Bank of New Zealand

Response to the Reserve Bank of New Zealand Issues Paper:


19 March 2018
Strictly Confidential
1.0 INTRODUCTION

1.1 This submission has been prepared by Bank of New Zealand ("BNZ") in response to the Consultation Paper, “Review of the Capital Adequacy Framework for locally incorporated banks: calculation of risk weighted assets” (“the Consultation Paper”), released by the Reserve Bank of New Zealand ("RBNZ") in December 2017.

1.2 BNZ welcomes this opportunity to provide a response to the Consultation Paper and acknowledges the industry engagement undertaken by RBNZ on this matter.

1.3 This submission contains commercially sensitive information and is provided on the basis of strict confidentiality. A version of this submission, with the commercially sensitive information redacted, can be provided by BNZ to RBNZ for public release, if required.

2.0 EXECUTIVE SUMMARY

2.1 BNZ supports RBNZ’s review of the regulatory capital framework for the purposes of implementing an appropriate capital setting for New Zealand banks. BNZ agrees with RBNZ’s position that New Zealand’s capital regime should be conservative, relative to its international counterparts. However, BNZ notes that recent studies have validated that conservatism is already embedded in the current New Zealand framework, and questions the need for further significant amendment. BNZ is willing to work with RBNZ in order to design and implement an updated capital framework, but submits that the next key step should be for RBNZ to articulate the specific level of conservatism it is seeking to achieve. We note by reference, the Australian Prudential Regulation Authority (“APRA”) approach to this in the Australian capital review.

2.2 Customised IRB risk models incentivise banks to develop robust risk management practices encouraging significant granularity in risk metrics – an approach that is unattainable under a standardised approach. BNZ urges RBNZ to carefully consider the implications of the reduced incentives on banks to invest in the measurement and management of underlying bank risk, under standardised models. IRB models directly incentivise banks to improve their risk management capability and as such, BNZ submits that the existing gap between IRB and standardised models is justified, even if mandated levels of risk management maturity are applied. BNZ considers that the more effective incentive is to have risk management practices fully integrated into the capital process though the use of advanced models.

2.3 BNZ submits that the studies referenced by RBNZ to support its preference to adopt standardised models, while persuasive, are of limited applicability in the New Zealand context. Specifically, BNZ submits that robust studies by the Bank of England and the Institute of International Finance highlight the strength of internal models, and questions the assertion that risk weights are ’manipulated’ by IRB banks. Furthermore, BNZ is of the view that the benefits of IRB models are arguably distorted in the New Zealand context as a result of inconsistency of models between approved banks.

2.4 From a transparency perspective, RBNZ notes its preference to require the publication of standardised approach requirements, alongside internal model requirements. While BNZ supports RBNZ’s efforts to ensure transparency, BNZ submits that its existing risk grades are transparent and readily available in its
disclosure statement information. The cost associated with duplicating disclosure requirements should be carefully considered by RBNZ as part of this review.

2.5 BNZ endorses RBNZ’s intention to undertake a Quantitative Impact Study (‘QIS’) to assess the effects of proposed changes prior to the preparation of in principle guidance on the new regime, where the level of required conservatism is defined by RBNZ. In this respect, BNZ notes that RBNZ has formed ‘in principle’ decisions on the definition of regulatory capital, and suggests that this position be reviewed after completion of the QIS.

2.6 Increased regulatory capital requirements will have significant implications for banks, customers and the wider New Zealand economy. Higher capital ratios have the potential to reduce economic growth, competition in banking and unduly restrict the availability of credit. BNZ suggests that RBNZ reconsider the wider costs of its current proposal.

2.7 BNZ requests that RBNZ review the implications of deviating from international standards as part of its capital review. This divergence is likely to add undue complexity and a lack of transparency into the New Zealand regime. Global comparability from a capital framework perspective is of significant importance in the New Zealand context, given the heavy reliance on offshore funding in New Zealand. BNZ’s preference for reform is to align New Zealand’s capital regime with the Basel III framework where possible, and urges RBNZ to closely follow APRA’s capital review, prior to making any decisions on the New Zealand framework. Being in step with our closest financial market in relation to capital will help ensure comparability, competitiveness and maintain the appropriate appointment of capital to support New Zealand growth.

3.0 BNZ SUBSTANTIVE SUBMISSIONS

3.0 RBNZ has requested views on the issues it has identified with the use of internal models, and the proposed options for reform. BNZ’s submission seeks to address the questions set out in the Consultation Paper, as well as commenting on broader matters that it considers relevant to an assessment of whether a departure from the existing risk weighted asset models is necessary. BNZ’s response is framed with reference to RBNZ’s capital review principles. 1 This will ensure RBNZ is aware of the broader issues associated with its proposed approach to risk weighted assets, in line with its proposed objectives.

Conservatism: ‘Capital requirements of New Zealand banks should be conservative relative to those of international peers, reflecting the risks inherent in the New Zealand financial system and the Reserve Bank’s regulatory approach’ 2

New Zealand’s Capital settings

3.1 Whilst BNZ concurs with RBNZ that New Zealand is a small open economy and that its prudential regulation should have more conservative settings when compared

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2 As above.
against other Organisation for Economic Co-operation and Development (‘OECD’) member banking regimes, it is noted that the recent bank sponsored review by PwC concluded that the New Zealand majors are already well capitalised relative to overseas jurisdictions. On a comparable basis, as per the table below, New Zealand bank average common equity tier one (CET1) ratios are 600 basis points (i.e. 16.3% vs 10.3%) more than the average of international peers, putting New Zealand banks in the top quartile of capitalised banks globally. Furthermore, as at March 2017, New Zealand bank average CET1 ratios remain 200 basis points ahead of the Australian bank average.

