

# Discussion

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## 1. Bruce Preston

It is a pleasure to discuss the paper ‘Robust Design Principles for Monetary Policy Committees’ by David Archer and Andrew Levin. The authors’ task is to identify a set of principles to apply to the design and conduct of monetary policy committees. Motivated by monetary history over the past 100 years or so in the United States, and recent case studies from several countries, they propose 11 principles – 7 relating to governance and 4 to transparency – that they argue will minimise the risk of serious errors in monetary policy. This is an ambitious topic and certainly a useful contribution to a conference marking 25 years of inflation targeting in Australia.

Given the nature of the paper, and the breadth of ideas canvassed, I will restrict my comments to the four transparency principles. While they are, for the most part, what would be expected by students of modern monetary economics, I think it is useful to review the theoretical foundations of the stated principles. With these preparatory insights established, I will then provide some reflections on what these principles might mean for the future of central bank communications policy in Australia.

### Elements of policy design

To give content to the proposals of Archer and Levin, recall some basics of policy design. Do this in the simplest formal model to be precise about ideas. Nothing hinges on the choice of model, or indeed the formal statement of a model – the same points can be made using verbal argument and description, and the use of a model doesn’t imply judgement is unimportant in actual policymaking. Consider a central bank that adopts inflation targeting to implement monetary policy and specifies the numerical objective

$$\pi_t = \bar{\pi} \tag{1}$$

where  $\bar{\pi}$  is the legislated target rate.<sup>1</sup> By itself, this policy rule represents an incomplete policy framework. The central bank must also specify a theory of the transmission mechanism to determine how its instrument of policy – in Australia, the overnight cash rate – affects inflation.

For the purposes of this discussion, take the standard New Keynesian model as the true model of the economy. Aggregate demand and supply are given by the equations:

$$x_t = E_t x_{t+1} - \sigma (i_t - E_t \pi_{t+1} - r_t^n) \tag{2}$$

$$\pi_t = \kappa x_t + \beta E_t \pi_{t+1} \tag{3}$$

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<sup>1</sup> Objectives consistent with the Reserve Bank of Australia’s, which acknowledge nominal and real concerns, leave the following discussion unchanged.

where  $\sigma, \kappa > 0$  and  $0 < \beta < 1$  are model parameters,  $x_t$  the output gap,  $i_t$  the nominal interest rate,  $r_t^n$  the exogenously determined natural rate of interest, and  $E_t$  the mathematical expectation conditional on information observed in period  $t$ . To determine the current interest rate setting,  $i_t$ , the central bank must solve the system (1)–(3) which requires computing projections of the macroeconomic variables

$$\{i_T, \pi_T, x_T\}_{T=t}^{T=\infty} \quad (4)$$

into the indefinite future. The need to compute these projections is a consequence of the forward-looking behaviour of household spending and firm price-setting decisions in Equations (2) and (3).

To see this property of rational expectations equilibrium models clearly, in any bounded equilibrium aggregate demand and supply must satisfy

$$x_t = -\sigma E_t \sum_{T=t}^{\infty} (i_T - \pi_{T+1} - r_T^n)$$

$$\pi_t = \kappa E_t \sum_{T=t}^{\infty} \beta^{T-t} x_T$$

This equivalent representation underscores the centrality of the conditional expectations of interest rates, inflation and the output gap for policy design. In particular, it is not only the current interest rate that matters for aggregate demand, but rather the entire future sequence of one-period interest rates. That long-term interest rates matter – an example of the expectations hypothesis of the term structure – highlights why communication about the future conduct of monetary policy can influence current demand conditions, and why such policy may be effective even when policy is temporarily constrained by the zero lower bound on nominal interest rates.

