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# The Reserve Bank's application of the Basel III capital requirements for banks

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Capital requirements are a key element of the prudential framework the Reserve Bank applies to banks operating in New Zealand. The Reserve Bank largely follows international standards in implementing bank capital requirements. In 2010 there was a significant reissue of the international banking capital standards, known as Basel III. The Reserve Bank has implemented the main elements of these standards in New Zealand. This article explains the rationale for the Basel III capital requirements, their significant features and implementation in New Zealand.

## 1 Introduction

The Reserve Bank is responsible for the prudential regulation of banks in New Zealand. Setting minimum capital requirements is a key element of this prudential framework. International standards for banking capital requirements are developed by the Basel Committee on Banking Supervision (BCBS) and are known as the Basel Capital Accords. Although the Reserve Bank is not a member of the BCBS, it has adopted the main elements of the Basel Capital Accords. In considering whether to adopt the approaches set out in the Basel Capital Accords, the Reserve Bank assesses whether the requirements of the international standard are appropriate for the New Zealand financial sector, taking into account our domestic policy settings and the Reserve Bank's relatively conservative approach to bank capital policy.

In the wake of the Global Financial Crisis (GFC) it became apparent that there were some shortcomings in the Basel Capital Accord in place at the time, known as Basel II. In December 2010 the BCBS issued a package of enhancements, known as Basel III, to strengthen the international standards for the regulation and supervision of bank capital. The changes to the Capital Accord brought into effect by Basel III

included: enhancing the requirements for the quality of the capital base; increasing the minimum amount of capital required to be held against risk exposures; requiring capital buffers to be built up in good times that can be drawn down in times of economic stress; introducing a leverage ratio requirement; and enhancing the risk coverage of the capital framework.<sup>1</sup> Draft international minimum standards for liquidity were also proposed for the first time as part of the Basel III package. The liquidity requirements are not discussed in this article.<sup>2</sup>

The Basel III capital standards have been widely adopted worldwide. The Reserve Bank has largely adopted the Basel III capital requirements. As New Zealand banks were well capitalised at the time Basel III was issued, the Reserve Bank was able to put the Basel III capital requirements in place in New Zealand ahead of the timetable set by the BCBS for Basel III implementation (see section 6).

This article explains the rationale behind the Basel III capital requirements, identifies and discusses their significant features, explains how the Reserve Bank has applied the requirements in New Zealand, and examines the development of the New Zealand market for instruments meeting the Basel III definition of capital.

1 Changes to the calculation of market risk in the Capital Accord were made around the same time. These changes are not discussed in this paper.

2 The Reserve Bank has had liquidity requirements in place since 2010. For an explanation of the Reserve Bank's liquidity requirements see Hoskin, K, I Nield and J Richardson (2009).

## 2 Rationale for capital requirements

The term 'bank capital' refers to the funding of a bank that is available to absorb financial losses that the bank suffers, without depositors and general creditors necessarily suffering losses. It includes the accounting equity of the institution and also certain qualifying debt instruments. As an example of loss absorption, if a bank makes a loss in a given year that is less than the value of its equity, then the value of the equity of the bank will be reduced by the loss, but the amount available to meet deposit holders' and other creditors' claims will be unaffected. In this way the equity of the bank provides a cushion to absorb losses before depositors and general creditors may suffer loss. Capital also reduces the probability of failure of a bank, thereby protecting the financial system from the wider costs that can arise from the failure of large financial institutions.

Even in the absence of regulatory capital requirements, in order to meet the expectations of those who invest in or do business with a bank, banks will hold certain levels of capital to protect against a certain level of losses. However, the rationale for setting minimum capital requirements for banks is that the wider costs to the economy that would occur on the failure of one or more large banks (systemic risk) are not accounted for by the individual banks. Hence banks could end up holding less capital than the amount that is socially optimal. In other words, capital regulation seeks to address the market failure that arises from the fact that individual decision makers (banks in this case) do not take full account of the costs that their actions could impose on the wider public.

## Box 1

### Basel Committee on Banking Supervision

The Basel Committee on Banking Supervision (BCBS) is the global standard-setter for the prudential regulation of banks and provides a forum for cooperation on banking supervisory matters. Its mandate is to strengthen the regulation, supervision and practices of banks worldwide to enhance financial stability.

The BCBS seeks to achieve its mandate through the following activities:

1. Exchanging information on developments in the banking sector and financial markets to identify emerging risks to the global financial system.
2. Sharing supervisory issues, approaches and techniques among regulators to promote common understanding and cross-border cooperation.
3. Establishing, promoting and monitoring global standards for the regulation and supervision of banks as well as guidelines and sound practices.
4. Addressing regulatory and supervisory gaps that pose risks to financial stability.
5. Coordinating and cooperating with other financial sector standard-setters and international bodies, particularly those involved in promoting financial stability.

