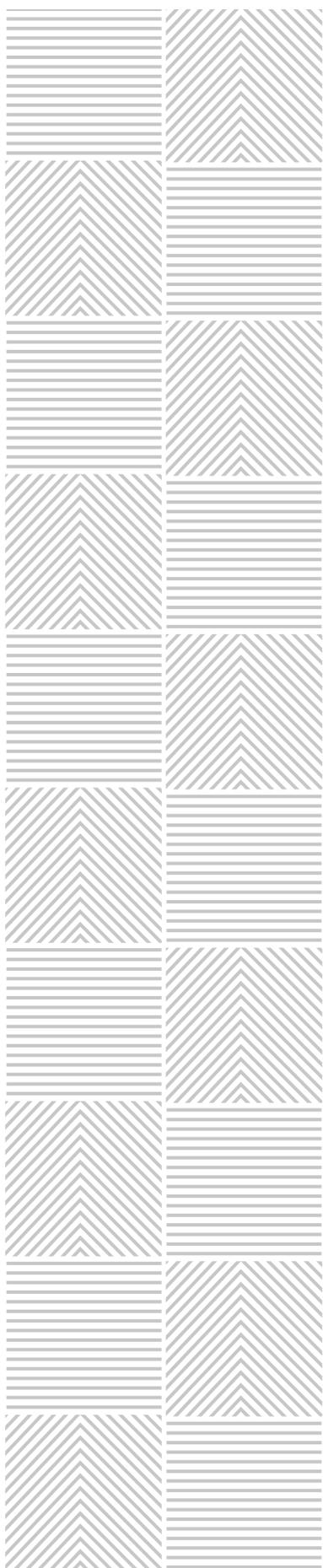




**RESERVE
BANK**

O F N E W Z E A L A N D
T E P Ū T E A M A T U A



CAPITAL REVIEW



Decisions 2019

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Non-Technical Summary

In 2017, the Reserve Bank launched a comprehensive review of its capital framework for banks. This review is known as the 'Capital Review' (the Review).

What is Bank Capital?

Bank capital, in general terms, refers to the amount of money provided by the owners (shareholders) of a bank. Most banks get the vast majority of their money by borrowing it (usually over 90 percent), with the rest coming from owners (usually less than 10 percent). The money banks borrow includes deposits from ordinary New Zealanders.

It is important that a bank's owners have a minimum amount of capital invested in the bank. This ensures that the owners have a meaningful stake in the bank – some 'skin in the game'. The more the bank's owners have to lose, the more they'll want to make sure the bank is run properly. Bank capital also serves to protect a bank from failing. When a bank loses money, these losses decrease the bank's capital, so higher levels of capital provide a bank with greater protection from failure.

The level of bank capital is commonly measured in terms of a ratio (a percentage), known as the 'capital ratio'. This ratio is calculated by dividing the amount of a bank's capital (the numerator) by the amount of the bank's assets (the denominator).

The Consultation Papers

During the course of the Capital Review, the Reserve Bank released four consultation papers.

The first paper asked what topics should be considered as part of the Review and also set out six high-level principles for the Review. The second paper asked what

should be eligible as bank capital (there are three 'tiers' of bank capital – all with different features – which vary in quality); this determines what can be included in the numerator and how it is measured. The third paper asked how we should measure a bank's assets (a bank's assets – which consist mostly of the bank's loans – are measured differently, according to their risk); this determines how the denominator is measured. The fourth (and last) paper proposed that the minimum capital ratio be increased significantly and asked for views on this proposal.

The Proposals

The Reserve Bank proposed a significant increase to the minimum capital ratio because it believed that New Zealand's banking system could be made more resilient to financial and economic shocks that may come our way. While we acknowledged that making New Zealand's banking system more resilient could not be done without cost – namely, an increase in the interest rates that banks charge their customers – we assessed that the benefits of these changes would outweigh the costs.

We also emphasised that these decisions are not all about dollars and cents. Banking crises also come with harmful social costs, such as a general decline in people's mental and physical health brought about by higher rates of unemployment.

The Reserve Bank also proposed that the large four banks in New Zealand (ANZ, ASB, BNZ, and Westpac) – which use their own 'models' (mathematical

formulas) to determine capital requirements – could not have capital levels lower than 85% of what their requirements would be if they used the Reserve Bank’s models. Relatedly, it was proposed that the large four banks would have to report to the Reserve Bank, and the public, what their capital requirements would be if they used the Reserve Bank’s models. These changes were proposed to help level the competitive playing field between large banks (which use their own models) and small banks (which use the Reserve Bank’s models).

It was also proposed that the large four banks be required to have more capital than small banks, as the failure of a large bank would be more damaging to New Zealand’s economy than the failure of a small bank.

We also asked whether the lowest (quality) tier of capital should remain in the framework or be removed entirely.

The Reserve Bank proposed to phase in all these changes over a five-year period.

Engagement with New Zealanders

The Reserve Bank conducted an unprecedented level of consultation with this Review, particularly after the fourth consultation paper was released in December 2018, to ensure it gathered and understood the perspectives of all New Zealanders.

The Reserve Bank engaged directly with banks, businesses, ratings agencies, other regulators, industry associations, the agriculture sector (representatives of rural communities), non-governmental organisations, representatives of the Māori community, and members of the public.

Three external experts were asked to provide us, and the public, with their perspectives on the reasonableness of the Reserve Bank’s analysis and proposals. We also used a global research and insights consultancy to conduct a series of workshops with members of the public from different parts of New Zealand, to give us greater insights into what might matter most to the public.

Final Decisions

The Reserve Bank took a great deal of care in coming to its final decisions. These are complex and important issues, with many moving parts, so we did our best to get them right.

