

Consultation paper

Housing review stage two: asset class treatment of residential property investment loans in BS2A and BS2B;

capital requirements for reverse mortgage loans in BS2A and BS2B;

removal of the qualifying revolving retail exposure option in BS2B; and

removal of the foundation internal ratings based approach in BS2B

The Reserve Bank invites submissions on this Consultation Paper by 07 April 2015.

Submissions and enquiries about this consultation should be addressed to:

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Please note that a summary of submissions may be published. If you think any part of your submission should properly be withheld on the grounds of commercial sensitivity, or for any other reason, you should indicate this clearly.

05 March 2015

Background

1. The Reserve Bank consulted on the second stage of its housing review from 20 September to 25 October 2013. As part of that consultation, the Reserve Bank proposed to amend the asset class treatment of loans to residential property investors within BS2B, the set of capital requirements that applies to banks operating on the internal ratings based approach. It was proposed that loans above a certain count-based threshold, initially set at four and then increased to five properties, should be grouped in an asset class other than the current retail residential mortgage asset class. The rationale is that the risk profile of loans to residential property investors differs from owner-occupiers and that the Basel II internal ratings based approach (IRB) guidelines recommend restricting the residential mortgage retail asset class to owner-occupiers, bar a few exceptions.
2. A summary of submissions and policy decisions on that consultation was released on 20 December 2013. Due to the technical nature of some of the changes required to the capital adequacy requirements to implement the policy decision, the Reserve Bank also consulted on an exposure draft of the new proposed wording between 28 March and 28 April 2014. Those further papers produced more detailed reactions from stakeholders to the Reserve Bank's proposal than were initially forthcoming. As a result, the Reserve Bank made some changes to the proposed policy such as increasing the threshold count-based threshold from four to five properties. IRB banks, approved to operate under the BS2B framework, however, raised further implementation issues, which led the Reserve Bank to delay the introduction of the new asset class treatment and further to consider some technical detail associated with this policy.
3. The Reserve Bank has now reviewed the proposed policy and proposes a number of amendments to what has previously been consulted on. These proposed amendments affect the definition of when a loan should be considered a residential property investment loan, the precise asset class treatment and the scope of the policy. These changes have implications for the number of loans that might be captured by the change in the asset class treatment as well as the number of banks that will be affected by it. Whereas previous consultations focused on IRB banks, the Reserve Bank now proposes that loans to residential property investors should be treated separately from residential mortgage loans in both BS2A and BS2B. This means that all locally incorporated banks would need to comply with the new asset class treatment.
4. The first section of the consultation paper sets out the policy intent and its underlying rationale. That is followed by a discussion of the options for defining residential property investment loans and the new asset class treatment of those loans in BS2A and BS2B. The paper also discusses possible interim solutions and the timetable for implementing the new requirements.
5. Separately and unrelated to the asset class treatment of residential mortgage investment loans or the second stage of the housing review, the Reserve Bank also takes this opportunity to consult on three other capital-related proposals: a tailored capital requirements for reverse mortgage loans, the removal of the qualifying revolving retail exposure (QRRE) option within BS2B and the removal of the 'foundation' IRB approach in BS2B. Parts two to four provide detail on those proposals.

Part I

Asset class treatment of residential property investment loans under BS2A and BS2B

Introduction

6. The Reserve Bank's capital requirements are based on the Basel Committee on Banking Supervision's recommended capital requirements commonly referred to as Basel II and III.¹ The Basel requirements divide assets into five main categories, also called asset classes: equity, sovereign, bank, corporate and retail. These main asset classes may be further divided into sub-asset classes. Residential mortgage loans sit within the retail asset class. All residential mortgage loans are currently grouped in the same asset class, irrespective of whether they are for a property that is owner-occupied or available to rent.
7. The Basel II IRB approach lets certain accredited banks use their own internal models, subject to the regulator's approval, to estimate the risk parameters that feed into the calculation of their bank's capital requirement. This is different from the simpler standardised approach that is based on prescribed and less risk sensitive risk weights. The relevant sets of requirements for standardised and IRB banks in New Zealand are the Reserve Bank's BS2A and BS2B respectively.²
8. The Reserve Bank considers that residential property investors have a different risk profile from owner-occupiers. The Basel II IRB approach also recognises this by recommending that only mortgages to owner-occupiers, bar a few exceptions, are grouped in the retail mortgage asset class. The standardised framework under Basel II does not make this distinction. But the standardised framework also provides the regulator with flexibility to diverge from its recommendations where national specificities demand that. The Reserve Bank's set of responsibilities also includes macro-prudential considerations. It is partly to facilitate the introduction of a macro-prudential property investor policy, should that become necessary, that the Reserve Bank now proposes to establish a separate asset class for residential property investment loans within its standardised framework, i.e. BS2A, in addition to the previously proposed new asset class within BS2B. This means that all locally incorporated banks would have to group loans to residential property investors in a separate and new asset class. The following paragraphs set out the rationale for the policy proposal and options for defining which loans should be classified as residential property investment lending and the precise asset class treatment.

Rationale and policy intent

Rationale

9. Under the Basel approach, loans held in the retail mortgage asset class tend to receive a reduced risk weight compared to some other types of lending. The main reasons are that loans held in this asset class are seen as relatively lower risk, and that a large portfolio of retail mortgage customers produces risk diversification benefits. Within the standardised approach, the risk weight on housing loans ranges from 35 percent to 100 percent depending on the loan's LVR and lender's mortgage insurance.³ Typically, this means that a standardised bank's average portfolio risk weight tends to be at just under 40 percent in New Zealand. The average risk weight for IRB