In 1988 the BCBS developed the original Basel Capital Accord, now known as Basel I. Basel I provided an approach for defining capital and measuring risk-weighted assets and introduced a minimum capital ratio requirement of 8 percent (see box 2 for an explanation of the capital ratio and its elements). The calculation of risk-weighted assets differentiated between the risks that a bank faced, by using a simple system of different risk-weights applied to different classes of assets that the bank held. Over the next two decades banking continued to evolve, while concerns grew over time about the ability of Basel I to account for certain types of risk.

This evolution resulted in the BCBS adding capital requirements for market risk to Basel I in 1996, and releasing Basel II in 2004. Basel II built on the Basel I framework by improving on the calculation of a bank's risk-weighted assets and explicitly identifying operational risk as a separate type of risk. Capital requirements for market and operational risk can be converted into risk-weight equivalent amounts and hence compared with risk-weighted assets for credit risk exposures, thus creating the concept of risk-weighted exposures (see box 2). Basel III does not significantly change the measurement of risk-weighted exposures, although it does provide for enhanced risk coverage in some areas. The main change is new rules for the level and definition of capital. At the time of writing, the BCBS has just completed a consultation on further refinements to the approaches for calculating risk-weighted exposures.<sup>3</sup>

<sup>3</sup> See the Bank for International Settlements website for more information on these consultations: <https://www.bis.org/about/index.htm>

### 3 Motivation for Basel III capital requirements

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The GFC highlighted several shortcomings in the policies and practices of some financial institutions, particularly in North America and Europe, and in the regulatory requirements for banks in respect of capital.<sup>4</sup> In the lead-up to the GFC, some financial institutions were highly leveraged (that is, their assets were funded by high levels of debt as compared to equity), with capital that proved insufficient to absorb the losses that they incurred. In several countries, governments provided funds to support failing banks, effectively protecting holders of certain capital instruments from bearing losses, which came at a cost to taxpayers. The complexity of capital rules, interaction with national accounting standards, and differences in application resulted in inconsistencies in the definition of regulatory capital across jurisdictions. Further, insufficient capital was held in respect of certain risks.<sup>5</sup> This made it difficult for the market to assess the true quality of banks' regulatory capital and led some market participants to turn to simpler solvency assessment methods.

The BCBS responded with new requirements for bank capital, collectively known as Basel III, which built on the existing frameworks of Basel I and Basel II. Basel III strengthens the minimum standards for the quality and quantity of banks' capital, and aims to reduce bank leverage and improve the risk coverage of the Basel Capital Accords. One of the purposes of Basel III is to make it more likely that banks have sufficient capital to absorb the losses they might incur, thus reducing the likelihood that a

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4 See for example Reserve Bank of Australia (2014).

5 See Collazos, P (2011) 'The Big Financial Crisis' in *Basel III and Beyond*.

bank will fail, or that a government will be called on to use taxpayer funds to bail out a bank. Basel III also introduced an international standard on bank liquidity. Overall, these requirements increase resilience in the financial sector and reduce the probability of future systemic collapses of the financial sector.

### 4 Capital requirements in the Reserve Bank framework

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Under the Reserve Bank of New Zealand Act 1989 (the Act) the Reserve Bank regulates and supervises banks for the purposes of:

- (a) Promoting the maintenance of a sound and efficient financial system; or
- (b) Avoiding significant damage to the financial system that could result from the failure of a registered bank.

In achieving these purposes the Reserve Bank sets a number of prudential requirements. Setting minimum capital requirements is a key element of this prudential framework. This is because a key attribute of a sound financial system is that banks, and other financial institutions, have sufficient levels of financial buffers to absorb the financial losses that could arise in a plausible range of unexpected events. This aims to ensure that banks are not likely to fail in the face of plausible negative shocks to profitability, thereby avoiding the disruption to the financial system that arises from failure of a bank, and providing a level of protection to bank creditors, including depositors. Further, adequate

financial buffers aim to ensure that the banking system can continue to supply credit to the economy in times of economic stress, thereby reducing the negative feedback loops that can occur between financial losses to banks and the real economy.

The Reserve Bank's capital requirements are not set to ensure that a bank can never fail. Extreme shocks to a bank's profitability, or other events such as wrong-doing, could still result in the failure of a bank. In such a case the Reserve Bank's role is to ensure that the bank failure is resolved in a way that minimises the damage to the financial system.

Banks operating in New Zealand are domestically-owned banks, foreign-owned banks that are incorporated in New Zealand (locally incorporated subsidiaries), or branches of overseas incorporated banks. The Reserve Bank sets capital requirements for banks operating in New Zealand that are either domestically-owned banks or foreign-owned locally incorporated subsidiaries. Branches of foreign banks operating in New Zealand are not required to meet the capital requirements set by the Reserve Bank. Instead, the Reserve Bank imposes a condition of registration on each of these foreign banks, requiring the bank as a whole to meet the capital adequacy requirements of its home regulator.

