Svein Gjedrem: Trade-offs in monetary policy

Address by Mr Svein Gjedrem, Governor of Norges Bank (Central Bank of Norway), at the Centre for Monetary Economics/Norwegian School of Management, Oslo, 6 June 2006.

Please note that the text below may differ slightly from the actual presentation. The address is based on the assessments presented at Norges Bank's press conference following the Executive Board's monetary policy meeting on 31 May, Inflation Report 1/06 and on previous speeches.

The Charts in pdf-format *can be found on the Norges Bank's website.*

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Low prices for imported consumer goods, combined with high prices for our commodities exports, have contributed to a strong improvement in Norway's terms of trade. The contribution from the rise in oil and gas prices is particularly high, but the terms of trade for the mainland economy have also improved. The Norwegian economy has been exposed to a strong positive income shock.

So far, the increase in income has not led to markedly higher price and wage inflation. Businesses are using resources with steadily greater efficiency and the supply of labour has been ample. Partly owing to the improvement in the terms of trade, the exchange rate has remained strong, which has contributed to keeping inflation low.

In the face of such strong external influences, smoothing developments in the Norwegian economy is a demanding task. Our stabilisation policy rests on four pillars that were established in the 1990s and in 2001: the oil fund mechanism, the fiscal rule, a floating exchange rate and inflation targeting. This system was introduced against the backdrop of wide fluctuations in economic developments during the first twenty years of the oil age in Norway.

Under the oil fund mechanism, increased government petroleum revenues are invested abroad, which curbs the impact of oil price swings on demand and output - and on inflation and the krone exchange rate. A floating krone exchange rate also has a stabilising effect, and the exchange rate normally appreciates in favourable periods and depreciates during adverse periods. It is easiest to express the advantage of this during adverse periods. If the krone remains at a level that is too strong, real wage growth must be lower than productivity growth in order to strengthen enterprises and employment. This only occurs when unemployment is high. With a flexible exchange rate, competitiveness may also strengthen as a result of a depreciation of the krone. A flexible exchange rate can reduce fluctuations in employment and output. The fiscal rule that provides for a steady phasing-in of petroleum revenues and the inflation target anchor expectations concerning developments in the krone exchange rate and inflation. Moreover, the fiscal rule contributes to restraining the pace at which international exposed industries are scaled back.

When these policy guidelines are adhered to, they are in principle just as conducive for coping with favourable periods as with adverse periods. They will again be put to the test when the terms-of-trade change is reversed and the gains either fully or partly dissipate.

Monetary policy in Norway is oriented towards low and stable inflation. Low and stable inflation provides enterprises and households with an anchor for inflation expectations. Given that there is confidence in the nominal anchor, monetary policy shall also contribute to stable developments in the real economy. Norges Bank therefore operates a flexible inflation targeting regime. This means that weight is given both to variability in inflation and variability in output and employment in interest-rate setting.

Monetary policy is facing particular challenges. Inflation has been considerably lower than the inflation target during the past three years. During the same three-year period, economic growth has been high, and higher than our estimate for long-term growth potential. The output gap has shifted from negative to positive. Unemployment is low and falling, and the increase in house prices, equity prices and credit has been high.

Monetary policy has been and continues to be expansionary. Real interest rates have been low, and considerably lower than what is regarded as a neutral level. The expansionary monetary stance must be seen in the light of the fact that inflation has been very low and that there was idle capacity for a longer period.

The economy is periodically exposed to unexpected supply- and demand-side disturbances that affect both inflation and output. Monetary policy must then be oriented towards bringing inflation back to target over time while avoiding wide variations in output and employment. It takes time for interest rate changes to feed through to real economic variables, and it takes even somewhat longer for the changes to have a clear impact on inflation. How long it takes to reach the inflation target – and not least – the time deemed desirable for reaching the inflation target will depend on the nature of the disturbances to which economy is exposed. It may be appropriate to differentiate between supply-side disturbances and demand-side disturbances.

If the economy is marked by weak demand, with low growth and low inflation, monetary policy should quite clearly be expansionary. This will stimulate both the level of activity and push up inflation. Inflation will then move towards the target and output will move towards potential output. By the same token, if there are pressures in the economy and inflation is high, a tighter monetary stance will restrain both activity and inflationary pressures. In such situations, it may be desirable to bring inflation back to target quickly. There is no conflict of objectives.

