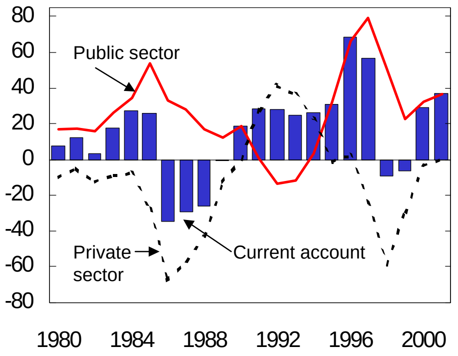
Net lending broken down by sector shows net borrowing in the private sector as a whole. Household financial saving has been moving on an upward trend in recent years. This means that the enterprise sector, in particular, increased net debt to finance a sharp growth in fixed investment last year. The high import content in their investments thereby contributed to a weakening of the current account and an increase in net debt in the enterprise sector. It is, however, highly improbable that enterprises will continue to record net borrowing over time. Overall private sector net lending is thus expected to move into balance from 2000, partly as a result of lower fixed investment in the coming years.

4.3 Domestic demand

Consumer demand provides impetus to growth

Private consumption increased by 3.2% in 1998, which was less than expected. The weak trend, particularly for consumer durables, was probably partly attributable to last autumn's interest rate increases. Car purchases dropped by over 15% from the third to fourth quarter, and Christmas sales were lower than expected.

Chart 4.6 *Current account surplus and public and private sector net lending*

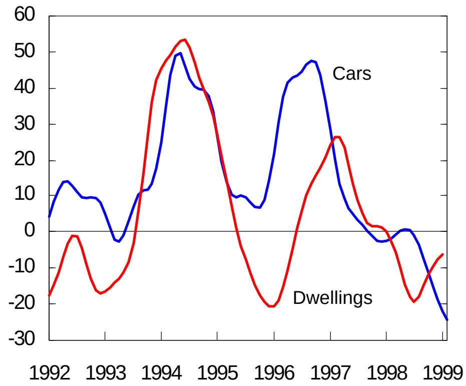


Sources: Ministry of Finance, Statistics Norway and Norges Bank

As in 1997, growth in household real disposable income was high in 1998, primarily reflecting strong employment and wage growth. Real wage growth helped to push up growth in real disposable income by almost 6 percentage points last year. Higher net financial expenses had the opposite effect, pushing income down by almost 1 percentage point. At end-1998, interest rates on bank loans were almost 4 percentage points higher than at the beginning of the year.

Developments in employment and lower real wage growth will contribute to more moderate growth in household incomes in 1999 and 2000. However, households will benefit from falling interest rates as assumed in this report. In addition, transfers to households are expected to be relatively high this year. Overall, household real disposable income is projected to increase by 2½% in 1999, and by close to 2% in 2000.

Chart 4.7 *New car registrations and housing starts. 12-month growth. Per cent*

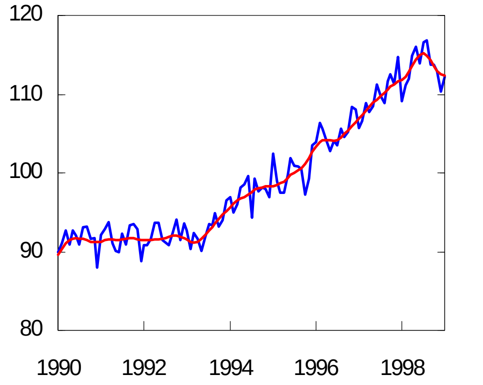


Source: Statistics Norway

Experience sho ws that household consumption depends not only on disposable income, but also on developments in financial and housing wealth. Households have improved their financial position substantially over the past few years. However, the trend through 1998 was relatively weak compared with previous years. Turbulence in international financial markets and the interest rate increases in autumn 1998 led to a considerable fall in the market value of securities and insurance claims. Figures from Norges Bank show that households had an unrealised loss due to valuation changes of NOK 32bn in the third quarter of 1998, while according to the quarterly national accounts, net lending for the whole of 1998 was NOK 27bm.