The Reserve Bank has largely implemented the requirements of Basel III. The Reserve Bank's requirements also largely align with the requirements set by the Australian Prudential Regulation Authority (APRA). This is important for banks that are subsidiaries of Australian-incorporated banks, because they will seek to have their capital recognised under both the Reserve Bank's rules and APRA's rules. The reason they aim to achieve this is that the capital can then be recognised as capital both for the Australian parent (on a group consolidated basis) and for the New Zealand subsidiary.

Below we summarise the Basel III capital requirements, and, in the process, discuss any significant differences between the Reserve Bank's framework and the Basel III text.

## 5 The Basel III capital requirements and implementation in New Zealand<sup>6</sup>

The Basel Capital Accords require a bank to maintain a minimum amount of capital in relation to its risk-weighted exposures (box 2). Under the Basel III framework, capital is divided into three classes, in descending order of the quality of the capital (see section 5.3 for more detail on how the quality of capital is assessed):

- Common Equity Tier 1 (CET1): qualifying ordinary shares and reserves;
- Additional Tier 1 (AT1): qualifying perpetual debt or preferred equity instruments;
- Tier 2: qualifying debt instruments with an initial time to repayment of at least five years.

<sup>6</sup> The Basel III text is available at: <http://www.bis.org/bcbs/basel3.htm?m=3%7C14%7C572>. The Reserve Bank's Basel III rules are set out in Part 2 of the Capital Adequacy Framework (standardised approach) (BS2A) and the Capital Adequacy Framework (internal models based approach) (BS2B) available at: [http://www.rbnz.govt.nz/regulation\\_and\\_supervision/banks/banking\\_supervision\\_handbook/](http://www.rbnz.govt.nz/regulation_and_supervision/banks/banking_supervision_handbook/)

## Box 2

### Capital ratios

A bank's capital ratio is calculated as:

$$\text{capital ratio} = \frac{\text{capital}}{\text{risk-weighted exposures}}$$

Different capital ratios are defined for each tier of capital:

- The Common Equity Tier 1 (CET1) capital ratio is the ratio of CET1 capital to risk-weighted exposures;
- The Tier 1 capital ratio is the ratio of Tier 1 capital to risk-weighted exposures;
- The total capital ratio is the ratio of total capital (Tier 1 plus Tier 2 capital) to risk-weighted exposures.

Risk-weighted exposures is a measure of the risk of loss that the bank faces, and includes the following categories of risk:

- Credit risk, which refers to the risk that a borrower or other counterparty to a contract with the bank defaults on their obligation (which is an asset of the bank);
- Operational risk, which is the risk of loss arising from inadequate or failed internal processes or systems, or from wrong-doing or errors by employees;

- Market risk, which is the risk of loss on financial instruments held for trading purposes arising from movements in market prices.

Calculating risk-weighted assets provides a measure of credit risk. Risk-weighted assets are calculated by assigning a risk-weight to each of the bank's assets, where the risk-weight reflects the riskiness of the asset, and multiplying the value of the asset by the risk-weight. Risk-weights are either those specified in the capital standard (the 'standardised approach'), or are calculated by the bank using its own internal risk models (the 'internal models-based approach'). A higher risk-weight is applied to riskier assets, thus requiring more capital to be held against them. In this way the Basel requirements provide risk-adjusted capital requirements.

Risk-weighted exposures include risk-weighted assets and also measures of the potential loss arising from market and operational risk.

The sum of CET1 and AT1 is total Tier 1 capital, and the sum of Tier 1 capital and Tier 2 capital is total capital. The capital ratio is the amount of capital divided by risk-weighted exposures. Below we discuss in more detail the changes brought into effect by the Basel III framework.

### 5.1 Increased common equity ratio requirements

Basel III strengthens the requirements for both the quantity and quality of capital. One of the ways this is achieved is through an increased focus on common equity. A bank could meet the Basel II requirements by having a common equity ratio of 2 percent and a Tier 1 capital ratio of 4 percent. Some banks operating in other jurisdictions reported adequate Tier 1 capital ratios but actually had relatively low levels of common equity.<sup>7</sup> Under Basel III the minimum common equity ratio is 4.5 percent. The minimum total capital ratio remains the same as under Basel II, at 8 percent. In addition to these minimum capital requirements, banks are subject to a ‘conservation buffer’ of 2.5 percent of risk-weighted exposures, which must be achieved by holding common equity (see section 5.2). These minimum ratios have been implemented in New Zealand and are shown in table 1, along with the Basel II minima for comparison.

