

# **Regulatory Impact Assessment**

## **RBNZ Liquidity requirements for locally incorporated banks**

### **Executive summary**

- 1 A strong liquidity profile across banks is important for the maintenance of a sound and efficient financial system. The Reserve Bank considers that existing regulations have not been effective in ensuring that New Zealand banks always hold a sufficient supply of liquid assets, and have sufficient sources of stable funding, to be able to meet their future obligations at a reasonable cost when faced with a stressed environment. As a result, it has put in place conditions of registration for new liquidity requirements for all registered banks in New Zealand (whereby the new requirements take effect from 1 April 2010).
- 2 The new requirements build on the existing disclosure based requirements, adding new qualitative and quantitative requirements. The qualitative requirements provide direction and guidance on the appropriate management, governance and control systems that banks should have in place to measure, monitor and manage liquidity risk effectively. These requirements reinforce systems that registered banks should already have in place.
- 3 The quantitative requirements set new minimum requirements for liquidity holdings and are calibrated to reflect not only the liquidity risk that an individual bank might be exposed to, but also the system-wide costs that may be incurred should the individual institution suffer a liquidity crisis. There are three new quantitative requirements: two mismatch measures designed to strengthen banks' short-term liquidity profiles; and a core funding ratio which aims to strengthen banks' longer-term positions.
- 4 In practice, it is the new quantitative requirements that might be expected to involve an additional burden on banks beyond the status quo. As a result, this regulatory impact assessment (RIA) focuses primarily on the costs and benefits that might be expected to be associated with those requirements. Where the requirements are to be introduced through a staged approach, the costs associated with later stages will be considered in a separate assessment at the time any changes are contemplated.
- 5 In the short-term, the new liquidity requirements will apply to all locally-incorporated banks registered in New Zealand. The appropriate treatment of branches is being assessed separately.

### **Adequacy statement**

- 6 This RIA has been produced by the Reserve Bank in accordance with the requirements of Section 162AB of the Reserve Bank Act. The Reserve Bank is satisfied that it has been produced in a way that is consistent with the principles of the Code of Good Regulatory Practice.

## Structure of the RIA

- 7 Although it is not necessary for this RIA to be assessed by the Treasury, the Reserve Bank has nevertheless adopted the structure set out in the Treasury's guidelines for producing impact assessments. As such, the RIA concerns the development of appropriate liquidity requirements for registered banks and is made up of four sections, containing:
- an overview of the existing industry structure and an identification of the problem;
  - a summary of the objectives and assessment criteria against which the Reserve Bank has assessed various options;
  - a description of the options considered by the Reserve Bank and a summary of the analysis supporting the preferred option. This section includes a discussion of the potential impact of the policy; and
  - a brief summary of implementation and review issues, including a description of the consultation that the Reserve Bank has conducted during the development of the policy.
- 8 The new framework consists of quantitative, qualitative and disclosure requirements. This RIA focuses primarily on the introduction of the quantitative requirements as this is the element that might be expected to have the greatest impact on the banks.

