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Policy Forum: Macroeconomic Consequences of Macroprudential Policies

Introduction to the Policy Forum: Macroeconomic Consequences of Macroprudential Policies

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1. Introduction

The Global Financial Crisis highlighted that in economies with monetary policy focussed on controlling inflation, financial imbalances with significant adverse consequences for the real economy can occur. While recessions are an inevitable part of the business cycle, the historical record shows that recessions associated with financial instability are particularly severe—for example, their duration tends to be considerably longer (International Monetary Fund 2009; Reinhart and Rogoff 2009; Claessens, Kose and Terrones 2012).

Macroprudential policies are intended to maintain financial stability, thereby delivering better outcomes for the real economy. They are distinct from microprudential policy, which focusses on the regulation of individual financial institutions, although overlap exists.

Many nations will implement macroprudential policies as part of the Basel III banking regulations. In particular, these include a countercyclical capital buffer, which the Bank for International Settlements (BIS) advocate should be set with reference to a ‘credit to GDP gap’ (BIS 2010). This essentially means that Banks will be required to hold more capital when credit is strong relative to GDP, which will provide a buffer in downturns and may act to discipline lending.

A variety of other forms of macroprudential policies have been implemented globally (see Lim et al. 2011; Claessens 2014). This diversity in part reflects differing goals of the policies, due to where policymakers view the potential risks to financial stability arising. One potential source, for example, are credit booms, which have been shown to be a predictor of financial instability (Schularick and Taylor 2012), with mortgage credit being of particularly importance (Jordá, Schularick and Taylor 2014). Other potential goals might be to maintain liquidity or to address risks arising from open-economy aspects (such as foreign currency lending).

Following the Global Financial Crisis there has been considerable development of macroprudential policies internationally. Examples include the ‘speed limit’ approach of New Zealand, which includes a maximum Loan to Value (LTV) ratio for most, but not all, new home mortgages (see Wheeler 2013).¹ LTV policy, in combination with other instruments, has also been implemented in Canada (see Krznar and Morsink 2014), while the United Kingdom has adopted a ceiling on the Debt-to-Income (DTI) ratio for home mortgages (Prudential Regulation Authority 2014). Frequently several different macroprudential policy instruments are used together (see Lim et al. 2011).

As many of these policies have only recently been implemented, their potential impacts and

effectiveness are uncertain. Practically, their implementation may also pose challenges. For example, in the United Kingdom a new Financial Policy Committee was introduced at the Bank of England. In some countries legislative changes might be required. Close coordination between different agencies—such as the central bank and the prudential regulator—is also necessary.

In Australia the Reserve Bank of Australia (RBA) and the Australian Prudential Regulatory Authority (APRA) work closely together (Ellis 2013). Australian policymakers have long understood the importance of leverage.² However, explicit macroprudential policy is only a recent development.

In late 2014 APRA announced criteria designed to curb the riskiness of mortgage lending and the growth of investor credit for residential mortgages (APRA 2014). If financial institutions did not meet this criterion, such as reducing their investor credit growth beneath 10 per cent, then further actions would be implemented. In the second half of 2015 to date year-ended growth in investor credit has started to moderate, suggesting that these policies may be beginning to bite.

This policy forum summarises the proceedings of the 2015 Melbourne Institute Macroeconomic Policy Meeting, which took place at the Melbourne Institute on 15–16 October. The focus of this conference was on macroprudential policies. Section 2 provides a brief description of the papers presented and the keynote address. Section 3 refers to the remarks of the panel on ‘Macroprudential Policies in Australia: Design and Effects’, and the discussion. Section 4 concludes.

2. Research on the Effects of Macroprudential Policies

The Meeting featured five papers investigating the role that different types of macroprudential policies may play in a number of different economic settings. Anil Kashyap (University of Chicago, Booth School of Business) delivered the keynote address on the role of liquidity for financial stability.

Sami Alpanda (University of Central Florida) presented the paper ‘Addressing Household Indebtedness: Monetary, Fiscal and Macroprudential Policy’ (joint work with Sarah Zubairy, Texas A&M University). The authors build and estimate a Dynamic Stochastic General Equilibrium (DSGE) model with housing and household debt, and use this framework to study the effectiveness of monetary policy, housing-related tax policy, and macroprudential regulations to reduce household indebtedness.

Alpanda and Zubairy’s model has a standard structure following Iacoviello (2005), where households are split into two groups who differ by their discount factor, namely patient (lenders) and impatient (borrowers), with the latter subject to a borrowing constraint. Departing from the standard structure, mortgage borrowing in the model is fixed rate and long term in nature.