3.2 BNZ notes that the Basel Committee’s own working group on long term economic impacts, finds that the optimum capital requirement may be 13%, which reiterates the conservative position of the New Zealand banks, with a material conservative overlay.

3.3 This is also underpinned by the 2009 RBNZ article on the quality of bank capital, where RBNZ emphasised its preference to ensure that bank models are consistent with its broader and ‘by international standards, conservative capital philosophy’. Thus, any change in credit risk weights (cRWA) should not be looked at in isolation, given all cRWA models must be approved by RBNZ under BS2B, and are already inherently conservative.

3.4 The well capitalised position of New Zealand banks has also been validated by recent regulator directed stress tests. From its insights from the 2017 tests, RBNZ concluded that New Zealand banks ‘currently have significant buffers of CET1 above minimum requirements’. That position had been earlier validated from the 2015 Internal Capital Adequacy Assessment Process (‘ICAAP’) stress test which post a severe macroeconomic downturn scenario, RBNZ concluded that New Zealand banks ‘would remain well away from the point of economic failure’.

3.5 While there are opportunities for further enhancements to the New Zealand capital adequacy frameworks, it would be difficult to justify a significant increase in capital requirements beyond current settings. In this respect, BNZ reiterates its willingness to work with RBNZ to develop a capital regime that is appropriate in the New Zealand context, and recommends that it would be helpful for submitters if RBNZ provided its view on the specific level of conservatism it is seeking to achieve. BNZ submits that where RBNZ has a view on where New Zealand’s settings should sit with reference to its international peers, this will provide submitters with a benchmark on which to

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5 PwC (2017), International comparability of the capital ratios of New Zealand’s major banks.
6 BCBS (2010), An assessment of the long term economic impact of stronger capital and liquidity requirements.
7 RBNZ (2009), Bulletin Vol 72, No 3.
provide feedback, and ultimately assist RBNZ in achieving its desired outcomes. RBNZ stress testing results, and the capital settings of international counterparts provide a useful benchmark on which this desired level of conservatism can be based.

International Capital Settings

3.6 The final Basel Committee on Banking Supervision ("BCBS") framework continues to allow a more limited form of IRB modelling, the Foundation IRB ("F-IRB") approach, for bank and large corporate exposures. BNZ submits that the benefits of this proposal in the New Zealand context requires further evaluation. International consistency in Disclosure Statements and Capital Adequacy notes will provide considerable insight for investors. While RBNZ’s proposal will resolve domestic comparability, it will not resolve transparency with offshore peers and industries, as supported by the PwC report. In this respect, BNZ urges RBNZ to consider the wider impact on international external observers, and the complexity that will result from a Basel III deviation.

3.7 Furthermore, BNZ notes there are a number of global capital reforms underway, including a review of the Australian capital framework. In February 2018, APRA released the first of its consultation papers on revisions to the Australian capital framework for ADIs. APRA has adopted most of the Basel III capital framework, with some localised adaptations. These consultation papers indicate a divergence in approaches between RBNZ and APRA which, if implemented as proposed by each regulator, would greatly increase the complexity, cost, and risk associated with the capital adequacy processes for Australian owned New Zealand banks.

3.8 Given the benefits associated with international alignment, BNZ’s preference for New Zealand’s capital settings is to follow the Basel III framework, and to implement New Zealand specific settings that will achieve RBNZ’s level of conservatism. BNZ recommends that RBNZ should also seek to implement an approach that is consistent with APRA’s finalised framework.

Risk sensitivity: ‘Capital requirements should be set in relation to the risk of bank exposures’

Benefit of IRB Models

3.9 RBNZ holds the view that it is unclear how ‘accurately internal models approaches are picking up risk’. However, internal models allow banks to implement advanced risk models which facilitate an in-depth analysis of customer data and behaviour. This view is supported by The Institute of International Finance ("IIF") who has noted that through Basel II development and the introduction of internal models, banks obtained the benefit of improved risk sensitivity and risk management. This has enabled banks to progress portfolio and credit analysis, where standardised banks are less mature. The risk sensitivity of internal models reinforces positive and...

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fn. APRA (2018), Discussion Paper: Revisions to the capital framework for authorised deposit-taking institutions.


fn. As above, at paragraph 7.

sophisticated risk management approaches that are required for larger, complex banks.  

3.10 BNZ therefore submits that a moderately lower risk weight is warranted, even if maturity levels are mandated, as it provides an effective incentive for banks to improve risk management capability and allows for greater risk sensitivity. This position is supported by Resti, who suggests that ‘IRB approaches have encouraged institutions to implement sound and sophisticated risk management schemes’.  

3.11 Ultimately improves the credit quality of IRB banks.

3.12 Using internal models for capital requirements additionally narrows the gap between the regulatory and internal management of the riskiness of the asset class or individual loans. BCBS states that approximately 75% of risk weight variability for credit risk is driven by differences in underlying risk and risk preferences. This is supported by the reviews undertaken by Moody’s in 2014 and 2015, which noted that for banks using internal models, RWA was the most predicable indicator of potential default through the global financial crisis.  