## Problem definition and status quo

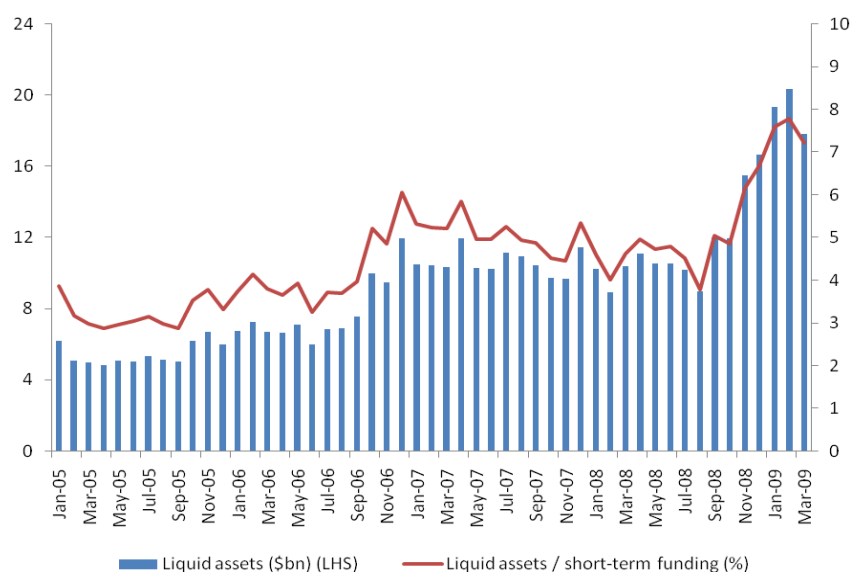
### Problem definition

- 9 Liquidity risk represents the risk that an entity cannot meet its obligations as they fall due, and as a secondary matter, the risk to an entity's profitability of being able to meet its obligations only at an elevated cost. As a result, all companies have a strong incentive to manage liquidity risk effectively to minimise these risks to the on-going operation and profitability of their business.
- 10 In its role as the prudential supervisor of the New Zealand banking sector, the Reserve Bank must consider whether the internal incentives acting on the managements of banks are sufficient to reflect the risks to the system as a whole. In particular, the Reserve Bank needs to consider whether the private incentives faced by banks reflect the externalities arising from the systemic implications of liquidity risk. Furthermore, a degree of moral hazard may arise if banks have incentives to assume a greater degree of assistance from authorities than is consistent with the authorities' risk tolerance. Liquidity risk can also arise as a result of the particular funding strategies that are adopted by banks. In particular, a high reliance on short-term funding (particularly if sourced offshore) can expose banks to significant liquidity risks in stressed conditions.
- 11 The Reserve Bank considers that the New Zealand banks have, across the system, held insufficient stocks of liquid assets in recent years, and have become too reliant on short-term, overseas funding. The new liquidity requirements are designed to address these concerns.

## Status quo

- 12 The New Zealand banking sector is dominated by four major banking groups (ANZ National Bank Limited, the Bank of New Zealand, ASB Bank Limited and Westpac New Zealand Limited), which between them account for over 80 per cent of total New Zealand registered bank assets. As a result, the robustness of each of these institutions is highly important to the overall health of the New Zealand banking system.
- 13 In its November 2007 Financial Stability Report, the Reserve Bank noted that recent international and domestic events had highlighted the importance of liquidity for the effective operation of financial institutions and the financial system. Existing New Zealand rules require banks to publish information about their risk-management policies, and directors' attestations to the adequacy of those policies. However, the detail of the reporting is largely left to the banks' own discretion. In the November 2007 Report, the Reserve Bank signalled its intention to commence work on a specific liquidity policy for banks, which might be expected to include reporting requirements, qualitative requirements regarding the process for managing liquidity risk, and quantitative requirements for liquid asset holdings. Such arrangements are commonplace in overseas jurisdictions.
- 14 As shown in figure 1, both before and since the Reserve Bank's announcement of its intention to introduce broader liquidity requirements, New Zealand banks have been increasing their holdings of liquid assets. Indeed, across the system as a whole, the stock of traditional liquid assets<sup>1</sup> increased from around \$5 billion in 2005 to more than \$20 billion in February 2009. The significant increase observed since July 2008 is likely primarily to reflect both the banks' response to global market conditions, but also the expectation that liquid asset holdings will need to increase to comply with future regulatory requirements.

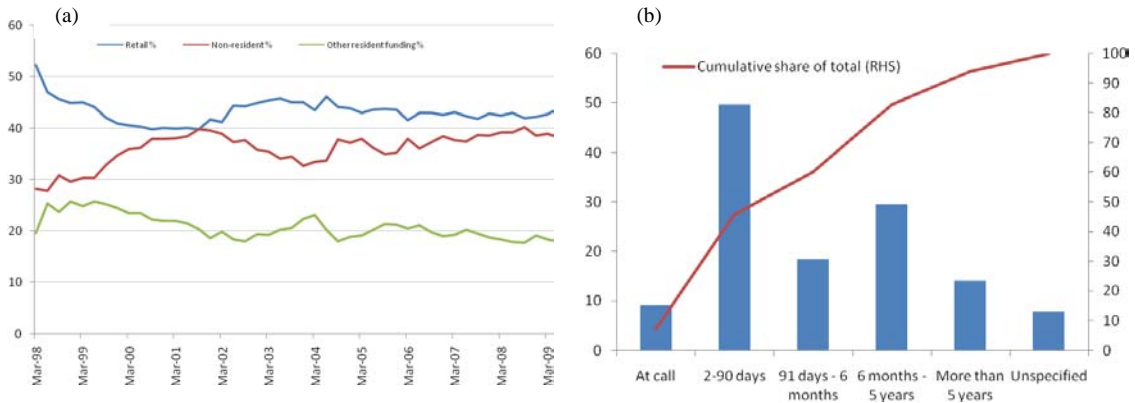
**Figure 1: New Zealand banks' liquid assets**



<sup>1</sup> For the purposes of this calculation, liquid assets are defined as currency (notes and coins), government securities and claims on the Reserve Bank.

