
ARTICLES

The Reserve Bank and macro-financial stability¹

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This article describes the evolving macro-financial stability (MFS) function of the Reserve Bank and discusses the appropriate framework for the function in light of the global financial crisis (GFC). Areas where further analysis and research will be needed are highlighted. The article begins by discussing the evolving international context before explaining the Reserve Bank of New Zealand's macro-financial stability function. Governance issues are also addressed.

1 Introduction

Central banks have traditionally had two main functions: (i) managing monetary conditions in the domestic economy to stabilise aggregate prices and/or economic activity; and (ii) promoting financial stability as overseer of the financial system, as banker to the banks and as lender of last resort to the financial system. Under normal conditions, when the financial system remains stable, the focus of public attention tends to be on the day-to-day conduct of monetary policy. When a period of financial stress occurs, the emphasis naturally shifts to the Bank's financial stability function. This refocus has occurred over the past two years in New Zealand and in other countries in the wake of the GFC.

In line with the traditional model, the Reserve Bank of New Zealand Act 1989 currently assigns two stabilisation roles to the Reserve Bank: (1) the monetary policy function aimed at price stability; and (2) the financial stability function aimed at promoting the maintenance of a sound and efficient financial system. The main instrument for (1) is the official cash rate (OCR). The instruments for (2) mainly relate to the Bank's regulatory powers to promote prudent behaviour on the part of the banks and to ensure the orderly resolution of any bank failures.

In many countries, responsibility for the prudential supervision and regulation of financial institutions resides with agencies separate from the central bank. During the 1980s and 1990s, a number of countries chose to reassign the prudential function from the central bank to a separate agency (for example, the Financial Services Authority in the UK and the Australian Prudential Regulation Authority in Australia). In

part, this shift reflected a view that the primary role of the central bank should be the pursuit of low inflation, a task best carried out by a central bank with a high degree of policy independence and without the distraction of a broader prudential supervision role. In these cases, central banks were left with a system-wide financial stability, consistent with responsibility for their role as provider of liquidity to the banking system. More recently, in the case of the UK, the prudential supervision function has been reassigned to the central bank.

From the mid-1990s onwards, central banks began to broaden this 'macro-financial stability' role, in particular by monitoring the macro-financial system more intensively and producing regular Financial Stability Reports (FSRs). While the RBNZ retained and indeed broadened its prudential supervision role, it too expanded its MFS function, including a formal mandate to regularly monitor macro-financial stability.²

The systemic nature of the GFC and the key roles played by the build-up of systemic risk and liquidity strains have altered and broadened perceptions of what might be needed to ensure macro-financial stability. Relevant questions include: How should the MFS function relate to the traditional (institution-based) prudential function? What are the interactions between the MFS function and monetary policy? Can the objectives and instruments of the MFS function be specified more clearly? Are the Reserve Bank's powers adequate to carry out this function going forward? This article considers some of these questions as it reviews the evolving shape of the MFS function in New Zealand and internationally.

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² For an earlier description of the MFS function at RBNZ, see Woolford (2001). The Bank's mandate to report on financial stability is found in Section 165A of the Reserve Bank Act.

2 International setting

Policy Objectives

Commonly-used definitions of financial stability refer to the resilience of financial institutions and markets in the face of shocks such as the failure of a bank. The financial system is said to be stable if it can continue to function properly in the face of such shocks. For example:

- Bank of England: “A stable financial system is able to sustain critical services to the wider economy – payments, credit provision and insurance against risk – even when it is hit by unanticipated events.” (Bank of England Financial Stability Report, December 2009, p.5)
- BIS: “...we can define financial stability as an absence of instability. Instability is a situation in which economic performance is potentially impaired by fluctuations in the price of financial assets or by an inability of financial institutions to meet their contractual obligations.” (Crockett 1997)
- IMF: “A financial system is in a range of stability whenever it is capable of facilitating (rather than impeding) the performance of an economy, and of dissipating financial imbalances that arise endogenously or as a result of significant adverse and unanticipated events.” (Schinasi 2004, p. 8)

The term macro-financial stability has typically been used to emphasise the interaction of financial stability and the macro economy; in particular, macro imbalances such as balance of payments deficits, asset price bubbles and excessive leverage on household and business sector balance sheets. This interaction is two-way. Financial conditions can clearly impact on the real economy, such as when credit growth fuels an asset market boom. Similarly, macro imbalances can stress the financial system, particularly in the situation where an asset bubble collapses.

