Six Practical Views of Central Bank Transparency

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May 6, 2002

In the span of fifteen years, central bank transparency has gone from being highly controversial to motherhood and apple pie (one can insert analogous certitudes by country here). It is now an accepted broad goal to which all central banks pay at least lip service. Yet, like many other broad concepts in economic policy, such as "fiscal discipline" or "price stability," what central bank transparency actually means remains rather open to debate. With the widespread adoption of inflation targeting, seen usually as an expression of increased central bank transparency, it is worthwhile to try to apply some clarity and rigor to this central banking concept *du jour*.

Recent monetary theory has been unsuccessful in providing this clarity. The bulk of today's theoretical models applied to central bank transparency – including in the formal analysis of inflation targeting – cast the issue as whether or not a representative agent of the public can discern the central bank's "type," wet or dry, that is soft or hard on inflation, and therefore whether it is more or less "credible."[1] This is simply the wrong question to frame, especially in the developed economies: no one really has any doubts about the commitment of any current central banks to low inflation, and any reasons for doubt that arose there would quickly become

Note: An earlier version of this paper was presented at the *Festschrift* Conference for Charles A. E. Goodhart, Bank of England, November 15-16, 2001. It is forthcoming in Paul Mizen, ed., *Central Banking, Monetary Theory and Practice: Essays in Honour of Charles Goodhart, Vol. 1*, London: Edward Elgar.

[1] The seminal article starting this approach is Cukierman and Meltzer (1986).

self-evident.[2] Discerning runaway fiscal positions, overt political pressures upon central bank governors, or economic world views at odds with today's perhaps questionable but evident consensus on a vertical long-run Philips curve is rather easy. Moreover, the all-or-nothing trigger strategy in these models implies that once a central bank type is revealed, all is determined. This unrealistically reduces the conversation between central banks and the private sector to a simple long-lasting thumbs up-or-down.

In practice, central bank transparency has implications for a number of narrower but more relevant day-to-day issues. These include the persistence of inflation, the response of financial markets to central bank announcements, and the treatment of intermediate monetary targets – that is, central bank transparency influences the short-run dynamics of private-sector expectations. The evidence, in fact, is that the effect of greater transparency on these dynamics is beneficial. A number of other interpretations of central bank transparency, grounded in the formal type-and-credibility literature, however, are unsupported by the evidence. In particular, the belief coming out of several recent models that more credible central banks will find excessive transparency unduly constraining, leading to sub-optimal results, is without empirical foundation.[3] Meanwhile, the setting of central banks' basic goals, and the public's evaluation of those goals (rather than of the implementation of them), appears to be unaffected by transparency.

The apparent disjunction between central bank transparency and accountability in reality is doubly disturbing. For purposes of even applied research, the failure of these widely-used

[2] Despite the constant invocation of the word "credibility," it remains unclear that this concept does any meaningful work, except as a circular validation of successful central banks' success. See Posen (1998).
[3] See Faust and Svensson (2000a) and Geraats (2001), among others, for examples of these models.

models' predictions raises further questions[4] about much of the theoretical time-inconsistency framework that has been the work horse of monetary economics in the last twenty years.[5] For purposes of practical policy and of this paper, the issue is more pressing. Recent developments in Japan and, to a lesser degree, in the United States and the eurozone have amply demonstrated that central bank independence can expand in harmful ways even as transparency increases and inflation targeting is adopted. It is time to discard two misleading claims: first, that increased transparency inhibits central bank independence; and second, that transparency provides sufficient accountability for central banks in democratic societies. Instead, we should increase both transparency and formal accountability structures. In particular, we should remove the goal independence of all central banks that retain it, including the Bank of Japan, the Federal Reserve, and the European Central Bank.

1. The Cell Phone-like Uses of Central Bank Transparency

Think of the relationship between a central bank and the attentive public as analogous to the relationship between a married couple. Good communication is key if the relationship is to cope well with the bumps and bruises of everyday life. While familiarity removes the need for too much explicitness in communication, changing surroundings and personal needs over time make it dangerous to take too much previous understanding for granted. Presumably, the relationship is for the long-term, and day-to-day misunderstandings do not imperil the relationship, but they can make it less pleasant or mutually beneficial.

[4] Broader problems with this framework, such as the observation that removal of the inflation premium proved rather easy once central banks chose to remove it, have been noted previously by Blinder (1998), McCallum (1997) and others.

