A new approach to macro-prudential policy for New Zealand

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This article outlines the Reserve Bank's new macro-prudential policy framework and the governance arrangements surrounding it. Macro-prudential tools can help address the build-up of systemic risk in the financial system. Such tools can create additional buffers for financial institutions and help to dampen growth in credit and asset prices directly, but they are not a 'silver bullet'. The macro-prudential approach is still in its infancy and there is scope to refine the framework in the light of local and international experience. A recent Memorandum of Understanding between the Minister of Finance and the Governor of the Reserve Bank sets out expectations for macro-prudential policy accountability and transparency.

1 Introduction

The global financial crisis (GFC) has prompted a fundamental rethink on financial stability policy, including the shape and reach of prudential regulation and supervision, and the role of central banks. Initial central bank responses could be likened to that of fire brigades called to put out a fire (in New Zealand's case, for example, through the provision of emergency liquidity and deposit guarantee facilities). As the immediate danger has receded, the focus has passed to developing the financial stability equivalents of smoke detectors and sprinkler systems.²

The 'smoke detector' or 'macro-prudential' role emphasises that the central bank has a fundamental responsibility to act before the first flames of financial crisis appear (Kroszner, 2012).³ Macro-prudential policy involves proactive monitoring of individual institutions and interconnected markets for signs of froth and fragility, which may indicate rising 'systemic risk'. It also requires the willingness and capacity to act before those first signs of financial fragility develop into a fully fledged financial crisis. This is a big responsibility, and highly challenging to undertake, but the GFC has demonstrated that the costs of financial crises can be extremely large, that they have

the potential to wreak significant and enduring damage on economies and financial systems, and that they can even undermine the very foundations of political and social stability.

In New Zealand, the Reserve Bank has always taken a 'protect the whole' approach to financial stability, reflecting its legislated purpose of promoting and maintaining financial system soundness. This whole of system approach recognises that protecting the financial system is about more than maintaining sound individual institutions: feedback effects between the financial system and the real economy also need to be considered. Thus, baseline bank capital and liquidity requirements take into account the risks banks can be expected to face over an economic cycle, as well as in response to extreme events that could give rise to large losses.⁴

Macro-prudential policy goes a step further, by directly targeting systemic or system-wide risk. Borio (2009) provides a useful categorisation of systemic risk:

- i) how aggregate risk evolves over time the 'time dimension', and
- ii) how risk is distributed in the financial system at a given point in time – the 'cross-sectional dimension'.

Pro-cyclicality of the financial system is a source of systemic risk in the 'time dimension'. In the upswing of the financial cycle, increasing exuberance on the part of lenders, borrowers and financial markets can lead to an underpricing of risk, an excess of risk taking, and

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Early warning indicators, such as excessive credit growth, act as macro-prudential smoke detectors; lending controls and higher capital and funding requirements act as macroprudential sprinkler systems, helping to dampen excesses in the financial cycle.

In some jurisdictions, macro-prudential policy is a shared responsibility between the central bank and various supervisory authorities.

An overview of the Reserve Bank's prudential approach can be found in Fiennes and O'Connor-Close (2012).

increasingly leveraged household, business and financial sector balance sheets. The reverse process operates more rapidly in the downswing, with lenders and borrowers tending to be overly cautious, choking off the flow of credit to the economy, and exacerbating the economic downturn.⁵ The 'cross-sectional' distribution of risk can exacerbate the cycle, and stems from common exposures across the financial system or from the particular role that large and important financial institutions might play within the financial system.⁶

A common characteristic of macro-prudential policy development in New Zealand and elsewhere in recent years has been the emphasis on the interaction of business and financial cycles and on the objective of dampening the pro-cyclicality of financial sector behaviour. The macro-prudential toolkit developed by the Reserve Bank provides it with the capacity to mitigate the build-up of risks in the upswing in the financial cycle, and reduce the impact of the subsequent downswing. It does not aim to prevent financial cycles, but to mitigate the excesses that often accompany and feed such cycles.

