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Publication of its own policy rate path boosts the effectiveness of central bank monetary policy

"For not only do expectations about policy matter, but, at least under current conditions, very little else matters."

Michael Woodford (2003, 15)

1. Introduction

Major changes have taken place in the way that central banks organise and present their monetary policy decisions in recent years. Most central banks now emphasise transparency in presenting their decisions and argue a detailed case for their viewpoints in their publications and speeches. This is a far cry from the great secrecy that once surrounded central bank activities. For a long time, the prevailing view within monetary economics was that central bank measures were more effective if they managed to take the public and markets by surprise. Much has changed since then. Nonetheless, the notion of the need to surprise the market has persisted in public debate, particularly in Iceland.

The current prevalent view in monetary economics is that monetary policy is more effective if it is predictable (see Woodford, 2003) and that the most important function of monetary policy is to guide and influence household and market expectations about the future development of interest rates, inflation and economic activity. Two main assumptions underlie this perspective: First, market agents' decisions are forward-looking. Second, there is a considerable lag in the pass-through of central bank policy action. When monetary policy is transmitted across the yield curve, each separate interest rate decision is less important than expectations of future policy rate developments. Expectations of the policy rate path also directly impact household and business consumption and investment decisions. The bulk of household borrowing for consumption and investment, and a major part of operational and investment credit for businesses, have a maturity of many years. In order to exert a significant effect on consumption and investment, monetary policy should preferably impact long-term interest rates. Interest rates at the long end of the yield curve, market pricing and market agents' decisions are primarily driven by their expectations of how the policy rate will develop rather than by the headline figure at any time, although the latter will constrict their expectations in the short run. The success of monetary policy will depend on these factors to a considerable extent. Broad consensus has developed in monetary economics in recent years that the way to make transmission of monetary policy more efficient is through clear policy

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objectives and systematic, credible and transparent practice. This will foster a clearer understanding of central bank decisions among market agents and confidence that they will honour their commitments. Once such assurance is established, it can even lead markets to respond to new developments before the central banks do so themselves.

One priority for inflation-targeting central banks is to explain how their monetary actions are compatible with the inflation target. They do so by publishing inflation reports, arranging scheduled interest rate decision days and issuing policy statements every time an interest rate decision is made. However, central banks differ in the degree of transparency that they practise, for example whether or not they give access to their forecasting models or publish the minutes of monetary policy meetings. Inflation reports play a key role. They offer central banks a platform for demonstrating that their monetary policy measures are systematic, credible and transparent, and for affirming their commitment to their objectives. Monetary policy is made more predictable as a result. Macroeconomic and inflation forecasts perform an important function in inflation reports by providing terms of reference to explain how monetary policy is applied in practice (see Pétursson, 2004).

By enabling the general public and others to assess whether monetary policy practice is in line with a central bank's announcements and probable responses to unfolding economic developments, inflation reports can influence expectations about the path that the policy rate, and thereby the inflation rate, will follow. Thus the more transparent profile that inflation-targeting central banks adopt when taking monetary policy action, compared to other central banks, is no coincidence. However, central banks have imposed limits on their transparency. They have been reluctant to provide unequivocal information about their own expectations of policy rate developments, even though they are aware that these may be even more important than the policy rate decision itself at any given time. One manifestation of this reluctance has been the frequent assumption in central bank forecasts that the policy rate will remain unchanged or track forward rates or survey findings. Such an approach has been criticised on the grounds that transparency about its own expectations is a precondition for successful monetary policy by any central bank.

In recent times it has been widely debated whether central banks ought to enhance the effectiveness of their monetary policy by making it even more transparent, e.g. by publishing more detailed information on their own expectations of policy rate paths. Doing so is increasingly believed to enhance the impact of central bank policy actions on market expectations and the effectiveness of monetary policy (see e.g. Woodford, 2003, Svensson, 2005 and Rudebusch and Williams, 2006). A number of central banks have already taken steps in this direction.

Signs of future policy rate developments in the form of recurrent phrases in press releases and minutes has been a popular practice on both sides of the Atlantic. Woodford (2005), Poole (2005) and Rudebusch and Williams (2006) discuss the Federal Reserve's experience of such signalling, focusing on the period after 2003. That year, the

Federal Reserve, identifying a strong risk of deflation, stated that “In these circumstances, the Committee believes that policy accommodation can be maintained for a considerable period”, then prepared the market for pending policy rate hikes (“the Committee believes that it can be patient in removing its policy accommodation”) until it began the cycle of interest rate rises and stated “that policy accommodation can be removed at a pace that is likely to be measured”.