Over the past few years, housing wealth has increased substantially as a result of high house price inflation. Resale home statistics from ECON showed that house prices increased by an average of 9.5% from 1997 to 1998. In the fourth quarter, however, house prices dropped slightly as a result of the interest rate increases, but by a smaller margin than expected. This may be due to the perception among households that the rise in interest rates was temporary, partly because long-term interest rates have been low from an historical perspective. It also appears that households are switching to fixed-rate loans, which shadow long-term interest rates.

Chart 4.8 *Retail sales index. Seasonally adjusted and trend. 1995=100*



Source: Statistics Norway

Relatively high household income growth will, in isolation, result in higher house prices in 1999 and 2000. However, high average real interest rates in 1999 and some increase in unemployment over the next few years point to a decline in house prices. On balance, house prices are projected by rise by a little more than 2% this year, and remain roughly unchanged in 2000. The saving ratio is projected to increase somewhat in 1999, and remain unchanged the following year. Growth in private consumption is estimated at 2¼% in 1999 and 1¾% in 2000. These figures are slightly higher than those in the previous *Inflation Report.*

Housing investment edges down

nained high in
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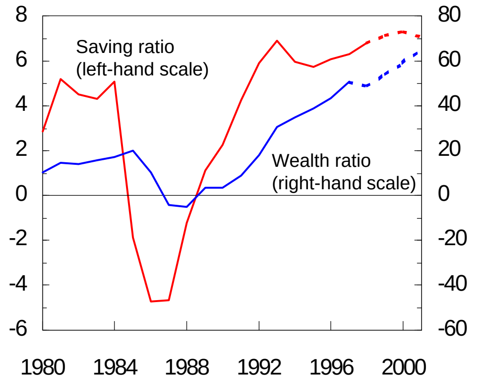
w Planning and
so have contributed

Chart 4.9 *Household saving and net financial assets. Percentage of disposable income*



Sources: Statistics Norway and Norges Bank

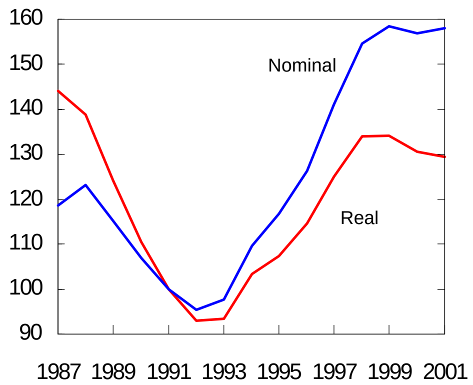
Relatively high real interest rates, and a somewhat weaker trend in household income and wealth suggest that residential construction will be lower in the next few years. Housing investment is projected to drop by around 5% this year, and remain unchanged in 2000.

Falling business fixed investment

After several years of strong growth, construction investment remained high in 1998, but there are signs that a turnaround has taken place. Seasonally adjusted figures showed a fall in construction investment from the third to fourth quarter in 1998. Experience shows that investment in construction is the first to be affected by a cyclical turnaround.

A sharp drop in mainland business fixed investment is expected in the period ahead, primarily as a result of reduced earnings and higher costs. Developments in mainland activity are heavily influenced by developments in the petroleum sector. The sharp fall in petroleum investment this year and next will have a severe effect on suppliers to the petroleum sector, particularly the engineering industry.

Chart 4.10 *Resale home prices. Nominal and real prices. 1991=100*

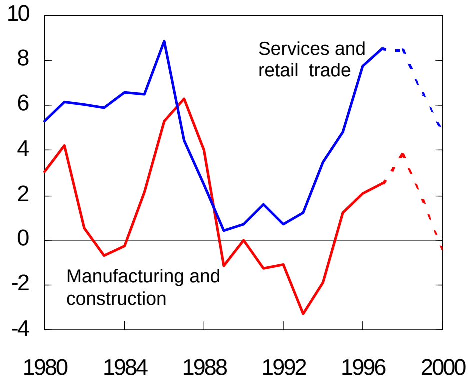


Sources: Statistics Norway, ECON and Norges Bank

A declining trend in manufacturing industry's capacity utilisation during the past few quarters indicates that there is now less need for further increases in fixed investment. In the light of these developments, and projections based on the last investment intentions survey from Statistics Norway, manufacturing investment is expected to fall in 1999 and 2000. The completion of Norway's new international airport at Gardermoen implies a reduction in transport investment this year. Total mainland fixed investment is estimated to decline by 8% this year and a further 8% in 2000.

