

Commentary: Central Bank Communication and Policy Effectiveness

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Introduction

I am honored to have been included in this celebration of the Greenspan era. The subject of this session—monetary policy communications—is particularly relevant, since one of the most significant developments of the Greenspan era has been the evolution toward greater transparency and greater attention to communications as an integral part of U.S. monetary policy. As we debate whether central banks should publish their forecasts of future policy rates, it is easy to forget that it was only 11 years ago, in 1994, under Chairman Greenspan's leadership, that the Fed began publicly disclosing its current policy actions. Indeed, Chairman Greenspan has transformed the Federal Reserve into an institution that embraces the benefits of transparency. At a more individual level, he also has set the standard of excellence for public speeches. His gift is the ability to articulate deep insight on the economic issues of our time in a way that is both clear and accessible, yet recognizes the limits of our knowledge.

I also am very pleased to be discussing this paper by professor Woodford. It provides a comprehensive and analytic tour of the literature and practice of central banking. In doing so, it tackles head-on the key communication issues monetary policy makers are grappling

with. And it delivers the clarity of thought and compelling logic that we have come to expect from his work.

My comments proceed in three parts. I begin by summarizing what I perceive as the essence of professor Woodford's analysis. Next, I comment on the empirical evidence regarding the value of transparency and communications. Finally, I offer some personal views on the kinds of information that are most important for central banks to communicate.

Woodford in summary: If monetary policy was like driving a car...

To decide what central banks should communicate, it is important to understand, first, why transparency is beneficial and, second, what communication requirements this imposes. A particular strength of professor Woodford's analysis is that he is very clear on both points. So, before commenting on his paper, let me try and summarize the essence of his analysis using a well-worn metaphor.

Monetary policy often has been compared to driving a car. The central bank must control the economy by using the accelerator and the brake—interest rates—to maintain a safe speed. Effective driving, like effective monetary policy, requires the driver to be forward-looking and to anticipate the ups and downs and bends in the road ahead. Failure to do so can lead to a crash or, at least, a sharp slowing.

There are, of course, some critical differences between setting monetary policy and driving a car, and Woodford reminds us of an important one: the role of expectations. The car's performance does not depend on its own expectations about where it is heading. But suppose it did. This, Woodford points out, creates the almost magical opportunity for a better ride.

Woodford explains that transparency can make monetary policy more effective in two ways. First, better information about the central bank's actions and intentions increases the degree to which central bank decisions about the policy interest rate can affect expectations of

future interest rates and, hence, other asset prices, and ultimately, spending decisions and inflation. This is like better-gripping tires that provide better, more consistent traction. Second, transparency provides a mechanism to resolve the time-inconsistency problem, and in doing so, it helps to anchor long-run inflation expectations. This is like a better suspension that keeps the car more stable. It is as if telling your car that you are going to be a good driver and describing how you will do this improves your traction and upgrades your suspension. As a result, you consistently can achieve better travel times—low and stable inflation—while also enjoying a smoother ride—less variability in output. Moreover, both these objectives can be achieved with less fuel—lower volatility in the policy interest rate. But there is a catch. The driver has to follow through on her plan. Although she can make allowances for changes in road conditions, if she indicated she would do so when she described how she was going to drive, she cannot change her behavior and suddenly decide to slow down and take in the scenery or stop for a coffee.

So far, there is no need for ongoing communication. Sticking with the car metaphor, the driver simply needs to describe upfront what she plans to do in every conceivable driving situation—her complete state-contingent rule—and then follow it. But Woodford offers three reasons why, in practice, transparency requires ongoing communication. First, the complete state-contingent rule is likely to be too complex to be described in detail in a one-time statement.¹ But if the bank regularly communicates its analysis and the reasons for its policy decisions, the private sector will be better able to predict how the central bank will react in a wide range of situations. Second, communicating its intentions is likely to help the central bank remember them and remain focused on them—that is, avoid being distracted by a desire to enjoy the scenery or pursue other objectives. Third, communication is important for verifiability. Because there are considerable lags between changes in the policy rate and the effects on spending and inflation, verifying that the central bank is indeed making good-faith efforts to achieve its stated objectives requires communication about the central bank's analysis and the rationale for policy decisions.²

