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The effect of foreclosure laws on securitization: Evidence from U.S. states[☆]

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ABSTRACT

A mortgage that defaults is more likely to enter foreclosure rather than renegotiation if it has been securitized in the private non-agency market, according to previous research. We study whether this foreclosure-propensity affects lenders' securitization decision ex-ante. Due to the higher foreclosure probability, the value of a mortgage should be more sensitive to foreclosure costs if it is securitized. Comparing loans made in the same metropolitan area but under different foreclosure laws, we find that lenders are less likely to securitize mortgages in states with higher foreclosure costs, as measured by laws requiring judicial foreclosure. Two additional results are consistent with the proposed channel. First, the effect increases for loans with higher expected default rates and disappears for mortgage-like loans not subject to these laws. Second, the effect of judicial requirements increases for loans with higher expected default rates, consistent with differences in loss given default driving the results. Borrowers in states without judicial requirements also get riskier loans.

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1. Introduction

Previous research has pointed to securitization as a contributing factor to the U.S. foreclosure crisis. In particular, if a mortgage has been securitized in the private non-agency market,¹ foreclosure becomes more likely relative to different forms of renegotiation (e.g. Agarwal et al., 2011b; Kruger, 2017; Piskorski et al., 2010).² The reason for this difference is likely the difficulty in designing contracts that give servicers of securitized mortgages the proper incentives to renegotiate, considering the unobservable effort

required. Given the high private costs and the negative externalities from foreclosures, the social cost of this foreclosure-propensity is likely to be substantial.³ Despite these problems, policy-makers are eager to revive the markets for residential mortgage securitization. Their motivations include improved risk sharing in general and particularly in the U.S., reducing the reliance on government-sponsored enterprises (GSEs) while the sector remains too large to be funded on bank balance sheets.⁴ Studying how renegotiation frictions affect ex-ante contracting therefore not only complements the literature about ex-post effects of securitization but can also inform policy debates.

We empirically investigate whether lenders take into account the higher foreclosure-propensity among securitized mortgages when they decide which loans to securitize. By raising the probability of foreclosure given default, securitization makes the expected payoff of a mortgage more sensitive to the expected recovery rate in foreclosure. If investors are aware of this and price in the

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¹ The non-agency market consists of mortgage-backed securities issued without the backing of the government-sponsored enterprises (GSEs), e.g. Fannie Mae and Freddie Mac. Due to the government backing of the GSEs, the institutional framework surrounding mortgages securitized by them is rather different.

² Following Piskorski et al. (2010), we use the term renegotiation in its broadest meaning to include all kinds of loan resolutions that entail a change to the original contract. These include e.g. deed-in-lieu (where the borrower voluntarily returns the property to the lender), forbearance plans, short-sales (where the parties agree to sell the property to a third party for a lower price than the loan amount), refinancing borrowers into more affordable loans, and explicit modification of contractual terms.

³ See e.g. Campbell et al. (2011), and Anenberg and Kung (2014) for evidence on negative externalities from foreclosures on prices of surrounding properties, and Mian et al. (2015) for evidence on negative effects on the real economy.

⁴ E.g. Bank of England and European Central Bank (2014), European Commission (2015), and U.S. Department of the Treasury (2014).

differences,⁵ securitization would become less attractive for mortgages where the expected loss in foreclosure is higher. In other words, the lower renegotiation propensity for securitized mortgages in default drives a wedge between the expected payoff if the mortgage had been retained and the price that the lender can receive in the securitization market, and this wedge increases in the cost of foreclosure.

However, there are several reasons why the securitization rate may not have decreased with higher foreclosure costs. First, the differences in foreclosure costs might have been overshadowed by a massive demand for mortgages to be securitized arising from e.g. the “global savings glut” (cf. [Bernanke, 2005](#)). Second, it is unclear if market participants were aware of these renegotiation frictions before the foreclosure wave started. Securitization prospectuses generally disclosed the geographical distribution of loans ([SEC, 2003](#)), and many mentioned that foreclosure processes were determined by state laws.⁶ However, investors may have struggled to relate this information to loan losses, not least since the literature on the foreclosure-propensity of securitized mortgages has developed mainly after the crisis. Moreover, theories based on asymmetric information or moral hazard imply the opposite pattern. In the simplest case of adverse selection, suppose that lenders are aware of the variation in foreclosure costs while investors are not. Lenders may then securitize loans with high foreclosure cost and keep the ones with lower cost. Alternatively, investors may be aware of the differences but have lower expectations on default rates than securitizers. The mispricing caused by such optimistic beliefs increases in the expected foreclosure cost; thus, securitization may again be more attractive when expected foreclosure costs are higher. Finally, the renegotiation rigidity in securitization may be a rational way for lenders to commit to an ex-ante optimal but ex-post suboptimal policy to signal loan quality ([Kuong and Zeng, 2016](#)) or to prevent moral hazard on the part of borrowers.⁷ In that case, there may be no difference or even higher securitization rates when foreclosure is costlier.

