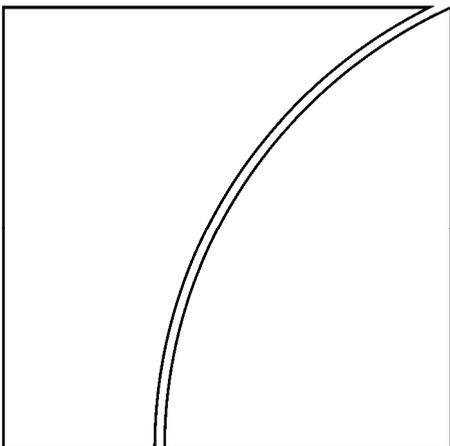# BIS Working Papers
No 274

Talking about monetary policy: the virtues (and vices?) of central bank communication

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Monetary and Economic Department

March 2009

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Press & Communications
CH-4002 Basel, Switzerland

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This publication is available on the BIS website (www.bis.org).

Foreword

On 26–27 June 2008, the BIS held its Seventh Annual Conference on "Whither monetary policy? Monetary policy challenges in the decade ahead" in Luzern, Switzerland. The event brought together senior representatives of central banks and academic institutions to exchange views on this topic. BIS Paper 45 contains the opening address of William R White (BIS), the contributions of the policy panel on "Beyond price stability – the challenges ahead" and speeches by Edmund Phelps (Columbia University) and Martin Wolf (Financial Times). The participants in the policy panel discussion chaired by Malcolm D Knight (BIS) were Martin Feldstein (Harvard University), Stanley Fischer (Bank of Israel), Mark Carney (Bank of Canada) and Jean-Pierre Landau (Banque de France). The papers presented at the conference and the discussants' comments are released as BIS Working Papers 273 to 277.

Conference programme

Thursday 26 June

10:00	Registration and refreshments	
11:00	Opening remarks:	William White (Bank for International Settlements)
	Chair:	Guillermo Ortiz, Bank of Mexico
11:15	**Session 1:**	**In search of monetary stability: the evolution of policy regimes**
	Paper title:	*In search of monetary stability: the evolution of monetary policy Some reflections. Experience – Lessons – Open issues*
	Author:	Otmar Issing (Centre for Financial Studies)
	Discussants:	José de Gregorio (Central Bank of Chile) Allan Meltzer (Carnegie Mellon University)
12:45	Lunch	
	Chair:	Durmus Yilmaz (Central Bank of the Republic of Turkey)
14:15	**Session 2:**	**Monetary policy communication**
	Paper title:	*Talking about monetary policy: The virtues (and vices?) of central bank communication*
	Author:	Alan Blinder (Princeton University)
	Discussants:	Benjamin Friedman (Harvard University) Y V Reddy (Reserve Bank of India)
15:45	Coffee break	
	Chair:	Tito Mboweni, South African Reserve Bank
16:15	**Session 3:**	**Expectations formation: beyond rational expectations**
	Paper title:	*Inflation expectations, uncertainty and monetary policy*
	Author:	Christopher Sims (Princeton University)
	Discussants:	Athanasios Orphanides (Central Bank of Cyprus) Lars Svensson (Sveriges Riksbank)
18:00	End of day one	
19:00	Reception followed by formal dinner	
	Keynote address by Edmund Phelps (Columbia University)	

Friday 27 June

	Chair:	Donald Kohn (Board of Governors of the Federal Reserve System)
09:00	**Session 4:**	**Changes in monetary policy transmission**
	Paper title:	*Has the monetary transmission process in the euro area changed? Evidence based on VAR estimates*
	Author:	Axel Weber (Deutsche Bundesbank)
	Discussants:	Marvin Goodfriend (Carnegie Mellon University) Arminio Fraga Neto (Gávea Investimentos)
10:30	Coffee break	
	Chair:	Hamad Saud Al-Sayari (Saudi Arabian Monetary Agency)
11:00	**Session 5:**	**Price stability and the external dimension**
	Paper title:	*China's financial conundrum and global imbalances*
	Authors:	Ronald McKinnon (Stanford University) and Gunther Schnabl (Leipzig University)
	Discussants:	Ricardo Caballero (Massachusetts Institute of Technology) Michael Mussa (The Peterson Institute for International Economics)
12:30	Lunch	
	Luncheon remarks by Martin Wolf (Financial Times)	
	Chair:	Lucas Papademos (European Central Bank)
14:00	**Session 6:**	**Credit frictions and monetary policy analysis**
	Paper title:	*Credit frictions and optimal monetary policy*
	Author:	Michael Woodford (Columbia University)
	Discussants:	Olivier Blanchard (Massachusetts Institute of Technology) Charles Goodhart (London School of Economics)
15:30	Coffee break	
16:00	**Panel discussion: Beyond price stability: the challenges ahead**	
	Chair:	Malcolm Knight (Bank for International Settlements)
	Panellists:	Martin Feldstein (Harvard University) Stanley Fischer (Bank of Israel) Mark Carney (Bank of Canada) Jean-Pierre Landau (Banque de France)
17:30	Close of conference	

Talking about monetary policy:
the virtues (and vices?) of central bank communication

Alan S Blinder[1]

Abstract

Central banks, which used to be so secretive, are communicating more and more these days about their monetary policy. This development has proceeded hand in glove with a burgeoning new scholarly literature on the subject. The empirical evidence, reviewed selectively here, suggests that communication can move financial markets, enhance the predictability of monetary policy decisions, and perhaps even help central banks achieve their goals. A number of theoretical drawbacks to greater communication are also reviewed here. None seems very important in practice. That said, no consensus has yet emerged regarding what constitutes "optimal" communication strategy – either in quantity or nature.

Contents

1. The background: why communicate?

Not long ago, central bankers thought it appropriate to shroud themselves in mystery and speak in tongues. For example, in 1981 Karl Brunner (1981, p 5) wrote, with evident sarcasm, that:

> Central Banking… thrives on a pervasive impression that [it]… is an esoteric art. Access to this art and its proper execution is confined to the initiated elite. The esoteric nature of the art is moreover revealed by an inherent impossibility to articulate its insights in explicit and intelligible words and sentences.

Fifteen years later, in my 1996 Robbins lectures at the London School of Economics, I expressed a view of what central bank communications *should be* – but wasn't yet:

> Greater openness might actually improve the efficiency of monetary policy… [because] expectations about future central bank behaviour provide the essential link between short rates and long rates. A more open central bank… naturally conditions expectations by providing the markets with more information about its own view of the fundamental factors guiding monetary policy…, thereby creating a virtuous circle. By making itself more predictable to the markets, the central bank makes market reactions to monetary policy more predictable to itself. And that makes it possible to do a better job of managing the economy. (Blinder (1998), pp. 70-72)

A scant five years later, Michael Woodford (2001, pp. 307 and 312) assured an audience of central bankers assembled at the Federal Reserve's famous Jackson Hole conference that:

> … successful monetary policy is not so much a matter of effective control of overnight interest rates… as of affecting… the evolution of market *expectations*... [Therefore,] transparency is valuable for the effective conduct of monetary policy… this view has become increasingly widespread among central bankers over the past decade.

I'm sure Woodford overstated the case. But notice the sharp progression here: from Brunner's 1981 lament about central bankers' refusal to communicate, to Blinder's 1996 argument that more communication would enhance the effectiveness of monetary policy, to Woodford's 2001 claims that the essence of monetary policy is the art of managing expectations *and that this was already received wisdom*. It is no exaggeration to call this a revolution in thinking.

These new ideas from the academy had major impacts on actual central banking practice. Even the Federal Reserve, where then-Chairman Alan Greenspan once prided himself on "mumbling with great incoherence," has been increasing its communicativeness incrementally since 1994. And the Fed is far from a leader in this regard. Indeed, one might argue that the European Central Bank (ECB) has been more transparent than the Fed ever since it opened for business. The Reserve Bank of New Zealand and the Bank of England were early and enthusiastic converts to greater transparency and remain among the leaders in that regard, although Norges Bank and Sveriges Riksbank may now be in the vanguard. And there are many other examples. The attitudes that Brunner parodied have been put to rout.

Reasons for communication

These remarkable strides in transparency have been powered by two principal rationales. One is the notion that greater central bank independence implies a greater need for *democratic accountability*, eg that independent central banks have a duty to explain both

their actions and the thinking that underlies those actions.[2] The second is the notion, exemplified by the Blinder and Woodford quotations above, that clearer communication enhances the *effectiveness of monetary policy*.

While I have long been a strong advocate of both arguments, the scholarly literature focuses almost entirely on the second – and so will I. This is not meant to denigrate the democratic accountability argument; it simply reflects division of labour and the need to limit the scope of this paper.

Studies of how central bank communications *create news* focus, eg on how policy pronouncements influence expectations and therefore move asset prices. Studies of *reducing noise* focus, eg on how central bank talk increases the predictability of monetary policy, which should in turn reduce financial market volatility. In both cases, the central bank's presumed objective is to raise the signal-to-noise ratio of monetary policy. That said, central bank talk can be done well or badly, and no one has yet formulated a set of clear principles (much yet clear practices) for "optimal" communication strategy, whatever that might mean.[3] Empirically, the key questions are whether communication contributes to the effectiveness of monetary policy by creating news (eg by moving short-term interest rates in a desired way) and/or by reducing noise (eg by lowering market uncertainty).