Fixed investment in the petroleum sector amplifies the downturn

Chart 4.11 *Net fixed investment rate. Investment less capital consumption as a percentage of value added*



Sources: Statistics Norway and Norges Bank

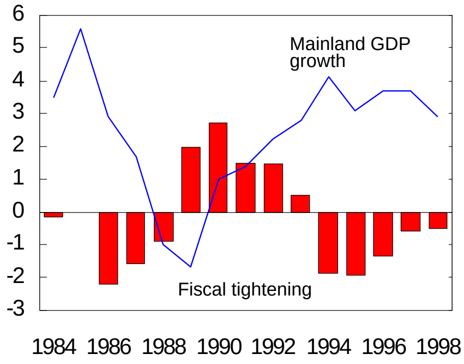
Against the background of weak financial results of oil companies and the prospect of low oil prices for several years ahead, oil companies have announced measures to sharpen cost control and postponements of investment projects. This will primarily affect exploration investment. Most investments for 1999 are already committed, but next year iinvestment projects are more likely to be postponed. Consequently, it is assumed that petroleum investment will drop by 17% this year and 25% in 2000. This implies a greater degree of negative impulses than estimated in previous reports, particularly for the year 2000. If oil prices should rise at an earlier stage and remain higher, the fall in petroleum investment may be smaller next year.

Fiscal policy

According to preliminary estimates, general government consumption rose in real terms by 2.8% from 1997 to 1998. Gross general government investment fell by a total of 2.1% in 1998 compared with the previous year, partly reflecting the decline in investment following the completion of the primary school reform.

Projections are based on the fiscal policy programme in the budget adopted for 1999. It is assumed that real government spending growth will be 1¼% in 1999. The increase in minimum pensions and the introduction of cash grants for families with small children will contribute to a marked rise in general government expenditure this year. Moreover, fixed investment is expected to drop by about 5% this year, while consumption is estimated to rise by just over 1%. This provides room for an increase of ¾% in public sector employment, which is slightly lower than in recent years. Projections for subsequent years are based on the assumption of a neutral fiscal policy whereby government expenditure is assumed to rise in pace with trend GDP growth.

Chart 4.12 *Mainland GDP and fiscal policy contribution. Per cent*



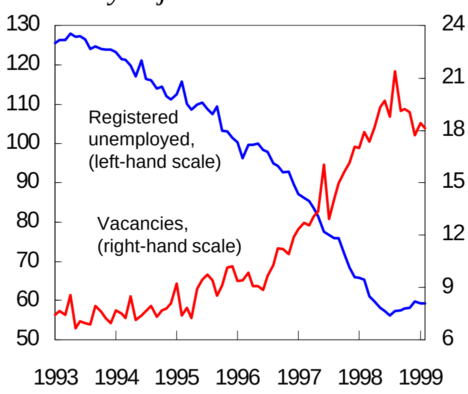
Sources: Statistics Norway and Ministry of Finance

4.4 The labour market

Labour market at a turning point

Developments in the labour market this year and next will be influenced by lower demand for labour. The expected levelling off of employment this year followed by a slight decline in 2000 must be viewed in the light of the increase in employment by as much as 250 000 in the previous six years.

