

One year of inflation targeting

Speech by Central Bank Governor Svein Gjedrem at the Norwegian School of Management's Centre for Monetary Economics Monday, 10 June 2002

The speech is based on information presented in Norges Bank's Inflation Report 1/2002 and previous speeches

Please note that the text below may differ slightly from the actual presentation.

Norway introduced an inflation target a little over one year ago. The operational objective of monetary policy is low and stable inflation. The inflation target is set at 2½ per cent. As time passes, we will gain experience in inflation targeting. One year is a short period. Inflation over the past year is also the result of the monetary policy conducted prior to the introduction of the inflation target. It might also be interesting to take look at the experience of other countries that have an inflation target.

The last time I gave a lecture at the CME, the title was "Monetary policy, forecasts and market communication". One of the themes was transparency and predictability in the implementation of monetary policy.

Transparency can be defined to mean that the external presentation of decisions is consistent with the internal decision-making process.

In a report published by CEPR (Center for Economic Policy Research) entitled "How Do Central Banks Talk?"¹ emphasis is placed on the role of transparency in terms of the contribution it makes to the public's understanding and perhaps anticipation of central bank decisions, and the perception that each decision is the logical conclusion of a series of previous and future decisions aimed at attaining a clearly defined objective.

A measure of transparency can be movements in short-term money market rates following Norges Bank's Executive Board's interest rate meetings. If a change in interest rates is widely expected, it will be priced into the market in advance and the impact on money market rates will be limited when the change occurs.

If we look at 2001 as a whole, the market generally expected a more expansionary monetary stance than the outcome. As a result, money market rates increased after the interest rate meetings. One exception was the December meeting when the deposit rate was reduced by 0.5 percentage point. On average, the market did not expect a reduction of that magnitude at that meeting, and the one-month rate fell by close to 0.2 percentage point. Nor had analysts predicted an interest rate cut of that order. At the interest rate meetings in January and February this year, both market participants and analysts expected a reduction that did not materialise.

Similar patterns can be observed in many countries. In the UK, reactions were relatively strong through last year. To some extent, market rates will in advance reflect a range of possible outcomes of interest rate meetings. Moreover, the central bank's view of economic

developments may differ from that of other market participants. It can therefore be expected that on occasion a change in the key rate or a published change in the central bank's assessment of the inflation outlook will have an impact on market rates.

Another example is the interest rate reduction of 0.5 percentage point in Sweden in September, which was decided at a meeting that was not announced in advance. But reactions were generally limited through 2001 and also fairly limited 1999, which suggests that interest rate changes were to a large extent priced in ahead of the interest rate meetings.

The impact on the Norwegian one-month rate is somewhat stronger than a broad international average for the 1990s. One reason for this may be that our inflation target is recent, and that it takes time for market participants and Norges Bank to gain experience with regard to response patterns and communication. Another reason may be that the key rate has generally been changed by a half percentage point in Norway, while other central banks with a lower interest rate level have more frequently changed key rates by a quarter percentage point.

Movements in FRA rates can also provide an indication of the degree of transparency in monetary policy. The general tendency is for the impact on market expectations to be greater than the change in Norges Bank's key rate. At the beginning of 2001, interest rates were expected to fall in the latter part of spring. Around six months later, interest rate expectations were higher than the outcome. A shift occurred again from autumn 2001, and interest rate expectations were well below the outcome. After 11 September, the three-month rate was lower than the key rate for several months.

In retrospect, it can be argued that sharp interest rate cuts last autumn would most likely have led to a more unstable situation in the Norwegian economy than is the case today. It was appropriate to take a wait-and-see approach. More generally, it would appear that the market on occasion prices in future interest rate changes that do not materialise. However, this does not mean that market expectations were erroneous when these FRAs were concluded. On the contrary, both last autumn and on other occasions, there was reason to fear the effects of the global slowdown. This was reflected in interest rate expectations. When new information subsequently showed that the risks had been reduced, both market expectations and the central bank's view changed. Frequent changes in interest rate expectations do not necessarily imply that the market is unstable.

Nevertheless, transparency, in terms of not surprising the market, does not imply that the central bank will always take policy actions that are consistent with market expectations. If a central bank always acts in line with market expectations, there would no longer be an objective anchor for financial market expectations.

It is otherwise worth noting that interest rate expectations have shifted markedly upwards in recent weeks. Combined with the appreciation of the krone, the increase in these forward rates implies that monetary conditions are currently tighter than earlier last winter. This can be looked upon as an automatic stabilisation of the economy in response to new information about economic developments. This is beneficial inasmuch as shifts in expectations reflect changes in real economic fundamentals. It enhances the effectiveness of monetary policy.