Support has been growing recently for central banks to go even further by announcing their own forecasts for policy rate developments. The precedents set by the Reserve Bank of New Zealand, Norway’s Norges Bank and, most recently, Sweden’s Riksbank have provided the most impetus, backed up by new literature and research arguing the benefits of such communication from central banks. Mishkin, once a leading critic of their usefulness, has now become convinced of the value for central banks to announce their policy rate path forecasts (see Giavazzi and Mishkin, 2006).

2. Options for underlying policy rate paths in central bank forecasts

Broadly speaking, central banks that opt to publish the underlying policy rate paths for their forecasts have three choices. They can assume an unchanged policy rate across the forecast horizon, base the forecast on market expectations about policy rate developments, or present their own policy rate forecasts. Conversely, central banks can also choose not to announce the underlying path. Each approach has both pros and cons.

2.1 Unchanged policy rate

At first after inflation targeting became widespread and a higher profile was given to inflation forecasting, central bank forecasts were generally based on the assumption of an unchanged policy rate across the forecast horizon. The forecast therefore indicated the effect of not changing the policy rate on the economic outlook. Inflation above or below target (in the second half of the horizon) implied the respective need to raise or lower the policy rate (see e.g. Vickers, 1998). Hence a forecast assuming an unchanged policy rate can provide an indication of probable monetary policy action. However, this approach entailed a number of limitations and challenges. These were discussed in *Monetary Bulletin* 2006/2, when the Central Bank of Iceland decided to drop this assumption for its baseline forecast: “A forecast conditioned on a constant policy rate does not give a clear signal about the future policy rate path, and therefore has only a limited effect on market expectations about that path. Neither is such a forecast internally consistent, because it either uncouples or dampens an important transmission channel of monetary policy, namely the monetary policy response to economic developments and its transmission via expectations about how policy rate developments will influence long-term interest rates. Various problems in forecasting can therefore result. The forecast may become unstable, especially over longer horizons. Interpreting the forecast can therefore become problematic, limiting its usefulness.” (*Monetary Bulletin* 2006/2, pp. 52-3).

This problem becomes more pronounced, the wider that inflation diverges from target. By publishing a forecast based on an unchanged policy rate that shows inflation far beyond the target, central banks forgo an ideal opportunity to indicate how much they consider that the policy rate needs to be raised to attain it. If a bank's commitment is called into question, such a forecast can actually feed inflation expectations and dampen the effectiveness of monetary policy.

2.2 Market expectations

By basing their forecasts on market expectations about the policy rate path that can be inferred from implied forward interest rates or survey findings, central banks can to some extent avoid the disadvantages of the fixed policy rate assumption. The Bank of England and European Central Bank base their forecasts on this assumption. In most cases such forecasts are more realistic and consistent than those assuming an unchanged policy rate, since they are based on expectations of policy rates that the central bank has itself partly shaped. This approach also gives central banks the chance to comment on how realistic they consider market expectations about the future policy rate path, and thereby influence them even further. However, a number of drawbacks are involved.

First, this approach may imply that market analysts and agents have excessive influence on central bank assessments of the economic situation. Perceptions of a central bank chasing market expectations could erode confidence in monetary policy. Svensson (2006) emphasises that central banks should lead the market, not be governed by it.

Second, it may be particularly awkward for central banks with limited credibility to chase market expectations in their forecasts. In such cases, a forecast by market agents is likely to be significantly at odds with the central bank's view, and the bank's forecast likewise out of synch with the inflation target. Central banks with limited credibility face the same problem as if they had assumed an unchanged policy rate, and are often forced to present forecasts for inflation that are far wide of target for the whole horizon. This may further erode the credibility of monetary policy and does not enhance the transparency or predictability of monetary policy actions. Volatile forecasting due to changes in market expectations complicates central banks in interpreting the results and impairs the effectiveness of this important channel for central bank communication with the public (see Faust and Leeper, 2005). The Central Bank of Iceland's recent experience offers a clear example, as discussed later.

Third, implied forward rates are not always a useful gauge of market expectations about the policy rate (see Goodhart, 2005). Problems in assessing risk premia and various kinds of market failures may distort the picture of market expectations that implied forward rates signal to monetary policy. This risk increases, the more shallow and less developed that financial markets are. In some cases, forecasts based on this assumption may therefore exacerbate a central bank's existing credibility problem.

Fourth, this approach may cause similar problems in models to when an unchanged policy rate is assumed. In models with forward-

looking expectations, the assumption that the policy rate will track market expectations may lead to indeterminacy, and inflation dynamics can turn highly unstable in models with backward-looking expectations (see Woodford, 2003, 2005).

Finally, a forecast based on market expectations is clearly not the best forecast that central banks can produce, because they have better information about future policy rate developments than the markets, with which they can enhance their forecasts.

2.3 Own policy rate forecasts

The third option for the policy rate path is for the central bank to forecast this itself. A number of benefits may accompany such a choice.

First, the central bank comes closer to producing an optimal forecast, because it uses all the information at its disposal, including its own ideas about policy rate developments.

