Jarle Bergo: Inflation targeting in a small open economy

Address by Mr Jarle Bergo, Deputy Governor of Norges Bank, at the General Meeting of ACI Norge on 31 August 2001.

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The overview of the economic situation is based on the assessments from Norges Bank's monetary policy meeting on 8 August.

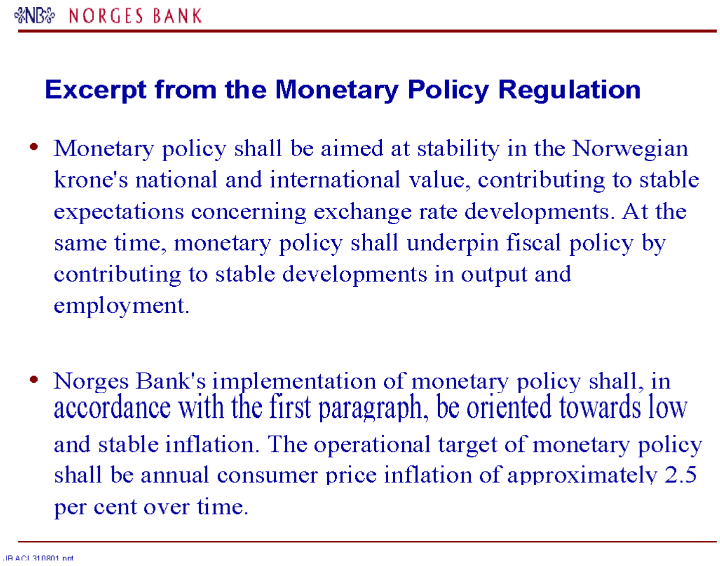
Introduction

First of all allow me to thank you for the opportunity to provide this address on Norwegian monetary policy. Since Governor Gjedrem was here one year ago, the Central Bank of Norway has been given new guidelines, and I therefore find it natural to start by providing an account of the new mandate for monetary policy. I will then talk about the implementation of monetary policy, with a closer look at the role of the krone exchange rate. I would also like to address the topic of the evaluation and transparency of monetary policy, before concluding with a discussion of the basis for interest-rate setting and the current economic situation.

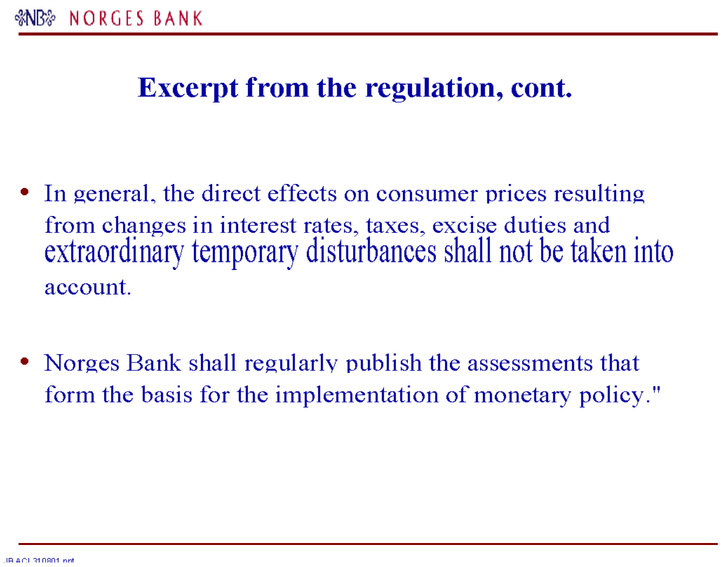
New mandate

This spring, the Government and the Storting (Norwegian parliament) adopted new guidelines for economic policy. The Government has announced that it will use the expected real return on the Government Petroleum Fund over the central government budget. The Government estimates that the guideline implies an average annual increase in the use of petroleum revenues over the central government budget of about 0.4 per cent of mainland GDP in the years between 2002 and 2010. A clear parliamentary majority supports the Government long-term strategy for the use of petroleum revenues.

At the same time, the Government stresses, with the support of the Storting, that fiscal policy must also be used to stabilise economic developments. The annual budget resolutions will provide an indication of the emphasis placed on this consideration.



The Government was also of the view that there was a need for a clearer anchoring of monetary policy to underpin economic stability. Norges Bank was thus given an operational monetary policy target, which means that the Bank is to use instruments to maintain low and stable inflation. The inflation target is set at 2½ per cent.



The inflation target is linked to the annual rate of increase in consumer prices. The monetary policy regulation explicitly refers to factors that the Bank shall in general not take into account, such as the direct effects on consumer prices resulting from changes in interest rates, taxes and excise duties.

The regulation further stipulates that Norges Bank shall regularly publish the assessments that form the basis for the implementation of monetary policy.

Report no. 29 2001 "Guidelines for economic policy" also states:

"Consumer price inflation is expected to remain within an interval of +/-1 percentage point around the target "

This must not be misconstrued to mean that the inflation target is an interval. Norges Bank aims at an inflation rate of 2½ per cent two years ahead. Should any significant deviations between actual inflation and the monetary policy target occur, the Bank will provide an assessment of the reasons for this.

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Interpretation

- Inflation target of 2.5 per cent - not a price level target
- In line with international practice

Even though there was confidence in the implementation of monetary policy prior to the change in regulation, the communication of Norwegian monetary policy was clearly facilitated by the Government quantifying an inflation target. However, in our view the most important aspect of the shift to an inflation target is that political authorities clearly recognise that low inflation is a benefit in itself. History has shown that high inflation does not lead to sustained higher economic growth or lower unemployment. This recognition and the positive inflation track record in Norway since 1990 provide the Bank with a sound basis for conducting monetary policy.