**Table 1**  
Capital ratios

Ratio	Common equity	Tier 1 capital	Total capital
Previous minimum ratios (Basel II)	2.0%	4.0%	8.0%
New minimum ratios (Basel III)	4.5%	6.0%	8.0%
New minimum + conservation buffer	7.0%	8.5%	10.5%

### 5.2 Buffers

Basel III introduced the capital conservation buffer (noted above), and also a countercyclical buffer. The conservation buffer, which applies at all times, is an additional amount of common equity equal to 2.5 percent of risk-weighted exposures. The countercyclical buffer, also made up of common equity, is a macro-prudential tool. Decisions on whether to apply it, and if so, for how long and at what percentage, are at the discretion of the regulator<sup>8</sup>, although it is expected to be applied infrequently.<sup>9</sup>

The Reserve Bank has implemented both of these buffers in accordance with the Basel text. However, the Reserve Bank’s rules do not separately identify the conservation and countercyclical buffer. Rather, banks are subject to a ‘buffer ratio’ requirement under their conditions of

7 See for example Shin (2009).

8 Decisions on implementation of the countercyclical buffer must follow the processes set out in the Memorandum of Understanding between the Governor of the Reserve Bank and the Minister of Finance, signed in May 2013.

9 For an explanation of macro-prudential policy in New Zealand see RBNZ (2013) ‘A new macro-prudential framework for New Zealand – final policy position’, [http://www.rbnz.govt.nz/financial\\_stability/macro-prudential\\_policy/5302711.html](http://www.rbnz.govt.nz/financial_stability/macro-prudential_policy/5302711.html)

registration. The setting of the buffer ratio requirement at 2.5 percent (as at present) is equivalent to there being no countercyclical buffer in operation. The Reserve Bank has set no maximum for the potential size of the countercyclical buffer, although expects that it will typically be operated within the range of 0-2.5 percent. The Reserve Bank has indicated that it would give up to 12 months' notice that it intends to implement the countercyclical buffer.

The buffers are designed such that banks build up financial resources in good times that can be drawn down in times of financial stress without giving rise to a regulatory breach. There is no breach if a bank's capital ratio falls below the minimum ratio requirement plus the buffer ratio, as long as it remains above the minimum ratio requirement. However, in this situation a bank's distributions on ordinary shares and AT1 instruments are limited. If no countercyclical buffer is in place, the limits in table 2 apply (the Reserve Bank has followed the Basel approach here). If a countercyclical buffer is in place, the buffer ratio ranges in column 1 of table 2 would be increased in proportion to the size of the countercyclical buffer. The Reserve Bank has specified the distributions that would be restricted as dividends, share buy-backs and discretionary payments to holders of AT1 instruments (regardless of whether the instrument is classified as debt or equity).

**Table 2**  
**Buffer ratio restrictions**

Buffer ratio	Percentage limit to distribution of bank's earnings
0% - 0.625%	0%
>0.625% - 1.25%	20%
>1.25% - 1.875%	40%
>1.875% - 2.5%	60%

The countercyclical buffer is intended to protect the banking sector and the economy from the risks to financial stability that may arise from a period of above-trend credit growth. Such risks may arise, for example, from unsustainable increases in asset prices or poor underwriting standards. The countercyclical buffer operates through two channels. First it protects the financial system from the potential costs of the failure of financial institutions. Second, as the countercyclical buffer would be removed in a period of financial stress, it reduces the costs to the economy that could arise if banks reduced the supply of credit to the economy to preserve their capital ratios in times of financial stress.

### 5.3 *Qualifying instruments*

Basel III sets requirements that instruments must comply with to be classified within a given category of capital. In many cases these requirements are principles-based, rather than prescriptive. These requirements relate to the following key attributes of capital quality:

- Subordination;
- Permanence;
- Flexibility of payment;
- Loss absorbency (discussed in section 5.4).

Based on these attributes, ordinary shares are the strongest form of capital, followed by AT1 capital and then Tier 2 capital. These attributes are described below and summarised in table 4. The Reserve Bank has implemented the Basel III requirements for each of these elements of capital quality.

#### Subordination

The ranking or subordination of an instrument refers to its priority in respect of repayment of principal. A subordinated instrument is an instrument that by its terms has a lower priority of payment in liquidation than other instruments. Under the Basel III requirements, ordinary shares must be the most subordinated instrument. If a bank is liquidated, holders of ordinary shares are entitled to be paid any amount left over only after payment of all creditors (including depositors) and preference share holders. AT1 instruments are the next most subordinated instrument, being subordinated to all claims on the bank except those in relation to ordinary shares. An AT1 instrument may be in the form of preference shares or perpetual debt, and one AT1 instrument may have priority of payment over another. Tier 2 instruments may rank superior to AT1 instruments, but are subordinated to deposits, senior debt and the claims of general creditors. These subordination rules mean that a bank must make a loss equal to the entire value of all the claims of capital holders before depositors and general creditors are exposed to loss. Table 3 represents the hierarchy of payment of instruments for an example bank.

