

Transparency and central bank communication

*Speech by Deputy Governor Jan F. Qvigstad at a seminar in Banca d'Italia, Rome, 4 November 2008**

It is now widely accepted that monetary policy works mainly through private agents' expectations. The widespread influence of the New Keynesian model in academic research on monetary policy and the trend towards using DSGE models in central banks have underpinned the focus on expectations. Michael Woodford puts it in a clear-cut way:¹ *"For not only do expectations about policy matter, [...] but very little else matters"*. The interest rate set by central banks is normally a very short-term interest rate, which in itself has negligible effects on economic decisions. It is mainly expectations about future policy rates that affect market interest rates and thus economic decisions.

Due to the increased attention on the expectations channel of monetary policy, central bank communication has been a key issue in the academic debate on monetary policy. I will in this presentation first go through Norges Bank's communication approach and discuss our experiences with being open about our future policy intentions. Then, I will discuss other aspects of transparency, including how transparency has been measured and how Norges Bank performs in terms of such measures. Finally, I will briefly touch upon another important aspect of monetary policy, namely how to make good collective decisions, and the role of the staff in the monetary policy decision process.

Communicating future monetary policy intentions

Most central banks communicate future policy intentions in one way or another. The majority of central banks communicate indirectly through forecasts based on technical interest rate assumptions, and by giving verbal signals about future interest rate decisions in policy statements and speeches. With such indirect communication, the market participants gain information about the *sign* of future interest rate decisions, but may have

less information about the *size*. Until November 2005, Norges Bank used technical interest rate assumptions in the inflation forecasts, but also on some occasions commented on whether the Bank intended to follow a different policy than what seemed to be reflected in market interest rates. Thus, the Bank gave signals about the sign of future policy intentions relative to market expectations, but not on the size.² From November 2005, Norges Bank started to use endogenous interest rate forecasts in the *Monetary Policy Report*. Norges Bank was the second central bank with endogenous interest rate assumptions, following the Reserve Bank of New Zealand, who introduced it in 1997. More recently, the Swedish Riksbank and the Czech National Bank have also started to publish interest rate forecasts.

Publishing endogenous interest rate paths raises a number of issues, and there is disagreement among both academics and central bankers on whether being that precise about future policy intentions is beneficial or not. The key issue in the debate is whether such communication implies guidance or noise. Some of the arguments for transparency relate to the beneficial effects when private agents understand the central bank's reaction function, such that market interest rates will adjust more appropriately to economic news.

Publishing the interest rate forecast may not be sufficient to communicate the central bank's reaction function, as one specific forecast does not in itself convey much information about how the central bank responds to various shocks. One could argue that three ingredients are required; 1) the forecasts, 2) how the central bank responds to shocks, and 3) the criteria underlying the forecasts and reaction function.

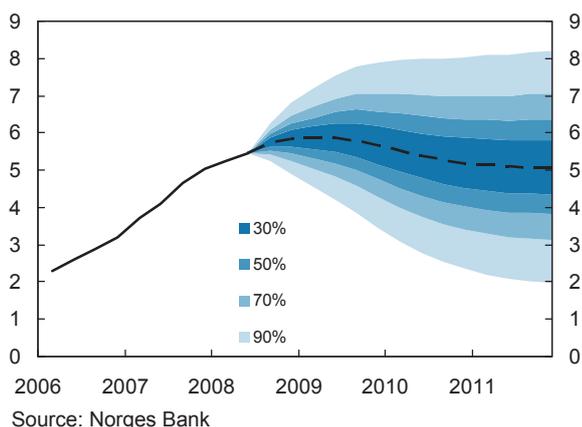
The first two ingredients provide efficiency in monetary policy, in the sense that private agents knowing the central bank's assessments and reaction function can respond appropriately to economic developments. The third ingredient contributes to a better understand-

* The speech builds on Holmsen, A., J.F. Qvigstad, Ø. Roisland, and K. Solberg-Johansen: "Communicating Monetary Policy Intentions: The Case of Norges Bank", Norges Bank Working Paper 2008/20 and C. Claussen: "Comparing monetary Policy Transparency: The Eijffinger and Geraats Index – a Comment", Norges Bank Staff Memo 2008/10. The speech is an extension of the speech "Trends in Monetary Policy Transparency – Comments to Petra M. Geraats' paper" held at the Bank of Canada conference "International Experience with the Conduct of Monetary Policy under Inflation Targeting".

