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Review of mortgage bond collateral standards

Improving the quality and liquidity of collateral instruments through simple, transparent and comparable (STC) mortgage bond standards

November 2017

Submission contact details

The Reserve Bank invites submissions on this Issues Paper by 5pm on 16 February 2018. Please note the disclosure on the publication of submissions below.

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Publication of submissions

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Respondents who request that all or part of their submission be treated as confidential should provide reasons why this information should be withheld if a request is made for it under the Official Information Act 1982 (OIA). These reasons should refer to section 105 of the Reserve Bank of New Zealand Act 1989, or the grounds for withholding information under the OIA. If an OIA request for redacted information is made the Reserve Bank will make its own assessment of what must be released taking into account the respondent's views.

The Reserve Bank may also publish an anonymised summary of the responses received in respect of this Paper.

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Summary

Economic actors need safe stores of value. Such stores of value are usually supplied from lower risk financial assets (like government bonds, tradable securities or cash). A shortage of 'safe assets' can imply that the instruments for households to save for their retirement, for corporations to manage their liquidity, and for the Reserve Bank to implement monetary policy or to lend against good collateral, become restricted. Therefore, a sufficient supply of high quality financial assets remains important in general in any market.

The Reserve Bank's domestic market operations (i.e. borrowing from, or lending to eligible counterparties such as banks and other financial market participants) manage the amount of New Zealand dollar liquidity available in the financial system, which is an important part of implementing monetary policy and in operating payment systems efficiently (Parekh, 2016).

In addition to its day-to-day role in managing financial system liquidity, the Reserve Bank is mandated to act as lender of last resort in times of market stress. Section 31 of the Reserve Bank Act (1989) requires the Bank to act as lender of last resort if it considers that lending is required to maintain the soundness of the financial system (Nield, 2008). The Reserve Bank may decide to lend at longer terms to support confidence and liquidity in the financial system.

When the Reserve Bank lends to banks and other counterparties it does so against 'eligible collateral' (usually lower risk financial assets). The rules on collateral eligibility are designed to protect the Reserve Bank from loss if the borrower is unable to repay the funds when due.

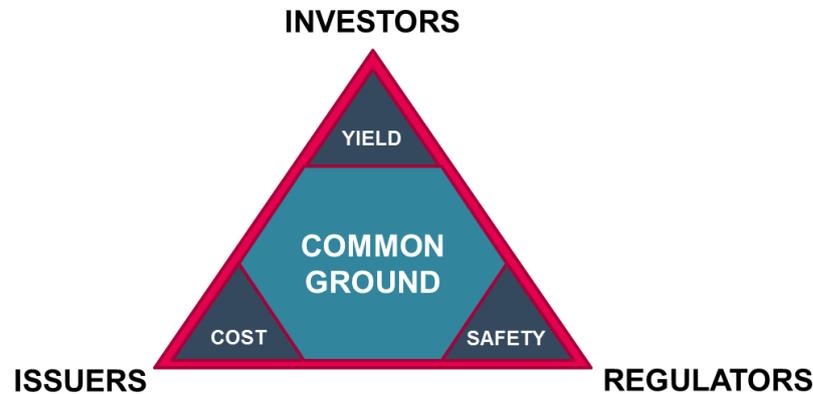
In the decades prior to 2008 the schedule of eligible collateral comprised mainly government bonds and selected other tradable securities. When the availability of these securities became limited during the global financial crisis (GFC), the schedule of eligible securities was broadened to make it possible to borrow from the Reserve Bank using securities backed by residential mortgages, because residential mortgage loans form the deepest pool of collateral.

Residential mortgage loans largely represent the mortgage borrowing of New Zealand households. For the purpose of becoming eligible collateral, the financial claims from a portfolio of mortgage loans are incorporated into a mortgage bond. This process has helped to transform hard to sell (illiquid) individual mortgage loans into a 'liquidity substitute' that can be pledged to obtain cash from the Reserve Bank. If a counterparty that had pledged mortgage bonds as eligible collateral were to default, the Reserve Bank would be secured through these loans and would eventually be paid back directly by the mortgage borrowers.

This consultation focuses on the terms under which the Reserve Bank is prepared to accept mortgage bonds (such as RMBS or covered bonds) as collateral, whether the standards underlying these bonds should be improved in various ways, or, if progress over the current development stage of mortgage bond markets could better be achieved with a new mortgage bond standard. As well as protecting the Reserve Bank, revisions to these terms may support future debt capital market development by making mortgage bonds less risky and therefore more attractive to a broader range of investors. This could create an additional stable funding option for mortgage lenders in the domestic markets and reduce the likelihood of lenders needing to borrow from the Reserve Bank too quickly if liquidity demands increase temporarily.

If a more substantial market in domestic mortgage bonds did develop in New Zealand, it would need to balance the interests of investors (e.g. yield and safety), issuers (e.g. funding costs) and regulators (the Reserve Bank and Financial Markets Authority). Thus the interests of all of these groups need to be considered when determining if a market could develop (figure 1).

