

## Executive summary

### The Great Recession

The international recession triggered by the financial crisis is often called “The Great Recession” because it is the deepest after World War II, and it did not turn into a full scale depression like in the 1930s. An evaluation of Norges Bank’s monetary policy in 2009 must therefore acknowledge the extraordinary uncertainty about the international economy facing Norges Bank, as well as the above-normal challenges of making forecast of the domestic business cycle and inflation when setting the key policy rate.

Fortunately, the recession in Norway turned out to be much milder than in most other OECD-countries. This is probably both a result of good macroeconomic policies, good financial regulation, and good luck. Monetary policy has been very expansionary since December 2008. Furthermore, the effects of monetary policy on aggregate demand are probably greater in Norway than in most other European countries due to the combination of large household indebtedness and floating mortgage rates. Fiscal policy also became much more expansionary in 2009 on top of the effects of automatic fiscal stabilisers. Good policies and conservative financial regulation are also – at least partly – factors that explain why there has been neither banking crisis, nor severe problems in any Norwegian bank in 2009. The international financial crisis did temporarily cut off many Norwegian banks from international funding, but this problem was manageable, and was fixed without any sizeable credit crunch. Finally it was good luck that the oil price (in USD) doubled in the course of 2009 and that the Norwegian manufacturing sector is relatively small, quite capital intensive, and not much involved in producing consumer durables.

A comparison of the forecasts by Norges Bank with those by Statistics Norway show that already in the beginning of 2009, both institutions quickly understood that the Norwegian recession would be much milder than the great international recession. However, there has been a clear (and to us surprising) tendency that Statistics Norway forecast a persistently lower inflation than Norges Bank for the period 2009 – 2011.

### Monetary policy in 2009

The committee has evaluated monetary policy in the first half of 2009 as being part of the Norwegian authorities’ management efforts to counter the negative effects of the financial crisis on the Norwegian economy. These were followed by an “exit strategy” phase in which Norges Bank began to signal a return to higher rates, as it scaled back the crisis measures and eventually started to hike rates in October. The central bank’s rhetoric and actions in the period since the August interest rate meeting have been part of this exit strategy, in our view.

From a peak of 5.75 per cent in the summer of 2008, Norges Bank’s policy rate was lowered in stages to 1.25 per cent by June 2009. In February, March and May, the policy rate was cut by 50 basis points each time, whereas the last rate cut in June was 0.25 percentage points. Between the release of the Monetary Policy Report (MPR2/09) and the final rate cut down to 1.25 per cent in June and the next Executive Board policy meeting in August, the rhetoric coming from Norges Bank saw a marked change. In fact, as early as 12 August, the date of

the meeting, Norges Bank hinted that it was getting ready to hike rates in the near future due to stronger-than-expected developments.

After evaluating Norges Banks monetary policy, the committee considers Norges Banks assessment of the Norwegian economy over all to be well balanced in the first half of 2009. The two rate cuts in February and March reflected well the deterioration of the outlook of the Norwegian economy.

The largest controversy regarding monetary policy in 2009 was probably the rate cut in June, and to a lesser extent in May. By then, the economy had begun showing signs of improvement, the government's expansionary fiscal policy was just starting to have an impact, and the financial markets had improved rapidly on the back of lower interest rates, government guarantees and ample liquidity. Along with the strong signs that the economy was improving, there were growing concerns that the extraordinarily low interest rates could initiate a housing market bubble. House prices started to increase already in January 2009, and have continued to climb gradually back to their pre-crisis levels.

Some leading indicators and the strong recovery of financial and asset markets suggested an earlier recovery than what Norges Bank emphasized at that time. The rate cut in May, and more notably in June, therefore raised some concern in the private sector. The upward revision of the projected output gaps and inflation in 2010 and 2011 should in normal times rather indicate higher interest rates. However, given the unusually high uncertainty about the economic outlook at the time, and the exceptionally low interest rate level abroad, the committee does not find the rate cuts inappropriate.

Up until its August meeting, Norges Bank had clearly pursued interest rate easing cycle. The August meeting represented a sharp change in rhetoric as Norges Bank indicated it would probably hike rates earlier than it had indicated in its June meeting. By August, the turning point had been moved to the third quarter of 2009, with an output gap of -1 per cent and a corresponding upwards adjustment of the forecasted interest rate path for 2010. This change in stance from June to August was to some extent anticipated by private sector as the rate cuts in June and to some extent in May were not fully priced in the market.

