

# Discussion

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## 1. Bruce Preston

This paper reviews recent analyses addressing the important practical question posed in its title – ‘Is Monetary Policy Less Effective When Interest Rates Are Persistently Low?’ Getting a handle on the empirical and theoretical issues is challenging: empirics must confront non-trivial identification issues, and existing models may not be all that useful to organise relevant ideas. The following comments attempt to draw out some of these difficulties and what they might mean for the paper’s conclusions. For the most part, the comments centre on questions of identification and interpretation. They are unavoidably narrow given the wide scope of the paper, but my hope is they will nonetheless underscore broader issues relevant to the interpretation of the literature. And in fairness to the authors, some comments reflect the relative infancy and quality of the literature, rather than the specific details of the review. Some reflections on policy implications, which are not addressed in the review, are also offered.

### Impulse and propagation

The review is largely motivated by balance sheet recessions. While perfectly reasonable given recent events, there is little consideration of the precise underlying driving economic developments, which can be important for policy design. The manner in which we arrive at a particular economic situation will matter for the appropriate choice of policy.

Consider a scenario characterised by persistently low interest rates, with weak real activity and inflation below target. Such data could be the outcome of two distinct narratives: either a large, persistent, but ultimately transitory, shock of the kind envisaged by Eggertsson and Krugman (2012); or, alternatively, low-frequency developments, such as shifting demographics, inequality or productivity changes, which depress the natural real interest rate and potentially represent a new ‘steady state’, as considered by the secular stagnation model of Eggertsson, Mehrotra and Robbins (2017). Both frameworks plausibly describe recent developments. Yet conventional monetary policy and forward guidance are effective only in one case.

Various related challenges confronting policy are easily found and highlight the importance of identifying the source of the macroeconomic disturbance. For example, in the context of short-run stabilisation policy, Mertens and Ravn (2014) evaluate the role of fiscal policy when monetary policy is constrained by the zero lower bound on interest rates. They show fundamentals-driven recessions have different implications for fiscal policy, when compared with ‘sunspot’ or expectations-driven recessions. Increases in fiscal spending and taxes are expansionary for the former, but contractionary for the latter. Additionally, low-frequency patterns in data, which have little to do with business cycle variation, may confound inference on contemporaneous developments. For example, Gutiérrez and Philippon (2016) and Jones and Philippon (2016) provide evidence that rising mark-ups have had significant effects on

investment activity in the United States, and potentially explain the weak response of private investment to low interest rates. These low-frequency properties reflect long-run changes in the level of competition in product markets, and have little to do with a balance sheet recession, or imperfections in financial intermediation. Monetary policy is unlikely to be effective in addressing these trends.

## Policy interaction

Inflation and real activity are jointly determined by the available set of policy instruments. For example, one can't meaningfully discuss monetary policy, without some assumption, explicit or implicit, on the stance of fiscal policy. Yet the review discusses interest rate policy in isolation from financial stability policy and fiscal policy. While the authors necessarily must limit the scope of inquiry, general equilibrium considerations imply one needs to have a view about these arms of policy. Without a clear conceptual framework about the mechanisms through which policies affect the economy, and how these policies interact, it is difficult to: (i) properly identify and assess the consequences of economic policy; and (ii) properly prioritise the various concerns highlighted in the paper.

In regards to the first issue, policies that are in some sense equivalent can have unintended consequences. Consider conventional interest rate policy versus quantitative easing. Both aim to lower longer-term interest rates, and are in this sense equivalent, but may have different financial stability considerations. Conventional policy might raise financial stability risks by encouraging excess maturity and liquidity transformation, as lower rates increase the incentives to issue private short-term safe liabilities in order to fund the purchase of risky illiquid assets (though the paper appears to argue the opposite). In contrast, quantitative easing might lower financial stability risks through the supply of additional safe assets that lower the 'money premium' and therefore financial fragility. See Stein (2012), Caballero and Farhi (2013) and Woodford (2016) for discussion and modelling of these mechanisms.

