RESERVE BANK
OF NEW ZEALAND
TE PŪTEA MATUA

The risk management quest: a Reserve Bank approach

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"It's a dangerous business, Frodo, going out your door. You step onto the road, and if you don't keep your feet, there's no knowing where you might be swept off to."

— J.R.R. Tolkien, The Lord of the Rings

Introduction and rationale for our involvement

Risk management is as old as the human race. One can imagine the food versus safety debate of the earliest humans as they peered out of a cave at a host of unknown dangers. Risk management principles have been practised by the great generals of the last few hundred years. Field-Marshall Montgomery, one of WW2's leading allied generals, articulated his two rules of war—which ring true as sound risk management practices: never march on Moscow and never start a land war in Asia. And he may have also added—never fight on the crease of a map.

But it is from one of the greatest works of film and literature that I want to draw my main theme—somewhat fittingly as we are in Wellington, home of Weta workshops: Lord of the Rings. In this, the Fellowship, a motley collection of nine humans, dwarves, wizards, hobbits and elves set out on a quest to save all life on (Middle) Earth. The fellowship of the ring is the ultimate risk management committee—they dutifully carried out their charge to avert almost-certain catastrophe.

The Reserve Bank's approach to managing system-wide risk in the financial system

In this speech I will discuss risk management and averting catastrophe as it relates to our role in managing risk in the financial system. I will cover:

- Why we get involved (because of the highly damaging impacts of failure)
- What trade-offs we face (soundness, efficiency and dynamic growth)

- The importance of supporting dynamism and innovation through sound risk management and minimising regulatory barriers (we are here to help)
- How we perform our task (at the level of the individual entity, of the system and varying across time)

First I will elaborate on our primary motivators for involvement, the risks that the financial system faces. Primarily, Reserve Bank regulation aims to address two market failures—externalities and information asymmetries. Both can give rise to low-frequency, severe risks. “Externalities” refers to the fact that not all of the costs of risk taking are borne by the institutions that create these risks; for example, when AMI Insurance failed, costs ended up being borne by the taxpayer. The government decided that at a time of extreme stress in Canterbury, supporting AMI’s claimants was necessary for the rebuild. If institutions expect to share their losses with the government, this reduces the incentives on institutions and their creditors to fully manage their risks.

In addition, information within the financial market is often not perfect and is “asymmetrical” in that a firm’s managers have more information about their enterprise than the general public. This can result in behaviours (intentional or not) that take advantage of information differences. To address this risk we intervene in two ways: through a disclosure regime that is fuller than the market had historically delivered by itself; and through minimum standards (such as capital adequacy for banks) that gives all players a level of assurance about the strength of regulated entities.

Secondly, I will discuss the ways that risk management relates to our legislative mandate to “promote the maintenance of a sound and efficient financial system”. [1] Importantly, the legislation refers to both soundness (low probability of failure) and efficiency (delivering services at a low cost, in a timely way and accommodating dynamic growth and change). [1]

1 s68, Reserve Bank of New Zealand Act 1989.

Sometimes, as I shall show, they work together, sometimes there are trade-offs. Our role is to maximise the synergies and make judgements about the trade-offs.

Thirdly I will elaborate on our involvement which operates at two main levels:

- At the level of the system;
- At the level of individual entities.

It is the first of these that is the primary objective. We are concerned with addressing systemic risk and enhancing the reputation of financial markets which in turn helps create opportunities for new entrants, products and services. Our engagement at the level of individual entities is a means to the goal of a sound and efficient system. Protecting individual entities is not an end in itself, in fact the reverse is the case. A regulatory regime that seeks to avoid all failures will harm both soundness—by increasing moral hazard; and efficiency—by encouraging an overcautious approach to risk and/or by making it very costly for institutions and their customers to do business.