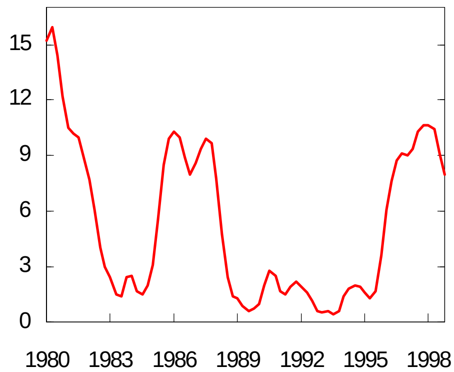
Chart 4.13 *Numbers of registered unemployed and vacancies, in 1000s. Seasonally adjusted*



Source: Directorate of Labour

Employment is already showing signs of levelling off. Growth in employment slowed towards the end of 1998 and was accompanied by a marked drop in unfilled vacancies at employment offices. Lower demand for labour is expected to result in a somewhat weaker employment trend than previously anticipated. Employment growth is projected at ¼% this year, which is slightly lower than the projection in the previous report. Next year employment is projected to fall by almost ¾%. This means that the employment rate for the working-age population (16-74 years of age) will be reduced by 1¼%, to just over 70% next year.

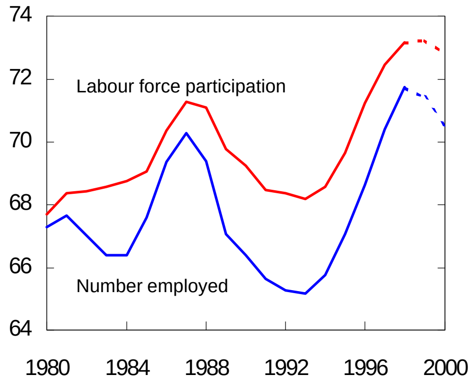
Chart 4.14 *Indicator of labour shortages. Per cent*



Source: Statistics Norway

Seasonally adjusted unemployment has been relatively stable so far this year. At the end of February, 61 100 persons were registered at employment offices. Adjusted for seasonal variations, this is equivalent to about 2.5% of the labour force. This figure is somewhat lower than implied by developments in the fourth quarter of 1998. However, a sharp rise in the number of persons laid off and limited number of vacancies in some sectors point to a turning point in the labour market. The projection for LFS unemployment in 1999 is 3½%, the same as in the previous *Inflation Report*.

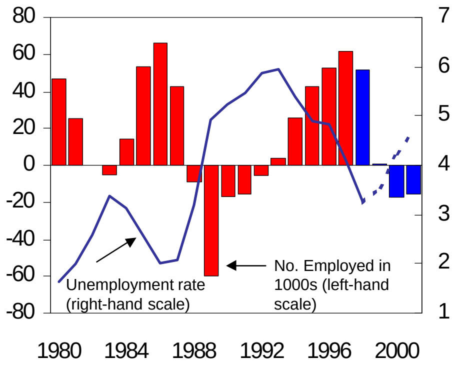
Chart 4.15 *Labour force participation and number employed. Labour force and number employed as percentages of working age population*



Sources: Statistics Norway and Norges Bank

The labour force increased by 32 000, or 1.4%, from 1997 to 1998, reaching a record level. The labour force is expected to expand by 10 000 in 1999, or ½%, which is roughly in line with demographic trends. In the past, the Norwegian labour market has shown considerable flexibility in response to cyclical fluctuations, with the labour supply adjusting to some extent to demand. Falling demand for labour is also expected to translate into a levelling off of the labour force in 2000. One factor suggesting that the labour force may shrink is that more and more people are taking advantage of early retirement schemes, so that labour force participation by persons over the age of 62 is declining. Cash grants to families with small children have a similar effect on the younger segment of the labour force.

Chart 4.16 *Change in numbers employed from previous year. LFS unemployment rate*



Sources : Statistics Norway and Norges Bank

After two years of a sharper decline in employment than in the labour force, unemployment is projected to rise to 4¼% in 2000. In our baseline scenario, unemployment will level off at about 4¾% in 2001.

4.5 Wage developments

Wage growth will moderate in the next few years

According to the Technical Reporting Committee on Income Settlements, average annual wage growth in 1998 was 6¼%, which is slightly higher than Norges Bank's estimate. Moreover, preliminary national accounts figures show that productivity growth was weaker than expected, particularly in manufacturing and the construction sector. Unit labour costs consequently increased by a considerably greater margin than expected. Much of the wage growth in 1998 did not become effective until relatively late in the year. As a result, the carry-over into 1999 is higher than usual. According to the Committee, the average carry-over is 3¼%.