Similarly, fiscal policy might constrain monetary policy. Central banks often have the view that they can offset any changes in the stance of fiscal policy. As made clear by the fiscal theory of the price level, this is false as a general proposition. Beliefs regarding future fiscal balances regulate the effects of monetary policy, with potentially surprising consequences when the zero lower bound on interest rates is a relevant constraint. Indeed, current discussion in Australia calls for increased future surpluses. Such a policy will be highly contractionary if households and firms doubt they are in a Ricardian regime. This doubt might occur because of scepticism about the commitment to the inflation target (inflation and interest rates have been low for a sustained period), or simply because a central bank is unable to meet its objectives. Alternatively, if agents believe surpluses are insensitive to outstanding public debt, because of political economy considerations, falls in interest rates can be contractionary – the neo-Fisherian view.

In regards to the second issue, absent an integrated treatment of economic policy, it is difficult to organise thinking about the different objectives of policy. The review raises many issues that might concern monetary policy, but how should a central bank prioritise these

concerns? Without some kind of model (formal or otherwise) policy discussions risk reversion to a 'checklist approach', where interest rates are set with respect to an assortment of partial considerations and without any coherent view of how those considerations contribute to the ultimate objective of price stability. As an example germane to the conference, how do we think about 'leaning against the wind' – using monetary policy to target housing prices and private debt? At a minimum, such a policy requires a clearly articulated view of how the housing market affects the goods market, and also a perspicuous understanding of the objectives and responsibilities of various policy institutions that may have a stake in how certain sectors of the economy develop. Issues of this kind raise fundamental questions about the execution and communication of policy.

### Interpretation

By the stated metrics of the paper, monetary policy is less effective in low interest rate environments. However, one can easily view the same evidence and arrive at the opposite conclusion.

There are two basic concerns. The first regards the identification of the effects of monetary policy. If households are in fact deleveraging, then low interest rates greatly facilitate such adjustment, and welfare is likely substantially improved by hastening the day normal consumption growth resumes. Stated differently, if the monetary authority raised interest rates by 100 basis points do we really believe there would be no effect? This highlights the fundamental importance of theory and modelling, and the potential identification issues that arise when interpreting data without an economic model. Just because consumption doesn't increase, or rises weakly, in response to falls in interest rates in low-rate environments does not mean there are no welfare relevant effects, or that the effects are small. Indeed, what is the counterfactual? Observations of this kind remind one of a classic identification problem: if a central bank is successful in stabilising inflation there will be no correlation between interest rates and inflation. Does this mean interest rate policy is ineffective?

The second, related, concern regards the conflation of mechanisms. The recent literature on uncertainty shocks provides evidence that heightened uncertainty could be behind the apparent decrease in the effectiveness of monetary policy – see, for example, Bloom (2009), Bloom *et al* (2012) and Caggiano, Castelnuovo and Nodari (2017). Recessions are times when uncertainty is high. Monetary policy is less effective because investment is optimally delayed: high uncertainty engenders an inaction region, independent of the level of interest rates, as firms and households optimally delay substantial commitments to learn more about the true state of the economy. Furthermore, Vavra (2014) and Castelnuovo and Pellegrino (2017) show high idiosyncratic and aggregate uncertainty might lead to greater price flexibility, which steepens the short-run trade-off between inflation and the output gap so that monetary policy has smaller real effects. Both mechanisms suggest that policy might have less traction on the real economy, not because interest rates have been low for a sustained period, but simply because uncertainty is high.

