



Do investors value frequent issuers in securitization?

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Abstract

We assess the value of frequent issuers to investors in securitization markets by examining the initial yield spread of 6132 European mortgage-backed securities (MBS), covering a 20-year period between 1999 and 2018. We find that frequent issuers have certification value, and it increases as the credit cycle approaches its peak, as lending standards loosen, and information asymmetries in securitization markets increase. Investors value frequent issuers more favourably on riskier, difficult to evaluate MBS. We find that after the great financial crisis (GFC), investors began to attribute more value to frequent issuers, regardless of MBS credit quality. We also find that in the pre-crisis period, investors required higher yields to compensate for perceived rating shopping, which is not observed after the GFC. Finally, we show that investors expect higher yields on deals closed by subsidiaries of foreign banks.

Keywords Securitization · MBS pricing · Bank-borrower distance · Rating shopping

JEL Classification G21 · G28

1 Introduction

Securitization has transformed conventional financial intermediation by allowing banks to repackage mortgages and sell mortgage-backed securities (MBS) to third party investors. This market has grown tremendously over the last four decades, making this segment an important part of the financial system. Securitization's systematic significance became apparent during the 2007–2009 Great Financial Crisis (GFC), where MBS markets were

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central to the contagion of the crisis from the US housing market to the global financial system.

Securitization activity expanded significantly in the run-up to the 2007–2009 crisis, but following the eruption of the crisis, issuance ground to a halt.¹ A large part of this contraction can be explained by sharp declines in MBS prices which damaged investors' confidence. Much of the dramatic swings in MBS prices were related to the opacity of these instruments which led to high uncertainty about their value. In fact, the crisis highlighted certain features of the securitization market, which can dramatically impair market functioning in times of stress. These include incentive problems, increased levels of complexity and opacity, and related valuation difficulties. In the post-crisis period, policy makers, particularly in Europe, were keen to reform and revive the securitization market, for its potential benefits to the financial system and the real economy (ECB 2014). They introduced new regulatory frameworks to ensure adequate risk retention, improve information disclosure, increase capital requirements for securitizations, and enhance investor due diligence (Deku et al. 2019a, b). Regulators have also promoted the issuance of simple, transparent and standardised securitizations, which are less likely to endanger financial stability. As a result of these efforts, the securitization market has been recovering, with volumes gradually increasing since 2010.

MBS are complex instruments, with significant information asymmetries prevalent in the securitization process. As a result, it is often challenging to accurately assess the risks involved. In practice, due to the opacity of securitizations, rating agencies typically play a central role in evaluating credit risk and reducing information asymmetries between investors and issuers. Therefore, credit ratings are often used in prudential regulation, and as benchmarks to measure performance (Benmelech and Dlugosz 2009).² In fact, following the crisis, investors were criticised for being excessively reliant on credit ratings when assessing MBS risks (Mahlmann 2012),³ and rating agencies came under intense scrutiny due to conflicts of interest and critical errors in their rating methodologies (Brennan et al. 2009; Coval et al. 2009a, b). In the post-crisis period, European policy makers adopted the Credit Rating Agency Regulation to address and mitigate the issue of over-reliance on credit ratings, the misalignment of interest between issuers and rating agencies—due to the issuer-pays model of compensation—and to enhance transparency in the rating processes by requiring the disclosure of rating methodologies.

In this paper, we examine whether investors attach importance to issuers' frequency of issuing MBS, as an indicator of value certification, to mitigate information asymmetries when assessing MBS risks. Investors may be excessively dependent on credit ratings to appraise MBS because, as mentioned, the securitization process is fraught with several frictions that render the risk assessment of MBS challenging. As in most instances of financial intermediation, the lender-borrower relationship is marred with adverse selection problems and there is evidence suggesting that borrowers falsify declarations in mortgage applications (Griffin and Maturana 2016; Jiang et al. 2013). Also, banks exhibit opportunistic behaviour by excessively relaxing their lending standards on loans that are more likely to be securitized (Dell'Ariccia et al. 2012; Keys et al. 2010; Nadauld and Sherlund

¹ Goda et al. (2013) show that the aggregate demand for perceived safe assets surpassed their supply during this period. This trend, together with other factors, such as search for yield, contributed to fast growth in securitization markets.

² The final Basel III standardized approach allows capital charges on corporates based on external ratings.

³ Similarly, Lin et al. (2013) also find that in terms of tranche-specific risk-adjusted returns BBB and BB tranches possess the lowest risk-adjusted returns in comparison to other rated tranches.

2013). Banks also reduce the monitoring of borrowers after securitization (Petersen and Rajan 2002) and misreport assets' quality (Griffin and Maturana 2016; Piskorski et al. 2015). These incentive and information problems make the assessment of securitization more challenging for outside investors. Consequently, it is unsurprising that investors were over-reliant on credit ratings. However, we argue that investors also relied on other observable risk factors and heuristics, and particularly attach value to frequency of issuance, to price MBS. The purpose of this paper is to present empirical evidence on how these factors influence the launch spreads of European MBSs.

We hypothesise that, in addition to ratings, investors *also* rely on the *frequency* of issuance, to mitigate information asymmetries when assessing MBS risks. Frequent issuers have more experience and knowledge of the market. They tend to build and maintain a good reputation, especially if they desire to tap the securitization market in the future (Hartman-Glaser 2011; Kawai 2015). Naturally, reputation concerns should mitigate opportunistic behaviour and moral hazard of frequent issuers so investors may perceive MBS sold by frequent issuers as less risky.

Three major factors might shape how investors perceive the value of frequent issuers. These include “rating shopping”,⁴ “distance” between the issuer and the origination market, and the “stage” of the credit cycle as these factors have been shown to increase opacity in the securitization markets. The “rating shopping” hypothesis is substantiated by evidence on conflicts of interest between issuers and credit rating agencies (Marques-Ibanez and Scheicher 2009; Hau et al. 2013). Issuers tend to solicit multiple ratings and report the most favourable results (Wang and Xia 2014), and rating agencies grant inflated ratings to securities issued by their top clients (Hau et al. 2013). Regarding the second factor, investors may consider that the distance between lenders and borrowers might increase opacity; it has been shown that being geographically distant from borrowers increases credit risks (Berger et al. 2005), decreases bank monitoring abilities (Acharya et al. 2002), and creates incentives for underwriting lower quality loans (DeYoung et al. 2008). This mechanism is also likely to apply in securitization markets where asymmetries of information between lenders and borrowers are more severe relative to conventional lending. In the context of securitization, foreign banks could have an informational disadvantage compared to their domestic counterparts due to their distance to the origination market. Also, the stage of the credit cycle can influence opacity in securitization. In the run-up to the crisis, as securitization markets grew rapidly and the credit cycle was about to peak, lending standards loosened, information asymmetries worsened and the evaluation of risk became more challenging for investors (Leung et al. 2015).

We test our hypothesis on the certification value of frequent issuers by examining the information content of MBS yield spreads at issuance.⁵ We utilise a large representative sample of 6132 tranches of residential and commercial MBS issued in European countries, covering a 20-year period from 1999 to 2018. We find that frequent issuers have certification value. The certification value increases as the credit cycle approaches its peak,

⁴ We define rating shopping as the tendency for issuers to selectively publish favourable ratings after securing preliminary ratings from multiple rating agencies. Issuers engaging in this practice tend to report the highest ratings or choose agencies with the least stringent criteria (Mathis et al. 2009).

⁵ At the marketing stage, issuers (or underwriters) set a provisional price based on investor sentiment. Investors indicate the price they are willing to pay as well as the corresponding volume. To ensure that the issue is well subscribed issuers try to avoid overpricing (Choudhry 2011). Recent studies show that investors attempted to incorporate the potential costs of misaligned interests in the primary yields of MBS by accounting for issuer size, rating bias, creditor protection, collateral, and tranche structure (Fabozzi and Vink 2012a; Fabozzi and Vink 2012b; Fabozzi and Vink 2015; He et al. 2012).

suggesting that investors value frequent issuers more as lending standards loosened, and information asymmetries intensified. Our results show that investors require higher yields for MBS originated by the subsidiaries of foreign banks, and the certification value of being a frequent issuer is insufficient to compensate for this risk, possibly due to the perceived value of domestic banks' expertise. We find that the influence of frequent issuers is distinctively different between the periods before (1999–2007) and after (2008–2018) the GFC. In the pre-GFC period, investors considered the certification effect of frequent issuance only when valuing non-prime, riskier and more difficult to evaluate, MBS. In the post-GFC period, investors started to attach more value to frequent issuers when evaluating all MBS, whether prime or non-prime. Finally, we find that in the pre-crisis period investors required higher yields to compensate for perceived rating shopping, which is not observed after the GFC.

We contribute to the securitization literature in several directions. First, we primarily focus on frequent issuers as an indicator of certification value.⁶ Second, we use an international sample from the European securitization market. This is relevant as most studies on securitization markets focus on the US⁷ even though there are significant differences between these two securitization markets. The growth of US securitization has been progressive and continuous since the early 1970s, while European securitization grew rapidly and exponentially in the 2000s after the introduction of the euro (Altunbas et al. 2009). Furthermore, the advent of securitization in Europe has been mainly due to private market forces rather than government-sponsored enterprises (GSEs) as seen in the US. Due to these differences, investors in the European market were probably exposed to higher levels of information asymmetries relative to the US and had limited opportunities to fully understand the complexity of these instruments. Therefore, it is important to assess the role of issuers and how investors attempted to mitigate risks in European securitization transactions. Third, to assess frequent issuers' certification value, we contribute to the literature by accounting for the effect of the distance between the issuer and the origination market, and perceived rating shopping.

The rest of the paper is structured as follows. The next section reviews the extant literature and develops our hypotheses. Section 3 describes the data and methodology used. In Sect. 4 we present the results, and Sect. 5 provides the concluding remarks.

2 Literature review and hypothesis development

It is well documented that in the build-up to the 2007–2009 financial crisis, securitization contributed to banks' opportunistic behaviour and increased their desire to assume more risk, at the expense of Asset Backed Security (ABS) investors.⁸ Securitization-active banks aggressively loosened their screening and monitoring standards (Dell'Ariccia et al. 2012; Du 2019; Keys et al. 2012; Mian and Sufi 2009; Nadauld and Sherlund 2013; Purnanandam 2011), securitized riskier loans (Agarwal et al. 2012; Bord and Santos 2015; Elul

⁶ Previously, He et al. (2012) only consider, among other issues, the effect of issuer size on yields in the United States (US). They find that yields on tranches sponsored by large issuers were comparatively higher. Our findings show that, when other factors (such as rating shopping) are also considered, issues sold by frequent issuers had lower yields suggesting that these issues had certification value for investors.

⁷ A good example is He et al. (2012) that proves rating shopping influences MBS prices for the US market.

⁸ See Deku et al (2019a, b) for a review of the literature on securitization and its impact on bank behaviour.

