

# Economic Note

Economic impacts of the new bank capital requirements

6 December 2019

## The Devil's in the Detail

- The RBNZ has confirmed increased capital requirements for NZ locally-incorporated banks. The RBNZ has listened to feedback and eased some aspects of the original proposal. However, we note that some of the capital increases will be frontloaded for the large banks.
- We still think the new capital regime would result in larger increases in bank funding costs (and customer borrowing interest rates) than the 20.5 basis points assumed by the RBNZ. If interest rate impacts do turn out to be higher, the net benefits assumed by the RBNZ of higher capital may not be as strong and could even turn into a net cost.
- As previously noted, the impacts will be uneven across sectors, with more significant impacts on sectors with higher capital requirements. There is also increased risk of financial disintermediation.
- The pending imposition of bank capital requirements is a key reason why we expect a prolonged period of very low OCR settings, including a 25bp cut in May 2020 and for the OCR to remain at 0.75% until 2022.

## Summary and implications

The RBNZ has confirmed that capital requirements for locally-incorporated NZ banks will be substantially increased. In response to feedback, the RBNZ has extended the phase-in period and enabled the use of some lower-cost Tier 1 capital – a constructive move to help mitigate the impact of the capital changes.

Starting from July 2020, the minimum **Tier 1 capital requirement will progressively lift from 8.5% to 16% of Risk Weighted Assets for the 4 large systemic banks (D-SIB) over a 7-year period.** Tier 1 capital for the smaller non-systemic banks will be raised to 14% over that period. The D-SIB buffer (added capital the large banks will need to hold relative to the smaller banks) will start increasing from July 2020.

**The RBNZ slightly relaxed the definition of what can be included in Tier 1 capital**, with redeemable preference shares now included in Tier 1. Banks can use up to 2.5% of this Additional Tier 1 capital. These alternatives are cheaper than common equity. In the RBNZ's view, these changes should make it less costly for banks to meet the higher capital requirements. However, there is a question mark over the breadth of investor demand for such instruments.

The RBNZ has proposed a longer transition period (7 years rather than 5). **However, some important changes (such as how the big banks calculate their risk-weighted assets) will be more front-loaded than previously anticipated.**

The RBNZ provided a cost/benefit analysis supporting the new framework. The RBNZ believes the new requirements provide a net benefit to the NZ economy. Reducing the likelihood of a banking crisis to a 1-in-200 year event would deliver a 0.6% of boost to annual GDP over the long term. The RBNZ adjudges that the likely cost of higher bank capital to be in the region of 0.2% of GDP per annum. **All up, the RBNZ's cost/benefit analysis show that the new regime would generate net benefits of around 0.4% of GDP per annum.**

**There are wide uncertainties around coming up with estimates of economic impacts.** The work we have done this year suggests a risk that the RBNZ assessment has understated the costs (and potentially overstated the benefits). **Our central estimates suggest that the changes would translate to an approximate 50bps increase in customer lending rates by the end of the seven-year transition period, although the range is wide (increases of 0.30% to 0.80%).** Higher lending rates would weigh on the demand for credit, and credit supply also risks being impacted. In practice, bank deposit interest rates are also likely to wear some of the interest rate impact by being lower than they would otherwise be. **Even if the new requirements deliver the benefits from evading crises that the RBNZ assumes, our estimates range from a net benefit of 0.25% of GDP to a net cost of 0.75% of GDP per annum.** That range, with a central outcome of a net cost of 0.25% of GDP, sits south of the RBNZ estimate.

**The costs are likely to be unevenly borne across the economy, with proportionately larger costs for sectors with higher capital requirements.** And by shepherding bank balance sheets towards less-risky lending, the investment mix of the economy risks becoming increasingly housing-centric.

**There is the increased risk of disintermediation,** with loans and deposits shifting to parties not covered by the new regulations (i.e. beyond locally-incorporated NZ banks). Such a shift would reduce (rather than enhance) financial stability.

**The full impact of higher bank capital requirements will take time to percolate through the economy, but is a key reason why we expect a prolonged period of very low OCR settings,** including a 25bp cut in May 2020 and for the OCR to remain on hold at 0.75% until 2022. We also expect the neutral Official Cash Rate to be lower than it would otherwise be.

