Corporate Bonds in the Reserve Bank's Collateral Framework

Jin Lim, Eva Liu, Nathan Walsh, Andrew Zanchetta and Duke Cole[*]

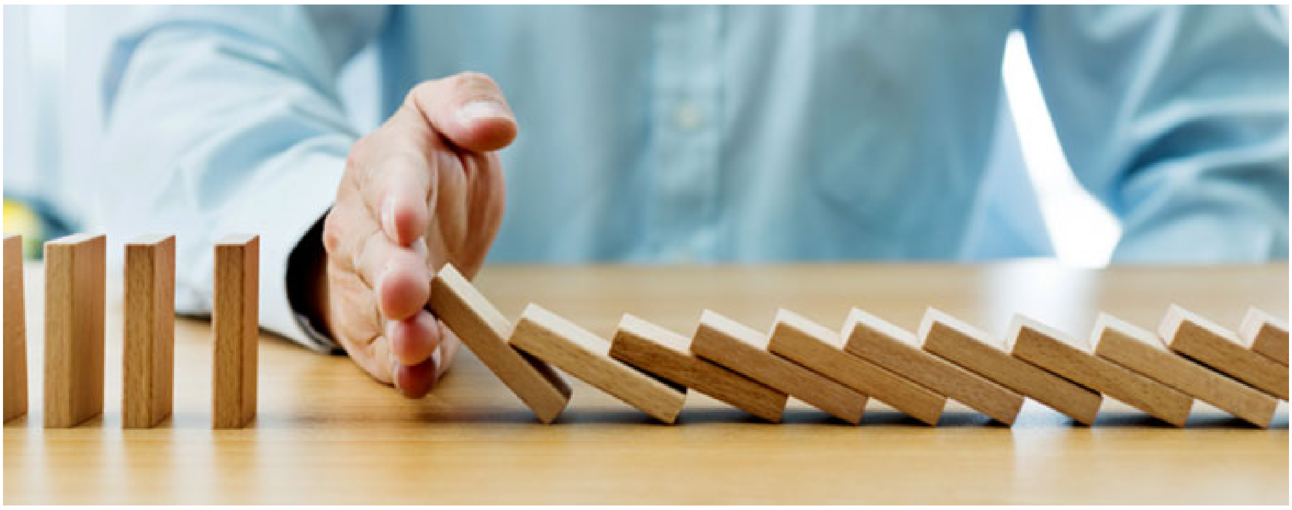


Photo: Baona – Getty Images

Abstract

In May 2020, the Reserve Bank broadened the range of corporate bonds accepted as collateral under repurchase agreements (repo) from AAA-rated to investment grade (BBB- or above). This change in policy increased the universe of potentially eligible securities for domestic market operations by around $150 billion, of which the Reserve Bank has received applications for and granted eligibility to around $50 billion. In assessing applications for repo eligibility, a number of features – including subordination, embedded options and legal risks – required further investigation to ensure the securities remained within the Bank's risk appetite. Corporate securities remain a small share of total eligible collateral. While usage of corporate bonds in repos with the Bank has been relatively modest to date, the policy change to broaden may have provided some support to the Australian corporate bond market.

Expanding repo eligibility to investment-grade corporate bonds

Repurchase agreements (repos) are used by the Bank in its domestic market operations to implement monetary policy, support the smooth functioning of the payments system, and to provide liquidity during times of financial system stress to promote financial stability and support the supply of credit. Repos are a form of secured lending where liquidity is provided to counterparties in exchange for collateral (i.e. securities). On 5 May 2020, the Reserve Bank broadened the range of corporate bonds accepted as collateral under repos from AAA-rated to investment grade (BBB- or above) (RBA 2020). Corporate bonds include securities issued by companies as well as those issued by entities established under an Australian Government, state or territory law, such as universities.[1] This policy change aligned the credit rating requirement for corporate securities with that for authorised deposit-taking institutions (ADIs – hereafter referred to as banks), whose investment-grade securities have been eligible since 2012 (RBA 2011).

This broadening of the collateral framework added around $150 billion to the value of potentially eligible securities. Based on over 200 repo eligibility applications received from market participants to the end of March 2021, the Bank has granted repo eligibility to corporate bonds valued at more than $50 billion (Graph 1). This compares to around $2.5 trillion in total eligible securities currently outstanding.