Implementation

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- If it appears that inflation will be higher than 2½ per cent, with unchanged interest rates, the interest rate will be increased.
- If it appears that inflation will be lower than 2½ per cent, with unchanged interest rates, the interest rate will be reduced.
- Two years is a reasonable time horizon for achieving the inflation target of 2½ per cent.

In the light of the orientation of monetary policy in recent years, the new guidelines have been applied without any significant change in the conduct of monetary policy.

The key rate is set on the basis of an overall assessment of the inflation outlook. Higher interest rates curb demand for goods and services and reduce inflation. Lower interest rates have the opposite effect. If evidence suggests that inflation will be higher than 2½ per cent with unchanged interest rates, the interest rate will be increased. If it appears that inflation will be lower than 2½ per cent with unchanged interest rates, the interest rate will be reduced. There is symmetry here. It is equally important to avoid an inflation rate that is too low, as it is to avoid an inflation rate that is too high.

A change in interest rates is not expected to have an immediate effect on inflation. Our analyses indicate that a substantial share of the effects of a change in interest rates will occur within two years.[1] Two years is thus a reasonable time horizon for achieving the inflation target of 2½ per cent. Hence, the key rate is set with a view to achieving an inflation rate of 2½ per cent two years ahead.

In some situations, where unexpected events lead to an inflation rate that is too high, it may be appropriate to apply a longer time horizon than two years. For example, reducing inflation to 2½ per cent within this time horizon may be associated with unnecessary real economic costs. A precondition for applying a longer time horizon is that there is clear evidence of strong confidence in low and stable inflation over time on the part of economic agents. Gradually, as we gain experience with setting interest rates according to an inflation target, the possibilities for placing emphasis on stability in the real economy will probably increase.

Low and stable inflation is a necessary precondition for stability in the foreign exchange and financial market and the property market. However, there have also been episodes where bubbles have accumulated in these markets, in the form of sharp increases in asset prices, while inflation has been low. The situation in Japan in the 1980s is an example. Price increases in property and financial markets may have a considerable impact on wage growth and consumer price inflation after a period. When the bubbles burst, the result may be an economic downturn. In this way, developments in financial and property markets may be a source of a more unstable inflation environment. In principle, it would be appropriate to use the interest rate to counter this. In practice, however, it is difficult to assess whether price trends in property and financial markets are sustainable.

When Norges Bank concludes that the key rate should be changed, the change will in most cases be made gradually. This is because there is normally uncertainty about the situation in the economy, potential disturbances to the economy and how fast an interest rate change will affect price inflation.[2]

But we will not always take a gradualist approach. A rapid and pronounced change in the interest rate is appropriate if monetary policy credibility is threatened. If special circumstances prompt Norges Bank to apply a different time horizon than two years, the Bank will provide an assessment of this. We will also do so if developments in financial markets or the property market warrant particular attention.

The role of the krone exchange rate

With the new operational target of monetary policy, Norges Bank will aim to maintain low and stable inflation. We no longer have a specific exchange rate target for the Norwegian krone. Nevertheless, developments in the krone exchange rate are still very important when Norges Bank sets the interest rate. This is due to a number of factors:

- Changes in the krone exchange rate affect prices measured in NOK for imported consumer goods and services. Bearing in mind that imported goods are used in Norwegian production, the rise in prices for imported goods and services combined determines nearly 40 per cent of consumer price inflation.
- Developments in the krone exchange rate have an influence on the earnings of companies that compete with foreign enterprises and that traditionally also negotiate first in the income settlements.
- Changes in the exchange rate affect the competitiveness of Norwegian business and industry as well as demand at home and abroad. Thus, the activity level in the economy is affected.
- As the Norwegian and international money and capital markets become more integrated, changes in the exchange rate will be increasingly important. Changes in the exchange rate generate wealth gains and losses for Norwegian households and companies.

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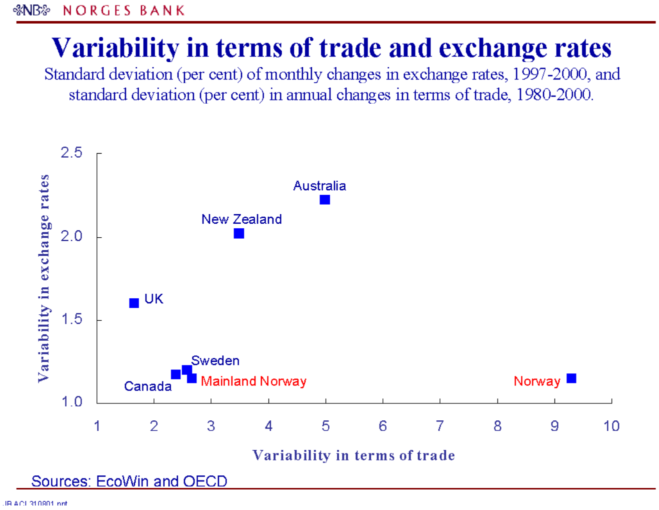
1 See box in Inflation Report 4/2000. ”Effects of a change in interest rates”, December 2000

2 See for example Jan F. Qvigstad. ”Monetary policy in real time”, Working Paper 2001/1, April 2001.



The value of the Norwegian krone will vary, as exchange rates do in most countries. There are many reasons for fluctuations in the exchange rate.[3] Changes in the exchange rate are often due to disturbances to the economy. One example is a change in the terms of trade, which measure prices for exported goods and services in relation to prices for imported goods and services. Commodities account for a substantial share of Norwegian exports. Prices fluctuate widely. As a result, Norway is exposed to fairly large variations in its terms of trade. A decline in commodity prices results in less favourable terms of trade. This reduces our source of revenues and experience shows that the exchange rate will weaken. On the other hand, an increase in commodity prices improves terms of trade and often results in a strengthening of the exchange rate.