¹ Woodford, M. (2005), "Central-Bank Communication and Policy Effectiveness," paper presented at FRB Kansas City Symposium on "The Greenspan Era: Lessons for the Future," Jackson Hole, Wyoming, August 25–27, 2005.

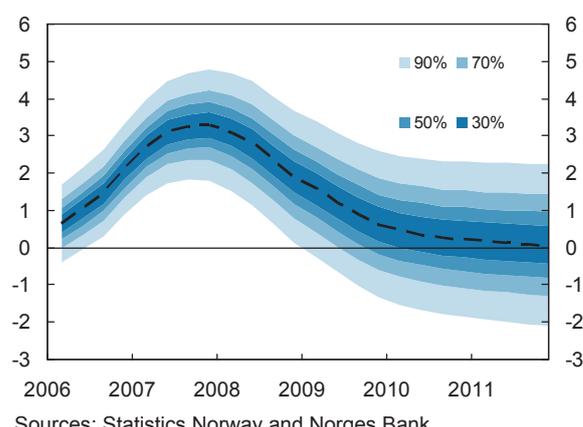
² Providing forecasts based on both a constant interest rate and market expectations give information not only about the sign but may also give some guidance about the range. See, for example, the following citation from the Bank of England's Inflation Report of February 2008: *"Under market interest rates, the central projection for inflation was a little above the target in the medium term, while under constant interest rates, it was below the target."* This suggests that the likely interest rate path lies somewhere between a constant rate and market expectations.

Chart 1a Projected key policy rate in the baseline scenario with fan chart, from MPR 2/08. Per cent. 2006 Q1– 2011 Q4



Source: Norges Bank

Chart 1b Estimated output gap in the baseline scenario with fan chart, from MPR 2/08. Per cent. 2006 Q1– 2011 Q4



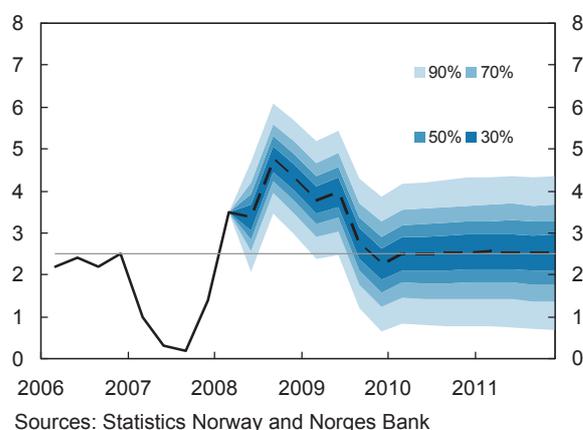
Sources: Statistics Norway and Norges Bank

ing of the objectives of monetary policy and the link between objectives and policy. This could underpin the credibility of the reaction pattern, and is also important for democratic accountability. In addition, the reaction function could change over time, for example due to a change in how the economy works or an improvement of the understanding of economic mechanisms. The criteria could then give some guidance to the public on how and why the reaction function might change.

Let me briefly explain how Norges Bank communicates the three ingredients of our communication, and let me start with the forecasts. Charts 1a-d show the forecasts of the key variables. The uncertainty bands are based on model simulations and reflect estimated variances of the different shocks. (Note that there is also a fan chart for historical values of the output gap, since there is also uncertainty about potential output in retrospect.) Communicating uncertainty through fan charts in the inflation reports was introduced by the Bank of England in 1997. While the fan charts for inflation illustrate that inflation cannot be controlled perfectly by the central bank, this argument does not apply for the policy interest rate. The fan chart for the interest rate serves a different purpose: It illustrates that the interest rate path is not a promise, but a forecast which is uncertain. Moreover, it reflects the central bank's adjustment of the interest rate as a response to new economic developments, which are subject to uncertainty. Our experience is that market participants and the public understand that our forecast for the policy rate is indeed a forecast and not a promise.