The policy change sought to support liquidity in the corporate bond market after financial market conditions tightened with the onset of the COVID-19 pandemic. This was one element of the Bank's wide-ranging policy response to the pandemic (RBA 2021). At the margin, broadening repo eligibility may increase the attractiveness of corporate bonds to investors and therefore support corporate bond issuance and market liquidity. This is because corporate bonds can be used as collateral by eligible counterparties to access liquidity from the Reserve Bank, which may make it easier to fund holdings of those securities, as well as potentially expand the pool of investors willing to hold eligible corporate bonds.

The policy case to broaden the collateral framework was balanced against the financial risk the Bank might incur, which in practice is low for repos. The securities posted as collateral protect the Bank against financial loss if a counterparty defaults on a repo (Naghiloo and Olivan 2017). The Bank would make a loss only if a counterparty failed to repurchase securities sold to the Bank under repo and the market value of the securities fell below the agreed repurchase amount. To manage the risk of the security value falling below the repurchase amount, the Bank:

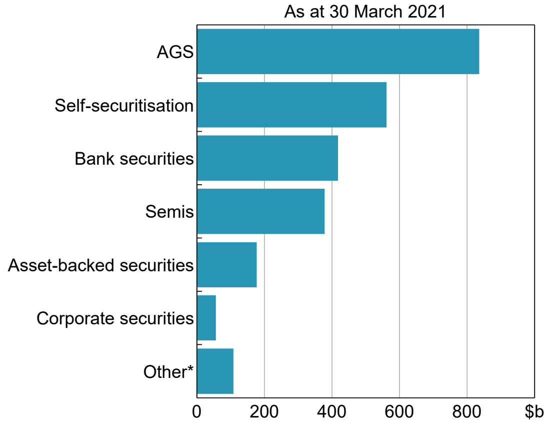
- assesses the securities to ensure they meet minimum eligibility criteria, including creditworthiness;
- applies a margin to each security posted as collateral, by requiring more securities to be provided than the amount of liquidity provided under repo; and
- revalues the securities each day and, subject to market movements, requests additional collateral (i.e. makes margin calls) to maintain sufficient collateralisation.

The margin ratio framework applicable to repo-eligible corporate securities was aligned with the framework that applies to securities issued by ADIs.[2] Margin ratios applied by the Bank for different types of securities are determined based on their credit and liquidity risks. It was judged that the risks associated with corporate securities are, on average, no higher than for debt issued by banks. Some international research suggests that for a given credit rating, non-financial corporate debt is on average less risky than bank debt (that is, the corporate issuer is less likely to default than a bank issuer with the same credit rating).[3] Reflecting this, some central banks such as the European Central Bank (ECB), US Federal Reserve (Fed) and Bank of England (BoE) have collateral frameworks that apply less onerous eligibility standards and/or lower margin ratios to corporate debt than for bank debt.[4] However, the Australian corporate bond market is less developed than in the United States and Europe, which implies a higher level of liquidity risk for Australian corporate bonds compared to corporate debt issued in other international markets.

Graph 1

Outstanding Eligible Securities

As at 30 March 2021



* Other includes supranational debt, securities with government guarantee and other-AAA rated securities

Sources: Bloomberg; Exigo; RBA

Table 1: Corporate Bonds Assessed as Ineligible[(a)]

May 2020 to March 2021

Reason	Number of bonds	Issuance volume (A$b)	Number of issuers
Structurally subordinated	7	3.2	4
Incomplete application	1	0.3	1
Application withdrawn	2	0.9	1
Limited events of default	3	0.9	2
Not directly issued in Austraclear	2	1.4	2
Issuer domiciled in a tax haven	6	0.9	2
Not enough credit ratings	1	0.2	1

(a) Securities are assessed individually; other securities issued by the entities listed may meet the Bank's eligibility criteria. The Bank does not assess eligibility until it has received a complete application for a given security.