It is desirable for the krone exchange rate to fluctuate in pace with developments in the terms of trade or demand for Norwegian products. If prices for our export products decline, a weakening of the exchange rate will dampen the income loss for internationally exposed industries. The exchange rate can therefore be seen as an automatic stabiliser, or buffer, that shelters the economy to some extent from changes in the terms of trade.

Oil and gas are the commodities that account for the largest share of Norwegian exports. A substantial portion of the revenues from the sale of oil and gas is invested in foreign equities and bonds through the Government Petroleum Fund. As a result, short-term fluctuations in the oil price have less impact on the domestic use of petroleum revenues. In the last 20 years, fluctuations in the terms of trade

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The krone and the interest rate

Changes in the exchange rate

- can contribute to stablising economic developments, for example in case of external disturbances
- monetary policy channel
- may be desired and intended when they contribute to stabilising inflation
- may be a source of disturbances and turbulence

[3] See for example Tom Bernhardsen and Øistein Røisland. "Factors that influence the krone exchange rate", Economic Bulletin no. 3/2000, November 2000.

have been three to four times greater for the Norwegian economy including the petroleum sector than for the mainland economy. The Petroleum Fund thus relieves pressure on the krone exchange rate.

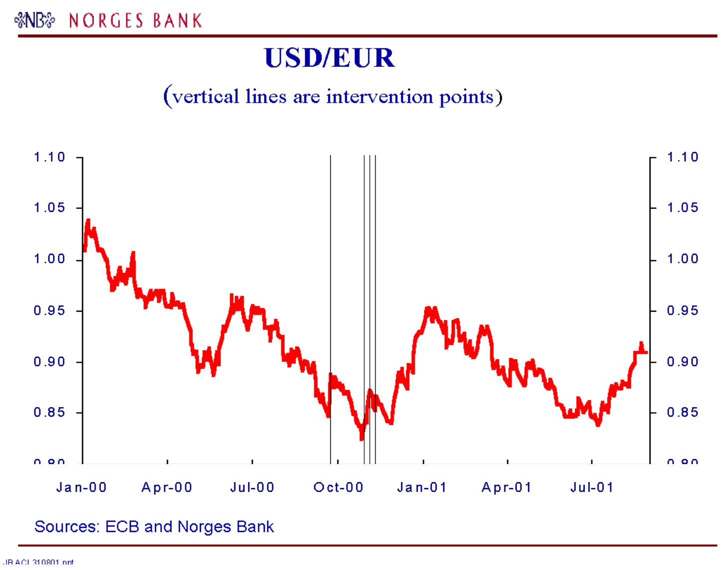
Changes in the krone exchange rate may also be due to interest rate changes. Higher interest rates normally make it more attractive to buy NOK-denominated assets and reduce NOK-denominated debt, leading to an appreciation of the krone. In contrast, a decrease in interest rates will normally result in lower demand for the krone and a weaker exchange rate. Experience shows that the interest rate only has this predictable effect on the krone exchange rate when it contributes to stabilising inflation.

The exchange rate constitutes an important channel through which monetary policy operates. Changes in the exchange rate are both desirable and intended when they contribute to stabilising inflation. However, fluctuations in the exchange rate can also be a source of economic disturbances. Sentiments in the foreign exchange market may induce market participants to be excessively positive to a currency for a time while at other times they are overly negative. This may lead to unnecessary and wide swings in the exchange rate, which may spill over into other parts of the economy. Low and stable inflation will also strengthen expectations of stability in the krone exchange rate over time. However, we must be prepared for fluctuations in the krone.

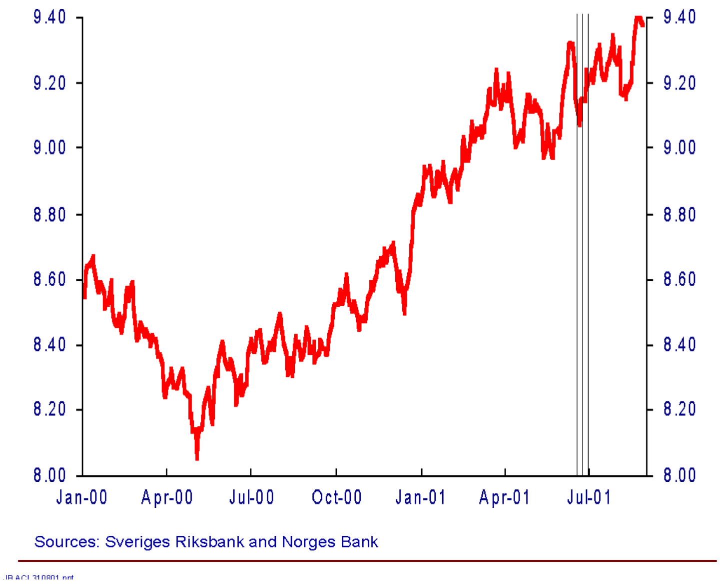
Norges Bank's reaction to a change in the exchange rate will depend on its assessment of the effect on inflation. The reasons for the change must be assessed, as well as how long the change is expected to persist. Evidence suggests that short-term fluctuations in the krone exchange rate have little impact on inflation. When the changes are potentially more permanent and thus may be assumed to have a greater impact on inflation, the Bank will set the interest rate with a view to stabilising inflation. However, it is difficult to establish whether exchange rate fluctuations are permanent or temporary. As a rule, Norges Bank will thus be cautious about responding with interest rate changes to movements in the exchange rate. A special situation arises if strong turbulence in the foreign exchange market indicates that confidence in monetary policy is in jeopardy. It may then be appropriate with a marked change in the key rate.