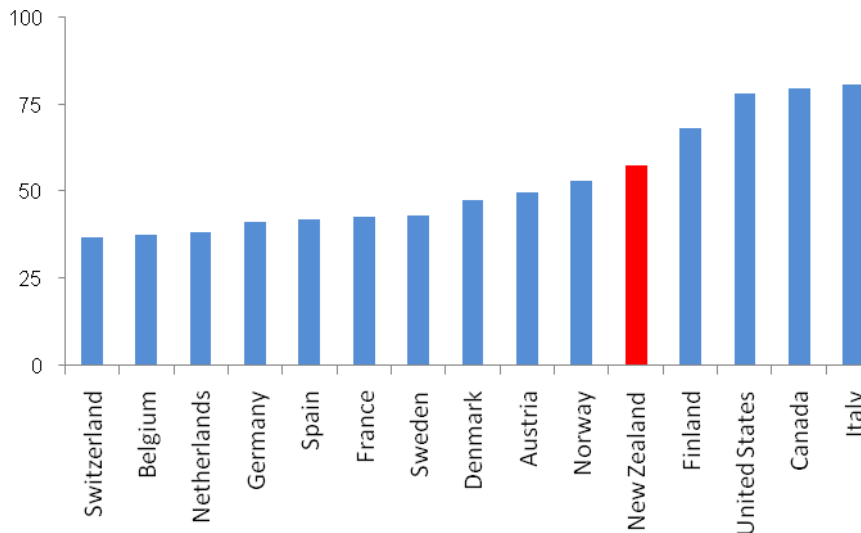
15 Whilst increasing the stock of liquid assets can be expected to decrease the banking system’s exposure to short-term liquidity risk, the Reserve Bank is also concerned with the overall funding profile of New Zealand banks, which is a key driver of longer-term exposure to liquidity risk. New Zealand banks have been heavily reliant on short-term, overseas funding, as demonstrated by figure 2. Figure 2(a) shows the breakdown of funding by category; and figure 2(b) shows the maturity of the banks’ non-resident funding.

**Figure 2: Funding profile of New Zealand banks**



16 These funding characteristics contribute towards the overall level of core funding<sup>2</sup> observed in the New Zealand banking system. If core funding is analysed against bank assets New Zealand appears to be relatively well positioned against a selection of overseas comparators (see figure 3 below).

**Figure 3: Core funding as a percentage of bank assets**

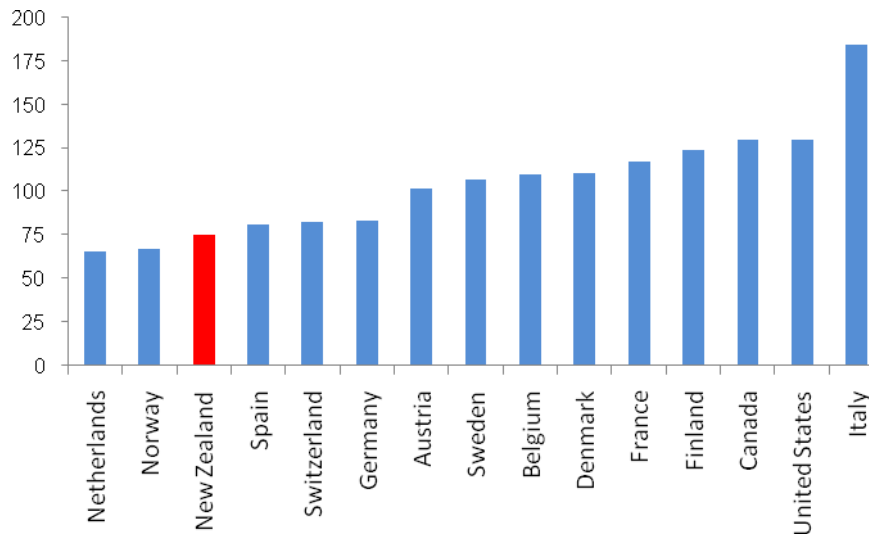


17 However, it is questionable whether bank assets is the most appropriate denominator for comparing core funding across countries as the aim is to gauge the proportion of ‘sticky’ funding used to support long-term assets on

<sup>2</sup> For the purposes of undertaking the international comparisons displayed in figures 3 and 4, core funding has been approximated to domestic and offshore securities with maturity of greater than one year plus household deposits. It should be noted that this does not align precisely with the definition used by the Reserve Bank in the liquidity requirements described in this paper, but provides the soundest basis for the comparisons presented here given the data available.