In the end, it was decided that:

- the minimum capital ratio would be significantly increased, to improve the resilience of New Zealand’s banking system;
- what is acceptable as the ‘middle tier’ of capital would be expanded to provide banks with greater flexibility;
- relative to the original proposal, a slightly lower amount of the ‘highest tier’ capital would be required, while at the same time, slightly more of the middle tier of capital would be acceptable;
- the lowest tier of capital would remain in the framework;
- small banks could have slightly less capital than originally proposed;
- the large four banks would have to measure the denominator of their capital ratio more conservatively (increasing the size of the denominator and the amount of capital in the bank);
- the large four banks could not have capital lower than 85% of what they’d have if they used the Reserve Bank’s models to measure capital;

- the large four banks will have to report to the Reserve Bank, and the public, what their capital levels are using both their own models and the Reserve Bank's models; and,
- all these changes would be phased in over a seven-year period (rather than over five years as originally proposed) in order to reduce the economic impacts of these changes.

Are these the Right Decisions?

When making changes of this importance and magnitude, the Reserve Bank is required to produce a 'cost/benefit analysis' to justify its changes. As such, we conducted a Regulatory Impact Assessment – which has been released publicly – that shows the benefits of these changes exceed the costs. The approach we used to assess the costs and benefits was the same approach we outlined in earlier publications during the Capital Review, but was adjusted to incorporate feedback we received during the consultation period.

The primary benefits of these Capital Review changes are an increase in financial stability and a reduction in the risk of banking crises, while a smaller cost is anticipated from the expected increase in interest rates. We also tested the strength of our conclusions by varying the underlying assumptions behind our analysis, which served to confirm the overall benefits of the final decisions.

A Safer Banking System for All

New Zealanders have tasked the Reserve Bank with the responsibility of:

'promoting the maintenance of a sound and efficient financial system'.

This is a responsibility we take very seriously and one that we carry out for the benefit of all New Zealanders.

Capital requirements are the most important component of the Reserve Bank's regulatory framework for banks. We have decided to raise the bar for New Zealand's banks in this area, not only to strengthen the banks themselves, but to better protect all New Zealanders from the damaging consequences of banking crises that will inevitably be on the horizon.

Executive Summary

In March 2017, the Reserve Bank announced the beginning of a fundamental review of bank capital requirements (the 'Capital Review'). In December 2018, the Reserve Bank announced a proposal to increase bank capital requirements. This proposal followed earlier in-principle Capital Review decisions announced during 2017 and 2018. Together, the December 2018 reform proposals and the earlier in-principle decisions can be considered one reform package, the '2018 proposal'.

Public interest in the 2018 proposal, expressed during the consultation period, was high. More than 200 submissions were received overall. The Reserve Bank has now considered feedback on the 2018 proposal from three external experts commissioned by the Reserve Bank, the business sector, the finance sector, non-governmental organisations, and members of the public. The Reserve Bank has undertaken additional analysis in response to this feedback.

The Reserve Bank has now completed its deliberations. The purpose of this paper is to set out final decisions from the Capital Review (the '2019 reforms'), and to explain the over-arching rationale underpinning the 2019 reforms. The expected impacts of the 2019 reforms are outlined in the Regulatory Impact Assessment accompanying the paper.

The 2019 reforms include adjustments to the 2018 proposal in five main areas: the instrument accepted as AT1 capital, the contribution AT1 capital can make to Tier 1 capital, the capital required of non-systemic banks, the leverage ratio, and the transition period. The 2019 reforms also confirm a continued role for Tier 2 in the capital framework.

These adjustments maintain the financial system resilience provided by the 2018 proposal, while reducing the estimated average interest rate impact of higher capital. As a consequence, the estimated annual net benefit of reform is higher than it would otherwise be.

As a result of the adjustments, banks will also have more time to comply with the new requirements, lessening the near term transitional impacts.

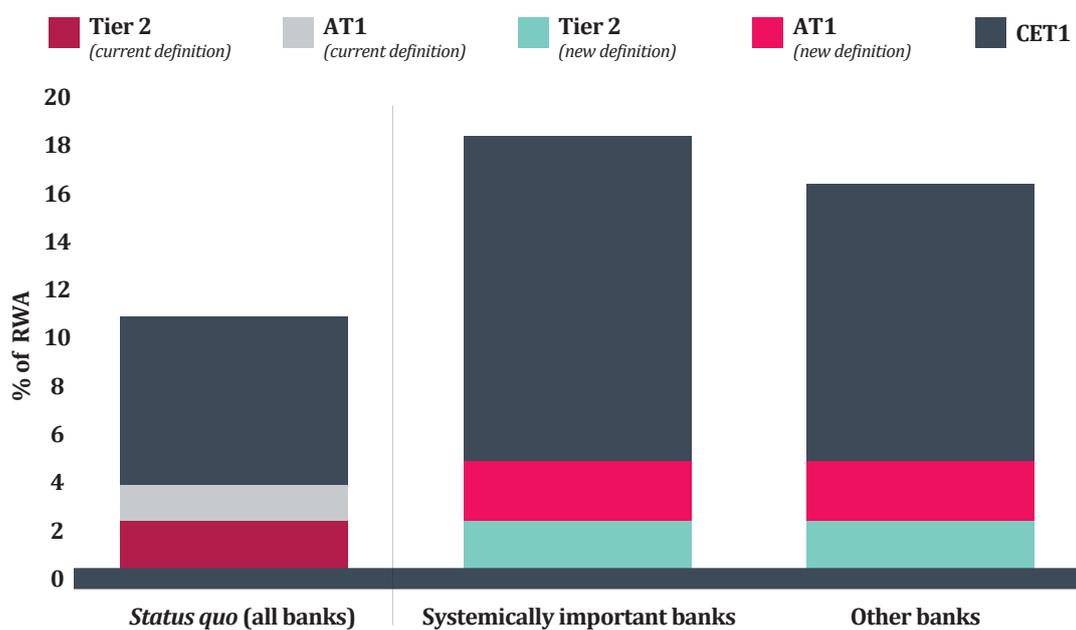
In Table 1 the key high level decisions of the 2019 reforms are itemised.

