ASYMMETRIC INFORMATION IN THE DECISION TO SECURITIZE HOME MORTGAGES

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By

Ryan Kelly, B.A.

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Ryan Kelly, B.A.

Thesis Advisor: Alan de Brauw, Ph.D.

ABSTRACT

Although studies have examined the financial crisis of 2008 by looking at mortgage backed securities once they have been created from pools of loans, less is known about how the banks which originate mortgages choose which ones to sell to securitizers. This thesis demonstrates that geographic information that is not necessarily seen by the buyer of mortgage backed securities alters the pattern of mortgage securitization. For high cost loans, originating banks are more likely to securitize a loan which has a low interest rate spread relative to other high cost loans in the same MSA/MD as long as the geographic concentration of high cost lending is fairly similar between the MSA/MD and State where the home is located. In other words, mortgages which have a low return relative to their geographic risk are much more likely to be securitized, but due to the way information is disclosed by securitizers the investor in mortgage backed securities does not have enough information to observe this dynamic. With the result that asymmetric information alters the pattern of mortgage securitization, two public policy proposals are discussed to offset the public welfare damage caused by this asymmetric information.
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Introduction

The role of mortgage backed securities (MBS) in the financial crisis of 2007-2009 cannot be overstated. Although a number of studies have chronicled the dynamics of the subprime mortgage crisis once it began, less attention has been paid to how the banks which originate mortgages decide which of them to keep on their books and which to securitize in the first place.

This thesis will show that the decision of whether and how to securitize a home mortgage is influenced by geographic factors in the housing market that are not necessarily seen by investors. In other words, there is an information asymmetry between the bank that originates a mortgage and the end consumer of MBS that is known to originators when they securitize loans. This thesis will further explore information asymmetries in MBS securitization by then examining the decision to securitize a given high cost mortgage and showing that interactions of geographic and credit risk information lead to much higher probabilities that some loans are securitized than others. Finally, two public policy recommendations are offered which could offset the public welfare damage caused by the information asymmetries in the MBS market.

The first part of the thesis explores the large difference in securitization patterns caused by geographic concentration of high cost mortgages. The originating bank always knows the exact location of a house, but because investors have to rely on geographically aggregated information on mortgage pools they are at an information disadvantage relative to originators in analyzing credit risk. If this knowledge does not influence the decision to securitize a mortgage then this information should not change the probability that a given mortgage is securitized by Fannie Mae, Freddie Mac, a private securitizer, or kept on the books of an originator. This thesis will show that this information, however, does alter the pattern of mortgage securitization.
The second part of the thesis examines the probability that a given high cost loan is securitized based on two factors: the rate spread over the prime offer rate on similar mortgages and the same measure of MSA/MD level risk used in part one. Since the relationship contains significant nonlinearities, a nonparametric loess smoother is used to visualize and explain the data. The pattern that emerges is one where mortgages that have a lower return than is common in their MSA/MD, but are still located in areas that are not visibly worse off than their home state, are more likely to be securitized. Originating banks are tending to securitize the “lemons” that represent low returns in their geographic areas.

Finally, policy recommendations are offered that may offset the loss in social welfare caused by the information asymmetries in this market. A law that put more information on securitized assets in MBS pools in the hands of the investor would increase public welfare. Also, a “skin in the game” law which requires originators to keep some percentage of the mortgages they issue would be helpful, but only if these originators are required to hold a representative portfolio of the mortgages that they originate. If originators are allowed to hold the mortgages of their choice, as opposed to a representative portfolio of loans, then there will not be much change in the market since many originators already cherry pick the best mortgages to keep on their books.
Background

Between 2007 and 2009, the United States experienced the worst financial downturn, measured from peak-to-trough, since the Crash of 1929 and subsequent Great Depression (US Treasury Financial Response in Charts 2012). No issue was more contentious, or more important to the Great Recession, than the home mortgage market. In the years leading up to the crash in December 2007, banks issued an unprecedented amount of mortgage debt and much of the debt was quickly securitized. According to SIFMA mortgage-related issuance went from $771.8 billion the year 2000 to almost $2.7 trillion by 2005 (US Mortgage Related Issuance and Outstanding 2014). The securitization process was easier than it had been traditionally due to the rise of private label mortgage backed securities. While traditionally mortgage securitization was done by the government sponsored enterprises of Fannie Mae and Freddie Mac, who both conformed to a fairly strict set of underwriting standards, the new private label securitizers were willing to securitize loans that did not conform to these standards (Simkovic 2013).

