

# The Science and Art of Monetary Policy Communication

## *Editorial Introduction*

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### *Abstract*

*Central banks put much more emphasis on monetary policy communication now than they did only about a decade ago. This introduction to the special issue on monetary policy communication provides an overview of the articles in the journal and puts them into perspective. It notes that despite the trend towards “scientization” of monetary policy, good communication is still very much a combination of art and science.*

## **1. Motivation: Why Central Bank Communication?**

You are reading a single-topic issue of the *Czech Journal of Economics and Finance* focusing on monetary policy communication. My co-editors and I have two reasons for putting together this issue.

The first reason is the remarkable growth in emphasis on central bank communication in monetary policy literature and central bank practice. It is an issue that clearly falls within our journal's area of interest, and it has not yet been covered in depth in our journal.<sup>1</sup> We therefore think that monetary policy communication deserves a more thorough coverage.

The second, and more immediate, reason is the Czech National Bank's (CNB's) initiative to strengthen its monetary policy communication by starting to publish in 2008 the forecast-consistent interest rate path as a fan chart, and the votes cast by the board members on interest rate changes by name. Moreover, a number of other central banks, including the Bank of England and the Federal Reserve, have been recently going through major reviews of (and changes in) their communication practices. This makes the current issue of the journal very timely, and we have tried to reflect that in the selection of the articles (e.g., one of the articles looks specifically at the issue of forecast-consistent interest rate path in the Czech context, and another one discusses the related experience from Sweden).

To keep this issue of the journal focused, we concentrate on central banks' monetary policy communication, not central bank communication in general. That means, for example, that we are leaving out the related, yet different, issue of communication on financial stability (for a survey of central banks' financial stability reports, see (Čihák, 2006)), or the interesting issues relating to central bank communication on fiscal policy or structural policies. Also, the articles presented here concentrate on

\* The views expressed in this article are those of the author and do not necessarily represent those of the IMF or IMF policy.

<sup>1</sup> Our journal has published several articles that touched on the subject. For example, in the 7-8/2005 issue (which focused on inflation targeting, expectations, and uncertainty in monetary policy), Navrátil and Kotlán (2005) analyzed the ability of markets to predict outcomes of the CNB's policy decisions.

communication from the central bank to public, rather than communication from the public (including financial market participants) back to the central bank.

## **2. The Movement Towards More Transparency**

Attitudes toward monetary policy transparency have changed dramatically in recent decade or so, and central banks around the world have opened up substantially. The traditional view of central banking was that of an esoteric art that is best kept secret (Greider, 1987). Brunner (1980) observed that “the esoteric nature of the art is [...] revealed by an inherent impossibility to articulate its insights in explicit and intelligible words and sentences”. While this may have been a caricature, it is clear that over the past ten to fifteen years, central banks have become much more transparent about what they do and how they think. Today, there is a “general consensus among central bankers that transparency is not only an obligation for a public entity, but also a real benefit to the institution and its policies”. (Issing, 2005)

Two main factors contributed to this development towards greater transparency. First, many central banks have become more independent. To limit the potential for a “democratic deficit”, the higher independence with respect to the political system has typically been accompanied by increased accountability to the public, which required central banks to become more open and clear in their communication about what they are trying to achieve and how.

Second, monetary policy literature and central bank practice has started to recognize greater transparency as a way to improve efficiency of monetary policy. The reasoning is that if monetary policy is transparent, it is easier for economic agents to realize that the policy decisions made are really aimed at achieving low and stable inflation. This higher credibility allows the central bank to better influence expectations, which in turn makes monetary policy more efficient.

Several authors have suggested that the shift towards higher transparency is closely connected to another global trend in central banking, which is the adoption of inflation targeting. For example, former Swedish central bank governor Lars Heikensten argued that inflation targeting is being conducted “almost by necessity with a high degree of openness and clarity” (Heikensten, 2005). It is true that inflation targeters tend to have higher scores in traditional measures of monetary policy transparency, even though inflation targeting is certainly not a guarantee of superior communication performance. In any case, all the three central banks discussed in this issue of our journal are inflation targeters, and all of them score highly on most measures of transparency.