## Implications for policy

The paper is relatively quiet on the implications for stabilisation policy. Reading between the lines, one presumes the authors believe conventional and unconventional monetary policy are unlikely to provide satisfactory results in economic environments currently confronting many countries and so should be eschewed. Putting aside the various identification issues raised above, presumably if the interest rate elasticity of demand is smaller, this just calls for greater adjustment in the policy rate. Indeed, this is the standard policy response in a range of economic problems. Interestingly, much commentary in the Australian policy debate gives little credence to either view. A popular argument is to ‘keep the powder dry’. Proponents of this view appear to argue that, even if current and future anticipated economic conditions warrant a reduction in the current policy rate, it is optimal to delay policy action. This is because reducing rates today would have negative consequences as it would lead to a decline in confidence, while acting later, when conditions deteriorate substantially, would have substantial positive effects by raising confidence.

Regardless of how one might view such perverse logic, it is certainly plausible to think there might be important nonlinearities related to changes in the stance of policy in low-rate environments. Indeed, two 25 basis point interest rate changes need not be equivalent to a 50 basis point change. However, it is unclear why this would be an argument for delay. There are two dimensions attached to a possible change in the policy rate: the timing of the adjustment; and the size of the adjustment. If the zero lower bound is anticipated to bind at some future date, conditional on the current understanding of economic conditions, then failure to act now can only exacerbate weakness in subsequent real activity: waiting is a gamble on unexpectedly good outcomes in the future. This is true in both New and Old Keynesian models, and is not the result of highly sensitive forward-looking behaviour in rational expectations equilibrium modelling.

What if changes in the policy do, in fact, convey the central bank’s private information about the current state of the economy? For example, García-Schmidt (2015) shows that reductions in interest rates in Brazil lead to a fall in longer-term inflation and output expectations. While these data may not be representative, the findings are certainly inconsistent with standard rational expectations models used for policy evaluation, but are consistent with interest rate policy signalling information. Obviously this complicates matters, but it is unclear whether such concerns would result in optimal delay, or just more conservative adjustment in the policy rate – most likely the latter by a simple argument of continuity. Moreover, two obvious questions are: what private information does the central bank have and why doesn’t it try to better communicate that information to the public?

Confidence effects are also likely to lead to a recommendation of policy conservatism, not inaction. For example, Eusepi, Giannoni and Preston (2015) explore optimal monetary policy in a model of imperfect knowledge, in which household and firm long-run projections of inflation and output are sensitive to surprise movements in the policy rate. This model could be interpreted as a model of confidence, to the extent we think confidence is well captured by adjustments in long-run beliefs in response to short-run policy changes. Optimal monetary

policy is less aggressive relative to that in a full information rational expectations model, but it is still responsive: a negative demand shock elicits an immediate but smaller adjustment in policy. Again, delay is not optimal.

## Implications for credibility

The paper doesn't talk much about the potential credibility problems attached to persistently low interest rates, which presumably go hand-in-hand with persistently low inflation and weak real activity. What is the likelihood that long-term expectations become unanchored from inflation targets? Can we clearly identify the source of movements in long-term rates? There is fairly persuasive evidence that in US data, much of the decline in long-term rates is due to a secular decline in term premia, rather than declines in expected real rates or inflation, though little is understood about how term premia are determined. This type of issue gets back to earlier identification problems. Apparently ineffectual monetary policy might just reflect movements in term premia – to wit the Greenspan Conundrum. But more recently there has been much discussion of declines in long-term inflation expectations. Again, this is an understudied topic, though Carvalho *et al* (2017) provide evidence that central bank inflation targets may be less credible after sustained periods of inflation below target.

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## 2. General Discussion

Discussion initially focused on nonlinearities in the effectiveness of monetary policy, and whether these were likely to be related to the level of interest rates or to other state variables. One participant reinforced the discussant's view that the existing empirical evidence indicates that the effectiveness of monetary policy is state dependent, and is related to the level of economic uncertainty and, more generally, to the business cycle. However, they argued that the existing empirical literature has not established the level of interest rates as the threshold variable. In response, Boris Hofmann highlighted the lack of studies that directly speak to the effectiveness of monetary policy at low rates. He noted that, from a historical perspective, the persistently low level of interest rates is unprecedented and, therefore, that statistically testing the interest rate as a threshold variable is difficult. He suggested that more work should be done in this area.

