Regulatory impact assessment: increase in the core funding ratio to 75 percent

Background and *status quo*

1. In 2010, the Reserve Bank introduced a new set of quantitative liquidity requirements for locally incorporated banks: two mismatch measures and a core funding ratio (CFR).

2. The mismatch ratios require banks to hold a certain stock of readily liquefiable assets to ensure that they can meet their short-term obligations. The CFR addresses their longer-term funding position by forcing them to hold a certain amount of more 'sticky' core funding, e.g., long-term wholesale debt with maturities of more than one year, or retail deposits.

3. Prior to the Global Financial Crisis (GFC), New Zealand's major banks had become increasingly reliant on international short-term funding markets. The dangers of that strategy became all too apparent when the GFC led to the virtual closure of those markets, compelling the Reserve Bank and the government to provide liquidity support. The Reserve Bank introduced broader domestic market liquidity measures and the Term Auction Facility (TAF), while the government provided domestic and wholesale funding guarantee schemes for eligible institutions.[1]

4. Those measures helped banks to maintain access to funding, but they also carried a cost. They arguably increased moral hazard, affected the Reserve Bank's balance sheet and burdened government finances with a contingent liability. Measures such as the TAF are also not a long-term solution, as eventually banks will run out of eligible collateral and the central bank would have to accept collateral of decreasing quality. In addition, banks are highly unlikely to view extensive use of these emergency liquidity facilities as a good basis for 'business as usual' and may be expected to tighten the terms and conditions on which credit is supplied, with costs to the broader economy. It is therefore preferable to ensure banks are well insulated from liquidity risk.

5. It has been argued in previous regulatory impact assessments (RIAs) [2] that the social benefits of reducing the probability of liquidity crises exceed banks' private benefits. *A priori* this suggests that there could be a role for regulatory intervention, if it can internalise these social benefits in a cost-effective way. The previous two RIAs outlined the theoretical case for how that can be achieved, and the experience with the new liquidity measures so far shows that banks have not found the new requirements unduly difficult or costly.

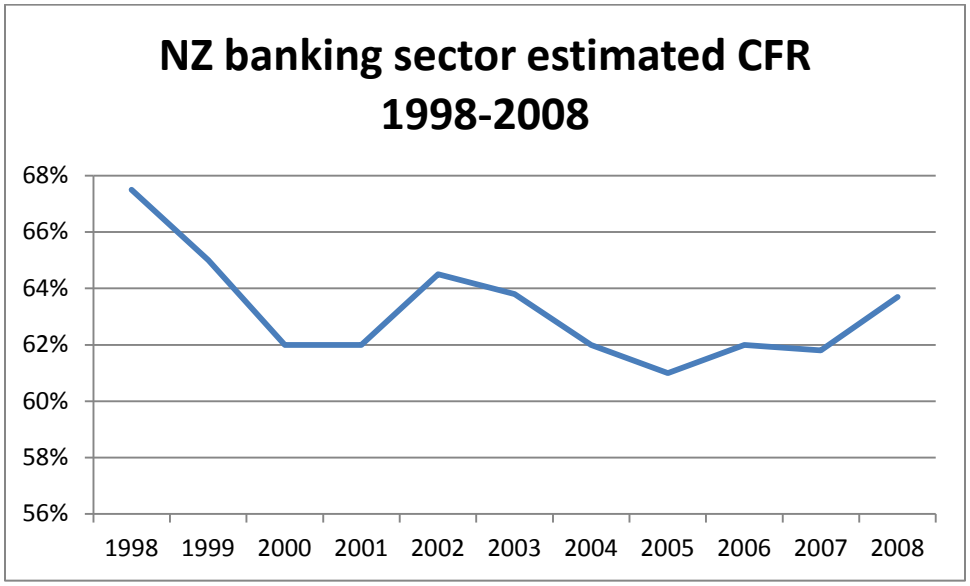
6. As New Zealand is a small open economy with large external debts, the Reserve Bank had determined some time ago that quantitative liquidity requirements on registered

[1] The funding guarantees issued by government were primarily aimed at reassuring depositors and maintaining access to term funding markets.
[2] See http://www.rbnz.govt.nz/finstab/banking/4432392.pdf and http://rbnz.govt.nz/finstab/banking/regulation/3786646.pdf

banks would be prudent. Subsequently, the Basel Committee on Banking Supervision – effectively the international standard-setter – developed new international liquidity standards which are broadly compatible with our standards. For example, the CFR is different from, but comparable to, the proposed Net Stable Funding Ratio (NSFR). At this stage, the Reserve Bank does not intend to switch to the NSFR given the costs involved and the similarities between the two standards. Meanwhile, the Australian Prudential Regulatory Authority (APRA) has confirmed it will implement its version of the NSFR by 1 January 2018.