Figure 1: Interest alignment in debt capital markets



Source: RBNZ

The Reserve Bank wishes to lend against collateral that would protect the Bank by holding its value during adverse systemic events or even economic crisis. As part of our policy development, we have thus created a detailed option for future Reserve Bank collateral eligibility, called the Residential Mortgage Obligation (RMO). This adapts frameworks and principles that have been created internationally in order to make secured funding products more simple, transparent and comparable (STC), less risky and (potentially) more marketable.

The Reserve Bank believes that improvements in the current collateral rules and structures of mortgage bonds are required, but has not settled on the RMO option. We are interested in specific feedback about the RMO option, and the ideal transition from the current eligible collateral rules to RMOs (if that is the approach we ultimately take). We are also interested in feedback from interested parties about alternatives we could take to reach our objectives of improving the current collateral standards and of encouraging potential future market development in simpler, more transparent and tradable mortgage bonds.

The consultation package on mortgage bond collateral standards is split into three parts:

Part A provides interested parties with a summary of the role of mortgage bonds in funding and liquidity management operations. It describes a framework to assess collateral requirements, and discusses the results when current mortgage bond formats are assessed against these requirements. It finally outlines the policy objectives and options to improve upon the current development stage for the Reserve Bank, and potentially, for the markets.

Part B outlines how a more standardised Residential Mortgage Obligation (RMO) framework could be employed to improve on the current deficiencies of mortgage bond formats. The benefits and costs of that potential new framework are summarised and assessed. And ultimately an incentive scheme to phase the new instruments into the markets is illustrated.

Part C provides market practitioners in funding and investment operations with the relevant technical information to make an informed judgement about the costs and benefits of such a product including a prototypical valuation model and the key proposed terms and conditions.



Review of mortgage bond collateral standards

PART A

The role of mortgage bonds in funding and liquidity operations

November 2017

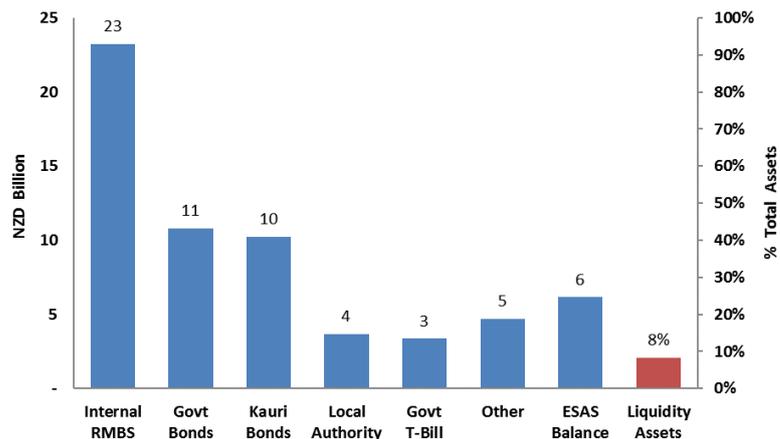
PART A: The role of mortgage bonds in funding and liquidity operations

1. Introduction

1.1 Importance of Safe Assets

1. The Reserve Bank's 2017 Statement of Intent (SOI) includes an initiative to improve the standards and valuation for mortgage backed securities (mortgage bonds) that are accepted as eligible collateral in the Reserve Bank's lending operations and to manage the risks from an economic or market related downturn more effectively.
2. When lending to the banking system, the Reserve Bank currently accepts some collateral (namely, self-securitised residential mortgage-backed securities, called I-RMBS) which would not typically be tradable. This enables banks to have confidence in their ability to raise liquidity at short notice without needing to hold as many truly liquid assets (such as government bonds or cash on deposit at the Reserve Bank).
3. Other central banks also provide 'liquidity upgrades' of this nature to domestic market participants, including the UK (Bank of England; 2015) and Australia (Reserve Bank of Australia; 2017). Such 'liquidity upgrades' are less of a feature in countries with larger volumes of genuinely liquid assets such as government guaranteed debt, or traded mortgage bonds (e.g. Canada, Denmark, Germany or the United States).
4. 'Internal-RMBS' currently represent the largest source of available collateral for trading banks when transacting with the Reserve Bank. I-RMBS also play a prominent role in the liquidity management of the banking system more generally. A high fraction of the liquidity assets held by trading banks actually comprise of I-RMBS. If these RMBS are not tradable, banks remain dependent on liquidity from the Reserve Bank (figure 2).

Figure 2: Reported primary liquid asset balances



Source: RBNZ (31.08.2017)

5. There are alternative forms of eligible collateral. However, the availability of government guaranteed instruments would be more limited. Also during a period of market stress there can be generally a higher demand for government guaranteed securities to store value in, to transact in or to post collateral for existing transactions.