In addition to the interest rate, exchange market interventions are a possible monetary policy instrument. However, our experience has been that heavy and sustained interventions have little influence on the exchange rate, and hence inflation. Exchange interventions, whether they involve selling or buying currency, are not an appropriate means of influencing the exchange rate over time.

If Norges Bank intervenes heavily in the market, a game situation may arise where market participants perceive central bank interventions as an interesting opportunity to make a profit. Market participants know that interventions cannot be sustained. This tempts operators to take positions against the central bank, thereby intensifying the pressure on the krone. Under the European currency crisis in 1997-1998, and probably during the currency turbulence in 1997-1998 as well, these mechanisms appeared to be at work. Norges Bank does not intend to act in a way that prompts such game situations.



Other countries that conduct monetary policy using an inflation target also use the interest rate as the main instrument, and interventions are used only by way of exception. Over the last year, however, the ECB and Sveriges Riksbank have intervened in the foreign exchange market. The ECB intervened for the first time in September last year. The interventions were undertaken in concert with several central banks, including the Federal Reserve and the Bank of Japan. The ECB intervened again on three occasions in the beginning of November, but this time unilaterally. The ECB subsequently maintained that the interventions had been successful. At a US Congressional hearing, Peter Fisher of the Federal Reserve qualified the interventions as successful because they had contributed to improving market psychology and reducing the implied volatility in the options market.



Sveriges Riksbank intervened in the foreign exchange market in June with the aim of strengthening the Swedish krona. The Riksbank found that the Swedish krona was weaker than implied by fundamentals. This was followed by an increase in interest rates. The Bank of England has seldom intervened in the exchange market after the UK left the ERM in 1992. The currency crisis in 1992 appears to have reduced their faith in interventions as an instrument. However, the Bank of England has made it clear that interventions remain an instrument at their disposal. Canada has had a floating exchange rate for 30 years, and has used intervention operations actively in the 1970s, 1980s and 1990s. However, in 1997 the Canadian central bank was not able to prevent the depreciation of the Canadian dollar, and since then has not intervened. Australia still uses interventions, and the Reserve Bank of Australia maintains that they have benefited substantially from their intervention operations during the period with a floating exchange rate. New Zealand has not intervened after introducing an inflation target in 1990. An evaluation report on monetary policy in New Zealand, written by Professor Lars E. O. Svensson, supports the Reserve Bank of New Zealand's assessment that interventions would hardly have made a significant contribution to increasing stability in New Zealand's economy in recent years.[4]

Internationally, a number of empirical studies have been conducted on the effectiveness of exchange market interventions. The studies of interventions in the 1990s find that they were more effective than studies conducted in the 1980s.[5] This may be due to shifts in monetary policy regimes and greater emphasis on transparency. It is probably easier to win credibility when market participants know that interventions are anchored in stabilisation policy considerations rather than a short-term exchange rate objective. However, this presupposes market confidence in the ability of economic policy in general and monetary policy in particular to deliver nominal stability. It is first and foremost the signal effects of interventions that have been found to be effective and particularly when interventions are made publicly known and justified by the central bank.

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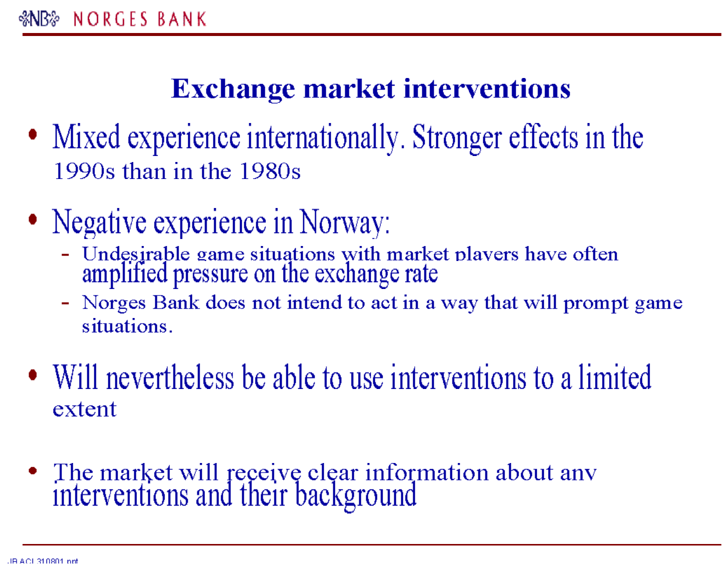
4 Lars E. O. Svensson. "Independent Review of the Operation of Monetary Policy: Report to the Minister of Finance", February 2001.