3.13 BNZ notes that there is a perception that advanced banks receive a significant competitive advantage from using internal models. BNZ is of the view that the competitive disadvantage of using a standardised approach is less than the headline numbers indicate. The relevant data must be considered in a comparable form including costs in maintaining advanced accreditation, investment in systems and capability to obtain advanced accreditation, higher average credit quality of advanced portfolios versus standardised books and the greater portfolio diversification achieved by advanced banks.

3.14 As per the risk sensitivity principle of RBNZ’s capital review, capital requirements should be set in relation to the ‘risk of bank exposures’. As set out above, under internal model approaches, banks are incentivised to reduce the risk on their balance sheet through better terms and security. However, RBNZ indicates that, as regulatory minimum requirements are likely to exceed the level of capital that is optimal for bank shareholders, banks have incentives to reduce their capital requirements through the use of internal models. This is then considered by RBNZ to be a ‘significant weakness’ in internal models. BNZ notes that this statement appears to be in contrast with the sensitivity principle which suggests that capital should be based on risk.

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12 As above.  
15 Moody’s looked at their internal measure ‘Tangible Common Equity’ (sum of common equity, less goodwill and other intangibles, plus equity credit for “high trigger” contingent capital instruments / RWA) as the basis of this assessment.  
IRB model consistency

3.15 RBNZ assumes that for larger portfolios (e.g. residential property), all internal models banks are participating in the same markets and are unlikely to face substantially different levels of underlying risk. On this basis, RBNZ is of the view that risk weight differentiation is largely due to model differences in respect of retail mortgages and farm lending. However, BNZ refers to work undertaken by PwC that indicated that these risk weight differences recede after RBNZ model overlays have been removed.\(^{18}\)

3.16 In respect of the four major New Zealand banks that currently have internal model accreditation, this accreditation often comes with conservatism and overlay from RBNZ. Specifically, New Zealand bank lending assets are dominated by retail mortgages, which post Basel II accreditation, three of the four major New Zealand banks began using the RBNZ developed tool for unobserved-event investigations ("TUI") for their home loan CRWA calculations. The TUI CRWA have been relatively constant among these three major banks, with only one major bank permitted to use a long run probability of default model for capital purposes.

3.17 BNZ submits that the disparity in IRB cRWA models unduly distorts the overall New Zealand industry IRB statistics, and is not representative of the industry as a whole. This is arguably due to RBNZ’s overlay on IRB models, as opposed to the design of the internal models themselves. This ultimately distracts from the benefits that can be achieved under IRB models. BNZ recommends that RBNZ consider promoting a bipartisan level playing field, that does not introduce undue competitive advantages in cRWA calculations, given the impact cRWA can have on returns and pricing decisions.

Stress Testing

3.18 It would helpful if RBNZ were able to confirm its position in relation to stress testing should a standardised approach be adopted, that is, whether stress testing will then become redundant. BNZ notes that Enterprise stress tests evaluate a bank’s financial position under a severe but plausible scenario and are a valuable mechanism to help inform decision making, risk appetite, material risk issues and capital adequacy. Specifically, BNZ has identified that recent model changes have driven improved book quality, and strengthened its resilience to shocks.

Reduce Model Variation: 'Where there are multiple methods for determining capital requirements, outcomes should not vary unduly between methods'\(^{19}\)

IRB and Standardised Model Variation

\(^{18}\) PwC (2017), International comparability of the capital ratios of New Zealand’s major banks.

3.19 BNZ acknowledges that there is a gap between capital requirements under the internal models and standardised approaches. However, BNZ is of the view that this gap is justified on the basis that the use of IRB models requires banks to maintain oversight and developments in their credit risk understanding, and ensure models reflect these developments. Furthermore, as recognised by the Bank of England, model variability is in part due to differences in "basic statistical facts: if data are insufficient, random fluctuations in samples will lead to a wide range of capital outcomes driven by chance — even if the same model is used".\(^{20}\) Variability can be purely reflective of 'inevitable noise in banks' data.\(^{21}\)

3.20 Furthermore, there are genuine underlying differences in how credits are assessed, i.e. national factors - including domestic laws, and differences between banks, reflecting distinct risk practices, policies and portfolios.\(^{22}\) For bank exposures, the risk profile varies markedly according to factors such as collateral, maturity and product-type.\(^{23}\) Therefore, the use of standardised approaches for bank exposures will present a less granular approach to risk weighting, depending on if the jurisdiction allows the use external ratings. In this respect, BNZ notes that the use of a capital framework that lacks sufficient sensitivity to risk can create undesirable incentives for banks and their balance sheets (i.e. the barbell approach).\(^{24}\)

3.21 RBNZ poses the question of 'if there is not a significant difference in underlying risk, is it that standardised risk weights are too high or that IRB risk weights are too low?'\(^{25}\) However, by definition, the outcomes should be different given the purpose of each calculation. It may be more appropriate to assess what the appropriate disparity between the two numbers should be, given the size differences and portfolio construction between the banks.

3.22 In assessing the differences in underlying risk, RBNZ notes that 'theoretical considerations' suggest that it is less likely that there would be differences in some risk categories, under each model. However, BNZ suggests that given the quantum of data available to RBNZ on risk categories, it may be more appropriate to run a formal benchmarking exercise to validate or exclude this suggestion. Similarly, BNZ suggests that stress testing and private information can be used to enable RBNZ to form a view on the difference between the calibration across entire, typical portfolios.