## Recap

Since 2013, New Zealand banks have been required to hold Tier 1 capital (going concern or higher-quality capital, including shareholders' equity and retained earnings) equal to 8.5% of their risk-weighted assets (RWA), plus 2% as Tier 2 capital (gone concern or lower-quality, including hybrid capital instruments and subordinated term debt and other reserves). This is consistent with [Basel III](#) minimum requirements.

Internal ratings-based banks (i.e. the 4 large NZ banks) and the smaller standardised banks use different approaches to calculate capital requirements. The large 4 Domestic Systemically Important Banks, which account for more than 90% of NZ banking assets, use an [Internal Ratings Based approach](#) (IRB), running approved models to calculate their risk-weighted assets (RWA) and capital requirements to take into account granular risk characteristics. The smaller banks use a standardised approach to calculate RWA.

NZ locally-incorporated banks hold considerably more capital than the current 8.5% Tier 1 regulatory minimum. According to RBNZ [figures](#), in the September 2019 quarter the 4 large banks held Tier 1 capital of approximately \$36.7bn, equivalent to 13.2% of risk-weighted assets. Of this, \$6.2bn of capital was no longer compliant with the new criteria, with **compliant Tier 1 capital at around \$30.5bn or around 11.0%**

of risk-weighted assets (9.6% of standardised risk-weighted assets). For all locally-incorporated NZ banks, compliant Tier 1 capital was approximately \$36.2bn (roughly 10% of standardised risk-weighted assets).

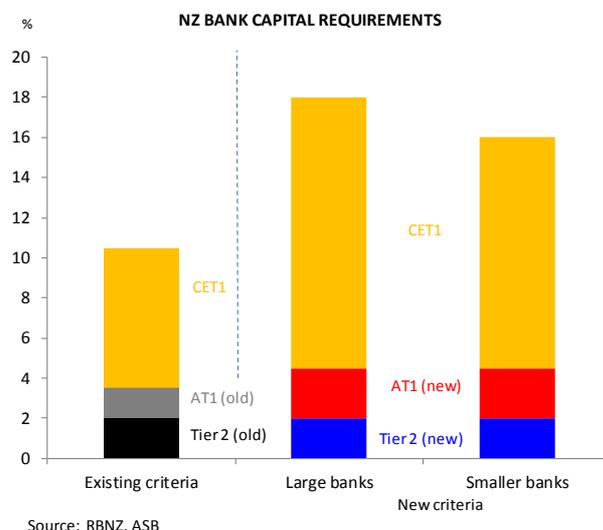
### Key features of the RBNZ capital announcement

On December 5, the RBNZ [confirmed](#) that capital requirements for locally-incorporated banks will be substantially increased. This had been well signalled, with the RBNZ instigating a number of capital [reviews](#) starting in mid-2017. **This did not prevent the RBNZ from providing a few surprises**, with a few tweaks to what they had earlier proposed in the December 2018/January 2019 RBNZ Capital Review [Paper](#). In short:

- **As flagged, there will be significant increases in the minimum capital ratio from current requirements. The RBNZ has confirmed it will impose sizeable increases in the Tier 1 capital floor.** This will be raised from 8.5% to 16% of risk-weighted assets for the 4 large banks.
- **Other locally-incorporated NZ banks will also have to hold more capital**, albeit to a lesser extent than previously flagged. Tier 1 capital requirements for the smaller banks will go up from 8.5% to 14% (rather than to 15% as originally proposed). The difference between the large and small bank capital ratios (the “buffer”) will therefore be 2% (previously 1%), with the first 1% lift in July 2020.
- **The mix of what qualifies as Tier 1 capital has been relaxed slightly.** Redeemable preference shares are now included in Tier 1. The RBNZ’s view is that this form of capital is less costly for banks to obtain than common equity.

Of Tier 1 capital, redeemable preference shares, or Additional Tier 1 capital (AT1), can contribute up to 2.5%, with the remaining 13.5% (for large banks) coming from Common Equity Tier 1 (CET1).

