Jarle Bergo: The role of interest rates and the outlook for the Norwegian economy

Address by Mr Jarle Bergo, Deputy Governor of Norges Bank, at a seminar hosted by Swedbank Markets Oslo/First Securities, Gardermoen, 23 March 2006.

The charts can be found on the Norges Bank's website.

The address is based on the assessments presented at Norges Bank's press conference following the Executive Board's monetary policy meeting on 16 March, Inflation Report 1/06 and on previous speeches.

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The interest rate is a variable that affects most of us, whether we are investors or borrowers. And even if we don't have debts or assets, the influence of the interest rate on the economy will affect us indirectly. In this presentation, I would like first to discuss briefly the various roles played by the interest rate in a theoretical framework and as an instrument in monetary policy. With this as background, I will go on to present Norges Bank's view of the Norwegian economy and our monetary policy assessment, which was published in the *Inflation Report* on 16 March.

The interest rate has several functions

Interest rates are the terms at which money or goods today may be traded off for money or goods at a future date - the price we pay to bring consumption forward in time and the compensation we receive for postponing consumption.

The interest rate is also the price of money – the price we pay in order to have liquid holdings and the compensation we receive for storing our savings in less liquid forms.

The interest rate is also used as an instrument in economic policy. Setting the interest rate to achieve a monetary policy objective, often price stability or low and stable inflation, is usually the responsibility of the central bank. This is also the case in Norway.

Low and stable inflation provides the economy with a nominal anchor, and is the most important contribution monetary policy can make to sound economic developments in the long term. This contributes to increased predictability for those who take decisions about saving and investment today, although the result of those decisions also depends on how the economy develops in the future.

In its conduct of monetary policy, Norges Bank operates a flexible inflation targeting regime, so that weight is given to both variability in inflation and variability in output and employment. Flexible inflation targeting builds a bridge between the long-term objective of monetary policy, which is to keep inflation on target and provide an anchor for inflation expectations, and the more short-term objective of stability in the real economy.

Monetary policy influences the economy with long and variable lags. Norges Bank sets the interest rate with a view to stabilising inflation at the target within a reasonable time horizon, normally 1–3 years. The relevant horizon will depend on disturbances to which the economy is exposed and how they will affect the path for inflation and the real economy in the period ahead.

The primary instrument in monetary policy is Norges Bank's sight deposit rate. This rate determines the very short interest rates in the money market with maturities from one day upwards, normally up to Norges Bank's next monetary policy meeting. Longer-term rates are determined by expectations concerning Norges Bank's use of instruments in the future and by the degree of confidence in monetary policy.

It may be useful to distinguish between three channels through which the real interest rate influences inflation:

The demand channel: As interest rates increase, household and municipal consumption and investment will tend to slow down. This is because they have less money left over after servicing their debt and because borrowing is more expensive. Corporate finances are weakened and investment may become less attractive. Lower demand leads to lower output and employment. Wage growth may slow down. Lower wage growth combined with reduced profit margins will result in decreasing inflation.

The exchange rate channel: The effect of interest rate changes may be amplified because the interest rate also affects the krone exchange rate. When interest rates are higher, more people will invest and fewer will borrow in NOK. Higher interest rates will thus normally lead to an appreciation of the krone. Imported goods will then become less expensive and inflation will decelerate. A stronger krone also dampens exports and reduces profitability in Norwegian business and industry. The effect on the exchange rate of a change in interest rates will vary as themes and sentiments shift in the foreign exchange market.

The expectations channel: We believe that expectations play an important role when prices and wages are set. Expectations concerning future inflation and economic stability have considerable impact, not least in the foreign exchange market. Inflation expectations also influence wage demands and have an effect when companies adjust their prices. It is difficult to be precise about how expectations are formed. Confidence in the inflation target may provide an anchor. Past inflation rates may also influence what we think inflation will be in the future. There is thus an interaction between inflation expectations and inflation.

If there is confidence in monetary policy, expected inflation in the medium term will be close to the inflation target. This contributes to stabilising inflation around the target. It is thus important for the central bank to ensure that households, companies, the social partners and financial market participants are confident that inflation will remain low and stable.

Let me introduce the concepts of the “neutral rate” and the “long-term equilibrium rate”. Both should be seen as real rates, that is nominal interest rates adjusted for expected inflation. The neutral real interest rate is defined as the rate that does not in itself result in an increase or a reduction in price and cost inflation in the economy in the course of a business cycle. An assessment of whether interest rate setting is expansionary or contractionary involves comparing actual short-term market rates with the neutral rate. I will revert to the quantification of the neutral rate later.