6. There are two major implications out of the above:
 - a. The importance of and dependence on mortgage bonds as liquidity substitutes remains very high. Therefore, the Reserve Bank has an interest in ensuring that these instruments are of a high quality and their nature would be well understood in the markets to make them as liquid and as versatile as possible.
 - b. The level of liquidity assets in the New Zealand markets remains very low in relation to the total stock of financial assets held by regulated banks, insurance companies and managed funds. Therefore, the Reserve Bank has to ensure that sufficient liquidity substitutes are prepositioned or can be scaled up quickly.
7. The central question underlying our consultation is therefore whether the majority of existing mortgage bonds in I-RMBS and covered bonds are ideally constructed collateral for Reserve Bank lending operations, or if it would be better if they were designed differently. A secondary consideration is whether it would be desirable for deeper markets in mortgage bonds to emerge, and whether the Reserve Bank's eligibility criteria for I-RMBS or other related policy settings might currently hinder this.
8. Section 1.2 describes the Reserve Bank's view of the 'ideal' nature of collateral for Reserve Bank operations, and evaluates the securities currently available in the New Zealand market against that standard. Section 1.3 describes the nature of mortgage bonds that are used internationally. Based on this analysis, section 2.1 outlines current policy considerations to improve mortgage bond standards. Section 2.2 notes other policy areas that will be examined in the future, but are not part of this consultation.

1.2 Requirements for mortgage bond collateral

9. The Reserve Bank considers that the ideal collateral for domestic markets should be
 - a. **High Quality.** I.e. less risky (incorporating standardised safety features that reduce the risk for the Bank or an alternative liquidity provider of facing a loss), and transparent (so the Reserve Bank or another creditor is able to analyse the risk in the collateral, and value it). To facilitate comparability, it would also be useful if the securities were homogenous (rather than complex and bespoke).
 - b. **Liquid.** If the securities were tradable and placed with market participants, market prices would provide the Reserve Bank and investors with an indication of the market's perceptions of the risk facing a mortgage pool. The Reserve Bank would also be better placed to sell the collateral if it became the permanent owner. For the securities to be tradable, it would be necessary for buyers to consider them as reasonably safe assets and expect the security to perform effectively even if the originator of the loans defaults.
 - c. **Scalable.** In a prolonged crisis, the Reserve Bank may wish to lend larger sums to counterparties than in normal times. This would be facilitated if counterparties were able to create additional collateral fairly quickly. As mortgage loans represent the majority of bank assets, the mortgage bonds derived from them are a natural way to obtain the necessary flexibility.

- d. **Non-distortionary.** If a collateral policy allows eligible parties to use non-tradable securities as collateral and prudential liquidity assets, then eligible parties may regularly rely on the Reserve Bank to obtain liquidity. That could reduce their incentives to self-insure against liquidity risk by holding truly liquid assets like government guaranteed debt or higher quality mortgage bonds that could be traded in private markets. This distorts markets as it provides eligible parties with a competitive advantage relative to other market participants.

Figure 3: Summary of ideal characteristics for mortgage bond collateral

QUALITY	LIQUIDITY	SCALE	NON-DISTORTIONARY
No principal loss even in severe stress scenario	Observable prices in domestic markets	Sufficient number of eligible loans	Robust liquidity asset holdings
Simple structure, information & control	Tradability in normal market conditions	Scalability of collateral volume	Limited market distortions
Homogenous nature & legal documentation	Operational fungibility in crisis management	Availability of collateral buffers	Reduced Contingency

Source: RBNZ

10. All of these 'ideal characteristics' are summarised in figure 3 above. It is important to note that these requirements are unlikely to be met by a large number of financial instruments in any market. This is why central banks usually tend to focus their eligible collateral classes on security types that allow the highest level of compliance with these principles (such as government debt and some mortgage bonds).
11. There are trade-offs. For example, in order to ensure a sufficient volume of collateral is available, there are situations where central banks accept collateral that would not otherwise be tradable or liquid. Requesting financial market participants to hold less risky and more liquid assets can imply that the returns on their assets are somewhat lower. Transforming illiquid mortgage loans into more liquid securities can change risk and return profiles of market incumbents, allow for new financial innovations and the development of new market segments.
12. The above considerations highlight that changes to the way in which mortgage bonds are originated, funded or used as financial collateral requires a comprehensive analysis. It is also clear that mortgage loans as the largest source of financial collateral will continue to play a central role for financial stability in the foreseeable future. The nature of mortgage loans, the characteristics of mortgage bonds and the ways these bonds are utilised remain important to monetary and financial policy effectiveness. It is in this spirit that the Reserve Bank undertakes the current review.

<p>Question A1: Do you agree these characteristics are appropriate to seek in eligible collateral? Question A2: Do you see scope for RBNZ counterparties to hold other satisfactory collateral?</p>
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How do current NZ mortgage bonds compare against these ideal characteristics?