Source: RBA

Assessing corporate bonds for repo eligibility

The Reserve Bank assesses securities against its eligibility criteria before they can be posted as collateral in repos. Some corporate bonds contain features that may pose elevated risks to the Bank, or would otherwise not support the Bank's policy objectives, and these can be grounds to reject applications for repo eligibility. This section explores 3 of these features:

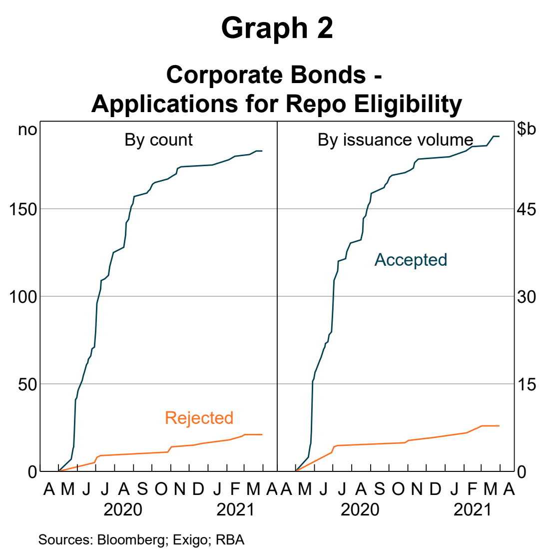
- Subordination
- Embedded options
- Foreign issuers

In most cases, the Bank has assessed that the risks that might arise from investment-grade corporate bonds are within the Bank's risk tolerance. Of the more than 200 applications received since May 2020, 183 securities from 74 different issuers were approved, while the Bank rejected 21 securities from 13 issuers which did not meet the Bank's eligibility criteria as explained further below (Graph 2, Table 1).

Eligible corporate bonds must be unsubordinated

The Bank requires eligible securities to be direct and unsubordinated obligations of the issuer which rank at least equally with all other unsubordinated and unsecured obligations of the issuer. This means that, in the event the issuer defaults on its liabilities (for example by failing to meet interest payments), the holders of eligible securities have equal and first claim among unsecured creditors. There are a number of circumstances where bonds may be subordinated, subordination is unclear, or investors have fewer rights than for other securities by the issuer:

- **Structural subordination** exists where senior unsubordinated securities are issued by a holding company who in turn owns operating subsidiaries that also issue securities. The holding company's securities are subordinated to that of each subsidiary, because each subsidiary pays its bondholders before the holding company. The Bank has received 7 applications for structurally subordinated securities, all of which were rejected.
- **Complicated corporate and trust structures**. In some cases, other entities in a group



corporate structure may guarantee the issuer's obligations, supporting the ongoing payment of cash flows from securities. Guarantors are more common where the corporate structure is complex, such as utility and infrastructure companies and real estate investment trusts. The Bank is comfortable accepting securities with guarantors, where it can identify that the securities are senior and unsubordinated obligations of the issuer and all guarantors.

- **Foreign banks and resolution regimes.** More debt issued by foreign banks is now eligible for repo. Previously, only securities issued by foreign banks with an Australian presence (such as a branch or subsidiary) could be made eligible. As part of resolution planning, jurisdictions have introduced statutory powers or other rules that may affect how debt is treated in the event a bank is resolved (FSB 2015). These rules vary by jurisdiction. The Bank does accept securities under repo even if they could be 'bailed in' (that is, converted to equity to support a bank's resolution), but only if they are not bailed in before other unsecured debt securities of the issuer.

  Some jurisdictions require structural subordination described above to create subordinated debt that would be bailed in before other unsecured debt securities, while others expect banks to issue subordinated 'senior non-preferred' securities that would be bailed in before other unsecured debt securities. Senior non-preferred securities are not eligible. Most foreign bank securities assessed to date have been made eligible. In a small number of cases, the Bank has identified securities where limited events of default apply for one class of senior unsecured notes but not another. Although they might be ranked equally (as senior unsecured obligations), the securities with limited events of default have fewer rights than those with full events of default. The Bank rejected the securities with limited events of default.

Embedded options do not present much additional risk to the Reserve Bank

Unlike currently eligible government, bank and supranational bonds, many corporate bonds have embedded call or put options. To date, the Reserve Bank has accepted all applications it has received for corporate bonds with embedded options because the risk to the Reserve Bank is judged to be relatively small. However, the Reserve Bank continues to assess each new type of embedded option to ensure this remains the case.