The interest rate influences savings and investment. In the longer term, the real interest rate level determines capital accumulation in the economy and the potential for economic growth. The long term equilibrium real interest rate is the rate that ensures that capital accumulation corresponds to the saving decisions in the economy. This rate results in a path for potential output that satisfies the preferences for distributing demand over time without generating pressures or slumps in the economy.

The equilibrium rate is determined by long-term phenomena associated with the structure of the economy, like consumer impatience, population growth and technological progress. The neutral rate is defined on the basis of its impact on capacity utilisation and inflationary pressures in the economy. In the long term, the neutral interest rate should correspond to the long-term equilibrium interest rate in the economy.

There will also be limits as to how much the long-term equilibrium interest rate can deviate between countries over time in a world of liberalised capital markets.

The interest rate therefore has several roles to play in the economy and these roles are fairly closely linked. The interest rate shall in the short and medium term contribute to stable inflation and stable developments in production. This will require active use of the interest rate as a policy instrument. But the interest rate should also contribute to equilibrium in the market for real capital in the long run. To achieve this, the real interest rate must not over time deviate too much from the return on real capital. Substantial deviations can give rise to undesirable fluctuations in the markets for real capital that have no basis in economic fundamentals.

In Norway, both short- and long-term real interest rates are at the moment at a low level, compared to the past few decades. This is also the case in many other countries. How large the deviations from the neutral and the equilibrium rates are, on the other hand, is less clear. Neither the neutral rate nor the equilibrium rate are variables that can be observed. Economic theory can contribute insight into the factors that determine the equilibrium rate, but attempts to quantify it based on theory yield an uncomfortably broad interval. An alternative is to use historical average interest rates on the basis of an assumption that actual real interest rates will vary around the equilibrium rate. This method also poses problems, however.

Throughout the period 1870-2005, the average long-term real interest rate in Norway has remained close to the average in the UK and the US: Norway 2.2 per cent, the UK 2.0 per cent and the US 2.8 per cent.

In all countries, fluctuations in real interest rates have been substantial in periods. The real interest rate has fallen markedly since the beginning of the 1990s.

There is an ongoing debate about the reasons for the decline in long-term real interest rates over the last few years. I will not elaborate on that debate here; it is a subject worthy of a seminar by itself. One particular possibility, pertaining to the discussion of the roles of the real interest rate, is that the fall in long-term interest rates may partly reflect market participants' assessment that the *neutral real interest rate* has fallen. During a business cycle, it is the real interest rate's deviation from the neutral real interest rate – the real interest rate gap – that indicates whether monetary policy is expansionary or contractionary.

The neutral real interest rate is difficult to estimate and may change over time. Nevertheless, we have tried. On an uncertain basis we estimate that the neutral real interest rate for Norway may now be close to 2½ per cent, having come down approximately 1½ percentage points since the mid-1990s. Forecasts in the latest *Inflation Report* indicate that the short term real interest rate in Norway will be close to its neutral level in about four years.

According to this, the real interest rate gap (the difference between the neutral rate and the actual rate) has been negative since 2004. There is evidence that monetary policy has had the desired impact both on the real economy and on inflation.

Monetary policy at the present phase of the cycle

Growth in the Norwegian economy has been high since summer 2003. The expansion has gradually broadened. Low interest rates have contributed to a relatively sharp rise in household demand throughout the upturn. At the same time, solid global growth has led to increased demand for many Norwegian export goods and high prices. Fixed investment in the petroleum sector has increased sharply, resulting in growing demand for goods and services supplied by mainland enterprises. Mainland fixed investment has also picked up gradually. So far in the economic upturn, the mainland economy has grown by an average of about 3.5 per cent quarterly, measured as an annualised rate.

The output gap is a measure that expresses our assessment of total capacity utilisation in the economy. The output gap is defined as the percentage difference between actual output and potential output. Potential output indicates the level of output that is consistent with price and cost stability. The estimate for the output gap is uncertain partly because the level of potential output is unobservable. Since official statistics on overall activity in the economy are not available immediately and are subsequently revised, the level of actual output will be uncertain. In assessing the size of the output gap, technical calculations are compared with other information about capacity utilisation in the economy. As more information has come to light, the output gap has been revised downwards for 2005, but at the same time the growth rate towards the end of the year is estimated to be higher.

