

Good afternoon,

It is a pleasure to be able to speak about the Reserve Bank's recent proposals to increase minimum capital requirements for banks to such a diverse audience at Victoria University that includes academics, students, government officials, bankers, and members of the public. While perhaps not obvious on the surface, these proposals, if implemented – in whole or in part – are likely to have impacts on all New Zealanders.

The Reserve Bank of New Zealand has been tasked by Parliament with promoting the maintenance of a sound and efficient financial system and exercising its powers to avoid significant damage to the financial system that could result from the failure of a registered bank. These responsibilities, among others, such as those related to monetary policy, are set out in the Reserve Bank of New Zealand Act (1989).¹ It is therefore our job at the Reserve Bank to carry out these legislated responsibilities to the best of our abilities each and every day, for the benefit of improving the wellbeing of all New Zealanders.

Today I'd like to talk about how we are proposing to improve the lives of all New Zealanders by making New Zealand's banking system safer, and how the recent proposals by the Reserve Bank with respect to minimum capital requirements will do just that.

History of Bank Failures in New Zealand

In order to set the stage on this topic, I would like to start by looking at the history of bank failures in New Zealand.

As New Zealanders, we are in the fortunate position of having very little experience with bank failures.

This is undoubtedly a good place to be.

Since the late 19th century, New Zealand has only experienced two banking crises, one in the late 1880s and early 1890s, which resulted from a credit-fuelled rural land boom in the 1870s, while the other occurred in the late 1980s and resulted in the Bank of New Zealand having to be recapitalised by the government and its shareholders.² The first episode in the late 1800s occurred well before my time, though as a manager in Treasury during the

¹ The government is currently reviewing this Act, which may result in changes to the Reserve Bank's statutory objectives. More information on this review can be found here:

<https://treasury.govt.nz/news-and-events/reviews-consultation/reviewing-reserve-bank-act>

² Chris Hunt, "Banking crises in New Zealand – an historical perspective", Reserve Bank of New Zealand: *Bulletin*, Vol. 72, No. 4, December 2009.

<https://www.rbnz.govt.nz/research-and-publications/reserve-bank-bulletin/2009/rbb2009-72-04-04>

second episode, I fully remember the stresses of the 1980s/early 1990s, and contributing to the subsequent fiscal and social policy adjustment.

Perhaps one banking crisis per lifetime is one too many?³

For those of you that remember the events surrounding the Bank of New Zealand in the late 1980s, as challenging as that time was for the country, it would have been much worse had the bank not received the financial assistance it needed to avoid an outright failure. Had the Bank of New Zealand failed and gone through New Zealand's liquidation process, it would have almost certainly created a massive disruption to its depositors, placed great stress on New Zealand's banking system, and (even more severely) damaged confidence in New Zealand's economy.

While New Zealand's history with bank failures is limited, we all know that the past is not necessarily a good predictor of the future – so we must view bank failures in New Zealand as a real possibility and ensure that banks in New Zealand are resilient enough to withstand severe losses.

The Potential Impact

Given our limited first-hand experience with bank failures, allow me to describe what we think some of the impacts of bank failures might be under New Zealand's financial system framework.

As the resolution authority for banks, the Reserve Bank is responsible for providing advice regarding when and how to resolve a failed bank.⁴ The Reserve Bank has several options for resolving a failed bank. Under any of these options, there would likely be at least some level of disruption to the banking system as depositors would lose access – at least temporarily – to some or all of their deposits. It is also possible that depositors may never recover the full value of their original deposits.⁵

We would expect that the impact of bank failures would be broader and harsher the larger and more intertwined the failed banks are with New Zealand's economy. Not only do New Zealand's large banks employ a significant number of New Zealanders, but these banks also

³ It is also useful to recall that in 1989, the Development Finance Corporation, which was New Zealand's seventh largest financial institution at the time (but not a bank), was placed into statutory management and ultimately liquidated. New Zealand also suffered from widespread finance company failures in the mid-late 2000s, devastating the savings of many New Zealanders and damaging confidence in the financial system.

⁴ Under the Reserve Bank of New Zealand Act, the Governor General, on the advice of the Minister of Finance, may appoint a statutory manager to carry out the resolution of a registered bank. The Reserve Bank can also issue directions to the statutory manager.

⁵ The Review of the Reserve Bank Act is considering whether increased protection of deposits, perhaps through a deposit insurance framework, would be beneficial.

provide the vast majority of financing for individuals and businesses in New Zealand. And because bank failures, and even ‘near failures’, usually result in significant credit tightening (as banks begin to strengthen their balance sheet by restricting credit to only the most creditworthy borrowers), it could be expected that some New Zealanders and New Zealand businesses would not have access to the same level of credit as before. This could mean that it may be more difficult for individuals to borrow to buy a car or home or pursue further education, and businesses may have trouble borrowing to meet their short-term cash flow needs. The decrease in available credit could have disastrous impacts on New Zealand’s economy.

While it is likely that the Reserve Bank would intervene to resolve a failing bank before it is in a negative capital position (i.e., the Reserve Bank would begin the resolution process when the value of assets exceeds liabilities), it is difficult to determine exactly how the bank’s remaining value (and losses) would be allocated among creditors (including depositors) and shareholders. However, what is known with greater certainty is that creditors (including depositors) will realise more value in the failed bank if the bank has a greater proportion of shareholder capital.

Social Costs of Bank Failures

International agencies like the World Bank, the World Health Organization, and the United Nations have investigated the economic and social impacts of financial crises. They report that banking crises almost always lead to a general downturn in the economy, associated with rising unemployment and lost output, with consequential societal effects.⁶ These impacts go beyond the financial realm as they affect the health and quality of life, often of people who had little involvement in creating the crisis. The Global Financial Crisis of 2008/2009 was a prime example, as this crisis led to a widespread global downturn and higher rates of unemployment. While many countries have since fully recovered from this crisis, or are on the path to recovery, some countries are still trying to find their footing.