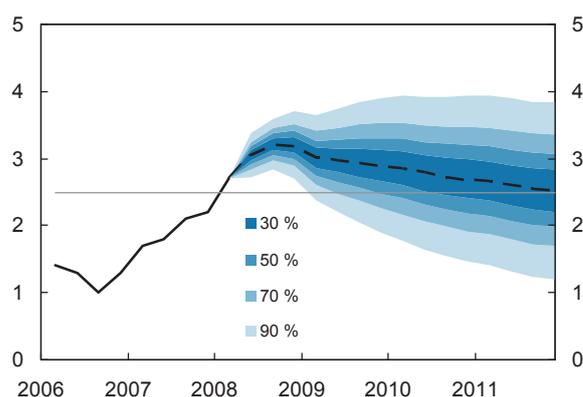
Let me now turn to the second ingredient; how Norges Bank responds to new developments ("shocks"). Monetary policy becomes more effective if market participants can react adequately to economic news. In order to convey a broader reaction pattern, Norges Bank indicates how the Bank would react should certain disturbances occur. However, since no central bank follows

Chart 1c Projected CPI in the baseline scenario with fan chart, from MPR 2/08. 4-quarter change. Per cent. 2006 Q1 – 2011 Q4



Sources: Statistics Norway and Norges Bank

Chart 1d Projected CPIXE¹⁾ in the baseline scenario with fan chart, from MPR 2/08. 4-quarter change. Per cent. 2006 Q1 – 2011 Q4

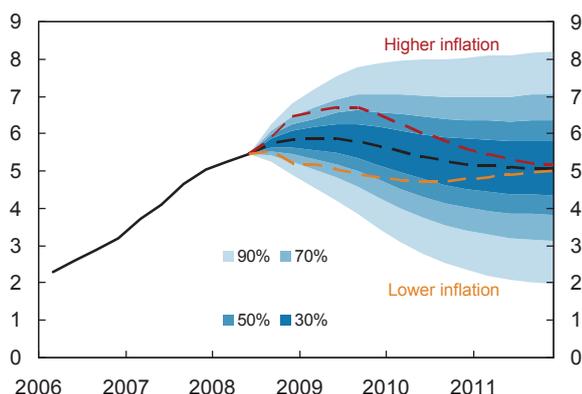


¹⁾ CPIXE: CPI adjusted for tax changes and excluding temporary changes in energy prices. See Staff Memo 2008/7 from Norges Bank for a description of the CPIXE

Sources: Statistics Norway and Norges Bank

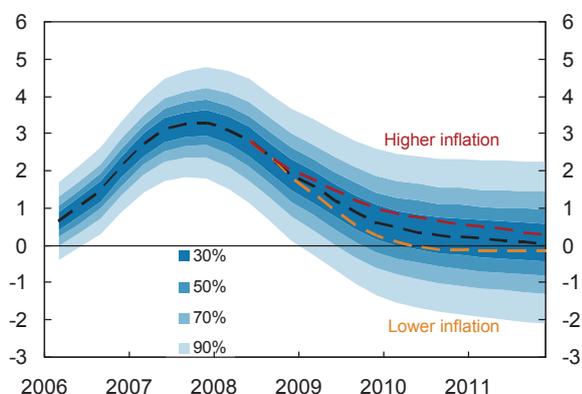
a specific reaction function mechanically, it would be misleading to present a single reaction function specified mathematically. Judgement is always applied when responding to shocks, and a specific reaction function

Chart 2a Key policy rate in the baseline scenario and the alternative scenarios with a higher and lower demand, from MPR 2/08. Per cent. 2006 Q1 – 2011 Q4