In their well-known survey, "How Do Central Banks Talk?," Blinder *et al*. (2001, p. 9) wrote that: "To date, there is no research to report on." That is far from true today. An impressive number of mostly empirical studies of central bank communication have been conducted in this decade, and I will review some of their findings here.[4] Much of the new research focuses on the impacts of central bank communications on financial markets. The basic idea is simple: If communications steer expectations successfully, then (a) asset prices should react appropriately and (b) policy decisions should become more predictable. The empirical literature says, almost without exception, that both have happened. A second line of research tries to relate differences in communication strategies to differences in economic performance. For example, does announcing a numerical inflation target help anchor the public's long-run inflation expectations? The answer seems to be a qualified yes.

But before reviewing some of these studies, it is worth pausing briefly to think *theoretically* about how and why central bank communication might enhance the effectiveness of monetary policy – and how it might fail.

I start with an assertion that may seem surprising – until you think about it: There is no role whatsoever for monetary policy communication in what might be called the *pure rational expectations paradigm*. By this term, I mean the class of models in which the economic environment is *stationary*, expectations are *rational*, and the central bank is *credibly committed* to an *unchanging policy rule*. In such an idealised world, central bank communication is redundant because any systematic pattern in the way monetary policy is conducted would already have been correctly inferred (up to stochastic errors) from the bank's observed behaviour. Central bank talk would be not only cheap, but superfluous.

The pure rational expectations paradigm is perhaps a straw man, though many modern theoretical macro models have been built with this straw. However, it does make a useful conceptual point: that any value from monetary policy communication must derive from (a)

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[2]   Everything in this paper is predicated on a high degree of central bank independence, which has become the norm. Nonetheless, some countries still lack an independent central bank; and there are degrees of independence.

[3]   See Blinder (2007) on how a central bank's communications strategy should depend on the nature of its monetary policy committee.

[4]   For much more detail, see Blinder *et al.* (forthcoming).

non-stationarities (the world and/or the central bank is changing), (b) lack of commitment to a policy rule (probably for good reasons), (c) poor understanding of the central bank's policy rule (if one exists), or (d) non-rational expectations (which includes both information asymmetries and learning).[5] It should be clear that better central bank communication can influence each of the four items on this list. It should therefore also be clear that, once one escapes from the confines of the pure rational expectations paradigm, any analysis of monetary policy that ignores central bank communication is seriously deficient. Indeed, if today's overnight bank rate hardly matters, then managing expectations is the essence of monetary policy – as Woodford claimed.

Limits to communication

That said, poorly designed or poorly executed communications can do more harm than good. So it is not obvious that a central bank is always better off by saying more. In practice, central banks do limit their communications in a variety of ways. Internal deliberations are kept normally secret. Few central banks project the future path of their policy rate. (More on this later). Most observe a blackout or "purdah" period before each policy meeting. And I have called attention to the danger of creating a cacophony when a monetary policy committee (MPC) speaks with too many disparate voices (Blinder, 2004, Chapter 2). So, in principle, fuller communication might be undesirable or detrimental under some circumstances, as any competent theorist can surely prove. But theory, like talk, is cheap. The real question is: Are there *empirically relevant* arguments for limiting communication on monetary policy?[6]

One possible argument dates back to the seminal work of Cukierman and Meltzer (1986). Their case for obfuscation rested on two assumptions: that only unanticipated money matters, and that the central bank's preferences are not precisely known by the public. Under these assumptions, a fully-transparent central bank cannot move real activity because it cannot create surprises. So some degree of opacity is essential to the effectiveness of monetary policy. However, Gosselin *et al.* (2007) recently pointed out that both the view that only unanticipated money matters and the idea that a central bank conceals its preferences in order to pursue its own agenda are increasingly anachronistic.

A central bank should perhaps be wary of talking about issues on which it receives noisy signals itself – such as the evolution of the economy (as opposed to, say, its upcoming interest rate decisions) – a point emphasised by Amato, Morris, and Shin (2002). If market participants defer too much to the wisdom of the central bank, it is even possible that more central bank communication could reduce welfare. But Svensson (2006a) pointed out that this argument holds only when central bank communications have a much lower signal-to-noise ratio than private information – an implausible assumption in this context. Furthermore, if we focus on providing information *about future monetary policy* – as opposed to, say, forecasting the stock market or the exchange rate – there is an even simpler and more compelling objection to the Morris-Shin reasoning. Who, after all, knows more about the central bank's intentions than the central bank itself? Thus *honest* central bank talk about prospective monetary policy is almost certain to coordinate beliefs in the *right* direction.

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[5] For example, Bernanke (2004) used the recent academic literature on adaptive learning to explain how the feedback effect of learning on the economy can lead to unstable or indeterminate outcomes—outcomes that effective central bank communication can help to avoid. See Orphanides and Williams (2004) and others.

[6] Other than a few obvious ones: the need to preserve confidentiality, the fact that financial stability sometimes limits central bank talk, and the obvious point that no central bank can divulge what it does not know

Finally, if a cacophony problem arises from the fact that an MPC has too many uncoordinated and inconsistent voices that confuse rather than enlighten the public, the appropriate remedy is greater clarity, not silence.

Communication is not commitment

Over the years, many central bankers and economists have occasionally confused *communication* with *commitment* – or worried out loud that the public might do so. Specifically, it has been agued that words uttered today might reduce the effectiveness of monetary policy by restricting the freedom to manoeuvre tomorrow. For example, then-Chairman Paul Volcker defended the Fed's refusal to announce its decisions immediately in 1984 as follows:

> One danger in immediate release of the directive is that certain assumptions might be made that we are committed to certain operations that are, in fact, dependent on future events, and these interpretations and expectations would tend to diminish our needed operational flexibility.[7]

Echoing these sentiments in 1989, Alan Greenspan opposed immediate disclosure of the FOMC's decisions because "a public announcement requirement also could impede timely and appropriate adjustments to policy."[8] Yet, less than five years later, he *voluntarily* did precisely that.

From today's standpoint, the objections of Volcker and Greenspan to this minimalist disclosure proposal sound like throwbacks to the Stone Age. While there are cases in which statements *do* constrain future behaviour – as in "giving a verbal commitment" – most central bank communication is not, or need not be, of this nature. In particular, the mere conveyance of information – about the policy decision, the inflation target, the forecast, etc. – does not commit the bank to any future action or inaction (although it might hint at such). Even the famous published "forward tracks" of the Reserve Bank of New Zealand (discussed later), which are *conditional forecasts* of its own future behaviour, are conditioned on many future variables.

Of course, there may be times when a central bank *wants to* use words to commit itself – say, to steer expectations strongly or to exploit the advantages of commitment (which are related). For example, Bernanke *et al.* (1999) argued in favour of inflation targeting precisely as a way to constrain central bank discretion. But that is the exception, not the rule. More important, it is volitional. Monetary policy communications need not entail any form of commitment *unless the central bank wants it to*.

In sum, as compared to the apparently powerful conceptual arguments for why central bank communication should be expected to matter, and to be beneficial, the arguments against greater transparency appear to be thin gruel. We turn now from theory to practice.

2. What to communicate

Looking at real-world practices, two facts stand out. First, central banks with similar monetary policy objectives nonetheless communicate very differently. Second, communication policies

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[7]   Quoted in Goodfriend (1986), pp. 76-77. Goodfriend's paper was an early, and at the time highly controversial, critique of the Federal Reserve's secrecy—written by a Fed employee.

[8]   Quoted in Blinder (1998), pp. 74-75.

at the same central bank change over time. Together, these two facts demonstrate that there is no accepted how-to-do-it manual for central bank communications. What, then, are some of the major choices?

Central banks talk about at least four different aspects of monetary policy: their overall objectives and strategy, the motives behind a particular policy decision, the economic outlook, and future monetary policy decisions. I take them up in turn.

Objectives and strategy

Central bank communication is one useful way to inform the public about the objectives and strategies of monetary policy. An independent central bank should have a clearly-defined mandate. The Bank of England's inflation target, for example, comes straight from the Chancellor and is very precise. Some central banks that are not assigned quantitative objectives by their governments, like the ECB, have nonetheless decided (or been directed) to provide their own quantification – as a way to facilitate accountability and/or to anchor expectations. These accountability and anchoring arguments figure prominently in the debate over inflation targeting (IT) because better and more open communication is often offered as one of the defining virtues of IT. Other central banks, like the Federal Reserve, have no explicit numerical targets.[9] However, no central bank that I know of announces a precise policy rule. Instead, private agents learn about the "rule" – really, the central bank's average behaviour pattern – by watching what the bank *does* and by listening to what it *says.*

Policy decisions

Almost all central banks nowadays inform the public about their monetary policy decisions immediately or with very short delays. However, this was not always the case. Prominently, the Federal Reserve only began announcing changes in its target federal funds rate immediately after FOMC meetings in February 1994. Before that, markets had to infer the intended funds rate from subsequent open-market operations--until the decision was published after the next FOMC meeting.

Prompt and clear announcement of monetary policy decisions clearly creates news, but it also reduces noise by eliminating any guessing on the part of the public. So this type of central bank communication evidently raises the signal-to-noise ratio. We will see later that it also leads to improvements in the efficiency of monetary policy.

Practices regarding what to say in the statement that accompanies the monetary policy decision differ enormously across central banks. One area of disagreement is over how much to disclose about the decision-making process itself, eg through the release of minutes and voting records. The ECB does not publish minutes and insists that it makes monetary policy decisions by consensus rather than by voting. But it does hold press conferences. The Fed and the Bank of England (BoE) do release minutes (and both recently expedited their release), along with recorded votes. This information is particularly important for the BoE, whose Monetary Policy Committee members are individually accountable. Interestingly, dissents on the British MPC are much more frequent than they are on the FOMC, where decisions are typically unanimous and dissent connotes fundamental disagreement.[10]

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[9] However, the Fed's new practice of publishing three-year-ahead inflation forecasts can be (and has been) viewed as tacitly announcing an inflation target. It can also be viewed (but, curiously, has not been) as stating an unemployment target.