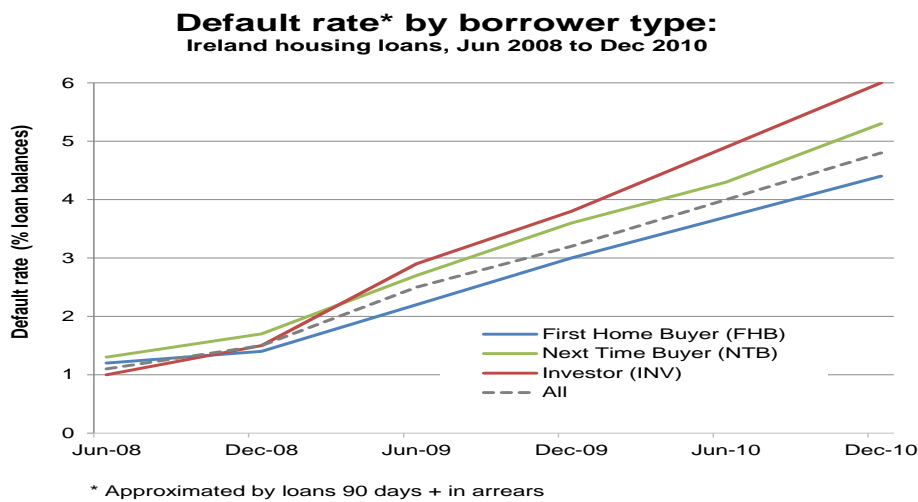
¹ For more information on the Basel capital requirements, go to <http://www.bis.org/bcbs/>

² See BS2A and BS2B in the Reserve Bank's Banking Supervision Handbook available at http://www.rbnz.govt.nz/regulation_and_supervision/banks/banking_supervision_handbook/

³ See BS2A, Table 4.11

banks' housing portfolios is not as easily observable due to the use of internal models for estimating the parameters used to calculate risk weighted assets (RWA). However, it tends to be at around or just below 30 percent across that group of banks. Both average risk weights are substantially lower than the risk weight on most corporate loans.

10. There is, however, some evidence that the risk profile of mortgage loans for residential investment properties is different from that of mortgages to owner-occupiers. Evidence from countries that have recently gone through a severe housing market downturn shows that residential property investors tend to have higher probability of default (PD) and loss given default (LGD) rates in such a situation.
11. The following graph shows that while during the GFC the default rate increased for all types of borrowers in Ireland, it increased by much more for property investors. The same picture emerges for the UK, where the default rate for investor was lower pre-GFC and then increased significantly to above that for owner-occupiers during the GFC years. A study carried out by Fitch confirms the finding that default rates of property investors tend to be higher than those of owner-occupiers during a severe crisis.



Source: *What Lies Beneath? Understanding Recent Trends in Irish Mortgage Arrears*. Lydon and McCarthy (2011). Central Bank of Ireland.



Source: UK Council of Mortgage Lenders

12. Property investor portfolios also have higher loss rates compared to owner occupiers during a severe downturn. Evidence from Ireland suggests that loss rates for investors were nearly twice as high as for owner-occupiers.

Table 1: Ireland residential loans - realised loss estimates, 2011-2013

	Owner Occupier	Investor	Total
Bank of Ireland	5.9%	10.7%	7.0%
Financial Measures Programme (BlackRock Solutions)	7.6%	14.3%	9.2%

Source: "Stress" scenario in *The Good, The Bad and The Impaired: A Credit Risk Model of the Irish Mortgage Market*. Kelly, Central Bank of Ireland, November 2011, pg 25

13. This evidence appears to support the Basel II recommendation that residential property lending should be grouped in a separate asset class. The risk profile of these loans is observably different from owner-occupier mortgage loans, particularly in a severe downturn. The capital requirements that apply to IRB banks require long run PDs to be estimated on the basis of data that includes a severe downturn or, where that is not possible, to include an appropriate degree of additional conservatism. Fortunately in New Zealand, we have not had a severe housing downturn in recent decades. But this also means that we do not have information on the difference in terms to default rates between residential property investors and owner-occupiers in such a scenario.
14. Based on the information available from other countries that have had a severe housing downturn, there is evidence to suggest that property investor loans are more strongly correlated with systemic risk factors than owner-occupier loans. This would point to a higher correlation factor in the Basel capital equation than the one that is currently used for all residential property loans. Moreover, although minimum downturn LGDs are prescribed within BS2B, they are effectively calibrated to owner-occupiers. It is therefore likely that the estimated risk weights that banks currently use for residential investor loans are too low and do not adequately reflect the risk that these loans represent.
15. The higher risk associated with residential property investment loans does not only apply to IRB banks. A residential property investment loan made by a bank operating on the standardised approach is equally a higher risk loan compared to a loan to an owner-occupier. The Basel approach seems to deal with this by recommending higher average risk weights for all residential property loans under the standardised approach.⁴ In New Zealand, this has been implemented by allocating risk weights to residential mortgage loans that range from 35 to 100 percent, depending on a loan's LVR and the availability of lender's mortgage insurance.⁵ However, housing loans are a crucial area for maintaining financial stability in New Zealand and these risk weights do not adequately capture the higher risk associated with residential property investment loans.
16. The Reserve Bank believes that in this area, there are good reasons why a consistent conceptual approach across standardised and IRB banks makes sense. In addition, the Reserve Bank has a suite of macro-prudential tools available to help address financial stability concerns in certain circumstances. Having the same asset class groupings across all banks would help the Reserve Bank to implement targeted macro-prudential policies if that becomes necessary. Contrary to previous consultation papers on this subject therefore, the Reserve Bank now proposes to include a new asset class for residential property investors within the standardised approach, i.e. BS2A. This new asset class would also have separate, prescribed, risk weights from those that apply to non-residential property investment loans.