Table 1 – The high level decisions that constitute the 2019 reforms

2019 Reforms: decisions
Ratio
Tier 1 capital requirement (including Prudential Capital Buffer):
<ul style="list-style-type: none"> • 16% of RWA for systemically important banks (D-SIBs) • 14% of RWA for non-systemically important banks (Non-D-SIBs) • Of which 2.5% can be made up of Additional Tier 1 capital (AT1)
Prudential Capital Buffer (PCB) composition:
<ul style="list-style-type: none"> • Total Prudential Capital Buffer of 9% of RWA (CET1 buffer) • Of which, 2% will consist of D-SIB buffer (applied to banks deemed to be systemically important) • Of which, 1.5% will be an early-set CCyB • Of which, 5.5% will consist of conservation buffer
Keep Tier 2, which can comprise 2% of the minimum total capital ratio
Adopt a minimum total capital ratio requirement of 9%
Total capital requirement (including PCB):
<ul style="list-style-type: none"> • 18% of RWA for systemically important banks (D-SIBs) • 16% of RWA for non-systemically important banks (Non-D-SIBs)
Allow for a seven year transition period
Omit a leverage ratio
Denominator
Increase RWA outcomes for IRB banks to approximately 90% of what would be calculated under the standardised approach:
<ul style="list-style-type: none"> • Apply an 85% output floor for credit risk RWA of IRB banks • Increase the scalar applied to credit risk RWA of IRB banks from 1.06 to 1.2
Dual reporting requirement for IRB banks
Apply standardised approach for sovereign and bank exposures of IRB banks
Only allow Standardised Measurement Approach for operational risk modelling (consult in due course)
Retain the current market risk capital framework and current standardised approach
Numerator
Remove contractual contingency from the definition of capital
Accept redeemable perpetual preference shares as AT1 capital (with suitable protections in the contract terms)
Accept long-term subordinated debt as Tier 2 capital

Different capital requirements will apply to systemically-important banks (deemed to be ANZ, ASB, BNZ and Westpac) compared to other banks. The high level capital requirements that will apply are illustrated in Figure 1.

FIGURE 1 2019 REFORMS CAPITAL STACK



Systemically important banks will be required to have Total capital equal to 18% of risk weighted assets ('RWA'). Long-term subordinated debt ('Tier 2' capital) can contribute up to 2% of RWA towards this requirement. These banks will be required to have Tier 1 capital equal to 16% of RWA and of this redeemable preference shares (or 'Additional Tier 1' capital) can contribute up to 2.5% (leaving 13.5% of RWA to be met with common equity Tier 1 capital or 'CET1').

Other banks will be required to have Total capital equal to 16% of RWA. Again Tier 2 capital can contribute up to 2% of RWA towards this amount. These banks will be required to have Tier 1 capital equal to 14% of RWA and of this redeemable preference shares can contribute up to 2.5% (leaving 11.5% of RWA to be met with common equity Tier 1 capital).

If banks have capital below these requirements they will still be compliant with their conditions of registration, but will be subject to more intensive supervision and other consequences (such as dividend restrictions)

These requirements will be reflected in the Escalating Supervisory Response policy that will be developed and consulted on during 2020 (refer to [Appendix 1](#)).

If banks have Total capital below 9% of RWA, Tier 1 capital below 7%, or common equity capital below 4.5% they will be in breach of their conditions of registration and may be deemed non-viable by the Reserve Bank.

The 2019 reforms also include a proposal to reduce Tier 1 capital requirements for all banks by up to 1.5% of RWA if warranted by post-crisis circumstances. If there is a desire to use bank capital to push against emerging price bubbles, Tier 1 capital can be increased. This 'macro-prudential' tool is known as the 'early-set' counter-cyclical capital buffer (or 'CCyB').

The 2019 reforms are estimated to produce annual new benefits for New Zealand equal to 0.43% of GDP.

The next step in the process will be to consult on an 'exposure draft' of the detailed regulatory requirements to be included in the Banking Handbook and Conditions of Registration to give effect to these decisions. This consultation will occur during the first half of 2020.

The new capital regime will take effect from 1 July 2020 and banks will be given up to 7 years to comply.

The Reserve Bank would like to thank all those who provided feedback on the 2018 proposals.

Introduction

1. In March 2017, the Reserve Bank began a fundamental review of bank capital requirements (the 'Capital Review'). During 2017 and 2018 in-principle, high-level decisions were made about what qualifies as capital and how risk-weighted assets ('RWA') are to be calculated and reported.¹
2. In December 2018, the Reserve Bank announced a proposal to increase bank capital requirements. This proposal followed on from earlier in-principle decisions to change the definition of bank capital and the calculation and reporting of risk weighted assets ('RWA'). Together the December 2018 reform proposal and the earlier in-principle decisions can be considered one reform package, (the '2018 proposal').
3. The Reserve Bank has considered feedback on the 2018 proposal from three external experts, the business sector, the finance sector, non-governmental organisations, and members of the public. The Reserve Bank undertook additional analysis in response to this feedback.
4. The purpose of this paper is to set out the final high-level decisions from the Capital Review (the '2019 reforms') and to summarise the overarching rationale underpinning the 2019 reforms.