**IRB Bank Model Amendments**

3.23 BNZ notes RBNZ's references that suggest 'trickery' and 'manipulation' of internal models in New Zealand, however it is of the view that objective and robust sources suggest otherwise. BNZ notes that the IIF has specifically argued against this conclusion, stating that average RWA density has not decreased as a result of Basel II and the use of internal models.\(^{26}\) RWA density was seen to be stable to increasing since Basel II IRB models were accredited. Furthermore, the Bank of England has

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\(^{21}\) As above, at page 13.

\(^{22}\) IIF response to Consultative Document, Reducing variation in credit risk-weighted assets - constraints on the use of internal model approaches, June 2016 at page 10.

\(^{23}\) As above, at page 20.

\(^{24}\) Basel Capital Reforms, Key Data Points on Potential Impacts May 2016 at slide 10.


\(^{26}\) Basel Capital Reforms, Key Data Points on Potential Impacts - May 2016.
reinforced that pure bank data variability can result model differences, rather than
banks having ‘any desire to minimise risk weights’.27 The IIF data set out in Appendix
B shows illustrates that average risk weights fell through the Basel I framework
implementation period, and stabilised when internal model accreditation was
received.28

3.24 As indicated by RBNZ, the results of overseas studies on internal model consistency
‘are not necessarily generalisable to New Zealand banks’.29 BNZ agrees, and therefore
suggests RBNZ review their reliance on these studies. A key pillar to the Consultation
Paper is the conclusions it draws from the work by Mariathasan and Merrouche,
which implies Basel risk weights were manipulated by banks utilising the IRB
approach.30 It is important to note that this work did not include Australian or New
Zealand banks, and has not been conclusively validated. In addition, RBNZ refers to
studies undertaken by the Federal Reserve Bank of New York that noted banks
reporting less credit risk tended to be the least well capitalised.31 However, New
Zealand banks have some of the highest CET1 on a comparable basis. As such, the
studies relied upon by RBNZ are not persuasive as they identify occurrences that do
not directly translate into the New Zealand prudential regime, given the quality and
quantity of capital in the New Zealand system.

3.25 BNZ also notes that RBNZ’s use of its prudential toolkit has contributed to reduced
risk weights in relation to residential lending for all IRB banks. The table set out in
Appendix C illustrates how RBNZ’s LVR tools have contributed to reduced RWAs for
residential mortgages, a trend that cannot be attributed to IRB bank ‘manipulation’.
Under the LVR arrangements, IRB model banks are required to hold more residential
mortgages in low LVR buckets, which ultimately results in reduced RWAs.

Transparent: ‘The capital framework should be transparent to enable effective
market discipline’32

Transparency

3.26 The ‘opaque’ nature of information produced by internal models is considered
problematic by RBNZ.33 BNZ is of the view that its risk grades are transparent and
readily available. BNZ’s disclosure statement sets out its probability of default
percentage terms, and these terms are defined and transparent for investors. It is
therefore difficult to reconcile the suggestion that the information produced by
internal models lacks transparency. Further, BNZ queries whether the rating of
wholesale exposures by an external rating agency would improve the perceived
opaqueness of internal models. This may exacerbate RBNZ’s perceived transparency
issues, on the basis that there is arguably a lack of investor understanding of a BBB

28 IIF response to Consultative Document, Reducing variation in credit risk–weighted assets – constraints on the use of internal
model approaches, June 2016 at page 13.
29 RBNZ (2017), Consultation paper: Review of the capital adequacy framework for locally incorporated banks: calculation of risk
weighted assets, at paragraph 27.
31 Plosser and Santos (2014), FRBNY staff report 704.
32 RBNZ (2017), Consultation paper: Review of the capital adequacy framework for locally incorporated banks: calculation of risk
weighted assets, at page 4.
33 As above, at paragraph 60.
rating. A BBB rating is relatively unclear when compared to a published bank reference of a 0.283% chance of default in 12 months.

3.27 BNZ therefore does not support RBNZ’s preferred option to require the publication of standardised-approach capital requirements, alongside IRB requirements. Both models require assumptions to be made, and additional publication is unlikely to improve transparency that is already in place. BNZ is of the view that the significant cost implications of running both models is not justified in a well-capitalised banking environment.

3.28 The consultation provides a suggested option to improve transparency, where banks will be required to report ‘model estimates of probability of default, loss given default, and exposure at default, alongside measures of realised default rates, loss rates, and default exposures’. However, BNZ believes that this would introduce material additional reporting overhead for banks to create disclosures that would be require significant technical expertise to interpret.

Market Discipline

3.29 The transparency review principle suggests that the framework should be transparent to enable ‘effective market discipline’. BNZ notes that effective market discipline is open to interpretation, and that further clarification on this would be helpful for submitters. BNZ is of the view that consideration of ‘market discipline’ should also extend to an analysis of the impact of capital adequacy changes on the international funding market, and suggests that this is appropriately canvassed by RBNZ.

Minimise complexity and compliance cost: ‘Capital framework should be practical to administer, minimise unnecessary complexity and compliance costs, and take into consideration relationship with foreign-owned bank’s home country regulators’

International Consistency

3.30 BNZ emphasises the importance of a consistent international regulatory framework and supports the adoption of Basel III standards where these are appropriate in the New Zealand market. This improves efficiency for subsidiaries of foreign owned banks, reduces complexity between jurisdictions and caters for a single avenue of conservatism for New Zealand banks.