The MFS role adopted by many central banks has been to focus on imbalances in the real economy and interactions with the financial system that present potential risks to the broader financial system. Such analysis may highlight threats to stability from a variety of sources, including both global and domestic factors. The analysis may point to potential mitigating policy actions in a range of areas, not just financial

policies. For example, there may be tax and regulatory policies that could assist in moderating a housing boom. In recent times, in the context of the GFC and its economic aftermath, there has been much attention placed on the role of prudential policies in promoting macro-financial stability.

A more explicit macro-approach to prudential policy is relatively new for most countries and its potential usefulness is uncertain.³ To date, the objectives being proposed for macro-prudential policy in the larger economies have tended to focus on promoting greater financial system resilience rather than on using instruments to dampen cycles in credit or asset markets. For example, the Bank of England proposes a broad systemic stability objective: “To promote the stable provision of credit, payments services and insurance of risks” (Bank of England 2009b), adding that it would be “... unrealistic to make prevention of asset bubbles a specific objective for the regulation of banks”. This approach is aimed at making institutions more robust in the face of systemic cyclical downturns by requiring a build-up of buffers in the cyclical upturn and allowing a rundown of buffers in the downturn. Although there is recognition that time-varying measures taken to enhance financial resilience are likely to have a beneficial dampening effect on the credit cycle, this is seen as secondary to the main goal (see for example, Bank of England, 2009b).

However, a number of smaller open economies have adopted a more ambitious approach to macro-prudential policy with the explicit intent of dampening cycles in credit and asset prices. The motivation for this approach has been the difficulty some of these countries have had in controlling domestic financial conditions in the face of easy global liquidity or large swings in commodity prices. Raising the policy interest rate to counter stimulatory financial conditions in these countries – often reflected in surging asset prices – has at times put significant upward pressure on exchange rates, or on reserves and the money base in the case of rigid exchange rate countries. It is understandable that such countries might be seeking a broader range of policy levers to bolster their control over domestic monetary conditions.

³ Clement (2010) notes the term ‘macro-prudential’ was only rarely used prior to the GFC, although its origins can be traced back to the 1970s.

New Zealand's own search for "supplementary monetary policy instruments" in 2006-07 is discussed in section 3.

Policy tools

Prudential policies to date have been primarily concerned with the stability of individual bank balance sheets; in particular, ensuring that enough capital is retained to guard against potential credit losses on loans to firms and households. This micro-prudential approach has been developed under the Basel Committee for Banking Supervision (hereafter Basel Committee) framework, driven by bank supervisors from the major economies. The justification for micro-prudential policies requiring banks to hold larger capital and liquidity buffers than they would hold of their own choice is usually based on 'network externalities'. These externalities arise from the systemic contagion effects of bank failures, causing broader economic and social costs that are greater than the direct private costs to bank managers, creditors and shareholders.

The more recent emphasis on macro-prudential policy takes this argument further. In particular, it emphasises the 'dynamic externalities' arising from pro-cyclical bank lending behaviour that can amplify macroeconomic cycles. This is to say, bank lending decisions fail to take account of the additional credit risk (and potential costs) arising from the macroeconomic effects of those decisions. At the same time, it is apparent that some of the provisioning rules and internal risk models underlying bank capital requirements may have had unintended amplifying effects on the credit cycle.⁴ It has long been recognised that asset market cycles tend to be amplified by credit cycles. However, the increasing leverage of both banks and their customers in recent years appears to have accentuated the potential damage from such cycles. Indeed, the source of the GFC was in the US sub-prime mortgage market boom and bust. Similar large credit/housing cycles in other countries over 2004–07, have given weight to arguments for macro-prudential policies that attempt to mitigate the systemic risks arising from cyclical extremes in credit growth and credit pricing.