[5] The critical papers being Kydland and Prescott (1977), Calvo (1978), and Barro and Gordon (1980), with the aforementioned Cukierman and Meltzer (1986) setting up a new sub-field in this area. In the spirit of transparency, I should acknowledge my own reliance on such models in, for example, Kuttner and Posen (1999), despite earlier published misgivings.

My wife already has a (subjective) estimate of how considerate a husband I am, that is, my "type" on a scale of wet to dry. While she may update it if I were to do something extraordinarily bad or good more than once, she is unlikely to do so as a result of our quotidian existence. In fact, small variations in the day-to-day signals she gets from me are likely to be ignored, while any big changes will be easily noticed, whatever the day-to-day signals. Communication between us therefore is not about her judging my type or my commitment – instead, it is about the smaller, practical, issues of coordination.

This fall, in response to the more worrisome world in which we find ourselves, my wife had me get a cell phone. This cell phone increases the transparency with which I live my life: I can be reached at any time we are apart, and similarly I can reach her; in an emergency (God forbid), I can make a call; and, most concretely, we can use it to update each other on our schedules, such as who is likely to get home first from work. I can be more or less considerate about updating her using the cell phone (probably well within one standard deviation of how considerate I was prior to having this transparency mechanism). Yet, her primary concern is to know where I am for practical reasons, and not to have a means of monitoring of my commitment to her well-being.

Being a bit more explicit, there are six conceivable channels through which my use of the cell phone could affect her:

- She could be more relaxed in general if updates via cell phone about my comings and goings reduce her worry;
- She could find life a little easier if this device makes it simpler for us to adjust our schedules;
- She could find that after all she really does not care about what I say on the cell phone, just that I am no less prompt or responsive than I was before;
- She could herself become more cognizant of my activities, and use this to demand greater responsiveness, perhaps interfering with my normal habits;
- She could become annoyed if I were to say that I would call at a specified time and am late in doing so;

- or, she could be more rather than less worried if she came to count on my calls, and events beyond my control, even innocuous ones, prevented me from calling.

It is ultimately an empirical matter which of these various, occasionally contradictory, but all theoretically plausible, effects will turn out to be of practical import to the day-to-day functioning of our relationship. To repeat, none of this, however, should change her basic estimate of what type of husband I am, and therefore of my level of commitment.

Now, consider the analogous situation of a central bank communicating with its public (including financial markets) as part of an ongoing relationship based on a fundamental assumption of trust and good will. The addition of various recent measures of transparency to monetary policymaking – announced inflation targets, disclosure of votes, timely publication of minutes, explicit forecasts, and so on – in hopes of showing sensitivity to markets and the public's concerns are the equivalent of my acquisition and use of the cell phone in response to my wife's concerns. Being a bit more explicit, there are six conceivable channels through which central banks' enhanced transparency could influence the public's and markets' reaction to monetary policy (see table 1):

- The public could be *reassured* in general if updates via regular releases about policy decisions reduce worry about what is going on in the short-term;
- The public and particularly markets could find it a little easier to plan if transparency about the *details* of the economy makes the world more predictable;
- The public could find that, after all, what central banks say is *irrelevant*, so long as the central banks are no less responsive to shocks than before;
- The public, and particularly markets, could become more cognizant of central bank activities, and use this to demand greater responsiveness *contingent* on specific targets, perhaps interfering with central banks' normal habits;
- The public could become *annoyed*, adding political pressures, if central banks were to announce a specific target or forecast, and fail to meet it;
- or, the public could be more rather than less worried in general, if it demanded adherence to announced targets, *diverting* central banks from responding optimally to shocks.

As Table 1 summarizes, each of these six practical views of central bank transparency (reassuring, details, irrelevance, contingent, annoyance, and diverting) focuses on a specific set of information releases, with a specific hypothesis for the impact of those releases upon expectations and central bank behavior, and for the mechanism by which this impact is transmitted. None of these hypotheses can be ruled out a priori on theoretical grounds, and these multiple options show the diversity of implications possible from (and proposed in) the current literature on central bank transparency. All are subject to empirical examination, however, and the rest of this paper summarizes the relevant variables to observe and evidence to date on each account. Examination of central bank transparency is largely a matter of examining the effects of inflation targeting, since that is where today's practical debate over what central banks should disclose comes to the fore, and where most of the empirical work has been done.