3.31 BNZ is of the view that a substantial deviation from international standard practice will have significant implications in New Zealand given New Zealand’s heavy reliance on offshore funding. International funding providers may be unwilling to invest time and resources to understand a framework which deviates from Basel III, given the relatively small size of the New Zealand market. BNZ urges RBNZ consider the ramifications of a reduced capacity to source funding in global markets, and the ultimate cost of a reduced capacity for economic growth in New Zealand.

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25 As above, page 71.
26 As above, paragraph 68.
36 As above, paragraph 2.
37 As above, at page 4.
3.32 RBNZ’s capital consultation has largely indicated an intention to step away from the Basel III framework. Specifically, the second issues paper on the definition of regulatory capital saw RBNZ deviate from Basel III standards whereby contingent instruments will no longer satisfy regulatory capital requirements. Similarly, RBNZ’s third consultation paper has seen RBNZ move away from the F-IRB approach for credit risk, as adopted by the Basel Committee. RBNZ’s preference to adopt the Basel model for operational risk seems inconsistent with this trend. BNZ submits that a piece meal approach to New Zealand’s capital regime which will rely on the Basel framework in some respect, but deviate in others, will create undue complexity and reduce international comparability.

3.33 Furthermore, it will be more difficult for the market to compare New Zealand and Australian banks given APRA’s intention to adopt most of the Basel III Capital framework. BNZ submits that a divergence in capital adequacy approaches between APRA and RBNZ will ultimately represent a significant cost for New Zealand consumers, and urges RBNZ to reconsider the implications of this divergence.

3.34 As an aside, BNZ notes that RBNZ has indicated that the CET1 ratios of Australian owned New Zealand Banks remain unchanged, when compared to the ratio movements of their Australian parents. However, this does not refer to factors unrelated to IRB models, that have influenced this conclusion.

**Implications of a change in bank capital**

3.35 Recent work out of NYU Stern, points out that financial disruptions in banking systems are not driven by one, but rather four major factors including insufficient capitalisation (quantity and quality), maturity mismatches, insufficient liquidity, and unforeseen systemic risks. Therefore the Consultation Paper cannot be singular in its approach. BNZ suggests that this capital review should therefore form part of a broader assessment of the financial strength and resilience of New Zealand banks, and include a review of these major factors.

3.36 Work by the IMF emphasises the interaction between liquidity and capital settings in prudential regulations. A similar finding was made by the Bank of England. As a regulator, RBNZ arguably leads the way in maturity and liquidity factors in an international context, and on this basis, it is unclear how the proposed risk weight consultation will improve on a marginal basis, financial stability in an efficient manner.

3.37 BNZ therefore recommends that RBNZ undertake an impact analysis to measure the total cumulative effect that the pending prudential changes may have on the New Zealand economy, prior to formulating a position on the capital review. BNZ endorses

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38 APRA (2018), Discussion Paper: Revisions to the capital framework for authorised deposit-taking institutions.
39 As per recent RBNZ presentations on Financial Stability.
42 Schanz et al (2011), The long term economic impact of higher capital levels. BIS paper 60 (December).
RBNZ's intention to undertake a Quantitative Impact Study (QIS) to assess the effects of proposed changes. However, BNZ notes its concern that RBNZ has formed 'in principle' decisions on the definition of regulatory capital prior to completion of the QIS. BNZ submits that to proceed with an important prudential policy decision prior to undertaking an impact analysis may result in unintended economic consequences that are undesirable for the New Zealand economy.

3.38 In addition, in the interests of transparency, BNZ recommends that RBNZ compare and contrast its proposals against the Basel Committee discussion paper on regulatory frameworks.¹⁴

Unintended Consequences

3.39 As mentioned above, BNZ understands RBNZ intends to undertake a QIS as part of the capital review but notes that the Consultation Paper does not include an in-depth analysis on the implications of the potential consequences of higher capital requirements. On this basis, BNZ assumes that RBNZ has relied upon the Modigliani-Miller theorem (M&M), which suggests that marginal investors are indifferent between debt and equity. M&M therefore implies that higher equity ratios should be reflected in lower cost of debt, which is effectively a market efficient price offset.

3.40 However, BNZ notes that studies have found slightly less than half of the M&M offset attains in practice. Therefore, the cost of higher capital requirements can be passed on to the economy, especially if change is systematic. Research by the Financial Services Authority (FSA) has found that a 1 percent increase in CRWA ratios, can impose a 9-basis point increase in the spread between a banks deposit and lending rates. The US Federal Reserve found similar impacts.

3.41 RBNZ’s consultation makes the assumption that additional capital will be freely available. However, work undertaken by the Bank for International Settlements (‘BIS’) shows there are several channels available for banks to meet risk adjusted capital ratios, with a preference towards the use of retained earnings. The issuance of new capital was found to be the less attractive channel. As such, BNZ notes its concern that if regulators require banks to adopt new capital ratios too quickly, this could have material macroeconomic costs. If investors do not find new capital requirements an attractive position, capital ratios may be achieved by shrinking asset bases to fit static invested capital.

3.42 Further research by BIS finds that a 1 percentage point in capital ratios, could increase lending spreads by 15-17 basis points, reduce lending volumes by 1-2%, and negatively impact economic growth rates by 4 basis points over 4 years. Where RBNZ moves towards higher capital ratios (which are already high on a comparable basis), it has the potential to create the very issue its trying to prevent, which is

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¹⁴ BIS (2013), The regulatory framework: balancing risk sensitivity, simplicity and comparability.
¹⁹ BIS Macroeconomic Assessment Group (2010), Assessing the macroeconomic impact of the transition to stronger capital and liquidity requirements.
financial instability, and lower economic growth, and scope for a credit restricted economic downturn recession.