In the 1960s to 1980s it was common to find 'credit instruments' such as cash and reserve asset ratios that were varied in an attempt to influence the supply of credit.⁵ Such 'macro-prudential' policies were generally de-emphasised or abolished in the major economies in the financial deregulation of the 1980's, as policy-makers found that quantitative restrictions tended to distort the financial system, giving rise to a disintermediation of funds from the core regulated institutions. Policy-makers concluded that interest rates needed to be at the heart of an effective monetary policy in a financially liberalised economy. In some of the more highly regulated financial systems, however, many of the non-price policy instruments continued to be used. In many Asian countries, for example, reserve asset ratios are commonly used to restrict credit growth. In addition, countries such as Hong Kong, Singapore and Malaysia have made use of limits on loan-to-value ratios (LVRs) to influence lending secured on different types of assets.⁶

The range of instruments used by South East Asian countries is shown below in table 1. While such instruments are often based on a macro-prudential rationale, that is, their original purpose was to promote financial stability, they have commonly come to be viewed as monetary policy instruments. It is probably fair to say, however, that these instruments are generally only applied in situations where financial stability and monetary policy objectives are aligned.

Abstracting from the type of direct policy interventions listed in table 1, overleaf, and from initiatives aimed at removing any pro-cyclicality from the existing micro-prudential rules, the macro-prudential tools currently being considered by the major economies are related to the creation and dissipation of additional buffers on the balance sheets of banks through the credit cycle. In December 2009, the Basel Committee released consultative documents generally referred to as the 'Basel 3' proposals. These proposals identify a range of options that might be used to reduce the damage from an asset market collapse and potentially also assist in stabilising

⁴ See, for example, Borio and Zhu (2008).

⁵ See Reserve Bank of New Zealand (1992) for the case of New Zealand.

⁶ For example, on 23 October 2009, the Hong Kong Monetary Authority tightened the LVR for luxury properties priced at HK\$20 million or more to 60 (Chan 2009). The aim was to lean against the Hong Kong housing boom.

Table 1

Examples of macro-prudential tools used in South East Asian economies

- Sectoral lending limits (incl. on property)
- Loan growth targets
- Loan-to-value (LTV) ratio caps
- Debt-to-income caps
- Reserve requirements/deposit-to-loan ratios
- Limits on lending for purchases of shares
- Loan-rate controls (floors to dampen demand, ceilings to restrict high-risk lending)
- Deposit ceiling rates (to limit lenders' ability to fund growth)
- Disallowance of interest-only residential loans

the credit cycle.⁷ The tools fall into three main categories:

1. Capital overlay: an additional capital requirement for banks that varies from zero, at the bottom of the credit cycle, up to a predefined maximum at the top of the credit cycle. Banks would build up an additional capital buffer when credit and profits are strong, in preparation for the cyclical downturn when loan losses mount and profits decline.
2. Dynamic Provisioning: a return to the more forward looking (and less pro-cyclical) standards of the 1990s, where loan-loss provisions may be based on the expected loss over the life of a loan, rather than actual loss experience. Accounting standards for valuation will also be revised to allow greater flexibility in valuing assets when illiquid markets make "marking to market" difficult. This will help to avoid some of the destabilising effects of 'fire sales' of assets that occurred during the GFC.
3. Liquidity requirements: The Basel Committee is proposing short- and long-term ratio requirements: (a) a liquidity coverage ratio requiring liquid assets sufficient to meet cash outflows during the first 30 days of a name crisis; and (b) a stable funding ratio requiring illiquid assets to be funded from stable (retail and long term wholesale)

sources. While the Basel Committee emphasises the micro-prudential benefits of these ratio requirements, in principle, one or both of these requirements could be used in a macro-prudential role.