2. The Reassuring View of Central Bank Transparency

The first view of central bank transparency to consider is what I will term "the reassuring view," which is the view that the central bank engenders greater good will in the public sphere and the markets simply by the fact of communicating its general intentions. The key information released by the central bank in operational terms are statements about the nature of the monetary regime (is there an inflation target? does that target require a strict rule?), and about the goals of that regime (what is the inflation target? what factors recently caused the bank to allow a temporary overshooting of the target?). These are conveyed in the release of general information about the central bank and of speeches by senior officials, usually voting board members, about the purposes of the central bank. The specific content of the speeches are less important than that the effort to communicate is made and that it conveys the basic intent of the regime.

The theoretical framework or underlying model for such a view of central bank transparency is the "optimal state contingent rule" [OSCR], as described by King (1997). In this framework, communication by the central bank about its long-term inflation goal allows the bank to be more flexible in response to (supply) shocks in the short-run. Greater flexibility is the result of greater trust in the central bank that deviations from the target do not indicate a lack of commitment to the long-term target – the central bank which responds to shocks is not punished with the stabilization bias (see Svensson 1997). As extended in Kuttner and Posen (1999), the testable hypothesis of the OSCR or reassuring view of central bank transparency is that inflation persistence will decrease as the central bank approaches the OSCR (builds greater trust). This is because one-time shocks will not have pass-through effects on inflation expectations since the belief is strong that long-run inflation will return to target level.

Empirical evidence is quite strong in support of this view. Kuttner and Posen (1999) looks at the shift in bond market responses (proxying for inflation expectations) in Canada, New Zealand, and the United Kingdom before and after adopting inflation targeting for three possible effects: whether there is no change in inflation dynamics; a greater proclivity to an increase in interest rates following shocks (consistent with there being an increase in counter-inflationary conservatism); or a greater proclivity to a decrease in interest rates (consistent with there beings less persistence of inflation). There is strong evidence of decreases in interest rates, consistent with the interpretation that adoption of inflation targeting increases flexibility[6]. Kuttner and Posen (2001) and Vinhas de Souza (2001) examine the same hypothesis in a quasi-panel format, constructing datasets of monetary frameworks – observations on countries' central bank

[6] A recent revision and extension of this paper extends the data to 2001, and adds in two non-inflation targeters (France and Germany) as control countries, and the evidence proves robust to these extensions of the sample, with only inflation target adoption – an increase in transparency – increasing flexibility. These results are available from the authors upon request.

independence, announced domestic targets, and exchange rate arrangements – for a broad range of countries; both find statistically (and economically) significant effects of inflation targeting to reduce inflation persistence, but no such effects from any other element of the monetary framework. Apparently nothing reassures like transparency about goals.

This seemingly touchy-feely matter of trust in the central bank's long-term intent turns out to be a matter of high stakes. As Walsh (1998, ch. 10) summarizes the literature, most of the welfare costs of disinflation arise as a result of inflation persistence. Thus, if transparency in the form of inflation targeting does reduce inflation persistence, it has a major impact on welfare. It is important to recognize that the definition of inflation targeting made operational in Kuttner and Posen (1999, 2001), consistent with Bernanke, et al (1999), is a central bank that publicly announces a quantitative target for the inflation rate, no more and no less. Therefore one policy implication of this view is that explicit statements of long-term goals in a world of shocks confers benefits that "implicit inflation targeting," as many characterize the U.S. Federal Reserve pursuing, does not. Another implication is that there is no reason to unduly fear missing intermediate targets in the short-run when shocks arise, such as those for monetary growth or inflation, because trusting expectations will revert back to a reasonable central bank's long-term goal[7].

3. The Details-Oriented View of Central Bank Transparency

What I will term the "details-oriented view" of central bank transparency is much narrower than that of the reassuring view, and much more focused on the response of financial markets to central bank behavior. The information released by central banks important to this view is that of

[7] These two implications are the ones that arise out of the narrative interpretation of post-Bretton Woods monetary targeting in Germany and Switzerland given in Laubach and Posen (1998) and Posen (2000a).

forecasts, economic models, and the accompanying explanations of specific central bank decisions (e.g., instrument interest rate movements). As discussed in Blinder (1998) and Blinder, et al (2001), the Federal Reserve has taken steps in this direction, for example, by eliminating directives suggesting intermeeting changes, and announcing the funds rate target, along with the rationale for the decision. The hypothesized impact is that greater disclosure will allow the (bond) markets to see (or enforce) greater predictability in central bank actions. This goes to the general idea that communication removes noise from financial markets. Some European central bankers in the 1970s and 1980s demonstrated their belief in this principle in reverse by looking to surprise markets with their exchange rate and other interventions so as to intentionally cause greater uncertainty in markets.