Once you accept the argument that monetary policy can be more effective through transparent communication of the analysis and the rationale for its decisions, the logic eloquently laid out by Woodford leads inexorably to the conclusion that the central bank should communicate its complete outlook, including the outlook for future policy interest rates. Given that monetary policy needs to be forward-looking, the central bank's analysis and decisions must embody a view of the future. So, communicating its analysis and the rationale for its decisions involves describing its view of the future: its outlook. And clearly, for its outlook to be understood and evaluated, the central bank must reveal the policy path that this outlook is conditioned on.

Can there be any other conclusion? Considering this question suggests another: What is the empirical evidence that better communication actually improves the effectiveness of monetary policy?

Does the quality of communication really matter?

Whether or not good communication matters is ultimately an empirical question. The challenge is to identify the independent benefits of better communication from the benefits of better monetary policy narrowly defined (by which I mean simply the skillful use of the accelerator and brake to achieve objectives). The complicating factor is the clear interdependence of the two. Good communication may enhance good policy, but it is unlikely to compensate for poor policy.

There would seem to be two possible approaches to identification. The first is to examine the experience of a country where the implementation of better policy narrowly defined preceded significant improvements in communication. Here, I will draw on the Canadian experience and examine whether the more transparent implementation and communication of monetary policy increased the degree to which policy decisions affected expectations about future interest rates. Does better communication improve traction?

The second approach to identification is to use cross-country variation. While central banks around the world have converged on price stability as the appropriate goal of monetary policy and have moved toward increased transparency, differences remain in the types and the specificity of the information provided. Perhaps the most obvious difference, and one that has received considerable attention, is that some countries, such as Canada and the United Kingdom, have adopted an explicit inflation target, while others, such as the United States, have made a clear commitment to low inflation without attaching a specific numerical value to the objective. Here, I will review the cross-country evidence on whether announcing a numerical objective is helpful in anchoring expectations about future inflation. Does communicating a numerical target provide better suspension?

Better traction? Some Canadian evidence

In Canada, improvements in monetary policy in the form of greater clarity about objectives preceded significant improvements in the transparent implementation and communication of monetary policy. This provides the opportunity to separately identify the impact of transparency and improved communication in the implementation of monetary policy.

In his 1988 Hanson Lecture, Gov. John Crow established price stability as the goal of monetary policy in Canada, and in February 1991, the Bank of Canada and the Government of Canada announced jointly agreed-upon inflation control targets. The initial targets called for a gradual reduction in inflation to the 2 percent midpoint of a 1 to 3 percent inflation control range by the end of 1995, and, since then, the target and control range have remained unchanged.³

Despite the transparency of the 1991 announcement, other key aspects of the implementation and communication of monetary policy remained less than transparent in the first years with the inflation target. In the early 1990s in Canada (as in the United States), decisions on the policy interest rate were not even disclosed,

let alone explained; adjustments were not in fixed increments (for example, changes of 25 basis points); and changes in the policy rate were achieved through a variety of interventions in the market for short-term liquidity that made them difficult to identify. Moreover, in Canada, policy decisions were not taken at fixed meeting dates, and Bank commentary on the Canadian economy and on monetary policy was limited.

Since then, the Bank of Canada, like many other central banks, has gradually moved toward greater transparency in policy implementation and communication (see Jenkins, 2001; Freedman, 2002). Starting in the mid-1990s, there were a number of changes that made the setting of the policy interest rate increasingly transparent. An operating band was introduced for the overnight interest rate (1994); the Bank began to issue a press release whenever there was a change in the band (1996); the target overnight rate (the analog to the target fed funds rate) was set as the midpoint of the band (1999); and the Bank moved to a system of eight pre-announced policy decision dates (2000), consistent with the practice of fixed decision dates in most major countries. Also starting in the mid-1990s, a number of initiatives were undertaken to enhance the understanding and communication of monetary policy. The centerpiece was the semi-annual *Monetary Policy Report*, introduced in 1995, which was subsequently augmented with semi-annual *Updates*, beginning in 2000.⁴ While each of these steps was small, put together they added up to a sea of change in transparency from the mid-1990s through to the introduction of fixed decision dates in the autumn of 2000. And, interestingly, the experience provides remarkably clear empirical evidence that communication really matters.