Second, this approach implies that the monetary authorities communicate more information to market agents about probable policy rate developments, giving them a clearer insight into the central bank's strategy. Monetary policy therefore becomes more predictable and has a more effective impact on expectations and pricing. At the same time, monetary policy will have a stronger impact on the longer end of the yield curve and on decisions by market agents. This could enable monetary authorities to achieve their objectives in smaller steps than otherwise.

Third, central bank forecasts become easier to evaluate and use as justification for monetary policy actions. By basing their forecasts on their own policy rate paths, central banks regain control over their own forecasting. Changes in the underlying policy rate path between forecasts reflect that the central bank's own assessment has altered rather than implied forward rates, which could be changed by other factors than policy rate expectations. This ought to create a more logical context for policy rate assumptions to develop than if market expectations were used, among other things because expectations about monetary policy could be misguided. However, volatility can still not be ruled out, since the central bank's own assessment of the need to tighten the monetary stance sometimes changes much faster than the market's perception of probable policy rate developments.

Fourth, one main advantage for a central bank that uses its own policy rate forecast is to ensure that forecast inflation will be compatible with the target, because the assumed policy rate path represents the assessment by the board of governors or monetary policy committee of the optimal interest rate development for attaining the target. Forecasts showing a sharp divergence between inflation and the target would therefore be a thing of the past. The forecast ought to have a stronger impact on household expectations about medium-term inflation and interest rate developments, which are an important channel for monetary policy transmission, and bring them into better alignment with the target. Finally, Rudebusch and Williams (2006) have demonstrated that such communication is likely not only to support the monetary authorities' anti-inflationary efforts, but also dampen output volatility.

Various conceivable disadvantages have been pointed out if central banks disclose their own policy rate forecasts. Goodhart (2001, 2005) and others maintain that doing so overcomplicates the monetary authorities' decision-making process. Monetary policy committee members have only a vague idea of the future development of the policy rate and even though they might find a suitable path, it is difficult for so many members to agree on a single one.

Mishkin (2004) also points out that disclosing the policy rate forecast may impede a central bank's communication with households, which are likely to interpret the forecast as a commitment by the bank to adhere to it. While economists are aware that the path is conditional, i.e. contingent on a given economic scenario presented in the forecast, this is less obvious to households and even market agents. Divergence from an announced path might then be interpreted as flip-flopping on the part of the central bank and could tarnish its credibility.

Third, publication of a policy rate forecast might imply an unwarranted degree of accuracy, and it is inadvisable to place so much faith in the results of a given forecast (see Edey and Stone, 2004). Results are fraught with uncertainties connected with both the data used and the structure of the economy. Disclosure of a policy rate forecast would imply that central banks have more knowledge than is actually the case. Kahn (2007) points out that the economic outlook is sometimes simply so complicated, uncertain and volatile that the possibility of reaching conclusions about the policy rate several years ahead is dubious. Experience shows that productivity and the output gap are particularly problematic to forecast. Central bank inflation forecasts have therefore often shot wide of the mark and the monetary stance has been wrong (see e.g. Orphanides, 2003).

Table 1. Policy rate assumptions in forecasts of selected central banks

Australia	Not announced
Brazil	Unchanged
Canada	Not announced
Chile	Unchanged
Columbia	Own forecast
Euro area	Market expectations
Israel	Not announced
Japan	Market expectations
Mexico	Not announced
New Zealand	Own forecast
Norway	Own forecast
Peru	Unchanged
Philippines	Unchanged
Poland	Unchanged
South Africa	Unchanged
South Korea	Unchanged
Sweden	Own forecast
Switzerland	Unchanged
Thailand	Unchanged
UK	Market expectations
US	Not announced

Sources: Berg (2005), Kahn (2007).

Finally, Kahn (2007) has questioned whether the most transparent central banks gain much from publishing their policy rate forecasts. Nonetheless, the Reserve Bank of New Zealand and Sweden's Riksbank, which are consistent leaders in transparency, appear to see some benefits.

2.4 Not disclosing the underlying policy rate path

Some central banks choose not to disclose the underlying policy rate path even though they publish forecasts for main aggregates such as inflation and output growth. Examples are central banks in Canada, Australia and the US (see Kahn, 2007). By doing so they avoid various drawbacks entailed by all the other options. The Federal Reserve, for example, did not change its forecasts last year even though its view for the future development of policy clashed with the market's view. On the other hand, its forecast provided market agents with very limited information about how it assessed the outlook for the policy rate. It may be asked whether the Fed's monetary policy would not have been more effective had it been even more predictable. Monitoring, interpretation and estimation of forecasts are also complicated by uncertainties in the underlying policy rate forecast path.