[10] On this point, see Chappell, McGregor and Vermilyea (2004) and Meade and Sheets (2005).

The economic outlook

Central banks differ sharply in whether and how they communicate forward-looking information, including forecasts of future inflation, forecasts of future economic activity, and inclinations regarding future monetary policy.

Inflation-targeting central banks typically offer their assessments of expected future inflation in periodic inflation reports, sometimes using "fan charts" to display probability distributions. However, central banks that are not inflation targeters also often release (some aspects of) their inflation forecasts. In the case of the ECB, this is now done by publishing staff projections four times a year. These forecasts serve as inputs to the Governing Council's discussions, but need not be endorsed by it – a very different role from inflation forecasts in an IT strategy. The Federal Reserve, curiously, keeps its staff projections secret. But it now publishes official FOMC forecasts of inflation four times a year. Its new three-year-ahead inflation forecast effectively reveals the inflation target without calling it that.

Until recently, the diversity across central banks was even wider when it came to forecasting real output. However, the Fed has now joined the Bank of England and the ECB in providing more frequent official output forecasts. A few central banks (including those of New Zealand, Norway, the Czech Republic, Sweden, and Hungary) even publish estimates of the output *gap*.

The path of future policy rates

Many central banks nowadays provide some sort of forward guidance regarding likely future policy decisions, albeit in very different ways. Some, such as the ECB, use indirect signals, often in the form of code words like "strong vigilance." Other central banks are more explicit. FOMC statements, for example, sometimes (but not always) include an indication of where monetary policy is headed. At times, such as during the 2003–2005 period, the FOMC has been quite direct about its expected future path of interest rates.

A few central banks even provide *quantitative* guidance by publishing the numerical path of future policy rates that underlies their macroeconomic forecasts. Sweden and Iceland recently joined a small group that includes New Zealand and Norway in doing so. Some observers view forecasting its own future behaviour as the last frontier of central bank transparency, and none of the major central banks have yet been willing to go that far. The issue remains controversial.[11]

Both Goodhart (2001) and Mishkin (2004) have argued against announcing a projected path for the policy rate on the grounds that it may complicate the committee's decision-making process. It may also complicate communication with the public, which might fail to understand the *conditional* nature of the projection (Issing, 2005). In practice, one of the main concerns holding back many central bankers may be that such communications could be mistaken for *commitments*. Then, if the projected developments do not materialise, any discrepancies between actual and previously-projected policy might damage the central bank's credibility. In addition, while forward guidance by the central bank is intended to guide expectations, and thereby to reduce misallocations of resources, inaccurate forecasts might actually *induce* such misallocations, eg if agents make faulty economic decisions (such as taking on a mortgage) based on the central bank's miscommunication.

To guard against these potential pitfalls, all central banks that provide forward guidance on interest rates emphasise that forward-looking assessments are always conditional on current information – and therefore subject to change. For example, the Riksbank regularly

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[11] For the case in favour, see Svensson (2006b) or Woodford (2005).

emphasises the conditionality of its projected repo rate path by repeating the mantra, "It is a forecast, not a promise," and Norges Bank reminds readers that deviations from its policy rate forecasts should be "expected to be the rule rather than the exception."

3.   How to communicate

Central banks can communicate in a wide variety of ways, and each chooses its own preferred methods.[12] This short section examines one particularly important decision, namely, the choice of *sender* (eg whether a signal is sent by the committee or by an individual committee member), which in turn may influence the precision of the signal. When signals are sent by or on behalf of the monetary policy committee, the appropriate content, timing, and channels must all be chosen. Communication by individuals raises further issues – such as whether one member (eg the chairman) should serve as spokesperson for the committee, reflecting a more collegial approach to communication, or each member should present his or her own views, representing an individualistic communication strategy.

Communication by committees

The most natural occasions for central bank communication come on MPC meeting days, when decisions are announced. But both the timing of this communication and the amount of detail it provides differ substantially across central banks. The Federal Reserve offers a short press release containing the decision, a concise (and typically stylised) explanation of its underlying reasoning, and often some forward guidance. The Bank of England's press statement announces the decision, but normally provides an explanation only when interest rates have been changed or when its decision was unexpected.[13]

By contrast, the ECB not only releases a press statement with the policy decision, but also holds a press conference on meeting days--including a question and answer session.[14] Compared to the minutes of the Bank of England or the Federal Reserve, the ECB press conferences appear to be less detailed. But holding a televised press conference gets the news out faster, certainly to a broader audience, and probably more frankly. Perhaps most important, the Q&A sessions enable the press to clarify ambiguities by asking follow-up questions. In a fascinating study, Ehrmann and Fratzscher (2007a) find that ECB press conferences have larger estimated effects on asset prices than its policy announcements do. Furthermore, these larger impacts come with smaller effects on volatility, clearly indicating a particularly high signal-to-noise ratio.

Legal reporting requirements present another natural communication opportunity. For example, many central banks are obliged to provide annual reports and/or to testify before their legislatures. Among the most important of the reporting vehicles are regular publications such as the ECB's *Monthly Bulletin,* the Bank of England's quarterly *Inflation Report*, and the Federal Reserve's semiannual *Monetary Policy Report to the Congress*, which is presented

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[12] See Blinder *et al.* (2001) for a detailed, though by now somewhat dated, account and explanation of the various instruments used by central banks.

[13] Somewhat later, but prior to the subsequent meeting, both the Fed and the BoE provide detailed accounts and explanations of the decisions in their minutes. And five years later, the Fed even releases verbatim transcripts of FOMC meetings.

[14] The central banks of the Czech Republic, Japan, New Zealand, Norway, Poland, Sweden, and Switzerland also hold regular press conferences.

along with the chairman's congressional testimony. Each of these garners substantial press attention.

Communication by individual committee members

Most central banks these days make decisions by committee, reflecting an apparent consensus that doing so leads to superior policy (Blinder, 2004, Chapter 2). But committees come in a wide variety of shapes and sizes. In Blinder (2004) and elsewhere, I have distinguished among three types of committees – *individualistic* (examples: the Bank of England and Sveriges Riksbank), *genuinely collegial* (examples: the ECB and the FOMC under Ben Bernanke), and *autocratically collegial* (examples: Norges Bank and the FOMC under Alan Greenspan). I emphasises that these distinct committee types require different communication strategies.

In the individualistic case, the diversity of views on the committee should be made apparent to the public, as a way to help markets and interested citizens understand the degree of uncertainty surrounding monetary policy making. But in the collegial case, a similar diversity of views, if made public, might undermine clarity and common understanding and create a cacophony instead. Therefore, communication should mainly convey the committee's views.

Since the importance of communicating individual views should reflect an MPC's structure and functioning, it follows that it should vary both across banks and across time. Paradoxically, despite its collegial structure, the FOMC pursues a rather individualistic communication strategy, which sometimes produces highly diverse opinions that leave outside observers confused. The ECB, on the other hand, follows a far more collegial communication strategy, often displaying a much higher degree of consistency among the statements of individual committee members (Ehrmann and Fratzscher 2007b).

One difference between communications by individuals and by committees is the greater flexibility in timing of the former. Committee communications are difficult to arrange other than at well-defined events. But changes in circumstances may not coincide with meeting dates or testimonies. When timeliness is important, speeches and interviews by individual committee members offer more flexible ways to communicate changes in the central bank's views rapidly. But the large variation across central banks in their intensity of inter-meeting communication suggests that they differ greatly in how much importance they attach to speed.

4. Short-term predictability: Impacts on financial markets

The huge variability observed in central bank communication practices raises several obvious questions. First, are there better and worse ways to communicate? Second, while the clear trend toward more frequent and more open communication suggests that most central banks have decided that more communication is beneficial, are they right? Both of these are empirical questions to which I now turn.

I begin with financial market reactions – which is where empirical investigators have concentrated, and not by coincidence. While central bank communications affect financial markets very quickly, interest rates and asset prices affect the rest of the economy only gradually – with the proverbial long and variable lags. Those lags, coupled with the many other factors that influence key macroeconomic variables, make isolating the macroeconomic effects of any particular communication event next to impossible. But over the narrow time windows used in event studies, financial market variables arguably are reacting only, or at least mostly, to central bank signals. So it is much easier for an econometrician to estimate the impacts of central bank communications by using high-frequency data from financial markets than by using low-frequency data on macroeconomic performance.

That procedure is fine for researchers. But central bankers are probably much more concerned with *long-term* predictability. What really matters is whether the public develops a good understanding of the way the central bank thinks and operates. That is presumably what King (2000) had in mind when he stated provocatively that a central bank should be "boring." It is certainly what Blinder (2004, p. 25) had in mind when he suggested that "perhaps the best a central bank can do is to 'teach' the markets its way of thinking."

Predicting the next monetary policy decision

But because long-term predictability is so difficult to measure, most empirical studies focus on *short-term* predictability, that is, on the market's ability to forecast the central bank's next move. The typical tool is an event study of how financial market prices react to news about monetary policy. This body of research is now sizable, and it has established convincingly that the predictability of interest rate decisions has improved notably in recent years.