7. The CFR was initially set at 65 percent in 2010 to reflect the then existing mix of funding (see Figure 1). Banks had already increased the share of core funding in their funding mix as a result of the liquidity problems during the GFC and the Reserve Bank's stated intention of introducing new liquidity requirements. Hence, the introduction of the CFR requirement did not lead to any additional costs for banks.

Figure 1[3]



(Source: Reserve Bank estimates)

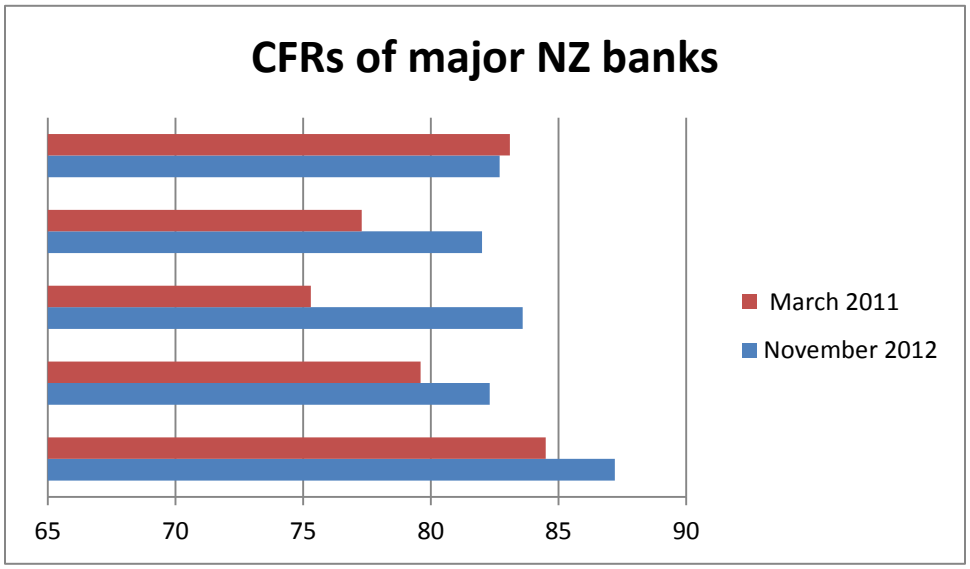
8. When introducing the CFR, the Reserve Bank also stated an intention to further increase it in two steps to 75 percent by July 2012, subject to an assessment at the time of the appropriateness of the uplifts. The first of the two uplifts, to 70 percent, was scheduled for July 2011. In anticipation of this next increase, and in order to improve their liquidity positions, banks further 'termed out' (lengthened) their funding profile, so that when the second increase to 70 percent took place, banks were already well above that new level (see Figure 2).

[3] Core funding in this graph is defined as retail funding plus wholesale funding with maturity of more than one year.

9. Again, since banks' CFRs were already in excess of 75 percent, they did not incur any immediate costs when the CFR was raised to 70 percent on 1 July 2011. The accompanying analysis to that increase, based on banks' own and the Reserve Bank cost estimates, showed that the incremental increase of a five percent rise in the CFR on banks' total funding costs to be between five and 11 ¼ basis points (bps).[4]

10. The CFR had been scheduled to increase to 75 percent on 1 July 2012, however, the Reserve Bank decided to delay the increase until 1 January 2013. This was due to adverse funding market conditions, which meant that funding, to the extent that it was available, was unusually costly. Since July 2012, the reduction of tail risk in Europe has resulted in improved funding market conditions – the cost of issuing new debt has decreased by 50bps. Banks appear to have taken advantage of this and boosted their CFRs to well over 75 percent, with all banks holding at least a five percent buffer above (see Figure 2), resulting in the system CFR of 84.9 percent. Much of the banks' CFR increase is due to retail deposit growth, which may not continue in the future if credit growth continues to increase.