⁴ See Basel II available at <http://www.bis.org/publ/bcbsca.htm>

⁵ See Table 4.11 in BS2A

Policy proposal

17. The Basel asset class categorisation does allow for some degree of heterogeneity of risk profiles within an asset class. The categorisation system is based on making a trade off between grouping assets with similar risk characteristics and having critical mass within each asset class or keeping the overall number of asset classes, including sub-asset classes, manageable. However, the Reserve Bank's analysis shows that residential property investor loans are a sufficiently distinct category of loans and that by grouping them with other residential mortgage loans one is not in a position adequately to measure their risk as a separate group of loans. This can have negative consequences for a bank's awareness of the proper risk associated with those loans and lead to insufficient levels of capital being allocated to them. The Reserve Bank therefore proposes that all locally incorporated banks hold residential property investment loans in a separate asset or sub-asset class. The next section discusses a number of options for defining which loans should be included in the proposed new asset class.

Question 1: Do you have any comments on this analysis or the Reserve Bank's rationale?

Definition of a residential property mortgage loan

18. The Reserve Bank has previously consulted on a count-based threshold of four or five properties. IRB banks raised a number of technical questions, with some banks arguing that implementing such a rule would be costly due to required systems changes. The Reserve Bank has reconsidered the technical points raised by those banks and, in addition, come to the view that a count based definition would not be the best approach to addressing the policy concerns as it would be difficult to enforce and not capture many small property investors. The option is therefore no longer considered as a viable alternative.
19. The two main options that present themselves are a definition that groups all non-owner-occupier loans in a separate asset class and one based on an income test whereby reliance on the rental income becomes the determining factor. Within the latter option, two sub-options reflecting the degree to which one is reliant on the rental income are discussed below.

Option 1

20. The first and in some ways simplest option would be to restrict the current retail residential mortgage asset class to owner-occupiers only. Any mortgage on a residential property that is not owner-occupied would be classified as a residential property investment loan and grouped in a new asset class.
21. This option is closely aligned with the relevant Basel II IRB requirement that states (emphasis added):

*"... Residential mortgage loans (including first and subsequent liens, term loans and revolving home equity lines of credit) are eligible for retail treatment regardless of exposure size so long as the credit is **extended to an individual that is an owneroccupier of the property.** ..."*⁶

22. Banks would have to verify the use of a property under this option. This information is already being collected at loan origination to some degree. Possible ways of identifying whether a property is owner-occupied or not include checking the borrower's residential address and

⁶ Basel II, paragraph 231, page 55

whether the property generates any rental income. Other possible indicators could include eligibility for tax deductibility of the mortgage servicing costs on the property.

23. The Reserve Bank appreciates that there could be cases where a borrower has more than one owner-occupied residential property and splits his or her time between those addresses. An example could be if a borrower uses one address during the week for work purposes and another on the weekends when he or she is with the family. Another case might be a bach that is not permanently occupied but also does not generate any rental income. The information the Reserve Bank collects from banks on new commitments already distinguishes between owner-occupiers and residential property investors while allowing for owner-occupiers to occupy more than one residential address. The same or a very similar definition could be used to distinguish between second and more properties that are still owner-occupied and properties that are used as residential properties, subject to considering adequate safeguards to ensure that this is not used as an avoidance mechanism. .
24. The Reserve Bank also appreciates that there could be challenges for banks to monitor how a property is being used. A second flat that is used as a second residence by the owner-occupier when the loan is taken out could at some point be let out. While the Reserve Bank does not expect banks to regularly seek confirmation from borrowers as to the use of a property, it is expected that reasonable steps are taken to maintain up to date information. This could mean updating important information when there is a credit event.
25. This option would capture more residential property loans than the previously proposed count-based thresholds. As a consequence, there would be more loans that would receive a higher risk weight than previously indicated. However, the risk weight that would apply to investor loans under this option would take that into account and be calibrated accordingly.
26. This option would best capture those loans that have a different risk profile to owner-occupier loans and be comparatively straight-forward to implement, at least as far as new loans are concerned. Due to the clear identification of property investor loans, this option would also facilitate the introduction of a macro-prudential investor property policy should that become necessary.

Option 2

27. The definition of a residential property investment loan as consulted on in 2014 already included an income test as an addition to a count-based threshold. It was proposed that if the mortgage servicing costs are predominantly reliant on the rental income the property generates, then that loan should be classified as a residential property investment loan. Predominantly was defined as more than fifty percent. In other words, if a borrower's other sources of income minus the bank's usual allowances for living expenses, other loan servicing obligations and so on are sufficient to cover more than fifty percent of the loan servicing obligation of the residential property, that is interest as well as repayment of principal, then the loan continues to be classified as a residential mortgage loan in the retail asset class. This test would only apply to investment properties. Owner-occupied properties would be exempt from this requirement and continue to be classified as residential mortgage loans.
28. A loan for a non-owner-occupied property and whose servicing costs are reliant on the rental income of that residential property is arguably subject to the different risk characteristics discussed in paragraphs 10 to 16. There is, however, a question as to the point at which the reliance on the property's rental income separates that loan from loans to owner-occupiers. The Reserve Bank has previously consulted on a threshold of 50 percent. But this still leaves plenty of scope for borrowers to acquire a small portfolio of investment properties without those mortgages being classified as residential property investment loans. A stricter definition would be to make it dependent on any rental income. Both options are considered in what follows.

Option 2A: if more than half of loan servicing costs are covered by the rental income

29. This is the definition as already mentioned in the previous consultations. It is also similar to that used for distinguishing between a farm (corporate lending) and a life-style block (residential mortgage, retail). Although the Basel guidelines recommend that all non-owner-occupier loans should be grouped in a different asset class, they also provide the regulator with enough flexibility to take national circumstances into account. This rule would account for some New Zealand ownership structures which might include a bach or a small rental property without those borrowers considering themselves as residential property investors.
30. However, if the percentage is set at 50 percent, borrowers could potentially borrow a significant sum to invest in residential property before those loans would be classified as residential property investment loans. The amount people could borrow while still being classified as residential mortgage borrowers would depend on their other income and the equity they hold in, for example, their owner-occupied property. Those with higher salary or wage income and more equity would be able to borrow more. This, however, also reflects the lower risk that those borrowers represent compared to someone with less equity and a lower salary or wage income.
31. The advantage of this option is that it does capture the economic substance of a portion of property investment loans while retaining a high degree of flexibility to exempt some property investors. A downside of this option is that it would not capture all property investment loans. In fact, it is likely that most small investors who own only one or two rental properties might not be classified as residential property investment loans. The consequences are that the Reserve Bank's requirements would continue not to be well-aligned with the Basel recommendations. It would leave some loans with potentially very different risk profiles to owner-occupier loans in the same retail asset class. Moreover, it would be more difficult to impose a potential macro-prudential residential property investor restriction on all property investors equally.