2015; Krainer and Laderman 2014),⁹ imposed looser covenants on borrowers of securitized loans (Wang and Xia 2014), and misreported the value of securitized assets (Griffin and Maturana 2016; Piskorski et al. 2015).¹⁰ As a result, many MBS investors suffered extensive losses during the crisis (Watson, 2008).¹¹

Due to significant information asymmetries in the securitization markets, investors were not equipped with the necessary tools to identify opportunistic behaviour by banks and assess collateral quality, so they tended to rely on rating agencies. We contend that investors also relied on the information content of issuance frequency to attenuate the effect of information asymmetries when assessing MBS risks. Financial intermediation theory posits that reputational concerns mitigate opportunistic behaviour and motivate banks to disclose relevant information and produce better quality securities in the interest of investors (Chemmanur and Fulghieri 1994) and, therefore, create more wealth for their shareholders (Thomas 1999). In securitization markets, banks are mindful of the value of reputation, and tend to build and maintain their well-regarded reputational capital (Hartman-Glaser 2011; Kawai 2015). An obvious way to protect their reputation is to ensure that the quality of loans backing their securitization issues remains high. In this direction, Winton and Yerramilli (2020) show that during credit booms reputable banks conduct more intensive monitoring of borrowers, while less reputable ones are more likely to increase new lending at the expense of monitoring intensity. At the same time, it can be argued that investors might consider that banks have an incentive to “monetize” their reputation particularly during the buoyant (i.e. upward) phases of the credit cycle (Mathis et al. 2009). For example, Griffin et al. (2014) show that in the context of complex securities such as collateralised debt obligations (CDOs) where reliable scenario analyses are more difficult to conduct, reputable underwriters tend to exploit investors by producing poor quality securities that underperform during economic downturns. This is similar to the findings of Mählmann (2016) where issuers use repeat issuance to exploit investors during periods when credit ratings are inflated. Our main hypothesis in this paper considers the certification value of reputable issuers. We argue that investors perceive MBS sold by frequent issuers to be less risky as these issuers are expected to maintain their reputation in the securitization market. Hence our first, and main, hypothesis is structured as follows:

H₁. *MBS sold by frequent issuers are deemed less risky by investors due to issuer reputational concerns, and, therefore, have lower initial yield spreads.*

We also argue that investors are more likely to trust and rely on frequent issuers during credit boom periods, such as the period preceding the 2007–2009 financial crisis, when

⁹ In contrast, a number of recent studies find that the credit quality of securitized loans are no different than non-securitized loans (Benmelech et al. 2012; Kara et al. 2015; Kara et al. 2019; Shivdasani and Wang 2011; Wang and Xia 2014).

¹⁰ For example, in the US, misreporting was extensive in the securitization chain, especially by borrowers and vertically integrated intermediaries (Griffin and Maturana 2016; Piskorski et al. 2015). There is evidence suggesting that originators held sufficient information showing that loans pooled and sold to third parties were riskier than represented in public documentation (Griffin and Maturana, 2016), and that credit ratings assigned at issuance failed to capture misreporting by originators (Piskorski et al. 2015). See Deku and Kara (2017) for a treatise on the common information asymmetries prevalent in the securitisation markets.

¹¹ For a detailed survey of the literature on the impact of securitization on bank behaviour see Kara et al. (2016a, b) and Deku et al. (2019a, b).

information asymmetries intensified in the credit markets.¹² Hence our second hypothesis is:

H₂. *MBS sold by frequent issuers during the economic boom periods have lower initial yield spreads in comparison to those sold during normal periods.*

While investors relied extensively on ratings for mitigating MBS risks during the pre-crisis period, there is evidence suggesting that credit rating agencies adopted flawed methodologies to evaluate MBS bonds, often providing inflated ratings (Mahlmann 2012). In addition, the close relationship between some issuers and agencies led to a conflict of interests at the expense of MBS investors. This was in part because of the issuer-pays business model of the credit rating industry, where fees for rating services are borne by issuers (Adelino 2009; Efung and Hau 2015; He et al. 2012; Mathis et al. 2009). In fact, the evidence suggests that in the years preceding the crisis, rating agencies gave stronger ratings to lucrative customers (Efung and Hau 2015). There is also evidence showing that issuers often reported the most favourable ratings only (He et al. 2012), and that competition between rating agencies compounded this bias. We extend this strand of the literature and examine whether investors consider rating shopping as a risk factor and test the following hypothesis:

H₃. *MBS rated by fewer than three rating agencies are likely to signal rating shopping, and, therefore, have higher initial yield spreads.*

Accordingly, we also argue that investors consider reputational concerns (of frequent issuers) as a factor alleviating risks that may arise from rating shopping and test the following fourth hypothesis:

H₄. *MBS rated by fewer than three rating agencies but sold by frequent issuers have higher initial yield spreads in comparison to those sold by similar issuers and rated by three rating agencies.*

Another major factor to assess credit risk is distance. This factor is expected to worsen information asymmetries as the quality of information about borrower creditworthiness deteriorates with increasing distance from the assessing bank (Hauswald and Marquez 2006). Domestic banks have geographic-specific valuable knowledge that makes them better at assessing credit risk and handling the servicing of credit (Hess and Smith 1988).¹³ They also tend to integrate hard and soft information better, thereby providing a more complete profile of borrowers' quality. These advantages enable domestic banks to evaluate borrowers' credit risk and the value of collateral better (Hess and Smith 1988), leading to lower default rates (Mian 2003). In contrast, distant banks have higher costs of collecting and processing geographically-specific information (Petersen and Rajan 2002). As the borrower-lender distance increases, lenders may attempt to circumvent their informational disadvantage by increasing their reliance on hard information and credit scoring, which usually results in lower monitoring competence making banks riskier (DeYoung et al. 2008).¹⁴ Overall, if foreign banks tend to operate at an informational disadvantage (Miller

¹² More interestingly, Deku et al. (2020) find that the predictive power of launch spreads is much higher during credit booms. Thus, the reliance on reputation may have enabled certain investors to minimise the losses they would have incurred otherwise.

¹³ Higher costs arise largely due to informational asymmetries about the local economy and discrimination by stakeholders in the host country (Hymer 1976; Stevens and Shenkar 2012).

¹⁴ A foreign bank may decrease the distance to borrowers by setting up a subsidiary but this would increase the hierarchical distance within the bank's management (De Haas and Van Horen, 2013). The efficient transmission of soft information from local managers to the headquarters may be complicated in hierarchical banks as senior officials may decide to redirect capital to other projects. Consequently, loan officers are

and Richards 2002; Miller and Parkhe 2002), then this may have repercussions on the MBS they produce. In particular, we argue that investors may perceive MBS sold by foreign issuers as riskier due to their informational disadvantage in creating the assets backing the MBS. Accordingly, we test the following hypotheses on whether MBS issued by foreign banks are priced higher compared to those issued by domestic banks and whether being a frequent foreign issuer alleviates this risk:

H₅. *MBS sold by foreign issuers are deemed to be more risky by investors, and, therefore, have higher initial yield spreads.*

H₆. *MBS sold by frequent foreign issuers have lower initial yield spreads in comparison to those sold by frequent domestic issuers.*

Overall, through the six hypotheses presented above, we examine whether being a frequent issuer provides assurances to investors about the quality of MBS.

3 Data and methodology

3.1 Data sources

We collect deal and tranche level data from Eikon and Bloomberg on all European MBS issued between 1999 and 2018. We restrict the sample to floating rate tranches to circumvent the difficulties associated with estimating the credit spread over a suitable benchmark for each tranche.¹⁵ For floating rate tranches, the initial yield spread reported is the quoted margin in excess of an interbank reference rate (Euribor) which represents compensation for liquidity risk and credit risk in excess of the benchmark rate. We also exclude tranches that were not issued at par to preclude distortions of discounts or premiums on the actual yield spreads.

Deal level variables include pricing date, deal type, asset origin, deal value, collateral type and issuers' identity. Tranche level data include effective rating, maturity date, and tranche value. We collect data on weighted average life, constituent credit ratings and the identity of deal trustees were collected from Bloomberg. We also obtain issuing banks' financial data from Bankscope (now Orbis BankFocus).¹⁶ The final sample comprises 6132 MBS tranches.

3.2 Empirical model

The following baseline model explains the primary yield spread of tranche d , issued by bank i , issued at time t :

Footnote 14 (Continued)

less incentivised to collect private information (Stein, 2002). Thus, as the hierarchical distance increases, banks become more reliant on hard information (Liberti and Mian, 2009).

¹⁵ We lose approximately 1% of the initial sample due to this filter.

¹⁶ The Bankscope database was discontinued in 2017. However, at the time of data collection, this database was available.

$$\begin{aligned}
 \text{LogSpread}_{d,i} = & \beta_0 + \beta_1 \text{FrequentIssuer}_{i,t-1} + \sum_{d=1}^D \beta_d \times \text{CRAsReported}_{d,i} + \beta_2 \text{Distance}_{e,i,t} \\
 & + \beta_3 \text{Retained}_{i,t} + \beta_4 \text{Ratings/Tranches}_{i,t} + \sum_{h=1}^H \beta_h \times \text{TrancheCharacteristics}_{h,i} \\
 & + \sum_{c=1}^{C-1} \beta_c \times \text{Collateral}_{s,i} + \sum_{y=1}^{Y-1} \beta_y \times \text{Year}_{i,y} + \sum_{k=1}^{K-1} \beta_k \times \text{CreditRating}_{k,i} + \sum_{s=1}^{S-1} \beta_s \times \text{Issuer}_{s,i} \\
 & + \sum_{m=1}^{M-1} \beta_m \times \text{Trustee}_{m,i} + \sum_{p=1}^{P-1} \beta_p \times \text{Country}_{p,i} + e_{i,d}
 \end{aligned} \tag{1}$$

The dependent and explanatory variables of interest are explained below.

LogSpread represents the natural logarithm of the initial yield spread quoted as a fixed premium, in basis points, over the relevant benchmark rate.¹⁷ Relative to secondary market spreads, the initial yield spread is a more reliable indicator of the offer price and risk premiums demanded by investors. According to Fabozzi and Vink (2015), the optionality risk in the price for floating rate tranches is marginal. The coupons on floating rate notes are reset regularly using a formula based on a benchmark rate plus a credit spread—for example, three-month Euribor + 50 basis points (bps). Consequently, unlike fixed tranches, quoted rates on floaters tend to be close to market rates on reset dates. Therefore, the initial spreads reflect surcharges for liquidity risk and credit risk above reference rates. For this reason, we limit our sample to floating rating tranches only. We also exclude tranches that were not issued at par to preclude distortions of discounts or premiums on the actual yield spreads.