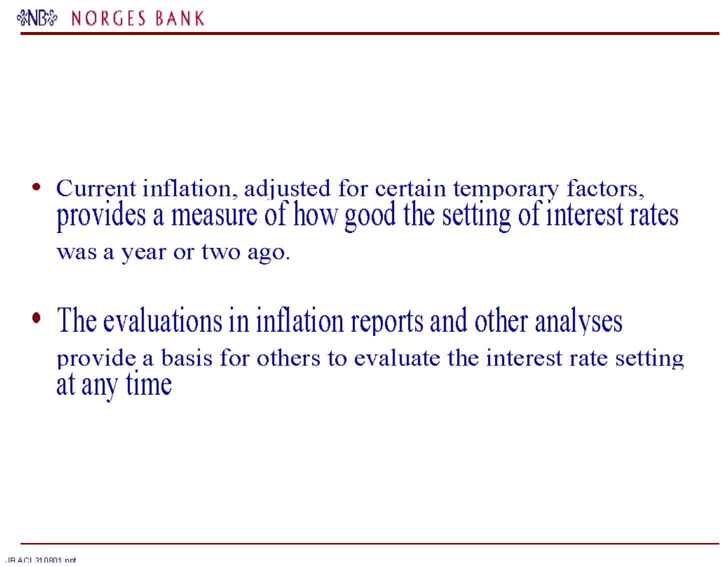
5 L. Sarno and M.P. Taylor. "Official Intervention in the Foreign Exchange Market: Is it Effective, and if so, How does it Work", Discussion Paper No. 2690, February 2001, Center for Economic Policy Research.



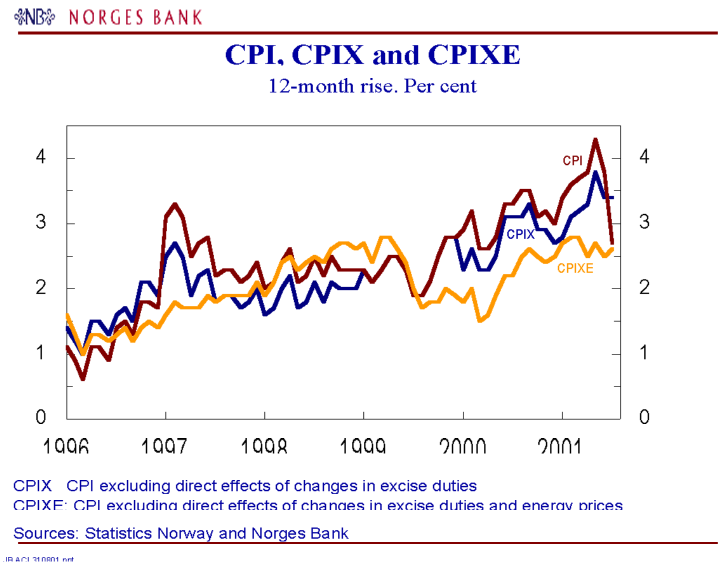
For Norges Bank, it may be appropriate in special situations to intervene to a limited extent to stabilise inflation, should the krone move to a level that we do not consider reasonable on the basis of fundamentals, and if this could contribute to stabilising inflation. However, Norges Bank will not act in a way that prompts unilateral bets against the krone. As a main rule, the Bank is likely to consider intervening only when we see a clear profit opportunity for the central bank. This may also be appropriate in the event of extensive short-term fluctuations in thin markets. In such situations, the risk of a loss-making game against foreign exchange operators will be limited.

Any interventions and the background for them will be clearly communicated to market participants.

Evaluation and predictability



Today's inflation rate is partly the result of the interest rate that was set one to two years ago. Current inflation figures do not provide an adequate basis for determining the level at which interest rates should be set today. Monthly figures for the consumer price index are also influenced by random and temporary factors that have little impact on inflation over time. Precipitation levels influence electricity prices. Changes in indirect taxes have an immediate impact on the consumer price index. The direct effects of such factors on inflation will be exhausted after a year. Hence, they will not have any significance for the interest rate, which is normally set with a view to maintaining inflation at 2½ per cent two years ahead. However, automatically adjusting inflation figures for the direct effects of one-off factors may be associated with pitfalls. Increases in indirect taxes and energy prices may be sources of rising inflation as a result of spillover effects on other prices and wages.

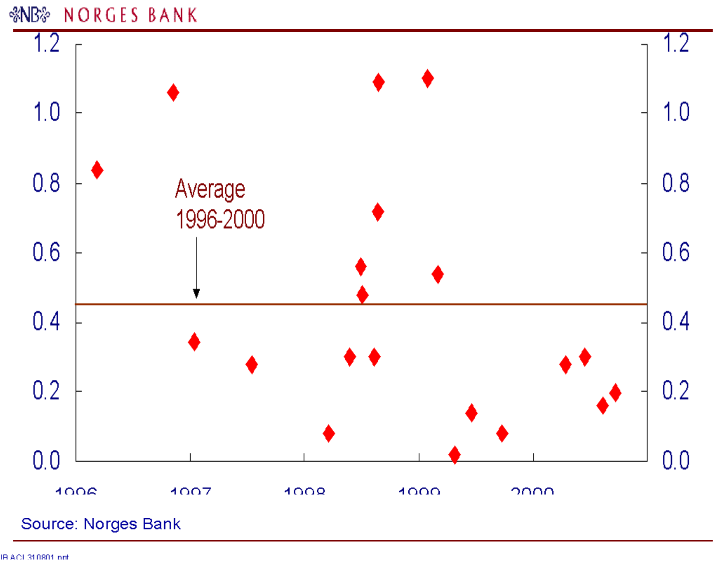


However, it is still interesting to adjust monthly inflation figures for temporary effects to determine whether developments are broadly in line with our projections. Norges Bank analyses and presents figures for consumer price inflation where the effects of some temporary factors are excluded. The chart shows developments since 1995 in the CPI, the CPI excluding the direct effects of changes in excise duties (CPIX) and the CPI excluding the direct effects of changes in excise duties and energy prices (CPIXE). As the chart shows, the CPIXE will normally be more stable than the CPI and the CPIX. This is because energy prices have historically been among the most volatile components of the CPI. Since energy prices have a substantial weight in the CPI, wide fluctuations in these prices will have an impact on the total CPI. However, measured since 1996, CPIXE inflation is not systematically lower or higher than CPI inflation. Substantial changes in inflation as a result of extraordinary swings in prices for certain products or changes in direct and indirect taxes may occur on occasion. The effects of such random and temporary factors on developments in consumer prices are analysed in the Inflation Report.