In developing its macro-prudential framework, the Reserve Bank has paid careful attention to international developments in the macro-prudential policy field, both at the level of the international regulatory agenda, and in individual jurisdictions. The GFC has prompted a major overhaul of international financial regulation. One important aspect, known as Basel III, focuses on higher regulatory standards for bank capital and liquidity. Broader global regulatory reform efforts are continuing.

Not all of the measures that are being proposed at the international level are necessarily appropriate in the New Zealand context. New Zealand is a small open economy,

Craigie and Munro (2010) explore some of the channels through which the financial system can amplify business cycles in New Zealand. heavily exposed to the ebbs and flows of international markets, with a financial system that is dominated by four Australian banks, and around half of domestic bank lending concentrated in housing. The Reserve Bank's choices on the macro-prudential front reflect these considerations. Developments on the international and Australian regulatory fronts are relevant but not decisive; the Reserve Bank is highly conscious of the need to mitigate offshore funding risk; tools to address risks in specific sectors, such as the housing and farming sectors, have been prioritised.

This article outlines the state of macro-prudential policy in New Zealand. The objectives of macro-prudential policy are explained, along with the powers and responsibilities of the Reserve Bank, the broader framework, and the specific tools. The article also provides some flavour of when and how macro-prudential policy tools might be used, although it should be emphasised that this article is intended to be read as a general piece on macro-prudential policy rather than being grounded in prevailing economic and financial circumstances. Macro-prudential policy is a fast developing area, and the framework will evolve as the Reserve Bank gains experience in its implementation, as new information becomes available internationally, and as financial systems and markets grow and innovate.

2 Macro-prudential policy

2.1 Background

Before to the GFC, New Zealand was facing very strong house price inflation (and rapid credit growth across all sectors), together with upwards pressure on the exchange rate and the tradables sector of the economy. At that time, Treasury and the Reserve Bank investigated the potential for 'supplementary' tools, with a direct bearing on the housing market and/or housing lending, to ease the load on monetary policy without exacerbating external pressures (Blackmore *et al.*, 2006).

As the GFC unfolded, the Reserve Bank began investigating the potential for macro-prudential tools to complement its existing prudential framework. Spencer (2010) discussed the evolving macro-financial stability function of the Reserve Bank, including the interaction

In New Zealand, the Reserve Bank addresses the crosssectional dimension in several ways. The baseline prudential and payment systems frameworks reduce both the probability of an individual failure and vulnerability to contagion. Timely release of buffers in times of stress can further reduce vulnerability and help to moderate the crosssectional amplification associated with the downturn.

In December 2010 the Basel Committee on Banking Supervision released new global regulatory standards for bank capital adequacy and liquidity (BCBS, 2010). The counter-cyclical capital buffer is one element of the Basel III standards, which is expressly designed to be used as a macro-prudential tool that can be deployed in times of rising system-wide risk. Other elements include the Liquidity Coverage Ratio and the Net Stable Funding Ratio.

between macro-prudential policy and monetary policy, and highlighted a number of areas for further analysis and research. In 2011, the Reserve Bank hosted a macro-prudential policy workshop, which saw the presentation of a paper, 'Macro-prudential instruments for New Zealand: A preliminary assessment' (Ha and Hodgetts, 2011). This paper formed the basis of the Reserve Bank's subsequent macro-prudential work agenda, culminating in the signing of a 'Memorandum of Understanding on Macro-prudential policy and operating guidelines' ('the MoU') between the Governor of the Reserve Bank and the Minister of Finance in May this year (RBNZ, 2013a).

The MoU plays a critical role in anchoring macroprudential policy. The Reserve Bank's powers to implement macro-prudential policy derive from the Reserve Bank of New Zealand Act ('the Act'), but macro-prudential policy exercises these prudential powers in new ways and with a different focus (refer box 1, opposite).

Given this different focus, the MoU helps to provide clarity around the broad parameters of macro-prudential policy – the objective, goals, governance and instruments (figure 1). For example, the Reserve Bank can deploy the agreed set of instruments in pursuit of the objective set

out in the MoU. However, should the Reserve Bank wish to use additional instruments, it would have to agree their inclusion in the macro-prudential toolkit with the Minister of Finance. Similarly, the MoU applies to registered banks; should it be desirable to extend the regulatory perimeter to a wider set of institutions in the future, any change in institutional coverage would also be agreed with the Minister.