Frequent issuer accounts for issuers' market presence. Following the intuition in Fang (2005), we use a binary variable to capture the qualitative difference between frequent and infrequent issuers. *Frequent issuer* is a dummy variable that takes the value of 1 if the issuer generated more than 2.5% in terms of total market volume during this period, and 0 otherwise.¹⁸ Constructing the variable as binary allows us to make better inferences on the qualitative differences between notable and fringe issuers (see, for example, Fang 2005; Lou and Vasvari 2013; Chen et al. 2018). He et al. (2012) find that spreads on issuances from frequent issuers were higher compared to tranches sold by less frequent issuers. They argue that investors account for the probability of larger issuers obtaining inflated ratings. However, Winton and Yerramilli (2020) contend that during lending booms, low reputation banks are less likely to continue monitoring as they have less to lose by relaxing lending standards. Due to the repeated nature of securitization, we expect a negative relationship between frequency of issuance and funding costs. This hypothesis is motivated by the expectation that frequent issuers are more concerned about the success of future deals, as securitization forms a non-trivial component of their business model. Hence, they are more likely to issue deals collateralised by higher quality asset pools, especially during credit booms when underwriting standards are less stringent. Therefore, all other things being

¹⁷ The examination of initial yield spreads to derive investor perception is quite common in the securitisation literature (Deku et al. 2019a, b; Fabozzi and Vink 2012a; Fabozzi and Vink 2012b; Fabozzi and Vink 2015; He et al. 2012; Kara et al. 2020).

¹⁸ The issuance frequency variable (*Frequent issuer*) was initially defined to include the top 10 issuers only. However, once this variable was constructed, we observed that the market shares of the 10th, 11th, 12th and 13th issuers were identical at 2.77%. Consequently, we decided to include all banks at this level of market share as the next highest market share value was less than 1.5%. Hence, the final list of frequent issuers comprised 13 banks.

equal, we anticipate that borrowing costs would be lower for frequent and more established issuers.

Credit Rating Agencies (CRA) reported is the number of initial ratings reported by credit agencies for a tranche and is used to control for rating shopping. Issuers are not required to report all ratings; although ratings from all three agencies¹⁹ suggest more transparency while ratings from either one or two agencies may indicate suppression of negative ratings. Rating shopping involves issuers reporting the most favourable ratings out of multiple preliminary rating opinions. This could also occur when issuers appoint rating agencies with laxer criteria to obtain the desired credit rating. The suppression of pessimistic ratings and possible rating disagreement may obscure pertinent negative information from reaching investors. Since issuers are not required to publish all ratings, there is an increased likelihood of rating shopping when only one or two ratings are reported. For example, He et al. (2012) show empirically that launch spreads were higher on tranches with a single rating. Accordingly, we hypothesise that relative to tranches with three ratings, spreads are likely to be higher on tranches with one or two ratings.

Distance is a dummy variable that takes the value 1 if the parent bank is domiciled in a country other than the issuer's country of operation.²⁰ Domestic banks tend to possess more soft information and geographically specific knowledge required to perform their screening and monitoring functions while foreign banks tend to rely excessively on hard information such as credit scores. Therefore, the increase in bank-borrower distance results in lower quality loans (Hess and Smith 1988; DeYoung et al. 2008). In relation to securitization, we expect to observe higher spreads on tranches collateralised by mortgages originated by foreign lenders.

Retained is a dummy variable indicating deals in which certain tranches of the deal were retained by the originator. Retained tranches are essentially credit enhancement devices to shield investors from the effects of the originators' perverse incentives (Franke et al. 2012). Ideally, equity retention should maximise originators' screening effort (Kiff and Kissler 2014) and minimises information loss (Guo and Wu 2014).²¹ Issuers retain the equity tranche of securitizations as an incentive aligning mechanism, although the efficiency of retention in achieving this objective declines during boom periods (Kuncl, 2015) and issuers can hedge or sell retained tranches.²² Consequently, the relationship between pricing and retention could either be negative or positive (Fender and Mitchell 2009).

Ratings/Tranches equals the ratio of the number of uniquely rated tranches in a deal to the number of tranches in a deal. In MBS deals, the number of tranches is driven by information asymmetry (Cuchra and Jenkinson 2005). The number of unique ratings shows the number of information sensitive categories within a deal. The securitization literature (Furfin, 2010; He et al. 2012, 2016) commonly uses the number of tranches as a measure

¹⁹ These rating agencies are Fitch, Moody's and Standard & Poor's.

²⁰ We also utilise an alternative definition for *Distance*, where this dummy variable is equal to 1 if the parent bank is domiciled in a country that does not share a border with the issuer's country of origin and 0 otherwise. This alternative definition aims to capture the possibility that the distance travelled between countries may not be significant if they are geographically proximate and monitoring may be easier. However, we do not find this alternative variable to be significant.

²¹ However, Kuncl (2015) shows that although retention aligns originator and investor interests, the efficiency of this device is limited especially during economic booms. Retained tranches are not included in our sample.

²² Also, due to moral hazard concerns, an incentive-compatible contract would involve the issuer to retain riskier tranches, while selling safer ones (Palia and Sopranzetti 2004).

of complexity. Complexity in structured finance could be a consequence of security design where issuers attempt to create multiple tranches to cater to the requirements of a wide investor base (Cuchra and Jenkinson, 2005). Alternatively, complexity could be used as a strategic device to obscure the true quality and price of the securities (Ghent et al. 2017). Consistent with this explanation, Furfine (2010) observes a positive correlation between the number of tranches and poor loan performance. Consequently, we expect spreads to be higher on complex deals.²³

Tranche characteristics include four variables. *Size*, the natural logarithm of the tranche principal value (in €millions), is used to account for liquidity.²⁴ We expect that notes from larger tranches should be easier to trade; therefore, yields on these tranches should be lower. *Subordination* is the principal value of tranches with an identical or a better rating as a fraction of the total deal value. We use subordination as a measure of credit enhancement and deal structure. Large values suggest little credit support, therefore we expect spreads to be higher on tranches with higher subordination values. *Weighted Average Life* is the natural logarithm of the effective maturity of the tranche.²⁵ Unlike conventional bonds, nominal maturity is less meaningful for securitization issues. *Weighted Average Life* is therefore considered to be a better measure of maturity for MBS because it accounts for prepayment rates while nominal maturity does not. We expect a positive relationship between this measure and yield spreads. *Residential Mortgage* is a dummy variable that is equal to 1 if the security is collateralised by residential mortgages and 0 otherwise. Asset pools backing residential MBS tend to be more homogenous in terms of composition and quality. These features easily lend residential mortgage backed securities (RMBS) to modelling based on the law of large numbers while the heterogeneity of collateral of commercial mortgage backed securities (CMBS) makes these securities more difficult to model. We expect spreads to be higher on tranches backed by commercial mortgages.

Credit Rating is coded as a factor variable using the standardised 21 point scale ranging from AAA(1) to C(21) to capture as much information conveyed by ratings. We collectively refer to ratings below AAA as non-prime. Credit ratings control for asset and structural risks as well as key third parties to the structure, such as guarantors (Fabozzi and Vink 2012a). It is expected that yields will be mainly driven by credit ratings. However, rating structured finance issues is a major source of revenue for credit rating agencies and their compensation framework has raised questions about their independence. Hence, although ratings somewhat cover asset and structural risks, investors may have factored this conflict of interest by incorporating a premium in primary yields while using credit ratings as a foundation for their risk assessment.

We use *issuer* and *trustee* fixed effects to capture the effect of omitted variables that are issuer or trustee specific and are time invariant. Controlling for unobserved heterogeneity allows us to directly estimate the impact of issuer reputation on yield spreads. We also include *year* and *country* fixed effects in all specifications to capture prevailing macroeconomic conditions and geographically induced variations respectively.

²³ In our dataset, however, we observe that multiple tranches within deals tend to bear identical features except for currency of issuance so we compute the ratio of uniquely rated tranches to the number of tranches in deal. This ratio quantifies the degree of complexity within a given deal.

²⁴ Smaller deals have fewer tranches and Cuchra and Jenkinson (2005) attribute this to issuers' goal of fostering liquidity on the secondary market. However, Schaber (2008) argues that this trend is due to the cost inefficiency associated with marketing and research efforts by originators and investors respectively.

²⁵ Cuchra (2004) argues that nominal maturity is less meaningful for securitization issues because weighted average life incorporates essential modelling factors such as prepayment assumptions, step-up structures, embedded options and expected repayment speed of the underlying assets.

Our model exploits cross-sectional and within-entity time variation. We run ordinary least square regressions on pooled samples of MBS tranches. Although, the least square estimator is consistent, the standard errors are understated because it is unlikely that tranches within a specific deal are independent of each other; for instance, the ratings on multiple tranches tend to be modified around the same time (Adelino 2009). Therefore the reported standard errors are clustered at the deal level to mitigate the correlation of errors within deals (Cuchra 2004).

3.3 Interacting frequent issuer

We interact *Frequent issuer* with *CRA reported* and *Distance* to examine whether issuance frequency varies with rating shopping behaviour and the functional distance of the issuer from the origination market. *Frequent issuer* \times *CRA reported* captures whether the value of frequent issuance varies with the impact of perceived rating shopping. Similarly, *Frequent issuer* \times *Distance* captures whether the value of issuance frequency depends on the information asymmetries that arise from a frequent issuer being distant from the origination market. We also examine whether the influence of frequent issuers varied during the pre-crisis period when the securitization markets grew significantly. We use *Boom*, a dummy variable that takes a value of 1 if a deal is issued in the years from 2005 to June 2007, and 0 otherwise, to capture this period.

3.4 Descriptive statistics

We present the sample overview in Table 1. Panel A shows the distribution of the sample according to rating categories and underlying collateral. The data are split, by collateral, into residential (RMBS, 81.27%) and commercial (CMBS, 18.73%) categories. Based on composite ratings, the sample comprises 2272 (37.05%) prime tranches and 3860 (62.95%) non-prime tranches. Panel B shows that a large number of tranches receive multiple ratings (40.80% and 44.89% for 3 and 2 ratings, respectively) while only 14.31% of tranches are rated by one agency. In Panel C we categorise the tranches into cohorts based on rating category and country of collateral (country of risk). More than half (51.64%) of all tranches are based on collateral originated in the UK, followed by Spain (13.33%) and Netherlands (10.62%). These three countries account for 75.59% of the tranches in our sample. Panel C also presents the percentage of tranches where the parent bank is not located in issuer's country of risk (last column). We find that 32.17% of the tranches in the sample are issued by foreign banks.

In Table 2, we present the descriptive statistics for the aggregate sample. The mean spread is 91.74 bps for the full sample compared to 88.93 bps for RMBSs and 104.80 bps for CMBSs. RMBS deals, averaging approximately €2.45bn, are almost three times the size of an average CMBS deal (€738.88 m). Similarly, RMBS tranches are 2.73 times larger than CMBS tranches suggesting that RMBS issues contain relatively more tranches per deal. RMBS deals have an average of 7.80 tranches per deal while CMBS deals typically contain 6.53 tranches. The median rating for the whole sample is AA – (4.51).