3. Central banks' experience of publishing their policy rate forecasts

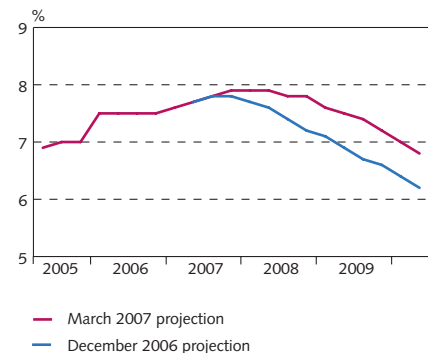
The Reserve Bank of New Zealand (RBNZ) was a pioneer in publication of policy rate forecasts, as in so many other fields. It has published them since 1997. Other central banks were reluctant to follow suit at first. It was claimed that the RBNZ was the only one capable of doing so because the Governor decided the policy rate on his own. However, Norges Bank made a milestone decision to publish its first policy rate forecast in a fan chart at the end of 2005, after abandoning market expectations as an assumption in its forecasts. It wanted to "assume ownership" of its own forecasts (see Norges Bank, 2005, and Bergo, 2006, 2007). Sveriges Riksbank published its first policy rate forecast in February this year (see Rosenberg, 2007 and Sveriges Riksbank, 2007a, b).

3.1 The experience of the Reserve Bank of New Zealand

According to Archer (2005), the RBNZ was prompted to publish its own policy rate forecast because publishing an "official forecast" showing inflation moving off track while asserting that the central bank would do whatever was needed to keep inflation within reasonable bounds was thought likely to create a public relations problem. The RBNZ's decade of experience from publishing its own policy rate forecast has been very positive.

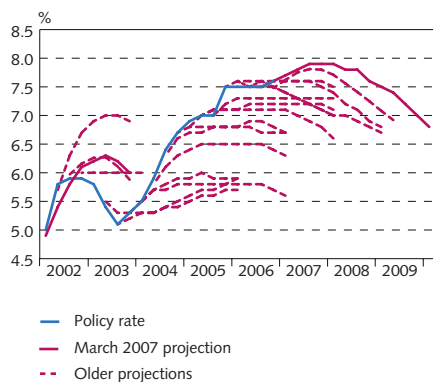
Spencer (2005) underlines that publication of an endogenous policy projection reinforces policy credibility by delivering a set of macro projections that are consistent with achieving the medium-term inflation objective. Also, it provides a clear policy signalling mechanism without being seen as a policy promise. In the view of Spencer (2005), the RBNZ's experience shows that the concerns voiced by Mishkin (2004) are unfounded. The RBNZ has repeatedly changed its policy

Chart 1
RBNZ interest rate projection
Forecast period Q1/2007 - Q1/2010



Source: Reserve Bank of New Zealand.

Chart 2
RBNZ interest rate forecast and
actual developments



Source: Reserve Bank of New Zealand.

rate forecasts from one forecast to the next, as shown in Chart 2. One explanation for frequent changes is revised exchange rate forecasts. Archer (2005) considers that markets have shown that they understand the conditionality of interest rate forecasts. An important factor is surely that the RBNZ has been highly aware of informing markets about the conditionality of the interest rate forecast and the uncertainties surrounding it. Its communications strategy has been designed on this principle (see Hampton et al., 2003).

The third advantage of publishing a policy rate forecast, according to the RBNZ, is that it delivers a faster and strong monetary transmission across the yield curve, thereby influencing decisions by market agents. Alan Bollard, Governor of the RBNZ, points out that the obvious advantage of being so explicit in forecasting is that economic agents can learn to anticipate its policy interests. As a result, “market prices adjust automatically on the arrival of new information that is relevant for inflation pressures” (Bollard and Karagedikli, 2006, p. 11). Interestingly, Spencer (2005) considers that the policy projection facilitates attempts to influence the shape of the yield curve, which is critical in a market where 80% of mortgages are fixed-rate although the maturity is shorter than in Iceland.

Thus the experience of the RBNZ seems to indicate that an endogenous policy rate forecast bringing inflation to target is an effective communications tool that offers markets insight into the central bank’s systematic approach in its interest rate decision-making. Such an insight can boost the effectiveness of monetary policy. The crucial factor is not to show what will happen, but rather how the monetary authorities respond to the scenario unfolding in the forecast.

Hampton (2002), Spencer (2005) and Archer (2005) explain how the policy rate path is “created”. A reaction function is assumed in the bank’s macroeconomic model (see Black et al., 1997), a forward-looking reaction that adjusts nominal short-term interest rates when projected inflation six to eight quarters ahead deviates from the target. The resulting policy rate path is then adjusted between the forecasters and governor until it reflects the governor’s view of the correct relationship between interest rates and the inflation target.