Of these macro-prudential options, it seems clear that the financial accounting standards will change, both in the US (FASB) and internationally (IASB). With regard to countercyclical capital buffers, to date, there appears to be little convergence on a preferred approach – to the adjustment rules that might be applied, or to the scope for discretionary versus rule-based adjustments. However, the varied circumstances faced by different countries suggest it is unlikely that the Basel Committee will attempt to mandate a single preferred macro-prudential approach. Countries are more likely to adopt approaches which best suit their own domestic financial structures and which achieve the desired effects on credit and asset prices while minimising any costs in terms of the efficiency of financial intermediation.

3 The MFS function in New Zealand

Objectives and policy instruments

The Reserve Bank has two key objectives enshrined in the Reserve Bank Act 1989. The first is the Reserve Bank's primary objective of price stability, which it must pursue using its monetary policy tools, subject to the conditions of

⁷ These proposals are documented by the Bank for International Settlements in BIS (2009).

the Policy Targets Agreement between the Governor and the Minister of Finance. The second objective is to promote the soundness and efficiency of the financial system, which the Reserve Bank must pursue using its prudential powers under Part V of the Reserve Bank Act.

The Reserve Bank Act has little to say about the interaction between the monetary policy and financial stability functions and how these should be managed in cases of conflict. Given that the MFS function is concerned with the interaction of economic imbalances and the stability of the financial system, the assessment of policy responses in support of the MFS function may not always be straightforward. For example, a downturn in the economic cycle may point to an easing of macro-prudential policy at the same time as the micro-prudential regulators are looking to conserve capital against emerging loan losses. While such conflict situations may be rare, it is important that policies in support of the MFS function, such as macro-prudential policies, have an unambiguous primary purpose. Consistent with the international consensus, the Reserve Bank's adopted primary purpose for such policies is financial system stability.

An alternative approach would be to introduce a distinct MFS objective into the Reserve Bank Act, prescribing macro-prudential tools to be targeted at reducing macro-financial imbalances. However, such an approach could still result in macro-prudential policy adjustments that were inconsistent with the direction of micro-prudential policy. This would risk damaging the credibility of both the macro- and micro-prudential frameworks. Such an approach would also run the risk of over-promising what could be achieved with as yet untested macro-prudential policies.

Thus, the Reserve Bank's adopted approach is to view MFS not as a goal in itself but as an intermediate objective contributing to overall financial system stability. This approach is consistent with that being adopted by other central banks such as the Bank of England. A schematic representation of the Reserve Bank's policy instruments and objectives is given in figure 1, overleaf. The MFS function lines up on the 'financial stability' side of the dotted line, but has multiple linkages to the 'monetary policy' side of the line.