13. As noted above, the key mortgage bonds that currently have a role as collateral in Reserve Bank operations are internally self-securitised RMBS. The criteria that these I-RMBS must meet are described on the Reserve Bank website.
14. Current criteria require I-RMBS to be rated AAA by a major rating agency, which in turn requires the rating agency to be confident that the securities being provided to the Reserve Bank as collateral are reasonably robust to experiencing losses. In making this assessment the rating agency will look at the quality of the underlying lending and the degree of credit enhancement provided for the securities. The Reserve Bank also imposes a higher haircut when lending against internally securitised I-RMBS (currently 19%).
15. While these factors help to reduce the risk that the Reserve Bank would face a loss if a counterparty defaulted, the securities' value could still be expected to fall by a lot if the originator of the loans was in trouble. A high haircut also means that more loans have to be pledged which can increase the risks facing unsecured creditors of a bank. The collateral may perform less effectively in 'anchoring' expectations about available liquidity. And this could raise uncertainty during a period of economic weakness or financial stress.
16. Other 'quality' features noted above do not appear to be achieved by the I-RMBS either. In particular, the collateral eligibility rules allow the I-RMBS to be structured in bespoke ways, essentially implying that the Reserve Bank would lend at different terms and risks. It is also clear that the I-RMBS are not liquid. I-RMBS are not traded and are not designed in a way that would make them appealing to investors. Amongst other matters,
 - a. The structures and capital support provided to achieve an AAA external credit rating differ significantly among eligible parties. In a severe downturn, some securities could be downgraded quickly, losing their eligibility as collateral.
 - b. In some of the structures, legal provisions allow the single purpose vehicles employed to issue short-term securities to fund long term investments into mortgage loans, a practice which caused significant problems during the GFC.
 - c. Information provided to the Reserve Bank or the markets on I-RMBS is not comparable among issuers. For example, most parties do not provide loan level information to the Reserve Bank that would allow monitoring loan pool quality.
 - d. The quality of the loan pools provided can differ between eligible parties. If the loan pools are revolving they allow eligible parties to vary the composition of the pools at their discretion. The Reserve Bank or an alternative liquidity provider would have not much control or up to date information.
 - e. The legal documentation is fairly complex and bespoke. Some contracts allow for call options and other optionality and these are not documented in the same way by different I-RMBS issuers. These makes these structures less transparent and comparable. And it becomes difficult to value the securities.

17. It is not clear how well the RMBS would function in practice if the originator was in default and the Reserve Bank assumed ownership of the RMBS. It seems likely the RMBS would be difficult to sell in this scenario and would leave the Reserve Bank dependent on a defaulted entity servicing these mortgage loans on behalf of it. There are also uncertainties how these securities would have to be valued once they were held on the Reserve Bank balance sheet. The Reserve Bank carries securities at market value. As there is no market in I-RMBS, the securities' values would have to be modelled with complex models reflecting their bespoke character. This could result in substantially lower valuations for the collateral, negative profitability for the Reserve Bank, and increasing contingency risks.
18. While I-RMBS are in principle scalable, in the Reserve Bank's view, the large role played by self-securitised I-RMBS in bank liquid asset portfolios may be distorting financial markets and inhibiting market development. In particular, the ability of banks to hold non-marketable I-RMBS as liquid assets reduces the incentive for banks to develop truly liquid securities or acquire other types of liquid assets. For example, if I-RMBS were phased out as eligible collateral and no longer counted as a liquid asset for prudential liquidity purposes, banks might have to develop mortgage bonds that were marketable or hold alternative government guaranteed bonds as liquidity assets.
19. There is also a concern that lending to a troubled bank against I-RMBS collateral could increase the risk facing unsecured creditors of that bank if it eventually defaulted. The Bank of England (2015) notes this moral hazard risk with any liquidity support, and suggests support should be provided on terms that encourage counterparties "to manage their liquidity needs safely in the market in normal times rather than turn to the Bank routinely". I-RMBS structures and utilisation as liquidity assets appear to undermine a positive incentive scheme to build up truly liquid debt capital market product segments.
20. Another type of mortgage bond that is eligible collateral in Reserve Bank operations is covered bonds. However, the volume of covered bonds on issue is constrained by the legislative limit on issuance (both in Australia and New Zealand). Also some of the structures of covered bonds are tailored to offshore investor needs, entailing cross-border risks. For instance, if covered bonds are issued in foreign denominated currencies and by offshore institutions who are not eligible parties, their availability and versatility for domestic purposes is limited. And the domestic secondary market tradability is rather low.
21. Depending on the actual level of over-collateralisation required, covered bonds tend to encumber a relatively high amount of assets per securities issued, thereby subordinating other unsecured creditors of the issuer. Most covered bonds are hard-bullet, increasing roll-over and issuer default risk if no new bonds can be issued.
22. So while covered bonds are backed by a statutory framework and are in principle tradable, these factors make it unlikely they could be acceptable and effective as a replacement for I-RMBS as a key form of collateral for Reserve Bank operations.