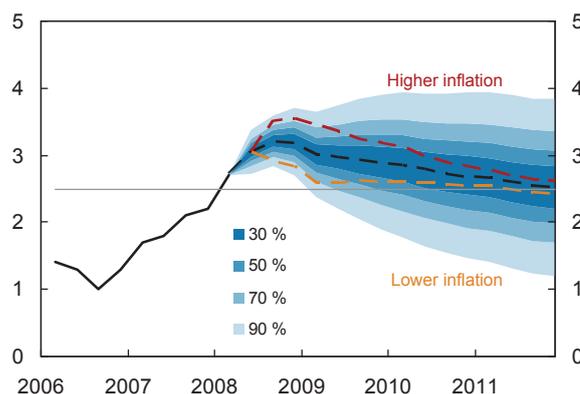
Source: Norges Bank

Chart 2b The output gap in the baseline scenario and the alternative scenarios with a higher and lower demand, from MPR 2/08. Per cent. 2006 Q1 – 2011 Q4



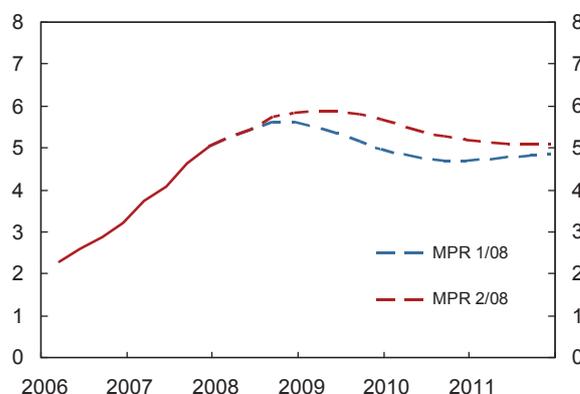
Sources: Statistics Norway and Norges Bank

Chart 2c CPIXE¹⁾ in the baseline scenario and the alternative scenarios with a higher and lower demand, from MPR 2/08. Per cent. 2006 Q1 – 2011 Q4



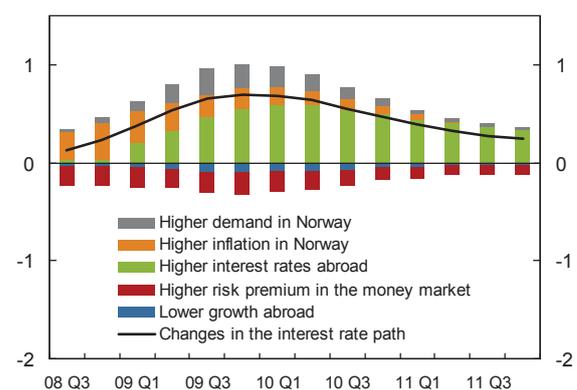
¹⁾ CPI adjusted for tax changes and excluding temporary changes in energy prices. See Staff Memo 2008/7 from

Chart 3 Key policy rate in the baseline scenario in MPR 1/08 and MPR 2/08. Per cent. 2006 Q1 – 2011 Q4



Source: Norges Bank

Chart 4 Delta accounting of the interest rate path. Factors behind changes in the interest rate path from MPR 1/08 to MPR 2/08. Percentage points. 2008 Q3 – 2011 Q4



Source: Norges Bank

will give a very simplified representation of the reaction pattern. There is thus a trade-off between misleading precision and uninformative generality. Norges Bank tries to balance this trade-off by applying various approaches to communicating the reaction pattern.

First, the Bank presents alternative scenarios in the *Monetary Policy Report*. Charts 2a-c illustrate the interest rate response to a positive and negative shock to inflation respectively. The exact specification of the shocks in the illustrations can differ somewhat from one Report to another, but the shifts in the interest rate, and the corresponding scenarios for inflation and the output gap give an indication of how the Bank responds. The shifts are specified such that, if shocks of the same type and size should occur, the alternative interest rate path is the Bank's best estimate of how the interest rate would be set in such a situation.

In addition to presenting policy reactions to new developments, the *Monetary Policy Report* includes an account of the disturbances that have led to a change in the interest rate forecast from the previous Report.

For example, we see from Chart 3 that our interest rate forecast was revised upwards in *Monetary Policy Report 2/08* published in June. The shocks contributing to this revision are illustrated in Chart 4. The black line is the difference between the current interest rate path and the path in the previous Report.

