Regulating Secondary Loan Markets: Evidence from Small Business Lending *

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Abstract

We investigate how secondary market regulation shifts loan terms and borrower composition in the primary market. Utilizing data on government-guaranteed Small Business Administration (SBA) 7(a) loans and their secondary market, we study the 2017 tightening of the Minimum Maturity Ratio (MMR) which restricts differences in loan maturities within a pool. To assess the causal effect of the reform, accounting for the possibility of selection into securitization, we utilize differential propensities of lenders to securitize loans as a shifter of treatment. Results demonstrate that maturity decreases by about 18 months due to the MMR reform. The reform also lowers the probability that a loan is securitized, increases interest rates, and decreases chargeoff rates. The reform shifted the types of businesses that received loans, away from physical capital-intensive sectors. Finally, the MMR reform decreased lenders' propensity to serve counties with high Black or minority demographic shares. Our results suggest that secondary loan market reforms have significant real impacts on primary markets.

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1 Introduction

Most consumer and business loans are securitized after origination and sold onto the $13 trillion secondary markets.[1] Secondary markets pool together a diversified group of loans to decrease investor risk and make origination less costly for lenders. However, unrestricted access to secondary markets can give incentives for lenders to "originate to distribute," originating risky loans with the goal of selling their interest before a loss is incurred. Moreover, a significant portion of the securitized loan market is partially guaranteed by the government. The government can face significant losses, and impose costs on borrowers and investors, if secondary market structure has unintended consequences for the primary market. Regulators therefore intervene in secondary loan markets, both by requiring lenders to retain part of the risk associated with loans, and by imposing criteria on securitized pools that govern their composition and payout structure.

Despite their importance, there are challenges to studying the optimal regulation of secondary loan markets. The most well-studied example is the residential mortgage market, which is dominated by government-sponsored enterprise (GSE) securitizations. GSE's choice of maximum loan amount, named the conforming loan limit, has had a demonstrated impact on borrower welfare, (DeFusco & Paciorek (2017)) but other components of secondary market regulation, such as guarantee fees, appear to have little effect (Alexandrov et al. (2024)). Due to the highly regulated nature of mortgages, however, lenders have little control over pricing or underwriting standards, potentially blunting the impact of secondary market regulation. Moreover, GSE mortgages often lack a comparable control group, particularly after the drop in non-agency residential mortgage-backed securities since the 2008 financial crisis.

In contrast to previous literature, we study the impact of regulating secondary loan markets in the context of Small Business Administration (SBA) 7(a) loans. Small business loans may be difficult to securitize because they are not standardized, with different sources of collateral and highly varied risk across industries (*U.S. Department of the Treasury Releases Policy Brief on Small Business Financing* (2025)).[2] However, an active secondary market exists for 7(a) loans, which are offered by private lenders but are partially guaranteed by the SBA to limit investor losses.[3] Lenders typically retain an interest in the unguaranteed portion of a small business loan, and then sell the guaranteed portion of their loan to be pooled into a securitized vehicle. The structure therefore reflects other markets, where risk retention rules combat incentives for lenders to take significant risk. Beyond these, the SBA promulgates a variety of rules about the formation of a pool that are intended to create a

[1] https://www.morganstanley.com/im/en-us/individual-investor/insights/articles/look-to-securitized-markets-for-alternative-sources-of-yield.html

[2] Recent regulatory developments, such as the rulemaking pursuant to Section 1071 of Dodd Frank that requires standardized reporting of small business loans, may move small business lending towards a new equilibrium.

[3] Nearly 50% of the SBA 7(a) loan market is securitized.

diversified but profitable pool with minimal risk exposure. Among these rules is the minimum maturity ratio (MMR), which was set at 80% or less prior to 2017. The MMR places a lower bound on the ratio between the shortest and longest maturity of loans in a pool. That is, an SBA 7(a) pool formed prior to 2017 that included a 10 year maturity loan could also include an 8 year maturity loan.