Table 1 Sample characteristics

Panel A: Tranche distribution by rating categories and underlying collateral				
Collateral	Prime	Non-Prime	Total	Percentage (%)
Commercial mortgages	231	918	1149	18.73
Residential mortgages	2041	2942	4983	81.27
Total	2272	3860	6132	100
Percentage	37.05%	62.95%		
Panel B: Tranche distribution by Number of Ratings Secured				
No. of Ratings	RMBS	CMBS	Total	Percentage (%)
1	727	151	877	14.31
2	2049	704	2753	44.89
3	2207	294	2502	40.80
Total	4983	1149	6132	100.00
Panel C: Country of risk and distance				
	All issues Frequency	Distance = 1 Percentage (%)		Percentage (%)
United Kingdom	3167	51.64		38.51
Spain	817	13.33		26.93
Netherlands	651	10.62		21.72
Germany	498	8.12		37.15
Italy	431	7.03		38.28
France	116	1.89		42.34
Switzerland	113	1.84		98.08
Ireland	101	1.65		25.84
Portugal	93	1.52		10.75
Belgium	78	1.27		64.10
Other	67	1.09		25.71
Total	6132	100		32.17

4 Regression results

We estimate the models progressively. First, we present the results for the full MBS sample. Subsequently, we provide estimations for the RMBS sample to test the robustness of our results with a uniform sample. We then split the sample into two groups according to risk categories—prime (AAA) tranches and non-prime (non-AAA) tranches, to examine whether issuer frequency effects differ depending on the level of risk taken by the investors.

4.1 MBS sample

We present the results for the broader MBS sample in Table 3, Panel A. Estimations for the baseline model are shown in column 1 and we include the interaction variables (*Frequent issuer* × *CRA reported*, *Frequent issuer* × *Distance* and *Frequent issuer* × *Boom*) separately in columns 2 to 4.

Table 2 Descriptive statistics of selected variables

Variable	Type	N	Mean	Median	SD
Spread (basis points)	RMBS	4983	88.93	45.00	113.40
	CMBS	1149	104.80	55.00	123.74
	Total	6132	91.74	47.00	115.44
Weighted Average Life (years)	RMBS	4983	16.06	6.54	18.55
	CMBS	1149	6.95	6.26	4.40
	Total	6132	14.63	6.40	17.43
Credit Rating	RMBS	4983	4.40	3.00	3.92
	CMBS	1149	5.16	4.00	3.76
	Total	6132	4.51	3.00	3.91
Number of Tranches	RMBS	4983	7.80	6.00	5.45
	CMBS	1149	6.53	6.00	2.26
	Total	6132	7.60	6.00	5.10
Ratings/Tranches	RMBS	4983	0.69	0.75	0.30
	CMBS	1149	0.81	0.83	0.17
	Total	6132	0.71	0.80	0.29
Subordination	RMBS	4983	0.06	0.04	0.08
	CMBS	1149	0.15	0.11	0.15
	Total	6132	0.07	0.04	0.10
Tranche Value (€ million)	RMBS	4983	399.41	67.05	950.69
	CMBS	1149	146.30	53.77	271.34
	Total	6132	354.73	62.00	875.51
Deal Value (€ million)	RMBS	4983	2451.42	1000.00	6344.54
	CMBS	1149	738.88	550.00	686.20
	Total	6132	2143.27	8971.00	5790.20
Distance	RMBS	4983	0.26	–	0.44
	CMBS	1149	0.65	1.00	0.49
	Total	6132	0.32	–	0.47
Frequent issuer	RMBS	4983	0.39	–	0.49
	CMBS	1149	0.57	1.00	0.50
	Total	6132	0.42	–	0.49

We find that the coefficients of *Frequent issuer* are negative and statistically significant at least at the 5% level in all models. MBS from frequent issuers carry lower spreads as investors evaluate these notes as relatively less risky. This result, supporting H_1 , shows that investors value frequent issuers and consider that the reputation concerns of these issuers should mitigate opportunistic behaviour. The coefficients for the number of *CRA reported* are not statistically significant, apart from *2 CRA reported* in column 1, albeit only at 10% level. Results show that MBS tranches are not priced higher when only one or two credit ratings are reported in comparison to tranches where credit ratings from all three rating agencies are reported. We do not find a significant coefficient for *3 CRA reported* in columns 3 and 4.²⁶ Overall, the results do not support H_3 .

²⁶ It is worth noting that one limitation of our analysis is that reporting ratings from two agencies does not necessarily mean that the unfavourable ratings from a third agency have been suppressed.

Distance is statistically significant at the 5% level and has a positive sign (apart from column 4). In support of H_5 , we find that MBS issued by foreign banks carry a higher spread when compared to issuances by domestic banks. Therefore, investors consider MBS issued by foreign banks to be riskier. They value local issuer expertise, where it is expected that domestic banks would be more specialised due to their familiarity with the local market. Thus, investors perceive domestic banks to be more likely to detect borrower misrepresentation and, therefore, extend safer loans. MBS originated by foreign banks are deemed to be relatively less creditworthy possibly due to information asymmetries created by bank-borrower distance.

In columns 2–4, we interact *Frequent issuer* with *Boom*, *3 CRA reported* and *Distance*, respectively. *Frequent issuer* \times *Boom* is significant at the 5% level and has a negative sign (column 2). MBS sold by frequent issuers during the credit boom period (2005–June 2007) in the run-up to the financial crisis were regarded to be relatively less risky compared to MBS they sold in normal periods. This result, supporting H_2 , indicates that investors perceived frequent issuers to be more reliable and trustworthy originators of high quality MBS during the progressive phase of the credit expansionary period when information asymmetries in the markets increased. Assuming securitization follows a repeated game structure, frequent issuers are more likely to be concerned about improving their reputation as competition for market share increases during the expansion phase of the credit cycle. Consequently, they are likely to be more diligent at the credit underwriting stage during these periods. Such issuers are also more likely to provide effective monitoring in an intensely competitive environment as smaller issuers would be more concerned with maintaining or increasing market share (Winton and Yerramilli 2020).

We also find a negative and significant (at the 10% level) coefficient for *Frequent issuer* \times *3 CRA reported*. MBS tranches where a frequent issuer reports ratings from three credit rating agencies are regarded as less risky. This shows that the combination of frequent issuance with a clear indication of transparency by reporting three ratings is highly valued by investors, supporting H_4 . We do not find *Frequent issuer* \times *Distance* to be significant. It seems that, contrary to our expectations in H_6 , frequent issuance does not have a mitigating effect on the information asymmetries caused by distance to the origination market.

Retained is not significant in any of the specifications. Retention as an alignment device seems to have lost its importance since it does affect issuers' borrowing costs. This result may also suggest that investors cannot rely on this indicator as retained tranches could be sold by the issuer. *Ratings/Tranches* is not significant in any of the models while *Subordination* is significant in all of the models. It seems that credit ratings do not completely capture the leverage effects within deals and higher subordination typically signals higher risk deals. *Weighted Average Life* is a key determinant of initial spreads as this variable is highly statistically significant and consistently positive in all specifications in Table 3, Panel A. This finding is consistent with Cuchra (2004) where initial launch spreads were persistently positively related to effective maturity. Liquidity, proxied by *Size*, is significant in all the models. In particular, we find that *Size* is now statistically significant and has a negative sign. This shows that investors require lower liquidity premiums for larger issues. With regards to collateral, spreads on RMBS notes were lower than initial funding costs associated with CMBS notes. This is because CMBSs are less regulated, less standardised and attract a higher risk weighting.²⁷

²⁷ Furthermore, there is comparatively less competition in the commercial mortgage market hence the prices of these mortgages are higher compared with the prices of residential mortgages.

4.2 RMBS sample

RMBS constitutes 81.27% of our sample. We run estimations on the RMBS subsample as it is more homogenous and can help to check the robustness of our reported results for the whole sample. The results are presented in Table 3, Panel B. We find that almost all the relationships established above for our main variables remain unchanged in the RMBS sample. We still find that frequent issuance leads to lower spreads. The possibility of rating shopping, shown by the positive coefficient of *2 CRA reported*, is deemed risky by investors. The statistical significance of the *Distance* variable gets stronger. This is unsurprising as residential mortgage lending requires more local presence and expertise by the lenders and, as the literature argues, foreign banks may be at a disadvantage relative to local banks. The direction of the signs and significance of the interaction variables $-Frequent\ issuer \times Boom$, $Frequent\ issuer \times 3\ CRA\ reported$ and $Frequent\ issuer \times Distance$ do not change.

4.3 Prime versus non-prime tranches

We split the sample into two groups according to risk categories—prime (AAA) tranches and non-prime (non-AAA) tranches—to examine whether frequent issuer effects differ depending on investors' risk preference. Results for the prime sample are presented in Table 4, Panel A. Broadly, we find similar results for the AAA tranches, which are deemed to be least risky. Our main variable *Frequent issuer* is still significant. Regarding the rating shopping hypothesis, we do not find any *CRA reported* variables to be significant. One different observation is the coefficient of the *Distance* variable, which is now not significant. We also do not find any significance for $Frequent\ issuer \times Boom$. However, we still find $Frequent\ issuer \times 3\ CRA\ reported$ to be significant and negatively related to spread. This confirms that MBS tranches, including prime ones with three reported ratings, from frequent issuers are regarded as the safest.

Estimations for the prime tranches of RMBS subsample are presented in Table 4, Panel B. We find that the coefficient of *Frequent issuer* is still significant. Similar to the findings above, none of the *CRA reported* variables are significant. It seems that the possibility of issuer rating shopping is not a concern for investors in AAA tranches. For the RMBS sample, we find *Distance* to be significant and still positively related to the spread. This supports our earlier interpretation that domestic banks are at an advantage in residential mortgage lending due to their local knowledge.

The results of the non-prime MBS sample are presented in Table 5, Panel A. We report some differences between the prime and non-prime tranches. Firstly, the coefficients of *Frequent issuer* are significant in columns 1 and 3 only, and their statistical significance is weaker. However, the results presented in Panel B for the non-prime RMBS sample, we still find large and statistically significant coefficients for this variable in all models. Overall, it seems that for non-prime tranches, which are more difficult for investors to evaluate due to higher information asymmetries, investors are more likely to rely on the certification effect of frequent issuers to mitigate MBS risks.²⁸ We find that *2 CRA reported* is highly statistically significant. This result shows that the possibility of issuer rating shopping has

²⁸ We also estimate our models for the CMBS sample. In unreported results, we find that *Frequent issuer* is negative and significant in all models including full, prime and non-prime samples. However, we do not find any significant coefficients when we interact *Frequent issuer* with other variables. These findings show that frequent issuers provide value in CMBS deals regardless of risk levels. These results are available upon request.