For a central bank with a mandate to minimise the variability of inflation and the output gap, an immediate implication is that optimal policy has  $\bar{\pi} = 0$ . The central bank can completely stabilise prices and the output gap by choosing

$$i_t = E_t \pi_{t+1} + r_t^n \quad (5)$$

in each period. Anticipation of this policy conduct is consistent with  $x_t = 0$  and, therefore,  $\pi_t = 0$ . While it would be tempting to conclude that the central bank's job is done at this point, in general, it will be insufficient for the central bank to communicate only the projections in Equation (4) that are consistent with the interest rate rule in Equation (5). There are two difficulties with such an approach. The first is that households and firms may hold different views about future macroeconomic outcomes, which are nonetheless consistent with the announced interest rate projections – an example of indeterminacy of rational expectations equilibria. Announcement of the profile of interest rates implied by Equation (5) does not permit agents to infer how alternative projections will change the future conduct of policy. The second difficulty is that purely forward-looking decision procedures of the kind described will not always be the best policy.

One simple example of when a purely forward-looking decision procedure for monetary policy is not the best policy arises when aggregate supply is affected by cost-push shocks (that is, inefficient variations in firm's cost structures). In this case, optimal monetary policy will be history dependent, taking the form

$$\pi_t = -\frac{\lambda_x}{\kappa}(x_t - x_{t-1}) \quad (6)$$

where  $\lambda_x > 0$  is the weight on output gap stabilisation in the central bank's loss function. History dependence is captured by the lagged output gap in the target criterion. This term arises because the central bank internalises the effects of its policy conduct on inflation expectations. Commitment to this target criterion ensures determinacy of the equilibrium and is the optimal policy in response to both natural rate and cost-push disturbances.

Adding a cost-push shock,  $u_t$ , to the aggregate supply curve modifies the system (2), (3) and (6) such that the interest rate rule becomes

$$i_t = \frac{1}{\sigma} \left[ E_t x_{t+1} - \frac{\lambda_x}{\lambda_x + \kappa^2} x_{t-1} + \left( \frac{\beta \kappa}{\lambda_x + \kappa^2} + \sigma \right) E_t \pi_{t+1} + \frac{\kappa}{\lambda_x + \kappa^2} u_t + r_t^n \right] \quad (7)$$

This central bank reaction function demonstrates how interest rates will be adjusted in response to past outcomes, to changing economic disturbances, and to shifting expectations. To assist economic decision-making, which depends on future interest rate decisions, households and firms need to know, or be able to infer, this reaction function. Knowing the reaction function permits agents to contemplate alternative paths for the future evaluation of inflation and the output gap, and their implications for the conduct of policy. To do this, it is not enough that a central bank announces the target criterion in Equation (6) as the goal of policy along with the projections this policy implies when solved with Equations (2) and (3) – agents must also have information about the model the central bank uses to inform its choice of the interest rate. This idea is central to good communications policy.

This simple theory highlights the importance of Archer and Levin's transparency principles. The principles, in large part, represent an attempt to codify properties of what theory considers good policy – properties which permit the public to evaluate a central bank's execution of its mandated duty. How does the Reserve Bank of Australia (RBA) fare on their proposed design principles?

## Current practice in Australia

A core document in the RBA's communication strategy is the *Statement on Monetary Policy*. This document is produced quarterly and provides an assessment of the current state of the economy, a set of projections on inflation and the real economy, and some risk assessments to these projections. While this document is an evolving project, the above discussion underscores some dimensions for possible development. First, providing projections each quarter (without a clear statement of the supporting intellectual framework) is an example of a purely forward-looking decision procedure which will be subject to indeterminacy of equilibrium and be sub-optimal. While the projections may well be consistent with the goals

of policy, they may be equally consistent with many other economic outcomes. The difficulty arises not solely because projections are based on market expectations. It would remain a problem even if the RBA provided its own interest rate projections because necessary information about the modelling framework used to construct them would still be absent. Either approach represents a description of future policy which fails to clarify the reaction function, knowledge of which permits agents to contemplate how policy would change in response to different economic conditions. And because such forward-looking interest rate decision procedures lack history dependence, they cannot be the best possible policy.