- **The capital changes will be phased in over a 7-year period** (originally 5 years), starting from July 2020. Banks are expected to be fully compliant by July 2027.
- As proposed, 2% of Tier 2 capital can be used, but is restricted solely to long-term subordinated debt. This lifts total capital to 18% (large banks) and 16% (small banks) of risk-weighted assets.
- For the large banks that use internal capital models to calculate their risk-weighted assets (RWA), the RBNZ is still imposing a floor under calculated RWA compared to what would be calculated under the standard RWA calculations. Also as proposed, the RBNZ will boost the “scalar” (the multiplier by which large banks uplift their calculated RWA). Together these rather technical changes will raise risk-weighted assets of the 4 large banks from approximately 75% of what would be calculated under the Standardised approach to around 90%, further boosting the amount of capital needed to be held. **It was something of a surprise that these changes will be phased in in one hit over the first year.** This front-loads some of the required capital increase, potentially tightening credit conditions over the next 12 months.



**Table 1: High level changes to bank capital framework**

	Current framework	Dec 2018/Jan 2019 Proposals	Final version (Dec 5 2019)
<b>Who's in and who's out</b>	IN. Locally-incorporated NZ banks. OUT. Everyone else.	No change	No change
<b>Eligible capital</b>	Broad range of Tier 1 and Tier 2 securities	Narrower definitions of Tier 1 and Tier 2 capital.	<i>Redeemable</i> preference shares now included in Tier 1. Tier 2 no change
<b>Capital floor</b>	8.5% of risk-weighted assets (RWA) for D-SIB and non-systemic NZ banks	Tier 1: 16% of risk-weighted assets (RWA) for large banks, 15% of RWA for smaller banks. 18% of total for large, 17% for small banks.	Tier1: 16% of risk-weighted assets (RWA) for large banks. 14% of RWA for small banks. 18% of total capital for large, 16% for smaller banks.
<b>Internal models: RWA floor and Scalar</b>	No floor; scalar of 1.06 times calculated RWA. Risk-weighted assets (RWA) for large banks are approximately 75% of what would be calculated for smaller banks under the Standardised approach.	RWA floor to be set at 85% of what would be calculated for non-systemic (smaller) banks. Scalar increased to 1.2 times. Combined impact lifts RWA from 75% of standardised calculation to 90%.	Same increase in scalars as proposed. Introduction of floor and bigger Scalar occur in first year of capital implementation.
<b>Transition Period &amp; start date</b>	In place since 2013	5 years from late 2018. Gradual transition period.	7 years. July 2020 start, but more front-loading for systemic banks.

Source: ASB, RBNZ

There are 3 significant things to note about the final capital changes:

- The changes to how the large banks will need to calculate their risk-weighted assets are the equivalent of lifting capital ratios by at least 1 percentage point. They also start kicking in from October 2020 and are in place within the first year.
- The D-SIB buffer (how much capital the large banks need to hold in excess of the smaller banks) of 2% is fully in place by July 2021 (i.e. the start of the second year of the 7-year transition period).
- The RBNZ has relaxed the Additional Tier 1 (AT1) capital limits (looser definition and greater share that can be used). However, in reality institutional investor appetites for this form of AT1 may be weak, meaning this form of capital may have little uptake and leave heavy reliance on (more expensive) common equity capital. The appeal of redeemable preference shares may be largely confined to domestic retail investors seeking higher returns than term deposits. Appetite from issuers to issue these securities is another consideration.

The capital increases are, therefore, quite front-loaded for the large banks that provide most of the economy's credit (particularly so for funding commercial activities). With that brings a real risk of re-pricing and credit rationing over the next couple of years. The RBNZ estimates that over the 7-year transition period credit growth would average 5.08% per year, against 5.10% in the absence of higher capital requirements. **That 0.02 percentage point drop in annual credit growth seems small compared to the pace of capital change.** And, banks in general may not be able to contain their costs of capital despite the RBNZ's tweak to alternative forms of Tier 1 capital.