<p>Question A3: Do you agree that I-RMBS and covered bonds are unlikely to meet the Reserve Bank's 'ideal' criteria for eligible collateral set out above?</p> <p>Question A4: Would there be benefits from making mortgage bonds tradable to liquidity providers other than the Reserve Bank including in normal times or periods of distress?</p>

1.3 Role of mortgage bonds internationally

23. This section explains the role of mortgage bonds in funding, liquidity and asset management operations, how mortgage bonds performed historically and what characterises the most common formats of mortgage bonds in global markets.

Funding and liquidity management

24. In many countries, mortgage bonds (including covered bonds and RMBS) play an important role in providing banks and non-bank lenders with a source of term funding. Apart from being funding instruments, some mortgage bonds can be used as collateral in short and medium term funding transactions with other financial institutions (Repos). In some countries (e.g. Denmark) some mortgage bonds are of a quality that allows securities to be sold outright for cash on an intraday basis at very low bid-offer spreads. In other markets (including New Zealand and Australia), the volume of mortgage bonds outstanding is smaller. Moreover, the bonds that are on issue in Australasia are also mainly self-securitised RMBS, retained by the issuing bank as eligible collateral.

Asset management

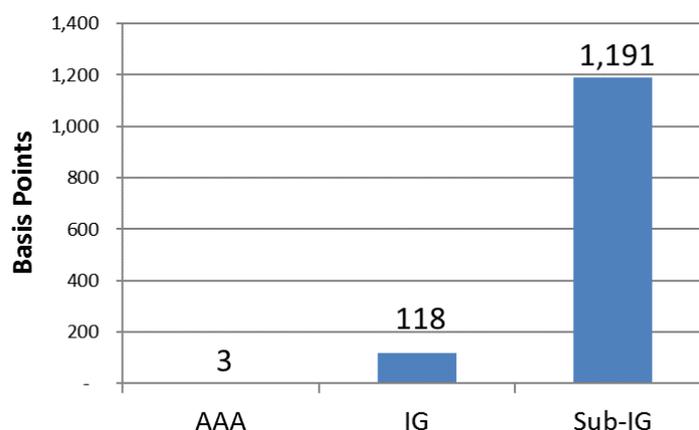
25. Besides being a funding and liquidity management instrument for lenders, mortgage bonds can be an important and attractive asset class for managed funds and institutional investors. These market participants manage large pools of funds from household savings, insurance premiums and the like. They need to look for liquid instruments to invest in as part of their liquidity management. In many countries, a substantial part of investments is also directed to longer term mortgage bonds as part of the portfolio management strategy.

Historic performance

26. While some investors will be prepared to take on credit risk in exchange for higher yields, others will want to purchase securities with sufficient resilience that they are highly unlikely to default. Globally, it has been argued that there is a shortage of such safe assets given the increasing need for households to save for their retirement, including in fast growing emerging economies (Caballero et al. (2017)). To satisfy this need for safe assets, the quality of support mechanisms built into these bonds needs to be strong in order to retain confidence in their value and keep them tradable in times of stress.

27. The past decade has illustrated that mortgage bonds did not always hold up well during periods of financial market stress. For example, the US market performed badly during the 2007/08 subprime crisis. At the same time liquidity dried up in a number of other RMBS markets (UK, Australia). Covered bond markets also faced difficulties in some countries in Continental Europe during the GFC and the Euro crisis of 2012/13.

28. Some mortgage bonds are riskier than others. The losses that the Reserve Bank or an alternative liquidity provider could expect depend on the quality of the instrument. High quality or 'prime' mortgage bonds have performed well throughout recent crisis periods, with virtually no losses, while lesser or low quality instruments performed badly (figure 4).

Figure 4: Losses from mortgage bonds (2000 – 2016)

Source: FITCH; RMBS in EMEA countries (IG: Investment Grade)

Different mortgage bond structures

29. The most common formats of mortgage bonds observed in global markets are covered bonds, covered mortgage bonds and residential mortgage backed securities. Although all three are backed by residential mortgages, they differ significantly in structure, and characteristics including safety features provided to investors (figure 5).

Figure 5: Stylised summary of prime residential mortgage bond features

	COVERED BONDS	COVERED MORTGAGE BONDS	RMBS
ISSUER	Originator	Facilitator	SPV
LEGAL FRAMEWORK	Statutory	Standardised	Bespoke
ASSET QUALITY	Loans and Bonds	Loans	Loans
NATURE OF POOL	Managed / Revolving	Discrete or Replenishing	Mostly Discrete
LOSS BUFFER	Over Collateralisation	Capital	Subordination
TRANSPARENCY	Medium to Low	High	Medium to High
LIQUIDITY	Medium	Medium to High	Low

Source: RBNZ

30. Covered bonds are issued by loan originators as part of their general funding activities. This implies that the principal and interest cash flows arising from the cover pool (i.e. the underlying loans) do not have to be fully aligned with the payment obligations a lender has as a covered bond issuer. The principal collected from the pool of loans becomes the relevant source of repayment only if a bank was not able to fund itself in the markets. To ensure full principal and interest payment, the covered bonds are 'over-collateralised' to an extent that provides investors comfort that the cash flows from mortgage loans and other assets after accounting for credit losses would be sufficient. At maturity, a covered bond is usually paid back by proceeds from issuing a new covered bond. If such a 'roll-over' is not possible or if the issuer defaults, investors have a direct claim on the cover pool and (if there remains a shortfall after that) a further claim on the originator. Despite their statutory nature covered bonds thus remain complex to analyse.