After the August meeting, Norges Bank communicated clearly its intention to start its exit strategy. Norges Bank wanted to withdraw the extraordinary measures first and then hike rates. On October 28, Norges Bank hiked rates by 25 basis points to 1.5 per cent and signalled that rates would be hiked by a further 25 basis points either in December 2009 or February 2010. Due to strong economic data, recovering financial markets, rising house prices and a lack of pass-through from the previous policy rate hikes to mortgage and corporate rates, Norges Bank hiked rates in December by 25 basis points to 1.75 per cent.

The committee would like to give Norges Bank credit for a quick and successful communication to the private sector when Norges Bank changed its view on the outlook for the Norwegian economy in August.

In the committee's view, the October rate hike reflected well the more optimistic outlook of the Norwegian economy signaled by Norges Bank since August. Although the rate hike in December was somewhat surprising to the private sector, the committee believes it was appropriate to increase rates due to the lack of pass-through of the previous rate hike to bank lending rates and a more favorable outlook of the economy.

During 2009 Norges Bank has given the housing market a great deal of attention in speeches, interviews and other communication. We have interpreted the various statements over the year as a gradual process in which Norges Bank at the end of the year put more weight on the role of house prices in increasing private demand than earlier. This does not mean that Norges Bank is targeting house prices in itself, but rather that sharp movements in house prices gives valuable information about the outlook for aggregate demand. The committee believes it to be appropriate for Norges Bank to put some more weight on rapid rising asset prices in monetary policy.

## Credibility and transparency

One important implication of having an inflation targeting Central Bank is that current economic behaviour will depend on expectations about monetary policy. The credibility and transparency of the central bank therefore becomes extremely important.

Norges Bank has the last few years approached the frontier in monetary policy transparency by publishing the projected interest rate path. Since the effect of a monetary policy decision depends on expected future decisions, the projected policy path is an integral part of the monetary policy stance.

The projected interest rate path, as well as the forecast of the other macroeconomic variables, are updated and published in the monetary policy reports three times a year. Norges Bank has argued against writing a report every quarter, as it leaves very little time for the staff to digest new information and conduct thorough analyses. Yet, Norges Bank Executive Board meets eight times a year. Only on the three occasions that they publish the Monetary Policy report do they update the forecasts. The exception was in December 2008, when the unexpected depth of the financial crisis required new forecast for the expected policy stance.

The NBW committee suggests that Norges Bank keeps the number of monetary policy reports to three per year, but consider publishing a press release and a monetary policy update at least on one of the other meetings of the Executive Board. The monetary policy update should contain a limited number of forecasts for central macroeconomic variables.

Norges Bank has decided not to publish minutes. Rather than voting they have a “collegial”, monetary policy committee, where the members of the Executive Boards make unanimous decisions. We suggest that non-attributed minutes should be published, in order to strengthen the accountability and further improve transparency. These minutes could note without attribution to individual members which issues were discussed and what arguments were presented, as well as how (if) individual members have voted.

Non-attributed minutes will reveal the scope and depth of the policy discussion, but do not identify the individual contributions of the members. Even to publish the voting patterns (without identifying individual votes) would be useful, as it provides an indication of the degree of disagreement and/or uncertainty among the members, which helps the private sector to more efficiently learn the monetary policy reaction function.

Currently, Norges Bank has decided to “speak with only one voice”. This has implied that only internal members (the Governor and Deputy Governor) have discussed the monetary

policy decisions or issues related to the operation of monetary policy in public. We suggest that also the external members should be able to discuss issues related to the operation of monetary policy in public. This would contribute positively to the current debates about monetary policymaking in Norway.

## Fiscal policy – challenges for monetary policy

Norway's situation as a small open economy makes it particularly important that there is a commitment to a credible rule for fiscal policy. Without such commitment, the Norwegian fiscal discipline may wear down, leading to rent seeking activities, excessive government spending and an increase in wages. This may put upward pressure on the interest rates and the exchange rate, leading to deterioration of industries exposed to international competition.