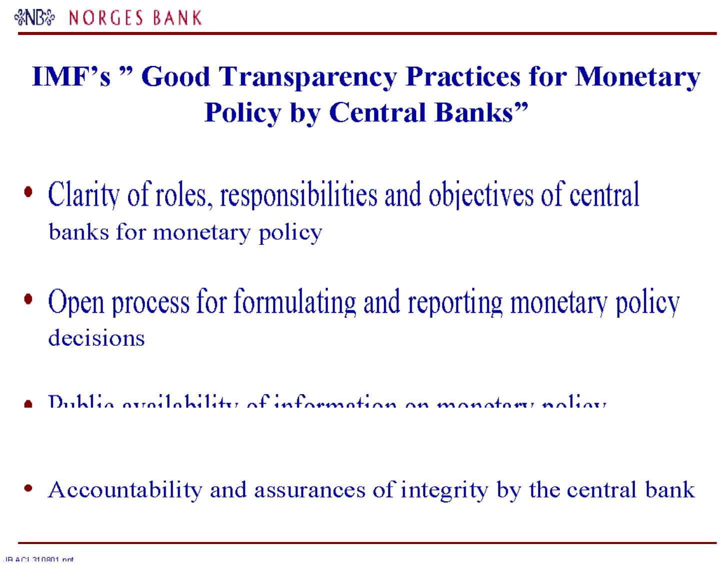
Norges Bank's forecasts two-three years ahead may be perceived as projections for consumer price inflation excluding the direct effects of changes in interest rates, direct and indirect taxes and extraordinary temporary disturbances. However, there are seldom any reasons for substantial deviations between estimates for the total CPI and the other CPI measures in this context. As a rule, these estimates coincide.

Norges Bank places considerable emphasis on the transparency and communication of monetary policy. Norges Bank's analyses and the background for the Bank's interest rate decisions are published regularly. The inflation outlook is presented three times a year in Norges Bank's Inflation Report. Further assessments are presented every six weeks in connection with the Executive Board's monetary policy meetings. The Bank also reports on the implementation of monetary policy in its annual report. If there are significant deviations between actual price inflation and the target, the Bank will provide a thorough assessment in its annual report. Particular emphasis will be placed on any deviations outside the interval +/- 1 percentage point.

Transparency about the intentions, strategies and implementation of monetary policy make it easier for economic agents to evaluate monetary policy. If monetary policy is predictable, an important source of uncertainty is reduced and the interest rate that is necessary to achieve the inflation target - all other thing being equal - is lower. A predictable monetary policy can thereby contribute to enhancing the efficiency and impact of monetary policy. Even though there is not necessarily a one-to-one relationship between transparency and predictability, some degree of transparency is probably a precondition for achieving monetary policy credibility.



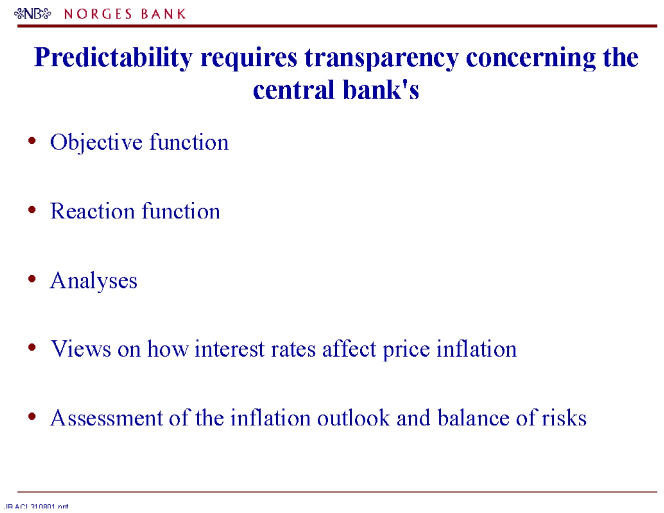
In Norway at least it appears that transparency in Norges Bank's interpretation of the mandate and in the implementation of monetary policy has contributed to a somewhat more predictable monetary policy. The chart shows that Norges Bank’s changes in the key rate have less impact on money market rates now than earlier.



In recent years, there has been an international trend towards increased focus on the need for monetary policy transparency. Under the auspices of the IMF and others the "Code of Good Practices on Transparency in Monetary and Financial Policies" was drawn up, which emphasises the importance of clarity, transparency and evaluation in monetary policy.

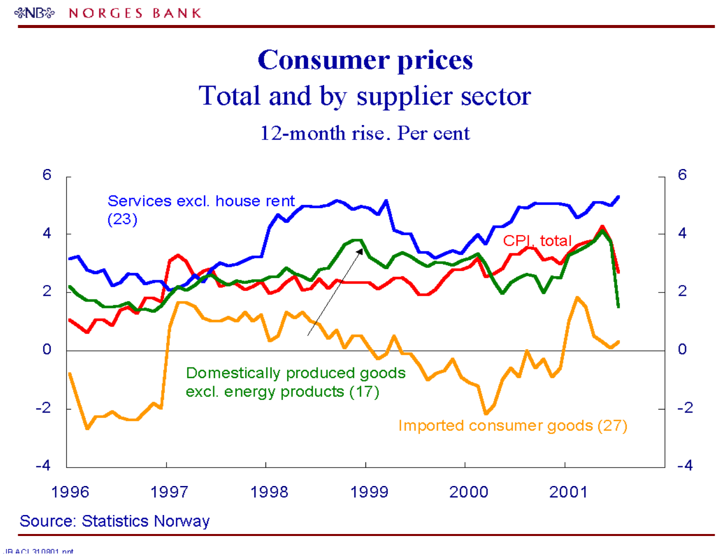
This view of transparency and predictability contrasts sharply with the earlier practice of playing on the element of surprise. In monetary policy, this was associated especially with control of the exchange rate. In many countries, this approach was met with deteriorating credibility and high premiums for uncertainty. The effects of changes in monetary policy instruments became increasingly uncertain.