Output has increased more rapidly than potential output for 2-3 years. Much of the available capacity has now been put to use. We now estimate that capacity utilisation was approximately ½ per cent above normal at end-2005.

Despite strong economic growth, inflation is still low. As the recovery became more broadly based, inflation gradually began to edge higher. In the second half of 2005, the 12-month rise in consumer prices adjusted for tax changes and excluding energy products (CPI-ATE) varied between 1 and 1½ per cent, before surprising on the downside in December and January. In February, inflation edged up again. Monthly variations in the CPI-ATE have been fairly pronounced recently.

There is little prospect that inflation will increase substantially in the near term. If we adjust for the effect of reduced maximum day-care rates, the year-on-year rise in the CPI-ATE is projected to be 1¼ per cent in the second quarter of 2006. Inflation will be dampened by continued low external price impulses and the appreciation of the krone through 2004 and 2005. After a period, the unwinding of the sharp rise in petrol prices through 2005 will probably lead to some decline in the year-on-year rise in the CPI.

Growth among our trading partners is still solid, and appears on the whole to be somewhat stronger than assumed a few months ago. High commodity prices have contributed to somewhat higher inflation, but so far underlying inflation has not been pushed up. Key rates have been raised in a number of countries, and market participants expect further interest rate increases.

Key rates remain low among many of our trading partners. Market participants expect a gradual increase in key rates in the period ahead, both in Sweden and the euro area. In the US, the key rate is expected to increase by a further 50 basis points before peaking. In the UK, the key rate is expected to remain virtually unchanged in the period ahead.

Long-term interest rates are also low in most other countries.

Oil prices have risen markedly over the last couple of years.

Growth in global oil demand is expected to approach 2 per cent in 2006. This is in line with expected growth in supply from non-OPEC countries. On the whole, this supports the view that the price of oil will remain high. Futures prices indicate that the price of oil may remain above USD 60 per barrel for the next few years.

High growth in the global economy also contributed to a further rise in prices for other commodities. This increase has continued in 2006. In spite of a slight decline recently, metal prices have increased substantially in recent months. There has also been a pronounced increase in futures prices, indicating expectations of a sustained upward movement in metal prices similar to that of oil prices.

High commodity prices have contributed to somewhat higher head-line inflation, but so far underlying inflation has not risen.

Rising commodity prices and buoyant activity in markets that are important for Norway have fuelled growth in the Norwegian economy.

We assume that the upturn will continue for our trading partners as a whole. Growth is projected to be somewhat stronger in 2006 than in 2005. Nevertheless, there will still be idle resources, especially in a number of European countries, implying continued low inflation.

In recent years, investment in the petroleum sector has increased sharply. Investment growth has generated substantial impulses to the mainland economy. The large development projects relating to Snøhvit outside of Hammerfest and Ormen Lange at Aukra have made a large contribution to the high level of investment. Both these projects also involve considerable onshore development, which may have generated stronger impulses to the business sector locally than pure offshore projects. Investment activity associated with Snøhvit and Ormen Lange will probably decline in the period to completion in 2007.

High oil prices have led to a strong increase in activity on the Norwegian continental shelf. Many projects have been launched to increase recovery from fields in operation. A number of oil companies have revised upwards the long-term oil prices that are used as a basis for investment decisions, although they are still moderate compared with futures prices.

Further out in the projection period, developments in petroleum-related investment are highly uncertain. It is assumed that overall activity will decline somewhat when Snøhvit and Ormen Lange are completed, but that the high oil price will contribute to maintaining investment at a relatively high level throughout the projection period.

The fiscal rule implies a gradual phasing-in of petroleum revenues into the economy, approximately in pace with the expected real return on the Government Pension Fund – Global, formerly known as the Petroleum Fund. The Government Pension Fund – Global is likely to expand sharply in the years ahead. On the basis of our assumptions for developments in oil prices ahead (oil futures prices), a mechanical application of the 4 per cent rule implies that the use of petroleum revenues will increase by more than NOK 31 billion from 2006 to 2009. This is somewhat higher than expected in the Government's supplement to the budget for 2006. The difference can partly be explained by the fact that at end-2005 the Fund's capital was higher than that estimated by the Government, and partly that the Government assumed that oil prices ahead would be lower than current oil futures. For 2007, we assume an approximately unchanged structural non-oil deficit.