**Table 3**  
**Ranking of claims**

Higher ranking/  
first to be repaid



Lower ranking/  
last to be repaid

Ranking of claims	Example
Secured debt and creditors preferred by law	Covered bonds Employee entitlements and taxes
Unsubordinated unsecured debt	Deposit accounts, senior bonds and general creditors
Term subordinated unsecured debt	Tier 2 capital instruments
Perpetual subordinated unsecured debt	AT1 capital instruments in form of debt
Preference shares	AT1 capital instruments in form of equity
Ordinary shares	CET1

#### Permanence

Permanence refers to the length of time from the issue date of an instrument until there is an obligation on the bank to repay it. Ordinary shares and AT1 instruments must be perpetual instruments; that is, the bank must have no obligation to repay them. A Tier 2 instrument must have a minimum term of five years; that is, the bank cannot be obligated to repay the instrument at any point less than five years after issuance. AT1 and Tier 2 instruments may also include certain call features that give the bank the option of 'calling' (repaying) the instrument after a certain time or when certain events occur (but with no obligation to do so). AT1 and Tier 2 instruments may be called by the bank five years after the instrument is issued, or if there is a change in regulation or tax

**Table 4**  
**Required attributes of categories of capital**

Attribute	Ordinary Shares	Additional Tier 1 capital	Tier 2 capital
Subordination	Most subordinated claim in liquidation of bank.	Subordinated to depositors, general creditors and other subordinated debt of the bank.	Subordinated to depositors and general creditors.
Permanence	Principal is perpetual and there is no set redemption date.	Principal is perpetual but instrument may be redeemable after five years or when a tax or regulatory event occurs.  Redemption requires regulator consent.	Initial term must be at least five years.  Instrument may be redeemable after five years or when a tax or regulatory event occurs. Redemption requires regulator consent.
Flexibility of payments	Distributions are non-obligatory and non-cumulative.	Distributions are non-obligatory and non-cumulative.	Distributions are deferrable but may be cumulative.
Loss absorbency (section 5.4)	Absorbs losses on a going-concern basis.	Principal loss absorption if the CET1 ratio of the banking group falls below 5.125% (if classified as a liability).  Principal loss absorption on occurrence of non-viability trigger event.	Principal loss absorption on occurrence of non-viability trigger event.

law that significantly affects the instrument (known as a tax or regulatory call). Under Basel III, all call options are subject to the regulator approving the call. Hence there is no certainty that a holder of the instrument will be paid out on the call date.

#### Flexibility of payment

Flexibility of payment refers to whether distributions on an instrument (dividends or interest payments) are obligatory or not. Distributions on

ordinary shares are at the discretion of the bank. Distributions on AT1 instruments are generally payable at a set rate on a scheduled date, but the bank must be able to cancel the distribution for any reason, and if it does so it must have no obligation to pay that distribution later. If a bank's capital ratio falls below the minimum ratio plus the conservation buffer (or additionally plus the countercyclical buffer if in place), the bank must restrict its distributions on shares and AT1 instruments as set out in table 2. Distributions on Tier 2 instruments may be paid out at a set rate

on set dates. If any such distribution is cancelled, it is permissible for the terms of the instrument to oblige the bank to make the distribution at a later date.

## 5.4 *Loss absorbency*

### Rationale and Basel requirements

Capital can be classified as absorbing losses on a 'going-concern' or a 'gone-concern' basis. Capital is considered to have going-concern loss absorbency if it can absorb losses without the bank having to be wound up or liquidated. Ordinary shares are such an instrument, as financial losses suffered by the bank result in a change in the value of the claims of holders of ordinary shares, while the bank continues in business.

Given that winding up a bank can impose large costs on the financial system, over and above the costs of the initial financial loss, for example through impeding the payments system and restricting the supply of credit, capital that has going-concern loss absorbency is important to financial stability.

Capital that has only gone-concern loss absorbency, absorbs losses only if a bank is wound up. For example, the claim on the bank of a holder of a subordinated debt instrument will not reduce in value when a bank suffers financial losses but remains in operation. However, if a bank is wound up, the subordinated instrument will not be repaid until all higher priority claims (deposits and unsubordinated instruments) are repaid, and hence may not be repaid in full if insufficient funds are available.

Under Basel II, some capital instruments had only gone-concern loss absorbency capacity. As a result, during the GFC some capital instruments issued by banks in other jurisdictions failed to absorb losses because of government bailouts to avoid the winding up or liquidation of the bank. This imposed large costs on taxpayers in some countries.

Basel III sought to improve the quality of capital by making all regulatory capital instruments potentially loss absorbing on a going-concern basis. To provide greater going-concern loss absorbency, Basel III includes requirements for the forced write-off, or conversion into ordinary shares, of AT1 and Tier 2 instruments if a bank is in severe financial difficulty. In particular, all AT1 and Tier 2 instruments must be able to be either written off or converted into ordinary shares if the bank, in the assessment of the regulator, is non-viable. The decision to trigger write-off or conversion is the decision of the regulator, made without consultation with the holders. In addition, AT1 instruments that are treated as a liability on the bank's balance sheet must be automatically written off or converted into shares if the banking group's CET1 ratio falls below 5.125 percent.