Table 3 The impact of frequent issuer on initial yield spreads of MBS tranches

	(1)	(2)	(3)	(4)
Panel A: All MBS				
Frequent issuer	-0.3799*** (0.1399)	-0.3201** (0.1399)	-0.3440** (0.1366)	-0.3919** (0.1872)
1 CRA reported	-0.0186 (0.0553)	-0.0187 (0.0553)		
2 CRA reported	0.0533* (0.0304)	0.0494 (0.0306)		
3 CRA reported				
Distance	0.1127** (0.0554)	0.1118** (0.0552)	0.0285 (0.0292)	-0.0467 (0.0308)
Frequent issuer×Boom		-0.0835** (0.0342)		0.1081 (0.0776)
Frequent issuer×3 CRA reported			-0.0954* (0.0522)	
Frequent issuer×Distance				0.0093 (0.1296)
Retained	0.0088 (0.0249)	0.0067 (0.0249)	0.0075 (0.0249)	0.0084 (0.0250)
Ratings/Tranches	0.1373* (0.0779)	0.1416* (0.0778)	0.1428* (0.0785)	0.1422* (0.0782)
Subordination	0.0191*** (0.0032)	0.0191*** (0.0032)	0.0191*** (0.0032)	0.0187*** (0.0032)
Weighted Average Life	0.3207*** (0.0194)	0.3202*** (0.0194)	0.3219*** (0.0197)	0.3238*** (0.0198)
Size	-0.0541*** (0.0100)	-0.0545*** (0.0100)	-0.0552*** (0.0100)	-0.0545*** (0.0101)
Residential Mortgages	-0.1730*** (0.0438)	-0.1730*** (0.0437)	-0.1699*** (0.0436)	-0.1703*** (0.0438)
N	6132	6132	6132	6132
Adjusted R ²	0.863	0.863	0.863	0.863
Panel B: RMBS				
Frequent issuer	(1)	(2)	(3)	(4)
1 CRA reported	-0.3328*** (0.0731)	-0.2486*** (0.0767)	-0.2349** (0.0948)	-0.4974** (0.2429)
2 CRA reported	-0.0327 (0.0644)	-0.0351 (0.0642)		
3 CRA reported	0.0796** (0.0336)	0.0726** (0.0339)		
Distance	0.2307*** (0.0811)	0.2346*** (0.0807)	0.0358 (0.0337)	-0.0694** (0.0341)
Frequent issuer×Boom		-0.1061*** (0.0350)	0.2239*** (0.0817)	0.0985 (0.1522)
Frequent issuer×3 CRA reported				
Frequent issuer x Distance			-0.1315** (0.0614)	
Retained	0.0206 (0.0260)	0.0169 (0.0262)	0.0207 (0.0261)	0.1806 (0.2453)
Ratings/Tranches	-0.0069 (0.0624)	-0.0011 (0.0622)	0.0151 (0.0617)	0.0117 (0.0623)

Table 3 (continued)

Panel A: All MBS	(1)	(2)	(3)	(4)
Subordination	0.0240*** (0.0054)	0.0240*** (0.0054)	0.0241*** (0.0053)	0.0239*** (0.0055)
Weighted Average Life	0.3222*** (0.0185)	0.3211*** (0.0185)	0.3255*** (0.0189)	0.3273*** (0.0194)
Size	-0.0253** (0.0102)	-0.0256** (0.0102)	-0.0274*** (0.0102)	-0.0258** (0.0104)
N	5066	5066	5066	5066
Adjusted R ²	0.885	0.885	0.885	0.885
<i>All regressions in Panels A and B control for</i>				
Tranche credit rating	Yes	Yes	Yes	Yes
Year/Country fixed effects	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
Issuer/Trustee fixed effects	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes

This table reports the results of OLS regressions of the logarithm of initial yield spread (logspread) of European MBS tranches on frequent issuer, deal, collateral and tranche-level characteristics. The sample includes all rated floating tranches issued between 1999 and 2018. Frequent issuer is a dummy variable that takes the value of 1 if the issuer is one of the frequent issuers in terms of total market volume during this period, and 0 otherwise. Boom is equal to 1 if a deal is issued in the years from 2005 to 2007 and 0 otherwise. Ratings/Tranches is the ratio of the number of distinct rating classes within a deal divided by the number of tranches per deal. Retained is a dummy variable equals 1 if a tranche in the relevant deal is retained. Distance is a dummy variable that is equal to 1 if an issuers' nationality of operations differs from the home country of the parent institution, and 0 otherwise. CRA reported is the number of initial ratings reported for a tranche. Subordination is the value of tranches with an identical or a better rating as a fraction of the total deal value. Weighted Average Life is the natural logarithm of the mean number of years the principal value of a tranche remains unpaid. Size is the natural logarithm of tranche face value in euros. Rating dummy variables indicate initial effective tranche credit rating. Collateral is the type of asset backing the structured bond, grouped as commercial and residential mortgages. Issuer fixed effects is a set of dummy variables indicating each issuer. Country dummy variables are set equal to 1 when the collateral is originated in the relevant country and 0 otherwise. Time is a factor variable consisting of the annual issuance periods. The omitted categories are tranches rated by 3 agencies, commercial mortgage backed notes, and tranches issued in 1999. Standard errors in parentheses are clustered at the deal level. ***, **, * and * represent significance at the 1%, 5%, and 10% levels, respectively

Table 4 The impact of frequent issuer on initial yield spreads of prime MBS tranches

	(1)	(2)	(3)	(4)
<i>Panel A: All MBS</i>				
Frequent issuer	- 0.5256*** (0.1786)	- 0.4596*** (0.1765)	- 0.5192*** (0.1812)	- 0.5469** (0.2538)
1 CRA reported	- 0.0081 (0.0907)	- 0.0080 (0.0905)		
2 CRA reported	0.0060 (0.0478)	0.0017 (0.0481)		
3 CRA reported			0.0064 (0.0413)	- 0.0048 (0.0480)
Distance	0.1326 (0.0839)	0.1299 (0.0837)	0.1318 (0.0838)	0.1178 (0.1037)
Frequent issuer X Boom		- 0.1002*** (0.0380)		
Frequent issuer X 3 CRA reported			- 0.0147 (0.0759)	
Frequent issuer X Dis- tance				0.0222 (0.1978)
Retained	0.0133 (0.0329)	0.0111 (0.0327)	0.0135 (0.0327)	0.0138 (0.0323)
Ratings/Tranches	0.0937 (0.0630)	0.1022 (0.0630)	0.0944 (0.0619)	0.0951 (0.0623)
Subordination	0.0104** (0.0052)	0.0105** (0.0052)	0.0104** (0.0052)	0.0104** (0.0052)
Weighted Average Life	0.3517*** (0.0165)	0.3513*** (0.0165)	0.3518*** (0.0165)	0.3516*** (0.0166)
Size	- 0.0078 (0.0122)	- 0.0088 (0.0122)	- 0.0080 (0.0119)	- 0.0078 (0.0123)
Residential Mortgages	- 0.2463*** (0.0537)	- 0.2442*** (0.0532)	- 0.2458*** (0.0541)	- 0.2462*** (0.0537)
N	2458	2458	2458	2458
Adjusted R ²	0.868	0.868	0.868	0.868
<i>Panel B: RMBS</i>				
Frequent issuer	- 0.2899*** (0.0748)	- 0.2021** (0.0808)	- 0.3116*** (0.1112)	- 0.3303 (0.3343)
1 CRA reported	- 0.0641 (0.1000)	- 0.0660 (0.0997)		
2 CRA reported	- 0.0250 (0.0593)	- 0.0313 (0.0599)		
3 CRA reported			0.0192 (0.0449)	0.0287 (0.0596)
Distance	0.2575** (0.1119)	0.2576** (0.1114)	0.2590** (0.1126)	0.2258 (0.2081)
Frequent issuer X Boom		- 0.1140*** (0.0434)		
Frequent issuer X 3 CRA reported			0.0274 (0.0999)	
Frequent issuer X Dis- tance				0.0431 (0.3424)
Retained	0.0262 (0.0366)	0.0230 (0.0366)	0.0262 (0.0366)	0.0274 (0.0358)

Table 4 (continued)

	(1)	(2)	(3)	(4)
Ratings/Tranches	0.0819	(0.0737)	(0.0736)	(0.0721)
Subordination	0.0107*	(0.0055)	(0.0055)	(0.0055)
Weighted Average Life	0.3494***	(0.0175)	0.3486***	(0.0174)
Size	0.0011	(0.0149)	0.0003	(0.0147)
N	2214	2214	2214	2214
Adjusted R ²	0.873	0.873	0.873	0.873
<i>All regressions in Panels A and B control for</i>				
Tranche credit rating	Yes	Yes	Yes	Yes
Year/Country fixed effects	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
Issuer/Trustee fixed effects	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes

This table reports the results of OLS regressions of the logarithm of initial yield spread (logspread) of prime European MBS tranches on frequent issuer, deal, collateral and tranche-level characteristics. The sample includes all rated floating tranches issued between 1999 and 2018. Frequent issuer is a dummy variable that takes the value of 1 if the issuer is one of the frequent issuers in terms of total market volume during this period, and 0 otherwise. Boom is equal to 1 if a deal is issued in the years from 2005 to 2007 and 0 otherwise. Ratings/Tranches is the ratio of the number of distinct rating classes within a deal divided by the number of tranches per deal. Retained is a dummy variable equals 1 if a tranche in the relevant deal is retained. Distance is a dummy variable that equals 1 if an issuers' nationality of operations differs from the home country of the parent institution, and 0 otherwise. CRA reported is the number of initial ratings reported for a tranche. Subordination is the value of tranches with an identical or a better rating as a fraction of the total deal value. Weighted Average Life is the natural logarithm of the mean number of years the principal value of a tranche remains unpaid. Size is the natural logarithm of tranche face value in euros. Rating dummy variables indicate initial effective tranche credit rating. Collateral is the type of asset backing the structured bond, grouped as commercial and residential mortgages. Issuer fixed effects is a set of dummy variables indicating each issuer. Country dummy variables are set equal to 1 when the collateral is originated in the relevant country and 0 otherwise. Time is a factor variable consisting of the annual issuance periods. The omitted categories are tranches rated by 3 agencies, commercial mortgage backed notes, and tranches issued in 1999. Standard errors in parentheses are clustered at the deal level. ***, **, * and * represent significance at the 1%, 5%, and 10% levels, respectively

a major effect on investors' perceptions when evaluating riskier, non-prime, tranches. The coefficient of *Distance* is not statistically significant. We find the coefficients of the interaction variables *Frequent issuer* \times *Boom* and *Frequent issuer* \times *3 CRA reported* to be negative and significant. These results show that, firstly, investors valued frequent issuers highly during the credit boom preceding the financial crisis and required lower spreads from frequent issuers during this period. Secondly, the combination of frequent issuance with three reported credit ratings seems to be perceived as an important transparency indicator and risk mitigation factor.