The “interest rate account” is a technical model-based illustration of how the change in the interest rate forecast from the previous Report can be decomposed by different exogenous shocks to the model. The illustration shows how changes in the assessment of international and domestic economic variables as well as changes in shock processes have affected the interest rate path, and is based on our core forecasting model. Since the “interest rate account” follows from a specific model, the exact decomposition is model-dependent and should thus be interpreted as a model-based illustration rather than a precise description of the Executive Board’s reaction pattern. Notwithstanding this reservation, the “interest rate account” serves several purposes. First, it gives information about the reaction function. Second, it provides a compact summary of the *Monetary Policy Report*. Third, it is a tool of communicating commitment. Norges Bank aims at influencing expectations in order to stabilize inflation. In this respect, our policy has elements of commitment. The interest rate forecast should reflect economic news and not re-optimisation of monetary policy. With an “interest rate account”, the public is better able to check whether the central bank honours past commitments. Fourth, the “interest rate account” puts discipline to our judgement. It forces us to think carefully about the reasons for changing the interest rate path.

Let me turn to the criteria underlying the interest rate forecast and reaction function. Among the few central banks that publish interest rate forecasts, it is common to communicate these in quite general terms.³ When formulating the criteria, there is a trade-off between being too general, which does not provide very much information, and being too specific, which might overly restrict policymakers’ room for manoeuvre and be less robust to changes in the economic landscape. The Bank has developed a set of criteria for an appropriate interest rate path. The criteria serve both the purpose of communicating the reasoning behind the interest rate path to the public and of providing an agenda for the Board discussion, which makes it easier to decide on a particular path.

The criteria used by Norges Bank to assess the interest rate reflect policymakers’ general views and assessments. They are therefore not “carved in stone”, but can be changed and modified due to new insights. Currently, the Bank uses five criteria, which can be summarized as follows:

1. Achievement of the inflation target

The interest rate should be set with a view to stabilising inflation close to the target in the medium term. The horizon will depend on disturbances to which the economy is exposed and the effects on the prospects for the path for inflation and the real economy.

2. Reasonable balance between the inflation gap and the output gap

Norges Bank conducts flexible inflation targeting, which implies that stabilising inflation around the target should be weighted against stability in the real economy. The chosen interest rate path should therefore imply a reasonable balance between the objectives if there is a conflict in the short term between stabilizing inflation around the target and stabilizing the real economy. What is meant by a “reasonable” balance is obviously a matter of judgment and is an important element in Board discussions.

In the assessment, potential effects of asset prices, such as property prices, equity prices and the krone exchange rate on the prospects for output, employment and inflation are also taken into account. Assuming the criteria above have been satisfied, the following additional criteria are useful:

3. Robustness

Interest rate developments should result in acceptable developments in inflation and output also under alternative, albeit not unrealistic, assumptions concerning the economic situation and the functioning of the economy.

4. Gradualism and consistency

Interest rate adjustments should normally be gradual and consistent with the Bank’s previous response pattern.

5. Cross-checking

It is important to cross-check the Board’s judgments concerning the interest rate path against other information. One natural cross-check is market expectations about the future interest rate, as represented by implied forward interest rates (adjusted for risk and term premia). In addition, simple interest rate rules like the Taylor rule and other variants suggested in the literature provide potentially useful cross-checks.

³ For example, the Swedish Riksbank communicates the criteria behind the forecasts as follows: “*The Riksbank’s forecasts are based on the assumption that the repo rate will develop in such a way that monetary policy can be regarded as well-balanced. In the normal case, a well-balanced monetary policy means that inflation is close to the inflation target two years ahead without there being excessive fluctuations in inflation and the real economy.*” (See p.2 in the Riksbank’s Monetary Policy Report).

Experiences

What are our experiences of our communication approach? The ultimate objective of our communication is to achieve better outcomes in terms of improved stability in inflation and the real economy. However, with less than three years of being fully transparent about our future policy intentions, it is too early to draw a conclusion regarding macroeconomic stability.