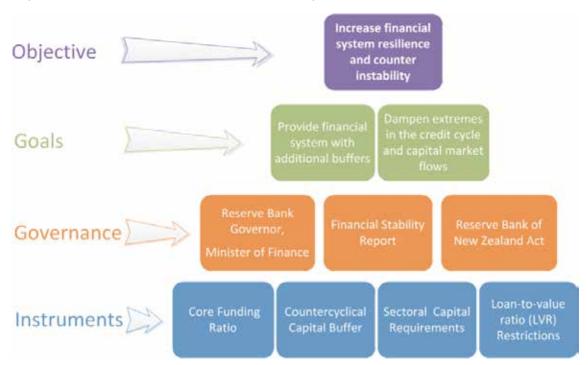
2.2 Objectives

"The objective of the Bank's macro-prudential policy is to increase the resilience of the domestic financial system and counter instability in the domestic financial system arising from credit, asset price or liquidity shocks. The instruments of macro-prudential policy are designed to provide additional buffers to the financial system (e.g. through changes in capital, lending and liquidity requirements) that vary with the macro-credit cycle. They may also help dampen extremes in the credit cycle and capital market flows."

- extract from the MoU (RBNZ, 2013a).

The Reserve Bank's work on macro-prudential policy

Figure 1
Key elements of the MoU on macro-prudential policy



Box 1

The relationship of the objectives of macro-prudential policy to the Act

Under section 1A of the Act, the Reserve Bank is responsible, among other things, for promoting the maintenance of a sound and efficient financial system. The Reserve Bank's banking regulatory and supervisory framework is governed by Part 5 of the Act. Section 68 of this requires the Reserve Bank to exercise its powers for the purposes of: (a) promoting the maintenance of a sound and efficient financial system, and (b) avoiding significant damage to the financial system that could result from the failure of a registered bank.

In fulfilling these purposes, macro-prudential policy aims to promote the soundness of the financial system by increasing the resilience of the domestic financial system when it appears credit and asset price developments have become or are becoming unsustainable. It aims to promote the efficiency of the financial system by mitigating excessive growth in credit and unsustainable asset price developments, which might otherwise see asset prices diverge significantly from fundamentals, and the flow of credit sharply disrupted in a downturn. These two goals also have the extra benefit of reducing the risk of bank failure.

has been marked by a gradual evolution in thinking about what the specific policy objectives should be. It has always been clear that the aim should be to increase the resilience of the system to adverse shocks, but is it possible to be more ambitious? The traditional prudential approach has had a strong focus on shock-absorbing capacity; for example, increasing capital requirements so that banks are better able to absorb loan losses. This approach largely takes movements in credit and asset price cycles as a given, and aims to provide an adequate safety net should systemic risks be realised. A more ambitious approach is to try to reduce the amplitude of the financial cycle - in a sense lopping off the extremes of the cycle. Swing low but not too low; swing high but not too high. The potential benefits of this approach are obvious but it is also much more demanding, as it requires the authorities to answer some difficult questions: How much is too much? When is intervention justified, given that intervention will have immediate and tangible costs, while the benefits may be longer term and possibly even intangible? Can macroprudential tools be effective in dampening the cycle?

In developing its framework, the Reserve Bank has come to the conclusion that while ambitious, macro-prudential policy does indeed have the potential to mitigate excesses in the cycle. This evolution reflects progress in,

firstly, developing the Reserve Bank's risk assessment capacity and, secondly, evaluating the potential for macro-prudential tools to meet the twin goals of building financial system resilience and dampening extremes in the credit cycle.⁸

Again, the Reserve Bank's motivations in this area have been profoundly affected by the experience of the GFC. The GFC was an object lesson in the potential for a disorderly unwinding of a credit boom to impose substantial losses on the financial system, leading to an adverse feedback cycle with the real economy and substantial damage in the form of lost economic output, jobs and wealth. The arguments for leaning against excesses in credit cycles, rather than just cleaning up afterwards, are stronger in that light.