Since the 1970s, there have been more than 140 banking crises around the world. And they have had large costs to affected economies and societies.⁷ Unemployment rates and GDP figures are the more easily quantifiable impacts of banking crises. But what can sometimes get lost in the discussion surrounding bank failures is the deep personal impacts they can have, not only on those directly impacted, but also on those indirectly impacted. Economic models and statistics can only go so far in telling this story, which is why I want to spend some time on the impacts of banking crises on wellbeing.

⁶ Otker-Robe I, and Podpiera A M: The social impact of financial crises; Evidence from the Global Financial Crisis, Policy Research Working paper, No. WPS 6703, World Bank, 2013.

⁷ See the discussion of costs and references in G. Bascand, “*Financial stability – risky, safe, or just right?*” A speech delivered to UBS Australasia Conference 2018, Sydney, Australia, 13 November 2018.

If you ask someone who's lived through a banking crisis, they'll likely tell you that the impacts were not only significant, but lasting. Perhaps the person you talk to may have lost their job as a result of the crisis, and if not, it might have been their spouse, a friend, or a neighbour. Maybe you speak to a young couple that had purchased their first home just prior to the crisis, only to see its value decline by 30% in the months following the crisis, forever altering their outlook on the economy and their willingness to make another significant investment. Or maybe you speak to someone who just graduated from university prior to the crisis, only to enter a depressed labour market, and forced to accept work well below their educational qualifications and abilities, forever altering their desired career path.

Talk to these people, and I think they will tell you that banking crises have altered their lives in ways they wished it hadn't. I think they will also tell you that banking crises should not be accepted as an unavoidable fact of life.

For those that lived through the recession we experienced here in the early 1990s, you will recall that some industries were decimated, and a generation of workers lost. Many of these workers were not able to re-enter the workforce easily and lost valuable skills while trying to find suitable employment. And while recessions sometimes occur in the absence of a banking crisis, it is common for banking crises to ultimately result in recessions.

While shocks to the banking system cannot be avoided, particularly those that originate from outside our borders, we believe that by making some changes to our banking rules, we can improve the prospects that our banks will survive those shocks and be able to continue lending.⁸ And by doing so, we can improve the economic and social wellbeing of all New Zealanders.

Bank Capital – What it is and isn't

When we talk about 'bank capital', what are we talking about?

I ask this question because bank capital is a complex subject that is widely misunderstood.

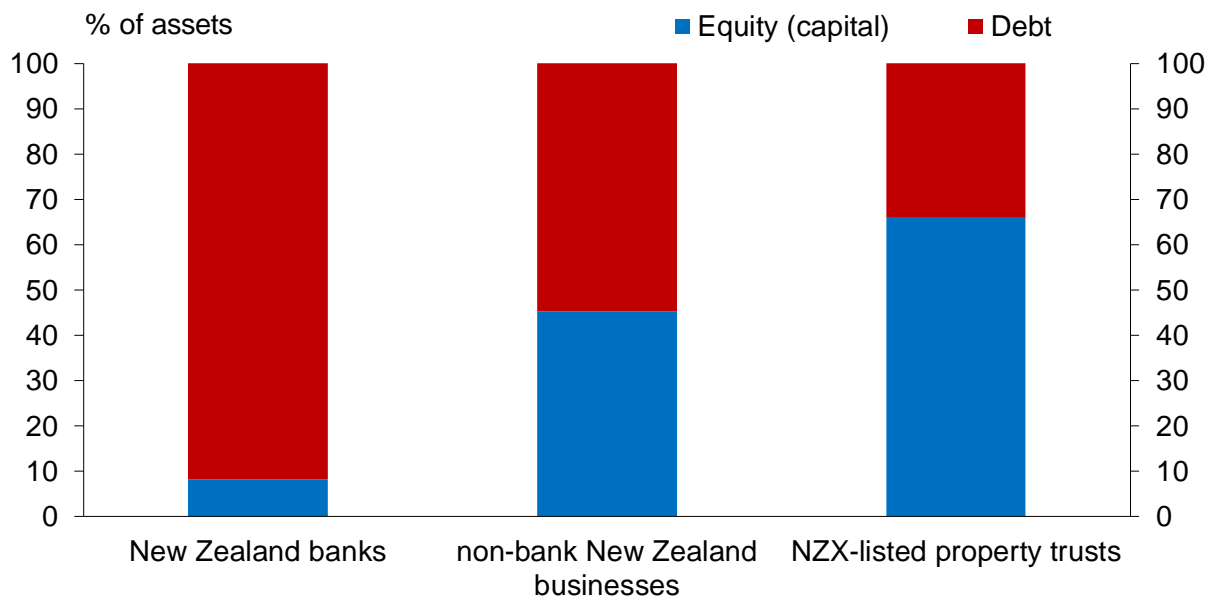
When we talk about bank capital, we are talking about where a bank gets its money.

Banks get their money from two sources – either from the bank's owners (its shareholders) or by borrowing it, from people like us, often in the form of deposits. The money banks get from their owners is the bank's capital. The rest is borrowed – it is 'other people's money'.

⁸ BIS Working Papers: Why Bank Capital Matters for Monetary Policy, Leonardo Gambacorta and Hyun Song Shin, April 2016.