An embedded call option gives the issuer the right but not the obligation to redeem notes before their maturity date. They allow issuers to refinance bonds early which mitigates the risk of not being able to roll over existing debt and provides flexibility to change the entity's financial structure. However, the Reserve Bank faces the risk that the redemption price (if the call option is exercised) is lower than the market price of that security (prior to notification that the call option is being exercised) and this price difference is not covered by over collateralisation (i.e. the margin). If this occurred at the same time as a counterparty defaulted, the Reserve Bank may make a loss.

There are 3 common types of call options found in corporate bonds:

- **Par calls.** A par call allows the issuer to redeem a bond at the outstanding principal amount (i.e. par), usually in the last 3, 6 or 12 months of a bond's term.
- **Make-whole calls.** A make-whole call allows the issuer to redeem a bond at the greater of the net present value of the bond's remaining cash flows or the par value of the security. The net present value is calculated by discounting cash flows using a discount rate equal to a risk-free rate plus a risk premium specified in the issuance documentation. The issuer can typically exercise these calls at any time during the term of the bond.
- **Tax or event-driven calls.** The issuer can redeem the bond (usually at par) if a specific event occurs. These events include an increase in coupon payments due to a change in tax rules (such as a change in non-resident

withholding tax), a change of control for the issuer or guarantors, or if a specified portion of notes on issue has already previously been redeemed. Tax-based calls are quite common across other security types as well.

Most eligible corporate bonds have at least one type of option, with the 2 most common options being a tax call and a par call. The probability of a tax call being exercised and the associated risk is very low. The Reserve Bank also faces almost no risk from par calls because during the period the call can be exercised the securities are priced at the lower of par, or the net present value of the security's outstanding cash flows until maturity.

Eligible corporate bonds also have embedded make-whole calls. A make-whole call is structured such that the issuer's call is designed to be 'out of the money'; that is, the make-whole price is higher than the current market price. As the Reserve Bank receives the higher make-whole price if the call is exercised, the risk of loss to the Reserve Bank is low. Further, issuers are unlikely to exercise this call option purely to take advantage of cheaper financing rates (because lower interest rates increase the make-whole price, which is the cost of redeeming the existing debt).[5] The Reserve Bank mitigates any residual risk from embedded call options by requiring counterparties to substitute alternative eligible collateral if a call notice has been issued for a corporate security held under repo.

In contrast to embedded call options, an embedded put option reduces the noteholders' risk of holding a security by giving them the right, but not the obligation to redeem notes early when a trigger event occurs. These triggers tend to be change of control events, including where the change causes a credit rating to be withdrawn or downgraded. The Reserve Bank faces no additional market risk from a put option in a security it holds under repo.

The Reserve Bank does not accept bonds from domiciles that present risks outside its appetite

Prior to the broadening of the collateral framework in May 2020, 134 securities from foreign issuers in 10 countries were repo eligible (Graph 3). Since the policy announcement, the Reserve Bank has granted eligibility to an additional 54 securities from foreign issuers, including for the first time issuers from New Zealand, South Korea, the United Arab Emirates, the United Kingdom and France.

The Reserve Bank does not accept securities from domiciles that represent risks outside its appetite, including because they may pose elevated money laundering, terrorism financing or tax evasion risks. The Reserve Bank has rejected 6 securities because the issuers were domiciled in a tax haven. The Reserve Bank conducts regular checks for domiciles and issuers for these elevated risks, as well as any sanctions that might apply to foreign issuers.