The case of the Federal Reserve, which has periodically improved its transparency, has been studied most extensively. Poole and Rasche (2003) provide evidence that the surprise component of monetary policy decisions decreased considerably after the FOMC took the simple step of announcing its federal funds rate target immediately (starting in February 1994). Lange, Sack, and Whitesell (2003) show that the ability of Treasury bill yields to predict changes in the funds rate some months in advance has increased since the late 1980s. Swanson (2006) finds that U.S. financial markets and private sector forecasters have become both better able to forecast the funds rate at horizons out to several months and less uncertain about their forecasts *ex ante*--as indicated both by interest rate options and by the cross-sectional variance of interest rate forecasts. Since private sector forecasts of macroeconomic variables have *not* shown similar improvements, that evidence strongly suggests a specific effect of monetary policy communication, rather than just a general decline in macroeconomic volatility ("the Great Moderation"). Each of these authors argues that the Federal Reserve's practice of making same-day announcements of monetary policy decisions was an important factor in reducing uncertainty.

Particularly strong effects on interest-rate predictability should be expected when the authorities reveal their own expectations of future rate decisions explicitly. Unfortunately, little research to date analyses the effects of the publication of quantitative forward guidance, as practiced for years by the Reserve Bank of New Zealand (RBNZ) and, more recently, by Norges Bank and Sveriges Riksbank. There is simply not much data yet. That said, papers by Archer (2005), Ferrero and Secchi (2007), and Moessner and Nelson (2008) all reach the same basic conclusions. First, that contrary to theoretical fears, markets do *not* interpret the RBNZ's announcements of "forward tracks" for its policy rate as unconditional commitments; rather they seem to understand the conditionality of the projections. Second, and related, that the RBNZ's projections do *not* so dominate financial market reactions that they crowd out all other information; markets sometimes "disagree" with the central bank. As more experience is accumulated, eg in Norway and Sweden, studying market reactions to forward guidance should be a high priority area for future research.

A different type of forward-looking communication has attracted far more scholarly attention to date: the *qualitative* guidance provided by the Federal Reserve (and other central banks) that issue "bias" or "balance of risks" statements. However, perhaps surprisingly, the predictive power of these statements for future monetary policy seems to be modest.

In the case of the Fed, it is important to distinguish between bias statements made before and after May 1999. Until that date, FOMC policy directives were *internal* declarations of intent, presumably focused narrowly on the inter-meeting period, and made public only after

the *next* FOMC meeting. Even insiders were often confused about what they meant. For example, the transcript of the July 1994 FOMC meeting contains the following humorous interchange, which illustrates how a newcomer to the committee struggled with the meaning of a so-called asymmetric directive:[15]

> MS. MINEHAN: … Just being new to this whole business, if we go asymmetric, what does that really mean?
>
> CHAIRMAN GREENSPAN: We don't have a specific formulation. Asymmetry merely means a general sense of the Committee's disposition or the direction of our bias.
>
> MS. MINEHAN: How long should we expect you to wait before making a change?
>
> CHAIRMAN GREENSPAN: No, I have tried to articulate this and I have been much too specific, so I'll call on Don Kohn. [Laughter]
>
> Donald Kohn, then the director of the Fed's Division of Monetary Affairs, and Greenspan then both tried to explain the meaning of asymmetry. After some confusing discussion, William McDonough, President of the Federal Reserve Bank of New York, interjected a question:
>
> VICE CHAIRMAN MCDONOUGH: Is that fully clear to you?
>
> MS. MINEHAN: Yes, I am really clear on this. [Laughter]

Despite the muddled message, the pre-1999 bias has been shown to be a statistically significant predictor of the likelihood and direction of changes in the fed funds target during the subsequent inter-meeting period (Lapp and Pearce 2000), but not thereafter (Thornton and Wheelock 2000). Since May 1999, however, the balance-of-risks assessments have been *external* information provided to the markets. And Ehrmann and Fratzscher (2007c), focusing on this period, find them to be consistent with subsequent interest rate moves.

Pakko (2005) takes a different approach to the same question. Starting with the usual Taylor-rule variables for the Fed's reaction function, he asks whether the content of the "bias" statements is a statistically significant *additional* variable predicting changes in the funds rate. His answer is yes. Pakko's approach has also been applied to the ECB, though with mixed results.[16]

Which forms of central bank communication matter?

The evidence culled from various event studies demonstrates that central bank statements and/or speeches quickly filter into financial market prices. The seminal study by Kohn and Sack (2004) found that both FOMC statements and Greenspan *testimonies* moved markets, but that Greenspan *speeches* did not. Reeves and Sawicki (2007) find similar evidence for Bank of England communications. However, some other studies (eg Ehrmann and Fratzscher (2007b)) find significant effects of speeches on financial markets, perhaps due to different procedures for selecting communication events.

A comprehensive study of different communication tools in six different central banks by Connolly and Kohler (2004) finds that monetary policy reports in Australia, Canada, New Zealand, and the US provide information that significantly affects markets' expectations, and

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[15] Cathy Minehan, then the new President of the Federal Reserve Bank of Boston, was attending her first meeting as a member of the FOMC. These words are excerpted from a longer passage quoted in Blinder *et al.* (2001), p. 69.

[16] Rosa and Verga (2007) find that ECB communications add information to Taylor-type rules, but Jansen and De Haan (2006) do not.

thus interest rate futures. Parliamentary hearings affect futures rates in Australia, New Zealand, the UK (albeit only marginally), and the US, but not in Canada or the euro area. However, where they have effects, the impacts of hearings on interest rate expectations are the largest among the various communication tools.

Central banks often provide substantially more detailed follow-up explanations of their decisions in the minutes of policy meetings. But if the minutes are to provide meaningful news to financial markets, they must be released *before* the committee's next meeting. In recent years, both the Federal Reserve and the Bank of England have shortened the lag in releasing their minutes, moving it from after to before the subsequent meeting. Both Reinhart and Sack (2006) and Reeves and Sawicki (2007) find discernable financial market reactions only with more timely release.

Clarity and uncertainty in central bank communication

Central bank communications are rarely known for their sparkling prose – or even for their clarity. Since clearer communications presumably have higher signal-to-noise ratios, they should in principle convey more information. A few fascinating studies suggest that they do.

Fracasso, Genberg, and Wyplosz (2003) develop three subjective indicators of the *quality* of inflation reports in 19 countries and find that higher quality reports are associated with smaller policy surprises. Jansen (2008) supports their findings. Using objective measures of readability to measure the clarity of the Federal Reserve chairman's semi-annual Humphrey-Hawkins testimonies, he finds that greater clarity often reduces the volatility of interest rates. Finally, Ehrmann and Fratzscher (2007a) exploit the fact that ECB press conferences normally follow ECB policy announcements with a 45-minute lag to show that press conferences have larger average effects on asset prices and smaller effects on volatility (of interest rates) – which indicates a higher signal-to-noise ratio of press conference communications. Why? They suggest that the Q&A session enables journalists to ask clarifying questions.

While the clarity issue has received scant attention in the literature, I find it tantalising that three studies with such different methodologies all come to the same conclusion: that greater clarity enhances the quality of central bank communication. I would love to jump to this conclusion, but it so far rests on a slender evidentiary base. More research on this issue would be welcome.

While unclear communication is one source of uncertainty in central bank communication, it is not the only source. Inconsistent signals can also arise when different members of a monetary policy committee convey different messages – whether intentionally (eg by conducting a debate in public) or unintentionally (eg via uncoordinated communication). As Blinder (2007, p. 114) notes, "A central bank that speaks with a cacophony of voices may, in effect, have no voice at all."

On the other hand, Bernanke (2004) argues that "the willingness of FOMC members to present their individual perspectives in speeches and other public forums provides the public with useful information about the diversity of views and the balance of opinion on the Committee." Both views have validity. Whether communicating individual committee members' views to the public enlightens or confuses is ultimately an empirical issue. And whether it is advisable or inadvisable depends, *inter alia*, on whether the committee has group or individual accountability.

While FOMC members sometimes speak with disparate voices, the ECB generally speaks more with a single voice.[17] However, was not always the case. Jansen and De Haan (2006) show that communication about monetary policy inclinations by individual members of the Governing Council was relatively high in the initial years of the ECB, but then declined over time.

Do more consistent communication practices improve the predictability of monetary policy? Ehrmann and Fratzscher (2007d) find that more dispersed communication on Federal Reserve monetary policy is associated with less predictable policy decisions at short- and medium-term horizons, and that the magnitude of this effect is large. There is also evidence that the voting records of the Bank of England's MPC members help predict future policy changes (Gerlach-Kristen, 2004). Casting a minority vote appears to be a bigger step, and therefore carries more information, than merely expressing a personal dissenting view in public.

Of course, markets will adapt to *any* central bank communication style. When central banks emit relatively dispersed, or even conflicting, signals, financial markets will attempt to identify pivotal committee members and attach more weight to their statements. For example, Andersson *et al.* (2006) find that markets react more strongly to statements by the Riksbank's governor. Ehrmann and Fratzscher (2007b) show the same for the Fed chairman. But in the case of the more collegial ECB, they find that markets react more equally to statements by all members of the Governing Council.

Importantly (but largely ignored), central bank communication must have both a transmitter and a receiver, and uncertainty or confusion can emanate from either end. On the receiving end, the same message might be interpreted differently by different listeners, who may have different expectations or believe in different models. One example is provided by Fracasso *et al.* (2003) who, using survey data, show that the same inflation report is perceived differently by different respondents, and that interest rate surprises tend to increase with the divergence in perceptions. In another example, De Haan, Amtenbrink, and Waller (2004) find substantial differences between newspaper reports published the day after ECB policy decisions in the Financial Times (FT) and the Frankfurter Allgemeine Zeitung (FAZ). The British-based FT is critical of the ECB's money growth "pillar" and tends to pay relatively little attention to it. But the home-town FAZ, which believes that money should play a prominent role in the ECB's strategy, gives that pillar substantial attention.