3.2 The experience of Norges Bank

Norges Bank began publishing policy rate forecasts in November 2005. Until then, its forecasts were based on either a constant policy rate or market expectations. Norges Bank often commented on market expectations and even adjusted the policy path that could be inferred from implied forward interest rates. The development of the policy rate since 2003 has diverged widely from market expectations as reflected in forward rates, so its decision not to base its forecast on them is unsurprising.

Norges Bank uses a fan chart to present its policy rate path in order to emphasise the uncertainties surrounding the forecast. Its forecasts for inflation, the output gap and exchange rate are presented in the same format. Alternative policy rate path scenarios are also presented, e.g. assuming a depreciation of the Norwegian krone. In all its published material discussing desirable monetary policy strategy,

Norges Bank also states categorically that the policy rate path forecast is based on economic developments that may affect it, and that new information may render the assumed developments unrealistic and call for a different policy rate path.

In 2006, Norges Bank's policy rate projections changed as the year passed. The bank identified the need for tighter restraint as the year progressed and this message appears to have been signalled to the market, because implied forward interest rates have risen considerably, as Chart 4 shows.

Norges Bank also gives special emphasis to the policy rate outlook a few months ahead. Since the end of 2002 it has forecast a policy rate range until its next inflation report, which is published three times a year. The stated range is normally roughly one percentage point. This practice has continued even after policy rate path forecasts three years ahead were introduced.

3.3 Norges Bank's criteria for its policy rate path forecasts

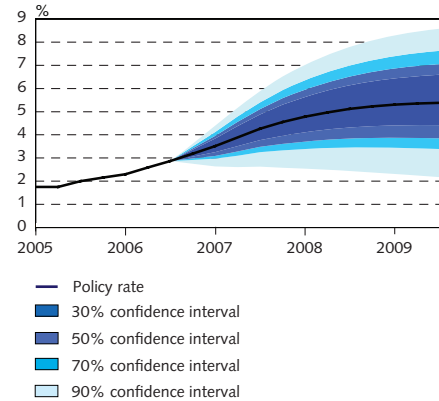
Qvigstad (2006) presents six criteria that Norges Bank's policy rate path must meet (see Table 2). The criteria represent a translation of requirements in monetary theory for systematic, credible and transparent monetary policy. Likewise, they can function as a practical guide for structuring the main issues for discussion at monetary policy committee meetings. The criteria clearly state that monetary policy is all about giving the economy a credible nominal anchor for inflation expectations. This is the essence of the first criterion, which states that interest rate policy must be geared to moving inflation towards the target and stabilising it close to target within a reasonable time horizon. The others describe how the policy rate must develop if such an anchor is ensured.

Table 2. Criteria for optimum future policy rate path

1. If monetary policy is to anchor inflation expectations around the target, the interest rate must be set so that inflation moves towards the target. Inflation should be stabilised near the target within a reasonable time horizon, normally 1-3 years.
2. Assuming that inflation expectations are anchored around the target, the inflation gap and the output gap should be kept in reasonable proportion to each other until they close. The inflation gap and the output gap should normally not both be positive or negative simultaneously some time ahead.
3. Interest rate developments, particularly in the next few months, 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. The interest rate should normally be changed gradually so that we can assess the effects of interest rate changes and other new information about economic developments.
5. Interest rate setting must also be assessed in the light of developments in property prices and credit. Wide fluctuations in these variables may constitute a source of instability in demand and output in the somewhat longer run.
6. It may also be useful to cross-check by assessing interest rate setting in the light of some simple monetary policy rules. If the interest rate deviates systematically and substantially from simple rules, it should be possible to explain the reasons for this.

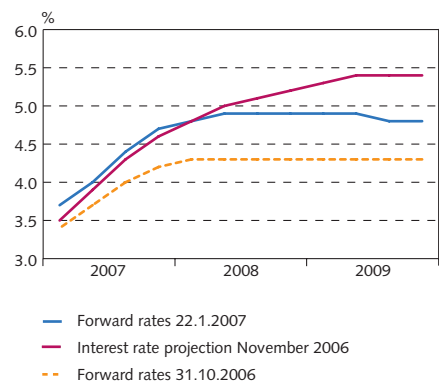
Sources: Norges Bank (2006), Qvigstad (2006).

Chart 3
Norges Bank interest rate projection since November 2006
Forecast period Q1/2007 - Q1/2010



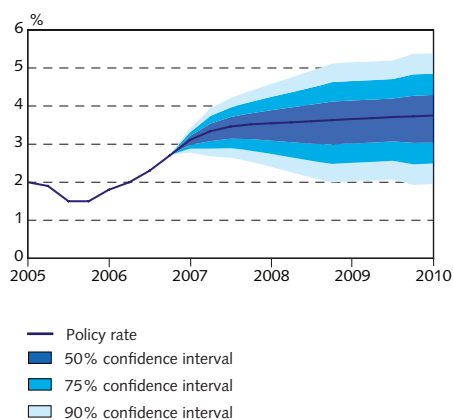
Source: Norges Bank.