Second, there is very little information about the policy framework. It is hard to discern the reaction function, and what perceived trade-offs are relevant for the conduct of policy. The absence of this information limits credibility as households and firms cannot distinguish poor policy from developments that are beyond the control of the central bank. For example, in the simple model above, knowledge of the optimal policy rule in Equation (7) permits evaluating policy *ex post*: if interest rates turn out to be different than announced, one can infer whether this is because there were unanticipated disturbances to the economy (events beyond the control of the central bank which require changes in the stance of policy) or because the central bank did not fulfil announced promises (poor policy). Evaluations of this kind give content to credibility. Without them, credibility has no content.

Third, while outlines of various risks to the projections are welcome, this discussion is largely executed without any reference to a central bank reaction function. While this may not matter when taking any one risk to the projections in isolation (because the implications for policy are thought to be obvious – though this begs the question of why they aren't then stated), the absence of information becomes problematic when two or more risks are material to the near-term evolution of the economy. For market participants to evaluate the implications of different risks for the future conduct of policy, they need to understand how these risks are weighed against each other, as they may imply qualitatively different adjustments to the policy rate. Again, information of this kind is directly encoded in the central bank's model of the economy and resulting reaction function.

## Going forward

Proposals for communications policy reform are invariably met with scepticism. Common objections, at least in the Australian context, are: that the RBA already has credibility; that providing additional detail about the RBA's policy framework would represent false precision and undermine existing credibility; and that businesses simply don't care for clarification about the near-term evolution of interest rates.

Discussions of RBA credibility typically focus on the narrow criterion that past inflation rates have been consistent with the formal objectives of policy – see DeBelle (in this volume) and Stevens (2016). But arguing that the inflation rate has averaged 'two point something per cent over the business cycle' ignores the fact that there are many ways such an outcome could be obtained and that, without further information, it is impossible to determine whether this is because a set of policy mistakes have simply averaged out, or whether it was truly the

result of good policy. Similarly, the idea that businesses currently don't think clarification of the near-term conduct of interest rate policy is useful for investment and hiring decisions, doesn't mean there would not be circumstances in which it would be helpful for the RBA to have them hold certain views about the future conduct of policy – indeed, one need only look abroad for countless examples. And failure to spell out what different risks mean for the conduct of policy may be interpreted as an act of plausible deniability (e.g. 'we never said we wouldn't change policy if China collapsed – we just didn't say how we would change'), which can damage credibility.

This brings me to a fundamental point about communication policy and the value of credibility: consider a situation in which the central bank misses the inflation target for a sustained period (as had been the case in many advanced countries after the global financial crisis). The central bank will want to claim that this is for reasons beyond its control – but how would we know? Communication and credibility go hand in hand. Without communication, credibility has no content. And without credibility, a central bank will find its ability to defend its policy framework limited in certain circumstances.

The RBA has much to be proud of. Establishing a low-inflation environment and the legitimacy of the inflation-targeting regime is an important achievement, one rightly commemorated by this conference. But this doesn't imply the framework can't or shouldn't evolve, or that future events wouldn't challenge its legitimacy. Australia is in the fortunate position of being able to have a discussion about the policy framework outside of a financial crisis, and to integrate some of the policy lessons which emerge from recent international experience. The financial crisis underscores some limitations of inflation targeting as practised, with a number of high-profile central banks experimenting with new communications policies to provide stimulus when conventional interest rate policy was constrained by the zero lower bound. As such, it seems worth developing a framework that has the flexibility to respond to developments of this kind. Archer and Levin's principles provide a useful template for critical review and potential reform.

## Reference

**Stevens G (2016)**, 'An Accounting', Address given to the Anika Foundation Luncheon, Sydney, 10 August.

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## 2. General Discussion

Discussion initially focused on central bank communication. A participant suggested that economists have focused primarily on the behaviour of those *sending* information, while the clarity of the message to those *receiving* the information is just as important. Another participant highlighted that central banks had been scared of press conferences because they might say the wrong thing, but there's a risk to saying nothing. There was some concern that some measures designed to increase transparency had caused problems.