Option 2B: if any part of the loan is serviced by the rental income

32. These issues could be overcome by lowering the reliance threshold on rental income. A rule making it dependent on whether any of the loan servicing costs are covered by the rental income of the property would capture a lot more loans. To emphasise, the loan servicing costs refer to interest as well as principal repayment. Any interest only mortgages would have to take account of principal repayment when calculating whether a loan's servicing obligations are reliant on any rental income. The test would essentially be whether the loan would be approved under normal lending criteria without taking rental income into account. If not, then the loan would be a residential property investment loan. Even under this option, some property investment loans other than owner-occupier loans might still not be captured. If a borrower's other sources of income are sufficient to service the mortgage on the rental property, then that loan might not be captured. However, this sub-option would group most non-owner occupier loans in a new asset class, be better aligned with the Basel requirements and facilitate any potential macro-prudential policy.
33. To make either of these sub-options work, banks would have to establish a borrower's sources of income, i.e. rental and non-rental, living expenses and other obligations. Banks already do this as part of the loan origination process. The Reserve Bank would expect a bank to take all reasonable steps to establish the borrower's financial and income position and any other loan obligations he or she has, including with other lending institutions. While some of the information processes around this might have to be put on a sounder footing if the information is required for capital purposes, this should not be too onerous in the Reserve Bank's view. The Reserve Bank proposes that the income test is carried out at the point of loan origination or when there is a credit event. Any changes in income requiring a reclassification of the loan could be picked up at that point.

34. This option should be relatively easy to apply, compared to the previously proposed count-based threshold, and lead to the economic substance of most loans being captured while also providing for a degree of flexibility. The degree of flexibility obviously varies significantly between the two options and has to be weighed up against the costs of not capturing all investment loans under option 2A. At this stage, the Reserve Bank is particularly interested in feedback from stakeholders as to the impact of the two sub-options in terms of costs and the number of loans that would be affected.

Question 2: What are the costs associated with each option, i.e. option 1, 2A and 2B, in terms of compliance costs and for the loans that would be affected? Please provide detailed information.

Question 3: Please describe the way in which you currently collect the information required to implement each of these options and any changes or additions you would have to make to your loan origination and information collection processes.

Question 4: Please provide your best estimate of how many loans would be captured under each of the three options?

Question 5: Can you anticipate any implementation issues with these options? Please indicate how these issues could be overcome.

Question 6: What are the benefits of each option overall as well as relative to the other options?

Question 7: Do you have any suggestions as to how the proposed options could be improved or any other comments on the Reserve Bank's proposed definition?

Asset class treatment of residential property investment loans

35. There are a number of alternatives for the precise asset class treatment of residential property investment loans. They range from a new sub-asset class within the retail asset class to inclusion in the corporate asset class. For IRB banks the latter could take the form of a new corporate sub-asset class, banks' existing corporate SME or mid market asset classes or as income producing real estate. For standardised banks the choice within the corporate asset class is between a new sub-asset class with specifically calibrated risk weights or applying the current corporate risk weights. The following paragraphs discuss these options in more detail.

Option A: Inclusion in the income producing real estate category

36. The income producing real estate is a sub asset class for specialised lending within the corporate asset class. This asset class is only used for IRB banks. It is used for real estate funding where the prospects of repayment and recovery are highly dependent on the cash flows the asset generates. Real estate finance for apartment blocks or townhouse unit title developments may be examples of IPRE assets.
37. A feature of the IPRE class is that an exposure is slotted into one of five categories. The slotted category determines the risk weight and hence the capital a bank has to hold against that particular asset. The categories and their respective risk weights are:

Table 1⁷

Supervisory category	strong	good	satisfactory	weak	default
Risk weight	70%	90%	115%	250%	0%
External rating equivalent	BBB- or better	BB+ or BB	BB- or B+	B to C-	N/A

38. Table 2 of Annex 1 of BS2B gives guidance as to how an exposure is allocated to a category, or slotted. The criteria that are used for this purpose include financial ratios, stress analysis and cash flow forecasts, asset characteristics and developer or borrower specific information. Some of this information is based on subjective judgement, other components rely on the availability of financial information.⁸
39. The advantage of this option is that it is already included in BS2B, although it is not currently in BS2A. The risk weight is easily identified once the asset has been slotted to its appropriate category. The qualifying criterion that the likelihood of repayment and recovery on the exposure is linked to the cash flow of the investment property is also met, particularly if the definition of what is a residential property investment loan is based on an income test.
40. A disadvantage of this option is that it requires detailed information across a range of criteria. This information may exist for residential property investors with a large property portfolio but it is much harder to compute for small investors. Although this problem could be overcome by devising a set of criteria specifically for residential property investors, it might be difficult to do so in practice and it would represent a departure from the Basel recommendations.
41. A further disadvantage is that the risk weights are already determined and not necessarily well-calibrated to residential investor property loans. This is not an insurmountable problem and could be resolved by appropriately recalibrating the risk weighting scale, although that would be another departure from the Basel standard. But IRB banks would not be able to develop their own internal models and forego the benefits of better risk differentiation commonly associated with those models.
42. Another disadvantage from the banks' point of view might be that an IPRE approach would require the bank to manage the exposure on a customer basis. Retail loans, on the other hand, are portfolio managed. It follows that exposures that are currently portfolio managed would have to be individually managed. Particularly for some of the smaller borrowers within this portfolio, i.e. those with one or only a small number of investment properties, this could lead to extra costs that may not produce big enough benefits to outweigh them.
43. The introduction of IPRE into BS2A could produce some disproportionate costs for smaller banks. Gathering the information needed to slot property investment loans into the appropriate category and necessary changes to IT systems and loans processes are likely to be a bigger cost burden on the more resource-constrained smaller banks.