In the RIMINI model, which forms the basis for Norges Bank's projections, unemployment, productivity developments and consumer price inflation are the main factors influencing wage growth. According to our baseline scenario, the labour market will remain relatively tight in 1999, with reduced pressures later in the projection period. With the high carry-over, this means that annual wage growth will also be high in 1999. However, we have assumed that the social partners in this year's wage settlement will consider the pay increases from last year to apply for two years. Given this assumption, wage growth based on the RIMINI model is projected at 5½%. This is half a percentage point lower than in the previous report. Wage projections are discussed in more detail in a separate box. As pressures in the labour market diminish in the course of the projection period, wage growth may slow. Wage growth is projected at approximately 3¾% in 2000, dropping to 3% in 2001.

Box

Import-weighted krone exchange rate

Imported inflation was lower than expected over the past year. In earlier inflation reports the contagion effects of the Asian crisis were cited as an explanation for this. While the krone has depreciated against the currencies of Norway's traditional trading partners, it has appreciated against the currencies of many other countries, particularly Asian countries. These countries account for a substantial share of imported goods in Norway, and the share is larger in relative terms when only looking at imports of consumer goods.

The traditional import-weighted exchange rate index includes 18 countries[1] and covers about 85% of Norway's total traditional merchandise imports. The weights are updated on an annual basis using each country's share of total merchandise imports from the same countries. However, it is not clear whether the traditional import-weighted krone exchange rate is an accurate indication of the price impulses generated by exchange rate movements. There are two factors of particular relevance in this connection:

- The wide fluctuations in exchange rates in Asia since late summer 1997 may explain why the effective krone exchange rate has depreciated by a relatively smaller margin than implied by the traditional indices.
- If imports of goods from Asia and other crisis-hit regions primarily consist of consumer goods, this will influence consumer price inflation to a further extent than the rise in prices for other goods.

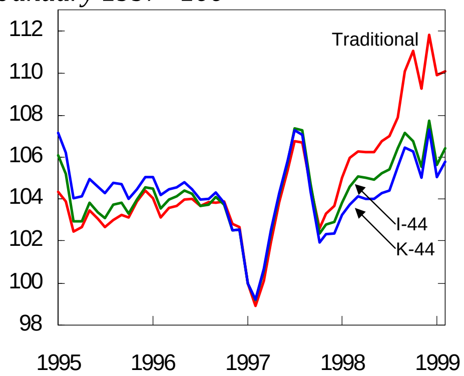
[1] Currencies included in the traditional import-weighted krone exchange rate index are the same currencies which are included in manufacturing industry's effective exchange rate index. The countries are selected according to their share of actual trade in goods and access to data on labour costs, which are important for estimating competitiveness. The need for reliable wage data is one reason why NICs in Asia have been excluded. Countries included are the US, Canada, Japan, Switzerland, and the EU excluding Luxembourg.

Two broadened import-weighted krone exchange rate indices are also used, one for total merchandise imports (T-44) and one for imports of consumer goods and passenger vehicles (C-44). The indices are based on trade in goods with 44 countries and cover 97% of total imports. When imports of consumer goods and passenger vehicles are excluded, the weights for each country change. For major traditional trading partners such as the UK, Sweden and Germany, consumer goods make up only 20-30% of imports, whereas the share for most Asian countries is 50-70%. Consumer goods and passenger vehicles account for more than 25% of total merchandise imports.

The chart shows developments in the traditional and broadened import-weighted exchange rate indices. The broadened indices show a much weaker depreciation of the krone from the fourth quarter of 1997, and this tendency was amplified through 1998. On average, the C-44 index rose by 1.7% between 1997 and 1998, whereas the T-44 index showed a decrease of 2.3% in the same period. The traditional import-weighted exchange rate index by comparison weakened by 4.5% in 1998. The relatively moderate weakening of the C-44 index therefore explains why prices for imported consumer goods showed such a moderate increase last year.[2)]

[2)] See box in *Inflation Report* 1998/4.