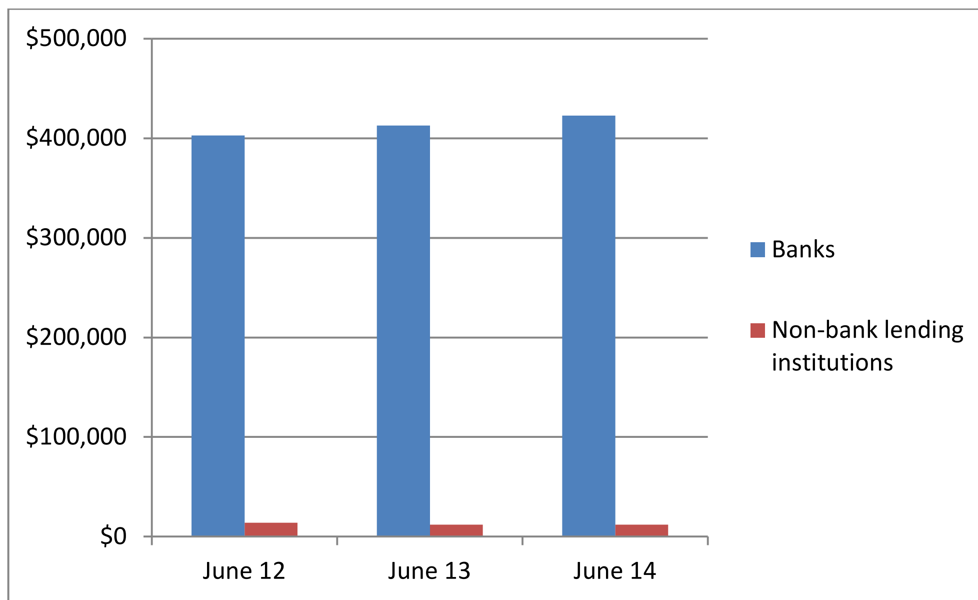
Lastly, I will discuss our desire to implement a regulatory framework that works with the grain of the market and is as lean and efficient as possible.

1. What catastrophes must we avert? Risks in the NZ Financial System

The Reserve Bank is not in general concerned with risks to shareholders or to an entity's profitability. As guardians of the overall financial system, our focus is on risks that may seriously impair the system and its ability to support the real economy. Let me distinguish here between business-as-usual risk management and management of tail risks. Both are important. An organisation's internal risk management is mainly focused on the former whereas we are mainly focused on the latter.

What sort of tail risks are we talking about in the context of New Zealand's financial system? Firstly, it's important to note that banks dominate our financial system. That is why we focus more of our limited resource on banks—just as the Fellowship decided to concentrate their allies' forces on Helm's Deep and then Minas Tirith to draw out the armies of Mordor.

Figure 1: Total assets: Banks and non-bank lending institutions



Source: http://www.rbnz.govt.nz/statistics/

Insurance's importance is in facilitating risk management and risk spreading by people and businesses. Financial market infrastructure, such as payment and settlement systems, is also critical. Contagion can spread swiftly through the payment systems; and a failure in a system can seriously disrupt the economy and people's lives. Our Deputy Governor, Grant Spencer, will be speaking on this subject next month so I will not delve into it further today.

When the financial system works well, nobody notices. However, it faces many threats. As Tolstoy almost said: "Happy financial systems are all alike; every unhappy financial system

is unhappy in its own way."[2] The life-threatening risks (low probability / high impact or "tail risks") that our banks and insurers face include:

- **Natural disasters.** The banking system proved very robust to the Canterbury earthquakes, whereas some insurers were unable to meet all claims without parental or government support.
- **Asset bubbles.** When bubbles burst, as with Ireland's property market for example, the economic damage is often severe and long-lasting. The Reserve Bank introduced high LVR lending restrictions last year to mitigate the risk of a housing market bubble developing and later collapsing.
- **Risks from offshore.** All of our large banks, and many of our largest insurers, are overseas-owned and our banks are reliant on offshore funding markets. In addition, our export markets are heavily concentrated geographically and product wise.
- **Extreme credit, market or operational losses.** For example, some of New Zealand's finance company failures in 2006-2010 had at their root a concentration of credit exposures to just a few borrowing groups.
- **The "unknown unknown"—**or what is often called a "Black Swan" event. By its very nature, one cannot prepare for this – the best defence is a degree of conservatism in the buffers that you set. An example that was highly relevant for New Zealand was the drying up of debt markets in 2008. Until then markets such as commercial paper had always been very deep and liquid. New Zealand was particularly at risk because of our banks' dependence on offshore short-term funding.