Overarching rationale for the 2019 reforms

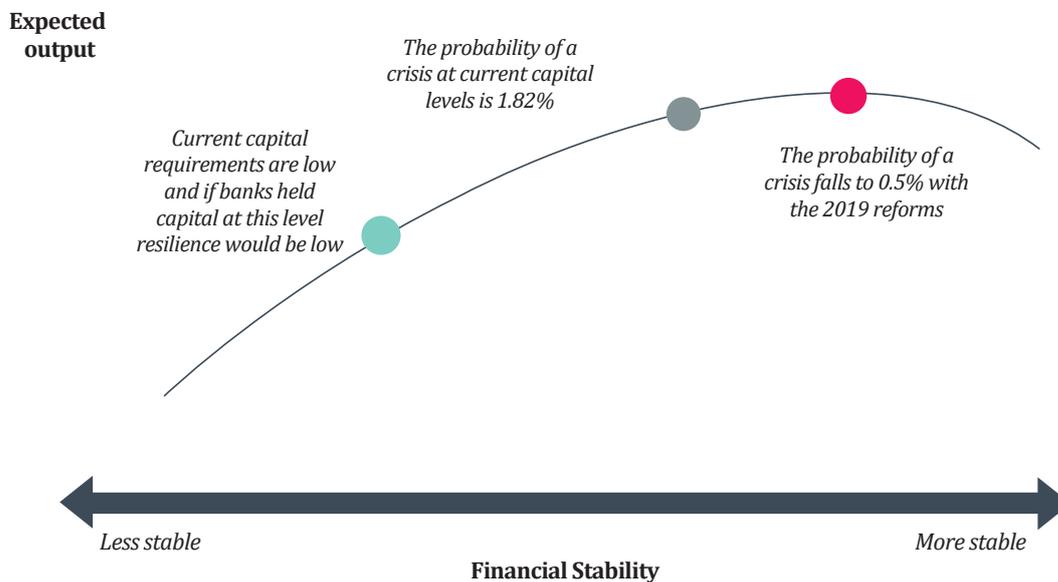
5. The Reserve Bank has a legislative responsibility to promote the soundness and efficiency of the financial system. The level and quality of bank capital are key components of financial system soundness and efficiency.
6. It is an established finding in the economic and financial literature that shareholders invest less capital in banks than is socially optimal. This problem has been evident since the middle of the 20th century. The problem arises in large part because shareholders and creditors expect governments to bail out banks that are at risk of failing and whose failure would bring widespread social and economic costs. The expectation of bail-outs means creditors are prepared to lend to banks when capital levels are low, generating socially sub-optimal levels of bank capital.²
7. The 2019 reforms are aimed at addressing this 'moral hazard' problem. The outcome of the 2019 reforms will be a banking system where the capital provided to banks by owners and others is better aligned with the risks posed to the wider New Zealand society by those banks. Not only will the system be less vulnerable to shocks, risks will be priced more efficiently.

1 Risk-weighted assets are the basis against which capital ratios are calculated.

2 For a comprehensive discussion of the 'moral hazard' problem associated with expected bank bail-outs see Barth, James A., Gerard Caprio, Jr., and Ross Levine (2012) *Guardians of Finance: making regulators work for us*. MIT Press.

8. Tier 1 capital is a key component in bank capital regulation. Tier 1 capital (for example the ordinary shares held by bank owners) absorbs losses on a going-concern basis (the 2019 reforms allow ordinary shares, retained earnings and redeemable, perpetual, preference shares to count as Tier 1 capital).
9. Using multiple analytical approaches, the Reserve Bank has determined that the appropriate level of Tier 1 capital for the New Zealand banking system – the ‘Tier 1 capital requirement’ - is equal to 16% of risk-weighted assets (‘RWA’). This is an increase above the current level of Tier 1 capital in the system (estimated to be approximately 10% measured using the new rules that will apply to calculating RWA) and the current Tier 1 capital required of all banks (Tier 1 capital equal to 8.5% of RWA).
10. Figure 2 illustrates how the 2019 reforms relate to current Tier 1 capital levels and the current Tier 1 capital requirement. Once the reforms are in full effect capital will be higher in the banking system, the risk that the banking system will lose the confidence of the market will be less than it is now and, over the long run, average output will be marginally higher than today.

FIGURE 2 WHERE ARE WE AND WHERE ARE WE HEADING?



11. The view that the New Zealand banking system needs Tier 1 capital equal to 16% of RWA was developed by the Reserve Bank using a risk appetite framework. This meant considering the social and economic costs accompanying the failure of systemically-important banks, the protection afforded society by Tier 1 capital (the more Tier 1 capital there is, the less likely banks are to fail), the adverse economic impacts of higher capital (higher lending rates and thus less investment), and what appetite for risk might be appropriate.

Tier 1 capital requirements for systemically-important banks

12. The level of Tier 1 capital deemed appropriate for the New Zealand banking system as a whole flows directly through to Tier 1 requirements for systemically-important banks. Systemically-important banks (or 'D-SIBs') are banks that are large relative to the economy as a whole (and on a variety of other metrics), and whose failure would have significant adverse consequences beyond their immediate customers and other counterparties, affecting the economy as a whole (for example, their failure may cause the failure of otherwise sound banks and businesses).³

13. New Zealand's four largest banks – ANZ, ASB, BNZ and Westpac – are considered by the Reserve Bank to be systemically-important.⁴ These banks are therefore required to have Tier 1 capital equal to 16% of RWA.

Tier 1 capital requirements for other banks

14. The level of Tier 1 capital deemed necessary for banks that aren't systemically important is less than 16% of RWA. This is because the failure of these banks is unlikely to have as significant adverse consequences for the wider economy, and thus the social and economic costs associated with their failure are less.

15. A variety of lenses have been used to identify the appropriate level of Tier 1 capital for non-systemically-important banks. The relative 'systemic-ness' of different banks was assessed using a variety of indicators, and international practices were considered.

16. The Tier 1 capital required of these banks is delivered through the 'D-SIB buffer', which is a regulator-set margin between the Tier 1 capital required of systemically-important banks and all other banks. The 2019 reforms set the D-SIB buffer at 2%, meaning banks that are not systemically important will face a minimum Tier 1 requirement of 14% of RWA, not the 16% required of systemically-important banks.