The average New Zealand bank gets around 92% of its money by borrowing it. Compare this with the average business in New Zealand, for which this figure is about 55%.⁹ If you are surprised by this fact, I encourage you to confirm this for yourself by taking a look at your own bank's balance sheet on our Financial Strength Dashboard, which is available via our website.¹⁰

Figure 1: Shareholder equity to asset ratios, New Zealand banks, non-bank businesses and NZX-listed property trusts



Source: Registered banks' *Disclosure Statements*, Statistics New Zealand, company reports

Note: NZX-listed property trusts is an aggregate of the balance sheets of Kiwi Property Group, Goodman Property Trust, Precinct Properties New Zealand Limited, Argosy Property Limited, Property For Industry Limited, Stride Property Limited, as at the most recently available balance date.

It is not clear to me why this discrepancy between banks and other businesses is so large, but perhaps at least part of it can be explained by the fact that, historically, governments have been much more reluctant to allow a bank to fail than other types of businesses, which may lead banks to operate closer to the edge.

We believe that this balance of funding sources is not in the best interests of New Zealanders, which is why we are proposing change.

I will explain why.

⁹ This chart also includes NZX-listed property trusts as an industry with some similarities in its business model to banking.

¹⁰ Information on bank capital adequacy, and other financial measures, can be found on the Reserve Bank's Financial Strength Dashboard here (please note, however, that capital measures on the Dashboard will differ to the figure cited here as capital measures on the Dashboard are 'risk-weighted'):

<https://bankdashboard.rbnz.govt.nz/summary>

‘Skin in the Game’

As I mentioned, the Reserve Bank has recently proposed an increase to the minimum capital requirement for banks.

We have proposed this increase for a number of very important reasons, and one of them is to require banks to put more of their own chips – not yours – into the pot.

The Reserve Bank, like other banking regulators around the world, requires bank owners to put some of their own money into the bank. While bank owners will, on their own, contribute some of their own money into the bank, banking regulators set minimum requirements in this area to ensure that it is enough. This is what I referred to earlier as the bank’s capital, which acts as the bank’s ‘skin in the game’.

What is ‘skin in the game’ and why is it important?

Put simply, skin in the game refers to the concept of having to bear the consequences of one’s own decision-making.

An example of skin in the game can be found at your local pool. As you are likely aware, pools are required to frequently test the water in the pool to ensure that it remains safe to swim in. If the person who tests the pool water also swims in the pool every day, then they have some extra incentive – some ‘skin in the game’ – to ensure that the water remains safe.

By having minimum ‘skin in the game’ requirements, banking regulators ensure that the owners of a bank have something at stake, something to lose. I would like to note that banks themselves lend on these very same ‘skin in the game’ principles, for example, by requiring mortgage borrowers to provide a deposit.

At one time, the owners of a bank had plenty more ‘skin in the game’ than they do today.¹¹ However, over the last century, banks have started to use less of their own money and more of other people’s.

While we are not attempting to turn back the clock a hundred years, we want to swing the pendulum back in the other direction a little bit.

¹¹ Andrew Haldane, “Control Rights (and Wrongs)”, Bank of England, 2011.

We believe that more 'skin in the game' for banks will result in:

- Banks being better able to absorb large, unexpected losses. Losses reduce the value of a bank's assets, but have no effect on the value of the bank's debts. If the assets fall in value so far as to be insufficient to cover what the bank owes, the bank is insolvent.
- Society being less at risk from banking crises. Because more capital means banks are more likely to survive large unexpected shocks, society is also less at risk from the economic and social fallout that usually accompany bank failures.
- Reduced fiscal risk. When the probability of a banking crisis is reduced, so is fiscal risk. As the Global Financial Crisis illustrated, when banks fail there can be a severe domino effect that puts pressure on governments to step in with financial support. The provision of a government guarantee on deposits during our own finance company crisis a decade ago is an example.
- Bank shareholders and management being less inclined to take excessive risks.

Owners Lose First

Bank capital serves several purposes, but its primary job is to absorb losses. When a bank loses money, it is the owner's money that is lost first, as it should be.

Borrowing a poker analogy¹², if the bank's skill and luck runs sour, it is the owners' chips that are lost first, not the chips they borrowed. In a bank's case, the borrowed chips are the deposits and other money it has borrowed.

Why, then, do banks operate with so few of their own chips at the table? While I will let banks answer that question for themselves, I will only say that an individual bank's own goals and objectives do not necessarily line up with wider society's.

In any event, we have proposed that banks come to the table with more of their own chips, and less of other people's, which will reduce the risk of them folding and reduce the risk of the New Zealand taxpayer ever having to step in to save them.

¹² Note that I am not attempting to draw a direct comparison between banking and the game of poker, other than to highlight that both involve risk-taking.

The Capital Review

The economic and social cost dimensions of bank failures are readily understood. The links to bank capital and the Reserve Bank's regulatory requirements are perhaps less familiar.

The Reserve Bank of New Zealand has been undertaking a review of its capital framework for New Zealand banks since March 2017. The purpose of the review is to identify the most appropriate capital framework for New Zealand banks in order to best enhance the long-term welfare of New Zealanders.

Prior to undertaking this review, we set out these following six key principles for the review:

1. Capital must readily absorb bank losses ahead of creditors and depositors.
2. Capital requirements should be set in relation to the risk of bank exposures.
3. Where there are multiple methods for determining capital requirements, outcomes should not vary substantially between methods.
4. Reflecting the risks inherent in New Zealand financial system and the Reserve Bank's regulatory approach, New Zealand bank capital requirements should be conservative relative to international peers.
5. The capital framework should be practical to administer, minimise unnecessary complexity and compliance costs, and take into consideration relationships with home-country regulators.
6. The capital framework should be transparent to enable effective market discipline.

The magnitude of this review led us to separate it into different phases. The first phase of the review determined the scope of the main issues that would be considered as part of the review. The second phase of the review looked at the numerator – the nature and quality of bank's capital. The third phase looked at the denominator – the bank's assets and their measurement or weighting. We are now in the midst of the fourth and final phase of the review, which focuses on the capital ratio (the ratio of the bank's capital to its assets), and what the minimum level of this ratio should be.