Figure 2



(Source: Reserve Bank)

11. However, given past turmoil in the international financial markets and its effect on wholesale funding cost, it is important to be aware of the implications of another spike in wholesale funding spreads, not least for devising appropriate policy responses.

12. The main purpose of this RIA is to assess the increase in the CFR to 75 percent and to fill gaps in the existing analysis of some wider effects of the CFR. So far the focus of

[4] See pages 10-12 of the RIA at http://www.rbnz.govt.nz/finstab/banking/4432392.pdf

previous analyses has been on the incremental cost increase of introducing or raising the CFR by five percent. In addition to the incremental cost of raising the CFR to 75 percent, this RIA also analyses the cumulative, or overall, impact of a 75 percent CFR as compared with a 65 percent baseline. This is done by using a range of cost and other assumptions to draw up relevant scenarios. Moreover, the RIA includes some analysis of the CFR's potential to lean against the credit cycle, and we investigate how it interacts with monetary policy and the exchange rate.

Objectives

13. The main high-level objectives of the policy are:
    - To ensure banks can withstand a liquidity strain of some severity.
    - To ensure banks have diversified and reliable funding sources.
    - To enhance market confidence in the soundness and stability of New Zealand banks and the financial system.

14. The more specific objectives are:
    - To set the CFR at an appropriate level, taking into account costs and benefits.
    - To provide banks with regulatory certainty and stability.

15. The objectives of this RIA are:
    - To assess the costs and benefits of increasing the regulatory minimum CFR to 75 percent.
    - To analyse the overall impacts of the CFR, and as part of that,
    - To analyse some wider macroeconomic and macroprudential effects

Impact Analysis

Incremental impact of a five percent increase to 75 percent

16. The CFR is presently set at 70 percent. For some time the Reserve Bank has signalled its intention to raise it to 75 percent (in several *Financial Stability Reports,* for example). As banks typically hold a minimum five percent safety buffer[5] over the regulatory minimum, an increase from 70 percent to 75 percent is likely to mean an effective CFR of at least 80 percent.

17. The two options considered here are to increase the CFR to 75 percent, or to leave it at its current minimum of 70 percent. More fundamental alternatives have already been dealt with in the previous RIAs.

[5] This is based on banks' submissions on the consultation about the July 2011 increase to 70 percent.

Option One – leaving the CFR at 70 percent (*status quo*)

18. Under this option, the CFR would remain at its current level of 70 percent. Banks would be unlikely to increase long-term funding further given the current system CFR of 84.9 percent. Indeed, in a more settled funding environment it is possible that banks would reduce their CFRs so that the system CFR falls back towards 75 percent (minimum plus five percent buffer). The average maturity of banks' wholesale funding profile would remain at at least 4.9 quarters (see Table 1), which is the average maturity of wholesale funding at 70 percent. This is already noticeably higher than the 3.6 quarters under the previous 65 percent level, and significantly higher than that which prevailed before the GFC.

19. While we expect New Zealand banks would be more resilient against liquidity risk than they were a few years ago, we would be foregoing any further benefits from a higher 75 percent ratio. In this context, the Reserve Bank has always made it clear that any increases in the CFR would be subject to an analysis of the costs and benefits. The decision as to whether to maintain the existing regulatory limit should be taken on the basis of whether there are likely to be further net benefits from an increase to 75 percent. Consequently, the following analysis assesses the costs and benefits against the *status quo* of a 70 percent CFR.

Option Two – increasing the CFR to 75 percent

Benefits

20. A higher CFR reduces banks' near-term refinancing requirements. It is estimated that an increase in the CFR to 75 percent raises the average maturity of wholesale funding by another 1.3 quarters to 6.2 quarters (see Table 1). The annual rollover of wholesale funding decreases from 75 percent of total wholesale funding to 66 percent.