If an instrument is fully written off, the principal value of the instrument is reduced to zero. Therefore the instrument-holder would receive no further payment of principal or interest in respect of the instrument. All of their claims on the bank are terminated. An instrument may be partially written off, in which case rights to principal or interest are reduced in proportion to the amount written off. A conversion to ordinary shares means that a holder of the instrument exchanges his or her rights under the instrument for ordinary shares, and henceforth has a claim against the bank only in respect of ordinary shares. In either case, the holder contributes to the recapitalisation of the bank.

Since the Basel III rules were issued, there has been substantial issuance of Basel III compliant instruments that meet these loss absorption requirements. Worldwide, issuance has been estimated at \$US40 billion in 2013 and \$US190 billion in 2014.<sup>10</sup> As discussed in section 7, several issues have been made by New Zealand banks.

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10 Bloomberg.

### New Zealand implementation

Basel III allows the loss absorbency requirements to be met either through statutory provisions in the country's law, or by requiring such conversion or write-off as a term of contract in the capital instruments. The Reserve Bank has implemented the requirements by requiring write-off or conversion at the point of non-viability to be a term of contract. The issuing bank has the choice of whether the instrument will contain a write-off or a conversion feature. The Reserve Bank has also imposed the requirement that, as a term of contract, an AT1 instrument classified as a liability must automatically convert to shares or be written off, if the CET1 ratio of the banking group is below 5.125 percent. If either of the conversion/write-off triggers occurs, the bank must either convert or write off the instrument in accordance with its contractual terms, and the instrument-holders will have no right to object to that conversion or write-off.

New Zealand banks have an incentive to issue convertible, as opposed to write-off, instruments. This is because the Reserve Bank, in line with Basel, requires that the value of the instrument recognised for regulatory capital purposes must be reduced by any tax liability that may arise if the instrument were written off or converted. In New Zealand a convertible instrument can be designed so that it does not give rise to any tax liability upon conversion (if it is converted). However, generally an instrument with a write-off feature would give rise to a tax liability, at the time of write-off, if it were written off. Hence, only a portion of the value of an instrument with a write-off feature can be recognised as regulatory capital. However, convertible instruments are more complicated legal structures than instruments with a write-off feature. Further, mutually-owned banks do not have ordinary shares and hence cannot offer a structure that converts directly into ordinary shares. For these reasons, both convertible and write-off instruments have been issued into the New Zealand market.

Under the Reserve Bank's requirements for convertible instruments, an instrument may convert into either the shares of the New Zealand issuing bank or the shares of the parent of the issuing bank. APRA requires that, on conversion, a convertible instrument must be converted into listed ordinary shares (except in the case of a subsidiary issuing to its parent). As none of the Australian-owned New Zealand banks have listed shares, these banks need to issue instruments which convert into ordinary shares of the Australian parent bank, if they are to meet both the Reserve Bank and APRA requirements.

Instruments issued by these banks must also have two non-viability triggers, if the bank seeks to have the instrument recognised as capital under both the Reserve Bank's and under APRA's rules. In other words, conversion or write-off can be required by both the host regulator (Reserve Bank) and the home regulator (APRA for Australian-owned subsidiaries).

The particular way that the loss absorption requirements will be implemented in the New Zealand regime is through either:

- The Reserve Bank issuing a direction to the bank, on the basis of any of subsections 113(1)(a)–(e) of the Act; or
- If the bank is in statutory management, the statutory manager deciding to write off or convert the instrument. Write-off or conversion does not occur automatically on statutory management but requires a subsequent decision by the statutory manager.

This means that, for example, the tool to implement a non-viability event differs from that used by APRA, who define the non-viability event as the issuance of a notice by APRA. The Reserve Bank chose to implement the requirements through the exercise of statutory powers in the Act, as

this approach ensures that decisions made by the Reserve Bank are subject to the normal checks and balances that form the basis of the Reserve Bank's powers to operate. For example, the Act defines the circumstances in which the Reserve Bank may issue directions, and requires the consent of the Minister of Finance before such directions are issued. Further, this approach is consistent with the discretions that the statutory manager has under the Act in the case of a bank failure.

The non-automatic trigger for conversion or write-off (as opposed to the automatic trigger for AT1 instruments when the CET1 ratio falls below 5.125 percent) is a non-viability event as determined by the Reserve Bank. The Basel text does not define where the point of non-viability is, nor has the Reserve Bank. The decision that a bank has reached the point of non-viability is essentially a discretionary judgement made by the Reserve Bank, based on a range of financial information about the bank. The Reserve Bank views the conversion/write-off powers as part of its toolkit to manage a significantly under-capitalised or failing bank, and is only likely to require conversion or write-off in the event of significant financial distress or weakness. The Reserve Bank would take a number of factors into account in assessing whether an instrument is to be written off or converted. Factors would include the particular circumstances of the bank, the desirability of using other resolution or recovery options, and wider financial stability concerns.

There is some legal risk that an instrument might not actually convert as intended, if conversion is triggered. For this reason, the Reserve Bank has required that any capital instrument with a regulatory conversion feature must also provide that the instrument will be automatically written off if the conversion fails. This provides a high level of certainty that the instrument will be able to be used to recapitalise the bank in a non-viability situation.