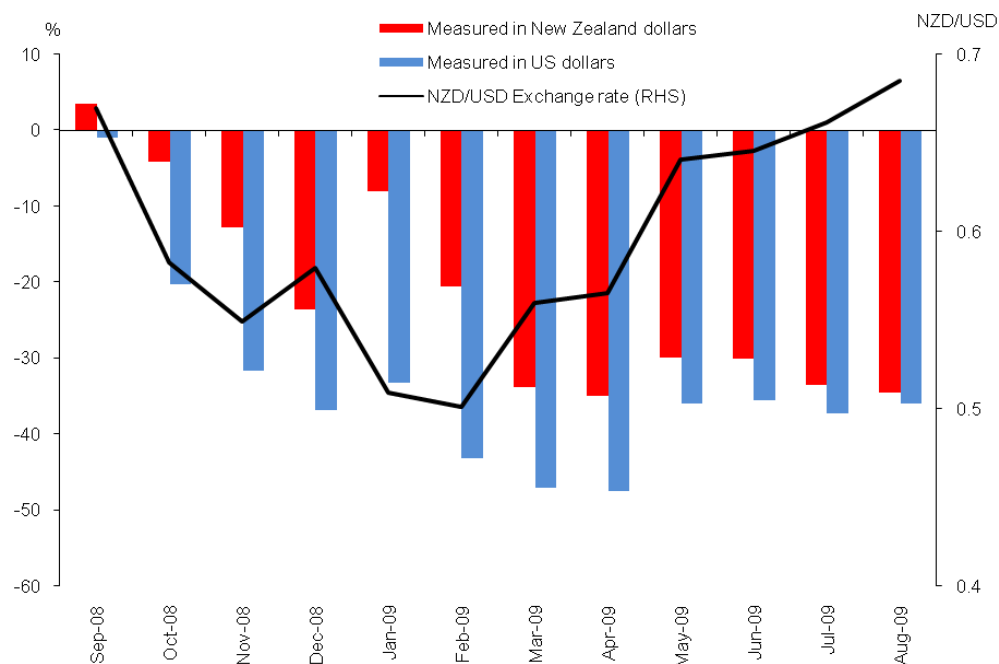
the balance sheet. A more meaningful denominator for international comparison is arguably bank lending, rather than the total bank balance sheet. On this basis, New Zealand's core funding ratio appears to be lower than in most other countries, and by a significant margin (see figure 4).

**Figure 4: Core funding as a percentage of bank loans**



18 The high-level of exposure to short-term overseas funding has been identified as a particular concern, given the tightening of markets during the recent financial crisis. Figure 5 shows that CP issuance by New Zealand banks fell by around a third between September 2008 and March 2009 in NZD terms. In addition, this tightening was accompanied by a significant increase in the cost of the funds that were available, further increasing the risk posed to the New Zealand banking sector.

**Figure 5: Estimated monthly change in New Zealand banks' offshore CP funding**



- 19 Whilst New Zealand banks have remained robust in the face of the recent global financial crisis, it must be recognised that the liquidity of the system as a whole has been supported by numerous policy actions both from the Reserve Bank (in the form of broader domestic market liquidity measures and the Term Auction Facility<sup>3</sup>), and from government (in the form of domestic and wholesale funding guarantee schemes<sup>4</sup>). Explicit guarantees such as these create an externality in the system and will have exacerbated any moral hazard that may already exist as a result of perceived implicit government support that might be available in times of crisis. The introduction of stronger on-going liquidity requirements will help to reduce the need for such arrangements in future.
- 20 In addition, the Reserve Bank notes that the introduction of enhanced liquidity requirements would be consistent with the general direction of developments in international policy.<sup>5</sup> The changes outlined in the remainder of this document would represent an extension to the existing disclosure requirements, and can be introduced under existing legislation.
- 21 Whilst the Reserve Bank expects these policy proposals to be broadly consistent with the aims of any international requirements, it will of course remain open to the Bank to update or amend the requirements in future if it considers it appropriate in light of evidence of the operation of requirements within New Zealand, or developments overseas.

## **Objectives and assessment criteria**

- 22 The main objective of a liquidity policy is to ensure that New Zealand banks are able to withstand a liquidity strain of some severity (subject to allowing for reasonable variations in risk appetite). In practice, this means that each bank should:
- control its funding mismatch;
  - maintain a stock of highly liquid assets to handle contingencies; and
  - ensure its funding sources are as reliable and diversified as possible.
- 23 In targeting these objectives, the Reserve Bank is seeking to introduce a framework that addresses as far as possible the particular features of the New Zealand banking system:
- the foreign ownership of the majority of the system;
  - the big banks' reliance on short-term wholesale funding. This can potentially be addressed by encouraging banks, among other things to:
    - lengthen average maturities;
    - minimise bunching of maturities;
    - diversify sources within wholesale funding (New Zealand and offshore); and

---

<sup>3</sup> See Box D of the May 2009 Financial Stability Report for further information.