One participant questioned whether there was actual empirical support for the paper's observation that interest rates could be less effective at low levels due to a reassessment of future income. Specifically, they argued that for households to lower their consumption on the expectation that lifetime savings will fall due to persistently low interest rates the income effect of lower rates needs to substantially outweigh the substitution effect. The participant suggested that there was little evidence to support this contention.

Another participant wondered if the effectiveness of monetary policy could depend on the level of household indebtedness and, more specifically, on household 'debt overhang', as suggested by the paper. In response to a shock, households may reassess their preferred level of indebtedness and so reduce their debt and strengthen their balance sheets more generally. While monetary policy can speed the adjustment process by lowering interest payments and potentially stimulating income, households are unlikely to increase their consumption and borrowing until after the adjustment has run its course.

Building on this point, another participant suggested that these debt overhang dynamics would mean that monetary policy has not become less effective, but that the response had simply become more delayed. In this sense, it is the integral of the response that is important, not the

short-term effect. The participant also noted that similar, but reversed, timing issues could occur if agents anticipate that rates will remain low for an extended period. In this case, agents may bring forward their response. This could help to explain the evidence reviewed in the paper that policy was effective during the acute phase of the crisis, but less so in the recovery.

One participant argued that institutional arrangements regarding the structure of debt contracts could help to explain the varying effectiveness of monetary policy. In particular, they noted the relevance of the cash flow channel of monetary policy. Rate cuts reduce interest payments for borrowers with floating-rate debt, resulting in higher cash flows and potentially more spending, particularly for borrowers who are liquidity constrained. This channel is likely to be more important in countries where a large share of the debt stock has floating rates. However, banks do not necessarily pass on rate cuts in terms of required debt repayments, and this can affect the correlation between consumption and monetary policy.

A participant was surprised that the paper did not discuss the exchange rate. They noted that the exchange rate is a crucial channel of monetary policy transmission for small open economies. The participant argued that, globally, low interest rates could weaken the exchange rate channel of monetary policy due to a squeeze of interest rate differentials. In response, Dr Hofmann explained that the paper focused exclusively on domestic transmission channels, thereby abstracting from the exchange rate channel. He noted, however, that some studies show that, if anything, the effect of monetary policy shocks on exchange rates has become stronger in a number of economies in recent years.

Another topic of discussion was the role of quantitative easing. One participant noted that quantitative easing is often considered to be a last resort. The participant wondered if, during balance sheet recessions, quantitative easing could be a more effective first line of attack instead of progressively lowering interest rates. They cited evidence from other research that the risk-taking channel of unconventional monetary policy is moderate to support this contention. The argument for using quantitative easing would be even stronger if it was more effective than conventional monetary policy at stimulating additional lending. Another participant pointed to the uncertainty surrounding the costs of unwinding quantitative easing policies as a counterargument. They argued that reversing aggressive monetary base expansions may be difficult for central banks, as it is likely to be associated with large losses on their portfolio of purchased assets. Dr Hofmann added to the discussion by emphasising that quantitative easing also works by lowering interest rates. As such, using quantitative easing as a conventional tool to fight balance sheet recessions could lead to the same risk-taking as standard monetary policy.

Some general comments and suggestions were made regarding a few aspects of the paper. One participant noted the broad definition of low interest rates. They suggested refining the analysis by making a distinction between short- and long-term interest rates. In particular, they noted that changes in term premia can lead to quite different outcomes for short- and long-term interest rates and so making a distinction can be important.

Lastly, one participant questioned what reduced monetary policy effectiveness could imply for the policymaking process, and what policy implications could be drawn from the analysis. The participant wondered if monetary authorities should reduce their intervention in the face of lower effectiveness, or whether they should act more aggressively instead. The general discussion was then concluded with the observation by another participant that crisis management, especially the management of balance sheet recessions, can be potentially more effective under coordination between fiscal and monetary policy, and therefore the role of government policy should probably be reinforced.