From the perspective of a bank originating mortgages, this change only served to make it easier to remove credit risk from the books once a mortgage was originated. This ease of securitizing assets led to what has come to be called the Originate-to-Distribute (OtD) business model, where some banks originated a large number of mortgages with minimal credit risk analysis beforehand with the intention of immediately securitizing the loans. The performance of banks heavily involved with OtD lending has been examined, but the decision of how or whether to securitize a given loan has received less scrutiny. In this new environment where originators could be virtually certain that they would be able to securitize the mortgages they originated arose a new strategic questions – how to determine which loans to keep and which to sell in an environment where almost any originated loan could be pooled into a MBS?
Literature Review

Ashcraft and Schuermann (2008) note that, traditionally, in the United States securitization was performed by government sponsored enterprises. These enterprises kept a reasonably strict set of underwriting standards. As private label securitization increased in prominence during the 2000s, the process of securitizing mortgages became fraught with what the authors have termed “frictions”. Many of the most important frictions were information asymmetries – one actor in the chain of mortgage securitization (originators, ratings agencies, buyers) relied on information supplied by another actor without performing proper due diligence.

Related to these “frictions” is the Originate-to-Distribute model described by Purnanandam (2011). Given the ease of securitizing mortgages and the extensive information asymmetries inherent in the newly-private process of mortgage securitization, many banks chose to adopt a business model where they originated home mortgages with very little credit risk evaluation and securitized the mortgages almost immediately. Since banks were largely divorced from the consequences of bad credit risk evaluation many of the mortgages were exceptionally risky. Investors were exposed to this risk, however, when the purchased MBS that were generally considered safe because they were pooled with a sufficiently safe set of other mortgages to offset risk.

Mian and Sufi (2008) explain that in the period leading up to the crash in December 2007, the increase in mortgage lending was not due to increased creditworthiness on the part of consumers. Increases in lending were due to what the authors termed “latent demand” – namely the proportion of people in a given area who would have liked to get a loan but could not. In other words, lending did not go to “better” consumers in terms of credit risk, it went to those people who were once considered too risky.
Many of the “frictions” that led to the collapse of the subprime mortgage market were information asymmetries, and the classic paper on asymmetric information is by Akerlof 1970. Akerlof notes that if buyers have to rely on a statistic to make a purchase there is an incentive for sellers to put out low quality products. This is due to the fact that the benefits of putting out high-quality goods accrue to the market as a whole (that is, the market that the statistic measures) and not to the individual seller. Akerlof also notes that in the presence of this dynamic government intervention may be welfare-increasing.

Although somewhat dated, there have been studies on securitization that have relied on the asymmetric information framework. Greenbaum and Thakor (1987) utilize asymmetric information to explain the hypothesis that better assets tend to be securitized by banks. The theory goes that if borrowers know more about their credit quality than the bank but offer the bank a signal as to their quality by buying insurance, the bank may resolve this by securitizing its higher quality assets.

Ambrose, Lacour-Little, and Sanders (2005) admit that originators have an incentive to securitize loans based on “favorable performance expectations” but reject the hypothesis that they are doing so based on the fact that interactions with securitizers represents a repeated game and that under a repeated game framework originators are only able to securitize the mortgages that secondary market participants don’t want. They conclude, “it is difficult to justify the asymmetric information hypothesis” and support this conclusion with empirical studies of default rates in the pre-crash period.
Conceptual Framework and Hypothesis

This thesis relies on the conceptual framework of asymmetric information. Unlike previous studies of asymmetric information and the decision to securitize, this thesis examines the importance of the interaction of geography and credit risk in the decision to securitize a given mortgage, with the knowledge that investors will not be able to see all of the geographic information that the originator sees when they purchase a MBS.

There are two hypothesis tested in this thesis. The first hypothesis tested is that originators utilize geographic information that they know MBS investors cannot see in their decision of whether or how to securitize a mortgage. These originators know that securitization channels are different and may respond differently to offers to sell given loans. It is difficult to say what effect this will have \textit{a priori}, since the securitizers themselves will not want to bundle together loans and create a MBS that they think will likely lose value. If one securitizer started to think that it was getting only geographically bad loans from a certain bank, it could easily stop purchasing from that bank. In short, while originators offer loans to securitizers, the securitizers also must also accept the loan. For the first hypothesis in the thesis it is enough to say that geographic information on homes does change the pattern of securitization, even if the pattern is not fully documented.