<sup>4</sup> See Box E of the November 2008 Financial Stability Report for further information.

<sup>5</sup> See recent statement from the BIS (<http://www.bis.org/press/p090907.htm>) and the leaders statement from the Pittsburgh Summit of the G20 from 25 September (available at [http://www.g20.org/pub\\_communiques.aspx](http://www.g20.org/pub_communiques.aspx))

- replace wholesale with retail funding as far as possible.
- 24 In addition to assessing the effectiveness of the options in meeting these objectives, the Reserve Bank has had regard to the burden imposed both on the registered banks and the Reserve Bank, the potential for moral hazard to arise, and consistency with international best practice.

### **Alternative options and preferred option**

- 25 There are numerous ways to measure aspects of liquidity risk exposure. Broadly speaking, these can be summarised under the following categories:
- *simple balance sheet measures*: focusing on the adequacy of balance sheet variables, such as funding from different sources or liquid assets, to support the bank's balance sheet. Such measures tend to focus on the medium- to long-term structure of the bank;
  - *stock liquidity measures*: requiring banks to hold a stock of liquid assets to cover some defined level of outflows. Such measures typically focus on the short term; and
  - *mismatch liquidity measures*: focusing on the maximum mismatch allowed between a bank's expected inflows and outflows over some given time horizon. These can implicitly take account of a liquid-asset stock by treating the stock as a possible source on inflows. Such measures tend to focus on the short- to medium-term.
- 26 Given the specific characteristics of the New Zealand banking sector, as outlined above, the Reserve Bank considered that it should set quantitative requirements with two parts. One part is designed to address the banks' ability to survive short-term disruptions. The second part is designed to address medium- to long-term considerations relating more to the structure of banks' balance sheets (in particular the lengthening of the maturity profile of funding) and robustness to ongoing events.
- 27 The options identified under each of these parts are discussed briefly in the sections that follow.

#### **Part 1: Short-term options**

- 28 In considering appropriate short-term requirements, the Reserve Bank concentrated its assessment on three broad options. These were:
- *Option 1*: a mismatch requirement with little or no prescriptive detail;
  - *Option 2*: a simple stock requirement; or
  - *Option 3*: a prescribed mismatch limit(s).

##### *Option 1: Mismatch requirement with limited prescription*

- 29 Under this option, the Reserve Bank would require banks to set up their own liquidity mismatch measurement approach using projected cash flows under various assumed stresses and to set internal limits at a range of maturities. At its most basic, the Reserve Bank would not set any of the 'hard' details and the requirements could be handled entirely within the qualitative section of the policy. A more prescriptive approach could see the Reserve Bank specify a number of key parameters, such as:

- specifying the maturities banks should work to (e.g. next day, 1 week, 1 month);
  - indicating the level of liquidity stress that a bank should assume in deriving its assumptions for cash flows.
- 30 The costs associated with implementing such an approach would depend on the level of detailed analysis undertaken by the Reserve Bank. On one level, the Reserve Bank could simply require director sign-off that the bank has the basic requirements in place. However, for the policy to be fully effective, the Reserve Bank may wish to go further and assess the prudence and reasonableness of each bank's approach, and require improvements if needed. This could include detailed individual and peer group analysis.

*Option 2: A prescribed basic stock requirement*

- 31 The basic aim of this option is to ensure that each bank holds a sufficient stock of readily liquefiable assets to enable it to survive a range of severe short-term liquidity strains. It would likely take the form of a ratio, with the denominator including components such as:
- the net wholesale funding position (wholesale liabilities maturing within the period, less wholesale placements maturing);
  - a percentage of retail funding maturing (e.g. the UK FSA assumes 5% over one week); and
  - any key off-balance sheet components.
- 32 The Reserve Bank would also need to consider the appropriate maturity against which to assess the stock of liquid assets. Numerous approaches can be observed internationally, with the UK FSA and APRA currently using a one-week horizon, while the HKMA targets one month cover,
- 33 The burden introduced by such an approach would depend upon the precise specification of the ratio. For example, agreeing a fixed dollar amount for a floor (as under the UK FSA regime) might require a relatively high level of on-going supervisory involvement.