**Opportunities for reform**

3.43 BNZ emphasises the importance of RBNZ’s proposed objectives of its ongoing capital review, particularly in respect of conservatism, practicality and complexity. In this respect, BNZ proposes that RBNZ firstly define the level of conservatism it is seeking to achieve, with reference to its existing stress test results and the capital requirements of its international counterparts. BNZ’s preference is to align the New Zealand treatment of risk weighted assets, and the wider capital regime, to the Basel III framework with specific consideration of regulatory consistency between RBNZ and APRA. Lastly, BNZ submits that the Basel III framework can be locally calibrated to achieve RBNZ’s level of conservatism, and is willing to work with RBNZ to define the appropriate level of calibration.

**Complexity and compliance costs**

3.44 In referring to the work undertaken by Mariathasan and Merrouche, the Consultation Paper notes that IRB risk weights fell in countries with weaker supervisory regimes. While BNZ acknowledges the complexity and high cost of regulatory compliance associated with the oversight of IRB models, this supports BNZ’s concerns regarding RBNZ resourcing and oversight capacity. In this respect, BNZ strongly supports the IMF’s recommendations for increased resourcing for RBNZ to allow it to effectively meet its existing prudential supervisory duties, as well as more effectively enabling New Zealand banks to respond quickly and efficiently to rapidly changing customer requirements.

3.45 BNZ submits that RBNZ’s current level of resourcing has contributed to level of conservatism it seeks to achieve. However, while a conservative and simplified capital regime might make supervision easier in a lightly resourced environment, it is likely to result in a higher cost of capital for banks, and therefore higher interest rates borne by customers.

**4.0 OPTIONS**

**Credit Risk - IRB**

4.1 For the reasons set out above, BNZ’s preferred option for reform is to follow the Basel III Capital framework (‘Option 2’).

4.2 However, BNZ is of the view that considerable work and review of the existing variations, their applicability and transparency are required if this option is adopted. As discussed above, there is a lack of consistency in the existing variations between banks in the New Zealand market, which ultimately delivers considerable benefit to one major bank. BNZ submits that RBNZ can use the Basel Framework as a base for the New Zealand model, and achieve its desired level of conservatism through New Zealand specific overlays.

4.3 In respect of a floor on risk weights, BNZ’s preference is to adopt a total RWA floor only, where that approach aligns with the model adopted by APRA.
BNZ submits that there is scope for RBNZ to take a greater agency role, and harmonise certain elements of the prudential cRWA equation. This role can be used to promote greater financial soundness, improved transparency of market disclosures and increase system efficiencies. BNZ suggests the following amendments:

- Exposure at default ("EAD"): These could be prescribed for all banks. Under the Advanced Internal Rating-Based approach ("AIRB"), a substantial amount of work is required to prepare these calculations, with little variance between banks. A prescribed EAD conversion rate per asset class may have a positive cost: benefit outcome.
- Loss given default ("LGD"): Many approved models include prescribed downturn requirements for capital calculation. RBNZ is in a better position to monitor loss event data across the entire financial system and therefore has a more informed view. Again, a prescribed LGD rate per asset class could have a positive cost: benefit outcome.
- Housing: All advanced rated banks move to the TUI model for home loan cRWA purposes.

BNZ is of the view that banks should be left to develop and maintain their respective PD models, consistent with BS2B, which would continue to promote competition, and different bank centric asset writing strategies.

Operational risk

BNZ’s preference is to adopt the Standardised Measurement Approach ("SMA") under the Basel III framework, and considers that SMA removes complexity and operational overheads in deriving regulatory capital while introducing a consistent approach that promotes comparability with other similar banks.

At present, operational risk capital comparability between peers is problematic due to the methodological variability inherent with the internal model's approach - the Advanced Measurement Approach ("AMA") does not stipulate the use of a specific modelling technique. The application of a range of statistical methods and variance in input data also complicates comparability.

The SMA model results in a simpler operational risk regulatory capital calculation, and reduces complexity. The standardised formula will allow better comparability amongst SMA-registered banks.

Banks will continue to undertake scenario analysis, despite its removal from the operational risk model. Scenario analysis will remain as an integral forward-looking operational risk planning discipline to assess potential low frequency, high impact events that will have an extreme impact on a bank’s operational risk profile if they occurred. This activity will continue to influence the operational risk posture and profile of a bank. Furthermore, BNZ understands that APRA will continue to expect the ongoing management of the current risk framework adopted by Australian owned New Zealand banks, which will include scenario analysis.
4.10 SMA is considered to be less sensitive to operational risk performance by lacking the granularity of operational risk measurement specific to a bank and its unique risk control environment. Furthermore, it has a perceived shortcoming of focusing on historical loss performance, if internal loss data is retained in the calculation by RBNZ, and neglecting the influence of forward looking events. The methodology does however, remove subjectivity and introduces a consistent approach that promotes comparability with other similar banks. The approach also removes complexity and operational overhead in deriving regulatory capital.

4.11 An increase in regulatory operational risk capital is anticipated with the introduction of the SMA model. The extent to which this will increase is dependent on formulaic considerations to tailor for New Zealand.