5. Longer-term predictability: anchoring inflation expectations

As noted earlier, the long lags in monetary policy and the myriad influences on macroeconomic outcomes make it virtually impossible to isolate specific effects of a particular communication event on, say, inflation. So this section takes a longer-term perspective by summarising the empirical literature on how (if at all) different communication *strategies* influence actual and expected inflation. Specifically, a number of studies have assessed the effects of an explicit numerical inflation target on inflation outcomes. The central questions are whether a numerical inflation objective (a) anchors the public's long-run inflation expectations, (b) reduces inflation forecast errors, and (c) reduces inflation (or its variance).

One major finding (or rather anti-finding) in this literature is that comparisons between inflation targeters and a control group of non-targeters are enormously sensitive to the choice

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[17] Issing (1999) has justified this on the basis of the ECB's special supranational nature.

of the control group (see Mishkin and Schmidt-Hebbel (2007)). One reason might be the following potentially serious endogeneity issue: Does the adoption of IT reduce inflation, or does the desire to reduce inflation induce a country to adopt IT?

Subject to these very major caveats, a number of studies, using different methods, do find that IT successfully anchors inflation expectations. One approach is due to Johnson (2003), who first *estimates* the determinants of *expected* inflation (π^e) in the period before inflation targeting, and then uses that estimated model to predict π^e under the IT regime. The difference between actual and predicted π^e is then interpreted as the effect of the institutional change. Using this method, he estimates large reductions in expected inflation after the announcement of inflation targets in Australia, Canada, New Zealand, and Sweden, but not in the United Kingdom.

A second approach compares targeting to non-targeting countries. Controlling for country, year, trend inflation, and business-cycle effects, Johnson (2002) detects a reduction in inflationary expectations in the IT countries but not in the control group. Levin, Natalucci, and Piger (2004) provide evidence that long-term inflation forecasts exhibit strong correlation with a three-year moving average of actual inflation in the control group, but not in the IT group-- suggesting that inflation-targeting central banks have successfully de-linked expectations from realised inflation.

A third approach uses index-linked bonds to derive measures of long-term inflation expectations. Gürkaynak, Levin, and Swanson (2006) show that the implied break-even inflation rate is less responsive to both incoming macroeconomic data and monetary policy announcements in Sweden and the United Kingdom, two IT countries, than it is in the United States, which has no explicit inflation target.

All that said, a number of authors find that inflation expectations are equally well anchored in non-targeting countries, which casts doubt on whether the effect identified in other studies is really causal. For example, Castelnuovo, Nicoletti-Altimari, and Palenzuela (2003) find that long-term inflation expectations are well-anchored in all countries in their sample except Japan – regardless of whether the central bank has an inflation target, a quantitative definition of price stability, or no quantified target at all.

What about the behaviour of inflation itself, as opposed to that of expected inflation? Does the introduction of IT reduce the average level of inflation – which was certainly the intent of many of its early adopters? Surprisingly, Ball and Sheridan (2005) find no empirical evidence that inflation targeting improves inflation performance in a cross section of countries, once you control for regression to the mean. (High inflation tends to come down.) They offer the endogeneity issue mentioned earlier as an explanation: Countries that adopted IT had above-average inflation prior to adoption. Willard (2006), after dealing with the endogeneity problem in a variety of ways, supports Ball and Sheridan's conclusions. But other studies (eg Vega and Winkelried (2005)) do not.

What are we to make of these disparate results? As noted, Mishkin and Schmidt-Hebbel (2007) emphasise the importance of the control group. There appears to be no systematic difference in the inflation performances of successful countries with and without explicit inflation targets. The main benefit they see in inflation targeting is as a disciplinary device that helps potentially wayward countries move closer to the performance of the successful group.

6.   So what do we really know (and not know)?

The empirical evidence reviewed here is not entirely one-sided. But it certainly points strongly in one direction. It seems safe to conclude that communication is an important and powerful part of the central bank's toolkit. Central bank talk clearly can move financial

markets and improve the predictability of monetary policy. With very few exceptions, the research to date suggests that more and better central bank communication has succeeded in both "reducing noise" and "creating news." It may also help the monetary authorities achieve lower and more stable inflation, although here the findings are – perhaps necessarily – much less clear. All that said, the usefulness of monetary policy signals can be degraded if the central bank speaks with too many conflicting voices – as sometimes happens at the Federal Reserve, for example.

I have mentioned that no consensus has yet emerged on what constitutes "optimal" communication policies, nor on how that choice depends on the institutional environment, the nature of the central bank's decision-making process, and the structure of its monetary policy committee. Practices, in fact, differ substantially and continue to evolve. While central banks clearly must tailor their communication strategies to these and other institutional features, thinking on that important topic has barely begun.

The research reviewed here, and in much greater detail in Blinder *et al.* (forthcoming) constitutes a quantum leap over what we knew at the start of the decade, which was virtually nothing. But there is a lot more to learn. One prominent example was mentioned earlier: the publication of projected paths for the central bank's policy rate. While this practice appears to be the "new frontier" in central bank communication, it has existed in so few countries for so few years that we have little empirical knowledge of its effects as yet. As more data accumulates, this should be a high-priority area for future research.

Finally, virtually all the research to date focuses on central bank communication with the financial markets. It may be time for both central banks and researchers to pay more attention to communication with a very different audience: the general public. Admittedly, studying communication with the general public poses new and difficult research challenges – not least because financial market prices will be far less useful. But the issues are at least as important.

For the central banks, effective communication with the general public will surely have to be very different, in both content and style, than effective communication with the financial markets. It seems to me that, to date, few central banks have taken this task very seriously. In fairness, communicating with the broad public is not an easy task because the public does not pay nearly as close attention to the central bank's policies or pronouncements as market participants do. But in the end, central banks derive their democratic legitimacy, and hence their cherished independence, from the consent of the general public. So the effort needs to be made.

7.   Toward optimal central bank communication policies

This last observation leads me naturally from the comparatively safe domain of *positive* analysis to the inherently more dangerous domain of *normative* prescription. I do so with some trepidation because, as I have emphasised repeatedly, when it comes to central bank communications policy, one size (or shape) certainly does not fit all. This concluding section is therefore intended more to spur debate than to provide definitive answers.

Given what we know now about the effects of central bank communications, what policies might be thought of as "best practice"?

To begin on what seems to be safe *quantitative* grounds, I would judge that no central bank on earth currently communicates too much information, and that many communicate too little. Whether judged by the need for democratic accountability or by the effectiveness of monetary policy, the central banks of Norway and Sweden may now be the gold standard, and aspiring to their level of transparency may not be bad advice for the laggards.

Turning to specifics, it is hard to understand what purpose (other than deliberate obfuscation) is served by being less than fully transparent about the central bank's objectives, including posting a numerical inflation target (whether a point or a range). Notice that, if the bank has a dual mandate, revealing the objectives is *not* equivalent to inflation targeting. Notice also that the rhetoric of some inflation-targeting central banks, which focuses so single-mindedly on inflation, does not match their observed behaviour, which also displays concern with, say, output gaps.[18] That, to me, is *mis*communication and *lack of* transparency.

The statement that accompanies each monetary policy decision poses more delicate issues, since "optimal statement policy" must depend on the nature of the decision-making body. Briefly, a sole decision maker (eg New Zealand) should be able to release a lengthy and coherent explanation of both the decision and the reasons behind it right away. At the other end of the spectrum, an individualistic MPC (eg the UK) may be incapable of doing so in such a short time frame; indeed, the members may not even have agreed on the decision, much less on its rationale. In such cases, meaningful explanations must wait for the minutes, which should therefore be published as quickly as possible. Genuinely-collegial committees (eg the ECB and perhaps the Fed) are somewhere in between.

The case for public release of the central bank's forecast (possibly excluding the interest-rate forecast; see the next paragraph) also seems clear. Understanding the forecast on which the decision is based is an indispensable component of understanding the rationale for the decision itself. But here an operational issue arises for the overwhelming majority of central banks that make decisions by committee: Should it be the MPC's forecast or the staff's forecast that is released? My suggested answer is simple. If the discussions at MPC meetings are based on the committee's forecasts, then that is the one to release. If not, the bank should release the staff forecast. And I don't see why this information cannot be released with the statement. After all, forecasts obsolesce quickly.

But should the publicly-released forecast include the central bank's forecast of its own future behaviour – the expected future path of the policy rate? As indicated earlier, this is a ticklish issue on which opinions vary. The experience of New Zealand, Norway, and Sweden demonstrates that doing so is feasible. The Swedish experience, though still brief, demonstrates that it can even be done with an individualistic committee, which might have seemed implausible on its face. On the other hand, forecasting the future of the policy rate would require major changes in the *modi operandi* of many central banks. So this last transparency frontier may have to remain part of the aspiration level for most central banks for a while. While they are waiting, publishing interest rate forecasts from a reaction function estimated (or concocted) by the staff, but not necessarily "owned" by the MPC, seems a good compromise.

Who should speak for the MPC? The right answer here seems straightforward enough. Genuinely collegial committees should make every effort to avoid the cacophony problem by speaking with (as close as possible to) one voice. That could mean that only the chairman speaks for the committee, or that everyone may speak but adheres to a common message. On individualistic committees, however, multiple independent voices are essential and should not be suppressed.