Chart *Import-weighted krone exchange rate for various weight sets. A rising curve denotes a weaker exchange rate. January 1997=100*



Sources: Norges Bank, Statistics Norway and Datastream

In this *Inflation Report* we have assumed that the price impetus from the exchange rate last year is reflected in developments in the total import-weighted exchange rate index (T-44). This reduces imported price pressures as a result of the depreciation of the krone last year in relation to previous estimates. This, combined with a downward adjustment of international price inflation, has influenced our projection for import prices, which are now expected to fall by ¼% between 1998 and 1999. This represents a downward adjustment of ¾ percentage point compared with the December report.

Table: *Weights in the broadened and traditional import-weighted krone exchange rate indices. In thousandths of a point*

	Broadened (1-44)[1)]	Traditional[2)]
Sweden	165.2	195.3
Germany	141.3	166.2
UK	102.4	112.8
Denmark	74.5	85.5
US	72.3	83.4
Japan	47.9	49.3

Netherlands	46.3	51.2
France	42.6	51.1
Italy	42.4	46.6
Finland	35.5	40.5
Belgium	23.1	25.1
China	22.7	
Canada	19.4	21.8
Russia	18.3	
Spain	17.5	17.6
Switzerland	13.6	14.6
Ireland	13.0	14.9
South Korea	11.4	
Austria	10.5	12.7
Singapore	8.8	
Portugal	8.2	10.0
Taiwan	7.6	
Poland	6.8	
Brazil	5.3	
Hong Kong	4.9	
Australia	4.5	
Turkey	3.4	
India	3.3	
Thailand	3.1	
Czech Republic	3.0	
Malaysia	2.9	
Iceland	2.8	
Indonesia	2.2	
South Africa	2.2	
Hungary	1.8	
Argentina	1.5	
Colombia	1.5	
Chile	1.4	
Greece	1.2	1.4
Pakistan	1.2	
Morocco	1.0	
Philippines	0.7	
Bangladesh	0.6	
Sri Lanka	0.3	
Total	**1000.0**	**1000.0**

[1)] Average 1996-1998
[2)] 1997 weights

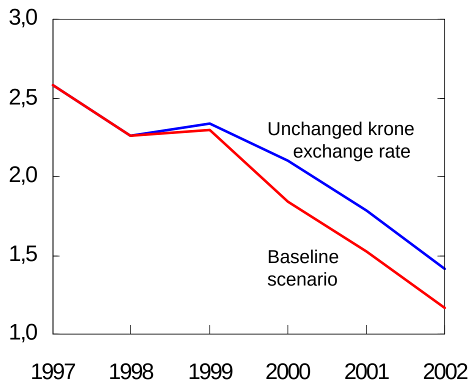
Box

The effect of a weaker krone exchange rate

The projections in this report are based on a technical assumption that the krone exchange rate will return to its initial range in the course of the second half of 1999 and remain unchanged through the remainder of the projection period. This implies an appreciation of about 2.3% on the average for the last month. To illustrate the exchange rate assumption's influence on the projections, this box looks at an alternative whereby the krone exchange rate remains unchanged compared with the last month's level throughout the projection period. It is assumed that interest rates will follow the same path as in the baseline scenario.

Calculations indicate that a weaker krone exchange rate has little impact on short and medium-term developments in the real economy, primarily owing to the marginal effect on real wage growth. The effect of a weaker krone exchange rate is primarily observed for nominal changes. The chart shows annual consumer price inflation in the period 1999-2001 when applying the two alternative exchange rate assumptions. The alternative of an unchanged exchange rate results in consumer price inflation that is about ¼ percentage point higher in 2000 and 2001 as a weaker exchange rate gradually feeds through to prices. However, the result is still lower inflation in the next two years with consumer price inflation in Norway, also in this case, falling to below 2% at the beginning of 2001.