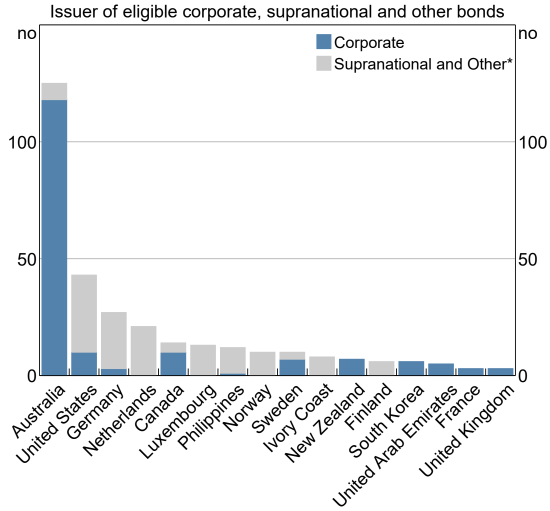
Corporate bonds since the policy change

Corporate bonds now make up around 2 per cent of outstanding eligible securities. However, the share of the Reserve Bank's domestic repo portfolio collateralised by corporate bonds since the policy change peaked in August 2020 at just 0.4 per cent ($100 million) (Graph 4). This share has remained very small as the Reserve Bank's domestic repo portfolio is primarily collateralised by self-securitisations, Australian Government Securities (AGS) and semi-government securities (Graph 5). Self-securitisations are structured pools of assets, such as residential mortgages, created by banks specifically to use as collateral to access liquidity from the Reserve Bank. Use of self-securitisations

Graph 3

Country of Domicile

Issuer of eligible corporate, supranational and other bonds



* Other bonds include securities issued by certain foreign entities that are not corporations and entities with a government guarantee.

Sources: RBA; Reuters

has increased significantly as they are permitted to be used as collateral to access liquidity under the Term Funding Facility (TFF), introduced in March 2020, and are the cheapest form of collateral (Cole and de Roure 2020).

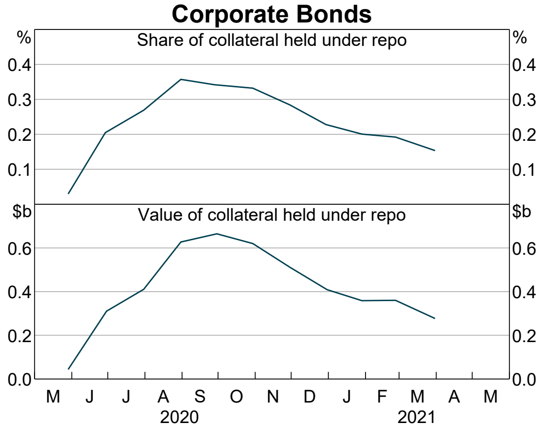
While corporate bonds are a small share of all collateral posted, more than half of repo-eligible corporate bonds have been used as collateral at least once since the policy change. These are typically small parcels of less than $10 million. The majority of these securities have been posted through triparty repo, where the collateral for a repo is managed by a third party, ASX Collateral (for more information on triparty repo, see Naghiloo and Olivan 2017). There is generally frequent turnover of securities held as collateral in triparty repos because substitutions (i.e. changes to securities that collateralise a repo) are optimised based on which securities are the cheapest for the counterparty to use as collateral.

As noted above, broadening repo eligibility of corporate bonds may have indirect effects on the market for these bonds such as increased issuance and price differentiation (i.e. an 'eligibility premium' may emerge for repo-eligible securities (BIS 2015)).[6]

Isolating the effect of the change in repo eligibility policy on corporate bond yields and issuance is challenging due to the highly volatile market conditions at the time, as well as other policy actions by governments and central banks. For example, low-cost funding provided by the Reserve Bank to banks under the TFF reduced the need for banks to issue bonds, in turn placing downward pressure on bank bond yields (Alston *et al* 2020). The spread between investment-grade corporate bond yields and major bank bond yields actually widened, as bank bond yields fell more quickly (Graph 6). Corporate bond yields have since fallen to below pre-COVID levels, as interest rates have fallen globally and market dislocation receded (RBA 2020), but the spread to major bank bond yields remains a little wider than pre-pandemic levels. Issuance picked up in the June and September quarters of 2020, but subsequently returned to around long-term average levels as the increase in activity at the height of market instability subsided (Graph 7).