As a matter of practice, before we change the rules for banks in New Zealand, we ask them and the wider public what they think. And we did just that when we released our fourth consultation paper on 14 December 2018. In that consultation paper, we proposed that New Zealand's banks bear a greater share of the financial system's risks by increasing their minimum capital requirements. We will be accepting comments on these proposals until

3 May 2019. The consultation document can be found on the Reserve Bank's website; I would encourage all of you to take a look at it.¹³ And for those of you that find even the thought of wading through a long and technical paper on bank capital entirely unappealing, we have included a shorter, non-technical summary that captures the main concepts of our proposals and can be read in only a few minutes.

While I do not wish to pre-judge the input we will receive from this consultation, I do not believe I am making too bold a prediction in saying that we expect to hear strong opposition to these proposals from some banks. While we expect to receive formal submissions from the banks and the banking industry closer to the 3 May comment deadline, we have already heard quite a bit from various market commenters, both within and outside New Zealand. I think it's fair to say that the reaction from these commentators has been mixed – some commentators believe our proposals are entirely reasonable and justified, while others believe that our proposals are too extreme. Let me once again say that all feedback on our proposals, whether short or long, supporting or dissenting, from whatever level of financial sophistication, is welcome. We will review all of it carefully.

While we recognise that these proposals may not align with the interests of banks' shareholders, the key question is whether they are aligned with the best interests and wellbeing of New Zealanders.

Our Proposals

It is now time to dig into the weeds a little.

What exactly have we proposed?

As I stated earlier, banks in New Zealand, like banks around the world, are required to have minimum levels of capital. This means that a minimum percentage of all a bank's money must come from its owners.

In New Zealand, at the moment, the Reserve Bank has set this minimum amount at 10.5% for total capital, which is consistent with total minimum capital requirements set by the Basel Committee on Banking Supervision (BCBS), a group of international banking regulators and central banks.¹⁴ We are proposing to increase this total minimum capital requirement from

¹³ All the aforementioned consultation papers on the Reserve Bank's Capital Review, including papers that were used as inputs and released under the Official Information Act 1982, can be found here: <https://www.rbnz.govt.nz/regulation-and-supervision/banks/consultations-and-policy-initiatives/active-policy-development/review-of-the-capital-adequacy-framework-registered-banks>

¹⁴ BCBS members include organisations with direct banking supervisory authority and central banks. The BCBS is the primary global standard setter for the prudential regulation of banks and provides a forum for cooperation on banking supervisory matters. Its mandate is to strengthen the regulation, supervision and practices of banks worldwide with the purpose of enhancing financial stability.

the current 10.5% to 18% for banks that are identified as ‘systemically important’ and 17% for all other banks.¹⁵

Within this proposed increase from 10.5% to 18%, we are proposing to increase the minimum capital requirement for ‘Tier 1’ capital – a form of higher quality capital that can better absorb a bank’s losses – from 8.5% to 16% for banks that are identified as ‘systemically important’ and 15% for all other banks. Tier 1 capital is what we regulators refer to as ‘going-concern’ capital, meaning that it helps absorb a bank’s losses while the bank is a ‘going-concern’ – in layman’s terms, while the bank is ‘still alive’. It is this high quality capital in particular that would achieve our objective of making New Zealand’s banks more resilient to severe shocks.

The Reserve Bank also has a minimum capital requirement of 2% for ‘Tier 2’ capital, which we regulators refer to as ‘gone-concern’ capital, as it is only effective in absorbing a bank’s losses after a bank is ‘gone’ (after the bank has failed). Given that we are proposing to increase minimum requirements for the highest quality Tier 1 capital from 8.5% to 16% or 15%, our most recent consultation paper asks the question of whether this lower quality Tier 2 capital is needed as part of the capital framework at all.

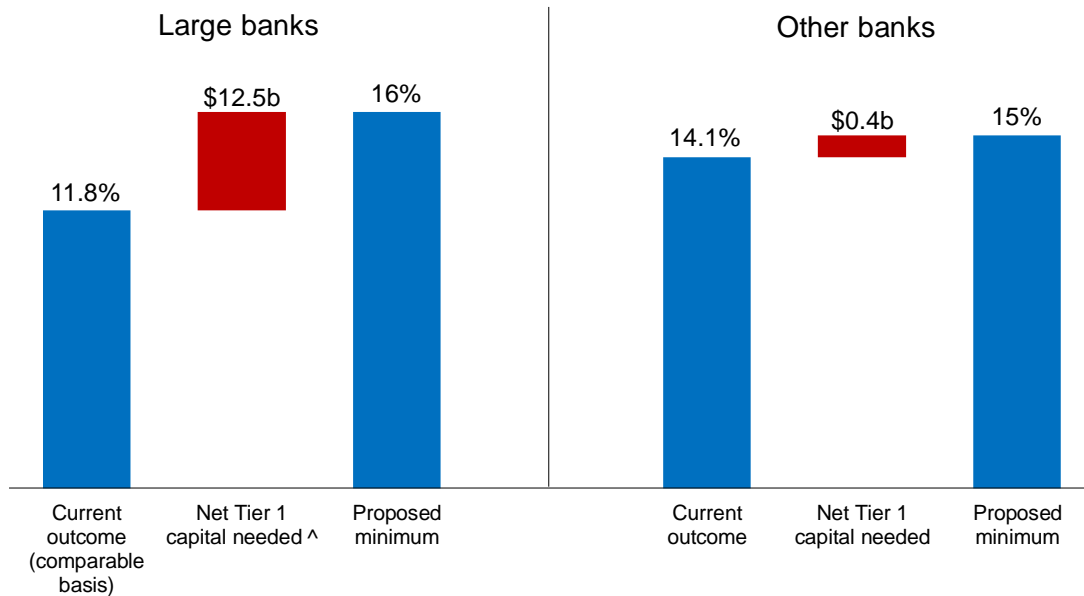
And to dig even further into the weeds, of the proposed minimum Tier 1 capital requirement of 16%, the first 6% will consist of a regulatory minimum that banks are not to breach (to do so would trigger resolution or failure options), with the 10% that sits above that being what we call a capital buffer. We are proposing that the top 1.5% of this 10% capital buffer consist of a ‘counter-cyclical capital buffer’, which would be removed in the event of a large economic stress so that banks could continue to lend to support the economy during this stress period (provided of course that the bank was fundamentally healthy).