Some authors have also suggested that more extensive external communication is related to collective, rather than individual, decision-making. For example, Marcusson (2006) observes that “committee decision-making [...] helps to open up the doors of the inner circles of the secret houses for professional central bank watchers in the financial media, stock exchanges and private banks”. However, the relationship between collective decision making and monetary policy transparency is less than uniform. It is true that almost all central banks today use committees to decide on monetary policy, but the remaining central banks with a single decision maker include the Reserve Bank of New Zealand, which scores very highly on central bank transparency, and the Bank of Israel, which has for example started publishing inflation forecasts and policy rate forecasts.

Transparency is certainly desirable for reasons of accountability, but it is not the sole means of enhancing central bank credibility. For this reason, the movement towards greater transparency has been far from uniform across central banks. Central banks that have a long history of policy effectiveness and credibility do not necessarily need to talk as much as central banks with a low level of perceived credibility. That is why central banks with poor credibility ‘talk’, while those with a high ‘stock’ of credibility can afford to ‘whisper’ (Eijffinger et al., 2000).

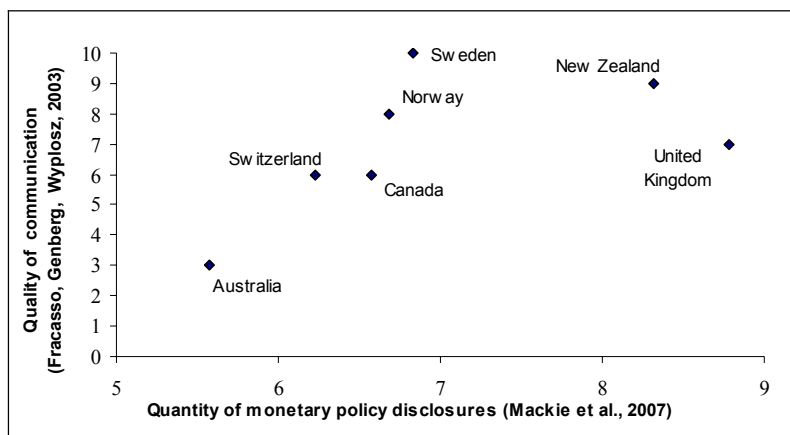
There is an ongoing debate in the literature on the right degree of transparency of monetary policy. For example, Buitier (1999) argued in favor of explicit forecast publication, on grounds of accountability, so that the public can evaluate the quality of monetary policy. Issing (1999) on the other hand, argued that to the extent that actual policy decisions are not entirely based on these predictions, their publication may be misleading. Similar differences of view emerge in relation to the publication of the minutes of meetings or whether decisions should be accompanied by press conferences. Some transparency is clearly better than no transparency, but at some point, increasing transparency reaches the point of decreasing marginal returns. For example, a hypothetical central bank that would make publicly available all internal documents and communications by its staff would be very transparent in terms of the quantity of information provided, but the clarity of the communication would suffer, as it would be difficult for the public to extract the signal from the noise. At the same time, publishing such an amount of information is likely to be costly, not only in terms of publication costs, but also in terms of decreased frankness of the staff assessment. There is therefore likely to be an optimal degree of transparency that balances openness with clarity and frankness.

Theoretical literature provides no clear guidance on what is the “optimal degree of transparency”, but the merits of transparency can be examined through empirical validation. Empirical analysis was enabled by the recent development of explicit indices for central bank transparency. Arguably the most comprehensive attempt is the Code of Good Practices on Transparency in Monetary and Financial Policies, issued by the International Monetary Fund (IMF) in 1999, and assessed mostly as part of the IMF-World Bank Financial Sector Assessment Program.<sup>2</sup> In the academic literature, a number of transparency assessments have been carried out, including by Eijffinger and Geraats (2006) and Siklos (2002).