In 2017, a reform to the MMR shifted this minimum ratio to 94%, effectively requiring all loans in a pool to share the same maturity structure. The purpose of the reform was to help the SBA structure their guarantee payouts more effectively. A consequence of the MMR reform was to shift lenders' incentives to originate loans. MMR reform is a natural experiment that required pooled loans to be more similar to each other, tightening the criteria that loans needed to satisfy to be securitized. No similar reform impacted loans that were held entirely on lenders' balance sheets, providing a control group. Our data covers loans originated between 2012 and 2022.

To study the effect of this policy change on the loan maturities of securitized pools, we first estimate a difference-in-differences regression on the 7(a) data. We use securitized loans as the treated group and unsecuritized loans as the control group. We find that following the policy change, the maturity of securitized loans decreased relative to the maturity on unsecuritized loans. Maturity is associated with other loan characteristics, with longer maturities being associated with lower default rates and lower interest rates, suggesting that other loan characteristics may also be impacted by the MMR reform.

However, the reform could also impact selection into securitization, meaning that the impacts could be driven by differential securitization. To test this, we generate a predicted measure of securitization. We regress an indicator for securitization on fixed effects for each lender, along with other controls, in the period prior to the reform and predict each lender's mean propensity to securitize during the entire sample period. This model relies on the fact that lenders with high cost of capital have a higher propensity to securitize for reasons outside each borrower's demand. Replacing the indicator for securitized with a predicted propensity to securitize based entirely on the lender's identity, we show that MMR regulation decreases maturity by 18 months, regardless of changes in securitization propensity. Moreover, using the same identification strategy, we show that loans are 13% less likely to be securitized due to the MMR reform.

We then use the MMR reform to study how loan and borrower characteristics shifted outside of maturity. Running our endogenous diff-in-diff, we document that MMR reform caused chargeoffs, or defaults, to decrease and interest rates to increase. Moreover, the reform shifted the composition of borrower industry. By regressing an indicator for NAICS sector on the difference-in-differences model, we show that reform shifted the industries which received financing through the SBA 7(a) program, with fewer firms in the Accommodation and Food Service sector receiving financing and more firms in the Professional, Scientific, and

Technical Services sector receiving financing. This shift represent a move away from highly capital intensive industries toward businesses without significant physical capital needs. The results are consistent with anecdotal evidence that the MMR reform made it more difficult for small businesses to get an SBA loan for real estate and made it easier to receive a working capital loan. Using predicted securitization to strip away the effect of selection, we show that the shifts in loan characteristics and borrower composition were not driven by selection into securitization.

Finally, we study the incidence of the MMR reform. Aggregating our data to the county-lender quarter level, we merge in Census variables including demographic composition of each county and information about income and unemployment. We find that the MMR reform shifted securitized lending away from heavily Black and minority counties. As in the rest of the paper, we show that these effects are not driven by selection into securitization. Taken together, the results show that regulatory reform in secondary loan markets can have significant real impacts in the primary market.

Our analysis has several implications. First, it shows that regulation which gives incentives for loans to be standardized can significantly impact originations. Rules that standardize loan products, such as the CFPB's 1071 rulemaking, may shift lending behavior directly. Second, the results provide additional evidence that regulations that impact loan maturity can have significant impacts, since short maturity loans are less likely to be subject to adverse selection than long maturity loans. Third, it demonstrates that the structure of secondary markets can shift losses, investor returns, and market equilibria. After the MMR reform, the SBA guarantee was cheaper to provide due to lower chargeoff rates. Finally, it shows that regulating secondary markets can shift credit differentially across sectors and demographic groups, with wider implications for local economies.

Literature Review

Our work builds on several lines of scholarship. Important work done around the financial crisis established the tradeoffs in incentives created by secondary loan markets. The development of securitization contributed to the expansion of the originate-to-distribute intermediation model, making lending less reliant on balance sheet financing DeMarzo (2005). Financial services have become unbundled by securitization, leading to a large literature on the costs and benefits of the originate-to-distribute model. See, for example, Keys et al. (2010).