*Option 3: A prescribed mismatch requirement*

- 34 Under this option, the Reserve Bank would set a mismatch measurement framework with limits imposed at one or more fixed maturities. This approach should limit the amount of liquidity risk faced by banks over the short to medium term, whilst in effect, also requiring banks to hold a stock of liquid assets.
- 35 In implementing such an approach, the Reserve Bank would specify a number of behavioural assumptions (such as term and retail deposit withdrawal rates) for banks to use as a default within their calculation, although these could be varied on a case-by-case basis should sound evidence be provided. Conversely, it would be open to the Reserve Bank to impose more stringent factors than the default, where it considered it justified on the basis of particular concerns.
- 36 Banks would be required to confirm compliance with the limits via their conditions of registration and directors attestation. The costs to the Reserve



Bank would depend on the appetite of banks to apply for variations to the standard behavioural factors.

#### *Assessment of options*

- 37 The three high level options have been assessed against the objectives identified above. The Reserve Bank's assessment can be summarised as follows:
- *effectiveness*: The stock approach will most directly ensure that each bank holds a high-quality stock of liquid assets. However, the two mismatch approaches can also be expected to achieve this with a reasonable degree of certainty, and are likely to bring the added benefit of ensuring banks focus on the medium-term as well as immediate crises, and provide more adaptability to better reflect all potential cash flows. Of the two mismatch approaches, option 1 potentially can be more effective as it can better fit each banks' idiosyncrasies, but only if sufficient supervisor time is devoted to comparing banks' approaches and ensuring appropriate minimum standards are met.
  - *burden on the banks*: The systems costs should be lowest for option 2. Option 3 can be expected to introduce the highest cost to banks, albeit the costs under option 1 will be dependent on the extent to which banks already operate a mismatch framework. Any business costs arising from a requirement to hold greater liquid assets can be expected to be broadly comparable across all options, provided the Reserve Bank adopts a consistent standard when calibrating requirements.
  - *burden on the Reserve Bank*: Option 1 would be the most resource intensive to achieve the intended benefits. Of the prescriptive options, option 3 will require more resource as it allows for the possibility of varying behavioural assumptions.
  - *moral hazard*: Strict regulatory limits can introduce moral hazard if they encourage banks to focus excessively on the requirement to the detriment of adopting an approach that best suits their particular risks. Option 1 would be preferable on this basis. Of the prescribed options, a mismatch ratio can be calculated at any maturity and therefore offers greater flexibility than a stock approach.
  - *international practice*: The Reserve Bank considers that all three options would be consistent with the observed practice internationally, although it notes that option 2 might be regarded as somewhat out-dated.
- 38 On balance, the Reserve Bank has concluded that option 3, the prescribed mismatch approach, is the preferred option. Whilst option 1 potentially offers a more targeted framework, this would only be the best approach if we were prepared to accept a significant increase in the supervisory intervention that would be needed to review and compare banks' own mismatch measurements. The Reserve Bank does not consider that such an approach would be appropriate.

## Part 2: Medium- to long-term options

- 39 The options discussed above provide strong incentives over shorter horizons, but only weak incentives for banks to address one of the Reserve Bank’s key concerns – that banks lengthen the maturity profile of their funding. As a result, the Reserve Bank proposes to adopt additional complementary measures designed to provide more direct longer term incentives.
- 40 There are several options for simple ratios that could be limited by regulatory requirement to provide such an incentive. The Reserve Bank has explicitly considered the following three options:
- *option 1*: Maximum wholesale funding due to mature in any given month as % of total liabilities;
  - *option 2*: Offshore wholesale funding maturing under one year as % of total liabilities; or
  - *option 3*: Total retail funding + wholesale funding maturing over one year as % of total assets (sometimes referred to as the “core funding ratio”).

### *Assessment of the options*

- 41 The Reserve Bank assessment of the three options can be summarised as follows:
- *effectiveness*: The impact of option 1 on the longer term maturity profile may be undermined by the fact that the maximum is likely to be at the short-end, thus the impact on the longer-term may be minimal. Option 2 has the benefit of focusing explicitly on the funding source that has been seen as the single biggest source of vulnerability to New Zealand banks. However, this in itself means that it does not directly ensure that banks are incentivised to hold longer-term funding. As such, the more general requirements under option 3 may be preferable.
  - *burden on the banks*: From a systems point of view, option 1 would create the greatest burden due to its relative complexity. The relative impact on funding costs will be dependent on forward prices in the various funding markets.
  - *burden on the Reserve Bank*: All three options are relatively simple ratio based measures, which do not require the Reserve Bank to exercise on-going assessment or judgement. As such, each measure should have minimal cost to the Reserve Bank.
  - *moral hazard*: By setting strict regulatory limits on ratios, all options would be exposed to the risk of creating potentially undesirable incentives for management to focus on meeting regulatory limits rather than management longer term liquidity risk according to the specific features of their own business profile.
  - *international practice*: Broadly speaking, most international requirements focus on the type of short-term measures discussed above. Whilst all options might therefore be considered relatively

novel by international standards, all can be justified with reference to the particular context of the New Zealand banking sector.