2.3 Instruments

The MoU lists four macro-prudential instruments for addressing the systemic risks of financial instability:

- adjustments to the core funding ratio (CFR);
- the counter-cyclical capital buffer (CCB);

RBNZ (2013d) reviews each instrument, including its operation and likely effectiveness. Rogers (2013) contains an instrument-level discussion of the transmission channels of macro-prudential policy, with respect to firstly, the goal of building financial system resilience and, secondly, the goal of reducing extremes in the financial cycle.

- adjustments to sectoral capital requirements (SCR);
- quantitative restrictions on the share of high loanto-value ratio (LVR) loans to the residential property sector.

In choosing to include these instruments in the macroprudential toolkit, a primary consideration has been the potential effectiveness of each instrument in meeting the intermediate goals of building financial system buffers and dampening extremes in the credit, asset price and funding cycles.

Table 1 describes each instrument at a high level, including how it is expected to work and what some of the pitfalls might be. Each instrument is designed to be

varied across the cycle, with LVR restrictions expected to be relatively more effective in dampening the cycle than the other instruments.

The Reserve Bank has also prioritised the ability to tailor the solution to the problem. Broad-based instruments such as the CFR and CCB provide the capacity to affect banks' balance sheets as a whole, whereas instruments such as the SCR or LVR restrictions could be targeted at particular problem sectors, such as housing or agriculture, or specific borrower segments such as housing investors.⁹

A toolkit which includes a variety of instruments – two capital-based and the others related to funding and lending shares – also has the advantage of diversifying the ways in which the Reserve Bank can respond to a build-up in

Table 1
The macro-prudential toolkit

Instrument	Description	How the tool works	Potential issues
Adjustments to the core funding ratio	Varies the share of lending that banks are required to fund out of stable, or 'core', funding sources over the cycle, to reduce vulnerability to disruptions in funding markets.	Reduced share of short- term funding increases the amount of time that banks are able to withstand stresses in funding markets; easing in times of stress could also provide a safety valve for the system.	Potential leakages if banks opt to run down voluntary buffers. May also increase banks' vulnerability to term funding market shocks if not eased in a timely fashion.
Counter-cyclical capital buffer	Requires additional capital when 'excessive' private sector credit growth is leading to a build-up of system-wide risk.	Creates additional capital buffer that can be used to absorb losses and allow banks to continue lending in the downswing.	Welfare costs partly mitigated by 'price-based' nature; potential leakages if banks opt to run down voluntary buffers.
Adjustments to sectoral capital requirements	Requires additional capital against lending to a specific sector or segment in which excessive private sector credit growth is leading to a build-up of system-wide risk.	Provides additional capital buffer and may alter relative attractiveness of lending to targeted sector.	Welfare costs partly mitigated by 'price-based' nature; potential leakages if banks opt to run down voluntary buffers. Could be subject to avoidance.
LVR restrictions	A restriction on the share of new high-LVR residential mortgage lending.	Likely to have greatest impact on the cycle, as it directly acts on the supply of bank lending. May also build resilience due to stronger bank balance sheets and less financially vulnerable households.	Likely to have the highest welfare costs, although mitigated by 'speed limit' approach. Greatest regulatory coverage as applies to all registered banks, but greater effectiveness could also increase incentives for avoidance and/or leakage to unregulated financial intermediaries.

See Hunt (2013) for a counter-factual exercise highlighting how the Reserve Bank's new macro-prudential framework and specific tools may have been employed over the last financial cycle.

systemic risk. Relying too heavily on any one instrument can create strong incentives for regulated banks to invest in avoidance mechanisms.

2.4 Operation

As noted earlier, the Reserve Bank has invested heavily in developing its risk assessment framework (a.k.a. early warning systems). The Reserve Bank routinely monitors a broad set of indicators in making judgements about the state of the financial system, and risks to the outlook (see table 2). The degree of focus on particular indicators will vary with developments in the economy and financial system. For example, there is presently a strong focus on levels of household debt, developments in household credit, and house prices. This reflects the currently elevated risks posed by the housing market, where household debt ratios and house prices are historically high. At another time, the Reserve Bank might pay greater attention to risks arising from commercial property markets - a sector that has been a weak point in the past - and focus on data that allow it to assess associated business sector vulnerabilities and risks to banks' balance sheets.