The second hypothesis is that the decision to securitize high cost mortgages, which represent the subprime mortgages which became so infamous in the financial crisis, is influenced by the interaction of consumer credit risk and potentially unobservable MSA/MD level factors. Previous studies that have not accounted for this dynamic fail to see which mortgages are actually “lemons”. A “lemon” is a loan where the interest rate is low relative to average in its area while the area itself appears to have risks in line with its home state. This loan has
abnormally low returns but will not set off any risk analysis “red flags” due to its location in a given state. These loans are more likely than average to be securitized since the holder of the loan will be subject to the same geographic risks as other loans in the immediate area but without extra interest payments to cover this risk.

*Geographic Disclosures in Mortgage Backed Securities*

There are two categories of mortgage securitizers: the Government Sponsored Enterprises (GSEs) and private label securitizers (PLS). The GSEs are not subject to the same set of disclosure regulations as the PLS, who must report specific types of information under Regulation AB. In fact information disclosures from GSEs are essentially voluntary and they are able to choose which information to report (Horton 2014). Since there is not a single regulation in this area, the disclosures of the two MSAs are in constant flux relative to each other and PLS. In no case, however, does the end consumer know the exact geographic location of the homes in MBS pools due to privacy concerns.

*Hypothesis*

If there is no attempt to utilize asymmetric geographic information in the decision of which mortgages to securitize and how, then it should be the case that the probability of securitizing a given loan with Fannie Mae, Freddie Mac, or selling loans to other purchasers does not depend on the geographic information that is known to originating banks but not to the consumer. This private information is captured by a variable that I have called the “Geographic Difference (GD)” between the MSA/MD and the State in which a given property is located. This variable is simply the difference between the proportion of loans that are high cost in the loan MSA/MD and the state proportion of high cost loans, which effectively removes a state fixed effect. For instance, if 20% of loans in a given MSA/MD are high cost but only 10% of loans in
the respective state are high cost, the GD = .2-.1 = .1. In this case, the MSA/MD has 10 percentage points more concentration of high cost (and therefore high risk) lending than its home state.

The second hypothesis is that the interaction of credit risk and potentially unseen geographic factors determines which mortgages are securitized and which are not. This is demonstrated with nonparametric loess smoothed graphs.

**Data**

The data set used is the public use version of the Home Mortgage Disclosure Act (HMDA), which is sometimes referred to as the Regulation C data due to the legal authority under which it is collected. The data set includes virtually all home loans made in the United States – only banks under a certain threshold of assets ($42 million in 2014) are exempt from reporting. This threshold is very low by the standards of modern banking, which makes the HMDA a very rich source of information on home loans in the United States.

Although the HMDA contains information on refinancing and borrowing for the purpose of renting out a home, I restrict my analysis to originations of single family home mortgages. These single family home loans backed the MBS that went bad during the crisis, making these loans particularly important for understanding the Great Recession.

My analysis will utilize the HMDA public use data sets from 2010 to 2013, all of which are available currently from the CFPB. Although the HMDA data goes back to 1975, there is a version issue with years before 2010. In 2010, the definition of the important “rate spread” variable was changed from being “rate spread over comparable treasury debt” to “rate spread over comparable mortgage loans”. Therefore, it is not possible to directly compare the earlier versions of the HMDA to the more recent ones due to the difference in this variable.
I have followed the following process to prepare the data for analysis. For each year of data, I first remove any observations that are not originations. Then I remove any observations that are not a first lien. Then I remove any observations that are not owner-occupied, as rental properties are securitized differently than owner occupied homes. Then I remove any observations that are not purchase loans. Then I remove any observations that are not for 1-4 family, non-manufactured homes as this thesis concerns the classic single-family home mortgage. Then I remove any non-conventional loans, to ensure that the loans left in the data set are eligible to be securitized. I remove Puerto Rico, since the market for mortgages is different in Puerto Rico. Then, I remove a very small number of observations with corrupt geographic information. Finally, I remove any loan not in a MSA/MD because this variable is used in analysis. This has the effect of excluding some rural loans from this analysis but it cannot be avoided since the MSA/MD is a required variable. For year 2010, there are 16,348,557 observations in the raw HMDA but 897,618 observations after this removal. For year 2011, there are 14,873,415 observations in the raw HMDA but 889,130 observations after this removal. For year 2012, there are 18,691,551 observations in the raw HMDA but 1,121,125 observations after this removal. For year 2013, there are 17,016,159 observations in the raw HMDA but 1,470,191 observations after this removal.