Graph 4

Corporate Bonds

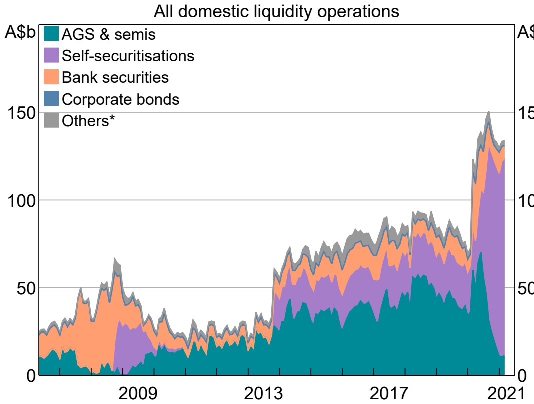


Source: RBA

Graph 5

Collateral Held Under Repo

All domestic liquidity operations



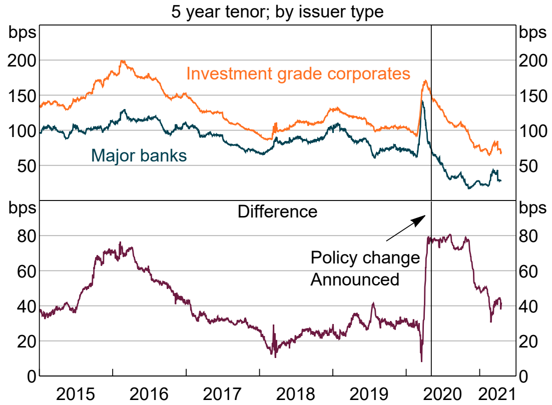
* Others include asset-backed securities, supranational debt, securities with government guarantees and other AAA securities

Source: RBA

Graph 6

Corporate Bond Spreads to AGS

5 year tenor; by issuer type



Sources: Bloomberg; RBA

Characteristics of eligible corporate bonds

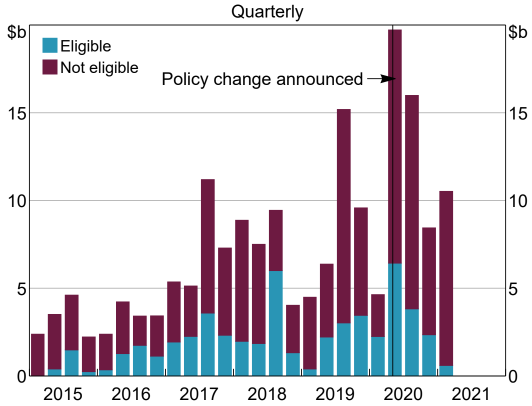
Typically issuers or the Bank's counterparties submit applications for securities to be assessed for repo eligibility, although there are no restrictions on who can apply. The corporate bonds that have been approved as repo eligible are generally representative of the market across different credit ratings (Graph 8).

Issuers of repo-eligible corporate bonds span a wide range of industries (Graph 9). More than half of eligible corporate securities are issued by financial firms, including non-bank lenders, foreign banks, insurance companies and corporate finance companies. Corporate finance companies include subsidiaries that raise funds on behalf of companies in industries such as electricity, telecommunications or retail. The full list of eligible securities is available on the Bank's website.

Graph 7

Corporate Bonds Issuance

Quarterly



Sources: Bloomberg; RBA

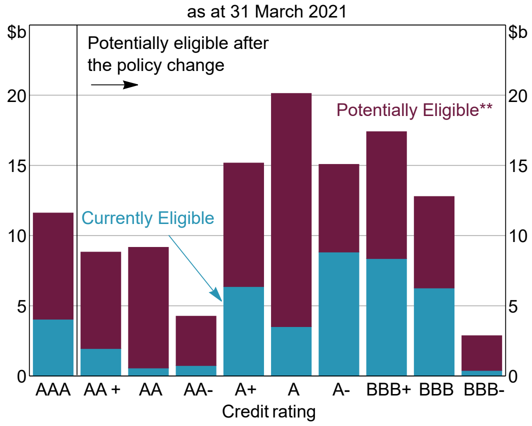
Conclusion

Expansion of the Bank's repo eligibility framework to include investment-grade corporate bonds has increased the amount of collateral potentially available for repos with the Bank. While usage of corporate bonds in repos with the Bank has been relatively modest to date, this policy change may have provided some support to the Australian corporate bond market. However, isolating its impact from other monetary policy measures implemented to support the economy is difficult. Regardless, the additional risk to the Bank from accepting these bonds is very small. ✠