An important practical limitation of attempts to measure transparency is that they focus on the quantity of disclosures, and do not well address the issue of quality, which is difficult to assess objectively, but it is very important for the overall efficiency of the central bank communication. To illustrate this point, *Figure 1* juxtaposes two indices from two studies that I find intriguing. The vertical axis shows the “quality” of central bank communication, which attempts to take into account qualitative factors such as clarity of the inflation reports. It is based on a study by Fracasso, Genberg, and Wyplosz (2003), who surveyed inflation reports issued by 19 inflation-targeting central banks. Their study assessed the quality of the inflation reports by using the following criteria: clarity, consistency, and coverage of key issues (policy objectives, decision-making, analytical framework, input data, presenta-

<sup>2</sup> Basic information on the code is available at <http://www.imf.org/external/np/mae/mft/index.htm>. The IMF webpage also contains assessments of compliance with the code for a number of countries.

FIGURE 1 Monetary Policy Communication: Quantity vs. Quality



Source: (Fracasso, Genberg, Wyplosz, 2003), (Mackie et al., 2007), and author's calculations

tion of forecasts, evaluation of past forecasts and policy). The study found a positive link between report quality and policy predictability.<sup>3</sup> The horizontal axis shows the “quantity” of central bank communication. There are many studies that do this kind of analysis. *Figure 1* uses recent data from (Mackie et al., 2007), but the picture does not change much if another, similar study is used. The chart shows that the correlation is far from perfect ( $R^2$  in a basic OLS regression is 0.30), and that at some point increased quantity of communication may even be associated with relatively lower quality.

The low correlation between quantity and quality of communication might explain some of the findings in the literature. For example, Mackie et al. (2007) measure whether the increased quantity of publicly available information (measured through the index captured on the horizontal axis of *Figure 1*) results in improved outcomes (measured by the forecast error between interest rate expectations and actual interest rates) in a number of advanced economies. They find that financial markets still misjudge where interest rates are going, but this is primarily due to surprises in how economies behave or to unexpected shocks, rather than due to a misunderstanding of central bank reaction functions or to a lack of knowledge of central bank forecasts. They conclude that further improvements in central bank communication are unlikely to lead to significant changes in financial market behavior. In other words, central bank communication “has reached the point of sharply diminishing marginal returns”. However, this conclusion is based on an index that captures *quantity* of central bank disclosures. It is quite possible that significant improvements in outcomes can be achieved through increased *quality* of central bank communication, i.e. in particular through communication that is more clear or more frank.

### 3. A Taxonomy of Monetary Policy Communication

Based on my reading of the literature, I see four main topics in the area of monetary policy communication. They relate to communicating the central bank's: (i) goals;

<sup>3</sup> Čihák (2006) adapted the Fracasso, Genberg, and Wyplosz (2003) framework to an assessment of central bank communication in the area of financial stability.

(ii) strategy; (iii) assessment of the past; and (iv) view of the future. The rest of this section provides a brief discussion of these four groups of topics.

There was a very active debate on *communicating monetary policy goals* in the 1980s and early 1990s, but this debate has largely died down in recent years (Blinder, 2006). This reflects mostly the increased independence in many central banks during the 1990s, and the fact that the primary objectives of central banks have converged in recent years on the single objective of price stability. There has been much less convergence in other aspects of central bank communication. Although all central banks communicate much more now than they used to, they differ substantially in how (and about what) they communicate.

As regards the *communication of monetary policy strategy*, the key question is how much information to provide about the decision-making process. This debate is about providing details of the shape of the reaction function: how central banks will respond to developments in the macro landscape in order to meet their objectives. This relates to how much central banks explain the thinking behind their decisions.

*Communicating the central bank's assessment of the past* is an overlooked area in discussions on communication; however, it is an important one. It relates to communicating past developments and policies, and indicating what lessons can be (and have been) learned by the central bank from past policy performance. This ex-post analysis helps to improve the forecast accuracy, can be useful for the central bank's staff and board members in understanding the abilities and limitations of the forecasts used in the bank's decision-making, and, if well communicated, can enhance monetary policy transparency and credibility.