The testable hypothesis of this view is that shifts in disclosure policy about policy board meeting-to-meeting decisions affect the market response to announcements. For this, recent work (e.g., Kuttner 2001; Poole, Rasche, and Thornton 2001) has shown that the evidence is clear in the US Treasuries market that the changes in Federal Reserve disclosure policies of the last 15 years (particularly since 1994) have reduced market volatility and increased predictability. There is less clear evidence regarding foreign exchange markets and very short-term movements in financial (including bond) markets (Bonfim and Reinhart 1999), with some indications that openly contentious discussion among central bank board members (as on the Bank of England Monetary Policy Committee at times) can make for strange intra-day announcement effects (Clare and Courtenay 2001).

Note that this effect is independent of and acts through different channels (and over a shorter time-frame) than the effect examined under the reassurance view: the independent variable of disclosure is instrument interest rate movements in the details view, but explanation of long-term targets in the reassurance view; the dependent variable is market volatility and predictability in the details view but inflation persistence in the reassurance view. This has the policy implication that these detail-oriented transparency enhancements can have their effect (and presumable benefits) without any change in fundamental regime, including to or from inflation targeting. This also illustrates why it is necessary to break down the examination of central bank transparency into separate practical views.

4. The Irrelevance View of Central Bank Transparency

This listing of practical views of central bank transparency must include the commonly expressed view of some (particularly US-based) practitioners, that central bank transparency is a lot of fuss over nothing. This "irrelevance view" asserts that talk is very cheap, and that credibility of a central bank is built up only through actions[8]. Expectations, both in the markets and in general, are largely adaptive if not skeptical. It is possible to link this view to the theoretical literature, following Cukierman and Meltzer (1986), about the establishment of reputation (see, e.g., Garfinkle and Oh 1995). Transparency here is at most the absence of interference with the markets seeing what the central bank actually does - given the usual assumption, however, that the only private information the central bank has is about its own preferences, the focus of markets and the public is on inflation and output outcomes which potentially reveal that information. Claims by a central banker to have a specific goal could just be attempts by a wet to mimic a dry, and will be discounted.

[8] Even though this was a commonly heard view at monetary policy conferences in the second-half of the 1990s, it is difficult to find an example of a central banker expressing this view on the written record, presumably for the obvious political reason that disparaging transparency could be seen as abuse of power. For an academic view in support of the deeds-not-words take on central bank transparency, see Friedman (2002).

The empirical implication of this irrelevance view is that changes in policy announcements alone should be ineffective in changing inflation expectations. If anything, those central banks who cannot do are the ones that talk, so the average inflation level should either be unchanged or increase (if after a shock a dovish central bank tries to cover its preferences). Explicit inflation targeting should be indistinguishable from implicit inflation targeting in its effects, so long as both are in pursuit of the same goal for inflation, holding the structure of the real economy constant. This view, however, is resoundingly rejected by the data. The classification of monetary frameworks in Kuttner and Posen (2001) directly separates explicit inflation targeters from central banks without announced targets, and finds that explicit inflation targeters have lower inflation (as well as lower inflation persistence) than those without targets (including so-called implicit targeters like the Fed)[9].

Consider as well the experience of the ECB adopting the Bundesbank's mantle: a tighter pursuit of low inflation, and lower short-term inflation results, on the part of the ECB have not resulted in lower long-term inflation expectations nor reduced volatility nor diminished inflation persistence versus its predecessor. Given the institutional mimicry of the Bundesbank by the ECB, and the lack of structural change in Europe over the period, this would seem to be attributable to the reduced transparency of the ECB versus the Bundesbank due to its multi-national consensus committee practices and its use of a "monetary masquerade" in far more confusing fashion than the Bundesbank ever did[10]. It does not make sense to attribute these results to the ECB's newness (as some ECB board members seem to do) under this irrelevance interpretation, because the inflation has been kept low enough under the ECB in the face of

[9] Several papers presented at the 2001 Federal Reserve Bank of St. Louis Annual Economic Policy Conference also provided evidence indicating positive effects of inflation targeting on economic outcomes.
[10] See Posen (1999) for a discussion of the monetary masquerade. Kuttner and Posen (2000) makes a similar argument having to do with the link between transparency and exchange rate volatility.

shocks to clearly demonstrate its (conservative) type. In short, explicit inflation targeting does seem to matter, whereas the irrelevancy view would suggest that it would not. This has an important policy implication for some of the major central banks around the world that claim that there is no need for the public announcement of an internal inflation target (arguments by some that explicit inflation targeting also does harm is considered in the next three views).