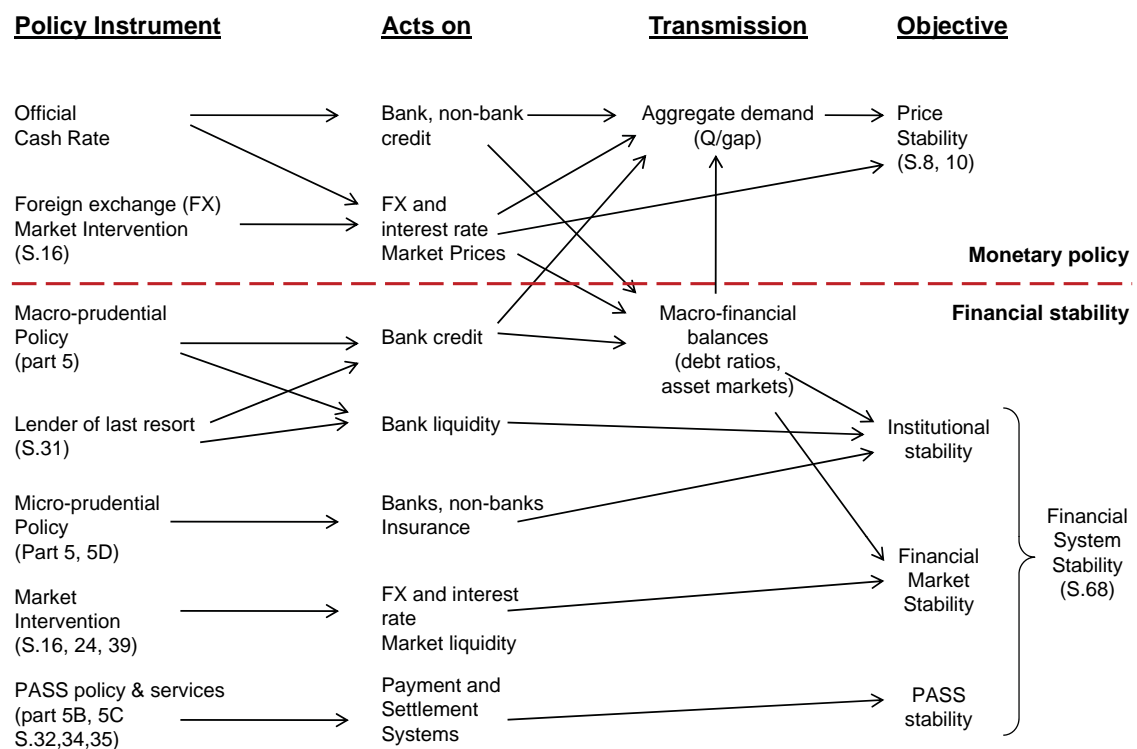
As reflected in figure 1, the Reserve Bank has a range of existing instruments that it uses in pursuit of the broad financial system stability objective. Most of these tools are targeted towards individual financial institutions; that is, they have a micro-prudential focus. However, some existing financial stability instruments have a macro-prudential focus, including 'lender-of-last-resort' activities and 'market intervention'. The purpose of the lender-of-last-resort policy is to support banking system liquidity against a systemic liquidity shock, where lending is only undertaken on good security; that is, there is no bail-out involved. In effect, this instrument was used in late 2008, early 2009, when the Reserve Bank's lending facilities were substantially broadened in response to the GFC. In particular, the Term Auction Facility (TAF), created in May 2008, was aimed at supporting system liquidity during the period when the New Zealand banks could not raise funds offshore.⁸

Market intervention policies are aimed at supporting liquidity in key financial markets in times of stress. The Reserve Bank has always had a mandate to protect the NZ dollar foreign exchange market against major adverse shocks and it holds foreign exchange intervention reserves for this purpose. During the GFC, the Reserve Bank gave liquidity support to other markets, including the markets for bank CDs (the bank bill market), government bonds and local authority bonds. Following the recent experience, the Reserve Bank now puts greater weight on the importance of maintaining liquidity in key 'benchmark' financial markets.

It should also be noted that the Reserve Bank's approach to micro-prudential policy has an inherent macroeconomic focus. Specifically, the Reserve Bank has set clear requirements for banks' internal risk models for housing and agricultural lending to be based on 'through-the-cycle' assessments of default probability. The Reserve Bank requires that these risk models be driven by economic variables rather than simply the recent history of defaults and delinquencies. This approach means that the Reserve Bank is probably less concerned than some other prudential authorities about the potential pro-cyclicality of the existing Basel framework.

⁸ **The TAF covered lending out to one year, secured on self-securitised residential mortgage-backed securities (RMBS).**

Figure 1
Reserve Bank policy instruments and objectives



However, pro-cyclical credit behaviour in the banking system remains prevalent and the Reserve Bank is interested in assessing potential macro-prudential tools that might help to curb the extremes of such behaviour.