While on the surface the proposed increase may look dramatic – indeed, it has been described by some as “radical” – the actual increase for banks would not be quite as high. The reason for this is that banks, for the most part, are currently operating well above the existing 8.5% minimum requirement for high quality capital. On average, banks in New Zealand are operating with approximately 12% of such capital¹⁶. As such, our proposed increase to minimum requirements may not be as large as it appears on the surface.

¹⁵ The Reserve Bank will be consulting on a framework to identify ‘domestic systemically important banks’ (DSIBs) in the near future.

¹⁶ This 12% figure includes the estimated impact of proposed changes to the internal-ratings based approach in the most recent consultation paper.

Figure 2: Tier 1 capital, four largest locally incorporated banks, aggregate of other locally incorporated banks



Source: RBNZ Balance Sheet Survey, RBNZ estimates

^: Tier 1 capital needed to meet the proposed minimum capital levels, not including the replacement of outstanding Tier 1 capital that would no longer qualify under the proposed changes to the capital framework (approximately \$6bn for large banks, \$150m for other banks). Does not include any voluntary capital surplus banks may choose to operate with, above the proposed minimum.

Note: Data as at November 2018. Current outcome (comparable basis) incorporates proposed changes to the calibration of the internal ratings based approach to credit risk used by the four largest banks.

Banks have several options for meeting the new requirements, which include retaining a greater proportion of their earnings rather than paying them out as dividends, issuing shares or other eligible instruments that would qualify as capital, or possibly reducing lending in certain markets.

While it would be up to individual banks to decide how to meet any increased minimum requirement, we believe these are all viable options. For example, we estimate that the large four banks could meet these new requirements by retaining about 70% of their expected profits over the proposed five-year transition period, with no need to slow down the rate at which they have grown their lending in recent years.

How We Got Here

It is reasonable for the banking industry, and others, to ask why we have specifically proposed a minimum total capital requirement of 18% (or 17% for 'non-systemically important' banks).

Allow me to elaborate on how we arrived at this number. First, we began with the international standards set by the Basel Committee. These set the minimum total capital ratio requirements at 10.5%, which is the level of New Zealand's current minimum total capital requirements. However, it is common to see other jurisdictions go above and beyond these standards to suit their particular circumstances. This is where our journey really begins, and it starts with the question:

What are the correct capital requirements for New Zealand?

We started with our legislative mandate of 'promoting the maintenance of a sound and efficient financial system' to guide our approach to answering this question.

Our overall approach was to use what we call a 'risk appetite framework'. The framework combines ideas about the impact of capital on the likelihood of a banking crisis, the impact of capital on output, and society's tolerance for banking crises. We applied a risk-tolerance concept to the policy problem, "How can we deliver a sound financial system for all stakeholders, not just the banks?" We then considered whether any extra gains could be made in the long-term by increasing capital (by reducing the likelihood or impact of bank failure on GDP). This reflected the efficiency limb of our 'soundness and efficiency' objective. This meant that, where there was an opportunity to improve the stability of the financial system (and thus mitigate societal costs of crises) without economic costs, we would take it.

Several lines of analysis underpinned this policy approach. One of them was quantitative modelling. This required us to adopt a specific representation of society's risk appetite. We could have carried this out in a complex way, however, this would have only given an illusion of certainty. Instead, we opted to adopt a simple decision rule – set capital to cap the probability of a systemic crisis at a low level – once in every two hundred years.¹⁷ By setting a one in two hundred year risk appetite, we aimed to reflect the significant uncertainty involved in estimating capital requirements as well as achieve our aim of a sound financial system.

Allow me to put this one in two hundred year assumption into better context for New Zealanders by relating it to the all too frequent earthquakes we experience right here at home. As we all know, we experience small earthquakes quite frequently, most of which are not felt by most of us. However, what everyone worries about is the 'big one' (i.e., the one in five hundred year earthquake). We don't know when the 'one in five hundred' will happen, but we know that when it does happen, it will be big. That's the basic concept behind the one in two hundred concept we're talking about in this current capital consultation.

¹⁷ The one percentage point lower capital requirement for 'non-systemically important' banks recognises that they can fail somewhat more frequently with lesser social cost, that we have approximated as perhaps once in every one hundred years or so. However, the quantification of risk is less precise for these banks.

This may sound like a high-bar to set, but it's important to remember just how damaging bank failures can be, not just in economic terms, but more broadly in terms of mental and physical health, and general societal wellbeing. It's also important to remember that the societal impacts tend to go well beyond the initial year of a banking crisis.

Such an approach is also common in international standards. Once every two hundred years is the risk tolerance adopted in Europe by regulators of insurers. The Basel international standards, and current New Zealand framework for that matter, use a once in a thousand year basis for determining the relative riskiness of different types of lending.