Using daily interest rate data from 1995 to 1999, Gravelle and Moessner (2002) examine the reaction of the yield curves in Canada and the United States to macroeconomic announcements in both countries, as well as to changes in the policy rates of both countries. Consistent with previous studies, they found that many U.S. macroeconomic announcements have significant effects on U.S. bond yields. In sharp contrast, Canadian bond yields showed almost no reaction to

Canadian macroeconomic news but were significantly affected by U.S. news. This suggests that financial market participants had a poor understanding of the Bank of Canada's reaction function (which naturally focused ultimately on domestic conditions). In addition, Gravelle and Moessner found that the Canadian yield curve reacted much more strongly to Canadian policy decisions than did the U.S. curve to changes in the fed funds rate. This suggests that the views of financial markets and the Federal Reserve were more closely aligned than those of financial markets and the Bank of Canada. Evidently, the predictability of monetary policy in Canada in the second half of the 1990s had not achieved the standard of the Greenspan era in the United States.

In a follow-up study, Parent (2002) updates the analysis of Gravelle and Moessner for the two-year period starting in late 2000 and coinciding with the move to fixed decision dates for monetary policy. The move to fixed dates is particularly noteworthy since it integrated many of the improvements made over the previous five years into a more systematic and coherent communications strategy (see Parent, Munro, and Parker, 2003). Parent's results suggest a marked change in market behavior. Over the 2000-2002 sample, Canadian interest rates were significantly affected by Canadian macroeconomic news, the sensitivity to U.S. news declined, and the impact of changes in the policy rate on the yield curve was much smaller.

Similar results have been obtained in separate studies by Johnson (2003) and Andreou (2005). Johnson examines the ability of short-term asset yields to predict changes in the policy interest rate. He finds that in samples ending prior to the move to fixed policy dates, short-term yields have little predictive power for the policy rate, suggesting that financial markets were often surprised by policy actions. But following the introduction of fixed dates, the predictive content of short-term yields improves significantly. Andreou (2005) looks at the effects of "surprise" policy actions across the entire Canadian yield curve and finds that the impact on longer-term interest rates of a surprise action by the Bank has diminished since the

introduction of fixed policy dates. This suggests that policy actions signal only the timing of interest rate changes necessary to achieve the inflation target and do not signal changes in the longer-term policy goal. The clear conclusion is that the accumulation of improvements in transparency and communication up to 2000 significantly improved the ability of the Bank of Canada to influence future interest rates consistent with its intentions and, hence, to gain traction.

Better suspension? Some cross-country evidence

Gaining traction is helpful, but potentially much larger benefits can be achieved if improved communication can better anchor long-run inflation expectations—in other words, provide better suspension. A key communication question in this regard is whether there is an additional benefit to a numerical inflation target beyond the clear benefits of pursuing a low-inflation policy.

Many studies have examined this question. It is fair to say that the majority have found few statistically significant benefits of an explicit inflation target, either in terms of the output costs of disinflation (DeBelle, 1997; Bernanke, Laubach, Mishkin, and Posen, 1999); short-run inflation expectations (Johnson, 2002, 2003); inflation, output, and interest rate volatilities (Norman and von Hagen, 2002); or the inflationary consequences of supply shocks or the sensitivity of expectations to realized inflation (Ball and Sheridan, 2003). At the same time, there is some newer evidence that a numerical inflation objective in fact may be helpful in anchoring medium- to long-run inflation expectations.