One school of thought suggests that the criteria for systemic risk assessments should be identified in

advance, allowing rules to be set around the deployment of macro-prudential tools. There are advantages to such an approach, including greater transparency and certainty for banks and other market participants around the likely policy path. In practice however, it is very difficult to identify a robust, standard set of indicators that could be used in this way, and threshold identification would be similarly challenging.

The Reserve Bank approach therefore is one of guided discretion, with final decisions involving a healthy dose of policymaker judgement. This is also true of monetary policy decision-making. A critical factor in the Official Cash Rate (OCR) decision, for example, is the extent of spare capacity in the economy. There is no single measure of 'spare capacity'; rather, it is a matter of assembling a range of information, both quantitative and qualitative, and making a judgement that draws on that information and policy experience.

While not able to provide the degree of certainty and transparency inherent in a rules-based approach, the Reserve Bank does place a high priority on communicating and explaining its views on systemic risks. For example the recent decision to deploy LVR restrictions was accompanied by a *Regulatory impact assessment*, which set out the detailed thinking behind the decision (RBNZ,

Table 2
Examples of macro-prudential indicators

Type of indicator	Macro-prudential indicator	Financial condition
Macroeconomic	Credit	Leverage and credit market conditions
	Household credit	Leverage and credit market conditions
	Business Credit	Leverage and credit market conditions
	Agricultural credit	Leverage and credit market conditions
	Government debt	Leverage
Banking sector	Capital adequacy (actual)	Balance sheet strength
	Non-performing loans	Asset quality
	Sectoral watchlist loans*	Asset quality
	High-LVR lending	Leverage and risk appetite
Market-based	House prices	Asset market conditions
	Commercial property prices	Asset market conditions
	Farm prices	Asset market conditions
	Market funding spreads	Funding and credit market conditions
Qualitative	Bank lending standards	Risk appetite

^{*} Household, business and agriculture sectors

2013b). The Reserve Bank's semi-annual *Financial Stability Report* also provides on-going coverage of the Reserve Bank's assessment of systemic risks, supported by detailed coverage of the economic and financial developments underpinning those judgements.

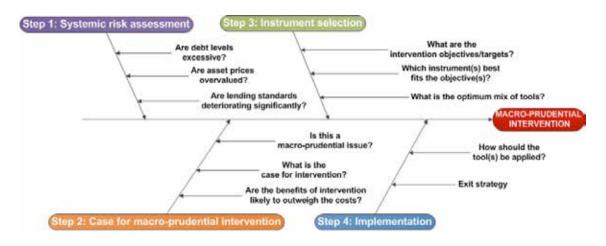
The systemic risk assessment is only the first step in the macro-prudential decision process. As illustrated in figure 2, once the Reserve Bank judges that risks are sufficiently elevated to warrant investigation of macro-prudential intervention, this triggers a number of other steps. In assessing the case for macro-prudential intervention, an important question is whether the systemic risk is best addressed through macro-prudential policy measures, or whether other policy settings should be reviewed. For example, a conventional mechanism to restrain systemic risk stemming from an overheated housing market would be to raise the OCR, which would directly feed into higher mortgage rates and thus weigh on housing demand. Where housing demand was judged to be contributing to overall inflation pressures, this might be a first-best response. However, such a response would place additional pressure on exchange rates and the tradables sector. Given systemic concerns about an overheated housing market, a macro-prudential response might be the better policy option. An example is the recent decision to implement LVR restrictions, which has the potential to support monetary policy by allowing greater flexibility in the timing and magnitude of future increases in the OCR (Wheeler, 2013a). The interaction between

macro-prudential policy and monetary policy is not well understood, and is an area which the Reserve Bank is continuing to research (box 2).

Assessing the case for macro-prudential intervention is intertwined with the *instrument selection* decision. In selecting the instrument(s), the first questions to be asked are: what are the objectives of the intervention and which macro-prudential instrument(s) are best able to achieve these objectives? The Reserve Bank's recent decision to impose LVR restrictions was driven by risks surrounding the housing market, and the likely greater effectiveness of LVR restrictions in dampening housing demand than other instruments (box 3, overleaf). Modelling of the costs and benefits of macro-prudential intervention is in its infancy, and is an important area where the Reserve Bank is looking to develop its capacity. Over time, the Reserve Bank's analytical capacity will benefit from access to more granular data and experience in instrument deployment.

