Bank reputation and securitization quality: European evidence

Abstract: We examine the link between issuer bank reputation and the performance of mortgage-backed securities (MBS) in the European market. We find that MBS sold by reputable issuer banks are collateralised by higher quality asset pools with lower delinquency rates and are less likely to be downgraded. However, during boom periods – characterized by declining credit standards, MBS originated by reputable issuer banks tend to be collateralised by lower quality assets, compared to normal periods.

Keywords: Securitization; MBS; issuer reputation | JEL Classification: G21; G28

I. Introduction

Securitization has come under scrutiny due to its role as a major contributing factor to the Global Financial Crisis (GFC) (Financial Crisis Inquiry Commission, 2011).[1] Issuer banks were criticised for failing to meet expected standards by relaxing lending criteria and creating low quality securities (Keys et al., 2012; Jiang et al., 2014, Kara et al., 2016), which culminated in significant losses to investors of securitized assets. In this paper, we examine whether banks' concern of long-term reputational risk influenced the quality of mortgage-backed securities (MBS) issued prior to the GFC.

Bank reputation has a certification value in the financial services industry (Booth and Smith, 1986; Fang, 2005) and is an important credit indicator for investors. In securitization, issuer banks' reputation is tied to the quality of the collateral loan pool. In theory, the risk of losing long run reputation should motivate issuer banks to mitigate opportunistic behaviour and moral hazard to produce high-quality securities (Chemmanur and Fulghieri, 1994). Securitization is also wealth-creating for shareholders of reputable issuer banks and this value stems from the perceived comparative advantage of reputable issuers in credit origination and servicing (Thomas, 1999). Supporting these conventional arguments, Winton and Yerramilli (2015) theoretically show that reputable issuer banks originate better quality MBS.

On the contrary, it is argued that noisy private information creates incentives for market players to distort asset values in the short run (Benabou and Laroque, 1992). For example, credit ratings agencies tend to inflate ratings and asset values during periods of high demand as the risks of reputation damage is relatively low (Bolton et al., 2012). They adopt an opportunistic stance by accumulating and subsequently burning their reputational capital (Mathis et al., 2009). Similarly, Griffin et al. (2014) provides empirical evidence that reputable US banks issued MBS that underperformed during downturns. They argue that the conventional intuition of reputation disintegrates in the context of complex securities – such as MBS, where the intrinsic value of the issued securities is harder for investors to assess. In contrast, He et al. (2016) do not find supportive evidence for these arguments for the US market.

We extend this literature by examining the link between issuer bank reputation and MBS quality in the European market. Our contribution to the literature is threefold. This is the first paper to provide European evidence on this relationship. The European securitization market context is important as it is the second largest after the US market. However, the findings of the US studies may not be relevant to the European market as it is considerably different from the US market. Firstly, there is no government participation (through Government Sponsored Enterprises such as Fannie Mae and Freddie Mac) in the European market. Secondly, unlike the steady growth of the US market since the late 1960s, European securitization market grew rapidly in the 2000s (Altunbas et al., 2009). Outstanding volumes climbed rapidly by about 1,400% from $139 billion in 1999 to $2 trillion in 2007. Such fundamental differences engender higher level of information asymmetries in the European market. Hence, investors of European MBS may have relied more on issuer bank reputation for mitigating risks, as the market is relatively new and exclusively private.

[1] See Deku et al. (2019) for a survey of the literature on the impact of securitisation on bank behaviour prior to the GFC.

We also contribute to the literature by tracking and utilising the future credit rating downgrades and delinquency rates of each MBS tranche and deal respectively as measures of quality. The existing literature utilise only deal-level performance measures, which may not accurately capture tranche level performance. Finally, we provide novel evidence on whether MBS issued by foreign banks can explain MBS performance. Information asymmetries in financial intermediation is exacerbated by bank-borrower distance and domestic banks have a comparative advantage in collecting and processing soft information (Mian, 2006; Detragiache et al., 2008). As the distance increases, lenders increasingly rely on hard information, and this may result in the origination of lower quality loans (DeYoung et al., 2008) and, therefore, issuance of lower quality MBS backed by these loans.

We utilise a large sample of 3,513 MBS tranches issued in 12 European countries from 1999 to June 2007. We present the descriptive statistics for the sample in Table 1. We choose this the cut-off date for two reasons. Firstly, we are interested in examining the behaviour of issuer banks in the pre-GFC period as issuance and structure of a typical MBS was only lightly regulated in this period. This resulted in excessive heterogeneity, complexity, and opacity, thereby compounding risk assessment challenges. In the post-GFC period policy makers have introduced stringent regulations, which proscribe the creation of complex securitizations. Hence, during the pre-GFC periods, issuer bank reputation would have mattered more in creating higher-quality securities. Secondly, investors' appetite for MBS began declining sharply after the GFC and the market has consistently remained below pre-GFC levels.