In general, good coordination of monetary and fiscal policy can be achieved by placing each within a decision framework focusing each on medium-term objectives and making those objectives and related actions transparent and predictable. In this way, fiscal actions can take full account of the likely monetary-policy response, and vice versa.

Norges Bank has been clear in arguing that a precondition for effective interaction between monetary and fiscal policy is that decision-making bodies recognize how their decisions will affect each other. In the absence of such recognition, discretionary fiscal policy can create tensions in the monetary policymaking in Norway. If fiscal policy stays on its current track, we are concerned it would represent a considerable challenge to Norges Bank.

## Asset prices and monetary policy – implications for Norway

As the world economy appears to be emerging from the worst financial crisis and deepest, most synchronized global slump in 75 years, policymakers, regulators, and academics are focusing intensely and appropriately on 'lesson to be learned', with particular attention paid to how movements in asset prices should influence the conduct of monetary policy. In the years leading up to the crisis, there had developed a broad consensus among monetary policy makers on the role that asset prices should play in an inflation targeting strategy. According to this consensus, asset prices will affect monetary policy to the extent that they are deemed to affect the forecasts of the central bank's target variables that is, inflation and the output gap. A central bank following this approach may well wish to lean against swings in asset prices, but only if these swings influence the forecast of inflation or possibly, the output gap.

Experts at the Bank for International Settlements had for some years have offered critiques of this consensus and since the crisis, have called for major changes in it. According to this critique, the focus on inflation and output stabilization resulted in a path for interest rates that might not sufficiently reflect the dangers that arise when an asset price boom is coupled with a credit boom. The focus on price stability meant that they ignored the very real, systemic threats arising from credit and asset price booms that had been building during the 'Great Moderation'.

Recent research by the IMF sheds light on the information role that asset prices and quantities have provided in previous housing and stock market busts since 1970. The study confirms the

valuable information content contained in data on credit flows, economic activity in the construction sector, and current account imbalances. However, at the same time IMF also pointed out that the ability to predict house price busts over a three year window can be difficult. At most only half the time in the IMF panel do the best indicator variables actually correctly signal an asset price bust within one to three years. Policymakers will in practice have to think carefully about an aggressive hike in interest rates solely to prevent an asset price bubble from forming given just 50-50 chance that the signal of a bubble is correct.

Each country, including Norway, will have to assess how best to design and implement systemic regulatory authority in the wake of the financial crisis. In Norway, the responsibility for financial stability is divided between the Ministry of Finance, Finanstilsynet and Norges Bank. Norges Bank publishes its assessment of the outlook for financial stability in semi-annual reports. In addition the Bank holds meetings with Finanstilsynet and the Ministry of Finance to discuss the status of the financial system and the need for government measures.

The committee believes that Norges Bank should continue and enhance its responsibility for analyzing, reporting, and communicating information about significant interactions between and risks among financial institutions, as part of its Financial Stability Report. By having regular meetings with Finanstilsynet and the Ministry of Finance, it will enhance and contribute to the macro prudential supervision in Norway.

## The forecasting process – models and judgement

Since November 2005, all macroeconomic forecasts from Norges Bank have been based on their own predictions regarding expected future interest rate setting. This forecasting analysis makes use of a structural model (NEMO), but this model is primarily suited for medium term analysis of the effects of monetary policy on the macroeconomy. Norges Bank's forecasts for the first few quarters are largely based on current statistics, information from Norges Bank's regional network and forecasts obtained from a number of short-term statistical and econometric models. The published projections in the monetary policy reports are the result of an overall assessment based on both models and judgment.

The analytical work conducted in Norges Bank is impressive, drawing on high level skills in diverse areas such as economic theory, statistics, econometrics, mathematics and programming techniques.

### **Indicators of underlying inflation**

Consumer price inflation varies from month to month, sometimes substantially due to extraordinary fluctuations in certain product markets or changes in taxes and subsidies. Norges Bank's mandate therefore opens up for ignoring extraordinary consumer price disturbances when setting the interest rate, by focusing on a measure of so-called underlying inflation.