When there is confidence that policy is oriented towards attaining the inflation target, nominal long-term forward rates will reflect this target. In addition, risk premiums are linked to variables such as maturity, liquidity and possible long-term currency risk. With confidence in Norway's economic policy, these risk premiums combined should not be high.

The difference between Norwegian and German forward rates widened in spring and summer last year. The new monetary policy guidelines probably pushed up inflation expectations in Norway, both in absolute terms and relative to Germany. The differential between Norwegian and German long-term forward rates has since that time ranged between 1-1¼ percentage points. There are probably two main reasons for this. First, the inflation target in Norway is higher than that of the euro area, which forms expectations of a comparable interest rate differential, given that the real interest rate in Norway will over time be as high as that of other European countries. Second, there is a risk premium linked to the Norwegian securities market because it is small and vulnerable to large transactions. Norwegian long-term forward rates are therefore at a level that could be expected.

With our short history of inflation targeting, it is natural to look to other countries' experience in inflation targeting. New Zealand introduced an inflation target at the beginning of 1990, Canada in 1991, the UK in 1992 and Sweden and Australia in 1993. On the whole, their experiences have been positive. From the beginning of the 1990s, inflation fell and has been low and stable throughout the 1990s. The targets have generally been attained. One may argue that inflation had already started to fall before the inflation target was formally adopted, and inflation also fell in countries that did not have an inflation-targeting regime. Whereas inflation in these countries was considerably higher than in other OECD countries in the 1980s, it is now around the average. The difference in long-term forwards rates against the major currencies has been reduced. Inflation has also declined without a more pronounced impact on the business cycle than earlier. With a modicum of goodwill, we can interpret this to mean that countries with an inflation target seem to have avoided some of the errors that were committed in the 1970s and 1980s. This has secured monetary policy credibility.

When these countries introduced an inflation target around 1990, inflation was largely moving on a downward trend both internationally and in those countries. An inflation target probably contributed to anchoring expectations, facilitating a reduction in inflation. In Norway, the inflation target was introduced after a decade of low and stable inflation, but with incipient inflation as a result of a tight labour market and an expansionary fiscal stance.

Consumer price inflation adjusted for tax changes and excluding energy products (CPI-ATE) has been fairly stable at around 2.5 per cent over the last year, which is broadly in line with Norges Bank's forecasts. The deviation between actual and expected underlying inflation will normally range between +/- 1 percentage point. Headline inflation has shown somewhat wider variations, partly reflecting changes in electricity prices and VAT.

It is important that monetary policy is not eased as a result of the direct effects of tax reductions or other extraordinary disturbances. Tax cuts can push down overall inflation, as measured by the CPI, over a few months, but inflation will pick up again as soon as the direct effects of tax changes are exhausted. On the other hand, tax reductions will have a lasting effect on household disposable income. This is a source of inflation and instability. Higher

income leads to higher consumption, employment and wage growth and eventually to a faster rise in prices. It is therefore important to look at underlying inflation rather than the rise in the total CPI when assessing monetary policy performance in retrospect.

Brisk growth in labour costs is an important driving force behind the rise in prices for domestically produced goods and services. Inflation has remained subdued because the rise in prices for imported goods has been close to zero in recent years. A stronger krone exchange rate, increased trade with low-cost countries (particularly China and eastern Europe) and the scaling back of tariff on clothing and footwear are also restraining imported price inflation.

Historically, wage growth has picked up after a period of strong growth in demand for goods and services. As a rule, wages have reacted with a lag. For example, high demand growth in the period 1985-1986 and 1996-1997 resulted in high real wage growth in subsequent years. In 1993-1994 demand growth was also strong, but was not associated with comparable high growth in real wages. In that period there was considerable slack in the Norwegian economy. Real wage growth is set to be very high in 2002, even though economic growth is moderate. This is most likely because of the build-up of pressures in the economy since 1996.

The labour market is tight and nominal wage growth is high. In other countries, the situation has been different, with sluggish economic growth and inflation on the decline. As a result, key rates are lower in other countries than in Norway.

There are signs of a change in wage formation. Our experience is summarised in the models used for Norges Bank's inflation projections. In recent years, wage growth has been markedly higher than implied by our models. There may be many reasons behind the unexplained deviations. One source of error may be the national accounts. The significance of this source of error will come to light when Statistics Norway publishes its revised national accounts figures in a few days. The deviations may also be attributable to pure noise in wage formation, and the fluctuations may subside over time. However, the explanation for the deviation may also be that wage formation has in recent years systematically resulted in higher wage growth than was the case earlier.

In the past five years, wage growth has varied between 5 and 7 per cent in spite of the deterioration in corporate profitability in recent years. Nor does a moderate rise in unemployment seem to be contributing to wage moderation. It is particularly noteworthy that wage growth appears to be accelerating in a period with a rise, albeit gentle, in unemployment. This year's wage settlement further supports the perception that wage formation is changing.