Participants discussed the value of the US Federal Reserve's practice of publishing long-run projections and dot plots. Dot plots were designed to show diversity of opinion on the future path of interest rates. The long-run projections were introduced to provide the public with information about where Federal Open Market Committee (FOMC) members wanted inflation to end up, which was useful before the introduction of the Federal Reserve's inflation target. Projections of long-run gross domestic product (GDP) growth and employment were supposed to indicate the views of FOMC members on potential GDP growth and the non-accelerating inflation rate of unemployment (NAIRU). However, the volatility of these projections caused market participants to focus on the effect of data releases on changes in the decimal points of forecasts, rather than the long-term outlook for the economy. This communication also failed to reveal the reasons for differences in opinions and the risks to the modal forecast.

Participants were also concerned that too much of the focus of central bank communication has been on market participants, without much attention to explaining to the general public what the central bank is trying to do and why. This has meant that there was too much communication, and the information was too technical. In this context, participants debated central banks' near-term strategies. Some participants felt that reaction functions should be made explicit to improve transparency and help the public make economic decisions. However, other participants felt that this would be too technical for the broader public. There was agreement that publishing forecasts of alternative scenarios was an appropriate solution. Scenarios can communicate how the central bank would react to future events, while also providing a diversity of views and highlighting uncertainty in forecasts.

The second major theme of the discussion was the importance of a diversity of views. Participants reflected on the experiences over the past decade and stated that groupthink had been apparent and had persisted through the global financial crisis. A lack of diversity in backgrounds and experience was identified as one of the reasons for this groupthink. One participant noted that following the Asian financial crisis, many Asian countries followed a very formulaic and 'cookie-cutter' approach on issues such as the structure of monetary policy committees and communication. Another participant said that making a central bank's near-term strategy explicit could conflict with encouraging a diversity of opinion. This is because having a near-term strategy implies a high degree of consensus. One solution proposed to increase the diversity of views considered was for economists to look to other disciplines because they could provide beneficial insights.

The discussion then turned to how monetary policy committees should be designed to minimise groupthink and take into account a diversity of views. The mix of expert and non-expert members was central to this debate. Participants desired experts on monetary policy committees to allow thorough economic analysis of the state of the economy. Participants felt that the role of the committee is to provide a quality review on the decision-making process. This role can be filled by non-experts just as well as experts, because this quality review should cover aspects such as whether there was enough diversity of views coming through and the number of different scenarios being considered. Non-experts also

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contribute to the diversity of experience and opinions and provide insightful conclusions, which can combat a single person dominating the monetary policy discussion.

Participants then turned to how the dissent of committee members should be communicated to the public. One participant suggested that central banks should follow the model used by the US Supreme Court, which allows for differing levels of agreement: majority opinions, concurring opinions and dissenting opinions. The dissenting views can pave the way for change and they do not need to come from experts. However, some participants were concerned that attributing dissenting opinions could limit the free expression of non-experts' perspectives.

One participant noted that a diversity of backgrounds and opinions of central bank staff is also necessary. Central bank staff are important in informing the monetary policy committee of economic developments and shaping the decisions made. Participants agreed that the central bank board should foster a 'culture of curiosity' and welcome staff challenges to its thinking. This diversity of staff opinion should also be communicated to the committee to encourage a discussion of perspectives, because committee members may be discouraged from dissenting if they are presented with a consolidated view that is said to represent all central bank staff.

Overall, participants felt that there was a need to ask deep questions about the way central banks operate and the way monetary policy committees are structured. Every step of the decision-making process should be examined for improvements and central banks should seek external reviews of their monetary policy committees because, as insiders, central bankers may be too close to the process to see some of the problems.