As part of our risk appetite framework, the relationship between capital and output was also considered. It is generally accepted that there will be some impact on interest rates and, ultimately, output. The relationship between capital, output, and wellbeing is more dynamic than it may seem at first, as I will allude to shortly. For now though, I will say that we believe that there are few efficiency gains to be made by going beyond the current proposal of 18% (or 17%). The level of capital we think is needed to meet our soundness objective has also addressed the potential to increase stability without adversely impacting on long-term output.

There were other threads of analysis that supported our proposals. A comprehensive review of the international literature told us that we were within the range of capital ratios that were appropriate. Furthermore, building on analysis that began in 2012, we looked at the implications of representing society's risk appetite differently. This analysis took into account New Zealand specific factors and captured household risk-aversion.¹⁸ As with findings from similar types of analysis in the international literature, there is a wide range of plausible calibrations. However, this analysis ultimately showed that a capital ratio of 18% (or 17%) is in the mid-point of our range of estimates for the 'optimal capital ratio' for New Zealand.

We were therefore comfortable that most, if not all, of the gains were being reaped for the economy at the 18% (or 17%) minimum capital requirement proposed from our risk-appetite framework. Going far beyond this point could not guarantee additional benefits for the economy, and similarly going far below left much to be desired in terms of potential efficiency (expected output) and financial stability gains.

We are consulting on proposals that we think we have about right. The soundness lens we use to think about capital considers the impact of capital on the likelihood of a crisis and the consequent fallout. The efficiency lens tells us that there are few, if any, output gains to be made from varying the level of capital from what is justified on soundness grounds.

I would like to reiterate that we are currently consulting on our proposed minimum capital requirements, including the risk appetite setting that we have chosen. As I have previously

¹⁸ The analysis focused on Tier 1 capital and suggested in its base case a Tier 1 ratio of 18.4%.

stated, it is ultimately society that will bear the wider costs of a financial crisis. As such, we would like to hear New Zealanders' views on whether the one in two hundred year risk appetite setting is appropriate for New Zealand.

The Costs

We propose increasing capital in the banking system to make the system safer because we believe the economic and social benefits outweigh the costs.

I have already described some of the many benefits that would be derived from increasing capital in the banking system, so in fairness, I must now address the costs.

Increasing capital requirements is expected to result in an increase in banks' average funding costs. This is because shareholders generally require a higher rate of return from their investment than depositors and other creditors. Since we're proposing that banks rely more on this more expensive form of funding, banks' total funding costs could be expected to increase somewhat. Of course, since the banks would also be safer (have less risk), shareholders, depositors, and other creditors, could be expected to lower their expected returns (relative to what they expect today), which would moderate the impact of the increase in capital on average funding costs.

When banks face an increase in costs, they can be expected to try to pass these costs on through various means, including to their borrowers through higher lending rates and to depositors and other creditors through lower deposit rates. However, we expect that competitive pressures may limit banks' ability to fully pass these costs on to others.

Taking into account the safer investment in banks for shareholders, and competitive pressures in the market, we think the increase in lending margins (the difference between bank lending and borrowing rates) due to our proposals will be in the vicinity of 20 to 40 basis points (less than half of one percent), which assumes that bank shareholders demand a lower return on equity on account of their bank's lower risk. This 20 to 40 basis points change represents a combination of deposit (and other creditor) rates falling and lending rates increasing. That is, interest rates on deposits and other bank liabilities could fall to make up some of this margin, with lending rates for borrowers rising to make up the remainder.

Higher lending rates can dampen investment and lead to lower potential output. However, in the short-term our own models suggest that the impact on lending rates will be little more than 'noise', something that will likely be drowned out by wider economic factors. Looking at this from a longer horizon, the international literature implies that the cumulative (and present value) impact of an increase in lending rates of less than half of one percent could

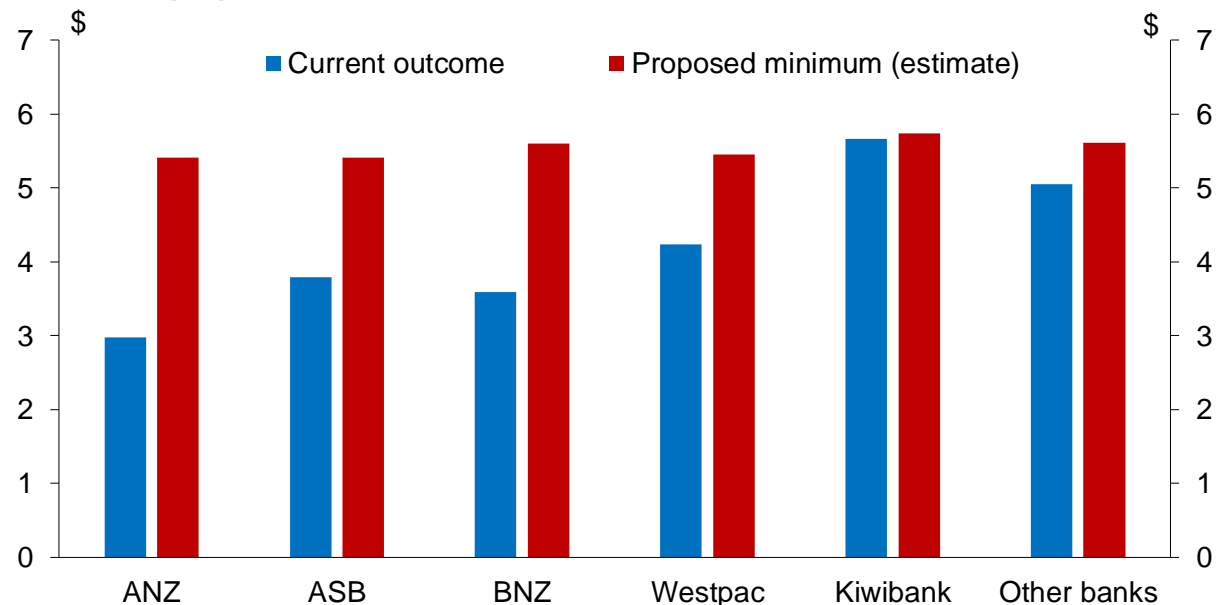
be equivalent to a one-off reduction in the long-run level of output of around the same amount (i.e., equivalent to a one-off impact on output of less than half a percent). The expansion in lending rates that we expect, of course, is less than this due to the potential for lower deposit rates to contribute to the margin expansion. The very small impact of capital on potential output needs to be measured against the reduced probability of a crisis, and all the economic and social chaos that accompanies it.