Option B: A new sub asset class within the corporate asset class

44. Option B consists of a new sub-asset class within the corporate asset class. This would have the advantage for IRB banks of being able to develop their own internal PD models, subject to Reserve Bank approval. This option also aligns well with the Basel II recommendation that a loan

⁷ Reproduced from 4.143 in BS2B

⁸ For a full list of the criteria, see Table 2 in Annex 1 of BS2B

should be classified as corporate if it falls outside the retail mortgage asset class definition (see option 1 above).

45. The Reserve Bank currently prescribes minimum LGDs for residential mortgage loans.⁹ It is proposed to amend the minimum prescribed LGDs for property investment loans in response to the higher risk associated with these loans. The following table proposes the LGDs per LVR band for property investment loans.

Table 2: Minimum LGDs for residential property investment loans

LVR in %	LGD in %
90-100	40
80-89	35.5
70-79	31
60-69	21.5
Under 60	12.5

46. The proposed LGDs are approximately 2.5 percentage points higher than those that apply to residential mortgages not considered to be residential property investment loans, i.e. the current LGD's that apply to all residential mortgages. Rental properties tend to be of a lower quality than comparable owner-occupied properties, which may be due to comparatively lower levels of maintenance and investment by the landlord and/or because the tenant does not look after the house as well as an owner-occupier. The proposed LGDs add a margin of conservatism to the minimum LGDs that currently apply to residential mortgage loans.
47. In addition to adjusting LGDs for residential property investment loans, the Reserve Bank also proposes to amend the correlation factor in the Basel capital equation. This would take account of the higher correlation that loans to property investors have to the general economic environment. The factor applied to standard residential mortgage loans ranges from 0.15 to 0.21 depending on a loan's LVR. The Reserve Bank proposes to increase these correlation factors to 0.17, 0.23 and 0.24 respectively. That is by 0.02 for loans below an LVR of 80 percent and by 0.03 for loans in the high LVR ranges. The reasoning here is that property investment loans are more highly correlated to systemic risk and this correlation is higher the higher the LVR.

LVR	correlation
Above 90 percent	0.24
80 to 90 percent	0.23
Below 80 percent	0.17

48. Since banks operating on the standardised approach do not use internal models, the Reserve Bank proposes to prescribe the appropriate risk weights to be applied to the new category of loans. It is proposed that risk weights are determined in the same way as is currently the case for residential mortgage loans. That means by linking the appropriate risk weight to a loan's LVR. However, due to the higher risk associated with property investor loans, a higher risk weight applies per LVR band.

Table 3: proposed risk weight for claims secured by first mortgage over residential property investment loans

LVR	Risk weight in %	
	If there is lender's mortgage insurance that qualifies under	If there is no lender's mortgage insurance or lender's mortgage insurance that does not

⁹ See Table 4.11 in section 4.150 of BS2B

	section 38	qualify under section 38
Does not exceed 80 %	40	40
81 to 90 %	50	70
91 to 100%	75	90
Exceeds 100%	100	

49. The advantage of this option for IRB banks is that they could develop their own internal models for estimating the PD. The usually cited benefits associated with internal models, such as better risk differentiation, could therefore be realised. There would not be much change for standardised banks other than the higher risk weights that apply to property investor loans compared to the risk weights that currently apply to all residential mortgage loans.
50. Implementing this option would produce some new compliance costs for both groups of banks. Both groups of banks would have to amend their systems to allow the risk weights for this new corporate asset class to be calculated. IRB banks would also have to bear the costs of developing new internal models and getting them approved by the Reserve Bank. Given the higher risk weights that these exposures might produce compared to now, there might also be a capital impact for banks. That said, these loans are already classified as higher risk and may already be priced accordingly by banks.
51. One drawback of this option is that residential property investor would have to be treated as corporate customers and therefore individually managed by IRB banks. This could lead to higher ongoing compliance costs for IRB banks. For borrowers who have sizeable property investment portfolios, these extra costs might be justified. However, having to manage a number of borrowers with only a very small number of properties as if they were corporate customers may add to banks' costs unnecessarily. For those customers, the benefit compared to portfolio management is likely to be minimal. The Reserve Bank does not want to impose unnecessary costs on banks and customers who ultimately might bear these compliance costs. While a separate asset class appears an attractive option, the Reserve Bank is minded to not classify residential property investors as corporate investors.

Option C: A new sub asset class within the retail asset class

52. The main drawback of Option B is the wholesale asset class classification, which would require individual customer management, at least for IRB banks. While this makes sense for large property investors who might currently be rated in the corporate asset class, and the Reserve Bank would expect those customers to remain in that asset class, it might be overly burdensome for smaller property investors. To avoid the extra costs, property investment loans could be grouped in a new sub-asset class within the retail asset class. That would allow IRB banks to continue to portfolio manage these loans.
53. To be clear, adoption of this option means using the same calibrations as proposed in Option B. For standardised banks the risk weight would be determined in accordance with Table 3 above. IRB banks would have to develop their own PD and EAD models, with the LGD determined on the basis of Table 2.
54. The outcome would be very similar to Option B apart from IRB banks being able to treat residential property investment exposures as retail and managing them on a portfolio basis. IRB banks might also find it easier to adapt existing PD models to fit this new group of loans. For banks operating on the standardised approach, there is no substantial practical difference to the outcome discussed under Option B.