First, there is some evidence that a numerical inflation target reduces the persistence of inflation by weakening the link between realized and expected inflation. In particular, several studies have found that inflation persistence has fallen in some countries with an explicit inflation objective (for example, Siklos, 1999, and Kuttner and Posen, 2001). But more significantly, in a very interesting recent paper, Levin, Natalucci, and Piger (2004) find that past inflation has had less impact on long-run

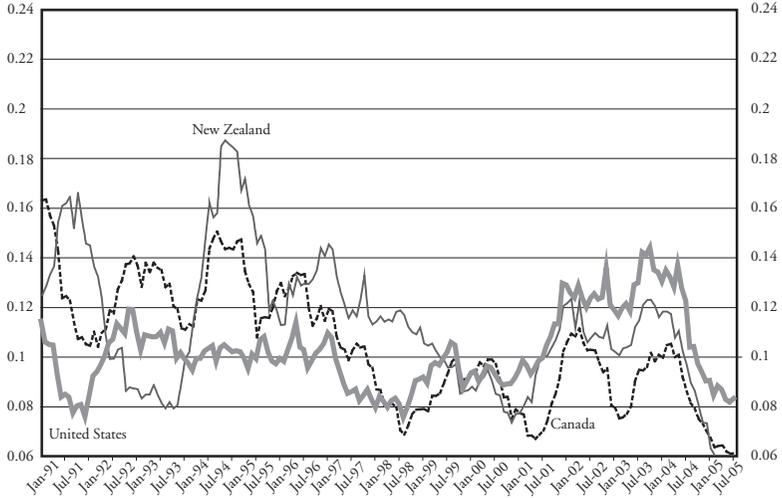
expectations for inflation in countries with an explicit inflation objective. In particular, they find that, in a sample of seven industrialized countries without an explicit inflation objective, the consensus private-sector inflation forecasts at all horizons are significantly correlated with a three-year moving average of lagged inflation. In contrast, the comparable correlations for a sample of five inflation-targeting countries are similar at short horizons but virtually absent at long horizons, suggesting that an explicit inflation target eliminates the link between realized inflation and long-run inflation expectations. Consistent with these results, they also find significant evidence that inflation is less persistent in inflation-targeting countries compared with non-targeters.

Second, there is also some evidence from financial markets that a numerical target may be helpful in anchoring long-run inflation expectations. This is suggested by the observation that realized volatilities of the yields on longer-term government bonds have declined considerably more in a sample of inflation-targeting countries relative to the United States. As shown in Charts 1 and 2, realized volatilities in four inflation targeters—New Zealand, Canada, the United Kingdom, and Sweden—were typically above those in the United States, but by the end of the 1990s, they had converged to U.S. levels. Since then, volatility has increased more in the United States than in the inflation targeters, so volatility actually has been lower in the targeting countries. While there are certainly other interpretations, this is at least consistent with the view that inflation expectations are becoming better anchored in inflation-targeting regimes relative to the United States. Indeed, just the fact that the inflation targeters would achieve volatilities as low as those in the United States is impressive, given that the U.S. economy is larger and more closed, and that the U.S. bond market is the biggest and deepest in the world.

While all this evidence is by no means definitive, the clear implication is that communication matters. This leads to another question.