Levelling the Playing Field

We are also proposing to level the playing field between banks that use their own models to determine their capital requirements and banks that use models prescribed by regulators to determine capital requirements. Banks that use their own models to determine capital requirements are known as ‘internal models’ banks and currently consist of the large four New Zealand banks. All other banks in New Zealand currently use what is known as the ‘standardised approach’.

For many years, we have observed that banks using their own internal models produce lower capital requirements relative to the other banks, which provides them with a competitive advantage that we don’t think can be fully justified based on differences in their underlying risk profiles.

Figure 3: Estimated Tier 1 capital per \$100 of residential mortgage lending, current values and proposed minimum amounts



Source: Registered Bank *Disclosure Statements*, RBNZ calculations.

Technical note: Current capital outcomes are calculated using most recent quarter Tier 1 capital ratios and risk-weighted asset (RWA) amounts, representing the actual capital on banks’ balance sheets including any voluntary capital banks operate with above current regulatory requirements. Proposed minimum outcomes are calculated based on a 16 (15) percent Tier 1 ratio for large (small) banks. The impact of proposed changes to the calibration of the IRB approach are assumed in this analysis to result in IRB RWA amounts that are the maximum of

1.2/1.06 times banks' current IRB RWA amounts, or 32 percent of banks' current EAD (an approximate value for RWA if an 85 percent floor relative to the standardised approach is binding)). For IRB banks, both current and proposed capital outcomes also include the value of an average expected loss deduction equal 0.1 percent of EAD, based on an average of banks' private reporting. To provide a comparable amount of Tier 1 capital per \$100 of lending, IRB minimum capital requirements per dollar of EAD are divided by 1.037, as EAD (as calculated under IRB) is on average estimated to be equivalent to 1.037 times the 'exposure amount' that would be calculated under the standardised approach. Analysis covers non-defaulted mortgages only.

As such, we are proposing to limit this gap by capping the reduction in capital that banks using their own internal models can achieve relative to all other banks. This is commonly referred to as a 'capital floor'. We are proposing to set this floor and adjust another aspect of the calibration such that internal models banks risk-weighted assets will be around 90 percent of the level calculated via the standardised method.¹⁹

Going Above and Beyond

No doubt one of the criticisms we expect to receive is that our proposals are not consistent with agreed international principles, commonly known as "Basel III".

I beg to differ.

Following the Global Financial Crisis, members of the BCBS agreed to a revised set of *minimum* capital requirements that both increased the quantity, but also the quality, of bank capital.²⁰

These minimum capital requirements are just that – minimums. They are the baseline capital requirements agreed to by BCBS member jurisdictions, and provide those jurisdictions with the freedom to set their own requirements at higher levels to suit their particular needs and circumstances.

In fact, allow me to quote directly from the Basel Committee Charter²¹:

"The BCBS sets standards for the prudential regulation and supervision of banks. The BCBS expects full implementation of its standards by BCBS members and their internationally active banks. However, BCBS standards constitute minimum requirements and BCBS members may decide to go beyond them."

¹⁹ The impact of this for mortgage loans, when combined with the new minimum requirements, can be seen in a chart in the Appendix.

²⁰ The Reserve Bank of New Zealand is not a member of the Basel Committee on Banking Supervision.

²¹ Basel Committee Charter, Section 12: <https://www.bis.org/bcbs/charter.htm>

The Reserve Bank has historically taken a more conservative approach to capital regulation, so it should not come as a surprise that the capital requirements we are proposing are also more conservative than internationally agreed minimums.

It should also be noted that 'headline' capital requirements are not always as they appear. International comparisons of capital ratios are inherently difficult to make due to differing regulatory frameworks, which are sometimes not fully transparent. For example, many regulators apply capital 'add-ons' that are not visible to the market.

Notwithstanding these difficulties, there are many different endeavours to compare capital ratios. I will provide two.

Figure 4: BCBS Impact Assessment of Final Basel III Standards

Fully phased-in CET1, Tier 1 and total capital ratios under the final Basel III standards