42 On the basis of the arguments set out above, The Reserve Bank has determined that Option 3 is the preferred option.

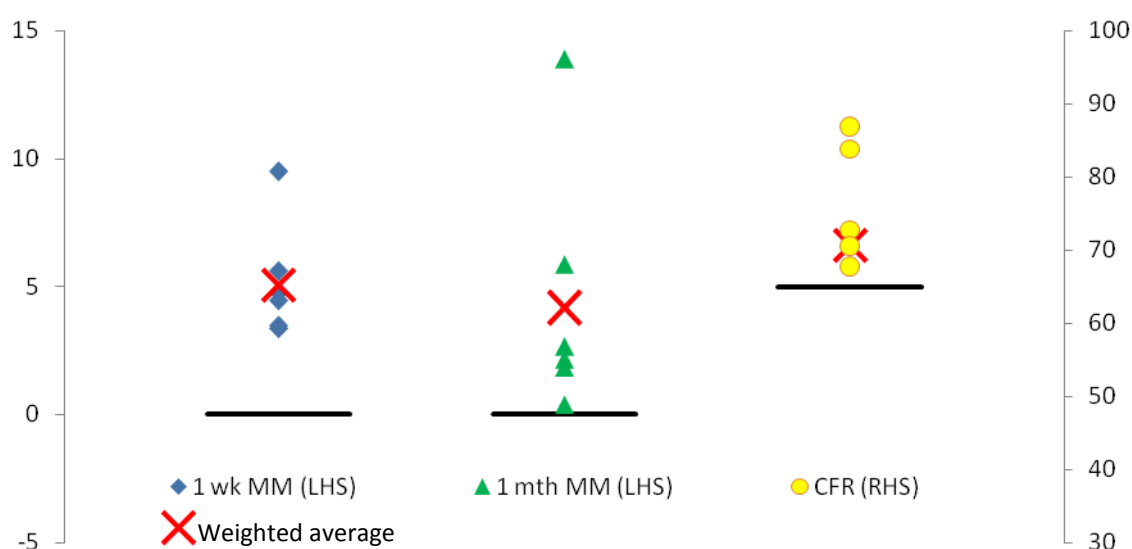
### Impact of the preferred option

43 The Reserve Bank is implementing a suite of complementary requirements designed to reinforce and strengthen provisions for liquidity risk, both over the short- and longer-term. Specifically, this has resulted in the following regulatory requirements<sup>6</sup>:

- A one-week mismatch ratio of not less than zero percent at the end of each business day;
- A one-month mismatch ratio of not less than zero percent at the end of each business day; and
- A one-year core funding ratio (CFR) of not less than 65 percent at the end of each business day.

44 The impact of the new requirements will be heavily influenced by the banks' existing liquidity positions under the new requirements. Figure 6 below shows the Reserve Bank's estimate of the current position of the four major banks in New Zealand, together with the average across the four.

**Figure 6: Current position of major New Zealand banks against requirements**



45 In the case of all three requirements, the average position is comfortably above the new minimum regulatory requirement. As such, the expected cost of complying with the requirements across the system should be limited. However, each bank individually can be expected to target a degree of buffer between its business-as-usual position and the regulatory minimum, based on the Board and management's own preference and tolerance for risk. On that

<sup>6</sup> The full definitions for these requirements are outlined BS13.