In the long run, wages must be compatible with values that are generated by the employed - their productivity. Over time, growth in real wages is determined by labour productivity. In mainland Norway, productivity growth has averaged 1½ -2 per cent over the last 20 years. If this growth rate persists, an increase in labour costs of around 4-4½ per cent in the longer term will be consistent with the inflation target. The outcome of the wage settlements we have observed in recent years is not consistent with this.

So far, the effects of high wage growth on price inflation have been counteracted by low imported price inflation. But this will not necessarily continue to be the case. The world economy seems to be on the verge of emerging from the recent slump. Growth in imports from low-cost countries and the scaling down of tariffs will continue for some time, but perhaps not at the same pace observed so far. The appreciation of the krone over the past two years has had a dampening impact on price inflation and in isolation contributes to low imported price inflation. However, the strongest impact on price inflation probably occurs after the first year.

As measured by the trade-weighted exchange rate index, the krone has appreciated by more than 13 per cent since summer 2000. Since the beginning of the year, the krone has strengthened by 7 per cent as measured by this index. The strengthening is to some extent a reversal after the period from 1999 to summer 2000 when the krone was abnormally weak. If we look further back, the current value of the krone is not too far from its historically normal level. For example, the krone is now around 4½ per cent stronger than at the beginning of the 1990s. There can be many reasons behind movements in the krone exchange rate. Relationships in the foreign exchange market are not stable. Changes in the krone exchange rate can often be explained by developments in the world economy and international capital movements. It may still be of interest to take a closer look at the driving forces behind the recent appreciation of the krone.

The petroleum fund mechanism has been weakened because the government is spending NOK 23 billion on domestic purchases of hospitals instead of on foreign investment. This represents an added monthly supply equivalent to NOK 2 billion to the Norwegian foreign exchange market. The effect will be temporary and we assume that more petroleum revenues will be invested abroad next year.

Since the new year, there has been a substantial rise in the oil price which appears to have been accompanied by an appreciation of the krone exchange rate. Looking at the last few years together, the relationship between the oil price and the krone exchange rate is less clear. Recent economic research² indicates that a low oil price, in particular, influences the krone exchange rate, while minor changes in a normal oil market seldom have a strong impact on the exchange rate. Nevertheless, it is possible that extraordinary factors related to the turbulence in the Middle East have influenced the krone recently. For example, the krone exchange rate may have been influenced by international investors seeking to hedge against a sharp rise in the oil price.

Another possible explanation is that in the markets for currency options there are currently low premiums for hedging against fluctuations between the major currencies. This implies that the risk of short-term exchange rate fluctuations is regarded as limited. Since the new year, option premiums in these markets have been low while the krone has appreciated. There has also been a tendency for a number of small currencies outside the large currency areas to appreciate. Developments in these premiums also constituted an important factor during the Russian crisis in 1998-1999.³ When global risk is regarded as limited, and interest rates internationally are low, it may be more attractive to invest in currencies with a high interest rate.

Since summer 1999, the difference between Norwegian and international interest rates has probably also exerted an important influence on movements in the krone exchange rate. A gradually increasing differential has accompanied a stronger krone. The widening of the interest rate differential reflects cyclical differences between Norway and other countries.

The twelve-month interest rate differential has widened substantially since the new year, and appears to shadow movements in the krone exchange rate more closely than the three-month differential. Longer rates are influenced more strongly than short rates by expectations concerning economic developments in the period ahead. Since the new year, there have been signs that market operators are reacting to increased pressures in the economy by revising upwards their expectations regarding medium-term interest rates. This influences longer interest rates. It is possible that the krone appreciates in response to an increasing shortage of economic resources in Norway and available resources among our trading partners.

Cyclical differences have also influenced interest rate differentials between various countries in the past. Historically, an interest rate differential of 3 percentage points is not unusual, either for Norway or for other countries. From the early 1990s to 2001, the interest rate differentials for Norway, Sweden and the UK against Germany varied from -1 to 4 per cent, as an annual average.

The Norwegian krone was more stable in the 1990s than the exchange rates of other small, open economies like Canada, Sweden and the UK. For the past six months, the movements of the krone exchange rate have been more similar to the movements of other currencies. The krone is floating, and its value fluctuates periodically, as do the exchange rates of other small, open economies.

It is possible that expectations of economic developments in Norway now play a greater part in exchange rate and interest rate formation. If market operators expect a tightening of monetary policy, this in itself may cause the krone to appreciate. This may imply that the response pattern of the krone has changed. Whereas there used to be a tendency for the krone to weaken after costly wage settlements, this time it has appreciated. The appreciation of the krone has acted as an automatic stabiliser for price inflation. When the krone appreciates, overall monetary conditions also become tighter.