Low inflation in Norway is not the result of declining demand, activity or employment, but is rather a result of favourable developments on the supply side both in the Norwegian and international economy.

The integration of new emerging economies such as China and India into world trade, in conjunction with lower tariffs and reduced trade barriers, has contributed to a decline in prices for imported finished goods. This development has probably been most noticeable for clothing and footwear and audiovisual equipment. New producer countries with very low cost levels and increasingly more efficient production have contributed to a low rise in prices for other goods as well. Global competition has intensified and productivity growth has been high both in Norway and abroad.

Competition has also increased in Norway in a number of industries. The airline industry has perhaps been in particular focus, where the entry of the airline Norwegian in the Norwegian market has resulted in substantially lower air fares. In the retail trade we have also witnessed the impact of more efficient purchasing schemes, a larger number of chains and intensified competition. Margins and prices are falling in the financial industry. The rise in prices, for example in the hotel and restaurant industry, is surprisingly low.

In the labour market, we see traces of increased competition and a more flexible supply of labour as a result of the accession of new countries to the EU and greater mobility in the international labour force. These developments may have contributed to keeping wage growth at a lower level than would otherwise have been the case.

Low import prices, increased efficiency and intensified competition in both product and labour markets are probably the main reasons why inflation is still very low, even three years into this upturn.

When economic developments are marked by favourable developments on the supply side both internationally and in Norway, the challenges facing monetary policy are different from those arising when developments are marked by demand-side conditions. A favourable supply-side shock may result in both lower inflation and higher output. A conflict may now arise between stabilising inflation at target and stabilising developments in output and employment.

Not all supply-side disturbances will be of the same nature. Some may increase potential output permanently and enable the economy, at least for a period, to grow more rapidly than normal. Monetary policy should not counteract this. Higher productivity growth leads, for example, to lower inflation as well as to an increase in potential output in the economy. A sustained increase in competition in domestic markets will reduce prices and profit margins. At the same time, production will increase. In efficient markets, an increase in supply will normally generate higher demand without the need for a monetary policy response. The effects of globalisation are more intricate. Increased trade contributes to cheaper imported goods and increased potential consumption, but not necessarily to increased potential output.

There probably have been some disturbances on the supply-side that may be associated with a permanent increase in potential output in Norway. Our estimates of the potential output level have increased in pace with the emergence of new information. Our best guess is nevertheless that the output gap is now positive and widening. Low inflation combined with high growth in output and employment is therefore a challenge to monetary policy.

Even though economic growth has been strong over the past 15 years, business cycles have fluctuated. A pronounced upturn in the years from 1993 to 1998 was followed by a period of more moderate growth and a mild recession in 2002 and into 2003. Since summer 2003, there has again been a clear upturn in the Norwegian economy.

Wage developments reflect and influence business cycles. Strong employment growth in the 1990s resulted in a rise in labour costs, which in turn had a dampening impact on growth. Moderate wage growth in recent years has been accompanied by a strong cyclical upturn.

So far, the upturn has been marked by strong growth in output, with an ample supply of labour and unusually low inflation. For a longer period employment showed a smaller rise than in previous cyclical upturns, partly reflecting the decline in sickness absence since summer 2004 and solid growth in productivity. Employment showed a turnaround last autumn and the number of persons employed is now increasing sharply. Unemployment is falling rapidly.

The threat of relocation of jobs to other countries, increased inward labour migration and increased imports of goods and services may contribute to somewhat more moderate wage growth during this upturn. It is also possible that the experience of the period 1998-2002, with high wage growth and sharp fluctuations in the krone exchange rate and interest rates, is still marking wage settlements. At the same time, the situation with an ample labour supply may also be reversing. Sickness absence is now on the increase, and the number of persons on disability benefit is still rising steadily. Other countries still provide us with a source of labour, but the supply is not sufficient to offset the considerable flows into benefit schemes when viewing the economy as a whole.