Chart *Point forecasts for consumer price inflation with different exchange rate assumptions. Per cent*



Sources: Statistics Norway and Norges Bank

Box

Evaluation of Norges Bank's forecasts[1]

[1] In an article in the next issue of *Economic Bulletin*, Norges Bank evaluates its forecasts for the period 1994 to 1998, with the main emphasis on an analysis of forecasts for 1997 and 1998. Norges Bank's forecasts are evaluated in relation to forecasts from other institutions. A similar article was published in *Economic Bulletin* 1998/1.

Norges Bank attaches importance to the transparency and availability of its forecasting work. The assumptions underlying the Bank's forecasts are published in addition to the Bank's use of modelling tools, including the most important adjustments to the model-based calculations. Moreover, the Bank has evaluated its forecasts in recent years, both in the *Inflation Report* and in articles in *Economic Bulletin*. A systematic evaluation of model use contributes to enhancing the quality of the *Inflation Report*. Identifying errors is also an important prerequisite for making better and more accurate forecasts.

Evaluations have revealed that a main source of error for Norges Bank's forecasts is erroneous estimates of exogenous variables. Wrong assumptions about economic policy, for example due to policy changes in the course of a year, are the main reason behind the underprediction of total employment growth during this cyclical upturn. Furthermore, the exogenously determined estimates for petroleum investment have been fairly inaccurate, which has resulted in errors for total imports and thereby the current account balance. In 1998, the unexpectedly sharp drop in oil prices also resulted in inaccurate forecasts for total exports.

The forecasts for nominal variables have been consistently better than the forecasts for real variables. Norges Bank's estimate for wage growth has been particularly close to the mark, although forecast errors were somewhat higher in 1998. The forecasts for consumer price inflation have also been closely in line with the outturn. In 1996, when the forecast error was substantial, the proposed but not yet adopted reduction in car taxes had not been incorporated. The forecast error in 1994 was primarily ascribable to the underestimation of the price-restraining effects of stronger competition in distributive trades.

The estimates for real variables have shown considerable forecast errors. Through the entire period to 1998 the amplitude of the cyclical upturn was underestimated. The main reason for this was the inaccurate estimates for exogenous variables. Another contributing factor was the underestimation of labour market flexibility. Both employment growth and the expansion of the labour force have been underpredicted while productivity growth has been overpredicted. This is partly ascribable to model deficiencies and partly to our assessments when making the forecasts.

The evaluation work has prompted Norges Bank to improve the exogenous variables, among other things by supplementing the variables with forecasts for public spending growth and Norges Bank's own assessment of local government finances. Moreover, increased efforts are being made to collect data from the petroleum sector. The evaluation of forecasts for employment, the labour supply and productivity has also provided a useful basis for determining how these variables should be treated in the forecasting work.

The three charts show Norges Bank's forecasts for mainland GDP growth, consumer price inflation and wage growth. The forecasts were published in December of the previous year and are compared with national accounts figures published in September the following year. For 1998, the forecasts are compared with accounts published by Statistics Norway in February this year.

Box

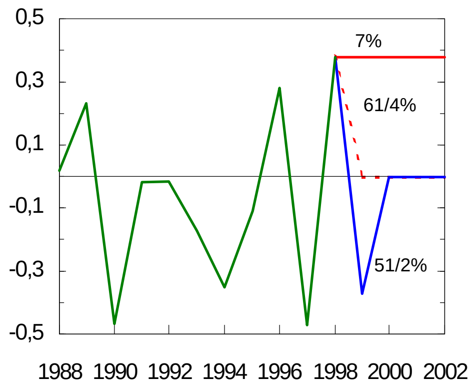
The wage forecast for 1999

The RIMINI model has to a large extent been successful in explaining wage developments in the 1990s (see box on the evaluation of Norges Bank's forecasts). The wage projections in the inflation reports are based on our use of the model. In the model, manufacturing and the construction sector set the trend for wages in other sectors of the economy, and thereby determine overall wage growth. In the RIMINI model, unemployment, enterprise profitability and consumer price inflation are important explanatory variables for wage growth. In order to achieve historical accuracy, the equations in the model are supplemented using add factors. In a well defined model, the value of the add factors fluctuates around 0. Special factors affecting wage growth can therefore be revealed using these add factors. For example, the add factor in the wage equation for manufacturing industry and the construction sector had to be reduced to explain wage growth in 1994 and 1997, when various early retirement schemes were negotiated in return for lower nominal pay increases. There has also been a slight tendency for the model to overpredict wage growth in years with interim settlements.