Policy simulations from the model reveal some interesting trade-offs. In particular, a positive monetary policy shock is shown to temporarily reduce the stock of real mortgage debt, although as the response of income is greater, this is accompanied by an increase in the household debt-to-income ratio. A tightening in mortgage interest deduction and a permanent reduction in the LTV are shown to be the least costly policies (in terms of lost output) to induce a reduction in household debt, followed by an increase in property taxes. Alpanda and Zubairy find, based on welfare analysis, that the socially optimal LTV ratio is around 70 per cent and there is little support for mortgage interest payments being a tax deduction or ‘leaning-against-households-imbances’ policy by the central bank.

The Basel III banking regulations include a net Stable Funding Requirement (SFR), namely that banks fund a given fraction of their assets (loans) from stable sources, such as retail deposits. This is scheduled to be introduced in 2018, however, a similar policy was adopted in New Zealand in 2010. In ‘A Macroprudential Stable Funding Requirement and Monetary Policy in a Small Open Economy’, Punnoose Jacob and Anella Munro

(both from the Reserve Bank of New Zealand) study its consequences using a small open-economy DSGE model designed to replicate the main characteristics of the New Zealand economy. In order to capture the SFR policy particular attention is paid to the modelling of the banking sector, which features a range of liabilities (retail deposits, short- and long-term wholesale funding).

The authors find that altering the steady-state value of SFR does not have any particular implication for the transmission of most structural shocks. Consequently, a loss function-based optimal simple policy is robust to reasonable changes in the SFR ratio. However, an increase in SFR is shown to amplify the effects of bank funding shocks, increase macroeconomic volatility, and worsen monetary policy trade-offs conditional on these shocks. These findings stem from the SFR requiring a greater share of banks' liabilities to be in long-term bonds, and consequently when their spreads rise there is a larger increase in lending rates. Jacob and Munro find that a 'leaning-against-the-wind' monetary policy systematically responding to credit growth can mitigate the increase in volatility from the SFR.

In their 'Loan-to-Value Ratio Policy and the Business Cycle', Tim Robinson (Melbourne Institute) and Fang Yao (Reserve Bank of New Zealand) examine the consequences of LTV policies for the characteristics of the business cycle. As the motivation for the adoption of many macroprudential policies is that the recessions associated with financial disruptions are particularly severe, this paper examines whether LTV policies mitigate these recessions and/or lessen their frequency.

Robinson and Yao, akin to Alpanda and Zubairy, utilise a model with the basic framework of Iacoviello (2005). Short- and long-term mortgages are considered in this framework to understand how debt duration matters when LTV policies are implemented. The two LTV policies they consider are a permanent reduction of the LTV ratio and a systematic response of the LTV ratio to changes in financial conditions.

Robinson and Yao analyse the consequences of these two policies using the business cycle dating methodology of Harding and Pagan (2002); see also Pagan and Robinson (2014). In particular, they simulate the model and scrutinise how features of the business cycle, such as the amplitude and length of recessions, change as the macroprudential policy is varied. They find that a permanent reduction of the LTV ratio potentially may reduce the proportion of time that the economy is in recession and to a lesser extent the average depth of recessions. The magnitudes of these effects depend considerably on the duration of debt, with smaller effects found in the economy with long-term debt. Alternatively, a Taylor-rule specification of the LTV ratio to a range of variables, such as house price growth and a credit-to-GDP gap, yields only relatively slight gains, regardless of the structure of debt assumed.

Martin Fukac (New Zealand Treasury) presented the paper 'Understanding Macro-Financial Impacts of LVR Policy: A DSGE Model Perspective' (joint work with Jaromir Benes, International Monetary Fund, Lucy Greig and Daniel Snethlage, both New Zealand Treasury). Drawing on the International Monetary Fund's macroprudential policy model (Benes, Kumhof and Laxton 2014) they build and calibrate a model of the New Zealand economy and examine a scenario of a housing market boom reflecting expectations of further increases in demand for housing, which eventually unwinds due to lower demand (one possible source of which is a drop in inward migration). As in some of the previous papers, their focus is on LTV ratio policies and its ability to reduce risks associated with financial instabilities.

Interestingly, in the model of Fukac et al. banks can expand their balance sheets so as to maximise profits by extending lending to households conditional on regulatory requirements on capital adequacy. This means that the model allows banks to build up lending and finance house price booms as well as to exacerbate the negative effects of a bust. The authors find that a reduction in the LTV

ratio works in favour of smoothing the financial and business cycle and in reducing the build-up of potentially destabilising debt.

The four papers deal with somewhat different models—they differ with their treatment of the duration of the debt households can contract, the way in which LTV policies are implemented, the complexity of the banking system, the origins of the shocks that can affect the lending market, and so on—but one result stands out. All papers suggested that lowering the LTV ratio potentially can have some stabilizing impact.