The last main group of topics concerns *communicating the central bank's view of the future*. This relates to central bank forecasts and the extent to which central banks give explicit guidance. Central bank forecasts can be thought of as projections of how the inputs into reaction functions are likely to evolve. Explicit guidance has tended to involve the use of particular language or commitments but more recently some central banks have started to provide forecasts for the policy rate stretching over the entire forecast horizon.

When one analyzes deeply the topics identified above, the various challenges ultimately boil down to the *communication of uncertainty in monetary policy*. If we for a moment imagine an independent central bank operating in an economy with no uncertainty, such a central bank would only have to announce clear monetary policy goals. Setting the policy instruments would be a purely mechanical exercise in making sure that the variable of interest equals the goal. There would be little further need for communication, as there would be no uncertainty whether the goal will be achieved or not. The real need for communication arises when uncertainty comes into play.

The noise in central bank communication has several components. First of all, the economic data observed by the central bank are noisy. Forecasting some key variables, such as the exchange rate, is extremely difficult. The central bank uses a model to extract the signal from the noise, and there is substantial uncertainty about what is the right model (e.g., what combination of aggregate and disaggregated data should one use, and what frequency of the data, what should be structure of the model, to what extent can one rely on purely statistical methods, to what extent to use calibration, and so on). There are also substantial uncertainties about the transmission mechanism

of the monetary policy. Finally, noise may be introduced as part of the communication itself, as central bank representatives do not communicate clearly or send conflicting signals.

The issue of communicating uncertainty permeates all the four areas mentioned above. As regards the communication of goals, should targets be defined as a point or an interval? As regards communication of monetary policy strategy, how frank should the central bank be about the model uncertainty? How much flexibility should it leave in clarifying its policy horizon? As regards forecast, how should the central bank take into account the model uncertainty? And finally, when assessing past performance, how clearly can the central bank distinguish the various sources of missing the target?

#### **4. Outline of This Monothematic Issue**

The common theme of the articles in this issue of our journal is monetary policy communication in its various forms. All of the articles point to the importance of high-quality communication for effectiveness of monetary policy. The diversity of the articles illustrates the breadth of the topic. In terms of the taxonomy introduced in the previous session, the articles focus on communicating the monetary policy strategy, the central bank's assessment of the past; and its view of the future. They focus less on monetary policy goals, an issue that has largely been settled, at least in the three countries that are represented in the articles.

The first two articles cover two central banks that score high in terms of transparency, and that have been at the forefront in monetary policy communication in the last decade: the Swedish central bank (Riksbank), and the Reserve Bank of New Zealand (RBNZ).

In the first article, *Mikael Apel and Anders Vredin* survey the Riksbank's experience with monetary policy communication. They describe the bank's communication experience as regards (i) the role of real stability in monetary policy and (ii) the interest rate assumption. The authors conclude that even though a high degree of transparency is desirable, it can sometimes be difficult to combine its two key components – openness and clarity. In particular, they observe that a higher degree of openness also makes the central bank's message somewhat more complex, and possibly less clear. Another conclusion is that how open the central bank chooses to be matters not only for its ability to affect expectations on the future interest rate, but also for the analysis it conducts and thus its policy.

In the second article, *Aaron Drew and Özer Karagedikli* provide an interesting study of monetary policy communication at the RBNZ. Like the Riksbank, the RBNZ is regarded as one of the most transparent central banks in the world. After providing some institutional details of how the RBNZ communicates its monetary policy decisions to financial markets, the authors conduct an events analysis to test whether there are any transparency benefits in the pricing of New Zealand's yield curve. The authors' results suggest that short-term interest rates tend to react appropriately to the data flow, while longer term interest rates are not unduly influenced. The authors also show that market reactions tend to be in line with the RBNZ's inflation target objective.