It is the responsibility of financial institutions to manage these risks. They have incentives to do so, given the expected impact on their business or survival should any of them crystallise—just as the Fellowship had an incentive to save middle earth for their survival. It is not just the financial institutions that do or should manage these risks. Households,

[2] Anna Karenina by Leo Tolstoy, opening lines have the word "family" not "financial system".

government and businesses are often exposed to them and should be alert to the risks of these extreme events.

2. The quest for soundness and efficiency: the importance of risk management

Risk management impacts both the soundness and the dynamic efficiency of the economy.

Soundness

A stable and fully functioning financial system provides many benefits to the economy. These include financial intermediation, credit creation, risk pooling, and liquidity facilitation. It also provides an important conduit for the effective implementation of monetary policy. In contrast, disruptions to the financial system which may come in the form of a financial crisis or payments disruptions impose costs such as loss of investor funds and equity, as well as a reduced availability of credit for investment and loss of confidence in the financial system. Such costs can quickly spill over into the real economy reducing investment, output and employment. We estimate that the cost of a severe financial crisis would lie between 10 and 20 per cent of GDP[3]

The problem is well illustrated by the slow recovery of the euro area banking system following the (Global Financial Crisis) GFC and European sovereign debt crisis. In particular, a high level of impaired loans and a general heightened awareness of the riskiness of lending contributed to the slow-down in the banking system recovery. Back home we saw how the finance company failures of 2006-2010 caused significant losses to the taxpayer as well as reducing, for a period, the availability of some specialist finance in the economy.

[3] Regulatory impact assessment of Basel III capital requirements in New Zealand. http://www.rbnz.govt.nz/regulation_and_supervision/banks/policy/4932427.pdf

Dynamic efficiency and failures

The Reserve Bank also looks for the financial system to be dynamically efficient. We want to see the financial system achieving the "optimal" level of innovation and growth over time. And we believe strongly that a sound and stable overall system promotes these characteristics. As our Deputy Governor, Geoff Bascand recently highlighted; "effective risk management provides an environment for calculated risk taking and innovation". [4]

So it should not be assumed that there is a direct trade-off between risk management and growth. Sometimes they work together: managing risk well provides the support for innovation and for sustainable growth. It is well known that higher return investments tend to be higher risk; so the Reserve Bank doesn't encourage risk avoidance, but rather risk management. In order to capture these new opportunities and maximise returns in a sustainable manner, it is crucial that risks are taken and mitigated in a well thought-out process. In a recent report by Credit Suisse, Lloyd Blankfein, CEO of Goldman Sachs emphasised the importance of focusing on real risk adjusted returns in banking, highlighting that it is not possible to shoot from the hip and generate sustainable returns.[5]

Within an overall stable financial system in New Zealand, there is ample scope for new entrants. Over the last six years the number of banks registered has increased by 50%, from 16 to 24. And in just the last 12 months since the Insurance legislation came fully into effect, we have welcomed two new insurers to the market.

Any regime that seeks to avoid failure at all cost is very unlikely to be dynamically efficient. I should be clear that we do not seek to operate a zero-failure regime. Nor did Tolkien's fellowship of the ring, which set out with nine, and ended with eight (a remarkable outcome,

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[4] See G. Bascand and S Gordon (2014) 'Innovation and Risk Management: Insights from Executive Management at Statistics New Zealand and the Reserve Bank of New Zealand' available online at http://www.rbnz.govt.nz/research_and_publications/speeches/2014/5770924.html.