Anil Kashyap (University of Chicago, Booth School of Business) focussed on bank liquidity in his keynote lecture. Kashyap presented one of his most recent models (joint work with Douglas W. Diamond, University of Chicago, Booth School of Business), namely a variant of the Diamond and Dybvig (1983) model, where some depositors see sunspot shocks that can lead to a run. However, depositors have incomplete information on the ability of the bank to survive such run. Hence, the bank is not necessarily incentivised to hold enough liquidity to survive the run. Regulation, in the form of liquidity coverage ratios and the net stable funding ratio, can force the bank to hold liquidity, lessening the probability of a run.

3. Panel Discussion

The Meeting also included a panel discussion of macroprudential policies. The session was chaired by Kevin Davis (University of Melbourne) and the panellists were: Prasanna Gai (University of Auckland), Warwick McKibbin (Australian National University) and Adam Cagliarini (Reserve Bank of Australia). Their thoughts on the subject matter are published in this issue.

Davis looked at the issue with particular reference to various Basel and related regulations. He discussed policies that were intended to enhance the stability of the financial system by recognizing its network-like characteristics, such as the use of Central Clearing Counterparties for Over the Counter derivatives. Davis also discussed the new policy instruments which have been created

with the intent of providing levers to help dampening undesirable trends in financial sector aggregates.

Gai discussed objectives and institutional structure and how they are critical to the effective assessment of the impact of various instruments as well as to avoid conflicting actions with other government agencies. He also highlighted the importance of modelling the balance sheets and interconnectedness of financial institutions.

McKibbin's main argument was that one should be clear about the nature of the externalities, market and/or policy failures to justify the adoption of yet another set of instruments to achieve what might be, in effect, 'second best' solutions to economic problems.

Cagliarini argued that many macroprudential policies do not target the underlying incentive problems giving rise to the financial stability issues. He, like Gai, highlighted the importance of institutional design, such as not only identifying what the appropriate goals of the policy are, but how to quantify the performance (or otherwise) of the policy. Finally, he questioned the adequacy of the current models being used to study macroprudential policy.

The discussion at the Meeting was wide-ranging covering theoretical and practical issues about the why and the how of macroprudential policies. The first key message was that we need to be clear about the objective(s) of the policy. Is it to reduce systematic risk and/or to dampen economic cycles? Although these objectives are interrelated it is feasible for a policy instrument to achieve one objective whilst having unintended negative consequences for the other. For example, while these policies may be effective in reducing systematic risk, they could also introduce inefficiencies into the system. We were reminded of the various Reviews of the Australian financial system which led to the deregulation of the system (that is, the removal of various requirements).

A related message was the need to review basic economic principles governing policy intervention. Where are the market failures? What are the externalities that these macroprudential policies are addressing? There was general consensus that the heart of the matter lies with better understanding the role of the financial system—its resilience and its riskiness—and how the behaviour of financial institutions amplifies the business cycle. It was less clear-cut that introducing further requirements (such as countercyclical capital buffers) is the right way to go.

The panel discussion also touched on pragmatic issues like which agency should be responsible for macroprudential policies. While in Australia policy to date appears to have been successfully coordinated through the Council of Financial Regulators, in other nations, such as the United Kingdom, having a separate a prudential regulator was problematic, and more generally there was concern that a failure to co-ordinate policies may create more problems than solutions.

This led to the final discussion point—are we over-reacting to the global financial crisis? Are we in danger of introducing macroprudential instruments partially as a response to global shocks, with limited information about their potential effectiveness?

The panel discussion reinforced the notion that there is still much both policymakers and researchers have to understand better about macroprudential policies, such as in what circumstances particular instruments are preferable and their likely effectiveness in mitigating financial crisis. Consequently, macroprudential-related issues are likely to remain at the centre of policy discussions and academic agendas in the next years.

4. Conclusions

The aim of the 2015 Macroeconomic Policy Meeting was to discuss macroprudential policies—the rationale for their growing prominence, and to examine whether research could shed light on the likely effectiveness of various policies. It emerged that managing maximum LTV ratios appears to be one

potentially promising policy. Some other macroprudential tools, such as the countercyclical credit buffer, were more contentious. It was also apparent that while further policy developments in this area are likely, the models being used to analyse these policies are in their infancy and more generally there is much that remains unknown or needs to be better understood, such as, for example, how the various macroprudential instruments should be coordinated.

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Endnotes

¹ LVR is an alternative common term for the Loan to Value ratio.

² To quote Stevens (2003): '... it is really the leverage that accompanies asset-price movements which is the issue, rather than the asset-price movements themselves'. See also Borio and Lowe (2002a, 2002b).