There are two areas where macro-prudential overlays are being investigated: the prudential liquidity policy and capital adequacy requirements. In the latter case, the Reserve Bank is considering the possibility of additional 'Pillar-2' capital requirements that would increase when asset markets and credit are expanding rapidly,⁹ and decrease when asset markets and credit are slowing. As mentioned in section 2 above, the Basel Committee is currently assessing different approaches to such countercyclical capital requirements as part of the broader 'Basel III' prudential reform proposals. The Basel Committee seems likely to endorse their use. However, it is too early to say whether time-varying capital requirements will have merit in the New Zealand situation.

The Reserve Bank's new prudential liquidity policy took effect

on 1 April 2010. This policy is primarily a micro-prudential tool, aimed at reducing the vulnerability of the New Zealand banks to funding/liquidity shocks of the sort seen in 2008–09. However, it also has an important macro perspective, particularly with regard to the core funding ratio (CFR). The CFR requires that all banks fund a minimum proportion of their loans and advances from 'stable' or 'core' funding sources, namely, customer funding and long term (over one year) wholesale funding.¹⁰ Even with the CFR held at a fixed level, we expect that it will tend to act as a stabilising macro influence. By building up a buffer of longer-term and more stable retail funding, it will reduce rollover requirements and delay the impact of funding liquidity pressures in times of stress. Further, the CFR requirement will tend to hold retail lending rates up relative to policy rates, thus mitigating 'carry trade' pressures on the exchange rate during boom periods. We will need to monitor the experience under this policy in order to properly understand the extent of these effects.

A possible macro-prudential extension of this policy would be to consider discretionary or rule-based adjustments to the

⁹ Pillar 2 refers to the additional requirement of local supervisors in ensuring the suitability of risk-adjusted capital adequacy under the Basel II framework.

¹⁰ This minimum ratio started in April 2010 at 65 percent.

CFR. Thus, in a credit-based housing boom, for example, the required CFR could be increased by a fixed percentage for all banks, and then reduced to normal levels once credit/housing pressures eased. There are a range of potential issues in implementing a time-varying macro-prudential approach to capital and/or core funding requirements. These include the role of rules versus discretion, employing suitable indicator and trigger variables, information asymmetries and the lags in the response of credit growth to policy changes. Any such discretionary instrument would need to be carefully assessed in terms of its potential impact on financial system efficiency as well as its effectiveness in promoting financial stability before any decision was made on implementation. Any new policies would also be subject to a thorough consultation process.

Relationship of macro-prudential policy to monetary policy

The Reserve Bank Act requires that monetary policy be directed at achieving price stability on average over the medium term (sections 8, 10). The Policy Targets Agreement signed with the Minister of Finance (Section 4b) requires that monetary policy actions “...avoid unnecessary instability in interest rates, output, and the exchange rate.” In the Reserve Bank’s view, this medium-term focus on price stability remains the best contribution that monetary policy can make to overall economic stability and growth.¹¹ Monetary policy – as pursued under this framework or indeed under any framework – cannot assure financial stability, which can be disrupted by any number of external and domestic shocks.

During the housing boom of 2003–07, the Reserve Bank’s monetary policy leaned against the housing market and associated inflationary household demand pressures. The OCR increased from 5.0 percent in 2003 to a peak of 8.25 percent in early 2008. However, many other countries did not raise interest rates in response to rising house prices to the same extent. The result was an accentuated carry trade effect, which put upward pressure on the NZ dollar. Domestic New Zealand borrowers, meanwhile, mitigated the monetary policy pressure on their cost of funds by taking

out fixed rate mortgages – sliding out New Zealand’s then downward sloping yield curve.