[5] See S. Keane, 'Sean Keane's What's happening in the Money Markets?', Credit Suisse, September 2014.

statistically, given the forces marshalled against them). Financial intermediaries can and will be allowed to fail. That is part of a healthy dynamic that applies to banks and insurers as much as to non-financial firms. Even a large, interconnected entity cannot expect the Reserve Bank or Government to support it if it fails, nor to make good any losses suffered. Our Open Bank Resolution (OBR) policy is an important part of this story, allowing authorities to keep a bank open without full taxpayer support.

3. Managing risk across the system - the role of the prudential supervisor

As Prudential Supervisor for the New Zealand financial system, the Reserve Bank relies on three pillars of supervision: self-discipline, market discipline, and regulatory discipline.[6] We expect that financial market risks are well managed and monitored by market players, and by the financial institutions themselves. We see our role as being to support that market-led risk management, and to bolster it where we identify specific, material threats to the soundness and efficiency of the system.

The Reserve Bank balances risk management at three broad levels: at the institutional level, at the system-wide level, and at the time-varying level. So we use insights gained from supervision at an institutional level to better understand risks at a system-wide level. We are conscious that managing a particular risk within each firm doesn't necessarily mitigate this risk at the system-wide level. For example, each bank has an individual liquidity policy to ensure there is sufficient flow of funds coming in to pay its debts as they fall due. But if a funding shock hits the entire system, that may become insufficient as banks find themselves unable to replace maturing funding lines. The problem can spread quickly because of interdependencies across the banking system. We saw this happen during the GFC, during which the Reserve Bank provided additional facilities, such as the Term Auction Facility, in

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

order to support the system. This was followed by the introduction of the Core Funding Ratio (CFR) that requires banks to have a minimum level of stable and sustainable funding sources.

Another way we balance this interaction between system and individual firm risk management is by thematic reviews. Since 2013, the Reserve Bank has completed several thematic reviews. We have reviewed the housing and rural credit origination practices for the five largest banks in each sector, and the outsourcing practices of the major banks. We have also begun a review of banks' internal capital adequacy assessment procedures. In the insurance sector, the Reserve Bank is undertaking a thematic review of risk governance.

The findings from such reviews can then be communicated amongst the surveyed entities or other related entities, either through direct discussions or by way of a public summary of key findings, suitably anonymised. In this way, the reviews promote a system-wide culture of best practice risk management.

Institution-specific regulation

We have a range of tools that target risks specifically at the institutional level and at the system-wide level. These tools include setting minimum thresholds for capital and liquidity; controls on related party exposures; requiring governance structures with independent directors; mandating director sign-off on key disclosure and supervisory returns. The purpose of institution-specific regulation and supervision is to support the resilience of entities that are individually and collectively important for the system. It does this by encouraging self-discipline, and by addressing information asymmetries that can hamper effective market discipline.

We seek to apply our rules to all entities, rather than just the larger ones, for two reasons. First, competitive neutrality means it is generally desirable to impose equivalent rules on all entities in a particular market. Secondly, specifically defining some companies as "too big to fail" (TBTF) creates moral hazard risks. TBTF is not a term that we use.

Nonetheless we must account for the externalities associated with failures of banks, insurers or payment systems. For example the failure of one large bank can quickly cause problems for payment systems and for other banks, leading to a collapse of confidence in the system and in banks' ability to honour their obligations. This is why our tolerance for risk amongst these entities is probably even lower than that of their own management.

Hence, we promote self-discipline by requiring these externalities to be considered by the institutions that create them. We expect their Boards to be actively managing their business's risk appetite and ensuring that their risk appetite is aligned with their strategic and business decisions. We place strong emphasis on incentivising directors and managers to demonstrate that they run their institutions very prudently—for example through the attestation regime in bank disclosure statements. In this, we also address information asymmetries so that the market can assess whether this risk is managed effectively or not.

The Reserve Bank views international standards as a starting point and modifies them where New Zealand conditions warrant it. Some we do not adopt at all. In a few areas, our standards are more conservative than the international ones. For example we require higher levels of capital, particularly for housing and rural lending. This is because credit risks in these sectors are highly correlated: a severe housing downturn is very likely to have serious consequences for all parts of a bank's housing book, not just particular geographic or other isolated pockets.