As expected, it appears that wage growth will be somewhat higher in 2006 than in 2005. Historical experience shows that it is difficult for the social partners at the local and centralised levels to restrain wage growth when unemployment is low. A characteristic of the wage formation process in Norway has been that fairly long periods of moderate nominal pay increases and rising employment have culminated in a sharp rise in cost inflation – often as a result of working hour reforms – and a decline in employment. Developments in labour costs and the wage settlements in 1974 and 1975, 1986 and 1987 and in the period between 1998 and 2002 triggered a subsequent decline in output and employment. When we set interest rates, we must always assess the risk of another sharp rise in cost inflation when the labour market tightens.

High economic growth often leads to a sharp rise in asset prices and debt. Long periods marked by such developments may be a source of future instability in the real economy. When activity is high and household income expectations are high, asset prices and debt may increase rapidly. Expectations of high corporate profits may stimulate investment and lead to higher equity prices. Such an upswing may result in an increased willingness to take risk among both households and companies. They then become more vulnerable to a future downturn.

Since the mid-1990s, debt and house prices have shown a marked increase in Norway. Initially and perhaps for a period, this may be viewed to some extent as a delayed adaptation to the deregulation of the housing and credit markets in the mid-1980s after households had burned their fingers in the first years following the deregulation. Mortgage loan products have since been further developed. Household income has risen considerably in recent years, and household optimism about the future is unusually strong, which may also have contributed to increased demand for loans and the rise in house prices. In addition, expectations of persistently low real interest rates over time may have provided an additional boost to house prices.

It will always be difficult to know when and to what extent monetary policy should respond to a sharp rise in asset prices and a strong increase in credit growth. Our knowledge of the driving forces is incomplete. Our history is short and our experience with deregulated loan and housing markets is limited. It is difficult to determine to what extent the rise in house prices and growth in household debt can be accounted for by structural and long-lasting adaptation, by "normal" cyclical effects and by a short-term trend extension and speculative behaviour that may amplify the cyclical fluctuations when the bubbles burst.

We have leaned towards the notion that debt and asset price developments may be a potential source of subsequent instability, but it is neither our ambition nor our conviction that monetary policy can control developments in these variables. Combined with the favourable supply-side developments in the economy, this has prompted us to extend the horizon for reaching the inflation target. In our communications, we have also clearly articulated that the interest rate has been unusually low and must gradually be increased to a more normal level. Since last autumn, this has been expressed in Norges Bank's interest rate projections for the period ahead.

From using technical assumptions or others' assessments, we have now taken ownership of the interest rate path in our projections. This is also a means of seeking to influence household and business expectations. Although there will still be considerable uncertainty, it will be easier for economic agents to assess interest rate developments. This makes monetary policy more effective. The prospect of a gradual normalisation of interest rates may curb credit growth and the rise in house prices.

There may be objections to our producing interest rate projections. Producing an explicit interest rate projection may be stretching our knowledge quite far. It may be argued that market participants' overview and insight are just as good as ours and that our analyses do not add much beyond the information embedded in market rates. Another objection is the risk of the interest rate path becoming a target itself and that deviating from the interest rate projection would be perceived as a drawback, even if economic developments should so imply.

It is important to stress that the interest rate path is conditional on economic developments and our understanding of the functioning of the economy. This is reflected in the fan chart bands surrounding future interest rate developments.

The central bank of New Zealand has experience in producing interest rate projections, and actual interest rate developments have on many occasions differed from the projections[1]. We must also expect deviations from our projections. The interest rate will deviate from the projections if economic developments are different from the assumptions applied when the interest rate projection was published or if we change our view of how the economy functions.

Confidence in monetary policy depends on whether we succeed in anchoring inflation expectations and thus provide the economy with a nominal anchor. A credible nominal anchor is important to ensure that economic agents are able to differentiate between changes in relative prices and changes in the nominal price level. Changes in relative prices for goods and services are an important bearer of information about the degree of resource shortages and provide signals to investors, producers and households. Without a nominal anchor, it is more difficult for households and enterprises to make consumption and investment decisions. There is greater uncertainty surrounding real returns on nominal investments. This may increase risk premiums in financial markets. The absence of a nominal anchor may therefore result in unsound decisions and considerable fluctuations in output and employment and inflation. The interest rate will then have to be used more aggressively to stabilise output and inflation. Monetary policy may become less effective.