4.12 BNZ submits that the following issues will need to be assessed by RBNZ, prior to implementing the SMA approach

- **Historical information:** SMA methodology relies largely on historical information to compute regulatory capital. Scaling factors such as the Business Indicator (`BI`) coefficients, Loss Component (`LC`) and Internal Loss Multipliers (`ILM`) are not specific to a particular bank. This generalised approach assumes a direct relationship between historical losses and possible future loss performance. This simplified assumption discounts control improvements to future loss performance, and will remove capital calculation sensitivity of Basel Risk Event Type impact to Basel Lines of Business. As such, the SMA approach must in principle provide incentives to manage operational risk, contribute to bank solvency and enable differentiation between banks based on the quality of their operational risk management practices.

- **Formula:** Further clarification is needed on the SMA formulae elements, notably the currency conversion to NZD (the BI ranges and the loss capture threshold). Maintaining the buckets within the Business Indicator ranges in Euros will introduce exchange rate volatility to the calculation, however, this is not considered significant. Further details are set out Appendix D for RBNZ’s consideration.

- **Floor limits:** BNZ suggests consideration is required to retaining floor limits for operational risk capital, and that any rationale for change be shared with banks. BNZ notes the operational risk calculation under SMA may be biased upwards towards holding more capital as an organisation’s income grows (i.e. operational risk increases at an increasing rate with an increase in income). However, a significant decrease in organisation income through severe industry events or downturn may translate into a lower operational risk capital holding under SMA. The assumption that operational risk will decline in an economic downturn or severe economic event for a bank does not necessarily hold true.

- **Reporting:** Clarity would also be required on reporting definitions and requirements for loss data standards across the industry to ensure consistent approach, and concomitant reporting operating rhythm.
4.13 The tables at Appendix E below provide some detail of the potential consequences of an adoption of the SMA approach, when compared with the AMA approach.

**Market Risk**

4.14 BNZ’s preference is to move towards an internal model based approach, consistent with the current APRA methodology. This will provide a more accurate reflection of market risk exposure over the transaction lifecycle. BNZ is of the view that it would be practical to apply the new Basel III standardised approach for market risk. It is likely that this calculation will be undertaken at a parent level for the Australian owned New Zealand banks, as part of APRA requirements. Furthermore, BNZ notes that this would also apply to the BCBS internal model.

4.15 However, BNZ understands and acknowledges RBNZ’s position that while the current approach ‘needs to be updated’, it is not a priority as part of the capital review.

4.16 Given this, BNZ suggests a number of amendments could be made to the existing standardised market risk standard in order to improve market risk measurement accuracy, and to ensure the standard is fit for purpose in the current market. These include:

- Improvements in the methodology to more appropriately reflect a bank’s market risk profile over the life of a transaction. As cash flows roll up the time buckets, there are often large ‘passive’ movements in capital. This can mean capital can be both understated or overstated at times.
- Some products were not traded at the time the current standard was introduced (e.g. overnight index swaps) and therefore warrant consideration, particularly in regard to the point above.
- The current methodology does not reflect the different underlying nature of the trading book versus banking book exposures, in particular the general difference in holding periods between these exposures.
- Not all spread risks are captured in the current model e.g. cross currency basis swap spread risk.
- Exposures less than 1 month have a 0% risk weighting, thereby not accurately reflecting market risk exposures in this time bucket.

**5.0 CONCLUSION**

5.1 BNZ appreciates the opportunity to provide this submission to RBNZ and supports the RBNZ’s initiative to undertake the review. It also notes RBNZ’s work completed to date to establish the already robust capital position of the New Zealand banks, as shown through peer comparisons and IMF stress testing.

5.2 BNZ is willing to work with RBNZ to achieve the level of conservatism it is seeking to achieve, and suggests that a defined level of specific conservatism would enable banks to assist RBNZ in this respect. BNZ’s preference is to align New Zealand’s capital regime with the Basel III framework, and to ensure a consistent approach where possible between the RBNZ and APRA models. BNZ is of the view that RBNZ’s intended level of conservatism can be achieved by adopting the Basel III framework, and imposing additional transparent domestic tools.
5.3 Internal models incentivise banks to develop robust risk management practices. The removal of these models may fail to adequately incentivise banks to invest significantly in the measurement and management of their underlying risks. Furthermore, given the reliance on international funding in the New Zealand market, a framework that is consistent with international counterparts is paramount to preserve New Zealand’s place as a safe and transparent investment opportunity.

4.17 Should RBNZ have any questions in relation to this submission, please contact:

DDI:  
Mobile:  
Email:
APPENDIX A

Risk Weighted Assets - Residential Mortgages

![Graph showing Residential Mortgages CRWA/EAD]

Source: Banks’ published Disclosure Statements

Risk Weighted Assets - Farm Lending

![Graph comparing farm lending and corporate risk weights]

Source: PwC (2017), international comparability of the capital ratios of New Zealand’s major banks.
APPENDIX C

LVR Breakdown & Weighted Average

Source: Banks' published Disclosure Statements
APPENDIX D

The table below lists the elements and topics that need to be considered by RBNZ and other industry stakeholders in respect of the SMA calculation. For clarity, the SMA calculation referenced is set out below.