Chart 4
Effects of Norges Bank interest rate projection on market expectations



Source: Norges Bank.

Chart 5
Riksbank interest rate projection
Forecast period Q1/2007 - Q1/2010



Source: Riksbank.

3.4 Sweden's Riksbank publishes its own policy rate forecast

In their evaluation of Swedish monetary policy published in 2006, Giavazzi and Mishkin (2006) recommended that the Riksbank should base its forecasts on its own assessment of the policy path. As mentioned earlier, Mishkin had previously advocated that central banks should neither publish policy rate forecasts nor give indications about the future path in their minutes. Giavazzi and Mishkin recommended to the Riksbank to publish just a fan chart of the policy path without showing the most likely path, unlike Norges Bank. Such a presentation would aim to prevent the public and the media from focusing too much on the most likely path in the fan chart, and underline the forecasting uncertainties. The authors also regard this representation as being most consistent with full transparency of the central bank.

The Riksbank announced plans to introduce its own path for the repo rate in mid-January 2007 (see Rosenberg, 2007). Indications had already emerged that the Riksbank would take this step, and the Governor had expressed support for it before Giavazzi and Mishkin published their study. Rosenberg (2007) says that this is a natural next step after the changeover from a constant repo rate to the markets' expected interest rate path. The Riksbank's aim in publishing its own assessment of the future development of the repo rate is to have more influence on market expectations, but it entails no change in the Bank's view of optimal monetary policy-making (see Sveriges Riksbank, 2007a). Thus while the forecast path at any time needs to be consistent with the bank's declarations on desirable monetary policy, it is not described in as precise detail as in the criteria put forward by Qvigstad (2006).² In February 2007, the Riksbank published its first policy rate forecast, modelled on Norges Bank's fan chart showing the most probable path (see Sveriges Riksbank, 2007b and Chart 5).

4. Developments at the Central Bank of Iceland

Like other inflation-targeting central banks, the Central Bank of Iceland has attempted to anchor inflation expectations and reduce uncertainty in the markets by indicating its view on the probable medium-term development of the policy rate. The Central Bank has signalled its view in various ways (see Ólafsson, 2006). Initially, *Monetary Bulletin* mainly focused on candid discussion of the interest rate and inflation outlook, but more recently the Central Bank has commented on the expectations that can be inferred from forward interest rates in the market and published policy rate paths generated by macroeconomic model simulations that would ensure the attainment of the inflation target during the forecast horizon. Increased transparency has been reflected in particular by new methodology in preparing the macroeconomic and inflation forecasts.

2. Norges Bank reviewed and simplified Qvigstad's (2006) criteria in its Monetary Policy Report 2007/1, and they are now broadly in line with Sverige Riksbank's announcements (see Norges Bank, 2007).

The Central Bank's macroeconomic and inflation forecasts have changed substantially since it moved onto an inflation target in March 2001 (see Table 3). These developments reflect advances in the Bank's forecasting methods, its commitment to influencing market expectations and growing discontent with the policy rate and exchange rate assumptions in the forecast.

For most of the time, the baseline forecast assumed an unchanged policy rate and unchanged exchange rate across the horizon from the day of forecast. The Central Bank published its first alternative scenario based on implied forward interest rates in the December 2004 issue of *Monetary Bulletin*. In *Monetary Bulletin* in September 2005 the alternative scenario was modified to include market analysts' forecasts for the policy rate path, as well as forward interest rates. This step was taken after glacier bond issues had a considerable impact on interest rate formation in the Treasury bond market, which plays a key role in estimation of implied forward interest rates (see Ólafsson, 2005).

In *Monetary Bulletin* 2006/2 the baseline forecast was prepared in the same way as the previous alternative scenario using market analysts' forecasts and an exchange rate forecast calculated from the macroeconomic model. By comparison, two alternative scenarios were presented in which the policy rate path was respectively left unchanged

Table 3. Assumptions for underlying policy rate path and exchange rate in Central Bank of Iceland forecasts under inflation targeting