## How much more capital needs to be raised?

Raising the Tier 1 capital requirements (to 14% for smaller banks, 16% for the large banks) would increase the **compliant Tier 1 capital holdings of locally-incorporated NZ banks by around \$15bn over the 7-year period, an approximate 40% increase**. If, say, Tier 1 capital holdings moved above regulatory minimums to provide banks with a buffer (to 15% and 17% of RWA for both the small and the large banks, respectively), this would equate to an additional \$18.5bn in capital holdings, an approximate 50% increase. Increases would be proportionately more significant for the systemically-important banks.

	Current (\$bn)	Final (\$bn)	Increase (\$bn)	% increase
<b>Tier 1 capital – Big 4 banks</b>	30.5	45.6 – 48.4	15.1-17.9	50-59
<b>Tier 1 capital – total</b>	36.2	51.5-55.7	15.3-18.5	42-51

Source: RBNZ, ASB calculations

## The case for change

**More bank capital can be viewed as an insurance policy to shore up banks during times of stress, thereby increasing NZ’s economic resilience.** In a nutshell, holding additional capital will make banks considerably safer propositions, significantly reducing the risks of bank failure and associated costs to the economy.

**With the December 5 announcement, the RBNZ provided a cost/benefit assessment of the new bank capital framework.** The RBNZ estimates that the final bank capital regime will generate annual net benefits of around 0.43% of GDP per annum (\$1.3bn in 2019 dollars).

The RBNZ adjudges that the probability of a crisis will likely fall from about 1.8% (i.e. 1-in-55 year event) under current capital levels to just 0.5% (1 in 200) after the new reforms are incorporated. We have not had time to fully look into the RBNZ’s calculations. **However, a reading through the literature confirms that the results of analysis that the RBNZ employed is heavily dependent on the specific model employed and assumptions used.** It will be hard to know for sure the ‘true’ net benefits of higher capital buffers.

**Table 3 summarises the components of the RBNZ cost/benefit analysis and compares them with some estimates that we have derived using differing estimates of the interest rate impact.** As with the RBNZ, we have assumed that the GDP costs to the economy are proportional to the interest rate impact. We have not changed any of the assumed benefits of higher capital (particularly that of reduced impact of crises), even though the literature shows a wide range of potential impacts that are typically lower than the estimates the RBNZ has used.

	Interest rate increase (bp)	Cost of higher interest rates (% annual GDP)	Wealth Transfer (% annual GDP)	Higher tax on foreign earnings (% annual GDP)	Benefit of reduced crisis impact (% annual GDP)	Net GDP impact
<b>RBNZ</b>	20.5	-0.205	-0.27	0.08	0.83	0.43
<b>ASB low</b>	30	-0.30	-0.40	0.11	0.83	0.24
<b>ASB mid</b>	55	-0.55	-0.73	0.20	0.83	-0.24
<b>ASB high</b>	80	-0.80	-1.06	0.30	0.83	-0.73

Notes:  
 RBNZ assumes a 1bp increase in interest costs reduces GDP by 1bp (0.01 percentage points)  
 RBNZ assumes 88% foreign share of added interest earned to derive wealth transfer  
 Tax rate paid on wealth transfer (i.e. gross earnings attributed to foreign owners) assumed at 28%

Even assuming that the new requirements deliver the benefits from evading crises that the RBNZ assumes, our estimates suggest that the net benefits risk being smaller than the RBNZ expects. Our estimates range from a net benefit of 0.25% of GDP (\$750m in 2019 dollars) to net costs of 0.75% of GDP per annum (-\$2.25bn in 2019 dollars) per annum. The width of this range illustrates the sensitivity of the estimates to just a few key judgements. The estimates at the upper part of the net cost range (0.25% to 0.75% of GDP per annum) are in a similar ballpark to estimates from our previous [analysis](#).

The following section updates our estimates of the impact of the higher capital requirements on the cost of funds and customer lending interest rates for locally-incorporated banks.

### Costs to the economy may be higher than assumed

The RBNZ’s view is that requiring **banks to hold higher capital may actually lower the cost of individual funding sources** through reduced likelihood of bank failure. Investors will be willing to accept a lower return given the perceived increased soundness of the banking institution. This Modigliani-Miller Offset (or Offset) would significantly reduce the overall increase in bank funding costs that stricter bank capital requirements would bring. The RBNZ deemed the costs of the new framework to be just 0.2% of GDP per annum, with the increased cost of funds for NZ incorporated banks approximately 20 basis points.