5. The Contingent View of Central Bank Transparency

The view of central bank transparency based on the most sophisticated theoretical framework, and attracting the most research attention at present, is what I will term the contingent view. Exemplified by Cukierman (2001) and Faust and Svensson's (2001a, 2001b) recent work, this class of models builds directly on the earlier work about discerning central bank types: the optimal degree of transparency for a central bank depends upon the degree of counter-inflationary conservatism of a central bank. Since more credibly conservative central banks are thought to induce more flexibility in price- and wage-setting (and a more vertical short-run Phillips curve), their policy instruments are thought to have less traction over the real economy. Accordingly, there is an inverted U-shaped curve for the amount of desirable transparency, with most and least credible central banks disclosing less than central banks of intermediate credibility, reflecting the trade-off between showing one's type and exerting monetary control[11].

Thus, the key information released by central banks in this view is about their mandates and about the votes of policy board members, as these (combined with easily discerned inflation outcomes) will give the greatest information to the public and markets about central bank preferences. The practical impact is assumed to be that increasing counter-inflationary credibility

[11] Other papers developing this point include Gersbach and Hahn (2001a, 2001b), Jensen (2001), and with a slightly different approach Geraats (2001).

produces a stronger reputation, but only over some intermediate range will this be associated with greater disclosure (since of course these are optimizing models, the most credible central banks will realize that they should not disclose as much as their less credible comrades do). The empirically testable impact is that there should be a tradeoff of inflation volatility for output volatility.[12] This is because in this framework the more credible a central bank becomes through stabilizing inflation, the less stabilization of output – and the less ability to stabilize output – from that central bank. This is closely related to some earlier arguments made about central bank independence, which also derived from the underlying Kydland-Prescott/Barro-Gordon time-inconsistency framework[13].

For all of the theoretical might behind it, there is very little empirical evidence in favor of this view. Chortareas, et al (2001) is the only study to date to offer some results directly in support of the argument that disclosures about votes, mandates, and forecasts reduce inflation volatility at the expense of a rise in output volatility, but the measures of transparency they use and their methodology has severe limitations (see the discussion in Posen 2001). More importantly, the broader mechanism assumed to be driving these models – that increases in counter-inflationary credibility steepen the Phillips curve and/or are accompanied by less attention to output stabilization – has been decisively rejected by the available cross-sectional evidence on the relationship between central bank regimes and either sacrifice ratios or stabilization of real outcomes[14]. Of course, complex theoretical models, with unobservable variables (credibility) and U-shaped relationships, are difficult to operationalize for empirical

[12] See Ball (1999) and Svensson (1999) for theoretical discussions of this tradeoff in the context of inflation targeting.
[13] See Rogoff (1985) for the first statement, and Alesina and Summers (1992), Posen (1995), and Eijffinger and DeHaan (1996) for critical empirical examinations of this point.
[14] See Debelle and Fischer (1995), Blinder (1998), Posen (1998), Kuttner and Posen (1999), as well as the studies cited in the preceding footnote. Hutchison and Walsh (1997) offers some time-series evidence that over a long span

work. It is possible that new evidence will be discovered in support of the contingent view, but the indications so far are not promising.[15]

The practical danger that arises from premature acceptance of this contingent view of transparency without adequate empirical support is threefold: first, it may encourage some "fine-tuning" of transparency for the supposed optimal level of disclosure and thus forego some of the benefits seen in the reassuring and details views; second, and relatedly, it may put an undue emphasis on the release of mandates and votes to the detriment of other important information disclosures available to central banks; and third, it may contribute to a climate opposed to output stabilization by monetary policymakers without much basis for such opposition. Given that there are strong empirical cases to be made for the significant beneficial effects of inflation target announcements on inflation persistence, of short-term policy decision disclosures on bond market volatility, and especially of countercyclical monetary policy on the real economy (even when undertaken by highly credible central banks like the Federal Reserve or the Bundesbank), we should await equally strong empirical confirmation of the contingent view before basing any policy decisions upon it.