In 2008, Norges Bank introduced a new indicator of underlying inflation called CPIXE. CPIXE measures CPI inflation adjusted for tax changes and excluding temporary fluctuations in energy prices. The motivation for constructing CPIXE is that the previous measure of underlying inflation (CPI-ATE) does not capture trends in energy prices, since CPI-ATE permanently excludes energy.

By focusing on CPIXE instead of CPI-ATE, Norges Bank has introduced a new main indicator of underlying inflation that they are targeting in their forecasting process. CPIXE is now the only measure of underlying inflation for which they provide conditioned, detailed forecast.

A major concern with CPIXE is that the historical index values will be revised as new observations of energy prices are added to the sample. In periods with rapid changes in oil prices, this revision can be substantial. In their monetary policy reports, Norges Bank does not update the data for CPIXE as it is revised. Hence, the effect of the revisions will be suppressed. If Norges Bank continues to publish CPIXE in their monetary policy reports, we recommend that the final numbers are published as they are revised, not the real time values. Given that the final revised values of CPIXE will always be uncertain by construction, Norges Bank should also extend the fan charts back in time to reflect this uncertainty.

Relying too much on CPIXE as the main indicator of underlying inflation could make monetary policy less robust, since historical data are revised as new observations becomes available. Furthermore, since the construction of CPIXE involves judgment and revision of history, it does not make it a transparent indicator that Norges Bank should use as its main indicator. Our view is that CPI-ATE should still be used as the focus measure, but that Norges Bank can use more judgment vis-à-vis CPI-ATE in times of rapid oil price increase/decreases.

### **Regional Network**

Norges Bank has established a regional network of enterprises, organizations and local authorities throughout Norway. The insight from the network is an important factor in decision-making by Norges Bank's Executive Board in its conduct of monetary policy. We find that there is clearly useful information in the regional networks in assessing current macroeconomic conditions. In that sense, it provides a signal about developments in the Norwegian economy before data is published and we recommend that Norges Bank continues to develop and refine the network. However, the ability of the network to forecast aggregate economic activity 3-6 months ahead is less clear, as it seems to be a coincident rather than leading indicator. Given the amount of resources that are put into constructing the indicator, we suggest that the forecasting power of the regional network is systematically assessed and compared to other leading indicators such as Statistic Norway business tendency survey.

### **Short term forecasting**

Norges Bank has the last few years developed and implemented forecasting methods of model combinations used in the monetary policy operations. These forecasts are unconditional forecasts. At the heart of the evaluation and combination of short-term forecasts is a set of programs collectively referred to as SAM – the System for Averaging Models. This work is encouraging and we recommend that Norges Bank continues to develop, test and evaluate these forecasting tools both for point forecast and densities. Furthermore, as last years Norges Bank Watch group, we recommend that Norges Bank publishes the short term forecast regularly, at least after each monetary policy meeting.

We also suggest that the forecast horizon be extended to 2-3 years. The forecasts can be published together with the regular forecast update from NEMO. In that way the

unconditional forecast from SAM can serve as useful cross checks for the forecast from NEMO, which are conditional on the interest rate path.

### **The structural model**

The last few years, Norges Bank has made impressive progress in developing a small structural model, called NEMO. The model has been in use for policy analysis and forecasting since the Monetary Policy Report 3/07.

We support Norges Bank's efforts to build a theoretically consistent structural model of the Norwegian economy, for evaluating monetary policy alternatives in the medium and long term. However, the recent financial crisis has highlighted some severe deficiencies in NEMO and many other DSGE models with respect to credit markets and asset prices, resulting in forecast failures.

To strengthen its forecast properties, we recommend that Norges Bank should use empirically validated econometric models systematically as cross checks when making forecast from NEMO. This will offer transparency about the models strengths and weaknesses.

We also suggest that leverage ratios and credit spreads are key variables in the monetary transmission mechanism that need to be modeled to assess the impact of different policy paths on the economy as well as how shocks to the financial sector generate fluctuations in inflation and the output gap.

Currently NEMO does not include oil prices. However, oil price changes may have large wealth effects that are likely to influence consumption and investment. Furthermore, since oil revenue now constitutes a large component of total government income, fiscal policy will be affected in the long run by changes in the oil price. We therefore suggest that Norges Bank considers whether oil prices could make an useful contribution to the current model.