The counter-cyclical buffer ('CCyB')

17. When banking systems experience a crisis, the economy may struggle to recover. In a post-crisis environment it can be beneficial to temporarily lower capital requirements, so that banks have more capacity to make new loans. Similarly, when asset price bubbles appear to be developing it can be beneficial to temporarily increase capital requirements.

³ 'D-SIB' is the term used in the international standards and refers to 'Domestic-Systemically-Important Banks'. This is to distinguish this class of entities from 'G-SIBs', which are globally systemically-important.

⁴ [Reserve Bank \(2019\) A framework for identifying domestic systemically important banks. 8 April 2019.](#)

18. The 2019 reforms include a proposal to reduce Tier 1 capital requirements for all banks by up to 1.5% of RWA if warranted by post-crisis circumstances. If there is a desire to use bank capital to push against emerging price bubbles, Tier 1 capital can be increased. This 'macro-prudential' tool is known as the 'early-set' counter-cyclical capital buffer (or 'CCyB').
19. The Reserve Bank will need to consult on operationalising the CCyB. This will include deciding what factors will aid assessment of when to release the buffer (or increase it) and how frequently the setting of the CCyB will be reviewed.

Calculating risk-weighted assets

20. The Tier 1 capital ratios articulated above do not apply to aggregate balance sheet assets per se, but to assets that are risk-weighted before aggregation. Hence, the level of capital delivered by a given capital ratio depends on the risk weights that are applied to bank assets.
21. The 2019 reforms include reforms that have the effect of altering the risk weights used by the four systemically-important banks. In some areas these risk weights were considered too low relative to the risks they represented, and too low relative to the risk weights applying to other banks (these risk weights are prescribed by the Reserve Bank).
22. As well as reforms that affect the risk weights they use, systemically-important banks will be required to report their capital ratios on the same basis as other banks, to ensure transparency and facilitate market discipline.
23. These reforms are complementary to, and support, reforms of the capital ratios.

What qualifies as capital

24. Having appropriate levels of Tier 1 capital only delivers the protection expected if the instruments that count as Tier 1 capital reliably and readily absorb bank losses on a going-concern basis (i.e. transfer bank losses to the holders of these instruments when the bank is viable).
25. It is widely accepted that common equity or 'CET1' (consisting of ordinary shares and retained earnings) is the highest quality form of bank capital. However, under the international bank capital standards (in particular the 'Basel III' rules), a proliferation of funding instruments have been proposed and accepted as Tier 1 capital around the world. This raises the question of what Tier 1 instruments, other than ordinary shares, are appropriate for New Zealand.
26. Based on the New Zealand experience since 2013 of the Additional Tier 1 instruments ('AT1'), a review of the international experience with Basel III-compliant AT1, a review of the literature and discussions with local issuers and market participants, the Reserve Bank has formed the view that redeemable, perpetual, preference shares with no contractual contingent features ('RPPS'), have the qualities required of Tier 1 capital (within limits).
27. RPPS are not of the same capital quality as ordinary shares, as the redeemable feature means there is a risk that investors may be repaid, even when the bank should retain the funding for capital purposes and there is a risk that if the funding is retained, because the bank is in stress, it will signal bad news to the market about the bank and make a bad situation worse. However on balance,

given the risk-mitigating measures available, and the fact that non-payment of dividends is non-cumulative, RPPS are viewed by the Reserve Bank as being satisfactory AT1 capital if held in modest amounts (relative to sufficient better-quality capital).

28. Given RPPS are not of the same capital quality as ordinary shares, banks will be permitted to use AT1 capital to meet Tier 1 minimums and Tier 1 capital requirements only up to a maximum of 2.5% of RWA (banks can, however, issue more than this, have this excess recorded as AT1 capital and thus use AT1 capital for voluntary Tier 1 buffers they may choose to adopt).

29. The decision to set the AT1 cap at 2.5% is based on the size of Tier 1 requirement as a whole, consideration of the capacity of domestic investors to purchase the AT1 instruments (noting that issuance to offshore investors is also a possibility), and consideration of current CET1 levels among banks.

30. By ensuring the bank funding that is reported as Tier 1 capital is high quality, the decision to accept RPPS as AT1 capital is complementary to, and supports, reforms that increase Tier 1 capital requirements.

Tier 2 capital

31. The capital framework created by the 2019 reforms also includes another type of capital, 'Tier 2'. Under the 2019 reforms Tier 2 capital consists of long term subordinated debt with no contractual conversion features (currently Tier 2 capital consists of long term subordinated debt that must include conversion or write-off clauses).

32. Because it is subordinated to depositors' and senior creditors' claims, Tier 2 capital acts as a protective buffer for depositors and senior creditors in the event a bank is liquidated.

33. Tier 2 capital serves a number of other purposes as well. There are many ways a failed bank may be resolved – liquidation is just one option – and thus Tier 2 can play a role in other forms of bank resolution. In New Zealand, however, there is an established resolution regime that does not rely on Tier 2. Hence Tier 2's role in resolution is considered to be of a marginal nature.

34. A role for Tier 2 capital outside of bank resolution relates to market discipline. Holders of Tier 2 capital are exposed to loss if the bank fails and therefore can be expected to monitor the bank for signs of weakness. Thus Tier 2 capital can also be a source of discipline on bank management, incentivising managers to take fewer risks than they otherwise might. However, whether or not Tier 2 fulfils this role depends on Tier 2 investors being genuine third parties (not bank owners) and motivated to monitor (note this paper's opening comments about moral hazard).

35. Tier 2 capital is incorporated in the capital framework via a Total capital requirement and Total capital minimum. The Total capital required of systemically-important banks is 18% of RWA and 16% for small banks, 2% above the Tier 1 requirement, and Tier 2 capital can contribute the full 2% difference.