An intermediate objective of communication is to provide a better understanding of the Bank's reaction pattern. One test of this is to consider the volatility of market interest rates on the day Norges Bank decides the interest rate. If the new communication approach has been successful, one should expect that the interest rate decisions are more predictable.

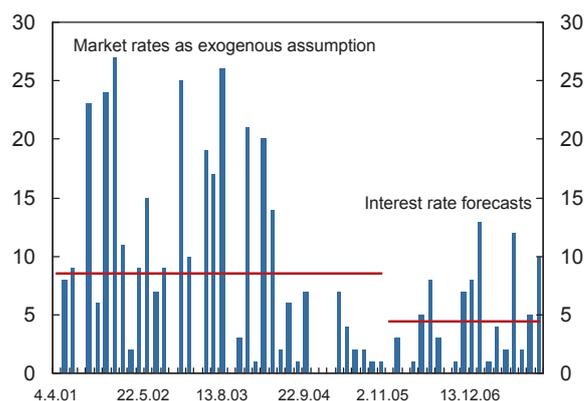
Chart 5 shows the magnitude of market rate changes on the day the interest rate is decided. We see that volatility in market interest rates has on average been smaller after we started publishing our interest rate forecasts. Although one cannot exclude the possibility that the reduction in volatility is caused by other factors than policy communication, it seems that our reaction pattern has become somewhat better understood.

One internal effect of publishing interest rate forecasts is that it provides discipline in the internal decision process and good incentives for the staff. I have observed how transparency has changed the motivation and discipline of the economists within Norges Bank. By publishing our own interest rate forecast, each sector expert will see how his or her judgment might affect policy. Moreover, by following the principle that what is communicated externally should reflect the internal decision process, we need to think extra hard about what we do internally. Transparency makes the public better capable of evaluating the central bank's analyses and policy assessments. If these are not of sufficient quality, we will be criticised. Public scrutiny disciplines the internal process and, I believe, results in better monetary policy.

Measuring transparency

Even if I have focused on certain dimensions of transparency, such as openness about our intentions for future interest rate decisions, transparency has many other dimensions. Petra Geraats⁴ distinguishes between five dimensions of transparency:

Chart 5 Surprise effects in 12-month rate after policy announcements



Source: Norges Bank

1. *Political transparency* refers to openness about policy objectives
2. *Economic transparency* focuses on the economic information that is used for monetary policy
3. *Procedural transparency* is about the way monetary policy decisions are taken
4. *Policy transparency* refers to the announcement and explanation of policy decisions
5. *Operational transparency* concerns the implementation of the central bank's policy actions

Due to the many dimensions of transparency, it is not possible to talk about transparency as if it were a one-dimensional concept. One could claim that some central banks are more transparent than others in some particular dimensions, but it is difficult – if not impossible – to measure overall transparency by a single metric in a precise and non-controversial way. However, for some research purposes, for example for cross-country comparisons and for analysing historical developments, it is useful to try to measure overall transparency by a single metric. Sylvester Eijffinger and Petra Geraats⁵ have constructed an index that combines the above five dimensions of transparency into a single metric, and they used it for comparing transparency for nine of the major central banks. Negriz Dincer and Barry Eichengreen⁶ have extended this work and applied Eijffinger and Geraats' index to 100 countries. Measured by this index, they found that in 2005 the three most transparent central banks were the Reserve Bank of New Zealand, the Riksbank and the Bank of England. Norges Bank was

⁴ Geraats, P.M., 2002. Central bank transparency, *Economic Journal* 112 (483), F532–F565.

⁵ Eijffinger, Sylvester and Petra Geraats (2006) "How Transparent Are Central Banks?" *European Journal of Political Economy* 22(1), March, pp. 1–21.

⁶ Dincer, N. Nergiz and Barry Eichengreen (2007) "Central Bank Transparency: Where, Why, and with What Effects?," *NBER Working Papers* 13003, National Bureau of Economic Research.

ranked as number 15. The reason why Norges Bank was ranked number 15 and not among the most transparent central banks is, according to Dincer and Eichengreen, the following:⁷

1. Norges Bank's monetary policy models were not public,
2. the Bank does not publish quarterly economic forecasts, and
3. we do not publish minutes and voting records from the monetary policy meetings of the Executive Board.