Nevertheless, the consideration of predictability must not overshadow Norges Bank's obligation to set the interest rate at the level deemed appropriate by the Bank. The expectations of other economic agents must not control the setting of interest rates. There are a number of examples from countries with "transparent" monetary policies where interest rate changes have come as a surprise. This may be partly due to the fact that the central bank had a different view of the outlook for economic developments.



Norges Bank has sought to promote transparency, for example by publishing our interpretation of the mandate for monetary policy and our assessment of the implementation of monetary policy. In addition, we have been open about our response pattern, our analyses of economic developments and our assessment of monetary policy performance. Others are bound to judge the Bank in a critical light, not least this assembly. I hope and believe that you will find that our words and actions are compatible, and that in retrospect it will not be difficult to see the rationality in what we do, although it may on occasion seem surprising then and there. If we manage this, confidence in monetary policy should take firm hold and strengthen ahead.

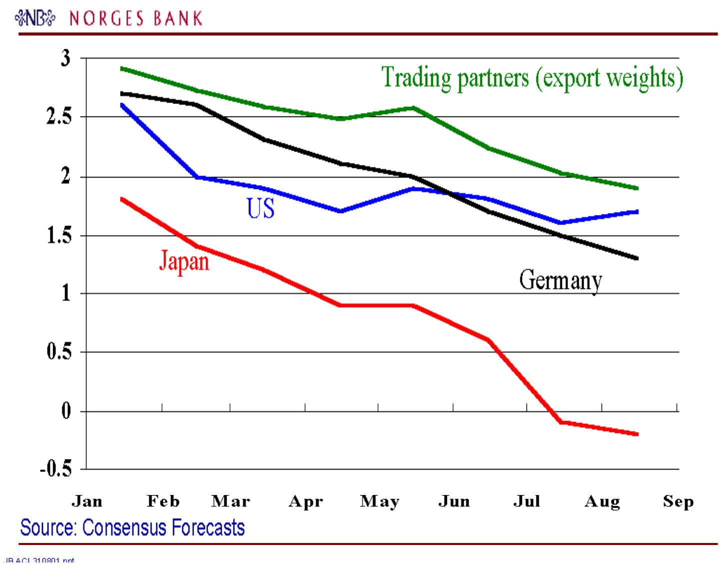
The basis for interest-rate setting and the present economic situation



By way of conclusion, I would like to address the basis for interest-rate setting and the present economic environment. The projections and analyses in the Inflation Report, in conjunction with our continuous assessment of the inflation outlook and developments in the money and foreign exchange market, form the basis for our decisions concerning interest rates. In the last Inflation Report published on June 20, price inflation was projected at 2½ per cent in 2003 on the assumption that interest rates remain unchanged. Norges Bank's assessment of the economic outlook was last presented in connection with the Executive Board's monetary policy meeting on 8 August. Both the analysis in the Inflation Report and developments since its publication indicated that at today's interest rate level, it is likely that the inflation target will be reached in the course of two years.

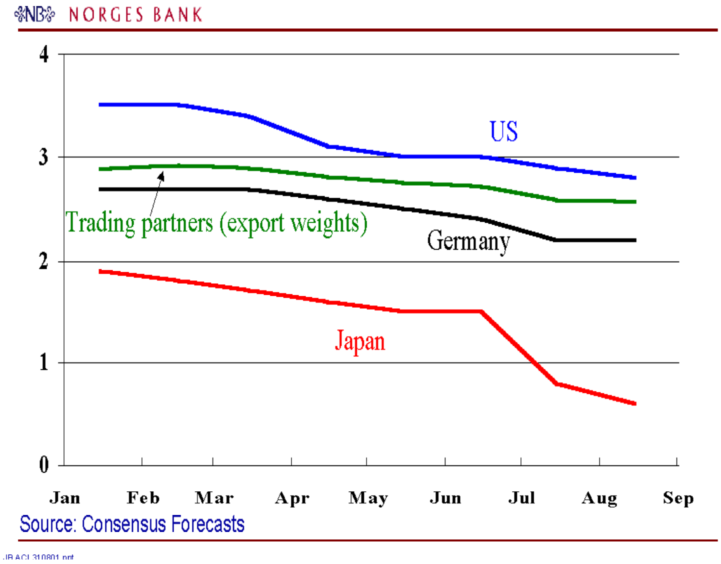
However, the balance of risks is complex. The Norwegian economy still features high capacity utilisation. The rate of increase in consumer prices was slower than expected in July, at a year-on-year rate of 2.7 per cent. Measured from June, the total index fell by 1.4 per cent. The decline, however, primarily reflects the decrease in excise duties, notably the reduction in VAT on food and petrol taxes. Excluding changes in excise duties and energy prices, the rate of increase in prices, as calculated by Norges Bank, was about 2.6 per cent. At the same time, there is a shortage of labour and labour costs are rising at a fairly rapid pace. The rise in service prices where wages are a dominant factor moved up from 6.3 per cent in June to 6.9 per cent in July. Credit growth is also high and growth in household loan demand is still on the rise. Against this background, there is a risk that domestic pressures may translate into stronger inflationary impulses than we have projected.