In 1998 a positive add factor was needed to explain the relatively high pay increases. The assumptions underlying the add factors to be used in the future are of decisive importance to the forecasts. Norges Bank's forecasts are in principle based on the neutral use of add factors. There are a number of possible paths for the add factors for wage growth in the years ahead.

One alternative is to *copy the add factor* from the previous year. This implies that the add factor does not make an independent contribution to growth. At the same time, the continued use of the add factor in the wage equation will result in a structural break in wage formation, particularly since the same type of wage settlement as in 1998 is assumed. Wage growth in 1999 would then be projected at 7%. This seems to be an unreasonably high estimate.

Chart *Alternative scenarios for add factors in wage growth, with resulting wage estimates for 1999. Per cent*



Source: Norges Bank

Another alternative is to s*et the add factor for 1999 at 0*. Because it had been reduced from a high level, the add factor would then have a negative effect on wage growth this year, but would be neutral in subsequent years. Wage growth in 1999 would then be projected at 6¼%. However, on average, the add factor would still be considerably higher than 0 for 1998 and 1999. This in turn implies that wage growth can continue to be explained by the model over time, but that the high wage growth in 1998 would result in a higher wage level for the next few years than can be explained by the model.

In the baseline scenario a further adjustment has been made to the add factor for 1999 so that *the average for 1998 and 1999 is equal to 0.* The add factor is then kept at 0 for the remainder of the projection period. It is thus assumed that the social partners in year's settlement to a large extent consider the pay increases in the 1998 settlement as applying for two years. This will result in a swift adjustment of the wage level to a "normal level" which the model can explain. On this basis, wage growth is revised downwards to about 5½% this year and 3¾% in 2000.

MAIN MACROECONOMIC AGGREGATES

	NOKbn (1995 prices)	Percentage change from previous year, unless otherwise indicated		
	1998	**1998**	**1999**	**2000**
Real economy				
Private consumption	512.0	3.2	2¼	1¾
Public consumption	212.6	2.8	1¼	2¼
Total gross investment	253.4	6.6	-9½	-9¾
- Petroleum activities	68.7	22.3	-17	-25
- Mainland Norway	174.9	2.0	-7	-4¾
Enterprises	112.6	4.1	-8	-8
Dwellings	28.3	-0.7	-5	0
- Gen. government	34.0	-2.1	-5	2
Mainland demand[1)]	899.5	2.9	¼	¾
Exports	412.8	0.5	4½	7½
- Crude oil and natural gas	129.7	-3.2	7	15¼
- Traditional goods	176.8	3.7	2¼	3¾
Imports	387.3	6.9	-¼	2¾
- Traditional goods	265.3	9.5	-½	2¾
GDP	1033.4	2.0	¾	1¼
- Mainland Norway	877.9	2.9	¼	-¼
Labour market				
Employment	2.3	2.3	¼	-¾
Labour force, LFS	1.4	1.4	½	0
Unemployment, LFS	3.2	3.2	3½	4¼
Prices and wages				
Consumer prices	2.3	2.3	2¼	1¾
Annual wages	6¼	6¼	5½	3¾
Import prices, traditional goods	1.3	1.3	-¼	-1
Export prices, traditional goods	0.7	0.7	-¾	2
Crude oil price, NOK (constant 1999 prices)	96	96	87	91
External account[2)]				
Trade surplus, NOKbn (level)	9.8	9.8	11	43
Current account surplus, NOKbn (level)	-9	-9	-6	29
Current account surplus, % of GDP	-0.9	-0.9	-½	2½

Memorandum				
Household saving ratio	6.8	6.8	7¼	7¼

[1] Private and public consumption and mainland gross fixed investment
[2] Current prices

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