31. Covered mortgage bonds are issued by agencies, specialised mortgage credit institutions or master trusts (facilitators). These facilitators purchase mortgage loans from originators and fund these purchases through issuance of mortgage bonds. The difference from covered bonds is that the principal payments are usually passed through or there is a close consistency between the maturity of the bonds and the underlying loans. That makes these facilitators safer by reducing the need to raise fresh funding to pay back investors at maturity. Investors again have a claim on the cover pool, and the facilitator is typically required to hold capital as a buffer for any first losses and to reduce the risks facing investors in covered mortgage bonds. However, there is no further ability to claim on the originating institution. The transparency over the asset risks carried by the facilitator and the originator respectively is thus higher. As the framework is reasonably standardised, the likelihood of a dispute over the claims in the event of a default is lower.
32. Residential mortgage backed securities are issued by Single Purpose Vehicles (SPVs or Trusts). Similar to a factoring process, the financial claims from a pool of mortgage loans are either assigned or sold to separate legal entities to shield investors from the risk of the loan originator becoming bankrupt. The SPV then issues RMBS which are repaid with the principal and interest collected over time from the mortgage loans. The originator of the loans (e.g. a bank) usually remains the servicer of the loans but does not guarantee the performance of the RMBS. To ensure there are positive incentives that the underlying mortgages are originated responsibly, it is common for regulators to require the issuer to retain a significant proportion of the riskiest tranches of the RMBS (so called 'risk-retention'). As the RMBS are bespoke, investors need to judge on their structural features and documentation risks every time for each RMBS issued.
33. Apart from these structural features the performance of mortgage bonds depends on:
- a. **Legal framework** – the legal framework for covered bonds is usually statutory and most countries have implemented covered bond laws. In a covered mortgage bond market, structures tend to be highly standardised in order to control the quality and ensure the securities are comparable. In contrast, RMBS frameworks are more bespoke and allow for more flexibility.
 - b. **Asset quality** – The nature of eligible loans and underwriting standards differ for all three mortgage bond frameworks. Covered bonds usually focus on Loan to Value Ratio (LVR) requirements but leave an originator reasonably high flexibility with regard to other underwriting criteria. Covered mortgage bonds tend to define LVR restrictions in combination with other underwriting or funding program criteria. RMBS also have rules in these areas, but tend to be more flexible in the requirements for the eligible loans accepted.
 - c. **Nature of pool** – The mortgage bond types also differ with respect to the control over the ongoing loan portfolio composition. A covered bond is issued by an originator who would usually keep the ability to add to or remove loans from a revolving pool subject to fulfilling certain minimum criteria. Some mortgage bonds allow their issuers to 'replenish' the underlying collateral for a period rather than immediately repaying investors when the loans are repaid. Where replenishment is not allowed, the cover pool is described as 'discrete'. Covered mortgage bond pools can be discrete or replenishing, depending on the program. RMBS collateral pools are mostly discrete.

- d. **Loss buffer** – The resilience of the mortgage bond types to credit losses depends on the different protection mechanisms used to provide a loss buffer. Covered bonds make no distinction between the capital provided to investors or to other creditors and this capital level can change through time. Investors are collateralised with a loan notional that is higher than the notional of their bonds. Covered mortgage bonds, in comparison, provide explicit capital support. RMBS also provide for an explicit loss buffer by issuing subordinated note classes.
- e. **Disclosure** – The information that has to be made available on covered mortgage bonds and RMBS is naturally much more detailed and up to date because investors in them rely on the proceeds from the loan pools alone. This allows investors to monitor the quality of the underlying loans continuously through time. As the composition of loan pools in covered bonds can change at any time and without notice, information about the actual composition is of lower value. Investors have to rely on the process of supervision through a trustee who would oversee that the loans assigned comply with the minimum criteria.
34. Reflecting these uncertainties and the difficulty to determine a fair secondary market value, the market liquidity of these mortgage bond types can be very different. For example, covered bonds remain dependent on future financial conditions surrounding an originator, future underwriting quality and unsecured ratings. Any uncertainties can reduce secondary market liquidity in them. In comparison, covered mortgage bonds depend solely on the quality of the loan portfolio – investors give less weight to the senior unsecured rating and strength of an originator when valuing these bonds. The valuation of RMBS depends on the quality of the loans but also on understanding how bespoke features influence values.
35. Judging from more recent crisis periods, it appears that covered mortgage bonds have tended to be more reliably liquid than covered bonds and RMBS. This could relate to their standardised nature and transparency of covered mortgage bonds (Danske Bank, 2016), which allows a wide range of investors to assess and have confidence in their credit quality. Some covered bond markets have become more illiquid in crises, even if the quality of the underlying collateral appeared to be reasonably high (IMF, 2016). Finally, the relatively bespoke nature of many RMBS markets has led to those products being the least liquid in a downturn or a crisis as seen in the UK, US and in Australasia.
36. A global comparison of covered bond formats is available from the European Covered Bond Council Handbook (ECBC, 2017). Examples for covered mortgage bonds can be obtained from the Nordic Covered Bond Handbooks (Nordea, 2017; Danske Bank, 2016) or from rating reports for Mortgage and Housing Finance Agencies (Moody's, 2016). Examples of RMBS can be explored with reference to Australian RMBS (RBA, 2015). A summary of the lessons learned for mortgage securitisations can be obtained from the IMF and BIS websites (IMF, 2013; BIS; 2013).