Some evidence, though still thin in volume, suggests that clearer communications are more effective – a finding that carries some obvious advice to central bankers who may still prefer to be cryptic. (Remember, Karl Brunner!) In addition, the study that found more market impact from ECB press conferences than from ECB statements suggests that holding a press conference may be a particularly good way to communicate.

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[18]   I will not name the guilty, but Norway and Sweden are innocent of this charge.

By now, I must surely have given my discussants plenty to object. I look forward to their reactions.

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Monetary policy and central bank communication: complements or substitutes?

Discussion of Alan S Blinder, "Talking about monetary policy: the virtues and vices (?) of central bank communications"

Benjamin M Friedman[1]

Alan Blinder's paper offers a great deal of common-sense wisdom about central bank communication, along with a highly useful survey of both current practice and the current state of research on this key aspect of monetary policy. As Alan rightly recognises, the change in attitudes toward central banks' public discussion of monetary policy in recent decades has amounted to a virtual revolution in how policymakers in this important arena of economic activity behave. Within living memory, many if not most central bankers thought it unwise if not perhaps undignified to explain their policy objectives to the general public except in the most general and abstract terms. Addressing specific policy actions was seen as even more inimical to the accepted norms of professional conduct. Today, as Alan's numerous examples illustrate, the opposite is more nearly true. Central bankers not only speak regularly to the public about both their objectives and their actions, they consider it a virtue to do so.

To be sure, this revolution among central bankers has paralleled broader cultural trends within our society. A generation ago ordinary people did not discuss intimate details of their personal lives on television, human anatomical nomenclature was not an appropriate mode of naming stage plays and films, nor was the vocabulary of reproductive hygiene an accepted source of titles for books purporting to be serious literature. No doubt future cultural historians will sort out the resonance, and the influence, running from these changes in the popular and artistic worlds to the parallel changes that Alan documents in central bankers' newfound quest for revelation and disclosure. But as Alan persuasively argues, the changes that have occurred in what central bankers say about monetary policy, and in how they say it, are certainly important enough in their own regard.

The developments described in Alan's nicely comprehensive survey raise three logically related questions. The first is whether, from the perspective of the central bankers doing the communicating, monetary policy and communication about monetary policy represent complements or substitutes.

One's immediate reaction, I suspect, is to suppose that they are of course complements in the usual economic sense: If I hadn't drunk a cup of coffee this morning, I wouldn't have needed the milk that I used to dilute it. If central bankers weren't making monetary policy, they wouldn't need to tell anyone about it. The communication can go along with the policymaking or not – nothing dictates that I *must* add milk to the coffee I drink – but it seems clear enough that without the policymaking there would be nothing to communicate.

The modern logic of monetary policy points the other way, however. Even those central banks that conduct monetary policy according to an inflation targeting regime, or whose public charge places clear primacy on maintaining a low inflation rate, nonetheless seek to

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achieve that objective at the least possible cost in terms of foregone output and employment. (In Mervyn King's famous phrase, there are few if any "inflation nutters.") Modern representations of price determination – the various models underlying the New Keynesian Phillips Curve, for example, but by no means those formulations alone – relate pricing decisions to two distinct influences: (1) Price setters will set higher prices, all else equal, if their marginal costs of production are higher, and on average across all producers, marginal costs will be higher if the economy's level of aggregate demand is greater compared to the relevant "natural" or "full employment" output. (2) For given marginal cost, price setters will likewise set higher prices as they expect either prices or inflation to be higher in the future; hence expectations also matter. Both of these influences on price determination are operative, and in exactly this way, in models based on random price flexibility a la Calvo, staggered contracts a la Taylor, convex costs of adjustment a la Rotemberg and Woodford, Ss pricing a la Gertler and Leahy, and, in all probability, many others as well.

In light of this independent role for expectations, central bankers' concern for the public credibility of their commitment to a low-inflation trajectory is readily understandable. The lower is expected inflation, the smaller is the real economic cost – again, foregone output and jobs – required to contain the inflationary consequences of an adverse shock like an increase in oil or food prices. Similarly, the lower is expected inflation, the smaller is the real economic cost of returning to a low-inflation trajectory after some past sequence of events – a series of oil price increases, or perhaps even a period of misguided monetary policy pursued by one's predecessors – has placed the economy on an unacceptable path in this regard. Depending on the relative magnitudes assigned to the two key terms in the aggregate price setting mechanism, it is easy to understand the view, which Alan notes, that "the essence of monetary policy is the art of managing expectations" (pp 1–2).

To the extent that communication about monetary policy is part of the "management" of the relevant expectations, communication is a *substitute* for monetary policy in the standard sense of higher or lower interest rates and greater or lesser liquidity of credit markets. For a given adverse supply shock, or a given starting point with unacceptably rapid inflation, there is a continuum of combinations of interest rate increases and inflation expectations that will result in maintaining the central bank's inflation target, or returning to it. More success at persuading the public that future inflation will be low means less need for higher interest rates and depressed aggregate demand. More success by the central bank's press office means less need for reliance on the open market desk. One is a substitute for the other.

The second question, to which this substitutability gives rise, is to what extent central bankers therefore seek to influence expectations independently of their actual conduct of policy. The incentives for seeking to do so are immediately evident. Along the continuum of interest rate and inflation expectation combinations that will produce the desired inflation rate, in the face of a given adverse shock, or initial conditions with inflation unacceptably high, each combination corresponds to a different real economic cost. Specifically, those combinations with lower inflation expectations, and therefore a smaller required increase in interest rates, involve less reduction of output and employment compared to the prevailing full employment levels. In short, disinflation achieved by the open market desk involves real economic cost; disinflation achieved by the press office doesn't.

Incentives of this kind are hardly unique in economic policymaking, or even within the scope of central banking. To cite just the most recent example, market events of the past year have sharply reminded us that in most economies the central bank not only makes monetary policy but also acts as the lender of last resort. Before a liquidity crisis occurs, any lender of last resort will naturally want the operators of private financial institutions to believe that official assistance will rarely be forthcoming, and even then only on onerous terms. Otherwise the resulting "moral hazard" would create incentives for private parties to game the protective system by taking risks that they would not otherwise assume. But once a crisis is in full swing – for example, if one of the economy's five largest investment banks is threatened with bankruptcy and its numerous counterparties with chaos – a responsible

lender of last resort will presumably act promptly and aggressively to effect a rescue, if necessary even on terms advantageous (under the straightened circumstances) to the private parties involved.

It is not surprising, therefore, that in the monetary policy sphere as well, central banks sometimes seek to "manage" expectations without undertaking real monetary policy actions. Alan's paper enumerates many of the rhetorical devices that central banks have used for this purpose, and there are more besides: easing interest rates (or at least not tightening them) but simultaneously issuing a contrasting "bias" or "balance of risk" statement to signal that policymakers' aims nonetheless remain firmly fixed on inflation; issuing a detailed quarterly report on the central bank's monetary policy deliberations and actions but calling it the "Inflation Report," as if inflation were policymakers' sole concern; publishing a description and rationale of the central bank's monetary policy strategy that simply asserts the presumed long-run efficiency advantages of aggregate price stability for aggregate output, while giving no hint of any tension between inflation and output at nearer horizons; and the list goes on.

Alan acknowledges this tendency, but only briefly and only at the end of his survey: "Notice also that the rhetoric of some inflation-targeting central banks, which focuses so single-mindedly on inflation, does not match their observed behaviour, which also displays concern with, say, output gaps. That, to me, is miscommunication and lack of transparency" (p 16). (Earlier on, Alan uses italics to emphasise that in this paper he is writing about "*honest* central bank talk about monetary policy"; p 5.) I surely agree. But I think the practice is more widespread than he implies here, in no way limited to the two dozen or so central banks that are self-declared inflation targeters.

I also think the practice is potentially more harmful than Alan's brief mention implies. The damage results in the first instance from undermining the objectives that proper central bank communication is supposed to achieve, namely transparency and accountability. If the central bank regularly *mis*communicates (to use Alan's deft way of putting it), the purported efficiency gains to private sector decision making from greater predictability of future policy actions are obviously nullified. And if the central bank is deliberately obfuscating its policy objectives – or, more likely, if it reveals one among a set of objectives but conceals the others – the purported gains to what Alan calls the democratic accountability of its decision making are precluded as well.

Even apart from problems of deliberate obfuscation and opacity, I think Alan here takes too much at face value the currently commonplace view that certain forms of monetary policy strategy are, per se, clear and transparent for these purposes. He writes, for example, "An independent central bank should have a clearly-defined mandate. The Bank of England's inflation target, for example, comes straight from the Chancellor and is very precise" (p 6). True enough. But does anyone today, outside the Bank, have any clear or precise notion of how high or how rapidly the Bank's Monetary Policy Committee will decide to raise interest rates in order to return UK inflation to the stated target as decreed by the Chancellor? Or how soon inflation will return to that pace? Or what degree of foregone output and employment the Committee will accept along the way? For the private sector decision makers whose behaviour is at issue when we discuss the presumed efficiency gains from greater predictability of monetary policy, these questions too are part of what matters. They also bear importantly on the process of public evaluation that is central to democratic accountability. The idea that simply identifying a numerical inflation target is sufficient to specify a clearly-defined monetary policy strategy for these purposes is one of the commonly accepted fictions of today's monetary economics. But it is just that – a fiction – and a potentially very misleading one too.