However, and unusually among supervisory authorities around the globe, we do not conduct on-site reviews, as we believe this can give rise to moral hazard. Detailed on-site inspections reduce the incentives on management, as well as increasing the possibility that a failure will be seen as a "supervisory failure" and therefore make government bail-out more likely.

System-wide and time-varying regulation

System-wide regulation and supervision aims to ensure system stability by addressing risks across the system, rather than within a particular institution. While all our prudential regulation has a system-wide objective, the Reserve Bank has some tools which target specific system-wide risks. These include a set of time-varying tools that are designed to be applied when systemic risks are increasing. This "macroprudential" toolkit includes tools such as a counter cyclical capital buffer and restrictions on high LVR lending.[7] We take a conservative approach when it comes to assessing risks. For example through stress testing, we require banks to conduct stress tests based on highly adverse scenarios. We want to maintain system stability even in extreme tail risk scenarios.

4. Working with the market in managing system-wide risk

The Reserve Bank aims to implement policy and regulation that is forward looking and works with the grain of the market. We seek to be responsive to risks highlighted by international bodies such as the Basel Committee and the International Association of Insurance Supervisors. Aligning with these international bodies helps improve efficiency, particularly for regulated entities that have international parents or operations. We are mindful of the differences in the New Zealand financial landscape when assessing these international guidelines and have not adopted some of the emerging international framework such as the over-simple leverage ratio.

[7] See G. Spencer (2014) 'Coordination of Monetary Policy and Macro-prudential Policy' available online at http://www.rbnz.govt.nz/research_and_publications/speeches/2014/5671407.html

In seeking to achieve the right balance between financial soundness, efficiency and innovation we accept that not every market failure warrants a regulatory solution, so we are careful to weigh up the costs and benefits of new regulation, which includes assessment against the status quo.

We want the regulatory framework to be as lean, easy to use, and cost-effective as possible. This means being responsive to concerns raised by regulated entities and seeking to minimise compliance costs where possible. A recent example of this is our promotion of an amendment to the insurance prudential legislation that allows the Reserve Bank to specify alternative accounting formats that overseas insurers may use to provide interim financial statements.

We have begun a regulatory stocktake across the bank and NBDT regulatory frameworks. This is timely, particularly given the rapid change in the regulatory framework since the GFC. Our aim is to simplify and remove redundant regulations where possible without removing the core building foundation such as capital and liquidity requirements. We are consulting on enhancements to improve the efficiency, clarity, and targeting of these standards, with the overall purpose of ensuring regulation achieves its purpose without creating unnecessary costs.

Conclusion

As I have outlined the Reserve Bank has an imperative to manage system-wide risks in the financial system. In this we seek to ensure that these risks to the financial system are well-identified and well-controlled, in order to provide a platform for stable and sustainable growth. We do this by relying on our three pillars of supervision, and balancing risk

management tools at the individual, system-wide, and time-varying level. We also aim to implement policy and regulation that is efficient and forward looking.

I would like to leave you with three key conclusions about the way we see and do our job:

- We tolerate failure and do not seek to protect entities or their customers from the consequences of failure. Doing so increases moral hazard and can make failure more likely.
- That said, part of our role is to be particularly alert to severe tail risks as these have highly damaging and long-lasting impacts on the economy and on welfare.
- A stable and well-managed system supports dynamism and innovation.

Prudential supervision is a dynamic process. Given the rapid changes taking place in the global economy and in financial markets our goal is to build the right buffers so that the system is suitably resilient to the next shock (preparing for bad times) while having rules that are as unintrusive as possible (getting out of the way in normal times). However, our quest to averting catastrophe involves the element of the unknown. In this we echo the words of Frodo Baggins when he set off on his quest.

“I will take the Ring,’ he said, ‘though I do not know the way.”

JRR Tolkien – Lord of the Rings

The balancing act is not an easy one, and we appreciate the invaluable support you as risk managers give us.