Adjustments to the 2018 proposal

36. The 2019 reforms depart from the 2018 proposal in five areas. These changes follow further analysis prompted in part by feedback received from a wider range of participants in the consultation process. This includes feedback and advice provided by the three external experts and feedback that emerged in discussions with the International Monetary Fund and the OECD, banks,

global financial firms, representatives of the New Zealand business community, non-governmental organisations, representatives of Maori and rural communities, and members of the public.

The areas where the 2019 reforms depart from the 2018 proposal are indicated in Table 2.

Table 2 2019 reforms versus the 2018 proposal

The 2019 reforms	Departure from 2018 proposal
Key decisions	
Require systemic banks to have Tier 1 capital of no less than 16% of RWA, and Total capital of no less than 18% of RWA.	No
Include a DSIB buffer set at 2% of RWA. This means non-systemic banks will be required to have Tier 1 capital equal to 14% of RWA and Total capital equal to 16% of RWA.	Yes
Permit Tier 2 instruments to contribute to Total capital requirements up to a maximum of 2% of RWA.	No
Permit AT1 instruments to contribute to Tier 1 capital requirements up to a maximum of 2.5% of RWA.	Yes
Include an early-set CCyB equal to 1.5% of RWA	No
Introduce RWA-related reforms (scaler set to 1.2, IRB floor set to 85%, dual reporting)	No
Remove contractual contingency from the definition of capital	No
Accept redeemable perpetual preference shares (RPPS), with suitable protections in the contract terms, as AT1 capital	Yes
Accept long-term, subordinated debt as Tier 2	No
Omit a leverage ratio	Yes
Have a 7 year transition period	Yes

AT1 instrument

37. Feedback from the banks included a number of significant concerns about the AT1 instrument included in the 2018 proposal (non-redeemable preference shares). Banks said this funding would be at least as costly to banks as ordinary share capital, would not appeal to either equity or debt investors and, hence, would not be issued by banks. Thus, banks viewed the 2018 proposal as akin to requiring them to have common equity equal to 16% of RWA (systemically-important banks) or 15% (non-systemically-important banks).
38. The feedback that Tier 1 would be made up entirely of common equity was reflected in the Reserve Bank's estimates of the lending rate impacts of the 2018 proposal. That is, the estimates assumed that all of the Tier 1 uplift would be met with ordinary shares (and these shares were assumed to provide double-digit returns to shareholders).
39. The Reserve Bank responded to feedback on the 2018 proposal by revisiting the advantages and disadvantages of redeemability in an AT1 instrument. Initial views were formed in 2017, in advance of the subsequent proposal to significantly increase the Tier 1 capital requirement. While risks are associated with allowing redeemable instruments as Tier 1 capital, the Reserve Bank's view is that these risks are more manageable the higher the overall Tier 1 requirement. Thus the 2019 reforms include the acceptance of redeemable, perpetual, preference shares as AT1 capital.
40. To the extent banks take advantage of the opportunity to issue redeemable AT1 capital, the estimated net benefit of the 2019 reforms will exceed that of the 2018 proposal. This is because the AT1 instrument will be less expensive to banks than ordinary shares and hence the average interest rate impact of increasing Tier 1 capital to 16% will be less under the 2019 reforms than under the 2018 proposal.

The contribution of AT1 to Tier 1

41. When assessing the available options, in the post-consultation process undertaken by the Reserve Bank, the Reserve Bank explored whether fine-tuning of the 2018 proposal could be done to reduce the interest rate impacts whilst not materially forfeiting any increased resilience. This consideration led to the decision to increase the contribution that AT1 instruments can make to Tier 1. Giving an increased role to AT1 complements the decision to adjust what qualifies as AT1 capital.
42. Adjusting what is accepted as AT1 capital and increasing the amount of AT1 capital that can contribute to Tier 1 requirements has the impact of reducing the expected lending rate impact of the reforms and increasing the expected annual net benefit.
43. These changes also provide banks with more funding flexibility than would have been available under the 2018 proposal.

The D-SIB buffer

44. The 2018 proposal included a D-SIB buffer equal to 1% of RWA. Overall submissions were supportive of a D-SIB buffer. However, some submitters expressed the view that a 1% D-SIB buffer does not accurately reflect the differences in risk to the economy posed by the failure of systemically important banks versus other banks.

45. After receiving this feedback, the Reserve Bank undertook additional analysis. This involved looking more closely at the reliance of the New Zealand financial system on large banks and reviewing international practice with respect to setting D-SIB buffers.

46. As a result of this analysis, the decision was made to set the D-SIB buffer at 2% of RWA. This adjustment to the 2018 proposal has no material impact on the amount of capital in the system as a whole, because non-systemically-important banks in aggregate represent only a small proportion of banking system assets (currently approximately 12%). Hence increasing the D-SIB buffer is not expected to lead to less resilience than would otherwise have been provided by the 2018 proposal.

Leverage ratio

47. A 'leverage ratio' requirement relates to the ratio of Tier 1 capital to a bank's assets before risk weights are applied. The international Basel standards include a leverage ratio, with the rationale being that it provides a useful backstop in the event a bank incurs losses and/or risk weights cease to reflect risks in the financial system accurately. The 2018 proposal included a leverage ratio.

48. After receiving feedback the Reserve Bank adjusted its view on the leverage ratio. The decision was made that a leverage ratio is not necessary in the New Zealand regime, particularly given the other backstop measures in the 2019 reforms (for example, dual reporting and the amount of capital required).

Transition period

49. Requests for a longer transition period featured in some of the feedback received. These submitters were of the view that an extension beyond five years could help mitigate the adverse economic impacts of increased capital (impacts on credit availability and lending rates).

50. Consideration of this feedback led to the decision to extend the transition period for the key reforms to 7 years from 5. This extension reduces the pressure banks are under to comply in the near term. Further details about transition timeframes is provided in Appendix 2 to this paper.