Chart 1

Monthly Standard Deviation of Daily 10-Year Benchmark Bond Yields

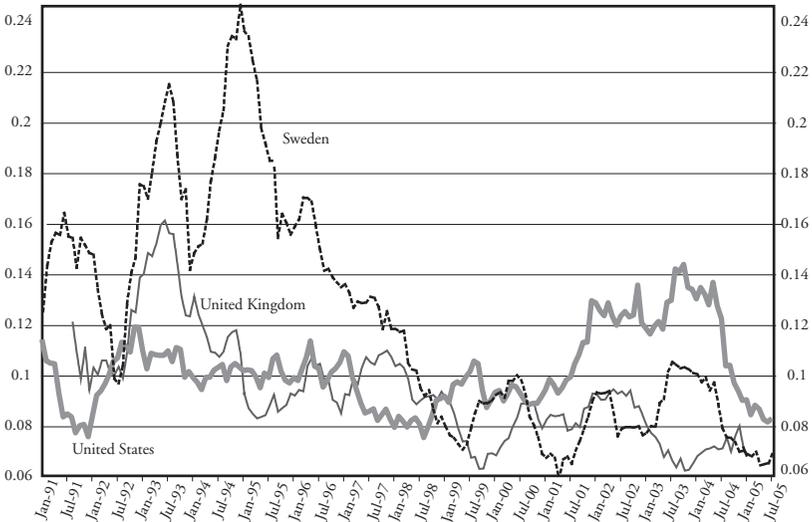


Source: BIS and author's calculation

Lines are smoothed using a 12-month moving average.

Chart 2

Monthly Standard Deviation of Daily 10-Year Benchmark Bond Yields



Source: BIS and author's calculation

Lines are smoothed using a 12-month moving average.

What is most important to communicate?

Following on the theoretical reasons why effective communication can increase the effectiveness of monetary policy, Woodford articulates a clear view of what information a central bank should communicate. This includes its current policy decisions and the reasons for the decision, its assessment of economic conditions and its economic outlook, the general strategy that guides the central bank's decisions, and its outlook for future policy interest rates. I largely agree. Moreover, I agree with Woodford that models for policy advice should include a reaction function or policy rule for interest rates that is consistent with achieving the central bank's objectives. Projections based on policy rules that do not achieve the central bank's objectives are less useful for internal deliberations and, hence, probably less useful for external agents too.

From objectives to instruments—the “natural order”

In an effort to provide some value added and perhaps highlight where views may differ the most, let me offer my perspective on where a central bank should place the greatest emphasis in its communications and provide the most specific information. By extension, I also will comment on where a central bank should be more cautious.

There is a natural order to communicating monetary policy, and it roughly follows the order on Woodford's list. To put it in my own words, this order starts with objectives, then moves to the general strategy used to achieve those objectives, the central bank's assessment of how well it is achieving them, its outlook for the variables for which it has objectives, and finally its outlook for its policy instrument.

My suggestion is that the degree of emphasis and detail in communication should follow this same natural order. Thus, for a central bank with the objective of price stability, considerable emphasis should be placed on the inflation objective, and an explicit target should be

provided to make this commitment clearer and more concrete. At the next level down, the central bank should explain its assessment of inflationary pressures, including its view of the output gap and its outlook for future inflation. Finally, at the bottom of the natural order is the outlook for future policy rates. The implication is that this should receive relatively less emphasis and that the information provided should be less detailed. Thus, it may be helpful for the central bank to make broad statements about the implications of its economic outlook for monetary policy going forward. But it will not be helpful to publish its forecast for future policy rates, as has been advocated by Lars Svensson (2005), or to fine-tune expectations for future policy rates, as Woodford suggests.

Good communication should enhance the public's and the market's understanding of the objectives and the behavior of the central bank, while encouraging feedback from markets on the consistency of the central bank's objectives and its expected behavior. As a guide to communication priorities, the "natural order" is designed to support the goal of good communication. It does this in several ways.

Puts the focus appropriately on the medium to long run

Of the two reasons Woodford offers for how communication can enhance the effectiveness of monetary policy, I would argue that the more important one is the anchoring of medium- to long-run inflation expectations. Centering communication on the inflation target provides the appropriate medium- to long-run focus for monetary policy and continually reinforces the commitment to this objective. This helps to anchor inflation expectations, which are the key element in shaping the behavior of economic agents consistent with the ultimate objective of good economic performance.