Instrument selection feeds into and overlaps with the *implementation* of the macro-prudential instrument(s). For example, it might be decided to target the intervention to reduce welfare costs, assuming it was still possible to meet a minimum effectiveness threshold. An example would be targeting housing investors. The Reserve Bank is improving its capacity to undertake targeted interventions: for example, new data collections are being put in place, which will provide breakdowns of housing lending by categories such as investors, first-home buyers and businesses.





Box 2

The interaction between macroprudential policy and monetary policy

"... these [macro-prudential] instruments can play a useful secondary role in stabilising the macro economy. As a result, the Reserve Bank will consider any interaction with monetary policy settings when implementing macro-prudential policy and will explain the implications, if any, for monetary policy."

- extract from the MoU (RBNZ, 2013a).

Macro-prudential policy and monetary policy have the respective objectives of financial stability and price stability. However, the instruments of each policy function – the four macro-prudential tools in the case of macro-prudential policy and the OCR in the case of monetary policy – also have the potential to affect the objectives of the other. Macro-prudential policy can help to stabilise an overheating economy by dampening excessive credit demand and hence domestic demand, and may also have a modest effect on price stability by slowing asset price inflation. During a downturn, macro-prudential policy easing could support domestic demand by helping banks to maintain the flow of credit

to the economy. Conversely, monetary policy can help to stabilise an overheating financial system, by raising the cost of credit, thus weighing on credit and asset price growth.

These overlapping effects raise the question of how best to manage the potential policy interactions. The Reserve Bank has the choice of actively coordinating its macro-prudential policy and monetary policy decisions, or making these decisions independently of each other. In the former case, a joint decision would be made on the optimal mix of policies to target the overall policy objectives of the Reserve Bank, subject to the instruments being used in a manner that is consistent with each instrument's primary objective. In the latter case, the policy decision would be made with sole reference to the objective of the policy function, taking the policy settings of the other function as given.

Policy coordination has the advantage of enabling policymakers to take into consideration the interdependencies that exist between different policies. However, it is less transparent and more complex, making it harder for households and firms to predict the future path of each strand of policy, thus complicating the process of setting expectations. The Reserve Bank is continuing to explore options around how best to manage potential interactions between the two policy strands in the future.

A key implementation decision is the timing of the intervention. The ideal timing will be early enough to allow an effective build-up of buffers, and to prevent excessive exuberance gaining broad momentum. The need for early intervention, however, has to be balanced against the fact that the earlier in the cycle it is, the more difficult the task of assessing whether excesses are likely to continue or to self-correct. Timing is also important in deciding when to ease or lift the macro-prudential intervention. Where the primary motivation for the intervention is to lean against the cycle, a key consideration will be the effectiveness of the intervention. Once credit markets are judged to be better balanced, the policy would be eased. Again, it will be challenging to time the release; too early a release might

see the build-up in risk pick up where it left off. Where building financial system resilience is the key motivation for intervention, timing the release so that banks are able to use that extra resilience to support their lending will be key. In making such decisions, the Reserve Bank would look at indicators of financial system stress, such as a sharp contraction in credit growth or widening in funding spreads.

2.5 Governance

The final element of the macro-prudential policy framework is the governance structure. As noted earlier, the Act sets out the Reserve Bank's powers. It also outlines a system of checks and balances on these

Box 3

The decision to implement LVR restrictions

From 1 October 2013, the Reserve Bank is imposing 'speed limits' on the share of new high-LVR housing loans that banks can make (RBNZ, 2013c). Whereas banks can normally make as many high-LVR loans as their inhouse risk management practices permit, a regulatory restriction of 10 percent will come into force on the share of total new high-LVR housing lending (loans with an LVR above 80 percent, which is equivalent to a deposit of less than 20 percent).