Table 1: Stylised effect of CFR on the Maturity Structure of the banks' wholesale funding[6]

Core funding ratio	Proportion of wholesale funding maturing in:				Wholesale maturities as a share of total funding:				Average maturity of wholesale funding
	1 month	3 months	6 months	12 months	1 month	3 months	6 months	12 months	(quarters)
55%	33.5	100.6	100.6	100.5	17.7	53.2	53.2	53.2	0.9
65%	27.0	81.0	81.7	83.1	14.3	42.9	43.2	44.0	3.6
70%	23.8	71.3	72.3	74.5	12.6	37.7	38.3	39.4	4.9
75%	20.5	61.5	62.9	65.8	10.8	32.5	33.3	34.8	6.2
100%	4.2	12.6	15.9	22.3	2.2	6.7	8.4	11.8	12.8

(Source: Reserve Bank estimates)

21. This terming out of the funding structure offers greater protection for New Zealand banks against offshore funding market disruptions and reduces the likelihood of the Reserve Bank's liquidity facilities being drawn upon. Estimates of the cost of a crisis range from around 10 percent of GDP to well over 150 percent of GDP, depending on whether the loss in GDP is considered permanent or temporary. A realistic estimate, which does not rest on a peak to trough permanent impact assumption, would be between 10 – 20 percent of GDP. The stronger liquidity position of New Zealand registered banks is expected to enhance the stability of the financial system in New Zealand, making crises – and having to bear their associated costs – less likely. This should have a positive effect on risk premia and translate into lower funding costs or better access to funding for New Zealand banks. However, severe funding market stress of the kind experienced during the GFC could still lead to even the most solvent and liquid of banks being shut out from global funding markets.

Costs

22. A five percent increase in the CFR means that banks will have to replace some of their short-term funding with an equivalent amount of long-term wholesale funding, i.e., funding with a maturity of more than one year. Since long-term wholesale funding is generally more expensive than short-term funding, this leads to an increase in total funding costs. The change in total funding costs is the incremental cost from a five percent increase in the CFR from 70 to 75 percent.

23. The increase in the CFR to 75 percent is likely to have only a small impact on banks' total funding costs, estimated to be around 6 bps (see Table 2). The central scenario in

[6] The table assumes that the proportions of retail funding and tier 1 capital in core funding remain unchanged for different levels of the CFR and that banks choose a mix of 7-year bonds and 90-day Commercial Paper to fund the wholesale portion of their book, changing that mix to achieve the CFR minimum.

Table 2 assumes stable funding spreads for retail and long-term wholesale debt of 150 bps over the BKBM and for short-term debt of 15 bps. These assumptions reflect recent experience and were corroborated by banks, who estimated the incremental cost of a five percent increase in the CFR to be between five and 11 ¼ bps.[7]

Table 2: Estimated impact of different CFRs on banks' funding costs

	Central scenario		Adverse scenario		
CFR (percentage)	Cost of funds (over BKBM) in bps	Incremental cost in bps	Cost of funds (over BKBM) in bps	Incremental cost	Difference to central scenario
55	89		149		60
60	96	7	160	11	64
65	103	7	171	11	68
70	110	7	183	12	73
75	116	6	194	11	78
80	123	7	205	11	82
90	137	14	228	23	91

(Source: Reserve Bank estimates)

24. Wholesale funding spreads, however, are volatile and may not remain at the assumed 150 bps level. In addition to the factors affecting spreads, increased demand for core funding by New Zealand banks could drive up their funding costs. Higher retail deposit rates may be required to increase retail deposits, and international investors may demand a higher spread as New Zealand banks' attempt to increase their issuance of long-term debt, counteracting any positive effects a CFR might have on risk premia.

25. In addition, there are external factors unrelated to the CFR that have the potential to increase funding costs. Financial markets around the world remain volatile, as large parts of the global economy grapple with debt and other economic issues. It is important to recognise that these external factors are unrelated to the CFR requirement, but they will affect banks' funding costs.

26. An adverse scenario is drawn up in order to capture the risk of higher funding costs (see columns 4-6 in Table 2). This scenario assumes a wholesale funding spread of 250 bps and a short-term spread of 25 bps. Depending on the level of the CFR, funding costs increase between 60 and 91 bps compared to the central scenario. For a CFR of 75 percent, funding costs increase to 219 bps over the OCR as opposed to 141 bps under the central scenario.