Then, I apply a set of State and MSA/MD level counts to each record for both total loans and high cost loans. For instance, a given loan may be originated in a state with 100 total loans and 15 high cost loans and a MSA/MD with 20 total loans and 5 high cost loans. A new variable is created on the loan level record with each of these counts. The GD variable, as discussed earlier, is placed on the record as the proportion of loans that are high cost in the loan MSA/MD minus the proportion of loans that are high cost in the loan state. What I am left with
is a database of loan-level observations with counts on each record representing the number of high cost loans in the State and MSA/MD, proportions, and the GD variable.

**Models & Techniques**

The first two models are multinomial logistic models with year fixed effects. The first model has securitization with Fannie Mae as the baseline category and tests how GD effects other options of what to do with an originated mortgage. The second model has not selling a loan as the baseline category and shows the effect of GD on the odds of selling to different buyers. This models together clearly demonstrate that GD does affect the choice of whether or how to securitize a home mortgage.

The multinomial logit procedure estimates a number of models, one each for the odds of pursuing some option over a reference option. They are of the form:

\[ P(\text{other option vs reference category}) = \beta_0 + \beta_1 \times (GD) + \delta + u \]

\( P(\text{other option vs reference category}) \) is the probability that some other option occurs opposed to the reference category. The potential options are:

1. Loan not sold
2. Sold to Fannie Mae
3. Sold to Freddie Mac
4. Sold to Private Securitizer
5. Sold to Commercial or Savings Bank
6. Sold to Other Financial Company (I.E. Life Insurance Company)
7. Sold to Affiliate Institution
8. Other
\(\beta_0\) is a required constant and \(\beta_1\) connects GD to the probability of different outcomes for each model and is used to calculate the odds ratios.

The second statistical technique used is a loess smoother. A new variable is introduced called the Credit Risk Difference (CRD). Looking only at high cost loans, the CRD is the difference between the average rate spread in a MSA/MD and the rate spread on a given loan. So if the average rate spread for high cost loans in a given MSA/MD is 1.30, but the loan in question has a spread of 1.00, the CRD is .30. In other words, the average high cost loan in this MSA/MD is 30 basis points more expensive than the loan in question. For each combination of GD and CRD, the proportion of loans that are sold outside the bank (that is, not kept or securitized and sold to an affiliate) is found. This output is then smoothed with a procedure called loess, which takes a running weighted average of the outcome variable against both explanatory variables and then turns them into a “best fit” three dimensional graph. The loess smoothing does not change the underlying dynamic; it only makes it easier to see on a three dimensional graph.
### Results – Multinomial Fixed Effects Logit

**Table 1: Maximum Likelihood Estimates of Probability a Specific Loan is sold to Specific Buyers by the GD Variable, 2010-2013. Baseline Outcome: Fannie Mae**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient (Standard Error)</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan not sold</td>
<td>6.7564 (0.0585)</td>
<td>859.550</td>
</tr>
<tr>
<td>Freddie Mac</td>
<td>2.3225 (0.0769)</td>
<td>10.201</td>
</tr>
<tr>
<td>Farmer Mac</td>
<td>5.0215 (4.3112)</td>
<td>151.633</td>
</tr>
<tr>
<td>Private</td>
<td>2.0902 (0.2653)</td>
<td>8.087</td>
</tr>
<tr>
<td>Com/Sav Bank</td>
<td>-3.1663 (0.0881)</td>
<td>0.042</td>
</tr>
<tr>
<td>Other Finance</td>
<td>-0.4419 (0.1105)</td>
<td>0.643</td>
</tr>
<tr>
<td>Affiliate</td>
<td>-1.8747 (0.1611)</td>
<td>0.153</td>
</tr>
<tr>
<td>Other</td>
<td>2.2563 (0.0902)</td>
<td>9.547</td>
</tr>
<tr>
<td>Likelihood Ratio (p-value)</td>
<td>87519.8513 (&lt;.0001)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan not sold</td>
<td>1,095,643</td>
<td>25.03%</td>
</tr>
<tr>
<td>Fannie Mae</td>
<td>1,231,091</td>
<td>28.12%</td>
</tr>
<tr>
<td>Freddie Mac</td>
<td>570,798</td>
<td>13.04%</td>
</tr>
<tr>
<td>Farmer Mac</td>
<td>72</td>
<td>0.00%</td>
</tr>
<tr>
<td>Private</td>
<td>30,928</td>
<td>0.71%</td>
</tr>
<tr>
<td>Com/Sav Bank</td>
<td>684,870</td>
<td>15.64%</td>
</tr>
<tr>
<td>Other Finance</td>
<td>293,564</td>
<td>6.71%</td>
</tr>
<tr>
<td>Affiliate</td>
<td>136,301</td>
<td>3.11%</td>
</tr>
<tr>
<td>Other</td>
<td>334,797</td>
<td>7.65%</td>
</tr>
<tr>
<td>Total</td>
<td>4,378,064</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
### Table 2: Collapsed Maximum Likelihood Estimates of Probability a Specific Loan is sold to Specific Buyers by the GD Variable, 2010-2013. Baseline Outcome: Keep Loan