**However, we believe the costs are likely to be more significant.** It is questionable how willing investors will be accept a lower return, given there are various other uses for (scarce) capital both within the banking sector and beyond. And banks will need to make sure they can attract sufficient capital to support growth in credit. We view that proportionately more of the adjustment is likely to come in the form of an increase in customer borrowing rates and lower bank lending than assumed by the RBNZ.

### Increased cost of funds and higher borrowing costs/lower deposit rates

We have updated our previous [analysis](#) on bank capital requirements, making adjustments for the change in regulatory parameters (see Table 4). These have used estimates obtained from our survey of the literature. Arguably, adding preference shares to the definition of Tier 1 capital would provide banks with a cheaper source of funding relative to initial proposals, and the interest costs per increase in capital will be cheaper. However, balancing this out is our reading of the literature, which suggests the Offset is likely to be lower than 50%, resulting in a higher interest rate impact per unit of bank capital. Moreover, we have our reservations about how much of (cheaper) Additional Tier 1 capital will be issued in practice.

Table 4: Steady state impact of higher capital requirements (basis points*)				
	Estimated impacts (RBNZ)	ASB estimates		
		Modigliani-Miller offset		
		75% offset	50% offset	25% offset
Cost of funds	Circa 20bps			
14-16% tier 1 ratio		20	40	60
15-17% tier 1 ratio		25	45	70
Lending interest rates	Circa 20bps			
14-16% tier 1 ratio		25	50	70
15-17% tier 1 ratio		30	55	80

Source: ASB calculations, RBNZ ([2019](#)) \* Rounded to the closest 5bps

Increasing the Tier 1 regulatory capital ratio by 6 percentage points (i.e. from 10% to 16% for large banks and 10% to 14% for small banks) would **translate into a 40bp increase in the cost of funds for locally-**

incorporated banks and a 50bp increase in customer lending rates by the end of the seven-year transition period. Banks would also likely hold more capital than the regulatory minimum. **A 15% (smaller banks) to 17% (large banks) Tier 1 capital ratio, for example, would likely see funding costs and customer lending rates lift by 45bps and 55bps, respectively, over this period with a 50% Offset.** The small locally-incorporated banks are likely to face smaller increases – around 10bps according to our estimates.

Depending on the magnitude of the Offset, the range of plausible estimates is wide – anything from +25bps to +80bps for lending interest rates and +20bps to +70bps for the cost of funds. **Most, if not all, of the impacts are well above the 20bp impact now flagged by the RBNZ.**

**Bank deposit interest rates are also likely to be lower**, to the extent they absorb some of the impact. This would decrease interest income for households and could act to deter saving, both of which will work against the structural requirement in the economy to boost nationwide saving.

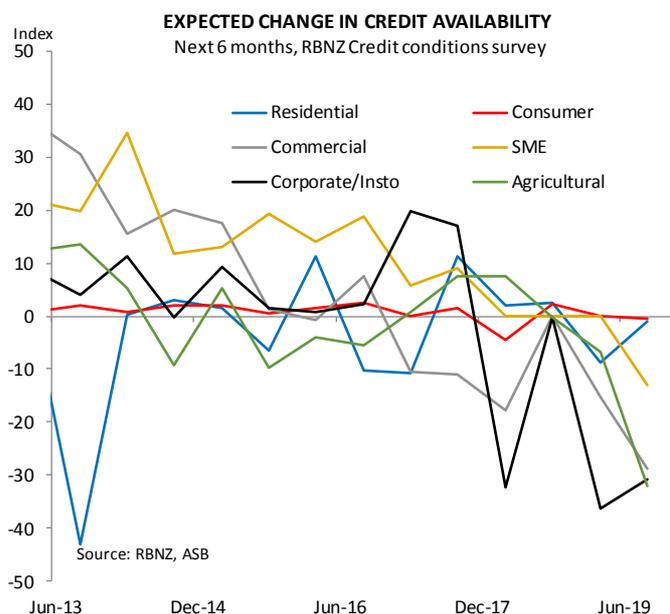
### Lower credit supply

The RBNZ’s assessment is that the shift to the higher capital requirements will be facilitated by banks reducing their required return on equity rather than scaling back lending for more capital-intensive sectors. **As such the RBNZ believes the impact on credit supply from the changes to be “small” and “not expected to have a material impact on economic growth”.**