Question A5: Do you agree it is feasible to create more resilient mortgage bond markets?
 Question A6: What would be the critical features required to achieve this?
 Question A7: What would be the challenges creating such products in New Zealand markets?

2. Policy Options

2.1 Current considerations

37. The earlier sections of this paper, considered the 'ideal' criteria for collateral in Reserve Bank domestic market operations, and identified shortcomings in the current I-RMBS framework. The paper also explored the wider role played by mortgage bonds in other countries. This section considers policy options that could bring the mortgage bond collateral eligible in Reserve Bank operations closer to the 'ideal' criteria described, and also potentially facilitate market development and reduce existing impediments.
38. To encourage the development of deeper secured funding markets and encourage a broader range of investors to participate in such markets, the Basel Committee on Banking Supervision (BIS) and the International Organisation of Securities Commissions (IOSCO) has suggested the development of simple, transparent and comparable (S-T-C) standards (BIS/IOSCO, 2016). The idea is that such standards could help to ensure that issuers, investors and regulators could all better understand the risks and returns from holding secured bonds, including having a greater ability to assess, value, and price the bonds.
39. The Reserve Bank has developed a prototypical structure for a New Zealand mortgage bond or Residential Mortgage Obligation (RMO). This is in the spirit of the STC standards, and is also designed to be reasonably homogeneous across issuers, as this would allow investors (and the Reserve Bank) to more easily compare the offerings from different issuers. The standard is reasonably prescriptive to ensure collateral requirements are met.
40. The largest mortgage lenders in New Zealand are subsidiaries of Australian banks. Recently, a new securitisation regulation for Australian authorised deposit taking institutions (APS 120) has been implemented. The RMO standard has been designed in a way that could make RMO compliant with requirements under APS 120 (APRA, 2016).
41. The detailed RMO proposal and alignment with these principles is contained in part B of this consultation. Further technical details are summarised as an appendix (Part C). The remainder of this section describes why the Reserve Bank believes the RMO standard could come closer to the 'ideal' characteristics for collateral described in section 1.2.
42. At this stage, the RMO standard is a proposal. The Reserve Bank is interested in the views of respondents as to whether it goes far enough or further than is necessary. And whether alternative approaches to improving collateral quality and achieving the objectives described above could be contemplated. As one of the objectives is to encourage the development of markets, we are interested in whether the proposal sufficiently balances the interests of issuers, investors and regulators.
43. In terms of the *quality* aspects noted above, the proposed RMO structure is intended to be transparent and homogeneous, so that the Reserve Bank, alternative liquidity providers or investors in private markets would be able to model and understand the risks inherent in owning the securities. The RMO would also be intended to turn a large proportion of the value of the underlying mortgages into a safe asset that the Reserve Bank and other investors could be confident would hold its value in times of stress. A stable valuation allows lower haircuts and can help to limit encumbrance of assets on bank balance sheets.

44. While there is no certainty that liquid markets in RMO would develop (investors and issuers will ultimately hold the keys in determining this), the Reserve Bank believes there is potential for such a market to develop if the instruments are reasonably standardised. Authorities in other countries (such as in the US, Europe and parts of Asia) are also currently seeking better standards in order to revive secured term funding markets in their jurisdictions. Simplification of capital structures, increased issuance frequency and a rising share of amortising bonds are commonly regarded as features that could encourage this (European Commission, 2015; U.S. Treasury, 2017).
45. On the investor side, we believe that the homogeneity of the securities would assist in developing markets, in a similar way to other standards such as the Kauri bond standard (Groom (2008)). Assuming the RMO was eligible collateral to the Reserve Bank, this would also help raise issuer and investor confidence that the security could be used to obtain cash as needed. Similarly, the repo-eligibility of Kauri-Bonds probably encouraged that market to develop.
46. In terms of *scale*, mortgage lenders would be expected to have substantial volumes of suitable mortgages to create RMO to the proposed standard. We believe banks would be able to create enough to replace the I-RMBS currently held by banks as collateral for borrowing from the Reserve Bank, and potentially considerably more.
47. The incentives for issuers to sell RMO to investors are likely to depend on policy decisions taken by the Reserve Bank. For example, if the Reserve Bank was happy to accept RMO on a single name basis (as is currently the case with I-RMBS), issuers may prefer to hold RMO on their own balance sheet rather than sell them. This may *distort* markets, as it allows the issuer to benefit from knowing the RMO can be liquefied using the Reserve Bank facilities during a crisis, allowing to benefit from lower holdings of more expensive liquidity assets that could be used to raise liquidity in private markets. Thus there would continue to be some implicit subsidy for counterparties from trading with the Reserve Bank.
48. Moreover, the Reserve Bank believes that RMO would likely represent better collateral if there was an observable market price, and they are being provided to the Reserve Bank by a borrower other than the originator of the loans (this is called ‘two-name’ basis). For these reasons, the Reserve Bank might ultimately limit the extent to which it is willing to lend against single name RMO, or charge some sort of fee in consideration of the additional risks associated with treating single name RMO as eligible collateral. As well as compensating the Reserve Bank for the risks associated with taking non-marketable collateral, a fee could offset the implicit subsidy and give banks incentives to market their collateral as much as possible. These issues are discussed in more detail in Part B.