Very low inflation over a longer period increases the risk of the economy moving into a negative spiral with real economic costs. Even if low inflation initially reflects favourable supply-side conditions, it may lead to a demand-driven downturn if economic agents choose to delay investment and consumption on the basis of expectations of continued low or falling prices. Orienting monetary policy with a view to achieving the inflation target within a reasonable time horizon and thereby providing a nominal anchor will be a safeguard against such a development. Our experience may indicate that inflation expectations remain stable even if inflation varies somewhat as long as the interest rate is used actively to dampen the effects and monetary policy is oriented towards achieving the inflation target over time.

The interest rate was reduced to a very low level when inflation fell and approached zero. At the same time, we indicated that the interest rate would remain low until there were clear signs of a renewed pickup in inflation. If low inflation were solely associated with economic downturns, it would have been necessary to reduce the interest rate even further and keep the interest rate lower for a longer period. At this juncture, it our view that inflation could be brought back to target over a longer period because output has increased markedly.

We are currently adjusting the interest rate, in small not too frequent steps, towards a more normal level. Since June 2005, the key rate has been increased by a total of 1 percentage point and we have signalled that further interest rate increases are in the offing. We expect inflation to rise through 2007

[1] The chart is from Archer. D. (2005): "Central-bank communication and the publication of interest rate projections", presented at Sveriges Riksbank's conference: "Inflation targeting: implementation, communication and effectiveness": http://www.riksbank.com/templates/Page.aspx?id=15814.

and be close to the target of 2.5 per cent at the end of 2008. This is supported by a number of factors. Capacity utilisation in the Norwegian economy is picking up. This may result in higher margins. A tighter labour market may lead to higher wage growth. In addition, the increase in energy and commodity prices is pushing up producer costs at home and abroad.

Although the Bank in principle neither found it desirable nor anticipated that inflation was as low as it actually has been, we have deliberately accepted an inflation rate that is below target for a period. In a period of increased cross-border labour flows, substantial technological advances, changes in competitive conditions and new trading patterns, we may, with our very open economy, have to accept a somewhat greater variability in inflation and deviations from the target, as we have witnessed over the past two to three years.

This leads me to how monetary policy should be assessed.

Section 1 of the Regulation on Monetary Policy states:

- "Norges Bank's operational conduct of monetary policy shall... be oriented towards low and stable inflation. The operational objective of monetary policy is annual consumer price inflation of approximately 2.5 per cent over time.
- In general, the direct effects on consumer prices resulting from changes in interest rates, taxes, excise duties and extraordinary temporary disturbances shall not be taken into account."

A reasonable interpretation of the regulation is that when we look ahead, the interest rate should be set with a view to reaching the inflation target of 2.5 per cent within a reasonable, but flexible, time horizon. When evaluating whether the interest rate level is appropriate, one must consider the quality of the analyses of developments in the Norwegian and international economy, as well as the trade-offs that have been made.

When we look back and assess interest-rate setting, we must also take into account the reasons for the deviations from the target. For the average annual rise in consumer prices over time to be the same as the inflation target, the disturbances that affect the economy must be fairly symmetrical. Price inflation has been lower than the inflation target for a longer period and the interest rate is being set with a view to gradually closing the inflation gap. The aim is not for inflation to overshoot the target to the same extent a few years ahead. Therefore, when we in retrospect assess interest-rate setting, we cannot solely look at average CPI inflation.

Monetary policy must also be seen in the light of historical inflation. In the 1970s and 1980s, inflation was very high and volatile. The economy did not at that time have a nominal anchor. Since the beginning of the 1990s, inflation has been low and stable, both internationally and in Norway. While inflation in the 1970s and 1980s varied between 4 and 15 per cent, inflation has generally remained in the interval 1½ - 3½ per cent since 1990. The economy now has a nominal anchor.

In Norway and other countries, the period of very high and variable inflation and high inflation expectations was interrupted towards the end of the 1980s. We have seen the benefits of this in the 1990s and thus far in this decade. The effects of persistently high oil prices and the generally strong rise in commodity prices internationally cannot be compared to the experience of the 1970s and 1980s. Monetary policy is now delegated to central banks whose objective is to maintain low and stable inflation, and which are not of the view that there is a positive trade-off between inflation and economic growth in the long term. Inflation expectations are entrenched at a low, stable level.