6. The Annoyance View of Central Bank Transparency

The next issue is how transparency might do harm, rather than being a good strategy when appropriate (as in the contingency view) or a normal good where more is better (as in the reassurance or details views). The weaker version of how central bank transparency might cause harm to policymaking and economic outcomes is what I will term "the annoyance view." In this

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of time there is some decline in the New Zealand sacrifice ratio after the RBNZ received independence, but disentangling this from broader reforms in that economy is difficult.

view, if the central bank discloses too much information about how policy gets set in the short-term – releasing minutes and votes that induce perceptions of personalization of policy; announcing explicit intermediate targets only to miss them – the public will be confused. This confusion will give an opening for opportunistic politicians to criticize or scapegoat the central bank (even well-intentioned but misinformed politicians might call a central bank to task for missing its optimally ignored but publicized monetary growth targets). So disclosure leads to confusion, which leads to politicization, which in turn annoys optimizing central bankers into overreacting to short-term pressures and targets. Though this empirical prediction is of course very different from that of the irrelevance view of transparency, it is similar in its world-weary, let the central bankers do their job, practitioners' spirit of thinking about disclosure.

Anecdotal support for this view seems to be easy to come by, at least as far as avoiding annoyance seems to have played a role in central bank decision-making. The Federal Reserve under Paul Volcker in the first half of the 1980s used announced monetary targets as a "heat shield" to divert Congressional and public attention from its real aim of disinflation (Blinder 1998); the Bank of Japan has opposed calls for an inflation targeting regime to counter deflation in recent years in part due to fear that they would miss an announced target, bringing in political pressure (Posen 2000b); concern about national identification of policy positions leading to popular disapproval preventing tough choices has made the European Central Bank reluctant to release voting or detailed minutes of its discussions (Gersbach and Hahn 2001a, 2001b).

More rigorous empirical examination of this view, however, remains to be done. One way of tackling it would be to consider the effect of missing intermediates target on inflation expectations or on measurable political pressures (perhaps proxied by newspaper reports of

[15] Unreleased work at the Bank of England by Chortareas, Stasavage, and Sterne usefully examines the relationship between their measures of central bank transparency and sacrifice ratios, as discussed in Posen (2001), there are

criticism of the central bank by legislators) in a time-series or event study context. Laubach and Posen (1998) go a certain length in this direction by examining the Bundesbank and Swiss National Bank experience, noting that missing the respective central banks' monetary targets more than 50 percent of the time seemed to enhance credibility, when the misses were accompanied by public explanations, but it is unclear how much relevance these cases have for other countries. Similarly, it would appear that the Federal Reserve only gained in credibility and stature when it officially announced its abandonment of the monetary targets it had long since stopped following, but separating that from the accumulating stature of the Greenspan Federal Reserve over the 1990s would also be difficult. From the broader cross-sectional evidence on inflation targeting, however, to the degree that inflation targeting regimes inherently embody both represent disclosure and occasionally foregoing short-term commitments, the evidence is that increasing transparency is associated with lower average inflation rates (Kuttner and Posen 2001) – which is the opposite what would be expected if the annoyance view that disclosure gives openings for political pressure were to hold.

7. The Diverting View of Central Bank Transparency

The stronger and, I would argue, more serious view of how central bank transparency might cause harm to policymaking and economic outcomes is the one that announced inflation targets and other disclosures force the central bank into more rule-like behavior. I term this "the diverting view" because the inflexibility of unidimensional (inflation) targets diverts the central bank's attention from responding appropriately to shocks. This is the exact mirror image of the reassurance view discussed first – again, the key information for the central bank to release is its medium-term targets and ultimate goals, but in this view by releasing that information the central

difficulties with these transparency measures, as opposed to simpler assessments of disclosure.

bank occasions increased oversight (rather than increased public trust), resulting in less discretion (rather than more flexibility) in responding to economic events. The theoretical case for the sub-optimality of strict rule-based inflation targeting (with zero weight on output goals) is relatively straightforward to make, and can be seen in King's (1997) discussion of the "inflation-nutter" or Ball (1999) and Svensson's (1999) treatments of "inflation-only targeting"; Friedman and Kuttner (1996) make an extended empirical analogy between "a price target for U.S. monetary policy" and an assessment of the damage that could potentially be done by an overly rigid adherence to a fixed nominal anchor in the face of supply shocks.