Lending rate impacts from adjustments to the 2018 proposal

51. The 2018 proposal was estimated to increase Tier 1 capital requirements by around \$20 billion compared to prevailing levels (including replacing Tier 1 funding that would not qualify as capital). At the time this was estimated by the Reserve Bank to lead to an increase in average lending rates of 32 basis points (for example, a lending rate would increase from 3% to 3.32%).

52. The adjustments made to the 2018 proposal (and now reflected in the 2019 reforms) do not reduce the aggregate amount of Tier 1 capital in the system vis a vis the December 2018 package. Hence, the adjustments do not lead to materially less resilience than would have occurred under the 2018 proposal. However the adjustments have a benefit in terms of lending rates.
53. Compared to the 2018 proposal, the 2019 reforms are an improvement. They will have a smaller (upward) estimated effect on average lending rates than the 2018 proposal.
54. The Reserve Bank's estimate of the impact on lending rates of the 2019 reforms is 20.5 basis points. This estimate is based on conservative assumptions.
55. This finding is unrelated to the extension of the transition period. Extending the transition period from 5 years to 7 is not expected to have any impact on eventual lending rates but will reduce the near-term adjustment pressures faced by banks.
56. Further analysis was done to estimate the impact on lending rates, guided by feedback from the external experts. This had a marginal effect on the Reserve Bank's estimates of the impact on lending rates from the 2019 reforms.

The Reserve Bank's response to other feedback

57. Many issues were raised by submitters and in meetings with stakeholders about the 2018 proposal. All of these issues were given careful consideration and in many cases led to further substantial analysis by the Reserve Bank. The end result of this consultation, further consideration and analysis are the five areas of change discussed above.
58. Not all feedback led to substantive adjustments to the 2018 proposal. Of particular relevance are some common and related themes in the submissions from the banks, the New Zealand Bankers' Association (NZBA) and the consulting firms contracted by the NZBA. In summary, these submitters challenged the risk appetite framework used by the Reserve Bank to determine the most suitable Tier 1 capital requirement for systemically-important banks, saying it led to biased results.
59. These parties also challenged how the Reserve Bank approached the analysis used to inform the risk appetite framework (the Reserve Bank considered the findings from an extensive theoretical and empirical literature review, undertook risk modelling and considered the results of bank stress tests). The feedback provided by these parties included specific comments about some aspects of the analysis, for example, the value assumed for inputs used in the Reserve Bank's risk modelling.

60. In addition to the Reserve Bank's own analysis in response to this feedback, these issues were considered by the three external experts commissioned by the Reserve Bank.⁵ The risk appetite framework was not considered by the external experts to introduce bias and they rejected claims that the Reserve Bank's risk modelling consistently erred on the side of caution. In the 2018 consultation paper, and related documents, the Reserve Bank reports that a Tier 1 requirement of 16% of RWA delivers net benefits to New Zealand and the finding is robust to a range of input values and assumptions.
61. Views on the 2018 proposal to increase the risk weights applied by the large four banks were mixed. Small banks objected that the measures did not go far enough to reduce the unintended and uneven impact on competition coming from regulation. In contrast, the large banks said the models they use provide robust estimates of risk making the 2018 risk weight-related proposals unnecessary.
62. The Reserve Bank is of the view that the risk weight-related aspects of the 2018 proposal (retained in the 2019 reforms) strike a satisfactory balance, retaining risk sensitivity in the large banks' models whilst reducing the unintended uneven impacts of regulation on competition.
63. Another common theme among some submissions, including those from banks, the NZBA and the consulting firms commissioned by the NZBA, was the apparent lack of a cost-benefit analysis accompanying the 2018 proposal. It is the Reserve Bank's view that the risk appetite framework delivers in substance what is meant by 'cost-benefit analysis', in that it robustly contrasts the likely benefits of higher bank capital (increased resilience) against the costs (higher lending rates). Hence the Reserve Bank's view is that the information published by the Reserve Bank in the consultation process has informed the public about the most material costs and benefits of the 2018 capital proposal.
64. The regulatory impact assessment ('RIA') published alongside this paper provides a description of the impacts of higher capital (increased resilience and higher lending rates) in a cost-benefit analysis format. The RIA reports the finding that the 2019 reforms provide net benefits.
65. Where the external experts suggested refinements or new analysis, this advice was taken and incorporated in the analysis leading to the final decisions (for example, using a different method to calculate interest rate impacts or looking at potential incentive effects of Tier 2 capital).
66. Each individual submission, the external experts' reports and comprehensive summaries of the feedback provided to the Reserve Bank about the 2018 proposal are currently published on the Reserve Bank's website.⁶ Reports providing a comprehensive response to submissions are either already published on the Reserve Bank's website (reports responding to feedback on consultation papers 1 to 3) or due to be published in December 2019 (a report responding to feedback on the fourth consultation paper).

⁵ The external experts reports can be [found](https://www.rbnz.govt.nz) on the Reserve Bank's website [rbnz.govt.nz](https://www.rbnz.govt.nz)

⁶ [rbnz.govt.nz](https://www.rbnz.govt.nz)

Cost-Benefit Analysis

67. A Cost-Benefit Analysis ('CBA') of the 2019 reforms has been undertaken in the context of preparing the Regulatory Impact Assessment ('RIA'). The key finding of the RIA is that the 2019 reforms will be net beneficial for New Zealand. The annual net benefit is estimated to be 0.43% of GDP.
68. Inevitably there is considerable uncertainty in an evaluation of this kind and scenario-based sensitivity analysis has been undertaken. The central finding of the RIA – namely, the 2019 reforms are net beneficial – is robust to this sensitivity testing.
69. The RIA report that accompanies the 2019 reforms is available on the Reserve Bank's website.