The decision to restrict banks' high-LVR housing lending reflects heightened concerns about the rate at which house prices are increasing and the potential risks this poses to the financial system and the broader economy. Rapidly increasing house prices increase the likelihood and the potential impact of a significant fall in house prices at some point in the future. Given these concerns, a prime objective of the intervention is to help slow the rate of housing-related credit growth and house price inflation, thereby reducing the risk of a substantial downward correction in house prices that would damage the financial sector and the broader economy.

The Reserve Bank evaluated a number of options for addressing the growing systemic risk posed by the

housing market. In particular, estimates were made of the likely impact of both sectoral capital requirements and LVR restrictions on house price growth and credit growth. This modelling work also included estimates of efficiency and equity costs, as well as possible policy leakages.

Although sectoral capital requirements may have been less costly in terms of efficiency, the Reserve Bank's modelling work suggests that they would be significantly less effective in dampening housing demand. In opting to use LVR restrictions, the Reserve Bank is adopting a 'speed limit' approach rather than outright limits. This will allow banks to continue some high-LVR housing lending to creditworthy borrowers, which will partly mitigate the welfare costs of LVR restrictions, namely, constraining the access of some borrowers to credit that banks would otherwise be willing to provide.

The Reserve Bank is aware that imposing LVR restrictions could create incentives for banks and others to introduce products designed to circumvent the regulation. The Reserve Bank is providing banks with guidance on the types of arrangements that might be deemed 'avoidance' measures if used to circumvent the new regulations, and expects bank senior management and bank boards to respect the spirit and intent of LVR restrictions.

powers. These are designed to ensure that the Reserve Bank is accountable for its decisions, that there is sufficient transparency in its actions, and that the Reserve Bank's powers are exercised in appropriate consultation with the Government.

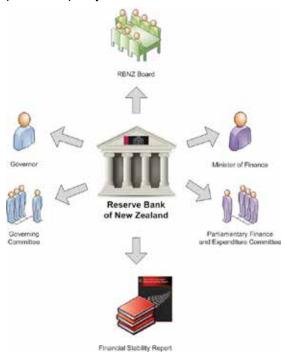
Figure 3, opposite, sets out some of the Reserve Bank's key governance mechanisms. The Reserve Bank has recently formalised and expanded the decision-making role of the Reserve Bank's Governors. There is now a Governing Committee, comprising the Governor, the two Deputy Governors and the Assistant Governor, under the chair of the Governor (Wheeler, 2013b). The Governing Committee discusses all major monetary and financial policy decisions falling under the Reserve Bank's

responsibilities, including decisions on macro-prudential policy, though the Governor retains the right of veto on committee decisions. The Macro-Financial Committee of the Reserve Bank also plays an important role in debating macro-prudential policy. Major analytical and policy papers are discussed by this committee, which is chaired by the Deputy Governor and Head of Financial Stability.

There are considerable checks and balances relating to the Reserve Bank's operation of macro-prudential policy, including:

Publication of the Reserve Bank's Financial Stability
Report twice a year. These are reviewed by
Parliament's Finance and Expenditure Committee,
the Board of Directors of the Reserve Bank, and

Figure 3
Key governance mechanisms for macroprudential policy



the Reserve Bank provides press conferences upon publication.

- Publication of regulatory impact assessments of any macro-prudential policy that it is adopted, and public consultation on any such measures. In developing its macro-prudential policy framework, the Reserve Bank has staged two macro-prudential consultations to date: an initial consultation on the macro-prudential policy framework, and a subsequent consultation on the framework for restrictions on high-LVR residential mortgage lending (RBNZ, 2013e; RBNZ, 2013f).
- Monitoring and oversight by the Board of Directors
 of the Reserve Bank, which acts as agent to the
 Minister of Finance in reviewing how well the Reserve
 Bank meets its legislative responsibilities. The Board
 reviews the Reserve Bank's efforts to promote the
 maintenance of a sound and efficient financial system,
 assesses the Reserve Bank's performance in meeting
 its obligations and responsibilities, discusses this with

the Minister of Finance, and publishes its review in the Reserve Bank's *Annual Report*.

