

Current monetary policy issues

Address by Governor Svein Gjedrem. The General Meeting of ACI Norway in Tromsø, Saturday, 19 August 2000

I would like to start by expressing my thanks for being given the opportunity to give this presentation of monetary policy in Norway. I will start my presentation with a brief review of the basis for monetary policy, and will go on to mention some of the considerations and reasoning behind Norges Bank's recent setting of interest rates. Finally, I will turn to certain structural features of particular importance to developments in the capital account balance which can shed light on the relationship between the setting of interest rates in Norway and international interest rate developments.

The basis for monetary policy

The chart shows movements in the krone exchange rate between 1980 and the present. There have been three major crossroads since 1986.

- Following the last devaluation in May 1986, the Norwegian authorities decided to introduce a fixed exchange rate system for the krone. The monetary policy authorities bound themselves to the mast. Under this system, the interest rate was to be set solely with the aim of maintaining exchange rate stability within narrow margins. At the same time, the krone was supported through extensive exchange-market interventions. The fixed exchange rate system led to a gradual slowing of price inflation. A counter-cyclical fiscal policy also helped reinforce the credibility of the choice of monetary policy regime, since unemployment in this period was lower than would otherwise have been the case.
- In December 1992, the fixed exchange rate system had to be abandoned following a sustained period of unrest and extensive speculation in European exchange markets. After this the krone remained stable for several years without any significant changes to Norges Bank's policy response pattern. The stability of the krone during this period was largely due to the Norwegian economy entering a period of balanced growth. Fiscal policy was well suited to economic developments, while wage inflation was moderate and oil prices were relatively stable. The monetary policy instruments merely accompanied these developments.
- From late 1996 the krone became less stable: the value of the krone fluctuated substantially, despite more active use of monetary policy instruments to dampen the fluctuations. This period saw high levels of economic activity in Norway, coupled with marked cost inflation. This coincided with considerable fluctuations in oil revenues and turbulence in international financial markets, which had a contagion effect on the krone.

Developments since the end of 1996 indicate that the exchange rate is no longer ideally suited as an operational short-term objective for monetary policy. Norges Bank is not in a position to fine-tune movements in the krone exchange rate. When a central bank trades in its own currency to influence the range of the exchange rate, market participants can exploit

a situation whereby the exchange rate does not reflect underlying market conditions. With free capital flows, this can trigger huge movements of capital. The interest rate, which is the Bank's primary instrument of monetary policy, has a more indirect, less predictable effect on the krone exchange rate, while the exchange rate may be affected by a number of conditions beyond the control of the Norwegian authorities.

The Norwegian political authorities formulated Norges Bank's mandate for the conduct of monetary policy. The regulation reads as follows:

"The monetary policy to be conducted by Norges Bank shall be aimed at maintaining a stable exchange rate against European currencies, based on the range of the exchange rate maintained since the krone was floated on 10 December 1992. In the event of significant changes in the exchange rate, policy instruments will be oriented with a view to returning the exchange rate over time to its initial range. No fluctuation margins are established, nor is there an appurtenant obligation on Norges Bank to intervene in the foreign exchange market."

This mandate allows Norges Bank latitude for exercising discretion in its conduct of monetary policy. Norges Bank has explained its interpretation of the Exchange Rate Regulation on several occasions, not least in a letter to the Ministry of Finance dated 21 October 1999, often referred to as the budget submission. When exercising discretion, Norges Bank attaches importance to fulfilling the fundamental preconditions for exchange rate stability. To ensure stability in the exchange rate against the euro, monetary policy instruments must be oriented towards reducing price and cost inflation to the level aimed at by the European Central Bank. At the same time, monetary policy must not in itself contribute to deflationary recessions, as this could undermine confidence in the krone. Hence, there is no conflict between gearing monetary policy instruments towards low and stable inflation and the objective of a stable krone exchange rate over time.

In the budget submission, the Bank also provided information about key policy response patterns when price and cost developments and the basis for exchange rate stability are influenced by external factors.

Price and cost inflation are influenced by monetary policy through a number of channels. When interest rates increase, it becomes more profitable to save and to postpone consumption until a later date. Interest expenses exceed interest income for households collectively, meaning that a rise in interest rates reduces real disposable income. The value of household wealth decreases, since interest rate rises normally lead to lower house prices and weaker trends in securities markets. Growth in private consumption and fixed investment slows. Lower demand for goods and services may also affect enterprises' profit margins.

Slower growth in domestic demand and production will curb growth in demand for labour. When the effects of changes in interest rates reach the labour market, wage growth will be affected. Increases in labour costs will in turn have an effect on inflation.

