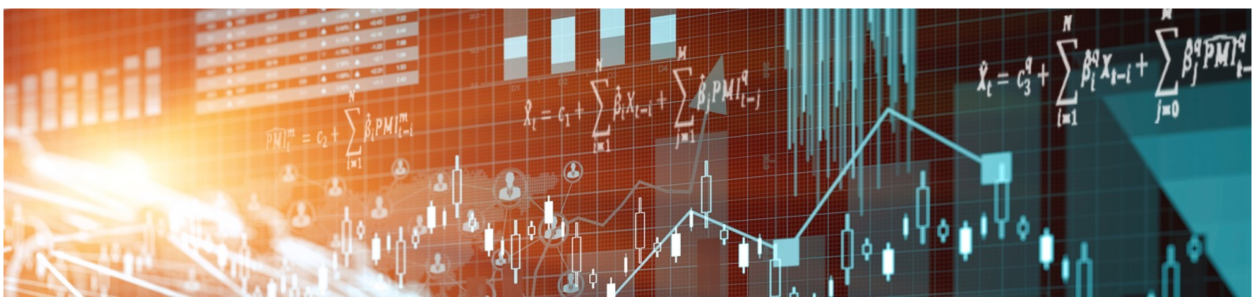
BANK OF CANADA
BANQUE DU CANADA

Staff Analytical Note/Note analytique du personnel 2018-24

The Characteristics of Uninsured Mortgages and their Securitization Potential



by Adi Mordel and Maria teNyenhuis

Financial Stability Department
Bank of Canada
Ottawa, Ontario, Canada K1A 0G9
amordel@bankofcanada.ca
mtenyenhuis@bankofcanada.ca

Acknowledgements

We would like to thank Cameron MacDonald, Brian Peterson and Ron Morrow for helpful comments.

ISSN 2369-9639

Abstract

Following changes to housing finance policies that target insured mortgages, uninsured mortgage credit has been growing. This robust growth creates a larger pool of mortgages that may be suitable for private-label residential mortgage-backed securities (RMBS). The development and viability of the Canadian private-label RMBS market would depend on the characteristics of the underlying collateral. We address this data gap by documenting the key features of uninsured mortgages originated since 2014, comparing them across two groups of federally regulated financial institutions, i.e., domestic systemically important banks (DSIBs) and non-DSIBs. We find that on average, non-DSIB mortgages exhibit riskier characteristics, including lower credit scores, and higher debt-service and loan-to-income ratios. When compared with the prime quality collateral backing domestically issued RMBS to date, we estimate that the non-DSIBs' securitization potential since 2014 has been about $17 billion. Growing that issuance further would require approaches to broaden the pool of acceptable mortgages.

Bank topics: Financial Institutions, Financial system regulation and policies, Wholesale Funding
JEL codes: G, G2, G21, G28

Résumé

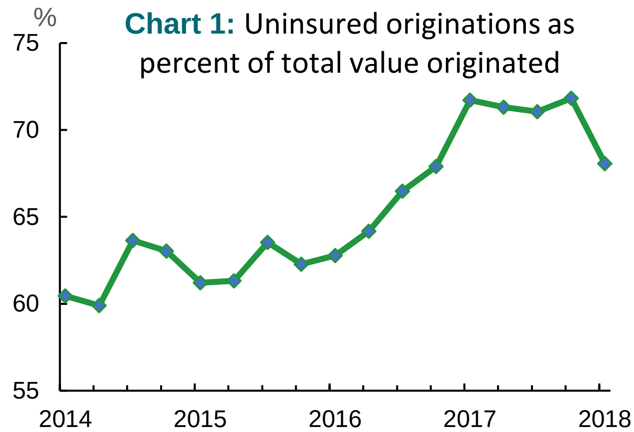
Les changements apportés aux politiques de financement du logement visant les prêts hypothécaires assurés ont mené à l'expansion des prêts non assurés. Cette croissance robuste a augmenté le volume de créances hypothécaires susceptibles d'être transformées en titres du secteur privé adossés à des créances hypothécaires résidentielles (TACHR). Le développement et la viabilité d'un marché privé canadien des TACHR dépendent des caractéristiques des sûretés sous-jacentes. Nous remédions à l'insuffisance de données à cet égard en comparant les principales caractéristiques des prêts hypothécaires non assurés consentis depuis 2014 par deux groupes d'institutions financières fédérales : les banques d'importance systémique nationale (BISN) et les institutions autres que des BISN. Nous constatons que, en moyenne, les créances hypothécaires de ces dernières présentent des caractéristiques plus risquées que celles des BISN, notamment un pointage de crédit plus faible et des ratios du service de la dette et prêt/revenu plus élevés. Compte tenu des créances de première qualité données en nantissement à ce jour pour les TACHR canadiens, nous estimons à environ 17 milliards de dollars le potentiel de titrisation des créances hypothécaires émises par des institutions autres que des BISN depuis 2014. Pour accroître ce potentiel, il faudrait adopter des mesures qui augmentent le volume des prêts hypothécaires admissibles.