Minimizes confusion between objectives and instruments

As Woodford suggests, communicating the outlook for policy interest rates may increase the central bank's influence over expectations of future interest rates and asset prices more broadly. There is a risk,

however, that communicating this type of information may cause confusion that will erode the central bank's credibility for low inflation. In particular, the risk is that forecasts of the policy rate get confused for objectives rather than instruments, and in this way, erode confidence that the central bank is staying focused on the objective of price stability.⁵ This risk also applies to other asset prices in the central bank's outlook, such as the exchange rate, housing prices, and equity values. In very open economies, the risk is particularly acute for the exchange rate, precisely because central banks have, at times, become distracted by exchange rate fluctuations. Indeed, a key message for the central bank to deliver is that it does not have a target for the exchange rate; rather, the flexible exchange rate is an integral part of the monetary framework, which affords monetary policy the ability to focus on domestic objectives.

Better two-way communication with financial markets

Uncertainty is much more pervasive than suggested by the additive shocks included in the models considered by Woodford and used for policy analysis and economic projections. In practice, monetary policy makers face a range of uncertainties, including data uncertainty, uncertainty about shock persistence, parameter uncertainty, and model uncertainty (Longworth and Jenkins, 2002). Coping with uncertainty is, therefore, integral to monetary policy formulation. Part of the strategy for coping with this uncertainty is to draw on a wide variety of information sources in coming to decisions, and financial markets are an important source of information.⁶ In particular, financial markets aggregate a wide range of diverse judgments to produce a market-equilibrium view of the future path of policy rates. Provided that the objectives of the central bank are both clear and credible, this view furnishes an independent assessment of the policy path that will be consistent with achieving the central bank's objective.

The risk is that by publishing its interest rate forecast, the central bank may reduce the quality of the information provided by financial markets. This will be the case if, as argued by Morris and Shin (2002),

private agents overweight the information provided by the central bank. As Woodford points out, Svensson's (2005) analysis of the Morris and Shin model demonstrates that their "overweighting" result holds only when the central bank has considerably better forecasts than the public. In the case of the central bank's forecast for output or inflation, this seems unlikely to be the case, and, hence, the risk that publishing this information will reduce the quality of the information provided by the market appears small. But future policy rates is the one area where the central bank is likely to at least be perceived to have a clear informational advantage, and, hence, the risk is more serious in this case. This suggests that in setting its communication priorities, the central bank should put more emphasis on its inflation target and the inflation forecast, and less on its intentions for future policy rates.

Balancing conditionality and commitment

The natural order aligns communications priorities roughly from the least to the most conditional. The inflation target is almost unconditional, whereas the interest rate forecast is highly conditional because the policy rate is the instrument that must be adjusted to keep inflation on target as new information becomes available. By placing more emphasis on less-conditional information, the natural order minimizes the risks associated with communicating more-conditional information.

Effectively communicating the degree of conditionality of the forecast for future policy rates is likely to be difficult. For the policy rate forecast to have any influence on expectations of future policy rates, agents must perceive that there is some degree of commitment to follow this path. But given that it is conditional, it will change when conditions change, and since conditions almost certainly will change, the original conditional path is unlikely to be fully realized. Aligning beliefs between the market and the central bank as to exactly what the nature of the commitment is, and when it is appropriate to abandon the commitment in light of new information, is a communication

assignment that is bound to experience missteps. The risk is that these missteps may erode the credibility of the central bank and, in doing so, do more harm than good.

Communication near the zero lower bound

To further illustrate the natural order, it is useful to consider its implications for the communication of monetary policy near the zero interest rate bound. Woodford discusses in some detail the experience of the Federal Reserve with a near-lower-bound policy rate in the spring and summer of 2003. In particular, he interprets the “considerable period” language used by the FOMC as a practical way to implement what he calls a history-dependent policy or what I would call an element of price-level targeting. Faced with a lower-bound constraint, the Fed wanted to raise expected inflation and lower expected real interest rates further out the yield curve by more than was implied by past behavior. To do this, it used the “considerable period” language to signal its conditional intention “to keep policy accommodative for a longer period than had been the practice in past periods of accelerating economic activity.” Woodford suggests that the Fed’s successful management of this difficult period speaks to the benefits of effective communication.⁷ But how would the communication have looked using the natural order as the guide?