These first two articles are followed by three pieces focusing on the Czech National Bank experience. While the articles use Czech data, the methodology and

the findings may be relevant for other countries. Like a number of other central banks, the CNB switched to inflation targeting in the 1990s. It has a relatively respectable track record in terms of its transparency, policy actions, and the inflation outturns.

In the third article, *Kateřina Šmídková and Aleř Bulíř* introduce a novel approach of measuring clarity of monetary policy communication. They suggest to analyze alternative measures of forecast risk that the public can obtain from central bank communication, and they argue that it is much easier for the public to understand monetary policy if all communications send the same message, pointing to the same type of forecast risk. They illustrate their methodology by analyzing clarity of monetary policy communication by comparing the signals from the various communication at the CNB, namely inflation targets, inflation forecasts, verbal assessments of the inflation risks contained in quarterly inflation reports, and the voting within the CNB Board. They find that the CNB's main communication tools provided a clear message in about three out of every four observations in their 2001–2005 sample.

In the fourth piece, *Jan Filáček, Luboš Komárek, and Petr Král* discuss the reasons why central bankers should disclose interest rate forecasts. The article responds to the CNB's announcement that it will start publishing a fan chart with the "forecast-consistent interest rate path" that has so far been described only verbally, and not numerically. The authors review arguments in favor of and against this decision and illustrate the debate using the experience of central banks that publish or used to publish interest rates forecasts. They then proceed to evaluate the CNB's capability to efficiently use publishing of its interest rate forecasts to further increase its transparency, accountability and credibility. Their assessment is largely positive. One of their key conclusions is that after the CNB starts publishing interest rate forecasts in 2008, market expectations will probably move closer to the CNB's view, which should in turn enhance the accountability and credibility of the CNB's forecasts and improve the efficiency of its monetary policy conduct overall.

In the fifth, and final, piece, *Jan Filáček* focuses on the ex-post assessment of inflation target fulfillment, which should play an important role in the inflation targeting framework. Filáček proposes a methodological framework for inflation target fulfillment assessment based on partial simulations, as applied in the Czech National Bank. He demonstrates the applicability of this framework by analyzing performance of the CNB in 2002–06. He concludes that a large part of the deviations from inflation targets in this period might be assigned to a bias in variables describing external development. An interesting topic for follow-up work is the governance of the ex-post assessments, an issue alluded to, but not analyzed, by Filáček.

## 5. Bottom Line

How important is good communication for monetary policymaking? Some recent papers suggest that central bank communication has reached the point of sharply diminishing marginal returns (e.g., (Mackie et al., 2007)). However, most of the literature seems to be in an agreement that good monetary policy communication is still very relevant. For example, Blinder (2006) sees the degree of central bank transparency as one of the main policy issues in monetary policy today. The articles in this issue underline the importance of good monetary policy communication.

Drawing a common conclusion from all the five contributions is no mean feat given the diversity of topics. Nonetheless, if there is a common thread that connects

the articles, it is perhaps an exploration of the “scientific” elements in modern monetary policy communication, such as the publication of model-based forecasts and the model-based analysis of factors explaining past deviations from the policy target.

Monetary policy communication has traditionally been more art than science. The recent developments in central banking are changing this order in favor of more science. It is a reflection of a broader trend towards “scientization” of central banking, i.e. towards increasing the degree to which the practice of monetary policy reflects the application of a core set of “scientific” principles (Marcussen, 2006); (Mishkin, 2007). Examples of this trend in the area of monetary policy communication include the publication of the underlying monetary policy models or the publication of fan charts of inflation, policy rates, and other variables.

These are very laudable developments, assuming that the recipients of this sophisticated communication are aware of the limitations of the underlying models and are able to interpret them correctly. Not all the uncertainties in the economy and in the transmission mechanism of the monetary policy can be clearly communicated through fan charts and other model-based devices, even though these are very helpful tools. For these reasons, good communication in monetary policy is still very much a combination of art and science.

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