27. However, it is unlikely that a CFR requirement on its own would trigger such an increase in funding spreads. It is more likely that an increase in funding spreads of this scale would be triggered by external events, e.g., sovereign debt concerns. But an external event leading to a 100 bps rise in funding spreads increases funding costs at all levels of

[7] See RIA on the July 2011 CFR increase available at: http://www.rbnz.govt.nz/finstab/banking/4434543.html

the CFR, i.e. the cost of funding at the 70 percent level is 208 bps instead of 135bps. Column five in Table 2 shows that in such a world, the incremental cost of funding, of going from a 70 to a 75 percent CFR, is estimated to be 11 bps. This estimate, however, should be treated cautiously. An adverse scenario of this kind is likely to be characterised by a much steeper upward-sloping supply curve than implied by the estimates in Table 2 (i.e. supply of funds gets more expensive more quickly).

28. Moreover, the rather moderate incremental cost cannot hide the fact that a serious increase in funding rates would affect banks' profitability, not forgetting that banks will have to carry a higher spread for longer the higher the CFR. While a small cost increase of 6 or 11 bps under normal market conditions may not be passed on to borrowers, the higher spreads of the adverse scenario would make it more likely for them to be reflected in retail lending rates and thus have macroeconomic implications. Increasing the CFR at a time when funding spreads were particularly elevated would further add to the higher interest rates faced by customers, bearing in mind that most of the increase in borrowing costs would be largely unavoidable even if the CFR were left unchanged.

29. The more funding banks need to roll over, the bigger the impact on them. Table 3 shows that a 75 percent CFR would require banks to seek $4bn in term funding between December 2012 and December 2013. These estimates make allowance for the banks' holdings of term debt which will become due within one year and will therefore need to be rolled over. These figures are based on assumptions of credit growth of 3.5 percent and retail funding growth of eight percent, in line with the current economic climate. Stronger credit growth and weaker retail growth would increase the amount of term funding that banks would have to raise to maintain the CFR.

Table 3: Required issuance in term debt markets to maintain the CFR at 75 percent (level as at September) $ billion, year to December 2013

		Credit growth (current annual growth = 3%)		
2012/13		3.5%	7.0%	9.0%
Retail funding growth (current annual growth = 9%)	8.0%	4	12	17
	6.0%	8	16	20
	4.0%	11	20	24

30. The incremental cost of a five percent increase in the CFR of around six bps under normal market conditions (central scenario) does not give rise to concern. The better protection it offers banks and the financial system more widely, and the lower likelihood of Reserve Bank liquidity facilities having to be reintroduced, more than offset these costs. However, there is still an elevated risk of renewed market turmoil. The significantly higher funding costs of the adverse scenario would have wider economic implications. Also, while incremental costs may be only moderate, this is the second increase in the CFR and there is a need to also analyse the overall (cumulative) impact of going from,

what was effectively a 60 to 65 percent CFR before 2010, to 75 percent in 2012. The next section deals with these issues.

Overall impact of the CFR

31. In order to analyse the overall impact of a 75 percent minimum CFR, we begin by constructing a baseline. In the years prior to the imposition of a CFR requirement, effective CFR levels had fallen to just above 60 percent (see Figure 1). However, when the CFR was introduced in 2010, banks had already increased their share of core funding to above the then new regulatory minimum of 65 percent, making this the obvious choice for the baseline CFR level. The assumption that banks would have increased their CFRs to this level, even without the prospect of a regulatory minimum seems reasonable, given their experience with funding markets effectively closing during the GFC and likely market pressure from investors and rating agencies to improve their liquidity profiles. That said, the market failures already discussed make it doubtful that banks would have increased their CFR levels further, or at least that they would have done so permanently. In the long run, the lower cost of short-term funding and the assumption that the Reserve Bank and government would again provide liquidity when funding markets were seriously stressed – as happened last time – might have led banks to lower their CFRs again.

Table 4: Estimated funding costs to 65 percent CFR under different CFRs

	Central scenario		Adverse scenario	
CFR (percentage)	Cost of funds (over BKBM) in bps	Difference to 65 % baseline in bps	Cost of funds (over BKBM) in bps	Difference to 65 % baseline of adverse scenario
55	89		149	
60	96		160	
65	103		171	
70	115	7	183	12
75	116	13	194	23
80	123	20	205	34
90	137	34	228	57

(Source: Reserve Bank estimates)

32. Table 4 is similar to Table 2 except that the cost increases are now compared to the baseline of a 65 percent CFR. A 75 percent regulatory requirement means that banks will hold at least an 80 percent CFR when allowing for a five percent safety buffer. Under the central scenario this translates into an increase in total funding costs of 20 bps. In the adverse scenario with higher overall funding costs the increase is 34 bps.