As regards the publication of models, Dincer and Eichengreen's claim is not correct, as we do publish our models (and we did so also in 2005). The lesson I have drawn from this is that central banks should have well designed webpages so that all relevant information is easy to find.

Regarding the second reason – that we do not provide forecasts on a quarterly basis – I think this point is overemphasized. We used to publish Monetary Policy Reports (then called Inflation Reports) four times a year until 2001. We experienced, however, that having a forecasting round every quarter leaves very little time for the staff to digest new information and conduct thorough analyses before the next Report had to be written. This is why we started publishing three Reports a year instead of four. The Riksbank has come to the same conclusion and reduced the number of reports from four to three per year in 2006. I do not regret that Norges Bank made this move, and if I have to choose between good analyses and a high score on the Eijffinger-Geraats index, I know what I will choose.

The third reason why we lost points on the Eijffinger-Geraats index is that we do not publish minutes and voting records. It is true that we do not publish voting records. This is because we have a collegial, and not individualistic, monetary policy committee, where the members of the Executive Boards stand unified behind the decision. In this respect, our committee can be compared to the Governing Council of the ECB. Our external members are part-time members, and are employed in posts outside the Bank while serving as Board members. If we were to publish voting records, the members would have to be individually accountable for their votes and assessments. This would place a workload on

the external members that would not be consistent with being part-timers.

The Eijffinger-Geraats index does not take into account how different types of committees can communicate. Alan Blinder and Charles Wyplosz emphasize that “the appropriate volume and methods of central bank communication depend crucially on the nature of the monetary policy committee.”⁸ To get the highest score on the Eijffinger-Geraats index, one needs to have an individualistic committee. However, one should not forget that the rationale for being transparent is to provide relevant information to the public. Communication is about providing the information as clearly as possible. To my knowledge, the research on committees and communication does not show that communication is necessarily better with individualistic committees than with collegial committees. Even if individualistic committees can go further in publishing the individual views of the members than collegial committees, it entails a certain risk. To quote Alan Blinder:⁹ “A central bank that speaks with a cacophony of voices may, in effect, have no voice at all.”

Although Norges Bank does not publish voting records or minutes that report the views of the individual members, we publish the Executive Board's monetary policy statement. The statement provides an account of the main aspects of economic developments that have had a bearing on the interest rate decision and the Board's assessments. If you compare the Board's policy statement with, for example, the minutes from the MPC meetings at the Bank of England, you will see that our statement is remarkably similar to the first part of the MPC's minutes. In addition to the monetary policy statement, a press conference is held the same day. At the press conferences, which are webcast on Norges Bank's website, the governor or I explain in more detail the reasons behind the Board's decision. Together, the policy statement and the press conference provide quite thorough information about the assessments behind the interest rate decisions.

Some might object that the policy statement can hardly give much information about the deliberations during the Board meeting, since it is published only a few hours after the meeting and thus has to be prepared in advance. However, when preparing the statement, the staff aims at following the bureaucratic principle that all relevant aspects should be considered. In the final statement,

⁷ I thank Negriz Dincer and Barry Eichengreen for providing the sub-indexes for Norway, which were not reported in their paper.

⁸ Blinder, A.S., and C. Wyplosz (2004), “Central bank talk: committee structure and communication policy”. Paper presented at the 2005 meetings of the American Economic Association (2004).

⁹ Blinder, A.S. (2007), “Monetary policy by committee: Why and how?” *European Journal of Political Economy* 23, p.106–123.

which is written after the meeting, the various aspects are weighed according to the importance attached to them by the Board members. Moreover, the Board has meetings with the staff in the period before the Monetary Policy Report is published. At these meetings, the main issues of relevance for the next rate decision are discussed, and these discussions are reflected in the statements. That said, I recognise that it would be possible to give an even more thorough statement with more details from the deliberations without jeopardizing the anonymity of the members. That would, however, require a longer delay before the statement, or minutes, is published. Our communication strategy evolves over time, and how to give the best possible information about the Board's assessments is an issue which is on our agenda.