MB2001/1-MB2004/3	Unchanged policy rate and unchanged exchange rate across the horizon from the day of forecast (first own macroeconomic forecast in MB2002/4)
MB2004/4-MB2005/2	Baseline forecast: Unchanged policy rate and exchange rate Alternative scenarios: Implied forward interest rates with changed and unchanged exchange rate based on uncovered interest rate parities
MB2005/3-MB2005/4	Baseline forecast: Unchanged policy rate and exchange rate Alternative scenarios: Implied forward interest rates and market analysts' forecast for the policy rate path, with changed and unchanged exchange rate based on uncovered interest rate parities
MB2006/1	Baseline forecast: Unchanged policy rate and exchange rate Alternative scenarios: Implied forward interest rates and market analysts' forecast for the policy rate path, with changed exchange rate based on uncovered interest rate parities. A policy rate path was also presented based on an endogenous monetary rule ensuring that the target is attained by the end of the forecast horizon
MB2006/2-MB2006/3	Baseline forecast: Implied forward interest rates and market analysts' forecast for the policy rate path, exchange rate forecast based on a new quarterly macroeconomic model (QMM). Alternative scenarios: 1) Unchanged policy rate, with QMM exchange rate forecast, 2) Policy rate path ensuring that the target is attained by the end of the forecast horizon (MB2006/3 gives particular priority to making it "look good")

Source: Central Bank of Iceland.

or set to bring inflation as close as possible to target by the end of the forecast horizon. In both scenarios the exchange rate is calculated using the QMM given the respective interest rate assumptions.

The drawbacks of forecasts based on an unchanged policy rate and exchange rate have been clearly seen in recent years. These assumptions have proved increasingly unrealistic, the greater the imbalances in the economy and the inflation rate have become.

Table 4. Central Bank comments on market analysts' policy rate forecasts in *Monetary Bulletin*

MB2004/4 Section VIII	<i>"In both scenarios, however, it transpires that the expected interest rate rises that can be inferred from forward interest rates are apparently insufficient to keep inflation on target along the forecast horizon." (p. 41)</i>
MB2005/1 Section VIII	<i>"Implied forward interest rates thus appear excessively optimistic about how soon the downward policy rate cycle can start. To ensure that the target is attained, the policy rate probably needs to remain high past this autumn, especially if the króna begins to weaken substantially. In that case even further rises in interest rates cannot be ruled out." (p. 44)</i>
MB2005/3 Introduction and Section VIII	<p><i>"Tight monetary policy will be maintained for longer than was expected (Introduction headline, p. 3)"</i></p> <p><i>"Analysts and other influential parties appear to assume that the Central Bank will allow inflation to rise far beyond the target and stay there without taking any action. As a result, the Central Bank could be compelled to make an unexpectedly large hike in the policy rate in order to bring inflation expectations back down towards the target. Also, a tight stance probably needs to be maintained for longer than has been expected. Market expectations about the policy rate soon peaking and then beginning to fall again are unrealistic and delay the transmission of monetary policy across the interest rate curve." (p. 5)</i></p> <p><i>"The policy interest-rate path based on market rates is clearly incompatible with the inflation target. Either this path is unrealistic, or the market doubts the Central Bank's commitment to the inflation target. The path could therefore signal that monetary policy lacks credibility." (p. 47)</i></p>
MB2005/4 Section III	<i>"These forecasts are well above those made by the same analysts in the survey published in Monetary Bulletin 2005/3 in September, which were just over 9% one year ahead and 7.5% two years ahead. Contrary to the picture given by implied forward rates, the Central Bank's policy rate hike in September and its policy message in Monetary Bulletin then appear to have had a considerable effect on analysts' expectations about the development of interest rates over a two-year horizon." (p. 15)</i>
MB2006/1 Introduction and Section VIII	<p><i>"On the technical assumption that the policy rate and exchange rate remain unchanged, the probability that the inflation target will be attained within the next two years now appears to be almost zero. Assuming that the policy rate follows financial market analysts' forecasts – which entails that the króna will weaken somewhat further – the prospects are even worse." (p. 3)</i></p> <p><i>"The policy rate will probably need to rise by more than analysts expect." (p. 51)</i></p>
MB2006/3 Section IX	<i>"As discussed above, there are still indications that some rise in the policy rate is needed if the inflation target is to be attained within the next two years. The Central Bank's perspective is therefore quite different from that of certain forecasters who expect a swift reduction in the policy rate early next year, even if this leads to high inflation later. In the Central Bank's view, such a development would be absolutely unacceptable." (p. 55)</i>

Source: Central Bank of Iceland.

Publishing them is even likely to have had a detrimental effect on inflation expectations, because they showed that inflation was not only above target across the entire horizon but also trended upwards later on. Such a forecast is of very limited value. The Central Bank therefore began publishing forecasts based on market expectations at the end of 2004, which gave it the opportunity to comment in more detail on market expectations and attempt to influence them (see Table 4).

In *Monetary Bulletin* in September 2005, the Bank increased the emphasis given to its views on market expectations about policy rate developments by including them in the Introduction section. This approach appears to have been highly effective. The nominal policy rate hike was transmitted in real terms, because analysts' interest rate expectations became aligned with the Bank's declaration. However, the same analysts soon began to doubt whether the Central Bank was prepared to take real action to follow through the message in the September *Monetary Bulletin*. In other words, they did not seem to consider its monetary policy practice completely credible. Such a lack of confidence can carry a high price, by softening the Central Bank's impact on their expectations and thereby the effectiveness of monetary policy. This experience underlines the need for consistency between the Bank's messages and its monetary policy actions. It also reflects the fact that a strong message in *Monetary Bulletin* is a much vaguer way to impact market expectations than publishing a policy rate path forecast. While market agents have to guess at the size of the policy rate increase implied by strong wording, the foreseen hike required by the Bank is much easier to see from a published interest rate forecast.