The theoretical prospect that central banks might be unduly constrained by explicit inflation targets or other forms of disclosure, however, does not mean that they inherently must be or that they in fact have been so constrained. Ball (1999), King (1997), and Svensson (1999) issue their warnings against inflation-only targeting from the point of view of inflation targeting advocates who are seeking to avoid an unnecessary diversion of a potentially welfare-enhancing regime. In terms of operational design, Bernanke, et al (1999) and Svensson's (2001) analyses of the Reserve Bank of New Zealand's inflation targeting framework make a parallel case that specific structures of the inflation targeting regime – beyond the public announcement of a quantitative inflation target – can influence the degree to which that regime looks like a rules-based system.

The empirical assessment of the diverting view comes down to the mirror image of the assessment of the reassuring view of transparency: do central banks who adopt inflation targets behave in a more conservative counter-inflationary fashion, putting more relative weight on inflation over output goals, thereby inducing greater output volatility? As indicated in the discussion of the reassuring view, the evidence appears to go solidly in the opposite direction. Kuttner and Posen (1999, 2000, 2001) undertake a variety of exercises – time-series analysis of before and after target adoption behavior of central banks in response to economic shocks; checking for structural breaks in the estimated Taylor (1993) rules for disclosure changing central banks' relative coefficients on inflation and output[16]; and quasi-panel data across monetary frameworks on the effects of inflation targeting controlling for other monetary and exchange rate commitments – and find that inflation targeting central banks increase their flexibility in responding to shocks, and show no decline in their relative weight on responding to output volatility.

8. Independent and Transparent: The Next Question

To summarize, there are present in the literature and policy discussions six coherent views of central bank transparency that I have identified, but only two of them – the reassurance and the details-oriented views – have clear empirical support. Central bank announcement of medium-term inflation (or perhaps other domestic nominal) targets increase flexibility in response to shocks and decrease inflation persistence, with presumably important welfare benefits; central bank disclosure of information regarding specific interest rate moves does reduce volatility in bond markets (except at the very short time-horizon). There is theoretical debate about whether the most credible central banks can be too open - meaning that the utility of transparency is contingent upon credibility, and that credibility's effect on the real economy - but the associated evidence on the effects of central bank credibility on the real economy, as well as the ongoing ability of such credible central banks as the Federal Reserve to stabilize output, indicates this theoretical possibility should not be taken too seriously.

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[16] It should be noted that Lars Svensson has raised questions about whether such relative reduced form coefficients in Taylor rules actually represent central bank preferences. He has also advocated that central banks should in practice announce their "deep parameters" in their loss functions (or in those of the voting board members).

Another not yet closed question is whether missing announced short-term targets leads to disruptive political pressures on the central bank, and some central bankers (notably in Japan and the U.S.) seem to believe strongly that they do generate such pressures. The historical experience of numerous central banks such as the Bank of England, the Bundesbank and the Swiss National Bank, however, seems to demonstrate that such target misses do not have that effect in practice. More importantly, there is direct empirical evidence against the view that increased central bank transparency causes harm by diverting monetary policy from counter-cyclical stabilization into rule-like inflation-nutter behavior.

So in practice central bank transparency seems to be a good thing, with embodiment of it in the current form of inflation targeting offering important benefits, and for the most part more transparency being better. The key issue for policy is to invest in a communications framework that allows central bankers to respond gradually to the inflationary effects of supply shocks, as Posen (2000a) outlines and advocates based on the experience of the Bundesbank. Cell phones are best used for sufficient conversations rather than instant messaging if the goal of communication is to avoid misunderstandings; so, too, with central bank transparency, replacing the yes-no of whether targets are hit or not with ongoing conversations with the public and markets about the nature of shocks. But transparency should not be seen as good for whatever ails central banks.

In particular, one word that has not appeared in this discussion is "accountability," because transparency does not seem to have much effect on it. On the surface this seems implausible – Bernanke, et al (1999), Blinder, et al (2001), and, even ahead of fashion, Roll, et al (1994) assert that greater transparency, among other things, will make it more difficult for central banks to behave incompetently or to diverge from public desires in an extended fashion. These authors, however, failed to consider the interaction between central bank independence and transparency, or rather the lack of interaction.[17]

The worldwide trend towards central bank independence has shown no signs of abating over recent years, and seems itself to be independent of whether or not countries adopt inflation targeting or other monetary transparency measures (Berger, et al 2001; Kuttner and Posen 2001). Independent central banks have gained in stature around the globe as they have delivered low inflation, been perceived as necessary (in the EU and the accession countries, the Maastricht Treaty makes that necessity a legal requirement, as do some instances of IMF conditionality), and benefited from the erosion of support for elected officials' economic authority (e.g. in Japan). Few legislative powers have been enacted to keep up with this trend, and transparency alone has not checked the exercise of central bank discretion beyond what accountability would ideally bear.