In this situation, there was increasing pressure on the Reserve Bank to find additional policy instruments that would reinforce the effect of the OCR on housing growth while taking some of the pressure off the NZ dollar exchange rate. In November 2005 the Minister of Finance asked the Reserve Bank and the Treasury to jointly investigate possible ‘supplementary stabilisation instruments’ that would achieve this result. In the subsequent Blackmore *et al* (2006) ‘SSI report’, the Reserve Bank and the Treasury considered there were no easy ways to solve the problem, but that certain policies might assist; in particular:

- i. counter-cyclical emphasis in prudential policy;
- ii. more rigorous enforcement of capital gains tax on housing;
- iii. tax changes to remove the bias in favour of housing;
- iv. measures to improve the supply response of new housing; and
- v. discretionary fiscal instruments such as a ‘mortgage interest levy’.

The government indeed adopted a tougher approach to taxing capital gains on housing and, more recently, introduced tax changes in the May 2010 budget to remove biases in favour of housing investment. Discretionary instruments such as the mortgage interest levy were assessed as potentially distorting and difficult to implement. Macro-prudential policies have been discussed and analysed but were not applied ahead of the credit and asset market downturn of 2008. The GFC has now focused new attention on such policies, but primarily from a macro-financial stability rather than a monetary policy support perspective.¹²

While the Reserve Bank have concluded that a coherent macro-prudential policy must be aimed primarily at financial system stability, it is relevant to consider the situations when macro-prudential policies may or may not be in support of monetary policy objectives. Figure 2 helps to illustrate this question.

¹¹ Bollard and Delbrück (2010) make this point.

¹² For further discussion of the options considered, see Hunter (2008).

Figure 2
Monetary policy and macro-prudential policy interaction

		Financial stability	
		No credit/asset market pressure	Strong credit/asset market pressure
Monetary policy	Weak inflation pressures	<ul style="list-style-type: none"> • OCR easing • Macro-prudential easing 	<ul style="list-style-type: none"> • OCR neutral • Macro-prudential tightening
	Strong inflation pressures	<ul style="list-style-type: none"> • OCR tightening • Macro-prudential neutral 	<ul style="list-style-type: none"> • OCR tightening • Macro-prudential tightening

Because the indicators of inflation pressure and financial stability are moving in the same direction, the policy combinations in the north-west and south-east quadrants are straightforward. It would be appropriate for both policies to be easing when inflation and credit pressures are weak. And both policies should be tightened when inflation and credit pressures are strong. The north-east and south-west quadrants are less straightforward. In the south-west quadrant, inflation pressures are strong, say as a result of a tight labour market, but there is no evidence of excessive credit growth. In this situation, the adoption of a tighter macro-prudential stance would be questionable. Doing so might achieve a *de facto* monetary policy tightening, but would reduce the efficiency of financial intermediation at a time when there is no evidence of unduly easy lending behaviour.

In the opposite case (north-east quadrant), where credit growth is strong but there is no evidence of excessive inflation pressures, it might not be appropriate to support a tight macro-prudential stance with tight monetary policy. This could be the case, for example, if housing was growing strongly as a result of net immigration inflows, but the impact on inflation was being offset by other factors such as a tight fiscal policy, a high exchange rate or strong productivity growth.¹³ This is simply to say that, in most

situations, macro-prudential and monetary policies will sensibly reinforce each other. However, situations will arise where policy alignment is not appropriate, due to the differing primary objectives of the two policies.

3 Governance issues

The above discussion on objectives and policy tools suggests that an effective macro-financial stability function can be sustained within the existing powers and objectives of the Reserve Bank Act 1989. The MFS function has existed within the Reserve Bank for a number of years. FSRs have been produced six-monthly since October 2004. These reports, now required under Section 165A of the Act, assess macro-economic and financial imbalances and the potential for those imbalances to trigger financial instability. They also review the policies being used by the Bank in pursuit of its financial system stability objective.