On the other hand, growth in the world economy has slowed markedly, with the risk of even slower growth and a longer recession. Around the beginning of the year, most forecasters expected that the slowdown in the US economy would be relatively short and that the effects on the rest of the world would be limited. This picture has now changed. In the US, the slowdown in growth has been more pronounced than expected by most observers when the first signs of a turnaround emerged last autumn. Industrial output has declined over the last 10 months and business investment has shrunk by almost 14 per cent, annualised, in the second quarter. Moreover, the impact on Europe and the emerging economies in Asia has been substantially greater than expected. The shift in perceptions of the outlook is reflected in the estimates from Consensus Forecasts.

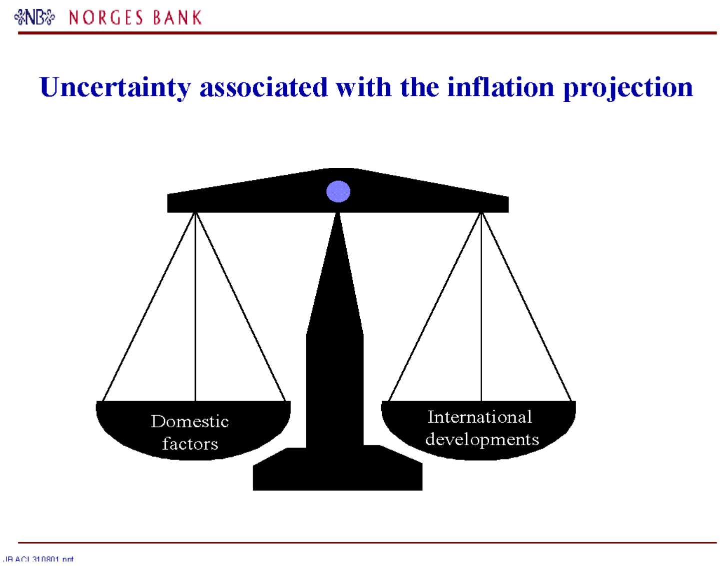


Since the beginning of the year, growth forecasts have been revised downwards by 2 percentage points in Japan, 1½ percentage points in Germany and 1 percentage point in the US. Not since 1974 has GDP growth been below 2½ per cent in all three countries. Growth among our trading partners has been revised downwards by 1 percentage point to a little less than 2 per cent, which is the lowest rate recorded since 1993.

Growth forecasts for 2002 have also been adjusted downwards somewhat, but growth is still expected to pick up next year. However, there is substantial uncertainty associated with these forecasts.



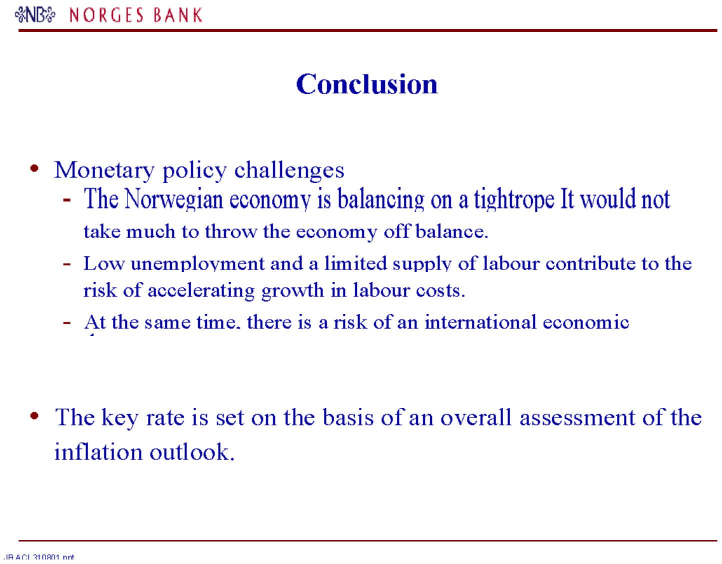
The forecasts are to a large extent based on the assumption that household consumption will continue to fuel growth in domestic demand, as has been the case in the US and Europe so far this year. This is expected because of the solid financial situation of the household sector in most industrial countries after many years of rising employment and real wage growth. Another important factor is that productivity growth in the US is expected to secure sound profit trends over the longer term, with the decline in corporate investment turning up slightly next year.



Although business and industry have been sheltered so far from the slowdown in the world economy, the Norwegian economy may gradually be more strongly affected.

Slow growth in the world economy may lead to lower demand for Norwegian produced goods and curb the pressures in the Norwegian economy. In addition, slower growth in the world economy may push down imported price inflation, which may imply that price inflation will be lower than we have projected.

Our forecasts provide an indication of the scenario we consider to be the most likely, given that key variables such as interest rates, the exchange rate, public demand, wage formation and oil prices are in line with our assumptions. If these variables deviate from our assumptions, the real economy and nominal developments may also show a different path.



The Norwegian economy is balancing on a tightrope. It will not take much to throw the economy off balance. While the overall global situation suggests that consumer price inflation may be somewhat lower than anticipated in the period ahead, the domestic economic situation points in the opposite direction. Growth in domestic labour costs may turn out to be higher than estimated.

According to an overall assessment of the inflation outlook, our conclusion at the Executive Board Meeting on 8 August was that with an unchanged interest rate ahead the probability that inflation two years ahead will be higher than 2½ per cent is the same as the probability that it will be lower.

Thank you for you attention.