A more direct channel between changes in interest rates and price and cost inflation is to be found in the exchange rate. Under normal circumstances, a higher interest rate strengthens

the exchange rate, resulting in lower prices for imported goods (which account for approximately 40 per cent of the goods and services in the consumer price index). The change in the exchange rate will also affect earnings in the internationally exposed sector and enterprises' ability to raise wages.

The relationship between interest rates and the exchange rate is not stable. We have seen cases of the exchange rate falling after a rise in interest rates when enterprises and financial operators assumed that the interest rate rise would seriously undermine the basis for economic growth. On the other hand, a low interest rate which fuels higher inflation will cause the krone to fluctuate considerably. Nevertheless, as long as monetary policy has a stabilising effect on the inflation outlook, we will generally be able to assume that raising interest rates strengthens the krone and that lowering interest rates weakens it.

In its *December 1999 Inflation Report*, Norges Bank presented calculations based on our macroeconomic model which illustrated that an interest rate rise of 1 percentage point might reduce price inflation by 0.3 percentage point after two years. This reduction is largely due to the effect on the exchange rate. These calculations were based on the assumption of uncovered interest rate parity. An interest rate rise will then result in an immediate appreciation of the krone, which is sufficient for the interest rate differential between Norway and other countries to correspond to expectations of future changes in the exchange rate. After three years the effect is somewhat less strong as a result of the depreciation of the krone, but at this stage domestic factors will gain in importance.

A number of comparative analyses have been published which study the effect of rises in interest rates on inflation in different industrial countries¹. There is substantial variation in the calculations across countries and between different analyses.

In a report published by the Monetary Policy Committee of the Bank of England², the effect of an interest rate rise which is sustained for one year is illustrated using simulations in the bank's macroeconomic model. After two years, inflation has fallen somewhere in the region of 0.2 to 0.4 percentage point, dependent on the other assumptions. The report emphasises that the effects are dependent on factors such as the general state of the economy and the credibility of the monetary policy regime.

Calculations carried out by the central bank of Sweden, published in its December 1999 Inflation Report, show effects comparable to those demonstrated in the English report.

It is not uncommon for the effects of economic instruments to be uncertain. On the contrary. This means that we cannot fine-tune economic developments. The possibilities for conducting a successful economic policy increase by proceeding gradually when economic developments require changes in the interest rate.

Despite the uncertainty as to the speed and magnitude of the effect of changes in interest rates on inflation, there can be no doubt that higher interest rates lead to a reduction in price inflation. Almost all the analyses referred to above are based on economic models which have been quantified using historical data, as have Norges Bank's calculations. The models cover some of the channels for interest rate effects, but not all of them. There is evidence to

suggest that changes in interest rates may now have a greater impact on the economy, and more swiftly, in Norway and in other countries than was formerly the case.

Chart 3 illustrates the correlation between changes in the consumer confidence indicator and the differential between long-term and short-term interest rates since 1992. The consumer confidence indicator attempts to chart households' confidence in and expectations concerning their own financial situation and the nation's economy, and represents a leading indicator for private consumption. The differential between long-term and short-term interest rates is an indicator of the tightness of monetary policy. A negative differential means that short interest rates are higher than long rates, and may be taken as an indication that monetary policy is contractionary. The correlation between the interest rate differential and the consumer confidence indicator would seem to imply that monetary policy, at least in certain circumstances, has a swifter and stronger effect than previously assumed.

The effects of monetary policy are channelled through the real economy and the exchange rate. As already mentioned, traditionally there has been a considerable lag before changes in the real economy have affected price and cost inflation. However, if expectations are reflected in household and enterprise behaviour, prices may be affected more swiftly. If price expectations are affected, the effect on the exchange rate will be intensified, since lower price inflation in isolation implies a stronger exchange rate. It is thus likely that there is a third channel which monetary policy can affect, which we may term the expectation channel. Developments throughout the 1990s would seem to suggest that this channel is gaining in importance. However, it is difficult to quantify with any degree of accuracy to what extent monetary policy affects price expectations. The relationship between monetary policy and price expectations is probably fairly unstable. This will be dependent on confidence in the implementation of monetary policy.

The Executive Board of Norges Bank currently assesses the Bank's key rates eight times a year on previously announced dates. In addition to making decisions on interest rates, after each of these monetary policy meetings the Bank issues a statement on its assessment of probable interest rate changes in the future. At the press conference on 9 August announcing the most recent rise in interest rates, the following statement was issued: "Today's decision to raise interest rates brings the overall increase in interest rates to 1.25 percentage points from the beginning of the year. This represents a substantial step in the adjustment of the interest rate that is appropriate on the basis of the analyses in the June *Inflation Report*. However, the probability that the next change in interest rates will be an increase remains greater than the probability of a reduction."