One important reason for transparency regarding the monetary policy response pattern is, as mentioned, that it makes monetary policy more effective. This was illustrated this past spring. Monetary conditions have become tighter, even though Norges Bank has only signalled a change in view regarding the outlook. The wage settlement showed that the time was appropriate for a monetary tightening.

Monetary policy shall be aimed at stability in the Norwegian krone's national and international value, contributing to stable expectations concerning exchange rate developments. The best contribution monetary policy can make to stabilising exchange rate expectations is to aim at the objective of low and stable inflation. However, we also have to be prepared in the future for fluctuations in the value of our currency that are more in line with the fluctuations observed in other countries. The exchange rate will vary in the short term.

Another matter is that forward rates now imply that the krone will depreciate. This reflects the fact that it is the positive interest rate differential that is underpinning the value of the krone. Experience shows that forward rates are not particularly accurate as an indicator of movements in spot rates. However, the forward rate does show that today's exchange rate is consistent with a long-term equilibrium rate at about the level we have had previously.

Developments in the nominal exchange rate can also be assessed in the light of developments in the real exchange rate. Other countries, such as Sweden, Australia and Canada, have experienced a trend depreciation of the real exchange rate. This probably reflects both the fact that these countries produce goods that have become less valuable on the world market, and that they have had lower productivity growth than some other countries. In other countries, including the UK, the real exchange rate appears to have risen to a permanently higher level.

Historically, we have not seen signs of any such trend in the Norwegian economy. This is particularly clear when we make a comparison with the German economy. During the fifteen years from 1973 to 1988, consumer prices rose twice as much as in Germany. During the same period, the value of the krone almost halved against the German mark. Over time, the difference between German and Norwegian prices has remained relatively stable, measured in a common currency. This may indicate that purchasing power parity with other European countries holds true in the long run. New research also supports this hypothesis.⁴

Norway's effective real exchange rate has fluctuated around a relatively stable level for the past thirty years. In general, these fluctuations reflect cyclical differences. When there is slack in the economy, competitiveness deteriorates and the real exchange rate rises. When there are available resources, competitiveness increases and the real exchange rate drops. In recent years, the pressures in the Norwegian economy have been appreciably stronger than in other countries. We see that the real exchange rate is stronger now than the historical average. It is also approaching levels not seen previously.

Norway's economic policy is based on the guidelines for fiscal and monetary policy. According to the fiscal guidelines, the use of petroleum revenues over the central government budget shall be equivalent to the expected real return on the Government Petroleum Fund. Monetary policy is oriented towards low and stable inflation.

Most of the phasing in of petroleum revenues will take place over the next ten years. With a four per cent return on the Petroleum Fund, the use of petroleum revenues will rise to almost five per cent of mainland GDP in 2010.

The fiscal guidelines imply that fiscal policy will contribute to growth in domestic demand each year for a number of years ahead. Monetary policy has been assigned a greater responsibility for stabilising economic developments.

This year, underlying nominal growth in central government spending is estimated at 7 per cent. This means that the guideline for fiscal policy has been followed closely. Much of this expenditure is being used to cover higher prices and wages. The overall rise in prices in connection with public spending is estimated at 4½ per cent.

Real underlying spending growth is 2½ per cent, with transfers accounting for the largest increase. Real growth in consumption of public services is estimated at 1½ per cent.

The sharp increase in government budget expenditure when there are strong pressures in the labour market is a new element. In a fixed exchange rate regime, or stable exchange rate regime, fiscal policy would have to be tightened - with particular emphasis on lower spending growth - when wage growth is appreciably higher at home than in other countries. In Norway, we are now seeing higher pay rises and higher public spending coming at the same time - although there is no cause and effect relationship.

In a fixed exchange rate system, high wage growth would tend to undermine confidence in the krone. The krone is now appreciating, and this may be because foreign exchange market operators expect a tighter monetary stance.

The fairly substantial impact on forward rates, exchange rates and other financial variables that we have seen can take place is not due purely to our new monetary policy guideline. New response patterns in fiscal policy and wage formation also play a part.

Thank you for your attention.

Endnotes

1. Blinder, A., C. Goodhart, P. Hildebrand, D. Lipton, C. Wyplosz: "How Do Central Banks Talk?" Report presented at the Third Geneva Conference on the World Economy on 4 May, 2001.
2. See Qaisar Farooq Akram "When does the oil price affect the Norwegian exchange rate?" Norges Bank Working Paper 2000/08
3. See Røisland and Bernhardsen, *Economic Bulletin* 4/2000
4. See Qaisar Farooq Akram "PPP in the medium term despite oil shocks - the case of Norway" Norges Bank Working Paper 2002/04