The third question, following closely on the second, is to what extent it is *possible* for a central bank to "manage expectations" independently of what actual monetary policy does. Confronted with questions of this generic form, economists normally fall back on the familiar mantra that one cannot fool all the people all the time; and presumably this is so. But the

communication policies of many central banks today suggest that policymakers believe it is possible at least to persuade many people (perhaps even including themselves), for at least some period of time, of things that may or may not be true; presumably this is so as well. The practically relevant issues in this regard occupy a portion of the horizon spectrum that plays out long before it becomes necessary to conceive of the central bank governor as the Wizard of Oz. Unfortunately, to date economists have had less to say about what actually happens over such finite periods. There is clearly much useful research to be done.

A final question, not directly linked to Alan's paper, also seems worth raising in conclusion: As time passes, will the world of monetary policymaking eventually outgrow the legacy of the 1970s, including the fixation on credibility of the commitment to low inflation, and the other well known implications of the time inconsistency literature? Just a year or two ago, an even-handed assessment might well have expressed cautious optimism. Today, under the burden of a lengthening list of new adverse shocks – food, energy, the end of the information technology investment boom, security measures that likewise impinge on productivity gains – it seems more likely that the 1970s will be with us somewhat longer. So will the issues under discussion here.

The virtues and vices of talking about monetary policy: some comments

YV Reddy [1]

Governor Yilmaz, Professor Alan Blinder, Professor Benjamin Friedman, fellow-Governors, and distinguished academics.

I am honoured by the invitation from the Bank for International Settlements to be a discussant, for a paper[2] by the eminent and respected scholar, Professor Alan Blinder. It is virtually impossible to add value to the comprehensive and incisive analysis of the subject in the paper, which is on a subject of great relevance to central bankers. My comments will be basically to supplement or elaborate some ideas in the paper, from a practitioner's point of view. To begin with, there will be select comments on each of the sections of the paper keeping in view the Indian perspectives. The second part will highlight select issues, which appear to be especially relevant to monetary policy communication in emerging market economies (EMEs). The concluding part will pose some issues, which deserve debate in the search for what Professor Blinder calls "optimal" central bank communications policies.

Indian perspectives

Reasons for communication

There has been significant progress in India in enhancing communication and removing the mystique surrounding monetary policy. While in the pre-reform period, before the 1990s, the communication was relatively easy in a controlled environment, it has become a greater challenge in a market oriented environment particularly in the context of global financial market integration. The stake holders have become larger and wider and the monetary policy by itself in terms of operating framework and instruments has assumed increasing complexity. There is a clear recognition of the importance of market expectations in the conduct of monetary policy, partly influenced by academic work and partly by the demonstration effect of evolving practices among central banks. Perhaps, there are also other reasons for the demand for such enhanced communications in India; for example, increasingly greater transparency is demanded, as part of public policy, in almost all spheres of governance of the public sector, which includes the central bank. The media – we have six business dailies in English, apart from four business channels on television – exerts pressure, seeking information on many issues. In a way, there is both a supply side and a demand side to the communications by the Reserve Bank of India (RBI) on monetary policy aspects, in the context of evolving market expectations.

On the need for communications, we have no doubt that it enhances the effectiveness of monetary policy in a liberalised market environment. In fact, the experience in India shows that the need to communicate, by itself, compels far more rigorous thinking and analyses, as it is said that the best of learning comes from a compulsion to teach. The compulsions to

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[1] Governor, Reserve Bank of India.

[2] Talking About Monetary Policy: The Virtues (and Vices?) of Central Bank Communication, Professor Alan S Blinder, 8 May 2008.

communicate catalyse the processes to improve the quality of decision making and by providing a helpful feedback.

Democratic accountability, as a reason for better communication, is very valid for India also. But, improvements in communication have been taking place in the recent years without any formal recognition of the extent of RBI's independence. My personal feeling is that improved communication in regard to the thinking and the actions of the RBI has enhanced the *de facto* central bank independence while, *de jure*, there has been no noticeable movement in according greater independence.

Accountability to Parliament, the supreme body of elected representatives, is very important in the context of the functioning of a central bank in a democracy. In India, the RBI is accountable to the Parliament through the Ministry of Finance and thus its communication to the Parliament is through the Ministry. Whenever the views between the central bank and the Ministry converge, there should be no complexities. RBI is also summoned to give evidence before Parliamentary Committees, most often along with the officials of the Ministry of Finance. There are some occasions when the hearings of the committees are restricted to the RBI, generally when the Governor is called in. However, we are sworn to secrecy from making public our submissions to the Parliamentary committees, whereas the committee may make use of the material supplied by us, as considered appropriate. In a sense, the RBI's views, as submitted to the Parliamentary Committees, are not available in their entirety in the public domain.

It is quite possible that there are communications or signals, if not directions, from the Ministry of Finance often on issues relating to monetary policy or banking, a sector predominantly government owned. If these are consistent with those of the central bank, they reinforce the central bank policies, but if these are divergent, it poses a dilemma for central bank communication and to that extent a central bank may be constrained in freely articulating its policies.

These are some noteworthy features of communication in the context of democratic accountability to the Parliament in India.

Limits to communication

Based on my personal experience, it is possible to mention some limitations to making communication more effective in India. Most often, in any given context, the preferences of market participants may be different but not necessarily opposed to the public policy preferences. While transparency and communication in such circumstances helped in a re-ordering of the preferences, a surprise element in the decisions and timing of the communication was more effective when the public policy preferences and the market preferences were virtually in opposite directions. In the latter case, the communication of the reasoning for the actions, either concurrently or *ex post*, was found to be desirable.

Communication is not pre-commitment

Pre-commitment is generally useful on many occasions as part of monetary policy communication. I have two observations based on our experience in this regard. First, in highly uncertain conditions, a conscious view needs to be taken on the virtues of pre-commitment. Second, even when there is a pre-commitment and some reversal was needed at some stage due to unforeseen circumstances, a detailed and timely explanation for deviating from the assurance helps clarifying the situation. Further, degrees of pre-commitment may vary from a 'vague but indicative' to 'a definitive time-table', and our choice has varied depending on the circumstances.

What to communicate

On what to communicate, Professor Blinder refers to four different aspects of monetary policy; namely, overall objectives and strategy, motives behind a particular decision, the economic outlook and future monetary policy decisions. Most difficulties in putting these into practice arise in regard to the *future monetary policy decisions*. Our effort in this regard has been to explain the stance of the monetary policy that would govern the future, which is done currently at quarterly intervals. The emphasis of this communication is on presenting information and analyses, that allows the market participants to draw their own inferences, but the RBI desists from giving any explicit forward guidance.

The RBI is not only responsible for monetary policy but also for banking regulation, and for management of the external sector and the government debt. Further, the content of communications relates not only to policy changes but also to the path of structural reforms, including legal reforms. In our periodical communications we have adopted a format of presenting the monetary policy and developmental and regulatory policies in two distinct sections in our annual and mid-term reviews; while the first quarter and the third quarter communications are confined to monetary policy. Cross-references are no doubt, inevitable. These are in addition to various other forms of communication – regular or *ad hoc*, and formal or informal.

Central bank communication is generally perceived as synonymous with pronouncements on monetary policy. In fact, a central bank's dilemma is more pronounced with regard to communication of supervisory issues. On supervisory matters, the central bank communicates to the common person and does not confine necessarily to a specialised audience like financial markets or financial institutions. These market players with knowledge and skills can absorb such communication in the right spirit though they may have specific business interests. What the general public desires to know may at times be at variance from what the market players would like to be disclosed. The dilemmas of a supervisor, especially in a country like India are even more complex on account of the level of financial education.

Strategies and content of communication may have to be different for meeting the challenges of financial stability as compared to maintaining price-stability. In India, several measures, monetary as well as administrative, were undertaken to meet the threats to financial stability while complementary or parallel recourse was taken to communications. Some illustrations are: a speech in Goa in August 1997 to "talk down the rupee"; reassuring statements on market developments in the context of Asian crisis combined with a package of measures, in tranches in 1997 and 1998; pre-emptive measures in mid-1998 in the context of crisis in Russia; reassuring statements issued in the context of border conflict in 1999; a combination of liquidity injection and reassuring statements along with measures in the context of the 9/11; and in 2005, to explain the impact of the redemption of the India Millennium Deposits, to the extent of US dollar seven billion, on the foreign exchange markets. There could also be occasions where the central bank may not react to certain instances, for example when some sanctions were imposed on India. But, these decisions are taken thoughtfully and consciously after duly taking into account the need and market sensitivity. In brief, we take recourse to open market operations, open mouth operations, and open only eyes and ears operations in regard to threats to financial stability.

How to communicate

The public-face of the RBI in regard to formal communications is the Governor, but the Deputy Governor who deals with the subject also interacts more actively, more frequently and in greater depth with the media. These are in addition to the legal reporting requirements and several other documents that are placed in public domain at periodical intervals. In the absence of a formally constituted Monetary Policy Committee, this arrangement works well in terms of communicating with coherence, clarity and credibility.

On the impact of RBI's communication on financial markets, the most notable contribution has been in generating a better understanding, debates and sensitivities among the market participants and analysts, of the issues involved in money, finance and macro-stability. This process has been critical for India partly because the legacy of a planned economy required un-learning as well as re-learning and partly because the financial sector reform process as well as the context has been somewhat more unique to India than in many other EMEs.