Question A8: Do market participants agree that RMOs broadly meet the criteria set out by the Reserve Bank for ‘ideal’ eligible collateral (a detailed description is provided in Part B)?

Question A9: How much weight should the Reserve Bank put on RMO securities actually being traded relative to the other characteristics discussed?

Question A10: Are there alternative instruments the Reserve Bank could consider as eligible collateral in order to reduce reliance on I-RMBS?

Question A11: Do you think RMO would in principle be compliant under APS 120? Is this a reasonable requirement in the New Zealand regulatory and financial market context?

2.2 Future Policy Options

49. The immediate policy considerations outlined in section 2.1 have been focussed around the short to medium term requirements to improve on the current collateral quality, the market distortions and the systemic risks that are potentially arising from them – with an eye to supporting future market development.
50. However, replacing I-RMBS with a different mortgage bond instrument would not address all the policy issues under the Reserve Bank’s ambit that relate to secured funding markets and eligible collateral, and could raise other policy issues. Issues which are out of scope of the current consultation that could be reviewed in the future include:
- a. **Potential changes to the terms and conditions of RBNZ facilities** – A review would need to assess further options to reduce distortions from the Reserve Bank’s presence as a lender of last resort on financial markets in general.
 - b. **Amendments to the schedule of eligible collateral** – At present the Reserve Bank offers a fairly wide set of eligible collateral and does not enforce any priority ordering. A future review might evaluate the impact of narrowing the collateral schedule to fewer classes or of classifying collateral.
 - c. **Availability of additional eligible collateral** – Monitoring the ability of counterparties to provide additional loan collateral. For example, the Reserve Bank could request regular reports from counterparties about the amount of collateral that could be structured from existing loans, to help understand our ability to provide additional liquidity without relaxing our collateral standards.
 - d. **Prudential liquidity rules (BS13)** – The current rules allowing banks to count illiquid retained mortgage bonds as liquid assets (up to a limit of 4% of their total assets) could be reviewed as part of the future liquidity policy review.
 - e. **Prudential capital rules (BS2)** – The Reserve Bank is aware that the current rules make it relatively complex to obtain capital relief for securitised mortgages. While this is not an immediate priority as part of the current capital review, the Reserve Bank could consider this issue in the future, particularly if domestic mortgage bond markets were to develop.

Question A12: Are there any other areas that should potentially be addressed in the context of developing the Reserve Bank’s ability to lend to eligible parties in the financial system?

Question A13: Are there other essential requirements to developing secured funding markets?

List of Questions

Section		Question
1.2	A1	Do you agree these characteristics are appropriate to seek in eligible mortgage collateral?
	A2	Do you see scope for Reserve Bank counterparties to hold other satisfactory collateral?
	A3	Do you agree that I-RMBS and covered bonds are unlikely to meet the Reserve Bank's 'ideal criteria' for eligible collateral set out above?
	A4	Would there be benefits from making mortgage bonds tradable to liquidity providers other than the Reserve Bank including in normal times or periods of stress?
1.3	A5	Do you agree that it is feasible to create more resilient mortgage bond markets?
	A6	What would be the critical features required to achieve this?
	A7	Which are the challenges creating those in the New Zealand market?
2.1	A8	Do you agree that RMO broadly meet the criteria set out by the Reserve Bank for 'ideal collateral' (a more detailed description of RMO being provided in Part B)?
	A9	How much weight should the Reserve Bank put on RMO securities actually being traded relative to the other characteristics discussed?
	A10	Are there alternative instruments the Reserve Bank could consider as eligible collateral in order to reduce reliance on I-RMBS?
	A11	Do you think RMO would be in principle compliant with APS 120? Are the requirement therein reasonable in the New Zealand regulatory and financial market context?
2.2	A12	Are there any other areas that should potentially be addressed in the context of developing the Reserve Bank's ability to lend to eligible parties in the financial system?
	A13	Are there other essential requirements to developing secured funding markets?

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