Sujets : Institutions financière; Réglementation et politiques relatives au système financier; Financement de gros
Codes JEL : G, G2, G21, G28

Motivation

Uninsured mortgage credit has been growing over the past years as lenders and borrowers adjust to recent regulatory and economic developments that have limited access to insured mortgage credit (**Chart 1**).[1] This raises some challenges for lenders that traditionally use government-supported (i.e., public) securitization to finance insured mortgages[2] because they must use other funding options to support uninsured mortgage credit. While large institutions such as domestic systemically important banks (DSIBs) generally use retail deposits, smaller institutions rely more heavily on brokered deposits (demand and term), which tend to be more expensive. Further, despite the existence of deposit insurance and regulatory liquidity requirements, the 2017 experience of Home Capital Group shows that concerns about a bank can lead to rapid withdrawal of demand-brokered deposits, thereby exacerbating funding problems. An alternative to deposits is covered bonds, but they are usually only available to DSIBs, given the costs associated with establishing and maintaining a covered bond program for a broad investor base. In addition, covered bond issuance is capped at 4 per cent of the issuer's total assets. As such, residential mortgage-backed securities (RMBS) may provide a more suitable vehicle to fund uninsured mortgages, especially given the large unencumbered pool of about $565 billion.

Chart 1: Uninsured originations as percent of total value originated



Note: federally regulated lenders only. Includes new mortgages for purchases, refinances and renewals.
Source: banks' regulatory filings
Last observation: 2018Q1

To facilitate the discussion on the viability of an RMBS market in Canada, we must first understand the characteristics of the underlying mortgages, which are largely undocumented. These characteristics may determine some of the key features of the RMBS market, such as the securitization tenure, ratings and pricing, all of which would affect investors' demand and issuers' incentives to securitize. We address this data gap by documenting the key features of uninsured mortgages originated since 2014. Specifically, we compare the features of these mortgages across two groups of federally regulated financial institutions (FRFIs), DSIBs and non-DSIBs, given the different incentives of issuing in the RMBS market across these two groups.[3]

Assessment of mortgage characteristics

The statistics presented are based on mortgage origination data from 18 FRFIs, which include new purchases, refinances and renewals. We use data on 3.9 million uninsured mortgages originated between 2014Q1 and 2018Q1, for a total value of $992 billion. The DSIBs account for 87 per cent of originations.