Recent developments in Japan and, to a much lesser but real degree, in the United States and the eurozone have amply demonstrated that central bank independence can expand in harmful ways even as transparency increases. The Bank of Japan has become markedly more transparent since gaining independence in April 1998, publishing board votes and minutes and, more recently, an official forecast, as well as undertaking a campaign of speechifying by top officials. Yet, the Bank of Japan has pursued a disastrous deflationary policy, pointedly rejected entreaties by elected officials to consider policy coordination, and explicitly taken stands on policy issues (inducing bank reform and economic restructuring) not covered in its legal mandate simply because it views them as important. In fact, the transparency has made evident the contradiction between the Bank of Japan ignoring its mandate to maintain price stability and its

[17] Which admittedly included myself circa 1997-1998 in Bernanke, et al (1999).

published forecast of ongoing deflation, but there has been no accountability to bring those into line.

The U.S. Federal Reserve has taken advantage of the personalization of monetary policy in the form of widespread Greenspan admiration to chart its own course on what is an acceptable level of inflation and output (and some would say of the stock market) without much regard for Congressional definition of goals. While it is difficult to argue with the results, this sets up room for strife if not a fall in credibility when Greenspan is eventually replaced, and there is no more formal structure in place to enunciate the Fed's goals beyond saying Congress should trust the Chairman –failure to institutionalize the credibility gains of the Greenspan years, rather than increasing transparency and accountability through inflation targeting, is the real source of risk that U.S. monetary policy will be diverted into rule-like behavior or other problems imposed by political pressures.[18]

The European Central Bank has from its creation had excessive insulation from political oversight due to the structure of the Maastricht Treaty and the weakness of the European Parliament, but the democratic deficit of European monetary policy has been compounded by the ECB's switching back and forth between its two "pillars" (monetary and inflation targets) of policy as explanations for behavior. It also runs a small but still unacceptable risk of copying the error of the Bank of Japan, and falling into deflation after a shock, by maintaining a "less than 2 percent" inflation target, rather than one clearly above zero. Exemplifying the lack of link between transparency and accountability, the ECB persists in these obvious choices in the face of clear and widespread criticisms of them.

[18] See Bernanke, et al, (1999), ch. 12, and Bernanke, Mishkin, and Posen (2000) for warnings to this effect.

The apparent independence of central bank independence therefore creates a disjunction between central bank transparency and accountability in practice that is disturbing. It is time to discard two misleading claims: first, that increased transparency inhibits central bank independence because it clearly does not; and second, that transparency provides sufficient accountability for central banks in democratic societies. Instead, we should increase both transparency and formal accountability structures. I would suggest that we should remove the goal independence of all central banks that retain it, including that of the Bank of Japan, the Federal Reserve, and the European Central Bank. As the Bank of England, the Bank of Canada, the Swedish Riksbank, the Reserve Bank of Australia, and other inflation targeting central banks have demonstrated, there are ample benefits from what the combination of transparent monetary policy and instrument independence can achieve under a medium-term inflation target set by elected officials, and little cost for the accountability gain of surrendering goal independence. Certainly, none of the valid practical views as discussed here of the benefits of central bank transparency would be overturned by the removal of goal independence from those central banks which still have it.

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Table 1
Practical Views of Central Bank Transparency

View of Transparency	**Information Released**	**Hypothesized Impact**	**Cause of Impact**	**Testable Impact**	**Result**
Reassuring	Regime, speeches	Greater flexibility	Greater trust	Inflation persistence	Supported by evidence
Details	Forecasts, models	Greater disclosure	Greater predictability	Market response	Supported by evidence
Irrelevance	Whatever	None	Only actions matter	Inflation level	Exact opposite – lower inflation
Contingent	Mandate, votes	Stronger reputation	Greater credibility	Inflation volatility	Unsupported by evidence
Annoyance	Minutes, targets	Greater confusion	Increased politicization	Effect of target misses	Unsupported by evidence
Diverting	Targets, goals	Less discretion	Increased oversight	Output volatility	Unsupported by evidence