We turn to the data to examine which effect dominates, using loan-level data on U.S. mortgages from the years 2001–2012. The cost of foreclosure is higher in states imposing so-called judicial requirements that force the lender to go to court to foreclose (e.g. [Pence, 2006](#)). We address the potential endogeneity problems of these laws in two ways. First, we note that the legal variation is unlikely to be driven by current economic conditions, since the laws were typically written several decades or even centuries ago and never changed since ([Ghent, 2014](#)). Second, to mitigate problems of potential unobserved differences between states driving the results, we focus on metropolitan areas that cross state borders,

⁵ We express the mechanism in terms of pricing for expositional simplicity; however, the mechanism would operate equivalently if instead of adjusting prices, investors require more credit enhancement by the lender to compensate for the higher loss given default. Similarly, provisions that require lenders to repurchase loans that default early would have similar effects on lender incentives to the extent that the defaults occur within the period covered by such clauses (typically 90 days; cf. [Piskorski et al., 2010](#)).

⁶ [Appendix C](#) shows an example of such information from a prospectus. The dependence on state-level legislation is also mentioned in prospectuses for several of the underlying securitizations included in the reference portfolio of the Abacus CDO deal (namely ARSI 2006-W1, LBMLT 2006-WL1, and MABS 2006-NC2). This deal was designed by Goldman Sachs and subject to a lawsuit that claimed that the portfolio was of deliberately poor credit quality. See e.g. [Foote et al. \(2012\)](#) for further information on the Abacus deal and its reference portfolio.

⁷ In an analogous argument in corporate finance, dispersed lenders may be a way to commit not to renegotiate, and thereby prevent strategic defaults ([Bolton and Scharfstein, 1996](#); [Diamond, 2004](#)). In these models, the temptation to renegotiate increases with the ex-post liquidation deadweight loss. Hence, the incentive to use securitization as a commitment device may be stronger when the cost of foreclosure is higher. Partly supporting this conjecture, [Demiroglu et al. \(2014\)](#) document that borrowers are more likely to engage in strategic default in judicial states.

and compare mortgages made in the same area but under different laws.

The results suggest that lenders respond to the higher expected cost of the securitization-induced renegotiation failure in judicial states. The difference is economically substantial: mortgages are approximately 3 percentage points less likely to be securitized in judicial states, which corresponds to 13% of the mean. The effect is present both before and after the financial crisis, and holds even when comparing mortgages made by the same lender in different states.

A range of additional tests support the proposed channel.

First, we note that the effect of judicial requirements should be stronger for loans with higher risk of default. We find support for this prediction using several measures of default risk. This differential effect uniquely arises from our preferred interpretation, which builds on variation in loss given default. In contrast, a more mechanical interpretation would suggest that easier repossession makes lenders more willing to grant risky loans, and riskier loans are more likely to be securitized (for reasons unrelated to renegotiation, all else equal); this story does not give reason to think that the effect of repossession cost should matter more for higher risk loans.

Second, we show that the results are unlikely to be driven by the actions of the GSEs.

Third, we show that the results are unlikely to be driven by other aspects of state mortgage and bankruptcy laws, or by variation in taxes and local financial constraints.

Fourth, we show that endogenous self-selection into states by borrowers is unlikely to be a major concern.

Finally, a placebo test further supports that unobserved heterogeneity is unlikely to drive the results.

Earlier literature has argued that securitization enabled the expansion of risky subprime credit (e.g. [Mian and Sufi, 2009](#); [Nadauld and Sherlund, 2013](#)). Together with our finding that judicial rules affect the propensity to securitize, these results suggest that judicial requirements may shift the supply of risky mortgages. Consistent with this conjecture, we demonstrate that loans made in non-judicial (low foreclosure cost) states are more likely to lack income documentation and have higher loan to income ratios. However, we concede that these results cannot necessarily be attributed to the ease of securitization, since even absent securitization, rules that increase the recovery rate in default can expand the supply of risky credit. Indeed, [Pence \(2006\)](#) documents that lenders give larger loans in non-judicial states using a sample period before the private securitization markets had reached substantial size.

In contrast, we find no effect of judicial rules on aggregate loan supply. While judicial rules reduce the amount of securitized credit, there is a compensating change in credit from other sources rather than an aggregate supply effect. This substitution implies that the inefficiency that might be expected from the costlier loan repossession in judicial states did not materialize during this period, as aggregate credit amounts were unaffected. One potential explanation is that since credit policies were generally loose during this period, the laws affected the intensive rather than extensive margin of mortgage credit. An additional potential reason is that effects on loan supply are clouded by the GSEs, which account for a large share of the loan supply and do not take judicial laws into account in their pricing and other loan terms.

This paper contributes to several strands of literature. First, we contribute to the literature on whether the mortgage securitization market considered risk factors appropriately before the crisis. While a burgeoning literature surveyed in the next section studies the ex-post effects of securitization and foreclosures, we consider the ex-ante effects of laws on securitization. The problems in the mortgage securitization market have often been blamed on moral

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