As discussed in section 4, the Reserve Bank sets capital requirements for the purpose of promoting a sound and efficient financial system. The Reserve Bank considers that the new loss absorption requirements have improved the quality of non-common equity capital instruments. However, Basel III capital instruments give rise to the risk that investors could lose their entire investment if a non-viability event, or automatic trigger event, were to occur. It is not a purpose of the Reserve Bank to ensure that holders of capital instruments are purchasing instruments that are appropriate for their risk tolerance level, or to ensure that the instruments are marketed appropriately. The Financial Markets Authority (FMA), under the Financial Markets Conduct Act 2013, has the purpose of promoting the confident and informed participation of businesses, investors and consumers in financial markets. In implementing this purpose the FMA sets disclosure requirements for public issues of debt and equity instruments, including capital instruments. The Reserve Bank and the FMA keep each other informed on areas of joint interest, including capital instruments, through various channels, including through quarterly meetings of the Council of Financial Regulators.<sup>11</sup>

## 5.5 *Leverage ratio*

Basel III also introduced a leverage ratio requirement. As discussed, under the Basel framework capital is required to be held against risk-weighted exposures. A leverage ratio is a measure of a bank's capitalisation that does not take the riskiness of its asset base into account. The Basel III leverage ratio is defined as Tier 1 capital as a percentage of total assets and off balance sheet exposures. The initial minimum requirement is set at 3 percent.

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11 The Council of Financial Regulators comprises the FMA, the Reserve Bank, the Treasury and the Ministry of Business Innovation and Employment.

Before the GFC some large international banks were operating with very high leverage, despite the fact that they were meeting risk-based capital requirements. This could occur if a bank held assets that received very low risk weights, or used various risk-mitigation techniques (such as guarantees) to reduce capital charges. In some cases this arose because assets genuinely were low-risk or risk mitigation effective, but in other cases it reflected deficient risk capture.<sup>12</sup> The leverage ratio requirement was included in the Basel III package to address concerns about deficient risk capture in risk-based capital calculations. It is intended to operate as a back-stop to risk-based requirements, that is, to ensure that banks hold a minimum amount of capital in relation to total assets.

The Reserve Bank has not implemented a leverage ratio. The main reason for this is that the Reserve Bank prefers measures of capital adequacy that differentiate between the riskiness of different banks' exposures. Further, the Reserve Bank considers that New Zealand banks are less exposed to the types of risks that are not adequately captured in the risk-based framework, and has taken a comparatively conservative approach to the calculation of risk-weighted assets, thereby reducing the rationale for a leverage ratio in New Zealand. The Reserve Bank will, however, continue to monitor developments in this area.

## 5.7 Counterparty credit risk

Most of the changes to the capital framework brought about by Basel III were in respect of the quality and quantity of capital. However, Basel III also updated the calculation of risk-weighted assets for counterparty credit risk (CCR). CCR refers to the risk of loss from the default of a

<sup>12</sup> Adkins, A (2011) 'The Regulatory Leverage Ratio' in *Basel III and Beyond* refers for example to highly-rated structured mortgage products involving securitisation, as an example of products that were not adequately captured in the risk-based framework.

counterparty to certain transactions, such as over-the-counter derivative contracts (e.g. interest rate swaps). Basel III introduced changes to the way CCR is calculated, as it was considered that the previous method did not adequately capture all the risks associated with CCR. The changes increase the amount of capital that banks must hold against these transactions. The Reserve Bank has implemented these requirements.<sup>13</sup>

## 6 Implementation of Basel III

The Basel III text sets a transition timetable for the implementation of the requirements. Although countries are required to implement the minimum ratios (table 1) by 2015 in order to be compliant with Basel III, the capital conservation buffer is being phased in and is not required to be fully implemented until 2019. The leverage ratio is subject to testing between 2013 and 2017 and does not become a core Basel III requirement until 2018.

When the Basel III rules were published, New Zealand banks were already well capitalised and hence well placed to meet the new requirements. For this reason the Reserve Bank was able to adopt the Basel III reforms ahead of the Basel schedule. Domestically-owned banks and banks incorporated in New Zealand have been required to comply with the new minimum ratios since 1 January 2013. Since that date, capital has been calculated in accordance with the Reserve Bank's Basel III requirements. The capital conservation buffer came into effect in New Zealand on 1 January 2014, as did the Reserve Bank's power to set a countercyclical buffer.

<sup>13</sup> Siddique, A (2011) 'Counterparty Credit Risk and Other Risk-Coverage Measures' in *Basel III and Beyond* provides an explanation of the CCR changes.

There are some transition arrangements in the Reserve Bank's regime. Banks may continue to recognise, until 1 January 2018, a portion of instruments that qualified as capital under the previous rules, but do not qualify under the Reserve Bank's Basel III rules. The amount recognised is reduced in value annually, at a rate of 20 percent a year.