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient (Standard Error)</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fannie Mae</td>
<td>-6.7025 (0.0583)</td>
<td>0.001</td>
</tr>
<tr>
<td>Freddie Mac</td>
<td>-4.4076 (0.0677)</td>
<td>0.012</td>
</tr>
<tr>
<td>Other Buyer</td>
<td>-7.5592 (0.0565)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Likelihood Ratio (p-value)</td>
<td>45856.5804 &lt;.0001</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan not sold</td>
<td>1,095,643</td>
<td>25.03%</td>
</tr>
<tr>
<td>Fannie Mae</td>
<td>1,231,091</td>
<td>28.12%</td>
</tr>
<tr>
<td>Freddie Mac</td>
<td>570,798</td>
<td>13.04%</td>
</tr>
<tr>
<td>Other Buyer</td>
<td>1,480,532</td>
<td>33.82%</td>
</tr>
<tr>
<td>Total</td>
<td>4,378,064</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Notes: Both model include year fixed effects; intercepts not reported. All coefficients with the exception of the one on “Farmer Mac” in Table 1 are significant at better than the one percent level. Source: HMDA, 2010-2013.

I present the main results of the multinomial fixed effect models in Tables 1 and 2. Both models have good explanatory power because the overall likelihood ratio decreases substantially according to the likelihood ratio test. In part due to the large data set, almost all of the coefficients on the GD variables are statistically significant. The only coefficient that is not highly significant is the one for “Farmer Mac” in Table 1, which is not surprising since Farmer Mac only has 72 observations across the four years represented in the data. As a consequence of the significant coefficients, the GD variable affects the probability that originators will shift their securitization strategy for originated mortgages.
Table 1 shows that GD most substantially increases the odds of not securitizing a loan. This may not be surprising since higher risk loans relative to others might be difficult to securitize. The model does demonstrate that an increase in the GD increases the odds of selecting Freddie Mac, private securitization, or other buyers over Fannie Mae. One rational for this finding is that this model does not account for the interactions between GD and rate spreads which are discussed in the next section. This table simply shows that GD clearly affects the choice of whether or not to securitize a mortgage, and if so how.

Table 2 is potentially more interesting than Table 1. Table 2 shows that relative to keeping a loan on the books, an increase in GD decreases the odds of selling to any buyer but at a different order of magnitude for Fannie Mae and Freddie Mac. That said, conditional on a loan being securitized, the model suggests that it is far more likely to be securitized through Freddie Mac. Again, this model does not contain the important information on interest rate spreads but it shows that geographic differences between cities and States can significantly alter the probability that loans are securitized via different channels.
Results – Loess Smoothed Interaction of Geographic and Credit Risk Information

**Figure 1: Percentage Securitized Outside Based on Geography and Credit Risk 2010**

[3D graph showing percentage securitized outside based on geography and credit risk for 2010.]

**Figure 2: Percentage Securitized Outside Based on Geography and Credit Risk 2011**

[3D graph showing percentage securitized outside based on geography and credit risk for 2011.]
When I plot the percentage of loans sold to anyone outside the originator against the GD and CRD variables, I find the following pattern. Loans with a low GD matched with a high CRD are much more likely to be securitized than other loans. The high CRD means that these loans have a low expected return compared to other high cost loans in their MSA/MD. The low GD
means that these loans look similar to others in their surrounding state in terms of the concentration of high cost lending. To an originator, this represents a loan with a level of geographic risk similar to the surrounding state but with a lower interest rate. These loans are unattractive, so they are securitized.