---

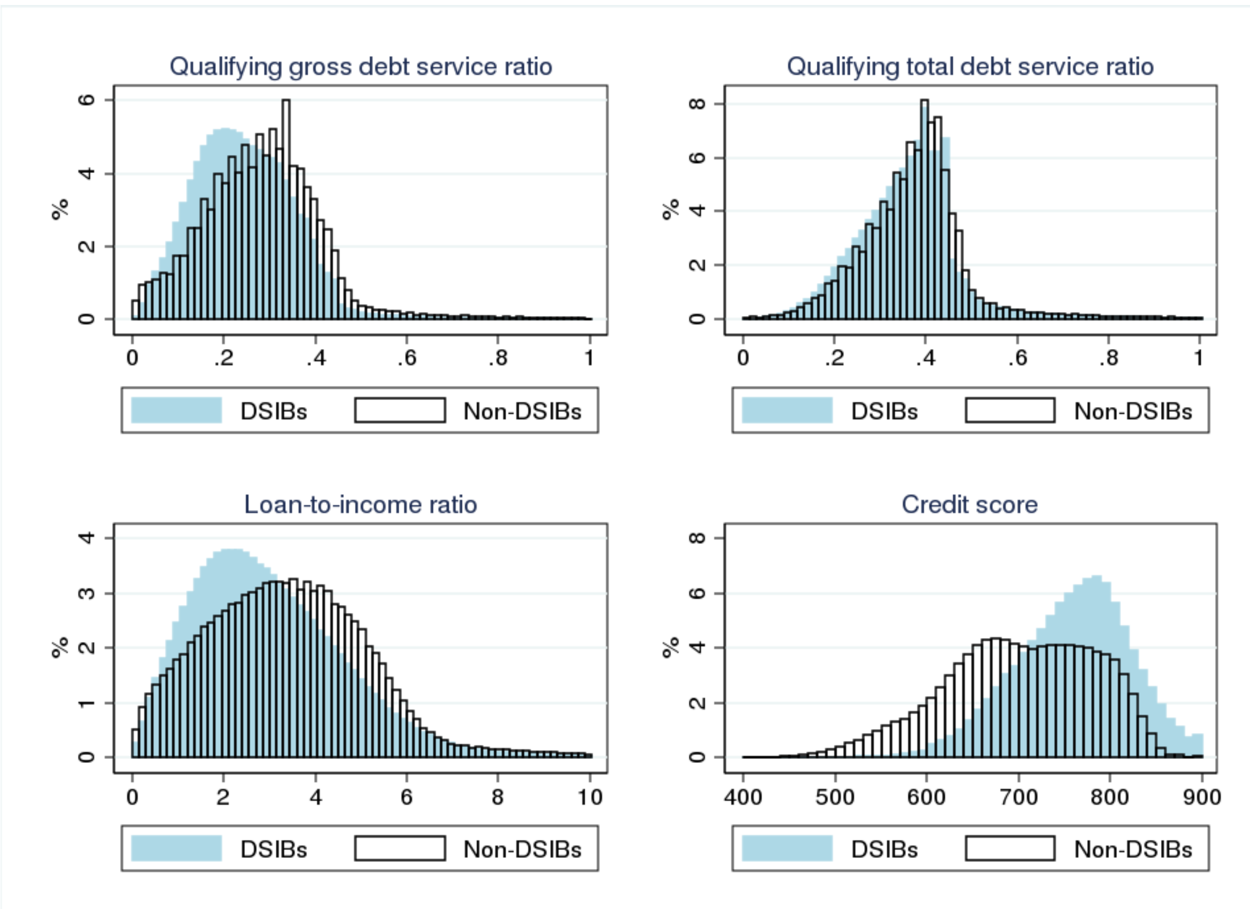
[1] Some key changes to the government-backed mortgage insurance standards that have been implemented since 2016 include stricter qualification criteria for borrowers, extension of high-ratio rules to portfolio insurance of low-ratio mortgages and implementation of new risk-sensitive capital requirements for insurers. For an overview, see Table A-1 and Table A-2 in the June 2017 Bank of Canada *Financial System Review*.

[2] Mordel and Stephens (2015) review the public securitization market in Canada. See Crawford, Meh and Zhou (2013) for a detailed discussion of the Canadian mortgage market.

[3] For example, the DSIBs have access to cheaper and more diversified funding sources (retail deposits, covered bonds, deposit notes), which reduce incentives for RMBS issuance. These funding options are not available to the same extent for at least some of the non-DSIBs, who could potentially benefit from the development of the RMBS market.