Within the broader literature on secondary markets, our work relates to similar work on the structure of GSE securitization (DeFusco & Paciorek (2017), Alexandrov et al. (2024)). We also draw on literature about the SBA 7(a) loan program (see for example, Bachas et al. (2021), Cespedes et al. (2024), Hotchkiss et al. (2024), Pan et al. (2021), Ortiz-Molina &

Penas (2008)). Bickmore et al. (2024) studies the role that online lenders play in small business lending and uses the MMR change as a shifter to credit supply of online lenders, arguing that online lenders are more exposed to securitization and thus differentially affected by the change. We build on this work by carefully documenting the comprehensive impacts of the policy change on the SBA market, including loan maturity and loan characteristics such as loan default and interest rates. We then establish the implicit "industrial policy effects" of the change, which we show channeled lending away from more-capital intensive industries and toward less-capital intensive industries. Finally, we document aggregate effects that the policy change has on demographic groups that are more exposed to securitized small business lending.

2 Data and Institutional Details

Our data comes from the Freedom of Information Act (FOIA) data obtained from the SBA listing all 7(a) loans, limited to the years 2012-2022. For each loan, we observe some information about borrower, such as zip code and NAICS code, the identity of the lender, and loan characteristics including maturity in months (sometimes referred to below as loan term) and initial interest rate. For long term outcomes, we observe charge off rates by 2024. Charge off is defined as a loss written off by the SBA, meaning that the lender has been made whole under the SBA guarantee and interest in the loan has passed to Treasury, where collections attempts are made to cover the SBA's losses. Most importantly, we observe an indicator for the loan being sold into the secondary market. Table 1 reports summary statistics of loans in our sample.

[Table 1 about here.]

Information on county level demographics and income were obtained from the US Census Bureau. The 2023 Census data was matched to the SBA FOIA dataset by running a point-in-polygon method to assign each borrower to a 5 digit county FIPS code based on their address. FOIA data was then averaged at the lender-county-quarter level and merged by county and quarter to the Census database.

Our institutional setting is the SBA 7(a) program, which includes both securitized and unsecuritized loans. Loans in the flagship 7(a) program are originated and funded by private lenders, but the loan is guaranteed up to a cap by the SBA. Therefore, the lender's loss is limited to the unguaranteed portion of the loan, which is commonly about 15% of the loan in many cases. Securitization of 7(a) loans occurs when pool assemblers, private third parties approved to create loan pools, purchase the guaranteed portion of the loan and combine with their portfolio to create a pool. Pools must satisfy a number of criteria, including a

minimum total volume, maximum concentration in loan size and parallel interest rate reset patterns. Among the criteria is the MMR, which is defined as the ratio between the shortest and longest maturity loan in a particular pool. Loan maturity is therefore the characteristic most directly impacted by the MMR reform.

The SBA guide indicates that all pools, are treated by the policy change at the same time:

> For pools formed from October 2005 through September 2017, the MMR was 80%. For WAC pools that began in January 2009 up until to September 2017, the MMR was 76%. For all pools formed in fiscal year 2018 the MMR was 94%.

The structure of SBA 7(a) secondary markets, generally, and the MMR reform in particular, can have four types of potential impacts. First, if lenders are not forward looking or do not coordinate lending behavior with secondary market activity, SBA rules on securitization like MMR may have no impact on the primary lending market. In that case, there are two possible patterns we may observe in the empirical data as a result of MMR reform. On one hand, loans selected into securitization may have different maturities, but we would see a countervailing effect on unsecuritized loans. On the other hand, we may see exactly the same loans selecting into securitization, but pools becoming smaller to create a narrower partition of maturities across pools.

Second, if there are impacts on the primary market, the direction and mechanism is theoretically uncertain. A tighter MMR may cause lenders to increase maturity, if those loans are easier to pool, or decrease maturity if the opposite is true. The effect of MMR on primary market maturities therefore sheds light on how maturity is valued in the secondary market. By revealed preference, a decrease in maturity would signify that lenders perceive loans with long maturities to be harder to sell in the secondary markets.