With an explicit inflation target, the Fed could have announced that it was raising its inflation target from x percent to y percent for the next t years to reverse the price-level implications of inflation having been below desired levels. Financial markets would have immediately inferred that this implied that future policy rates would be lower than they would have been otherwise, and yields out the curve would have adjusted to reflect this without the need for specific guidance on future policy rates. Moreover, going forward, as realized inflation approached the new target, financial markets would be able to observe that the central bank’s objective was being achieved and would have updated their views about future policy rates accordingly.

This approach might have offered some advantages. Since the new inflation target is much less conditional than the policy path required to hit the target, it would be easier to align the central bank's and the market's understanding of the nature of the commitment. A second, closely related advantage is that communication in terms of the inflation target may have facilitated verifiability. Financial markets, as well as the public, can observe when inflation is approaching the new target. In contrast, it is more difficult to observe whether the central bank is respecting its conditional intentions to keep policy rates low for a "considerable period." A third, albeit more tentative, advantage is that announcing the higher inflation target for t periods may have been more effective in raising expected inflation over this horizon. If announcing an explicit target is helpful in influencing inflation expectations, as suggested by some of the empirical evidence reviewed earlier, making the new inflation objective more explicit would enhance the effectiveness of the policy, both by increasing the traction of monetary policy on *real* interest rates across the yield curve and by anchoring inflation expectations more firmly on the new inflation target.

Final remarks

To summarize, transparency and communication offer an almost magical opportunity for monetary policy. If monetary policy were like driving a car, it is as if by telling your car upfront how you are going to behave, you somehow increase your traction on the road and improve your suspension. The emphasis in the Greenspan era on communication as an integral part of monetary policy has achieved a much smoother ride for the United States and, indeed, for the global economy.

The "natural order" provides a guide to communications priorities that is designed to enhance the effectiveness of monetary policy. Determining how far down this priority ordering central banks should go is a question of assessing the point along the continuum that can make the greatest contribution to the effectiveness of monetary policy. As we continue to gain experience and to debate these issues, our assessment of where this point is will no doubt continue to evolve.

Professor Woodford's enormously insightful paper has made an important contribution to our understanding and assessment of the role of communications, and to the continued evolution of the practice of central banking.

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Endnotes

¹I would add that such a rule is probably too much for a central bank to work out any time soon, much less communicate.

²As an aside, I would add a fourth reason, which, though related to verifiability, is broader: accountability. As Woodford notes in passing, democratic principles demand accountability, and there is a close link between transparency, communication, and accountability. Hence, in democratic societies, transparent communication has a direct benefit that is independent of the effectiveness of monetary policy. However, I would add that democratic legitimacy itself may enhance the effectiveness of monetary policy by reinforcing the view that the policy objectives of the central bank will be sustained over the long term.

³The target was defined in terms of a specific measure of inflation, the 12-month rate of change in the consumer price index (CPI), and the Bank was explicit that it would use a publicly announced measure of core CPI inflation as an operational guide to achieving the target for total CPI inflation.

⁴In these documents, the Governing Council (the monetary policy decision committee) outlines its interpretation of economic developments, its assessment of the outlook for inflation and economic activity, the key risks to this outlook, and the implications for monetary policy. The forward-looking information included in this document has expanded over time and currently includes the current output gap, two-year-ahead forecasts for output growth, potential output, core CPI inflation, and total CPI inflation. While there is often a general assessment of the implications for monetary policy going forward, an explicit forecast of future policy rates is not provided.

⁵Mishkin (2004) raises similar concerns in a broader context and counsels central banks to follow the KISS (Keep It Simple Stupid) principle.

⁶See Macklem (2002) for a description of the information and analysis that is considered during the monetary policy decisionmaking process at the Bank of Canada.

⁷As Woodford points out, the use of a history-dependent policy rule makes effective communication particularly critical because this policy outperforms a constant inflation target only if it is both understood and believed by the public. For an early demonstration of this result in a simulation environment, see Black, Macklem, and Rose (1997).

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