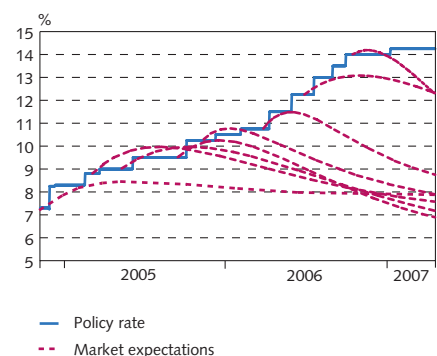
Judging from recent issues of *Monetary Bulletin*, the market agents' view of policy rate developments has been at a tangent from that of the Central Bank. The Central Bank has repeatedly found itself in the position of publishing what it deems an unrealistic baseline forecast, i.e. where inflation is above target across virtually the entire horizon. This has complicated the Bank's efforts to bring market expectations closer into line with its own assessment, impairing its credibility. Another drawback of the arrangement in the latest issues of *Monetary Bulletin* is that the media and market agents do not appear to realise the respective value of each forecast path, which might limit discussion of the Central Bank's forecast.

The policy rate paths underlying Central Bank forecasts since the end of 2004, based on market expectations inferred from implied forward interest rates and survey findings, diverge markedly from the actual outcome (see Chart 6). In the great majority of cases, market agents have expected a lower policy rate a short way along the forecast horizon, whereas it has continued to rise in practice. Naturally, these paths have had a significant impact on the Bank's macroeconomic and inflation forecasts.

Thus a forecast based on a policy rate path that the Bank considers most compatible with the inflation target has unquestionable benefits:

- Market agents receive more information about probable policy rate developments. This is conducive to more efficient pricing in

Chart 6
Policy rate and market expectations in
Monetary Bulletin 2004/4-2006/3¹



1. Market expectations are based only on implied forward rates until *Monetary Bulletin* 2005/3 but after that also on survey results.
Source: Central Bank of Iceland.

the market and a stronger impact by the Central Bank on market expectations, and thereby a more effective monetary policy.

- Inflation would always be brought to target within the forecast horizon. This should anchor inflation expectations, boost confidence in the Bank's monetary policy and facilitate its communication to markets and households.
- The forecast should be optimal in the sense of being based on all information available to the Bank.
- The Bank's forecasts would be easier to evaluate and to present as rationale for monetary policy conduct.

Conclusion

This paper has argued that the Central Bank of Iceland should take the step of using its own policy rate forecast in its baseline forecast and make it public. The Central Bank has already made various changes in its procedures in order to increase monetary policy transparency, and has made efforts to organise its communication of policy objectives and formulation so that households and market agents gain a clearer understanding of its conduct. Publication of a policy rate forecast is the logical next step. Increased communication in this area would also bolster the impact of monetary policy, which could support the Bank in its efforts to unwind current macroeconomic imbalances.

Publication of a policy rate forecast would not impose a straight-jacket on the Bank. It is normal for each forecast to deviate from the previous one when new information comes to hand with each interest rate decision. Central banks that have followed this approach have found that even substantial changes in policy rate forecasts do not cause serious problems. However, there would probably be more grounds for changing the forecasts in Iceland. The point is not to show what the Bank will definitely do, but how it responds to the scenario unfolding in the macroeconomic and inflation forecasts, in order to give market agents an insight into its monetary policy decision-making. The Bank's forecasts are a communications tool that it uses to demonstrate that its monetary policy practice is credible, systematic and transparent. Ingimundur Fridriksson, Governor of the Central Bank of Iceland, addressed this matter in a recent speech: "What is crucial for the Central Bank is the credibility of its forecasting and the ability to exert the impact on expectations that it deems necessary." (Ingimundur Fridriksson, 2007, p. 7). This paper has argued that, as a tool for communicating with households and markets, the Bank's forecasts serve their purpose best if the underlying policy rate assumptions are as consistent as possible with the Bank's views.

However, publication of policy rate forecasts undeniably constricts monetary policy practice insofar as the Bank must put forward convincing arguments for deviating from a path it has previously announced. Publication of policy rate forecasts requires the Central Bank to establish a context and be consistent in its decision-making and all external communications. Such an approach restricts the Board of Governors' hand to some extent, but precisely for this reason it is conducive to enhancing the Bank's credibility and the impact of its monetary policy measures.

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