Nevertheless, we do see a risk that future credit supply is impacted. Our earlier [analysis](#) conducted an extensive literature review on the impact of higher capital on the supply of bank credit. It found that the short-run costs to the economy are likely to be lessened when the capital adjustment is staggered over a lengthy period, when it takes place in the upswing of the credit cycle, or when banks increase capital ratios via raising equity rather than reducing credit availability. **It is debatable whether the NZ economy is in this sort of environment.** Despite the OCR being at a record low 1%, credit growth has not accelerated. Private sector credit growth of around 5.5% is well below historical averages of 8%.

Moreover, the evidence suggests that a 1 percentage-point increase in the bank capital ratio is typically associated with a 1-5 percentage point contraction in lending growth, with the peak impact ranging from a few months to several years. New Zealand private sector credit by October 2019 was approximately \$475bn, with annual growth at around \$26.3bn. Increasing the regulatory capital ratio by 6 percentage points would translate into a 6% to 30% contraction in economy-wide credit growth. **Even taking the lower bound of these estimates, the impact would be that the contraction in lending would be in the region of 0.5% to 1.0% of GDP.**

Already there are signs that the changed regulatory landscape is impacting the supply of credit. The RBNZ Credit Conditions [Survey](#) has shown a clear tightening in credit availability to sectors with typically higher capital requirements, in anticipation of the new regulations (see chart). Higher capital requirements look to be having only a modest impact for residential lending, but a more significant impact on other lending.



### Uneven impacts across sectors, which could adversely impact medium-term growth

Regulatory capital requirements (and capital costs) are high for lending types such as high loan-to-value housing lending, rural lending, and lending to growth businesses. In contrast, capital requirements are low for home lending. **By shepherding bank balance sheets towards less capital-intensive lending (including housing), the investment mix of the economy risks becoming too housing- and low risk-centric.** This could adversely impact medium- to long-term growth prospects.

### Disintermediation could circumvent financial stability benefits

The new requirements apply to locally-incorporated banks in NZ, and not to other financial intermediaries. The RBNZ could always change the regulatory goalposts (again), **but the shifting of lending and deposits to parties not covered by the new regulations could significantly ratchet up risks and increase instability in the financial system.** Deposit interest rates are already very low, and a capital requirement-triggered fall in deposit interest rates could push investors towards riskier assets, counteracting the intent of higher capital requirements. NZ's meltdown in (high-yielding) finance companies was only a decade or so ago.

### Market and policy implications

The RBNZ has signalled a lengthy transition period and expects that the impact on customer interest rates, the supply of credit and wider economic activity to be limited. **The RBNZ has made some constructive changes to ease the impact of the capital changes.** However, some of the changes that impact on large banks are more front-loaded than what had previously been anticipated.

The NZD and swap yields climbed immediately after the capital announcement, **but we still view pending increases in capital requirements as representing a tightening in financial conditions that will require offsetting monetary policy support.** We expect a prolonged period of very low OCR settings, including a 25bp cut in May 2020, and for the OCR to remain on hold at 0.75% until 2022.

### Higher bank capital requirements are a key reason why we expect the neutral OCR to continue to fall.

The new capital regime would persistently widen the wedge between the OCR and customer lending/deposit rates. Our estimates suggest the neutral OCR will decline from around 2.5% at present towards 2% by the end of the capital transition period.

**The RBNZ's proposed increase in bank capital are likely to be marginally supportive of senior bank debt** given the significant increase in banks' capitalisation may mean a much lower probability of default and a narrowing in credit risk premium. However, our analysis in an earlier [note](#) suggested there is limited scope for this considering the already-small premium at which the major NZ banks trade relative to their Australian parents' debt. Finally, if banks were to reduce wholesale funding, over time there would be less need for banks to hold liquid assets to meet outflows. This shift could place mild upward pressure on NZ Government bond yields.

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