There are other approaches to measuring transparency than the one proposed by Eijffinger and Geraats. The IMF has used a somewhat different approach in their courses in monetary policy for the IMF staff. They talk about a “natural order” of transparency, starting from being explicit about the general goal(s) of monetary policy to being open about specific aspects of the policy-makers' assessments. The “natural order”, which is represented in Table 1, could be interpreted as a roadmap for how central banks could develop their communication over time. The more transparent the central bank is, the further it is in the “natural order”.

Table 1 Natural order of transparency

	Countries ¹⁾
Mandate – price stability	ca. 40
Numerical inflation objective	22
General strategy that guides central bank decisions	*
Reasons for decisions	35
Assessment of inflationary pressures	27
Current economic conditions, output gap	27
Outlook for future growth of output relative to supply and inflation	27
Principal risks around outlook and balance of risks	13
Intentions for future policy interest rates	5

¹⁾ Our own estimates based on BIS list of central banks

* General lack of transparency or hard to obtain information regarding loss functions etc.

Sources: IMF, BIS, central bank websites and Norges Bank

Based on the information on the central banks' websites, we have placed the various countries on the BIS list of central banks into the IMF's “natural order”. We see that as we move further down on the list, fewer countries

satisfy the criteria. Based on this approach, Norges Bank is among the five most transparent central banks, as we satisfy every criterion on the “natural order”. The point I will make by showing this is not to win transparency competitions, but to illustrate that transparency has many dimensions, and there is no unique way to measure it.

As a general guideline, Norges Bank applies Wim Duisenberg's definition of transparency: *The external communication reflects the internal deliberations*.¹⁰ When assessing whether we should publish a given piece of information, we do not ask ourselves if there are any good reasons for publishing it. Instead, we ask ourselves if we have any good reasons for not publishing it. Usually, we find no convincing arguments for not publishing what we find useful in the internal deliberations. An argument often heard against publishing certain information is that the public might misinterpret it or put excessive weight on it. However, the danger of misleading the public by providing additional information could also be seen as an advantage: It forces us to be clear and pedagogic in our communication.

Transparency is, however, not just a means to improve the effectiveness of monetary policy and discipline in the internal decision process. We should not forget that transparency is important for democratic accountability. Central banks have gained considerable independence during the last 20 years, and central bank independence is probably an important commitment mechanism for securing price stability. But the independence is not unlimited, as central banks are ultimately accountable to the political authorities. One could see transparency as an obligation that follows from gaining independence. Independence requires accountability, and accountability requires transparency. Transparency is also important for preserving the political acceptance for central bank independence.

Finally, let me draw attention to another important issue, namely how to make good collective decisions. Monetary policy decisions are group decisions for two reasons. First, the interest rate decisions are usually taken by a monetary policy committee. Second, the inputs for the decisions are produced by the central bank staff. There has been a significant increase in the research on monetary policy committees during the last years, but the role of the staff in the decision-making process has received remarkably little attention in the literature. At Norges Bank, the staff members have two roles; *producer* (of analyses, forecasts, research, etc) and *adviser*. Each economist at Norges Bank has to give his

¹⁰ Duisenberg, Wim (2001): “Letter of Dr. W. F. Duisenberg, President of the ECB to the Chairperson of the Committee on Economic and Monetary Affairs”, www.ecb.int.

or her interest rate advice before the interest rate meetings, and we have a system of aggregating the advice up to the governor and myself. Since most central banks have a large pool of highly skilled staff members, it is important to utilise this potential. What is the best way to aggregate the judgements of the staff members? How should we ensure the integrity of the advisers and avoid groupthink? I welcome more research on these and other issues related to the role of the staff.

Good decisions require qualified people, an appropriate incentive structure, and a good decision-making process. In addition, good decisions become more effective if they are communicated well. Transparency generally improves both the quality of communication and the decision-making process. My ambitious goal is that Norges Bank shall be at the forefront in terms of communication and decision-making processes.