In per cent

Table C.10

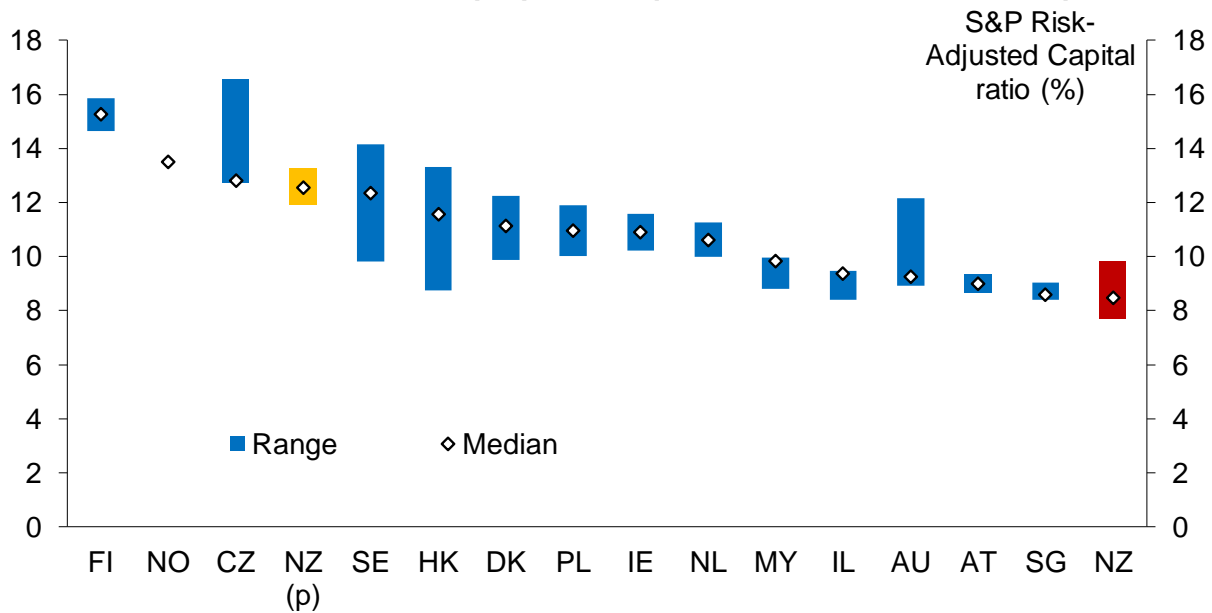
	Group 1 banks			Of which: G-SIBs			Group 2 banks		
	CET1	Tier 1	Total	CET1	Tier 1	Total	CET1	Tier 1	Total
Max	54.0	56.8	58.3	15.6	18.6	20.1	70.9	70.9	70.9
95th percentile	21.8	22.4	24.0	15.4	17.8	19.9	27.1	30.1	33.1
75th percentile	13.9	15.1	17.2	13.4	15.6	17.8	15.9	16.5	19.7
Median	12.3	13.4	15.1	12.0	13.6	15.5	13.4	13.6	15.4
25th percentile	10.8	11.7	13.3	10.2	11.4	12.7	11.0	11.1	12.3
5th percentile	8.7	9.8	11.0	8.3	9.6	10.9	9.4	9.4	11.0
Min	7.1	7.2	10.0	8.1	8.9	10.6	3.9	4.0	4.0
Weighted average	12.2	13.3	15.2	12.0	13.3	15.1	12.6	13.1	15.1

Source: Basel Committee on Banking Supervision.

Source: Basel III Monitoring Report (October 2018)

The Basel Committee has published tables of capital ratios for a group of large banks operating in its member jurisdictions. Credit rating agencies are another source. For example, Standard & Poor's calculates its own risk-adjusted capital ratios for many banks around the world, using a methodology that attempts to reduce the influence of differing national applications of the Basel framework while still taking into account the different risk profiles of the countries in which each bank operates.

Figure 5: Standard & Poor's Risk-Adjusted Capital ratio by country, four large New Zealand banks under current and proposed requirements, and international peers



Source: Standard & Poor's, RBNZ estimates

Notes: Most recently available S&P RAC ratio. NZ (p) shows an estimate of the four large New Zealand banks' S&P RAC ratios assuming a Tier 1 (Basel) ratio of 17 percent, to account for potential voluntary capital buffers banks will operate with above the proposed minimum of 16 percent. Peer group largely aligns with Appendix D in PwC study, "International comparability of the capital ratios of New Zealand's major banks", October 2017. Peer group comprises Erste Bank, Raiffeisen Austria (AT), ANZ, Bank of Queensland, Bendigo and Adelaide, CBA, NAB, WBC (AU), ČSOB, Komerční, Ceska Sporitelna (CZ), Danske Bank, Jyske Bank, Nykredit Realkredit (DK), Aktia Bank, OP Corporate Bank (FI), Bank of China HK, Bank of East Asia, Hang Seng Bank, Standard Chartered HK (HK), Allied Irish Banks, Bank of Ireland Group (IE), Leumi, Hapoalim, Discount Bank (IL), Maybank, Public Bank, CIMB Bank (MY), ABN AMRO Bank NV, ING Bank NV (NL), DNB Bank ASA (NO), ANZ NZ, ASB, BNZ, Westpac NZ (NZ), Pekao, mBank (PL), Lansforsakringar Bank, Nordea Bank, SBAB Bank, Skandinaviska Enskilda, Svenska Handelsbanken, Swedbank (SE), DBS, OCBC, UOB (SG).

While these cross country studies have not played much role in our analysis of determining what we think is the appropriate capital calibration for New Zealand, they do demonstrate that our proposals are by no means extreme. Instead, they move us towards our goal, expressed back in 2017, of capital requirements that are conservative relative to our peers.

In the final analysis, we must have a capital framework that is suited to the specific conditions and risks of New Zealand, not other jurisdictions.

Conclusion

Ensuring the soundness and efficiency of New Zealand's banking system is a core responsibility of the Reserve Bank of New Zealand, and one to which we devote great time and effort. It is difficult to imagine a strong New Zealand economy without a strong New Zealand banking sector. And we can't have a strong banking sector if it is not a safe one.

We are proposing to make New Zealand's banks even safer by requiring them to use more of their own money, and less of depositors, and possibly taxpayers, should something go wrong. This small change will go a long way to improving the wellbeing of current and future generations of New Zealanders, which is also a key priority of our current government.

Capital isn't everything, but in our view it is the single most important feature of the financial sector's regulatory regime. Disclosure and transparency, governance, risk management, and supervision all have roles to play in the safety of our financial institutions, and they all work better when owners have more skin in the game.

My colleagues and I look forward to hearing your feedback by 3 May 2019. We will consider this feedback carefully, with the best interests of New Zealanders in mind.

Thank you.