Predictability

On the predictability of the monetary policy decision in India, I am not aware of any research work on the subject. Let me, therefore, take recourse to anecdotal evidence. Since 2004, RBI has been withdrawing monetary accommodation, strengthening prudential requirements and emphasising risks to price as well as financial stability. Most market participants seemed to have conditioned, at least until recently, their expectations of monetary policy response on what they considered to be the standard practice in advanced economies. As a result, for some time in the past, the RBI acquired an unwarranted reputation of always surprising the markets, prompting me to quip at one stage that "the financial markets always surprise me with their expectations from the RBI".

As regards the forms of central bank communications, our experience is that formal, structured and periodic statements are normally valued significantly, but there is a markedly heightened interest in speeches and comments in times of unexpected global or domestic developments.

India is not an inflation-targeting country. The democratic pressures have proved to be a disciplining force so far, and its record over five decades is reasonable relative to most developing countries. Further, the two groups of commodities that carry a large weight in the consumption basket, namely food and fuel, are subject to supply shocks, making it difficult to identify a "core" that could be meaningfully targeted. Yet, there are suggestions, mainly from the academia, for inflation targeting but there is little or no support for it in political economy.

There is a reference in the paper to paying some attention to communication with the general public. In India, we recognise that communication is not neutral to the target audience. The RBI communicates with various types of audiences – researchers, analysts, academicians, media persons, entities regulated by the central bank, other central bankers, rating agencies, international or multi-lateral bodies, and players in the financial markets. The RBI also endeavours to communicate with other special audiences, such as, urban and rural women and men, senior citizens, defence personnel and even school children. Let me illustrate with a communication initiative that RBI has undertaken two years ago. The Ombudsman Scheme for banks was revised recently and hence, the objective was to inform the widest section of our population. A Press Release might not have fully served the purpose. So, a decision was taken to issue an advertisement in print media – for which the content was indeed common but the languages differed. It was interesting to note that while the 15 leading Hindi newspapers with a larger circulation at 8.1 million and a far larger readership at 87.0 million helped us reach an audience that was almost five times larger than what we could have reached if we had advertised in leading English newspapers which are 17 and have a combined circulation of 6.3 million and readership of 17.9 million. In fact, in India, 54 leading non-English newspapers have a circulation of 21.4 million and a readership of 197.2 million. Given this experience of ours, we made the RBI website available apart from in English and Hindi, which are official languages of the Union Government, in 11 other national languages spoken by a large section of the population. Further, the RBI last year launched a Financial Literacy Project to educate the common person who is generally not financially literate. The project aims at imparting information and knowledge about banking, finance, and central banking to the common person in her or his own language. The material published under this project is, therefore, also made available in 11 major Indian languages apart from English and Hindi through a multi-lingual website.

These illustrations fully endorse what Professor Blinder has said in his paper "In the end, central banks derive their democratic legitimacy and hence their cherished independence from the consent of the general public"

Select issues relevant to EMEs

Let me attempt a few generalisations on the subject, keeping in view the EME perspectives.

First, it is not very clear whether the empirical research on the subject referred in Professor Blinder's paper has adequately covered EMEs. For example, BRIC countries (Brazil, Russia, India and China), South Africa, Indonesia, Saudi Arabia etc., are emerging as significant players in the global economy. Are their experiences different from those researched so far?

Second, the government happens to be a significant player in many EMEs, especially in the financial sector. In the circumstances, should communication with financial markets, which should admittedly be two-way for optimal results, exclude communication by/with the government? Naturally communication by/with the government, by its very nature, will have a differential and, at times, overlapping impact. But how does it affect the independence of the central bank and its policy effectiveness? This dimension poses a challenge for communication policy.

Third, the education function of central bank communication, that Professor Blinder referred to, may be more important in EMEs. In fact, such a function may enlarge the role of a central bank in the EMEs, when it carries credibility. In this regard, let me quote from an undelivered speech of a distinguished central banker[3] on the subject.

> "Communication is not just about transparency. It is also about education, guidance and steering things in the right direction. In this, the central bank can be an honest broker between the government and the public and even the parliament."

In fact, a central bank can influence changes in public policy that are relevant to monetary and financial policies. For example, at the cost of modesty, let me quote Mr. Tarapore, a respected central banker.

> "… when the definitive history of India's policy on gold is written up, the speech by Dr. Y. V. Reddy, Deputy Governor, Reserve Bank of India, at the World Gold Council Conference on 28 November 1996 will stand out as a watershed as it is perhaps the only speech by a senior Indian official which squarely takes on issues on gold policy and it will be appropriately recorded as a forerunner of major policy change."[4]

Fourth, relative to many other institutions in the public sector, central banks in many EMEs happen to have professional skills, experience and objective and independent thinking which can be drawn upon by the government, especially during the process of reform, in particular, reforms in the financial sector. Structural changes involving institutional and legal changes in EMEs may need active inputs from the respective central banks. How do theory, practice and expectation of a transparent and independent central bank reconcile with these practical compulsions?

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[3] Dr IG Patel's address to the SAARC Governors' meeting on Communication in Central Banks, which was scheduled for December 2004, but was cancelled due to tsunami.

[4] Excerpts from Mr Tarapore's address at the Gold Banking Seminar of the World Gold Council, New Delhi, August 2, 1997.

Fifth, the issue of financial stability is of great significance and enormous complexity for central bankers in the EMEs. These economies vary considerably with regard to their fiscal, current account, openness of the external sector, and dependence on oil-earnings or oil-imports. Yet, the analysts in the financial markets often treat them as a group, presumably because the EMEs are perceived to be high-risk and high-reward destinations for financial capital. That characteristic makes them more vulnerable to volatility in capital flows, sometimes for reasons other than economic fundamentals of the country concerned. As the title, EMEs, implies, they are emerging from one state to another, namely, from less market orientation to greater market orientation, and are thus, in a state of transition. Consequently, the central banks in the EMEs, in their pursuit of financial stability, have additional challenges. First, to manage the transition in their own economies, which has socio-economic as well as political dimensions; second, to keep a watch on the sentiments affecting foreign capital flows – which could change for reasons other than domestic.

The challenges for communication policy are considerably more complex for the central banks in the EMEs for some other reasons. More generally, the style and content of communication in EMEs has to evolve over time consistent with progress in financial sophistication. Further, in a globalised world, the communications by a central bank in advanced economies have a great impact on financial markets in EMEs. Communications, including scope for pre-commitment in policy, may have to factor-in these complexities.

Some issues for debate

Before concluding, I should admit that Professor Blinder's paper has provoked some thoughts that warrant further debate and I will mention them briefly.

First, communication is a two-way process and it is all about sharing of information. Market functionaries and agents have an equal role in enhancing their disclosure of data and information. But, studies seem to focus on one-sided communication from the policy makers. How far non-transparent and asymmetric markets could adversely affect the policy effectiveness of central banks? The recent sub-prime turmoil is a clear case in point. This may be worth examining.

Second, while discussing independence of central banks how do we capture the *de facto* elements as distinct from the *de jure* elements? While it is true that the distinction is specific to the overall governance in public sector in each country, there may be an explanation for divergences between the two that may either reinforce or undermine the credibility of communication. Further, there may be different degrees of independence that are being exercised in practice and it might be interesting to try and understand how these could be captured in future studies.

Third, the exercise of independence has generally been discussed in the context of price stability. The issue becomes more complex when threats to financial stability are faced, since crisis management, as distinct from prevention, requires coordination or at least consultation with the government, both in terms of actions and communication. This is particularly relevant if quasi-fiscal costs are involved. The more complex issue of managing the conflicts between price and financial stability goals on some rare occasions warranting consultation or coordination with the government, is another issue.

Fourth, how much of the recent empirical evidence is adequate to give credit to effectiveness of monetary policy by central banks relative to say, globalisation of trade in goods and services? At this stage, I must share with you one concern about the credibility bonus earned by an effective communication policy that I had expressed in 2006.

> "Is it possible that such "hands on" and "very successful" communication by many central banks with regard to maintaining financial stability have

resulted in under-pricing of risks by the private sector, or in a distinct lowering of aversion to financial risks? Is it possible that this credibility bonus is partly responsible for the upward pressure on the housing and equity prices becoming a global phenomenon?"[5]

Fifth, is it possible to envisage intermediate arrangements between an individualistic and a mandated Monetary Policy Committee? We may have an example of such an intermediate arrangement in India. We have an Advisory Committee on Monetary Policy, consisting of Members drawn from non-executive independent Members of the RBI Board and outside experts, to aid the decision making process. This arrangement enables participation without diluting the coherence, credibility and the flexibility – especially in regard to communication.

Professor Blinder, in a paper on 12th December 2005,[6] referred to four prototypical central bank decision making systems, namely, individual central bank governor (eg Reserve Bank of New Zealand); autocratically-collegial MPC (eg Federal Reserve System); genuinely-collegial MPC (eg European System of Central Banks); and individualistic MPC (eg Bank of England). Perhaps India would be a fifth prototype placed somewhere in the middle of the above four, in terms of proximity to the classic decision maker of economic theory. It could be called individual central bank governor – voluntarily collegial (Reserve Bank of India).

Finally, in the debate on accountability and independence, it may be useful to be clear as to whom the central bank is primarily accountable to. If a central bank does not enjoy independence, the question of its direct accountability will not arise. Broadly speaking however, do central banks tend to focus of late, more on accountability to financial markets, by design or by necessity, rather than say to the government, or the real sector, or the public at large?

Thank you.

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[5] Keynote address by Dr YV Reddy, Governor, Reserve Bank of India at the Regional Seminar on Central Bank Communications sponsored by the International Monetary Fund, held at Mumbai on January 23, 2006.

[6] Monetary Policy by Committee: Why and How, Alan S Blinder, December 12, 2005.