33. The enhanced system resilience to liquidity risk, and the corresponding benefits of avoiding systemic support and further moral hazard, is considered to outweigh the 20 bps higher funding costs to which CFR policy is estimated to lead to under the central

scenario. The additional impact in the adverse scenario is higher, but equally manageable.

Countercyclical impact

34. The higher costs of core funding should, in theory, exert a restraining influence on credit expansions. Higher funding costs increase the wedge between the OCR and the interest rates banks charge for the loans they make. However, this effect depends on the assumption that higher bank funding costs are passed on to borrowers. Given the only modest increase in banks' total funding costs in the central scenario (see Table 4), this might not necessarily be the case. Even if there is full pass-through, the increase in lending rates is muted given the modest increases in banks' total funding costs along with potential offsetting monetary policy measures.

35. Moreover, to the extent that credit expansions are coupled with general market exuberance, long-term funding spreads may well be significantly lower than the assumed 150 bps of our central scenario. While the CFR will always have a restraining influence, as long as long-term debt is more expensive than short-term debt, its effectiveness as a countercyclical measure could be much diminished in such a world.

36. This suggests that in practice, the CFR requirement is unlikely to have a significant countercyclical impact, although any influence it does exert will be in the right direction. Indeed, this finding has been confirmed in a recent paper that concluded that a CFR can attenuate some credit expansions if, for example, funding costs rise more steeply in long-term funding markets, but that its overall effect will be limited.[8]

Monetary Policy Considerations

37. The primary purpose of the CFR is to build greater resilience into the banking system's funding base. However, since the CFR is likely to influence bank funding costs at the margin, it is also worth considering the interaction between CFR changes and monetary policy.

38. As shown above, the banks' marginal funding costs are likely to rise modestly as a result of an increase in the CFR. To the extent that the higher costs banks have to pay to fund themselves are passed through to consumers and businesses, in the form of higher retail borrowing rates, a rise in the CFR is likely to reinforce the effects of a higher Official Cash Rate, possibly reducing the extent to which the OCR would need to rise. The possibility of a slightly lower OCR may be desirable as this may help to alleviate upward pressure on the exchange rate that usually accompanies widening interest rate differentials against the rest of the world. This in turn could help to mitigate some of the undue pressure on the tradables sector that can occur as monetary policy tightens.

[8] Bloor, C, Craigie, R and A Munro: "The macroeconomic effects of a stable funding ratio", Reserve Bank of New Zealand. Discussion Paper, DP2012/05

Consistent with the estimates contained in Table 4, however, it is important to stress that this benefit is likely to be at the margin.

Conclusion

39. The incremental cost of increasing the CFR to 75 percent is modest. It is approximately six bps in our central scenario and 11 bps in an adverse world of higher wholesale funding costs. The overall cost of a 75 percent CFR as compared with a baseline of 65 percent ranges from 13 to 23 bps. Without attaching probabilities, we see the central scenario as a much more plausible and likely reflection of the world than the adverse scenario. However, in neither scenario are the costs excessive, especially when weighed up against the benefits in terms of terming out banks' funding profiles. A 75 percent CFR increases banks' average funding maturity by 1.3 quarters to 6.2 quarters. This should make banks still more resilient against liquidity risk and lower the probability of liquidity problems turning into systemic crises, the costs of which can be substantial, ranging from 10-20 percent of GDP.

40. In conclusion, based on the estimated costs and benefits, an increase in the CFR to 75 percent on 1 January 2013 is supported.

Monitoring and evaluation

41. The Reserve Bank will continue to monitor market developments and banks' access to funding. The Reserve Bank will do so as part of its normal market monitoring and forecasting work, which will continue once the 75 percent minimum has been implemented. The Bank will liaise with banks as appropriate to detect any emerging issues as early as possible.

42. The Reserve Bank will also pay attention to the implementation of the NSFR in other jurisdictions, and particularly in Australia. The impact on the biggest banks registered in New Zealand from having to meet the NSFR at the group level and the CFR at the subsidiary level will be monitored. The Reserve Bank plans to review its liquidity policy in light of the new Basel Committee requirements later in 2013, although that is dependent on the Basel Committee finalising the definition of the NSFR.

Reserve Bank of New Zealand

December 2012