Chart 2 presents distributions of key borrower characteristics across the two groups. On average, DSIB borrowers have lower qualifying debt-service ratios (26 per cent versus 31 per cent), lower loan-to-income (LTI) ratios (303 per cent versus 389 per cent) and higher credit scores (757 versus 701) than those of non-DSIBs. About one-quarter of non-DSIB borrowers have an LTI greater than 450 per cent, compared with only 16 per cent of DSIB borrowers. As for the loan characteristics, almost 50 per cent of the non-DSIB mortgages are originated with a 1-year loan term, while for the DSIBs, more than half of their mortgages have a 5-year term (**Chart 3**). The non-DSIBs' portfolios are also more geographically concentrated (**Chart 5**), with greater than 60 per cent originated in Ontario (50 per cent for DSIBs). Overall, there is considerable heterogeneity across lenders, with non-DSIB borrowers exhibiting riskier features and obtaining substantially shorter-term mortgages that are mainly originated in Ontario. Such features should be considered when analyzing the securitization potential of each group. We consider those in the next section.

Chart 2: Borrower characteristics



Note: DSIBs are domestic systemically important banks. Observations that are thought to be linked to a home equity line of credit are excluded from the loan-to-income distribution.
Source: banks' regulatory filings
Time period: 2014Q1–2018Q1

Chart 3: Loan-term distribution

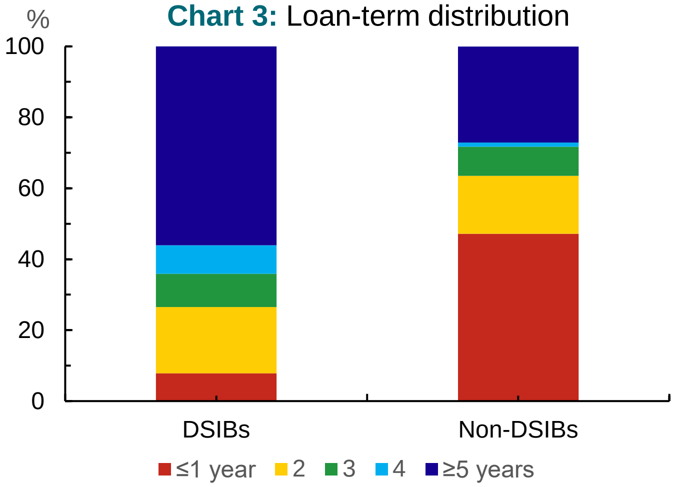
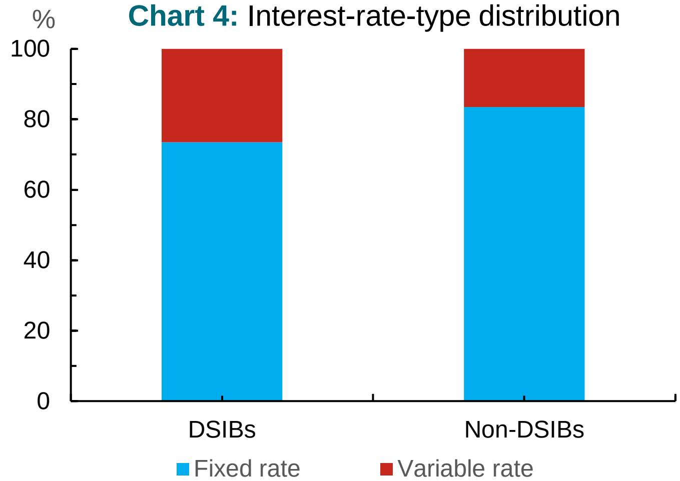