Next steps

70. The Reserve Bank will consult on Exposure Drafts of the capital chapters in the Banking Supervision Handbook, to give effect to the 2019 reforms. It is envisaged that the Exposure Drafts will be ready for consultation by 1 April 2020.
71. An indicative date for the end of the consultation on the Exposure Drafts is 1 June 2020, with the revised chapters coming into effect on 1 July 2020. The transition period will begin on 1 July 2020. An indicative transition timeline is given in Appendix 2.
72. The Reserve Bank will consult on the details of the ESR policy, and operationalising the CCyB, in 2020.

Appendix 1 – Capital minimums and buffers

In addition to capital requirements, banks face capital ‘minimums’. Under the 2019 reforms a Total capital minimum of 9% of RWA and a Tier 1 capital minimum of 7% of RWA applies to all banks.

The capital minimum is distinct from the capital requirement in that if a bank breaches the capital minimum it is in breach of its conditions of registration and may be deemed by the Reserve Bank to be non-viable. When a bank is deemed non-viable it is likely to be placed into a formal resolution process.

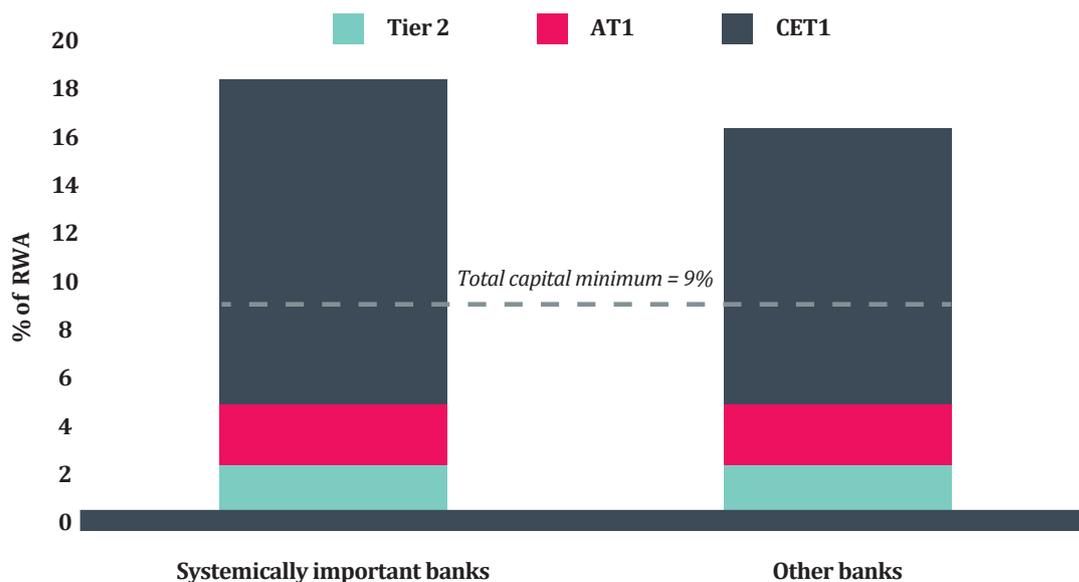
The difference between the capital requirement and the capital minimum is the ‘prudential capital buffer’. The prudential capital buffer is made up entirely of capital attributed to shareholders (‘common equity’ or ‘CET1’). When banks are operating with capital above the minimum but below the requirement they are said to be ‘using’ the prudential capital buffer.

When banks have capital below the requirement but above the minimum they will be subject to more intensive supervision delivered via an Escalating Supervisory Response policy (the ‘ESR’). The purpose of the ESR is to restore banks’ capital positions.

The Reserve Bank intends to consult further on the details of the ESR policy in 2020. Following this consultation it is the Reserve Bank’s intention to release a set of principles, requirements and guidelines for the ESR and to clarify what actions may be taken, what powers are being utilised, and under what circumstances various actions will be taken.

Figure 3 shows a simplified capital stack for systemically-important banks and other banks. For simplicity the Tier 1 minimum is not shown on the chart. The Tier 1 minimum is 7% of RWA for all banks.

FIGURE 3 2019 REFORMS, CAPITAL REQUIREMENTS AND CAPITAL MINIMUM



The prudential capital buffer is the difference between the Total capital requirement (18% for systemically-important banks and 16% for other banks) and the Total capital minimum (9% for all banks) and consists entirely of CET1 capital (ordinary shares and retained earnings).

The CCyB makes up 1.5% of the prudential capital buffer. In post-crisis conditions the CCyB might be set to zero, which would reduce the Total capital requirement (but not the Total capital minimum). If asset price bubbles are developing the CCyB might be set above 1.5% and in this case the Total capital requirement would increase from 18% (systemically-important banks) or 16% (other banks).

The ESR applies whenever banks have capital below the required level but in excess of the capital minimum. For example, a systemically-important bank with a Tier 1 ratio of 15% would be subject to the ESR except during post-crisis periods when the CCyB has been reduced to 0.5%.

Appendix 2 – Timelines

	January 2020	July 2020	July 2021	July 2022	July 2023	July 2024	July 2025	July 2026	July 2027
Changes in RWA measurement	IRB Scalar		Increased to 1.2						
	Output Floor Reporting & Dual	Exposure draft	Orders-in-Council	Dual Reporting in effect, Output floor set at 85%					
Removing Cocos	Phasing-out instruments	Exposure draft	87.5% of current instruments recognised	75% of current instruments recognised	62.5% of current instruments recognised	50% of current instruments recognised	37.5% of current instruments recognised	25% of current instruments recognised	12.5% of current instruments recognised
	D-SIB buffer changes	CoR consultation	D-SIB set to 1%	D-SIB increased to 2%					0%
Increasing ratio requirements	Conservation buffer changes				CoR consultation	Non-D-SIB conservation buffer increased to 3.5%	Increased to 4.5%	Increased to 5.5%	
	CCyB changes						CoR consultation	CCyB is set at 1.0%	Set at 1.5%
Tier 1 minimum				CoR consultation					
Total Capital minimum				CoR consultation					

Capital Review changes fully implemented