<table>
<thead>
<tr>
<th>SMA Calculation Notes</th>
<th>RBNZ Clarification Required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Business Indicator Data (BI)</strong></td>
<td><strong>1. Business Indicator Data (BI)</strong></td>
</tr>
<tr>
<td>• The SMA requires an average of three years.</td>
<td>• Clarity is required as to whether annual calculations are used or rolling quarters, viz:</td>
</tr>
</tbody>
</table>
|                                                   | \[
<p>|                                                   | \frac{\text{Sep15} + \text{Sep16} + \text{Sep17}}{3} \quad \text{of} \quad \frac{\text{Dec14} + \text{Mar15} + \text{June15} + \cdots + \text{Sep17}}{12} ] |
|                                                   | Note that using quarterly data would see the inclusion of 3.75 years, and not 3 years, as the December 2014 amount in the example above would include 9 months of balance sheet data. |
| • The BI ranges associated with the coefficients are in Euros. These were converted to NZD for the purpose of the calculation viz: | • Clarity is required as to whether the buckets would need to change to NZD. Keeping the buckets at Euros will introduce exchange rate volatility to the calculation. |
| From:                                              | • Clarity is required as to whether the RBNZ may change the size of the buckets or assume parity to the existing buckets. |</p>
<table>
<thead>
<tr>
<th>Bucket</th>
<th>BI Range (in €bn)</th>
<th>BI Marginal Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&lt;1</td>
<td>12%</td>
</tr>
<tr>
<td>2</td>
<td>1&lt;BI≤30</td>
<td>15%</td>
</tr>
<tr>
<td>3</td>
<td>&gt;30</td>
<td>18%</td>
</tr>
<tr>
<td>To:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket</td>
<td>BI Range (in €bn)</td>
<td>BI Marginal Coefficients</td>
</tr>
<tr>
<td>--------</td>
<td>------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>1</td>
<td>≤1.695</td>
<td>12%</td>
</tr>
<tr>
<td>2</td>
<td>1.695&lt;BI≤50.85</td>
<td>15%</td>
</tr>
<tr>
<td>3</td>
<td>&gt;50.85</td>
<td>18%</td>
</tr>
<tr>
<td>• The SMA requirement is that 3 years of BI data is provided to the RBNZ.</td>
<td>• Clarity is required as to whether this will be the case and if so, what reporting would look like (templates, deadlines, audience).</td>
<td></td>
</tr>
<tr>
<td>2. Internal Loss Data</td>
<td>2. Internal Loss Data</td>
<td></td>
</tr>
<tr>
<td>• The SMA threshold for calculation is [current ORECS capture threshold]. For the purpose of the calculation, three different thresholds were applied:</td>
<td>• Clarity is required on the loss reporting threshold.</td>
<td></td>
</tr>
<tr>
<td>- [current ORECS capture threshold]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- [assuming $/€ Parity]</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>- (converting to NZD equivalent)</strong></td>
<td><strong>- Clarity is required as to whether this will be the case and if so, what reporting would look like (templates, deadlines, audience).</strong></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>- The SMA requirement is that 10 years of quality loss data is provided to RBNZ.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>3. Floor Limit</strong></th>
<th><strong>3. Floor Limit</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- The SMA is silent on the imposition of a floor limit to mitigate a downturn that would negatively impact bank income or asset values.</td>
<td>- The continued imposition of a floor limit may be necessary to limit downside risk.</td>
</tr>
</tbody>
</table>
The Standardised Approach Calculation:

Step 1: Calculate the Business Indicator (BI)

\[
BI = ILDC + SC + FC
\]

\[
ILDC = MIN(\text{Abs(Interest Income} - \text{Interest Expense}) ; 2.25\% \cdot \text{Interest Earning Assets}) + \text{Dividend Income}
\]

Where \( ILDC \) = Interest, Leases and Dividends (ILD C)

\[
SC = MAX(\text{Other Operating Income} ; \text{Other Operating Expense}) + MAX(\text{Fee Income} ; \text{Fee Expense})
\]

Where \( SC \) = Services Component

\[
FC = ABS(\text{Net P&L Trading Book}) + ABS(\text{Net P&L Banking Book})
\]

Where \( FC \) = Financial Component

Step 2: Calculate the Business Component (BIC)

<table>
<thead>
<tr>
<th>Bucket</th>
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<tr>
<td>3</td>
<td>&gt; 30</td>
<td>18%</td>
</tr>
</tbody>
</table>

Step 3: Calculate the average annual losses over a 10-year period (≥€20,000 per loss)

Step 4: Calculate the Loss Component (LC)

\[
LC = 15 \cdot \frac{\text{Annual Operational Risk Losses (≥ €20,000)}}{\text{10 years}}
\]

Step 4: Calculate the Internal Loss Multiplier (ILM)

\[
LC = 15 \cdot \frac{\text{Annual Operational Risk Losses (≥ €20,000)}}{\text{10 years}}
\]

Step 5: Calculate the Operational Risk Capital (ORC)

\[
ORC = BIC \cdot ILM
\]
APPENDIX E

The tables below provide some detail of the potential consequences of an adoption of the SMA approach, when compared with the AMA approach. These reflect three calculated scenarios where the loss threshold varies. The calculations are based on the following assumptions or constraints:

- The BI buckets have been converted from Euros to NZD (assumption)
- One-year data (FY17) has been applied to calculate the BI (constraint)
- A conservative loss reporting threshold of [redacted] is applied
- A loss reporting threshold of [redacted] which mirrors the nominal quantum suggested by the Basel Committee on Banking Supervision (assumption).
- A loss reporting threshold of [redacted] which converts the [redacted] loss reporting threshold suggested by the Basel Committee on Banking Supervision into NZD (assumption).