II. Methodology

We estimate the below baseline logistic regression model (following Adelson and Bartlett, 2005):

$$\text{Downgrade}_{n,i} = \beta_0 + \beta_1 \text{Top Issuer}_q + \beta_2 \text{Boom}_t + \beta_3 \text{Distance}_q + \text{Controls} \qquad (1)$$

The data vary by year (t), issuer (q), deal (n), and tranche (i). We estimate the model at the tranche level. Thus, we pool issuances over the entire sample period to estimate the likelihood of a tranche being downgraded. **Downgrade** equals to 1 if a tranche is downgraded by at least one of the three credit rating agencies (S&P, Fitch or Moody's) between the issuance date and the end of 2014, 0 otherwise. All downgrades, whether one notch or more, and multiple downgrades over time are treated as 1. Given that the mean weighted average life is 5.4 years, approximately 68% of the securitised notes exit our sample by 2014. For example, 58% of tranches issued in 2006 exit our sample by 2014. Downgrades are typically triggered by adverse changes in credit risk. **Top Issuer**, proxying issuer bank reputation, is computed based on the market share of the issuer banks.[2] Following Fang (2005), we use a binary variable to capture the qualitative difference between large and small issuers. **Top Issuer** equals to 1 if the issuer bank is in the top 10 by securitization market volume, based on total number of deals issued in the European market during the sample period, 0 otherwise. **Boom** equals to 1 if the tranche was issued between 2005 and June 2007, 0 otherwise. Boom proxies the exponential growth period in the European securitization markets during the expansion of the financial cycle[3]. **Distance** takes the value of 1 if the issuer bank is a subsidiary of a foreign bank or a foreign bank, 0 otherwise.

Following the literature (Fabozzi and Vink, 2012; He et al., 2012; Kara et al., 2020; Deku et al., 2021), we use a set of control variables that are found to have an impact on MBS performance. These studies provide empirical evidence indicating that investors consider a number of credit factors when evaluating ABS deals including credit enhancement, collateral, and country of origination. Accordingly, in our model we include a number of variables as follows. The securitization pricing literature concurs that **Credit ratings** explain substantial variation in initial yields (Fabozzi and Vink, 2012; Cuchra, 2005).[4] We use Dealogic's composite indicator that combines the credit ratings from different rating agencies for each tranche. We

[2] Market share-based measures have been widely used in the existing literature as empirical proxies for reputation (see Fang, 2005; Guettler et al., 2011).
[3] Rather than the term *Business Cycle* we use *Financial Cycle*, which refers to the self-reinforcing interactions between perceptions of value and risk, risk-taking, and financing constraints within an economy (Borio 2014).
[4] For example, Fabozzi and Vink (2012) find that credit ratings explain 74% of the variation in the yields of UK RMBS.

include an indicator for each rating in all our regressions. Rating shopping, where issuers solicit ratings from multiple agencies and then only report the favourable ratings, was common practice in the securitization industry (Adelson, 2006). Therefore, we control for a tranche being rated by all the three credit ratings agencies (**3CRA**), which takes the value of 1 where a tranche is rated by all three agencies, 0 otherwise. Concerning collateral quality, Demyanyk and Van Hemert (2011) finds that combined loan-to-value ratio is one of the most important determinants of loan performance. Hence, we use the weighted average loan to value ratio at origination (**WALTV**) as a measure of borrower leverage to account for credit risk that credit ratings may fail to capture. **WALTV** is calculated as the average of the loan-to-value LTV of each loan in the pool. Furfine (2014) show that increased deal complexity may result in rating inflation and that such complexity can be proxied by the number of tranches in a deal. We create a refined measure of complexity showing the ratio of the number of distinct ratings to the number of tranches in a deal (**Ratings/Tranches**). We account for **Tranche size** using principal values (also used as a measure of complexity in Furfine, 2014) and control for interest rate risk exposure using the weighted average life (**WAL**) of each tranche. Based on prepayment speed assumptions, the **WAL** of a tranche is computed as the weighted average time that each monetary unit of principal remains outstanding. We account for retention by constructing **Retained** a binary 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 originator's perverse incentives (Franke et al., 2012). The most popular form of credit enhancement in securitization is subordination and this variable features as a standard control variable in the literature (He et al., 2016; Fabozzi and Vink, 2012; He et al., 2012).[5] For each tranche, the subordination level is computed as the value of tranches in the same deal that have an equal or higher rating than the given tranche as a fraction of the total deal value. We also control for **Country** of issuance, **Collateral** (residential or commercial), and **Year** of issuance. Variable definitions are given in Appendix.