In addition to the mandate for monetary policy, there are several other factors of importance to the decisions made by the Bank, including:

- the Bank's interpretation of the mandate,
- the policy response pattern in the use of monetary policy instruments as publicised,
- the analyses in the inflation reports, and
- assessments of probable interest rate changes in the future.

These factors combined serve as a constraint for the Bank in almost the same way as exchange rate movements did under the fixed exchange rate regime. Established courses of action may be set aside, but only in the face of extraordinary conditions, for example when financial stability is in jeopardy.

The predictability of the behaviour of the central bank helps diminish uncertainty for all participants in the economy. This makes the Norwegian economy less exposed to doubt and speculation concerning the setting of interest rates, reinforcing stability in the formation of expectations and facilitating smoother developments in long-term interest rates. Continuity and consistency are therefore Norges Bank's best contribution to economic stability and exchange rate stability.

At the same time, however, the Bank's leeway with regard to monetary policy is limited. Norges Bank would have greater scope for manoeuvre if we were less open about our policy response pattern - if we kept our cards closer to our chest. This would enable us to surprise market participants, and in the short term this might allow interest rate changes to have a greater impact. But enterprises and financial operators would gradually learn from experience and take positions to guard their interests. The long-term results would be weaker confidence in monetary policy, higher interest rates and risk premia, lower investment and an unstable exchange rate.

Economic developments

There have been substantial fluctuations between the major currencies since the introduction of the euro. In general, the euro has depreciated against other currencies. Some academic papers suggest that the euro is undervalued. For instance, calculations in a working paper published by the IMF indicate that the nominal equilibrium exchange rate at the time of the introduction of the euro at the beginning of 1999 was USD 1.26 per euro³.

Expectations in money and foreign exchange markets seem to suggest that the euro is also considered to be undervalued in relation to the Norwegian krone. Estimates from market makers indicate that the krone is expected to weaken against the euro over the next three to twelve months.

The krone has depreciated against other currencies since the beginning of the year. It has weakened considerably against, for instance, the US dollar and pound sterling, but less against the Swedish krona. Measured by the trade-weighted index calculated as a monthly average, the krone touched a record low level earlier this summer.

We can derive indicators of market expectations concerning future exchange rate movements and inflation. Implied forward rates can be interpreted as the expected nominal interest rate between two future dates. For a given expected real interest rate, the forward rate provides some indication of inflation expectations.

In the long term, ie up to ten years ahead, it is highly unlikely that market participants have specific expectations about the economic situation. If the equilibrium real interest rate is the same between countries, the differential between Norwegian and foreign long-term forward

rates may be interpreted as the differential in expected inflation plus any risk premium. The risk premium may be partly attributable to the limited volume of Norwegian financial markets. As such, the long-term forward rate differential between Norway and Germany may be interpreted as the expected inflation differential between Norway and the euro area in the future - plus any risk premium.

Chart 7 shows that the forward rate differential between Norway and Germany, ie the differential between short-term interest rates at future dates, is gradually narrowing, and is not much greater than for the other Nordic countries. I would like to emphasise, however, that calculations of this sort are uncertain.

On the basis of the prices for various currency options, we can calculate the implied probability distribution for the krone exchange rate. In simple terms, one can say that the further to the left in the diagram the figure is, the higher a future appreciation of the krone is priced. A narrow, symmetric curve - or a bell - indicates that the uncertainty surrounding the future krone exchange rate is considered to be relatively slight, and that the risk of a depreciation or appreciation is priced symmetrically. The chart shows that the implied probability distribution for the krone has changed over time. Uncertainty surrounding the future krone exchange rate appears to have diminished.

The corresponding bell for the exchange rate between the euro and the US dollar indicates that there is considerable uncertainty surrounding the future exchange rate between the two currencies. Since autumn 1999 this uncertainty has mounted, while at the same time the euro is expected to fall against the US dollar.

The assessment of the economic outlook has changed over the past 18 months. A year and a half ago (in the March and June 1999 *Inflation Reports*) we forecast a period of slower growth in the mainland economy. We were uncertain as to how long it would take for the decline to be reversed. The basis for these projections was high cost increases peculiar to Norway following the 1998 wage settlement, together with low international demand in the wake of the Asian crisis, low oil prices, sluggish price trends for other Norwegian export goods, and major restructuring in key manufacturing sectors.