With continued solid growth in the Norwegian economy, it would be in line with the fiscal rule if the use of petroleum revenues is lower than the expected real return on the Government Pension Fund – Global over a few years. Our projections are based on the assumption that fiscal policy will provide some stimulus to aggregate demand and output in 2008 and 2009, but somewhat less than a mechanical application of the fiscal rule based on our oil price assumption would imply.

Norges Bank operates a flexible inflation targeting regime and seeks to achieve an interest rate path that provides a reasonable balance between the objective of bringing inflation up towards 2.5 per cent over time and stabilising developments in output and employment.

Norge Bank's projections in the baseline scenario is based on an interest rate path that we find strikes a reasonable balance between the two objectives. In the baseline scenario, interest rates in Norway and abroad are assumed to rise somewhat faster in the longer term than current forward rates may imply. Exchange rate movements are difficult to project. The interest rate path at home and abroad may be consistent with an approximately unchanged krone exchange rate.

The high growth rate in the economy implies a gradual pick-up in price and cost inflation. With interest rate developments as outlined above, CPI-ATE inflation is projected to increase from about 1¼ per cent today to about 2 per cent at the end of 2007. There are prospects of a further increase in inflation, with inflation projected to be close to the target of 2.5 per cent three years ahead.

According to our estimates, capacity utilisation is now slightly higher than its normal level. Mainland GDP is projected to show sustained strong growth in 2006. The output gap is expected to increase over the next two years, but will peak at a fairly moderate level as gradual increases in the interest rate dampen demand growth. Growth in the global economy is projected to remain high, resulting in both high demand and favourable prices for the Norwegian export sector. There are prospects that high petroleum investment will contribute to sustaining the high level of activity in the Norwegian economy. In 2008 and 2009, a continued high level of petroleum revenues may imply an expansionary fiscal policy.

Interest-rate setting since last summer has been oriented towards a gradual increase in the interest rate – in small, not too frequent steps – towards a more normal level. Based on Norges Bank's assessment of the driving forces in the economy, this strategy appears robust. Output growth is strong and the labour market is becoming tighter more quickly than expected. Higher growth in the economy may in isolation suggest a faster increase in the interest rate ahead. This would reduce the risk of bottlenecks in the economy, with rising cost inflation and continued debt build-up. On the other hand, the objective of bringing inflation up towards the target and anchoring inflation expectations argues for restraint in the upward movement of interest rates.

On balance, this implies that the interest rate outlook remains virtually unchanged compared with the previous *Report*. Thus our current assessment indicates an interest rate path where the interest rate is raised by about 1 percentage point this year, in line with expectations in the market.

The two previous *Inflation Report*s underlined the risk that a low interest rate over a long period may result in strong pressures in the economy, with a risk of bottlenecks, accelerating cost inflation and debt accumulation. On the other hand, the Reports also pointed to the risk that continued trade shifts and increased competition in labour and product markets might result in lower price and wage inflation and weaker pressures in the economy. Through autumn, statistics did not favour either alternative, but now we see signs of both. This may increase the uncertainty surrounding the state of the Norwegian economy. Monetary policy must strike a balance between the various objectives. Strong growth in the Norwegian economy, a tighter labour market, a pronounced rise in equity prices and high credit growth must be weighed against unexpectedly low inflation.

We have illustrated the uncertainty surrounding forecasts for the interest rate, inflation and the output gap with fan charts. The width of the fan charts is based on historical disturbances. However, there is no certainty that future disturbances will be of the same nature and scale. The wider the fan charts are, the more uncertain the projections. Uncertainty surrounding the interest rate reflects the monetary policy response to unexpected disturbances to inflation, output and the exchange rate.

On the basis of the analysis in the *Inflation Report*s, Norges Bank's Executive Board assesses the consequences for future interest rate development and adopts a monetary policy strategy for the period to the next *Report*. The Executive Board's assessment in its meeting 16 March was that the interest rate may gradually – in small, not too frequent steps – be brought back towards a more normal level. The objective of bringing inflation back to target and anchoring inflation expectations nevertheless implies that monetary policy will remain expansionary. The sight deposit rate should be in the interval 2¼ – 3¼ per cent in the period to the publication of the next *Inflation Report* on 29 June 2006, conditional on economic developments that are broadly in line with the projections.

Norges Bank's Executive Board also decided at its meeting on 16 March to raise the sight deposit rate by 0.25 percentage point to 2.50 per cent.