3 Conclusion

This article has provided an overview of the Reserve Bank's new macro-prudential policy framework. While a substantial amount of work has already gone into developing the framework, the macro-prudential approach remains in its infancy, and the framework will continue to evolve over time. The article highlights a number of areas where the Reserve Bank will be looking to enhance its macro-prudential policymaking capacity. There remains much uncertainty around the best and most effective ways of implementing macro-prudential tools and the Reserve Bank will be 'learning-by-doing' to some extent, as well as drawing on a growing body of international experience and research. We do not see macro-prudential instruments as 'set and forget' tools; once deployed, there will be on-going assessments of their effectiveness, which will condition their use and their eventual release.

Although macro-prudential policy is expected to provide a useful complement to the Reserve Bank's other policy instruments, it is not a 'silver bullet'. Imbalances in the economy and financial system that are driven by fundamentals can be resolved only by appropriate medium- and long-term policy measures, and private sector adjustments. And only some of these measures will fall within the Reserve Bank's mandate. Within the broad context of economic policy, macro-prudential policy offers breathing space, a way to alleviate short-term pressures and to help prevent such imbalances taking on a life of their own. By reducing the probability of a self-propelling cycle of excessive asset price and credit growth, it is hoped that macro-prudential policy will reduce the likelihood and severity of financial crises, and all the hardships that such crises bring.

Consultation on the counter-cyclical capital buffer was included in the 2012 consultation on the implementation of Basel III capital adequacy requirements in New Zealand. Consultation on the operational details of using sectoral capital requirements and adjusting the core funding ratio for macro-prudential purposes will be undertaken in due course.

References

BCBS (2010) Basel III: A global regulatory framework for more resilient banks and banking systems, December.

Blackmore, M, P Bushnell, T Ng, A Orr, M Reddell and G Spencer (2006) Supplementary stabilisation instruments: Initial report to Governor, Reserve Bank of New Zealand and Secretary to the Treasury.

Borio, C (2009) 'The macroprudential approach to regulation and supervision', Voxeu, 14 April.http://www.voxeu.org/article/we-are-all-macroprudentialists-now accessed 10 September, 2013.

Craigie, R and A Munro (2010) 'Financial sector amplification and credit cycles in New Zealand', Reserve Bank *Bulletin*, 73(2), June, pp. 15-34.

Fiennes, T and C O'Connor-Close (2012) 'The evolution of prudential supervision in New Zealand', Reserve Bank *Bulletin*, 75(1), March, pp. 5-13.

Ha, Y and B Hodgetts (2011) 'Macro-prudential instruments for New Zealand: a preliminary assessment', paper prepared for Reserve Bank workshop on Macro-prudential policy, Wellington, 21 March.

Hunt, C (2013) 'The last financial cycle and the case for macro-prudential intervention', Reserve Bank *Bulletin*, 76(2), June, pp. 3-16.

Kroszner, R (2012) 'Stability, Growth and Regulatory Reform', in *Banque de France Financial Stability Review*, issue 16, April.

RBNZ (2013a) Memorandum of Understanding on Macro-prudential policy and operating guidelines, May.

RBNZ (2013b) Regulatory impact assessment: Restrictions on high-LVR residential mortgage lending, August.

RBNZ (2013c) 'Limits for high-LVR mortgage lending', News Release, 20 August.

RBNZ (2013d) A new macro-prudential policy framework for New Zealand – final policy position, May.

RBNZ (2013e) Consultation paper: Macro-prudential policy instruments and framework for New Zealand, March.

RBNZ (2013f) Consultation paper: Framework for restrictions on high-LVR residential mortgage lending, June.

Rogers, L (2013) 'Unpacking the toolkit: the transmission channels of macro-prudential policy in New Zealand', paper prepared as background to Reserve Bank of New Zealand consultation on 'Macro-prudential policy instruments and framework for New Zealand', March.

Spencer, G (2010) 'The Reserve Bank and macro-financial stability', Reserve Bank *Bulletin*, 73(2), June, pp. 5-14

Wheeler, G (2013a) 'The Introduction of Macroprudential Policy', Speech delivered at Otago University, Dunedin, 20 August.

Wheeler, G (2013b) 'Decision making in the Reserve Bank of New Zealand', Speech delivered to University of Auckland Business School in Auckland, 7 March.