The experience of the GFC has focused increasing attention on the MFS function. As discussed above, we are considering potential new macro-prudential policy instruments that would assist in mitigating risks arising out of macro-financial imbalances. Any new policy tools of this sort would require the development of a decision framework for their implementation.

¹³ Of course, it might be appropriate to tighten monetary policy in this situation, in anticipation of long-term inflation risks from credit growth or to assist prudential policy in promoting financial stability.

This latter, broader role for monetary policy has been promoted by the Bank of International Settlements and, for example, by Blanchard *et al* (2010).

But the ultimate objectives and legal powers supporting these tools would not be new. The relevant powers and objectives are found in sections 67, 68, 74, and 78 of part 5 of the Reserve Bank Act. These sections allow the Bank for the purpose of promoting financial system stability, to impose conditions of registration on New Zealand banks that relate to a range of areas from capital, through liquidity, risk management and governance. Thus, if additional macro-prudential instruments are adopted with the intent of better achieving the Reserve Bank's financial system stability objective, the Reserve Bank's existing powers under its Act are likely to be adequate.

Apart from legal powers and objectives, it will be necessary to establish appropriate Key Performance Indicators (KPIs) and decision processes for the new aspects of the MFS function. In particular, if countercyclical macro-prudential policies were to be adopted, the Bank would need to address the rules versus discretion debate. In particular: should policy adjustments follow a pre-determined rule, linked, for example, to the rate of credit growth, or should policy adjustments be at the discretion of the Reserve Bank? The model currently preferred by the Basel Committee appears to be firmly rule based.¹⁴ However, it is difficult to see how a global rule-based approach could appropriately adjust for specific local and time-varying conditions in each country. If a time-varying macro-prudential policy was to be pursued in New Zealand, this would probably be based on a discretionary rather than rule-based regime, but with clearly disclosed guidance on the criteria used for policy adjustments.

For internal consideration of macro-financial issues and policies, in 2009, the Reserve Bank established a Macro-Financial Committee (MFC). This will complement the Reserve Bank's Monetary Policy and Financial Oversight Committees, which discuss monetary policy and micro-prudential policies respectively. The MFC currently reviews indicators of financial stability, oversees production of FSR's and analyses potential new macro-prudential policy tools. If and when new policy tools are adopted, then any policy adjustments would be reviewed and recommended to the Governor by

¹⁴ This model is documented in *Bank for International Settlements (2009)*.

this committee. The implications of such recommendations for micro-prudential policy and for monetary policy would be considered by the Governor and potentially referred to the other policy committees. Dealing with these potential policy overlaps will certainly be facilitated by having one small full-service central bank managing monetary policy and all prudential policies. Existing KPIs for the MFS function, as published in the Bank's *Statement of Intent*, will need to be reviewed as the function and policy instruments are developed further.

4 Conclusion

The GFC has revealed weaknesses in the international framework of prudential supervision. This has led to current proposals for a toughening of the existing Basel rules and increased attention by regulators to macro-financial stability; that is, the interaction of economic imbalances, asset/credit cycles and financial system stability. Increasing attention is also being given to potential new macro-prudential policy instruments that might enhance financial system stability. Like other countries, New Zealand is considering the potential pros and cons of new macro-prudential tools, which could be implemented by the Reserve Bank under its existing prudential policy powers.

While the prime purpose of any new macro-prudential instruments would be to improve the stability and safety of New Zealand's financial system, we expect that such tools might also support the effectiveness of monetary policy in many circumstances. That is to say, these policies could potentially help to dampen domestic credit cycles as well as making the banks more resilient to credit cycles. However, it is too early to say how significant such support might be.

The post-GFC changes to both micro- and macro-prudential policies will need to be carefully managed. While some of the proposed 'Basel III' changes will be required for New Zealand to conform with basic international standards, the new policies should be tailored as far as possible to New Zealand's specific circumstances. The changes will also need to be carefully assessed with regard to unintended consequences and efficiency costs as well as the system stability benefits they are intended to achieve.

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