We assumed that there was a relatively high risk of a major recession. The greatest uncertainty with regard to setting interest rates was linked to developments in the sheltered sector, where price and cost pressures remained strong. A relatively tight central government budget for 1999 laid the foundations for curbing growth in the sheltered sector.

On the basis of these analyses and the approved government budget for 1999, Norges Bank announced that it would be easing its monetary policy stance. The key rates were lowered in five stages by a total of 2.5 percentage points in the course of the first nine months of 1999. This helped stabilise the Norwegian economy, and hence the krone.

The outlook for the global economy and the Norwegian economy improved unexpectedly quickly. It now appears that the period of slower growth in the Norwegian economy was in fact over by summer 1999. The upswing in the global economy spread to the Norwegian economy through strong export growth and higher prices for Norwegian exports. At the

same time, demand in the sheltered sector remained buoyant. There was also slippage in government budget spending allocations throughout 1999.

Private consumption continues to rise, fixed investment is increasing in service sectors, and unemployment remains low.

The decline in petroleum investment is necessitating restructuring and lower production levels in some Norwegian manufacturing sectors. Developments so far indicate that this turnaround has been offset by continued high employment growth in the public sector, private services and non-petroleum-related manufacturing.

However, enterprises' financial position is vulnerable. The growth in labour costs in the latter half of the 1990s left its mark on profitability. Both in manufacturing and other industries, labour costs as a percentage of factor income have increased since the mid-1990s.

The analysis in the June 2000 *Inflation Report* indicates that consumer price inflation in 2001 and 2002 may exceed levels which are consistent with exchange rate stability over time. The risk of rising wage and price inflation has increased, while there now appears to be little risk of a pronounced recession over the next two years.

On the basis of developments in the Norwegian economy and the future outlook, Norges Bank raised its key rates by 0.25 percentage point as of 13 April, by 0.5 percentage point as of 15 June and by 0.5 percentage point as of 10 August. As already mentioned, this represents a substantial step in the adjustment of the interest rate that is appropriate on the basis of the analyses in the June *Inflation Report*. However, in the light of recent trends in the economy and the balance of risks, the probability that the next change in interest rates will be an increase is greater than the probability of a reduction.

Coordination of economic policy

The experience of the 1970s and 1980s shows that, in the long term, monetary policy is not suitable for influencing competitiveness or the size of the internationally exposed sector. Any attempt to do this through the use of monetary policy instruments will inevitably lead to instability. However, fundamental real economic forces of this kind can be shaped through the use of fiscal policy.

Although monetary policy is not suitable for influencing competitiveness, exchange rate fluctuations may provide an early warning that the internationally exposed sector is on the verge of losing or gaining strength in the contest for economic resources. A sound basis for exchange rate stability is a fiscal policy which manages to smooth fluctuations in domestic demand and production, coupled with well functioning income determination. The primary difference between Norway and countries which have chosen to base their monetary policy regime on an inflation target is to be found in the interaction between monetary policy and fiscal policy.

The role of the Petroleum Fund

The Norwegian economy is small and open. Fluctuations in oil prices and oil revenues pose a considerable challenge to Norwegian economic policy. The Government Petroleum Fund plays an important role in stabilising developments in the mainland economy. A large portion of the central government's oil and gas revenues is invested abroad through the Petroleum Fund. Balance in the Norwegian krone market is maintained by investing foreign exchange earnings abroad, thereby curbing the effect of fluctuations in oil prices on the krone exchange rate.

Some of the petroleum revenues are used to finance central government budget expenditure. The portion used by oil companies in Norway, partly to finance investment, also has an effect on the mainland economy.

The portion of central government oil revenues that is not used domestically is credited to the Petroleum Fund's account in Norges Bank. Norges Bank acquires foreign exchange equivalent to the allocation to the Petroleum Fund. Foreign exchange earnings from the state's direct financial interest in oil activities (SDFI) are transferred directly to Norges Bank, while the remainder is purchased in the market. The Petroleum Fund's capital, as well as the return on this capital, is invested abroad.

The accumulation of capital in the Petroleum Fund serves as a channel for distributing oil revenues among generations and contributes to stable government finances in the long term. The larger the Petroleum Fund is, the less dependent we will be on petroleum revenues in the future.

The Petroleum Fund shall also serve as a buffer against short-term fluctuations in oil revenues. As large portions of the revenues from oil activities accrue to the state, fluctuations in oil prices and oil revenues will primarily result in changes in allocations to the Petroleum Fund. Since all of the capital in the Petroleum Fund is invested abroad, such changes will in principle not influence the level of activity in the economy. This makes the Norwegian economy more robust to fluctuations in oil prices and thus less dependent on oil, even in the short run.