Secondly, we estimate the following OLS model using pool-wide (deal level) delinquency rates to measure pool performance:

$$\text{Delinquency}_n = \beta_0 + \beta_1 \text{TopIssuer}_q + \beta_2 \text{Boom}_t + \beta_3 \text{Distance}_q + \text{Controls} + e_i \qquad (2)$$

Delinquency is the ratio of the number of loans with delinquent payments to the total number of loans within the pool. We focus on 90day+ delinquencies (i.e. serious delinquencies and non-performance) as loans in this category are more likely to default.[6] We plot the delinquency data over the first four years (Figure I). We find that the highest point of the distribution tends to occur in the third and fourth years. Hence, we use the average delinquency rates in the third and fourth years after issuance as our dependent variables.

We introduce issuer bank fixed effects to exploit within-group variation over time and control for unobserved heterogeneity. Time and country fixed effects are used to control for market conditions and countries respectively. Heteroscedasticity-robust standard errors are clustered at the issuer bank level to control for correlation between deals from the same issuer bank.

III. Results

Table 2 presents the estimation results for both models. We find that **TopIssuer** is negative and significant in all regressions, indicating that bonds issued by reputable issuer banks were less likely to be downgraded (Columns 1 and 2) and had lower delinquency rates (Columns 3 to 6). The results show that MBS by reputable issuer banks performed better, confirming the arguments of Chemmanur and Fulghieri (1994) that banks care about their long-term reputation. **Boom** is positive and significant in all models (except

[5] Subordination is exemplified in the waterfall structure (senior-subordinate) of cash flow/loss distribution. Under a waterfall structure, the priority of cash flow distribution follows a descending order of seniority while losses are allocated from the bottom-up (from the equity tranche to the senior-most tranche).

[6] Although not all delinquent loans eventually default, Keys et al. (2010) show that approximately 66% of loans that are 90 days delinquent tend to default within the next 12 months. Similarly, Tracy and Wright (2012) show that mortgages entering the 90+ delinquency bucket have a reasonably low cure rate of 23.3%.

Column 6), indicating that MBS issued in the boom period were more likely to be downgraded and had higher delinquency rates. We also use an alternative issuer bank reputation variable (TopIssuerCat), capturing more variation in market volume of issuer banks. **TopIssuerCat** ranks **TopIssuer** banks from 0 to 10 based on their market volume. We find that TopIssuerCat is positive and significant in both specifications (Columns 7 to 9).

We interact **TopIssuer** with **Boom** in Columns 2 for **Dowgrade**. **TopIssuer#Boom** is significant, indicating that issuances from reputable issuer banks during the boom period were more likely to be downgraded in comparison to deals they issued in the preceding years. **TopIssuer#Boom** is also significant and positive in Columns 5 and 6 for **Delinquency**, indicating that although issuances by reputable banks were usually of higher quality in normal periods, the delinquency rates on issuances during the growth years were much higher compared to normal issuance periods. Our results support the arguments of Griffin et al. (2014) that reputable issuers underperform during downturns and we do not find empiricial evidence for Winton and Yerramilli (2015) argument that reputable issue banks continue performing better during periods of increased competition, such as the 2005 to June 2007 boom period. Providing evidence to Mathis et al.'s (2009) arguments, it seems that reputable issuer banks adopted an opportunistic stance in the European securitization market by first accumulating and subsequently burning their reputational capital.

We find that **Distance** is positive and significant in all models, indicating that MBS sold by foreign issuers performed worse than those issued by domestic issuers. These results show that distant issuer banks issue lower quality MBS, perhaps due to the argument of DeYoung et al. (2008) that, due to over-reliance on hard information, distant lenders produce lower quality loans resulting in lower quality MBS.

IV. Conclusion

We examine whether reputation functions as a self-disciplining mechanism in providing higher quality MBS. We find that issuer banks' reputational capital, generated from the frequency of issuance, predicts future performance. MBS by reputable issuer banks are collateralised by high quality asset pools with lower delinquency rates. However, during the pre-GFC period of 2005 – June 2007, as credit standards declined, the asset pools securitized by reputable issuers were of worse quality. We also find that foreign issuers are more likely to produce lower quality MBS.

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