Discussion of options

55. The Reserve Bank's preferred option at this stage is Option C. Option A could be costly for some banks to implement and does not appear to be well-suited to residential property investment loans given its information requirements and prescribed risk weights. Option B allows IRB banks to use internal models and Reserve Bank prescribed factors such as the LGD and the correlation to be appropriately calibrated. Standardised banks' would continue to determine risk weights based on a loan's LVR, appropriately calibrated. Option C, however, provides a higher degree of flexibility compared to Option B by leaving loans in the retail asset class. The Reserve Bank therefore favours Option C at this stage. The Reserve Bank acknowledges that this is a departure from the Basel guidelines but considers that the profile of property investors in New Zealand, with more small property investors than perhaps elsewhere, justifies keeping property investment loans in the retail asset class.

Question 8: Are there any other asset class options the Reserve Bank should consider?

Question 9: What are the costs for your bank to migrate residential property investment loans to a new retail asset class?

Question 10: Do you have any comments on the Reserve Bank's preferred option of grouping residential property investment loans in a new retail asset class?

Interim arrangements

56. Irrespective of which definition and asset class treatment is decided on, banks are likely to require some time to implement the new requirements. For example, banks will have to assess which of their existing exposures are caught by the residential property investment loan definition, make changes to their information capture and IT systems and retrain staff. This will take some time. The Reserve Bank is therefore currently minded to phase the new requirement in over a period of nine months.
57. IRB banks may also have to develop new models for their residential property investment loan portfolio, although that is not necessarily the case and existing PD models would form a good basis on which to build residential property investor specific models. IRB banks, however, would have to amend their capital engines for residential investor loans to use the proposed LGDs and correlation factors.
58. It is proposed that IRB banks operate under the same risk weight requirements as standardised banks until their new models have been approved by the Reserve Bank. Furthermore, it is proposed that the new asset classification for residential property investors takes effect from 01 July 2015.

Question 11: How long do you envisage it would take to implement the proposed new requirements?

Question 12: Do you have any comments on the proposed interim arrangements?

Part II

Capital requirements for reverse mortgage loans

59. A reverse mortgage is a loan secured by a residential property where no principal payments and generally no interest payments become due until the property is vacated or sold.¹⁰ Recourse to other assets is normally not available to the reverse mortgage lender, which means that the lender bears any negative equity risk. Reverse mortgages are generally marketed to borrowers who are retired and have significant equity in their home. A reverse mortgage allows the borrower to access the equity without having to repay or service the loan whilst living in the property.
60. Although not widely offered by banks currently, there are some \$ 400 to 500m worth of reverse mortgage assets held by a small number of banks in New Zealand. With more people reaching retirement age in the coming years and decades, there is the potential for reverse mortgage lending to increase.
61. The risk profile of reverse mortgage loans is quite different from the risk profile of conventional mortgages. This, however, is not currently reflected in the Reserve Bank's regulatory capital requirements. The amount of capital banks hold for their reverse mortgage portfolios may therefore not adequately reflect those portfolio's riskiness.
62. Hence, the Reserve Bank proposes to update its regulatory capital requirements with a capital charge specifically for reverse mortgages. The next section provides a brief discussion of the risk profile of a reverse mortgage loan and how it differs from that of a conventional mortgage. A small number of alternative methods for calculating capital requirements specifically for reverse mortgages are then examined. The Reserve Bank's preferred option at this stage is to opt for a standardised method for all locally incorporated banks that links the prescribed risk weight to the loan's LVR. An exposure draft of the new requirements for reverse mortgages is also included.

Risk profile of reverse mortgages

63. A normal mortgage loan exposes the lender to credit risk in the event of the borrower not meeting his or her repayment obligations and the collateral being insufficient to cover the outstanding loan amount. Reverse mortgages work differently. The total amount one can borrow under a reverse mortgage is normally capped at a certain percentage of the value of the residential property. The older the borrower, the higher the initial amount he or she can borrow. Interest is applied to the initial loan plus any previous interest (compound interest) but no repayments are made until the borrower vacates the property.
64. It may be argued that this means that there is no payment default risk. A meaningful probability of default calculation as per the internal models approach becomes difficult to do and it is questionable whether the prescribed risk weights of the standardised approach should be applied to reverse mortgages.
65. But that is not to say the bank cannot incur a loss. In theory, compound interest could turn a loan into negative equity. Under the terms of standard reverse mortgage contracts, the risk of the property falling into negative equity cannot be passed on to the borrower or the borrower's estate. Once the house is sold, the borrower (or the borrower's estate) is under no further obligation to

¹⁰ Although not common in New Zealand, other variants may include interest payments or a time limit on the principal plus any interest to be repaid.

repay any outstanding amount of the loan. One key risk to the lender stems from the borrower staying in the property longer than anticipated. Another risk arises from a fall in the value of the property. Both of those happening at the same time would pose the greatest risk for the lender.

66. The following illustrative example shows how a 30 percent loan on a property valued at \$ 100,000 could turn into a loss for the lender. The example assumes a 30 percent fall in the value of the property. Clearly, the more conservative the initial loan amount, the lower the probability of the lender incurring a loss, *ceteris paribus*.

Illustrative example only

Value of the house: \$ 100,000
 Initial loan: \$ 30,000
 Annual interest rate: 6%
 Length of time: 15 years
 Loan including compound interest after 15 years:
 \$ 72,000
 Fall in value of the property: 30%
 Property value after 15 years: \$ 70,000
 Negative equity/loss: \$2,000

67. Although the example only illustrates how a single loan could turn into negative equity, there are also risks at the portfolio level. Managing a portfolio of reverse mortgages requires long term assumptions to be made concerning a number of factors. If those assumptions turn out to be wrong, the risk to a lender could be significantly affected. For example, advances in geriatric healthcare might mean that people stay longer in their houses than currently anticipated. That could increase the risk of incurring a loss on a portfolio of reverse mortgages due to compound interest, the possibility of the borrower being granted further top ups and the difficulty of predicted house prices years and decades ahead.
68. While arrangements whereby the reverse mortgage has to be repaid after a certain period of time or stay below a set LVR are theoretically possible, they are not the norm and would most likely be to the disadvantage of the borrower, and thus undermine the attractiveness of a reverse mortgage.
69. To emphasise, one way in which the risk profile of a reverse mortgages differs from a normal mortgage is in the time dimension. Whereas a normal mortgage loan decreases over time, the opposite is the case for a reverse mortgage.