Chart 4: Interest-rate-type distribution

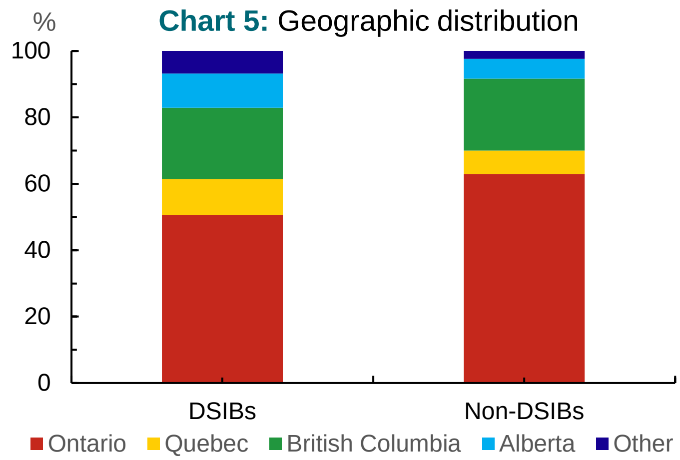


Note: DSIBs are domestic systemically important banks. Data is weighted by loan size. Last observation: 2018Q1
Source: banks' regulatory filings

Estimating securitization potential

As documented in the previous section, there is significant heterogeneity in borrower and loan characteristics, suggesting that the development of an RMBS market would depend on the quality of mortgages available. Hence, in this section we estimate the potential securitization capacity of federally regulated lenders, using as a benchmark the collateral features of the RMBS by MCAP, the sole Canadian lender to date that has issued private-label RMBS.

Chart 5: Geographic distribution



Note: DSIBs are domestic systemically important banks. Data is weighted by loan size.
Source: banks' regulatory filings Last observation: 2018Q1

MCAP's first deal in 2014 was backed by a pool of 800 diversified mortgages, with a total outstanding loan balance of $201 million (DBRS 2014). It completed a second transaction in April 2018, with a pool containing 589 mortgages and a total value of $248 million (DBRS 2018). The two pools were similar in terms of borrowers' credit scores, debt-service ratios and loan terms. About 60 per cent of the loans were originated in Ontario. We assume that MCAP's deals set the standard for future RMBS transactions and impose the following criteria on our universe of uninsured mortgages: the loan term at origination must be greater than or equal to 4 years, the reported credit score is at least 650, and the reported gross debt service (GDS) ratio is less than or equal to 40 per cent.[4]

As shown in **Table 1**, about 1.3 million mortgages meet that criteria, but the share is substantially larger for the DSIBs. Their securitization potential over the period from 2014 to 2017 is estimated at $351 billion, or 41 per cent of the total value originated. The non-DSIBs have a lower potential at $17 billion, or 13 per cent of the total value originated.

[4] If data are missing for any of these variables, we assume that the loan does not meet the eligibility criteria. This is consistent with methodology used by DBRS (2017) to rate RMBS. We also note that the reported GDS ratio in our data is based on the qualifying rate (often the Bank of Canada's 5-year mortgage rate), while MCAP's debt-service ratios use the contractual interest rate.

Table 1: Estimated securitization potential

	Number of eligible loans	Value of eligible loans	Per cent of value eligible
DSIBs	1,256,653	$350.6 billion	41%
Non-DSIBs	55,401	$17.3 billion	13%

These restrictions force the composition of each lender's portfolio to conform to the standards of the MCAP deals. The changes in distributions are illustrated in **Charts 6 to 9**. The most restrictive requirement appears to be related to the mortgage term (at least 4 years) since almost 70 per cent of the non-DSIB loans fail to qualify under this condition. For the DSIBs, only about 35 per cent of loans fail to qualify under the loan term restriction. The credit score is another significant constraint as it is lower than 650 for 25 per cent of the non-DSIB mortgages. An outcome of these restrictions is the resulting geographic distribution of the pool of mortgages. It remains very similar for the DSIBs, but changes for the non-DSIBs: Ontario mortgages are less likely to meet the stricter criteria because their share of the distribution falls by about 15 per cent. The share of Quebec mortgages almost doubles, while that of British Columbia increases by 9 per cent.