Graph 8

Outstanding Corporate Bonds*

as at 31 March 2021



* Only corporate bonds that have ratings available are included

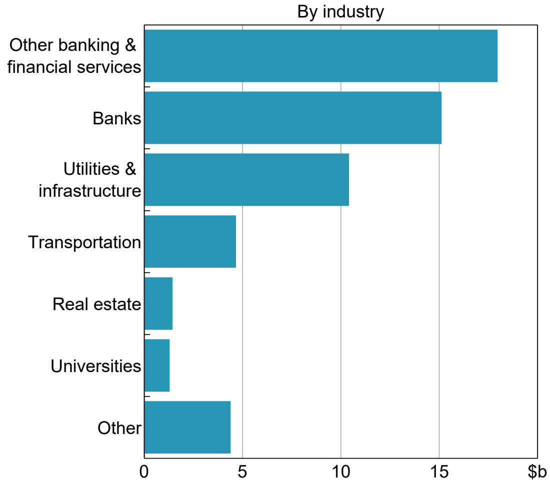
** Potentially eligible securities have not been assessed by the Bank, and may not meet all eligibility criteria

Sources: RBA; Reuters

Graph 9

Eligible Corporate Bonds Outstanding

By industry



Sources: RBA; Reuters

Footnotes

[*] The authors are from Risk and Compliance Department. They would like to thank Calebe de Roure and Michael Reschke, who also assessed a large number of corporate bonds following the policy announcement while in Risk and Compliance Department.

[1] A security is classified as a non-ADI corporate bond if the issuer is incorporated under the Corporations Act or equivalently incorporated in a foreign jurisdiction. This does not include securities issued by foreign governments, foreign government-established entities, or supranational entities.

[2] Refer Margin Ratios.

[3] For example, Cornaggia, Cornaggia and Hund (2017) show that: (i) the default frequency of bank debt is, on average, higher than corporate debt at a given credit rating; and (ii) rating transition statistics (i.e. downgrades/upgrades) are no different for bank and corporate debt.

[4] The Fed and ECB apply higher margins to bank debt, while the BoE does not accept the debt of financial institutions as collateral, yet it accepts corporate debt.

[5] As the discount rate used to calculate the net present value of cash flows is a floating rate plus a risk premium, the net present value moves inversely with interest rates.

[6] An eligibility premium might emerge if the demand for eligible bonds is higher than for ineligible bonds, which would increase the price of eligible bonds, reducing their yields. Internationally there is some evidence for this (Corradin and Rodriguez-Moreno 2016).

References

Alston M, Black S, Jackman B and Schwartz C (2020), The Term Funding Facility, *RBA Bulletin,* December, viewed 3 May 2021 . Available at https://www.rba.gov.au/publications/bulletin/2020/dec/the-term-funding-facility.html#fn2.

BIS (Bank for International Settlements) (2015), Central bank operating frameworks and collateral markets, Committee on the Global Financial System Papers, No 53.

Cole D and C de Roure (2020), Managing the risks of holding self-securitisation as collateral, *RBA Bulletin*, September, viewed 3 May 2021. Available at https://www.rba.gov.au/publications/bulletin/2020/sep/managing-the-risks-of-holding-self-securitisations-as-collateral.html

Corradin S and M Rodriguez-Moreno (2016), Violating the law of one price: the role of non-conventional monetary policy, Working Paper Series, No 1927.

Cornaggia, Cornaggia and Hund (2017), Credit ratings across asset classes: a long-term perspective, *Review of Finance*, 21 (2) pp 465–509.

FSB (Financial Stability Board) (2015), Principles on Loss-absorbing and Recapitalisation of G-SIBs in Resolution, 9 November.

Naghiloo Y and D Olivan (2017), The Reserve Bank's collateral framework, *RBA Bulletin*, December Quarter.

RBA (Reserve Bank of Australia) (2011), Changes to eligible securities and margining for domestic market operations, *Media release*, 16 November.

RBA (2020), Broadening eligibility of corporate debt securities as collateral for domestic market operations, *Announcement*, 5 May. Accessed 3 May 2021.

RBA (2021), Supporting the economy and financial system in response to COVID-19. Accessed 5 May 2021.