4.4 Further analysis and robustness checks

We conduct further analyses by testing the robustness of our findings. We interact *Frequent issuer* with tranche credit rating. The interaction variable should show us whether the importance of frequent issuers increases as the credit quality of a tranche deteriorates. To simplify the interpretation, we utilise the ordinal form of the credit rating variables (*Tranche Credit Rating*) in these estimations. *Tranche Credit Rating* takes values from 1 (AAA rated) to 21 (C rated) depending on the tranche's composite credit rating. We predict a positive coefficient for *Tranche Credit Rating*, i.e. yield spreads should increase as credit rating deteriorates. The results are presented in Table 6. Consistent with our main results, the coefficient of *Frequent issuer* is still negative and significant. As expected, we find that yield spreads increase as the tranche credit rating declines (as the numeric rating value increases). We report a negative and statistically significant coefficient for the interaction variable *Frequent issuer* \times *Tranche Credit Rating*. These findings show that frequent issuers often issue securitizations at lower spreads and the value of frequent issuance increases for lowest quality securities.

We also use rating disagreements as a gauge to measure the level of information asymmetry. We hypothesize that dissimilar ratings by different agencies on a given tranche implies a higher degree of asymmetric information for investors. We utilise *Rating Disagreement*, a variable which equals to 1 if there is at least a one notch difference between the ratings and 0 otherwise. Additionally, we check whether the magnitude of rating differences influence our findings using *Rating Gap* (measured by the numeric difference between the highest and lowest rating). The results are presented in Table 7. We do not find significant coefficients for *Rating Gap* (column 1) and *Rating Disagreement* (column 2). It is worth noting that our main variable, *Frequent issuer*, is still highly significant in these specifications. In columns 3 and 4, we estimate our baseline model for subgroups categorised by *Rating Disagreement*. We find that *Frequent issuer* carries a negative sign in both specifications. This result shows that investors attach value to frequent issuers whether the rating agencies disagree or not. Overall, our findings presented in this section using alternative variables and subgroups are in line with our main results.

4.5 Pre- versus post-great financial crisis (GFC)

As discussed in Sect. 2, the dynamics of the securitization market and the regulations regarding ABS creation and issuance have changed after GFC. Hence, investors' perceptions of frequent issuance as a mechanism to mitigate MBS risks may differ for the pre- and post-GFC periods as more transparency requirements have been introduced after the failure of this market. To capture the possible differences between the two periods, we re-run our baseline analysis separately for before and after the GFC.

In Table 8, we present the results for the pre- (columns 1–3) and post-crisis periods (columns 4–6), respectively.²⁹ We observe significant differences between the two periods. Firstly, we observe that *Frequent Issuer* is strongly significant (at 1% level) in both periods; however, the coefficient of this variable is much larger for the post-GFC period. The results indicate that MBS from frequent issuers carry even lower spreads in the post-crisis period; hence, investors seem to attach more value to *Frequent Issuers* after their negative experiences with MBS during the financial crisis, deeming bonds issued by them relatively less risky. This observation could be attributed to the implications of the increasing reputational concerns of the large players in the securitization market. As these issuers would certainly seek to prevent any further deterioration in their reputation, investors expect that such intensified reputational concerns in the post-GFC period should mitigate further opportunistic behaviour from issuers.

Secondly, we observe that the coefficients of all *CRA reported* variables are positive and highly significant in columns 1 and 2 (3 *CRA reported* being the base category) for the pre-crisis period, which was not the case in the regressions we estimated for the whole period. These results show that, in the pre-crisis period, MBS tranches were priced higher when only one or two credit ratings are reported in comparison to tranches where credit ratings from all three rating agencies are reported. The results, supporting **H₃**, also confirm that tranches with only one credit rating reported are perceived to be riskier than tranches with two credit ratings. Our findings are in line with evidence provided by He et al. (2012) in support of the rating shopping hypothesis, widely observed in the pre-crisis period, where issuers that select and report only favourable credit ratings while suppressing unfavourable ratings are deemed to be more risky. This relationship between the number of reported ratings and initial yield spreads disappears for the post-GFC period, as we do not observe any significant coefficients for these variables. These findings show that investors' do not price their suspicions of "rating shopping" in the post-GFC period as they did in the pre-crisis period. This could be the result of stringent new rules and regulations introduced in the post-GFC period regarding the assignment of credit ratings of MBS and limits in the closeness of the relationship between issuers and rating agencies. As of 2013, EU regulations required all structured finance securities to report at least 2 ratings thereby removing the information content of securing dual ratings. Investors seem to have faith in the new credit rating regulations as they do not seem to be adjusting their risk perception for possible "rating shopping". We find another result that supports these arguments. We find that *Subordination* is not significant for the post-crisis period, even though it is highly significant for the pre-crisis period. This shows that in the pre-crisis period, credit ratings did not completely capture the leverage effects within deals and higher subordination typically signals higher risk deals. It seems that credit ratings assigned for the post-crisis MBS captures these effects.

Thirdly, we do not observe *Distance* to be significant in the post-GFC period estimations. It seems that the investors' perception of MBS issued by foreign banks to be riskier in the pre-crisis period, has died down in the post-crisis period. This could be the result of a more uniform European market with stringent regulation reducing the level of information asymmetries in all MBS, reducing the emphasis attached to local expertise by investors.

Subsequently, we estimate the models for prime (AAA) and non-prime (non-AAA) MBS for the pre- and post-GFC periods to examine whether frequent issuer effects differed for these periods depending on investors' risk preference. Results are presented in Tables 9

²⁹ Note that in this setup we do not use *Boom*, and its interaction with *Frequent Issuer*, as this variable only captures the 2005–June 2007 period, which is not applicable to the post-GFC period.

Table 5 The impact of frequent issuer on initial yield spreads of non-prime MBS tranches

	(1)	(2)	(3)	(4)
<i>Panel A: All MBS</i>				
Frequent issuer	-0.2497** (0.1255)	-0.1886 (0.1264)	-0.2014* (0.1210)	-0.2051 (0.1713)
1 CRA reported	0.0611 (0.0510)	0.0603 (0.0509)		
2 CRA reported	0.0985*** (0.0246)	0.0938*** (0.0248)		
3 CRA reported			-0.0009 (0.0267)	-0.0949*** (0.0251)
Distance	0.0335 (0.0485)	0.0339 (0.0483)	0.0399 (0.0479)	0.0641 (0.0878)
Frequent issuer X Boom		-0.0782** (0.0398)		
Frequent issuer X 3 CRA reported			-0.1296*** (0.0429)	
Frequent issuer X Distance				-0.0505 (0.1269)
Retained	-0.0057 (0.0263)	-0.0078 (0.0264)	-0.0079 (0.0263)	-0.0066 (0.0263)
Ratings/Tranches	-0.0560 (0.0631)	-0.0539 (0.0630)	-0.0559 (0.0616)	-0.0536 (0.0631)
Subordination	0.0309*** (0.0036)	0.0309*** (0.0036)	0.0309*** (0.0036)	0.0308*** (0.0036)
Weighted Average Life	0.2091*** (0.0281)	0.2079*** (0.0282)	0.2086*** (0.0286)	0.2115*** (0.0290)
Size	-0.0519*** (0.0116)	-0.0524*** (0.0116)	-0.0542*** (0.0117)	-0.0518*** (0.0117)
Residential Mortgages	-0.1814*** (0.0490)	-0.1826*** (0.0491)	-0.1772*** (0.0486)	-0.1789*** (0.0489)
N	3506	3506	3506	3506
Adjusted R ²	0.884	0.884	0.884	0.884
<i>Panel B: RMBS</i>				
Frequent issuer	-0.4196*** (0.1244)	-0.3085** (0.1255)	-0.3142** (0.1317)	-0.4177* (0.2299)
1 CRA reported	-0.0180 (0.0580)	-0.0236 (0.0580)		
2 CRA reported	0.1029*** (0.0272)	0.0913*** (0.0278)		
3 CRA reported			0.0249 (0.0299)	-0.0952*** (0.0277)
Distance	0.1448** (0.0655)	0.1552** (0.0652)	0.1366** (0.0657)	0.1336 (0.1423)
Frequent issuer X Boom		-0.1262*** (0.0410)		
Frequent issuer X 3 CRA reported			-0.1387*** (0.0518)	
Frequent issuer X Distance				0.0063 (0.2238)
Retained	0.0067 (0.0321)	0.0008 (0.0330)	0.0048 (0.0324)	0.0051 (0.0323)

Table 5 (continued)

	(1)	(2)	(3)	(4)
Ratings/Tranches	-0.1615** (0.0687)	-0.1615** (0.0679)	-0.1367** (0.0684)	-0.1512** (0.0702)
Subordination	0.0473*** (0.0074)	0.0472*** (0.0074)	0.0471*** (0.0075)	0.0467*** (0.0075)
Weighted Average Life	0.2054*** (0.0323)	0.2020*** (0.0324)	0.2083*** (0.0329)	0.2142*** (0.0341)
Size	-0.0585*** (0.0129)	-0.0593*** (0.0128)	-0.0626*** (0.0130)	-0.0591*** (0.0131)
N	2852	2852	2852	2852
Adjusted R ²	0.893	0.893	0.893	0.893
<i>All regressions in Panels A and B control for</i>				
Tranche credit rating	Yes	Yes	Yes	Yes
Year/Country fixed effects	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
Issuer/Trustee fixed effects	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes

This table reports the results of OLS regressions of the logarithm of initial yield spread (logspread) of non-prime European MBS tranches on frequent issuer, deal, collateral and tranche-level characteristics. The sample includes all rated floating tranches issued between 1999 and 2018. Frequent issuer is a dummy variable that takes the value of 1 if the issuer is one of the frequent issuers in terms of total market volume during this period, and 0 otherwise. Boom is equal to 1 if a deal is issued in the years from 2005 to 2007 and 0 otherwise. Ratings/Tranches is the ratio of the number of distinct rating classes within a deal divided by the number of tranches per deal. Retained is a dummy variable equals 1 if a tranche in the relevant deal is retained. Distance is a dummy variable that equals 1 if an issuers' nationality of operations differs from the home country of the parent institution, and 0 otherwise. CRA reported is the number of initial ratings reported for a tranche. Subordination is the value of tranches with an identical or a better rating as a fraction of the total deal value. Weighted Average Life is the natural logarithm of the mean number of years the principal value of a tranche remains unpaid. Size is the natural logarithm of tranche face value in euros. Rating dummy variables indicate initial effective tranche credit rating. Collateral is the type of asset backing the structured bond, grouped as commercial and residential mortgages. Issuer fixed effects is a set of dummy variables indicating each issuer. Country dummy variables are set equal to 1 when the collateral is originated in the relevant country and 0 otherwise. Time is a factor variable consisting of the annual issuance periods. The omitted categories are tranches rated by 3 agencies, commercial mortgage backed notes, and tranches issued in 1999. Standard errors in parentheses are clustered at the deal level. ***, **, * and * represent significance at the 1%, 5%, and 10% levels, respectively

and 10 for prime and non-prime, respectively. For the prime sample, we find that after the GFC, investors started to attach more value to frequent issuers, although these tranches have the highest credit ratings and are least risky. This is perhaps a reflection of investors being more cautious after experiencing unprecedented losses from triple-A tranches