Question 13: Do you consider it important that reverse mortgages are subject to specific regulatory capital requirements?

Policy options

70. This section discusses three policy options: the status quo of not having any specific capital requirements for reverse mortgage portfolios and two alternative methods of calculating a specific capital charge.

Status quo

71. The status quo would mean that banks continue to use the capital requirements for conventional mortgages to calculate the capital for their reverse mortgage portfolios. For standardised banks it means that the risk weights might be miscalibrated and not reflect the actual risk associated with reverse mortgages. IRB banks' would find it difficult to use models devised for conventional mortgages to calculate the risk parameters of reverse mortgages, and hence also be using inappropriate risk parameters. While not a big issue right now given the relatively small size of the reverse mortgage market in general, the issue is likely to become increasingly problematic if banks grow their reverse mortgage portfolios. The absence of a specific capital requirement for reverse mortgages would also add a degree of regulatory uncertainty for banks, who might consider that the Reserve Bank is likely to change the capital requirements for reverse mortgages at some point. That could have negative consequences for market efficiency and innovation.

Exposure based net present value calculation

72. This approach does not alter the risk weights of the regulatory capital calculation for conventional mortgages. Instead, it adjusts the exposure amount by calculating the net present value (NPV) of the expected future accrued interest and adds that to the principal loan amount. For a standardised bank, it means that an exposure whose LVR remains below 80 percent would incur a risk weight of 35 percent, rising to 50 and 75 percent in the high LVR brackets (assuming no lender's mortgage insurance). IRB banks would have to adjust the LVR, and hence the LGD, and the exposure estimate. This type of approach is similar to that adopted by the Financial Services Authority in the UK.

Specific risk weights for reverse mortgages (APRA approach)

73. This option builds on the standardised approach by linking the risk weight for a reverse mortgage loan to the exposure's LVR.¹¹ Both standardised and IRB banks would follow the same approach. The reason being that a reverse mortgage portfolio does not lend itself to an estimation approach for PDs in the way that a portfolio of conventional loans does. Compared to the standardised risk weight, the risk weights for reverse mortgages would be calibrated at a higher level. The higher risk weights approximate the NPV of the future accrued interest on the borrowed amount. This approach has been adopted by APRA. Given the close connections between the New Zealand and Australian banking sectors, there is an a priori case for aligning the prescribed risk weights with those in Australia.

Question 14: Are there any other options the Reserve Bank should consider?

Assessment of options

74. The status quo of not having a policy on non-standard mortgage products such as reverse mortgages means relying on the capital treatment of conventional mortgages. Capital requirements for reverse mortgages would not adequately reflect the risk associated with those products.

¹¹ See Table 4.11 in section 36 of BS2A

75. The second option may be intellectually more accurate than the third option but it is more complicated as it requires an NPV of the expected future exposure, which is uncertain. The added level of complexity compared with APRA’s approach might add unnecessary costs and seems difficult to justify at this stage given the small size of banks’ reverse mortgage portfolios. The Reserve Bank’s preferred option at this stage is the third option. An exposure draft of this option and the proposed risk weights is shown in the following section.

Question 15: Do you have any comments on the Reserve Bank’s proposed preferred option of aligning capital requirements for reverse mortgages with the prevailing regulatory requirements in Australia?

Exposure draft of proposed capital requirements for reverse mortgage loans

76. It is proposed to amend Table 4.11 of BS2A as follows. The right hand side of Table 4.11 of BS2A stating the risk weights for reverse mortgages and the definition of the term reverse mortgage would also be incorporated into BS2B.

BS2A

“Residential mortgage loans not past due

(1) The risk weight for a residential mortgage loan that is not a 90 day past due asset is the risk weight that corresponds to the loan-to-valuation ratio and lender’s mortgage insurance conditions set out in Table 4.11.

Table 4.11
Risk weights for claims secured by first mortgages over residential property

<i>Loan-to-valuation ratio</i>	<i>Risk weight for standard mortgages (%)</i>		<i>Risk weight for reverse mortgages (%)</i>	
	<i>if there is lender’s mortgage insurance that qualifies under section 38</i>	<i>if there is no lender’s mortgage insurance or lender’s mortgage insurance that does not qualify under section 38</i>		
does not exceed 80%	35	35	Does not exceed 60%	50
exceeds 80% and not 90%	35	50	Exceeds 60% but not 100%	100
exceeds 90% and not 100%	50	75		

(2) Residential mortgage loans with loan-to-valuation ratios of more than 100% are treated as “other assets” and risk weighted at 100%.

(3) A standard mortgage is loan for a residential property with an agreed repayment schedule which includes a fixed or floating interest rate and repayments at regular intervals. Standard mortgages include interest only mortgages so long as the principal loan amount plus interest will be nil at the end of the amortisation period.

(4) Reverse mortgages are loans made against the equity a person has in their residential property. They do not require repayment of principal or interest until a specified event is triggered, e.g. the borrower vacates the property. The risk of negative equity resides entirely with the lender so that at no point can the borrower be made to make up any shortfall of the loan (plus compound interest) over the value of the property. Reverse mortgages are capped at an age-related LVR, only available to borrowers above a certain age and require a credit assessment process that involves the borrower’s next of kin such as family and whanau.

(5) Any mortgage product that does not meet the criteria set out here should potentially be treated as other lending and requires the Reserve Bank’s approval if it is to be treated as residential mortgage lending.

(6) If the LVR of a reverse mortgage rises above 100 percent, the exposure is to be treated as impaired. The difference between the outstanding amount (net of provisions) and the value of the property (including disposal costs) must be deducted from Tier one capital and the remainder be given a risk weight of 100 percent.