Chart 6: Loan-term distributions

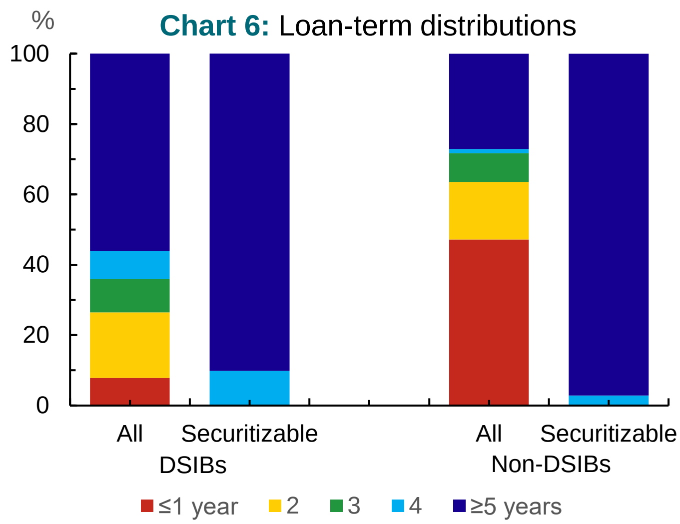


Chart 7: Credit score distributions

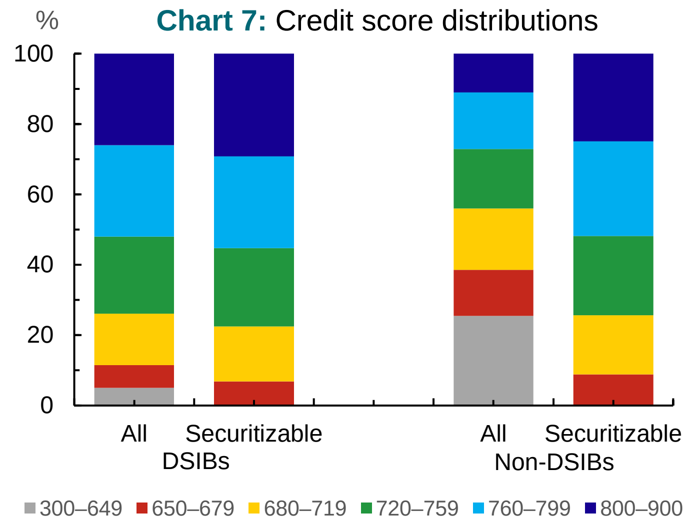


Chart 8: Qualifying gross debt service ratio distributions

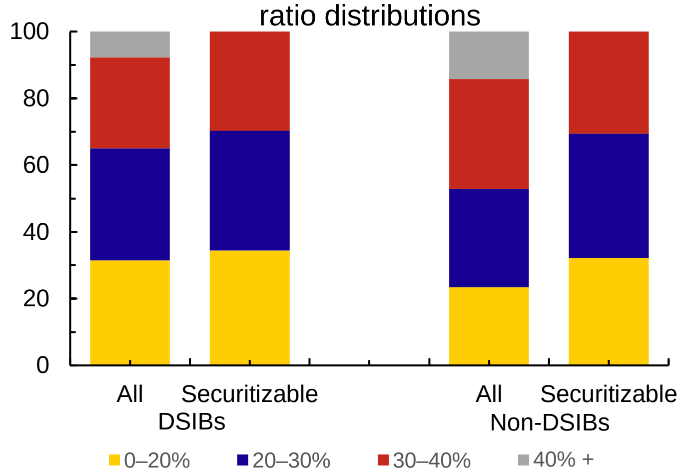
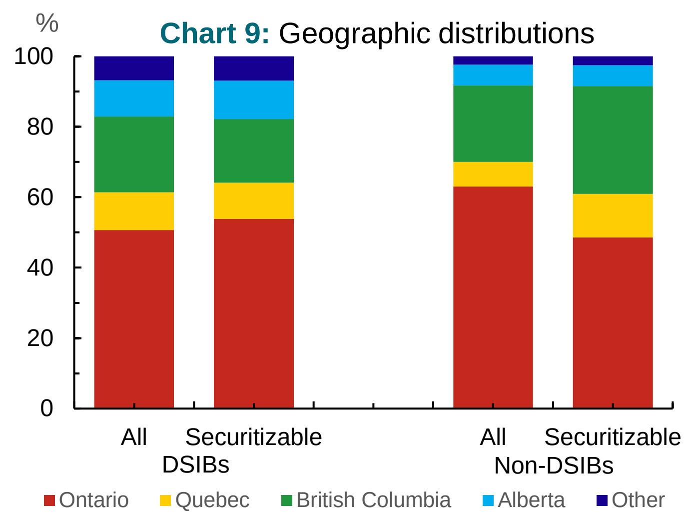