We may say that oil revenues enter the Norwegian economy through an external and internal circular flow. The distinction between the external and internal circular flow is important for exchange rate stability. This means, among other things, that short-term changes in oil prices shall not influence the orientation of economic policy. If the distinction between the two circular flows were to break down, and the use of oil revenues were to fluctuate more in step with oil prices, we would have an unstable economy, and hence an unstable exchange rate.

Let us assume that the oil price temporarily increased by NOK 10 per barrel, or a little less than USD 1.50 per barrel. This is a small change in oil prices, well within normal variations from one year to the next. Central government revenues - and thus the budget surplus - would then increase by about NOK 8 billion the first year and NOK 10-11 billion the following year, which is equivalent to nearly 1 per cent of Norway's annual GDP. If the higher revenues

are used in the economy through higher expenditure or reduced taxes in the central government budget, aggregate domestic demand will be affected. Higher expenditure requires an increase in the public sector's use of real resources, primarily labour. One per cent of GDP is then a substantial figure. If the increase in oil revenues is used domestically in this way, it would correspond to nearly half of the annual growth in the mainland economy in a normal year. If the private sector of the economy is also expanding, and the economy is already close to capacity limits, this policy will swiftly lead to strong pressures on resources in the economy. This will result in a rise in wages and prices. This policy would also lead to unstable conditions in the foreign exchange market. The idea behind the Petroleum Fund is that the revenues from an increase in oil prices of this magnitude shall accrue to the Petroleum Fund and be invested abroad, and that the increase in oil prices shall not influence the rest of the budget. In that case higher revenues will not influence the domestic economy, but be invested abroad through the Petroleum Fund.

Structural features of the capital account balance

The current account surpluses are related to substantial earnings from oil and gas exports. These revenues accrue to the state and oil companies and the capital paid in provides a basis for exports of capital. In the last five years the central government has exported capital not least through the Petroleum Fund's investments.

When petroleum revenues are excluded, the current account shows large deficits. In recent years, however, capital outflows from some sectors of the mainland economy have been considerable. Large asset managers such as life insurance companies and securities funds accumulated substantial holdings of foreign equities and bonds in the last half of the 1990s. Portfolio investment abroad reflects a desire to diversify. In the period 1996-May 2000 the capital outflow from the Petroleum Fund, insurance companies and securities funds came to altogether NOK 350 billion. In the same period the current account surplus came to NOK 220 billion.

This capital outflow has largely been matched by loans raised abroad by banks and other Norwegian enterprises. Norwegian banks have been an important importer of foreign capital. Net capital inflows to banks amounted to about NOK 140 billion in this period, with short-term capital accounting for almost half.

Since 1995 there has been a shift towards higher foreign funding in the banking sector. Banks have financed the widening difference between customer deposits and lending from foreign sources. Chart 12 shows that a large portion of foreign borrowing has been short-term. In 1998, lending growth slowed and customer deposits increased, and growth in banks' foreign debt came to a halt.

In recent years we have thus recorded exports of long-term capital that are considerably higher than the current account surplus. The substantial net outflow of long-term capital from the private sector may partly reflect a thin Norwegian capital market. The Norwegian bond market is not very developed and the value of equities in the Norwegian market in relation to GDP is very low.

It is also worth noting that according to highly uncertain national accounts figures, fixed investment is now at a very low level and there is little growth in productivity in Norwegian manufacturing. There are few signs at the moment that the "new economy" has reached this segment of the Norwegian business sector.

The trend towards net exports of long-term capital, as seen in the table, and the tentative explanations that have been provided may shed some light on why the effective krone exchange rate has been relatively weak for the last few years, despite large current account surpluses and short-term interest rates on a par with or higher than in other countries.

Thank you for your attention.

Notes:

1: OECD (1999): *EMU. Facts, challenges and policies*, chapter 2, OECD, Guiso, Luigi, Anil K. Kashyap, Fabio Panetta & Daniele Terlizzese (1999): "Will a common European monetary policy have asymmetric effects?", Federal Reserve Bank of Chicago, *Economic Perspectives*, 4th quarter.

2: Bank of England (1999): "The transmission mechanism of monetary policy", The Monetary Policy Committee, Bank of England.

3: E. Alberola, S. Cervero, H. Lopez and A. Ubide (1999): "*Global Equilibrium Exchange Rates: Euro, Dollar, "Ins", "Outs" and Other Major Currencies in a Panel Cointegration Framework*", IMF WP/99/175.