(7) For reverse mortgages products, the bank must update the loan amount and the LVR calculation in line with the interest accrual.

(8) Any caps on the lender’s share in the equity proceeds of the residential property must be reflected in the LVR calculation. “

Question 16: Can you envisage any issues with the proposed implementation of the new requirements as per the exposure draft?

Part III

Removal of the qualifying revolving retail exposure option from BS2B

77. Basel II framework for IRB banks introduced the concept of a ‘Qualifying Revolving Retail Exposure’ as one of three categories of retail loans. The other two categories are residential mortgages and other retail, a catch all for retail loans other than residential mortgages. The QRRE category is intended to be used for short-term unsecured revolving lines of credit, e.g. credit cards and certain overdraft facilities. In New Zealand credit card loans account for approximately 1 to 3 percent of banks’ total lending portfolios. Compared to the other two categories, the capital requirement for QRRE loans is generally lower (except for some very high probability of default (PD) buckets).
78. In line with Basel II, the Reserve Bank’s capital adequacy requirements provide for the use of the QRRE category. However, use of the QRRE classification is subject to Reserve Bank approval and no bank has been granted approval as yet. The Reserve Bank is concerned that some of the underlying assumptions of the QRRE category do not apply in the New Zealand context. The evidence supplied by banks when seeking approval for QRRE use has not been able to demonstrate the validity of those assumptions in New Zealand. A Reserve Bank Bulletin article in 2009 already discussed these issues in more detail.¹²

Key QRRE assumptions and Reserve Bank concerns

79. The key parameters of the Basel equation for retail exposures are the probability of default (PD), loss given default (LGD), the exposure at default (EAD) and the asset value correlation (AVC). The latter captures co-movements in asset values. The correlation values for the various retail loan categories are prescribed in the Basel framework, which generally assumes an inverse relationship between PD and asset correlation (i.e. AVC) – higher PD buckets have lower AVC values.
80. The correlation value for the QRRE category is fixed at 0.04. Compared to other retail loan categories, this is a rather low value. (For instance, it is 0.15 to 0.21 for residential mortgages; between 0.12 and 0.24 for large corporate loans; and 0.03 to 0.16 for other retail.) The low correlation value can be explained by the assumption that credit card loans tend to have a high PD, supported by some empirical evidence from the US from the time before the GFC.
81. A crude way of seeing the combination of relatively high PD/low AVC is that one partly offsets the other in terms of capital implications. All else equal, a low AVC generates a lower capital charge and a higher PD a higher capital charge.¹³ Hence, the combination of high PD/low correlation tends to yield a plausible capital charge.
82. While this might be reflective of the situation in some other jurisdictions, in New Zealand it is relatively more difficult to obtain a credit card. In the Reserve Bank’s view, this means that there is relatively more exposure to systemic risk and less to individual risk. The effect of this is lower average PD rates but a higher AVC compared to the Basel assumptions underpinning the QRRE

¹² See Reserve Bank Bulletin, vol 72, no 3, September 2009

¹³ This is not true for all PDs as very high PDs may produce lower capital outcomes because of high loss provisioning (difference between expected and unexpected loss).

category. Indeed, information available to the Reserve Bank suggests that IRB bank's credit card portfolios do not display significantly lower loss volatilities than other retail portfolios. The combination of a low PD and a low AVC, which would be the case in New Zealand, would lead to extremely low risk weights that are unlikely to reflect the real risk associated with credit card and other revolving retail portfolios.

83. The following table illustrates this. A PD of 1.2 percent in combination with the Basel correlation of 0.04 would lead to a risk weight of 33 percent. This would be similar to a mortgage loan on a residential property. Bearing in mind that mortgage loans are backed by a residential property and credit card loans are unsecured, this appears inconsistent. However, if one assumes a higher PD, the risk weight outcome becomes a more realistic 91 percent (second row). Changing the AVC to 0.12 would produce an outcome similar to that generated by assuming a higher PD.

Exposure	PD	LGD	QR_Cor	Capital	RWA	RWA%
1,000.0	1.20%	75.0%	0.04	0.026	329.8	32.98%
1,000.0	5.00%	75.0%	0.04	0.073	912.4	91.24%
1,000.0	1.20%	75.0%	0.12	0.068	852.6	85.26%

Proposal for addressing the issue

84. Since the main issue lies with the low PD, low AVC combination underpinning the QRRE calibration, one option would be to grant QRRE classification but to increase the AVC to something that is more reflective of New Zealand conditions. However, that is akin to using the correlation of the "other retail" category for QRRE. The Reserve Bank considers it more appropriate group credit card and revolving retail loans in the "other retail category and to remove QRRE as an option from its capital requirements for IRB banks (BS2B). This would improve clarity within BS2B while having no direct impact on banks since no bank has been given approval to use the QRRE option.

Question 17: Do you have any comments on the Reserve Bank's rationale for and proposal of removing the QRRE category from BS2B?

Part IV

Removal of foundation IRB approach

85. The Reserve Bank's capital requirements for banks operating under the IRB approach currently contain an option for banks to avail themselves of the foundation IRB approach. This approach is a hybrid between the standardised approach and the (advanced) IRB approach. It lets banks use their own approved internal models for estimating PDs, while the other parameters used in the RWA calculation continue to be prescribed by the Reserve Bank.
86. No bank in New Zealand has ever sought approval to use the FIRB approach. The Reserve Bank also considers its implementation of the (advanced) IRB approach sufficiently flexible to be more prescriptive where that is required. For example, minimum LGDs for housing loans are prescribed in BS2B.
87. Since the FIRB approach is not used and extremely unlikely to be used in the future by any New Zealand incorporated bank, the Reserve Bank proposes to remove it from BS2B. There will be no direct impact from this. Removing it from BS2B would improve clarity and contribute to the objectives of the Reserve Bank's ongoing regulatory stocktake.

Question 18: Do you have any comments on the proposal to remove the foundation IRB approach from BS2B?
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