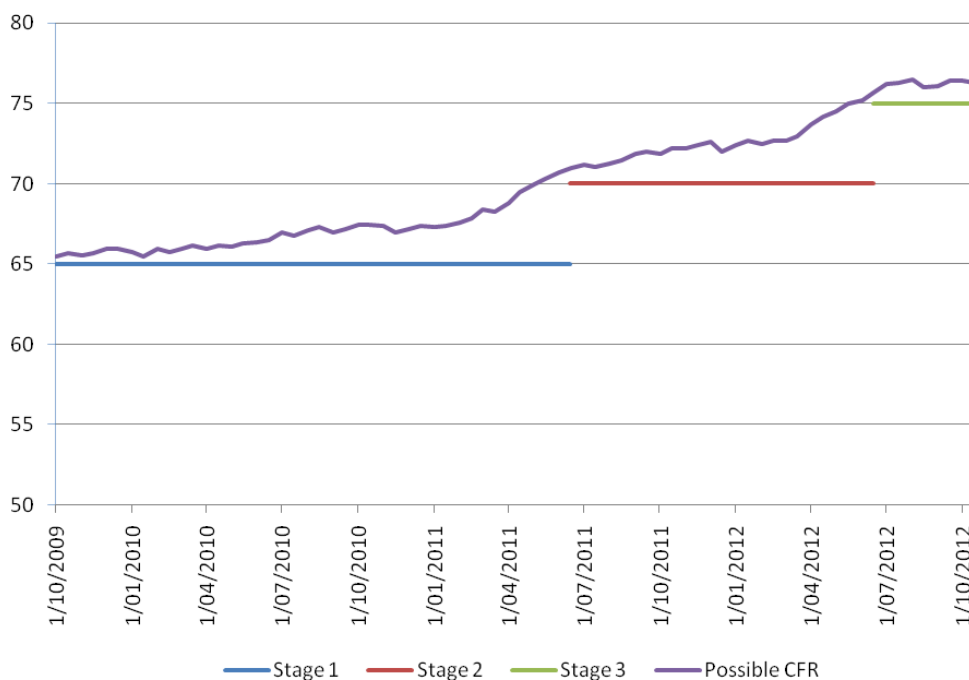
basis, it might be reasonable to assume that at least one bank will wish to strengthen its position under the one month mismatch requirement. Depending on each bank's assessment of the appropriate buffer, further banks may wish to enhance their positions on each of the requirements.

46 Going forward, the mismatch requirements are designed to provide a floor to banks' existing management of short-term liquidity risk, and are therefore expected to remain in place in their initial form and calibrated to the same standard. With the CFR, however, the Reserve Bank is explicitly seeking to lengthen banks' funding maturity profile to provide greater protection to liquidity risk in the medium- to longer-term. With this in mind, the Reserve Bank expects to raise the required minimum going forward from the initial 65% minimum requirement. The proposed approach and timelines for this process are discussed in more detail in the following section.

### Implementation and review

47 The new quantitative requirements have been enacted through revisions to the banks' conditions of registration in October 2009. The Reserve Bank's intention was for all three requirements to become active from 1 January 2010, with the CFR subsequently raised in two stages to its intended long-term minimum of 75 percent (as displayed in stylised form in figure 7 below).

**Figure 7: Illustrative implementation of the CFR**



48 During the consultation process, the banks identified two primary concerns with this approach:

- it would not be possible to implement the necessary system changes required to monitor the quantitative ratios by January 2010; and
- there is uncertainty around the level of volatility that might be associated with the CFR.

- 49 In response to the first of these concerns, the Reserve Bank has determined that it would be prudent to delay the introduction of the quantitative requirements until 1 April 2010. All four major banks have indicated that they will be able to meet this revised deadline.
- 50 Regarding the second point, the Reserve Bank has concluded that it would be prudent to retain some flexibility around the implementation of stages 2 and 3 for the CFR. The Reserve Bank has signalled to banks its intention to increase the minimum requirement in line with the proposed approach outlined in figure 6, but stopped short of hard-wiring these requirements into banks' conditions of registration in October 2009. This will allow time for all parties to assess the volatility of the CFR and provide a better understanding of the costs that may be involved in moving to the higher minimum requirement.
- 51 The Reserve Bank will undertake a separate regulatory impact assessment in advance of any decision to trigger an increase in the minimum CFR requirement.

## **Consultation**

- 52 Consultation with industry has been lengthy and extensive. The Reserve Bank first signalled its intention to update liquidity requirements in the November 2007 Financial Stability Report. It subsequently wrote to banks on 21 December 2007, outlining its initial thoughts, and seeking views and relevant data from registered banks. This was followed by a formal consultation on a draft policy, which was published on 31 October 2008.
- 53 In addition to the formal consultation period, the Reserve Bank has continued to engage with registered banks on the detail of the policy and the appropriate calibrations. As a direct result of both the formal and private consultation, a number of amendments have been made to the policy prior to its introductions. These include:
- a change to the definition of the denominator of the core funding ratio, from total assets at the reporting date, to total loans and advances included in the bank's most recent disclosure statement.
  - an increase from 25% to 75% in the percentage of undrawn balances of committed lending facilities granted to the bank that is included in the mismatch ratios, with limits imposed at the same time on the total of such amounts that can be included.
  - a substantial revision of the way in which a bank's funding is categorised between the "stickiest" funding (i.e. the least likely to be withdrawn in a liquidity stress), and the least sticky, both to reduce possible perverse incentive effects of having a sharp cut-off point, and also to make implementation less complex.
- 54 Finally, as outlined above, the Reserve Bank has delayed the proposed introduction of the quantitative requirements to allow banks time to prepare sufficiently robust measurement systems to support the new requirements.