All banks subject to the Reserve Bank's capital requirements are comfortably meeting the Basel III minimum requirements. Figure 1 shows locally incorporated banks' capital ratios as at December 2014. (The second graph shows separately capital ratios for banks incorporated in New Zealand that have started business since 2009. The capital ratios of these banks are high in part due to the relatively small size of their asset base and the need to have minimum capital of \$30 million to be registered as a bank in New Zealand.)

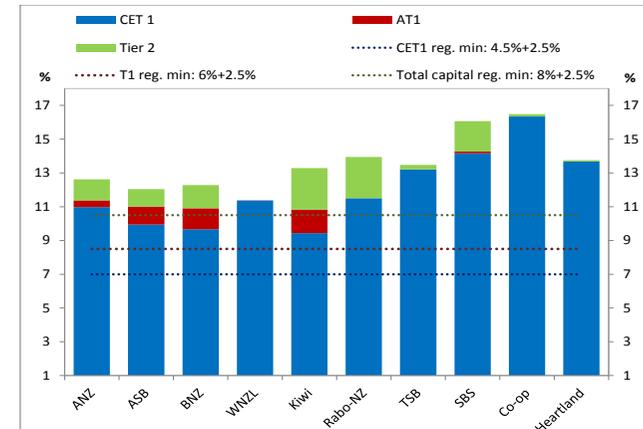
## 7 Issuance in New Zealand

Several New Zealand banks have issued instruments complying with the new Basel III qualifying criteria for AT1 and Tier 2 capital. These instruments are typically callable at the option of the bank after five years (for instruments of term greater than five years), or on the occurrence of a tax or regulatory event, subject in either case to Reserve Bank approval. The instruments issued contain loss absorption features: banks have issued both instruments with principal write-off at the point of non-viability, and instruments that can be converted into ordinary shares. Table 5 shows public issuance to date.

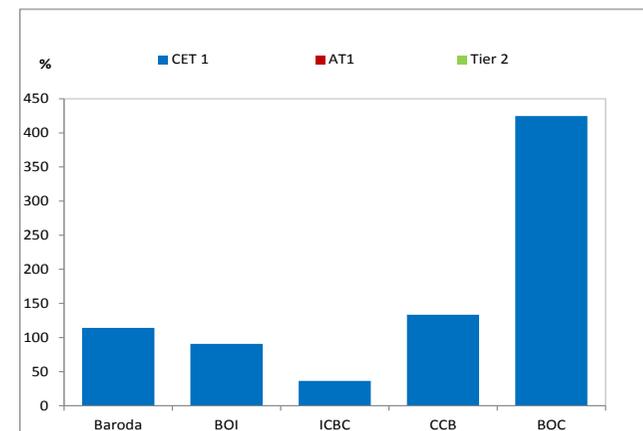
The size of issuance of regulatory capital instruments is large relative to other instruments issued into the New Zealand market. The Reserve

**Figure 1**  
New Zealand  
bank capital  
ratios

*Capital ratios  
of medium  
and large  
New Zealand-  
incorporated  
banks*



*Capital ratios  
of recently  
established  
New Zealand-  
incorporated  
banks*



Source: Registered banks' Disclosure statements

**Table 5**  
**Public issuance of Basel III-compliant instruments**

Issuing bank	Issue date	Coupon	Issue size (NZD millions)	Class	Loss-absorption mechanism	Term
Kiwibank	Dec 2012	5.8	150	Tier 2	Principal write-off	10 years
Heartland	June – Dec 2013	6.5	3.4	Tier 2	Principal write-off	5 years
ASB	Apr 2014	6.65	400	Tier 2	Conversion to parent shares	10 years
SBS	Continuous issuance from May 2014	variable	39 <sup>14</sup>	Tier 2	Principal write-off	5 years
Kiwibank	June 2014	6.61	100	Tier 2	Conversion	10 years
ANZ	March 2015	7.2	500	AT1	Conversion to parent shares	Perpetual
Kiwibank	May 2015	7.25	150	AT1	Conversion	Perpetual

Source: Registered banks' disclosure statements, interest.co.nz, banks' websites.

Bank estimates that, since 2004, the average issue size for bonds by New Zealand entities into the New Zealand market was \$70 million.<sup>15</sup> This contrasts with bank capital issues in the order of \$400 - \$500 million.

## 8 Conclusion

The Reserve Bank has implemented the Basel III capital requirements, effective from 1 January 2013. The Reserve Bank requirements largely align with the Basel III text, the most significant departure being that the Reserve Bank has not implemented a leverage ratio. The Reserve Bank requirements also largely align with APRA's requirements. A market for Basel III-compliant instruments has been developing in New Zealand, and banks have found sufficient demand to allow them to issue these instruments. This market is likely to develop over the coming years with further capital issues.

<sup>14</sup> Amount issued as at 30 September 2014.

<sup>15</sup> See Rosborough, L, G Reid and C Hunt (2015) for more information on New Zealand capital markets.

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