Even though inflation during the past 15 to 20 years has been under control, consumer price inflation has nevertheless in periods varied somewhat from one month to the next. A large portion of the variations may be explained by tax changes and variations in energy prices. These fluctuations have generally had transitory effects on the CPI. When assessing actual price inflation in the recent past, in the present and in the near term, we do not take account of the rise and fall in individual prices, but we look at whether the general price level in the economy exhibits a persistent increase. Indicators of underlying inflation seek to reduce or exclude movements that are due to temporary disturbances and that should be disregarded when the interest rate is set.

Underlying inflation, like the output gap and the neutral interest rate, is an unobservable variable. An ideal indicator of underlying inflation should show the same average rise as the rise in the CPI over time. It should be less volatile than the CPI and should be indicative of future developments in inflation.

The consumer price index adjusted for taxes and excluding energy products, the CPI-ATE, has been widely used as an indicator of underlying inflation. However, the CPI-ATE not only excludes temporary effects of tax changes and fluctuations in energy prices, but also trend changes in these variables. This indicator is therefore not a perfect measure of underlying inflation. In the last 10 years, the CPI-ATE has underestimated underlying inflation because energy prices have increased more than other consumer prices and the level of excise duties has increased somewhat. In the past ten years, the difference has been roughly 0.3-0.4 percentage point on average per year.

Traditionally, Norway has been a net exporter of energy, but at the end of the 1990s the situation reversed. The price of energy is largely determined by supply and demand in the Nordic energy market and to some degree by the energy balance in non-Nordic countries. Energy trading is important for Norway. It reduces the vulnerability to precipitation levels and inflows. However, the majority of Norway's energy trading partners use coal, oil, gas and nuclear energy. Production costs for thermal power are higher than for hydropower, which is produced in Norway. If demand continues to increase more than production, electricity prices may continue to rise more than other prices in the future.

The integration of China and other low-cost countries into the world trade system has resulted in far lower prices for finished goods. These countries' entry into the world market has also led to strong economic growth and high demand for oil and other commodities. This has pushed up both energy and commodity prices.

Oil prices have risen from close to USD 30 per barrel in October 2003 to about USD 70 in May this year. The rise is largely due to increased demand for oil, and China accounts for a substantial portion of global growth in oil demand.

The trend rise in energy prices and the trend fall in import prices are partly attributable to the same process. Excluding one of the effects and not the other could distort the measure of underlying inflation[2].

We have regularly published three measures of underlying inflation which are published in the *Inflation Report* – the CPI-ATE, the weighted median and the trimmed average (20%). Recently, we have worked with several alternative measures of underlying inflation. One of these is a volatility-weighted indicator based on historical volatility of 96 sub-indices in the CPI (Coicop4 level). The CPI weights have been replaced by weights that give the sub-indices with the widest historical fluctuations less weight, but no index has been fully excluded. This means that energy prices are included but they have considerably less weight than in the CPI.

Of the measures that we use for underlying inflation, the CPI-ATE has tended to be lowest. All four measures indicate that inflation has been moderate in recent years and have implied an expansionary monetary policy.

The rise in prices we have recently observed could affect inflation in the period ahead through compensation for earlier inflation, the pass through of costs to selling prices and through expectations of future price inflation. By using various measures of underlying inflation, we seek to capture the portion of the rise in prices that may influence future inflation. It is always difficult in real time to determine which price movements will persist and which will only have a short-term effect on the CPI. An assessment of underlying inflationary pressures should probably be based on several different indicators and developments in these should be followed up by discussion and interpretation of the underlying causes.

Allow me to conclude.

Developments over the past 40 years have illustrated that the most important contribution monetary policy can make to sound economic developments in the long term is low and stable inflation. This provides the economy with a nominal anchor.

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

[2] This is discussed in "Measures of core inflation" in Bank of England's *Inflation Report* of February 2006. See www.bankofengland.co.uk.

on target and provide an anchor for inflation expectations, and the more short-term objective of stability in the real economy.

In some situations, it may be desirable to bring inflation rapidly back to target. In other situations, it may be desirable to apply a longer horizon. In this context, it may be appropriate to differentiate between supply-side and demand-side disturbances. The horizon must also been seen in the light of developments in house prices and debt. However, for monetary policy to function as intended, it is important that there is confidence in the nominal anchor.

Thank you for your attention.