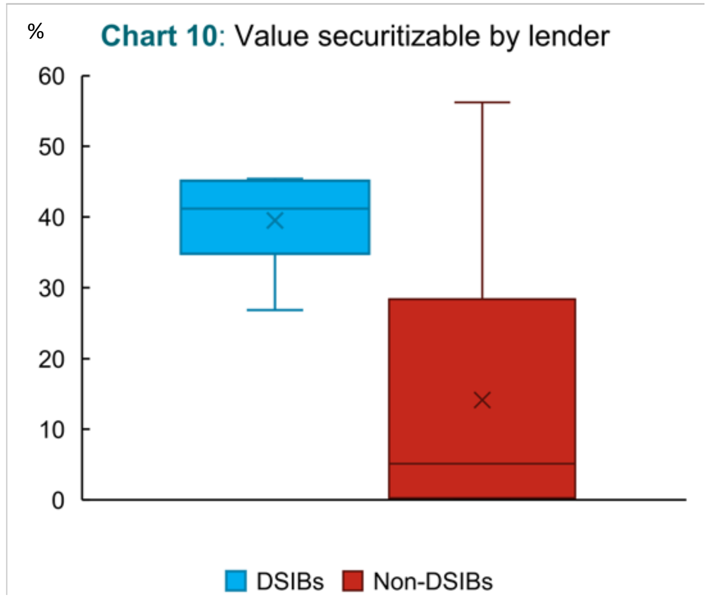
Chart 9: Geographic distributions



Note: DSIBs are domestic systemically important banks. Data is weighted by loan size.
Source: banks' regulatory filings

Last observation: 2018Q1

Finally, we present a box plot showing the share of originations that are securitizable for each lender (**Chart 10**). The plot shows the range of values as well as the mean and median. Unsurprisingly, the distribution is much wider for non-DSIBs, indicating more divergence in terms of the quality of lending and thus ability to securitize. For example, under our criteria, some non-DSIBs are unable to securitize, while others can securitize more than 50 per cent of their portfolio. It is important to note that our chosen criteria are very restrictive as we consider only RMBS that are backed by prime-quality collateral (both MCAP deals). However, a broader range of mortgages could become eligible as the market evolves and investors become more comfortable valuing the underlying collateral. This could also support a two-tiered market that caters to investors with differing risk appetites.



Note: mean is shown by the cross and median by the horizontal line. The box shows the interquartile range of the distribution, and the lines extending from the box show the maximum and minimum values. Mean is unweighted i.e. does not account for the relative size of the lender.

References

Bank of Canada. 2017. "Appendix: Mortgage Finance Policy Changes in Canada". Bank of Canada *Financial System Review* (June): 24–25. Available at https://www.bankofcanada.ca/wp-content/uploads/2017/06/fsr-june2017.pdf.

Crawford, A., C. Meh and J. Zhou. 2013. "The Residential Mortgage Market in Canada: A Primer." Bank of Canada *Financial System Review* (December): 53–63. Available at https://www.bankofcanada.ca/wp-content/uploads/2013/12/fsr-december13-crawford.pdf.

Dominion Bond Rating Service (DBRS). 2014. "Presale Report: MCAP RMBS Issuer Corporation."

———. 2017. "Rating Canadian Residential Mortgages, Home Equity Lines of Credit and Reverse Mortgages."

———. 2018. "Presale Report: MCAP RMBS Issuer Corporation."

Mordel, A. and N. Stephens. 2015. "Residential Mortgage Securitization in Canada: A Review." Bank of Canada *Financial System Review* (December): 39–48. Available at https://www.bankofcanada.ca/wp-content/uploads/2015/12/fsr-december2015-mordel.pdf.