However, the relationship clearly depends on the GD variable. Notice than in each year the relationship gets “flatter” as the GD increases. As a MSA/MD looks progressively less like its home state, it is harder to identify a loan that is clearly a “lemon”. This means that the securities likely to be in any given MBS pool depend largely on a relationship between MSA/MD, State, and interest rate which, as explained earlier, is not necessarily observed by the investor due to often imperfect geographic information in MBS disclosures. Since the nature of the loans securitized is dependent on a potentially unseen factor, investors will find it difficult to price the MBS they purchase as it can be hard to determine the characteristics of the loans that make up the pool. The originators of the loans, however, have this and have incentive to securitize loans that are less desirable.

Because of a limitation in the data this thesis has been restricted to the post crisis period. It would be interesting to examine how securitization played out in the pre-crisis period, where it was easier to securitize mortgages in general. Notice that the percentage of mortgages that is securitized is below 50% for all four years of the analysis – this is certainly the result of the weak post crisis securitization market.

It may be the case that different specific dynamics existed before the crash, and this would be a good avenue for future research. This thesis, however, has demonstrated the existence of asymmetric information in the decision to securitize a mortgage. This asymmetric information justifies a policy response.
Discussion & Policy Recommendations

It is clear that asymmetric geographic information plays a role in how originators choose which mortgages to securitize and which to keep on the books. This dynamic was a factor in the financial crisis of 2008, because the MBS that went bad were backed largely by mortgages that originators did not feel were strong enough to keep. The investor in MBS, however, often did not have enough information about the properties backing the investment to accurately determine the risk.

There are two policy recommendations proposed here that would work to keep the American financial system stable while allowing for a robust securitization market. The first is that investors should be given much more information on the mortgages in MBS pools. The second is that originators must be forced to hold a portfolio of mortgages on their books with roughly the same risk distribution as their overall originations. These two proposals will be discussed in turn.

More Information for MBS Investors

The government could require originators and securitizers to disclose much more detailed geographic information about the properties that underlie MBS pools. For instance, simply forcing all originators to disclose the same geographic information on where homes are located would represent an improvement. Going further it may be wise to require all securitizers, GSEs and private labels alike, to disclose the city where the home is located.

This recommendation will be controversial, however, because of privacy concerns. It is possible that investors would be able to determine personal level information on homeowners (including their credit score) by combining this information from MBS disclosures with knowledge of home sales in local markets. Since there would certainly be opposition to this
proposal on privacy grounds, it may not be feasible. However, if this proposal were to be adopted then investors would be able to factor the neighborhood level geographic risk into what they would be willing to pay for a MBS. In theory, if this risk is properly “priced in” to what investors are willing to pay for a MBS then no further government action would be necessary. High risk MBS pools would be seen as such, so investors would be able to avoid lemons if desired.

*Force Originators to Hold Representative Portfolio of Loans*

The Originate-to-Distribute phenomenon involved banks originating mortgages with no intention whatsoever of being exposed to the credit risk on the loan. One potential solution is to force originators to keep a certain percentage of the mortgages they make on their books, thus exposing them to a degree of credit risk.

The potential flaw in this proposal is that originators will keep only the best loans on their books. This thesis has shown that originators are doing this already, so regulators should account for this dynamic when making regulation. The right way to address this dynamic is to structure the regulation so that originators must hold a *representative portfolio* of the loans that they originate. This representation should be based on geography and consumer credit risk. If 20% of a bank’s loans are made to consumers with low credit scores in a high risk city, the law must ensure that 20% of the loans the bank is forced to keep are from this pool. If the portfolio that the originators are forced to hold is not representative of originations, then this regulation will not change the markets. A properly structured regulation would align the incentives of investors and originators and create a better market for MBS.
Conclusion

There is an asymmetric information aspect to the decision to securitize a mortgage. While the originating bank knows the exact neighborhood of the home, the MBS investor will see only broader geographic information. This dynamic allows originators to sell the mortgages that are undesirable along dimensions that are only seen to them, and the investor is unaware of this flaw in the MBS they purchase. Contrary to earlier studies of securitization which find that better assets are securitized, this thesis finds that in the mortgage securitization space inferior assets are securitized more often as long as the flaw in the asset can be hidden from the investor.

This asymmetric information aspect to securitization warrants a public policy response, and two have been offered in this thesis. Offering more information on the geography of MBS pools would allow investors to price in neighborhood level risk, but it may not be put into law due to privacy concerns. The more feasible policy solution is to force originators to hold a certain percentage of the mortgages that they originate. This is a good proposal, but it will only work if the portfolio of loans that originators hold matches their overall pattern of origination. Otherwise, originators will continue to keep the best loans on their books while selling the rest to investors who are not able to see the risks in the underlying assets.
Bibliography