Table 6 Tranche credit rating interacted with Frequent issuer

Frequent issuer	- 0.5616***	(0.1252)
Tranche Credit Rating	0.1689***	(0.0042)
Frequent issuer x Tranche Credit Rating	- 0.0331***	(0.0046)
1 CRA reported	- 0.0162	(0.0553)
2 CRA reported	0.0596**	(0.0282)
Distance	0.1439**	(0.0568)
Retained	0.0047	(0.0224)
Ratings/Tranches	0.0137	(0.0545)
Subordination	0.0201***	(0.0033)
Weighted Average Life	0.3164***	(0.0177)
Size	- 0.0368***	(0.0065)
Residential Mortgages	- 0.1741***	(0.0451)
<i>Controlled for</i>		
Year fixed effects	Yes	
Issuer fixed effects	Yes	
Trustee fixed effects	Yes	
Country fixed effects	Yes	
N	5824	
Adjusted R ²	0.878	

This table reports the results of OLS regressions of the logarithm of initial yield spread (logspread) of European MBS tranches on frequent issuer, deal, collateral and tranche-level characteristics. The sample includes all rated floating tranches issued between 1999 and 2018. Frequent issuer is a dummy variable that takes the value of 1 if the issuer is one of the frequent issuers in terms of total market volume during this period, and 0 otherwise. Tranche Credit Rating values range from 1 (AAA) to 21 (C). Ratings/Tranches is the ratio of the number of distinct rating classes within a deal divided by the number of tranches per deal. Retained is a dummy variable that is equal to 1 if a tranche in the relevant deal is retained. Distance is a dummy variable that is equal to 1 if an issuers' nationality of operations differs from the home country of the parent institution and 0 otherwise. Subordination is the value of tranches with an identical or a better rating as a fraction of the total deal value. Weighted Average Life is the natural logarithm of the mean number of years the principal value of a tranche remains unpaid. Size is the natural logarithm of tranche face value in euros. Collateral refers to the type of asset backing the structured bond, grouped as commercial and residential mortgages. Issuer fixed effects is a set of dummy variables indicating each issuer. Country dummy variables are set equal to 1 when the collateral is originated in the relevant country and 0 otherwise. Time is a factor variable consisting of the annual issuance periods. The omitted categories are tranches rated by 3 agencies, commercial mortgage backed notes, and tranches issued in 1999. Standard errors in parentheses are clustered at the deal level. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively

Table 7 Rating gaps and disagreements

	All MBS			
	(1)	(2)	(3)	(4)
Frequent issuer	-0.3885*** (0.1284)	-0.3877*** (0.1290)	-0.3480*** (0.1043)	-0.5270*** (0.1668)
Rating Gap				
1 Notch	0.0136 (0.0170)			
2 Notches	-0.0138 (0.0305)			
3 Notches	0.0590 (0.0491)			
4 Notches	-0.1367 (0.0877)			
Rating Disagreement		0.0084 (0.0170)		
1 CRA reported				
2 CRA reported				
3 CRA reported	-0.0707** (0.0284)	-0.0714** (0.0283)	-0.0659* (0.0345)	-0.0868** (0.0343)
Distance	0.1433** (0.0575)	0.1436** (0.0575)	0.1790** (0.0698)	-0.0487 (0.0660)
Retained	0.0014 (0.0224)	0.0021 (0.0224)	-0.0043 (0.0280)	0.0556* (0.0295)
Ratings/Tranches	0.0266 (0.0547)	0.0269 (0.0547)	0.0422 (0.0592)	0.1146 (0.0956)
Subordination	0.0233*** (0.0037)	0.0235*** (0.0037)	0.0212*** (0.0039)	0.0328*** (0.0107)
Weighted Average Life	0.3222*** (0.0180)	0.3221*** (0.0180)	0.3502*** (0.0191)	0.1577*** (0.0375)
Size	-0.0297*** (0.0088)	-0.0300*** (0.0088)	-0.0284*** (0.0096)	-0.0222 (0.0166)
Residential Mortgages	-0.1763*** (0.0438)	-0.1772*** (0.0438)	-0.1733*** (0.0473)	-0.2136*** (0.0820)
Controlled for				
Year fixed effects	Yes	Yes	Yes	Yes
Tranche credit rating	Yes	Yes	Yes	Yes
Issuer fixed effects	Yes	Yes	Yes	Yes
Trustee fixed effects	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes

Table 7 (continued)

	All MBS	Rating Disagreement = 1	Rating Disagreement = 0
	(1)	(3)	(4)
Frequent issuer	- 0.3885*** (0.1284)	- 0.3480*** (0.1043)	- 0.5270*** (0.1668)
N	5824	4442	1382
Adjusted R ²	0.894	0.895	0.939

This table reports the results of OLS regressions of the logarithm of initial yield spread (logspread) of European MBS tranches on frequent issuer, deal, collateral and tranche-level characteristics. The sample includes all rated floating tranches issued between 1999 and 2018. Frequent issuer is a dummy variable that takes the value of 1 if the issuer is one of the frequent issuers in terms of total market volume during this period, and 0 otherwise. Rating Disagreement is equal to 1 if there is at least a one-notch difference between the ratings and 0 otherwise. Rating Gap is measured the difference, in notches, between the highest and lowest rating. Ratings/Tranches is the ratio of the number of distinct rating classes within a deal divided by the number of tranches per deal. Retained is a dummy variable that is equal to 1 if a tranche in the relevant deal is retained. Distance is a dummy variable that is equal to 1 if an issuers' nationality of operations differs from the home country of the parent institution and 0 otherwise. Subordination is the value of tranches with an identical or a better rating as a fraction of the total deal value. Weighted Average Life is the natural logarithm of the mean number of years the principal value of a tranche remains unpaid. Size is the natural logarithm of tranche face value in euros. Rating dummy variables indicate initial effective tranche credit rating. Collateral is the type of asset backing the structured bond, grouped as commercial and residential mortgages. Issuer fixed effects is a set of dummy variables indicating each issuer. Country dummy variables are set equal to 1 when the collateral is originated in the relevant country and 0 otherwise. Time is a factor variable consisting of the annual issuance periods. The omitted categories are tranches rated by 3 agencies, commercial mortgage backed notes, and tranches issued in 1999. Standard errors in parentheses are clustered at the deal level. * * * , * * , * , and * represent significance at the 1%, 5%, and 10% levels, respectively

Table 8 The impact of frequent issuer on initial yield spreads of MBS tranches before and after the Great Financial Crisis

	Pre-crisis (1999–2007)			Post-crisis (2008–2018)		
	(1)	(2)	(3)	(4)	(5)	(6)
Frequent issuer	-0.3871*** (0.1442)	-0.3909*** (0.1418)	-0.3714*** (0.1438)	-1.4945*** (0.3809)		-1.5432*** (0.3849)
1 CRA reported	0.1400*** (0.0396)			-0.2215 (0.1564)		
2 CRA reported	0.0867*** (0.0195)			-0.1666 (0.1386)		
3 CRA reported		-0.0072 (0.0274)	-0.0900*** (0.0194)			0.1760 (0.0708)
Distance	0.0775* (0.0418)	0.0760* (0.0404)	0.1510** (0.0731)	0.2950 (0.1939)		0.2753 (0.2365)
Frequent issuer x 3 CRA reported		-0.1436*** (0.0367)				0.1290 (0.1883)
Frequent issuer x Dis- tance			-0.1321 (0.1067)			0.0278 (0.3560)
Retained	0.0115 (0.0202)	0.0122 (0.0200)	0.0137 (0.0204)	0.0013 (0.0470)		0.0001 (0.0468)
Ratings/ Tranches	0.0632 (0.0527)	0.0472 (0.0507)	0.0547 (0.0519)	0.2971 (0.3583)		0.2942 (0.3601)
Subordination	0.1860** (0.0789)	0.1859** (0.0802)	0.1868** (0.0785)	0.0065 (0.0040)		0.0062 (0.0040)
Weighted Aver- age Life	0.2828*** (0.0129)	0.2827*** (0.0129)	0.2828*** (0.0129)	0.3136*** (0.0611)		0.3203*** (0.0605)
Size	0.0034 (0.0055)	0.0028 (0.0054)	0.0041 (0.0054)	-0.1345*** (0.0301)		-0.1345*** (0.0306)
Residential Mortgages	-0.1731*** (0.0481)	-0.1596*** (0.0468)	-0.1769*** (0.0482)	-0.3145* (0.1819)		-0.3203* (0.1837)
Controlled for Tranche credit rating	Yes	Yes	Yes	Yes		Yes
Year/Country fixed effects	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes		Yes/Yes
Issuer/Trustee fixed effects	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes		Yes/Yes

Table 8 (continued)

	Pre-crisis (1999–2007)		Post-crisis (2008–2018)	
N	4201	4201	1757	1757
Adjusted R ²	0.937	0.938	0.687	0.686

This table reports the results of OLS regressions of the logarithm of initial yield spread (logspread) of European MBS tranches on frequent issuer, deal, collateral and tranche-level characteristics. The sample includes all rated floating tranches issued between 1999 and 2018. Frequent issuer is a dummy variable that takes the value of 1 if the issuer is one of the frequent issuers in terms of total market volume during this period, and 0 otherwise. Ratings/Tranches is the ratio of the number of distinct rating classes within a deal divided by the number of tranches per deal. Retained is a dummy variable equals 1 if a tranche in the relevant deal is retained. Distance is a dummy variable that is equal to 1 if an issuers' nationality of operations differs from the home country of the parent institution, and 0 otherwise. CRA reported is the number of initial ratings reported for a tranche. Subordination is the value of tranches with an identical or a better rating as a fraction of the total deal value. Weighted Average Life is the natural logarithm of the mean number of years the principal value of a tranche remains unpaid. Size is the natural logarithm of tranche face value in euros. Rating dummy variables indicate initial effective tranche credit rating. Collateral is the type of asset backing the structured bond, grouped as commercial and residential mortgages. Issuer fixed effects is a set of dummy variables indicating each issuer. Country dummy variables are set equal to 1 when the collateral is originated in the relevant country and 0 otherwise. Time is a factor variable consisting of the annual issuance periods. The omitted categories are tranches rated by 3 agencies, commercial mortgage backed notes, and tranches issued in 1999. Standard errors in parentheses are clustered at the deal level. *, **, and *** represent significance at the 1%, 5%, and 10% levels, respectively

Table 9 The impact of frequent issuer on initial yield spreads of prime MBS tranches before and after the Great Financial Crisis

	Pre-crisis (1999–2007)			Post-crisis (2008–2018)		
	(1)	(2)	(3)	(4)	(5)	(6)
Frequent issuer	0.0437 (0.1801)	- 0.0347 (0.1948)	- 0.0297 (0.1949)	- 0.6502* (0.3723)	- 0.7146* (0.3658)	- 0.8204** (0.3617)
1 CRA reported	0.1333* (0.0747)			0.0379 (0.2015)		
2 CRA reported	0.0429 (0.0266)			- 0.1372 (0.1562)		
3 CRA reported		0.0408 (0.0359)	- 0.0284 (0.0284)		- 0.1251 (0.1050)	0.1127 (0.1575)
Distance	0.0594 (0.0525)	0.0531 (0.0523)	0.1098 (0.0896)	0.4013 (0.2884)	0.4060 (0.2827)	0.1720 (0.4833)
Frequent issuer×3 CRA reported		- 0.1232** (0.0516)			0.3017 (0.2176)	
Frequent issuer×Distance			- 0.0856 (0.1402)			0.2716 (0.5958)
Retained	0.0374 (0.0245)	0.0490* (0.0257)	0.0481* (0.0253)	- 0.0088 (0.0597)	- 0.0076 (0.0599)	- 0.0087 (0.0586)
Ratings/Tranches	0.1586*** (0.0546)	0.1686*** (0.0569)	0.1740*** (0.0571)	- 0.6243* (0.3534)	- 0.6290* (0.3573)	- 0.5668 (0.3592)
Subordination	0.0939 (0.1073)	0.1108 (0.1040)	0.1154 (0.1037)	0.0017 (0.0070)	0.0008 (0.0073)	0.0029 (0.0068)
Weighted Average Life	0.4017*** (0.0140)	0.4007*** (0.0139)	0.4001*** (0.0139)	0.1258* (0.0732)	0.1270* (0.0733)	0.1187* (0.0718)
Size	- 0.0253*** (0.0071)	- 0.0248*** (0.0072)	- 0.0246*** (0.0073)	0.0172 (0.0385)	0.0202 (0.0379)	0.0156 (0.0382)
Residential Mortgages	- 0.2168*** (0.0569)	- 0.1973*** (0.0559)	- 0.2100*** (0.0571)	0.1353 (0.1969)	0.1293 (0.1940)	0.1165 (0.1985)
Controlled for						
Tranche credit rating	Yes	Yes	Yes	Yes	Yes	Yes
Year/Country fixed effects	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes

Table 9 (continued)

	Pre-crisis (1999–2007)		Post-crisis (2008–2018)			
	(1)	(2)	(3)	(4)	(5)	(6)
Issuer/Trustee fixed effects	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
N	1568	1568	1568	825	825	825
Adjusted R ²	0.855	0.854	0.852	0.701	0.701	0.699

This table reports the results of OLS regressions of the logarithm of initial yield spread (logspread) of European MBS tranches on frequent issuer, deal, collateral and tranche-level characteristics. The sample includes all rated floating tranches issued between 1999 and 2018. Frequent issuer is a dummy variable that takes the value of 1 if the issuer is one of the frequent issuers in terms of total market volume during this period, and 0 otherwise. Ratings/Tranches is the ratio of the number of distinct rating classes within a deal divided by the number of tranches per deal. Retained is a dummy variable equals 1 if a tranche in the relevant deal is retained. Distance is a dummy variable that is equal to 1 if an issuers' nationality of operations differs from the home country of the parent institution, and 0 otherwise. CRA reported is the number of initial ratings reported for a tranche. Subordination is the value of tranches with an identical or a better rating as a fraction of the total deal value. Weighted Average Life is the natural logarithm of the mean number of years the principal value of a tranche remains unpaid. Size is the natural logarithm of tranche face value in euros. Rating dummy variables indicate initial effective tranche credit rating. Collateral is the type of asset backing the structured bond, grouped as commercial and residential mortgages. Issuer fixed effects is a set of dummy variables indicating each issuer. Country dummy variables are set equal to 1 when the collateral is originated in the relevant country and 0 otherwise. Time is a factor variable consisting of the annual issuance periods. The omitted categories are tranches rated by 3 agencies, commercial mortgage backed notes, and tranches issued in 1999. Standard errors in parentheses are clustered at the deal level. *, **, and *** represent significance at the 1%, 5%, and 10% levels, respectively

Table 10 The impact of frequent issuer on initial yield spreads of non-prime MBS tranches before and after the Great Financial Crisis

	Post-crisis (2008–2018)					
	Pre-crisis (1999–2007)					
	(1)	(2)	(3)	(4)	(5)	(6)
Frequent issuer	-0.3649** (0.1581)	-0.3711** (0.1564)	-0.3506** (0.1582)	-1.2575*** (0.4538)	-1.2044** (0.4731)	-1.5227*** (0.5210)
1 CRA reported	0.1965*** (0.0404)			-0.0696 (0.2167)		
2 CRA reported	0.0791*** (0.0212)			-0.0616 (0.2129)		
3 CRA reported		-0.0021 (0.0273)				
Distance	0.0881* (0.0457)	0.0927** (0.0443)	0.1429* (0.0796)	0.1667 (0.1716)	0.1977 (0.1662)	-0.0356 (0.2199)
Frequent issuer X 3 CRA reported		-0.1444*** (0.0390)			0.6721 (0.4419)	
Frequent issuer X Distance			-0.0933 (0.1155)			0.3944 (0.3490)
Retained	0.0068 (0.0220)	0.0094 (0.0218)	0.0097 (0.0222)	-0.0378 (0.0566)	-0.0382 (0.0561)	-0.0351 (0.0566)
Ratings/Tranches	0.0181 (0.0617)	-0.0051 (0.0584)	0.0067 (0.0605)	-0.8193* (0.4541)	-0.8737** (0.4366)	-0.8767* (0.4531)
Subordination	0.5396*** (0.1312)	0.5367*** (0.1329)	0.5248*** (0.1339)	0.0001 (0.0030)	-0.0004 (0.0029)	0.0009 (0.0028)
Weighted Average Life	0.1458*** (0.0248)	0.1418*** (0.0246)	0.1434*** (0.0248)	0.4244*** (0.0640)	0.3880*** (0.0624)	0.4329*** (0.0653)
Size	0.0028 (0.0097)	0.0002 (0.0095)	0.0030 (0.0098)	-0.1505*** (0.0257)	-0.1521*** (0.0256)	-0.1491*** (0.0261)
Residential Mortgages	-0.1341** (0.0526)	-0.1263** (0.0505)	-0.1430*** (0.0525)	-0.7554*** (0.2255)	-0.6708*** (0.2316)	-0.8152*** (0.2301)
Controlled for Tranche credit rating	Yes	Yes	Yes	Yes	Yes	Yes
Year/Country fixed effects	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
Issuer/Trustee fixed effects	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes

Table 10 (continued)

	Pre-crisis (1999–2007)		Post-crisis (2008–2018)	
N	2633	2633	798	798
Adjusted R ²	0.922	0.922	0.826	0.827

This table reports the results of OLS regressions of the logarithm of initial yield spread (logspread) of European MBS tranches on frequent issuer, deal, collateral and tranche-level characteristics. The sample includes all rated floating tranches issued between 1999 and 2018. Frequent issuer is a dummy variable that takes the value of 1 if the issuer is one of the frequent issuers in terms of total market volume during this period, and 0 otherwise. Ratings/Tranches is the ratio of the number of distinct rating classes within a deal divided by the number of tranches per deal. Retained is a dummy variable equals 1 if a tranche in the relevant deal is retained. Distance is a dummy variable that is equal to 1 if an issuers' nationality of operations differs from the home country of the parent institution, and 0 otherwise. CRA reported is the number of initial ratings reported for a tranche. Subordination is the value of tranches with an identical or a better rating as a fraction of the total deal value. Weighted Average Life is the natural logarithm of the mean number of years the principal value of a tranche remains unpaid. Size is the natural logarithm of tranche face value in euros. Rating dummy variables indicate initial effective tranche credit rating. Collateral is the type of asset backing the structured bond, grouped as commercial and residential mortgages. Issuer fixed effects is a set of dummy variables indicating each issuer. Country dummy variables are set equal to 1 when the collateral is originated in the relevant country and 0 otherwise. Time is a factor variable consisting of the annual issuance periods. The omitted categories are tranches rated by 3 agencies, commercial mortgage backed notes, and tranches issued in 1999. Standard errors in parentheses are clustered at the deal level. *, **, and *** represent significance at the 1%, 5%, and 10% levels, respectively

during the 2007–2009 financial crisis. For the non-prime MBS, which are more risky and challenging to value, we find that (reported in Table 10) *Frequent issuer* is significant in all estimations pre- and post-crisis. However, we observe that coefficients of *Frequent issuer* for the post-crisis results are much larger, indicating that non-prime tranches carry a lower spread when they are issued by a frequent issuer. Investors seem to have intensified their reliance on the certification effect of frequent issuers when evaluating risky securities in the post-crisis period. Comparing results presented in Tables 9 and 10 to our results for the whole sample period in Tables 3, 4 and 5, we also find that investors have only been cautious about “rating shopping” (*CRA reported* variables) for the non-prime tranches and only for the pre-crisis period. Credit rating regulation introduced after the crisis seems to have decreased this investor scepticism about rating shopping, even for more risky tranches.

5 Conclusion

We examine whether investors value frequent issuance as a mechanism to reduce information asymmetries when assessing MBS risks. Given the certification effect of reputation, investors may perceive securitization by frequent issuers as less risky. We also study how this certification value is affected by possible rating shopping behaviour and distance to the origination market. We construct a large sample of 6132 MBS tranches issued in European countries from 1999 to 2018.

We find that frequent issuers have a certification value in securitization. Investors attach more value to frequent issuers, particularly when purchasing riskier, difficult to evaluate non-prime MBS. Frequent issuers are also deemed to be important during periods when information asymmetries in credit markets intensify such as the pre-crisis years. We find that MBS originated by foreign issuers were perceived to be riskier, possibly due to information asymmetries created by larger bank-borrower distance and issuance frequency does not mitigate the perceived increase in risk arising from distance. We also find that in the post-GFC period, investors started to attach more value to frequent issuers when evaluating all MBS, regardless of credit quality. Finally, our results show that investors required higher returns when they suspect issuer rating shopping in the pre-GFC period, but this behaviour is not observed in the post-GFC period.

Our results suggest that opacity seems to play a major role in securitization markets. Therefore, measures such as the EU framework on Simple, Transparent, and Standardised (STS) Securitizations should help to limit opacity. In this direction, the revised EU Credit Rating Agencies Regulation that requires publishing all available ratings on a European Rating Platform to enhance comparability and transparency seems apt. Also, measures to reduce conflicts of interest between issuers and rating companies such as ensuring a minimum number of ratings from several agencies, or the need to alternate credit rating agency by issuers every certain number of years seems beneficial.

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