Third, loan and borrower characteristics may or may not shift in response to MMR reform and changes in maturity. Previous work has suggested that loan characteristics like interest rate are sticky, meaning that they may be unaffected by MMR reform. On the other hand, shifting access to secondary markets may change the cost of lending, and shift interest rate. The same is true of borrower characteristics, such as the borrower's industry. Some sectors may have inelastic demand for specific maturities, such as the need for long term real estate loans. Those sectors are likely to experience differential effects of MMR reform.

Fourth, the welfare effects of the MMR reform depend crucially on lender and borrower preferences. Lenders may be worse off after regulation if it restricts lenders from engaging in some profitable activity, such as small business lending with maturities that are hard to pool under strict MMR rules. Conversely, lenders may be better off if MMR reform solves coordination problems in the market and allows lenders to move to a higher welfare

equilibrium. For borrowers, the welfare effects depend on changes in access to credit and prices they receive. Our analysis below sheds some light on all four mechanisms.

3 Empirical Analysis

3.1 Loan Maturity and the MMR Reform

The MMR reform targets small business loan maturities. We begin by documenting stylized facts about loan maturities, and then use a difference-in-difference analysis to study the causal effect of the MMR rule change.

Figure 1(a) shows that maturities shifted upwards over time, with non-securitized loans experiencing a monotonic increase. Securitized loans experience a smaller increase in maturity over our sample period, converging closer to the non-securitized loan maturities. This pattern is also observed in Figure 1(b), which shows that both securitized and non-securitized loan maturities converged, especially to the 10 year mark, in the post-2017 time period. Anecdotally, many SBA loans fit into two types of loans, working capital loans and real estate loans. Real estate loans tend to have longer maturities and likely comprise many of the 300 month maturities, while working capital loans have shorter maturities on average.

[Figure 1 about here.]

Maturity covaries with other loan characteristics. As shown in Figure 1(c), short maturity loans have higher chargeoff rates. Figure 1(d) shows that short maturity loans have higher interest rates.

To study the causal effect of the MMR policy change on the loan maturities of securitized pools, we estimate the following difference-in-differences (DiD) regression on the raw underlying 7(a) data. We use securitized loans as the treated group and unsecuritized loans as the control group:

$$\begin{aligned} Y_i &= \nu\ post_t + \delta\ securitized_i + \beta post_t \times securitized_i + \upsilon\ grossapproval_i \\ &+ \omega\ interestrate_i + \gamma jobssupported_i + quarterFE + 3DigNAICSsectorFE \\ &+ borrowerzipFE + lenderFE + \epsilon_i. \end{aligned} \tag{1}$$

Where Y_i represents $term_i$, the maturity of loan i, $lenderFE$ are fixed effects for the lender on a given loan, $quarterFE$ are fixed effects for the quarter that a loan was originated, $interestrate_i$ is the interest rate on a loan, $grossapproval_i$ is the logged loan amount,

$jobssupported_i$ is the number of jobs created and retained by loan i. $3DigNAICSsectorFE$ are fixed effects for the NAICS sub-sector that a loan is in, and $borrowerzipFE$ are fixed effects for the borrower zip code. $Post_t$ is an indicator variable for whether a loan was originated in quarter 3 of 2017 or after[4], and $Securitized_i$ is an indicator variable for whether the loan was securitized.

[Table 2 about here.]

[Figure 2 about here.]

Following the policy change, the maturity on securitized loans decreased relative to the maturity on unsecuritized loans. The results are reported in Table 2, which shows that in the most saturated specification above, securitized loans have a maturity of 18 months lower in the post period than the pre period. To check that pre-trends are not driving the result, we estimate a dynamic difference-in-differences specification and report the coefficients on the interaction between an indicator for each quarter and an indicator for securitized, including all the controls in the specification with $quarterFE$, $3DigNAICSsectorFE$, and $borrowerzipFE$. The results are reported in Figure 2(a), and show an instantaneous drop of nearly a year, in loan maturity as soon as the MMR change was announced.

3.2 Predicting Securitization and Estimating DiD Using Predicted Securitization

The regression above reports the impact of the reform on loans that are selected to be securitized. However, the choice of a lender to securitize a loan is not random. To separately identify the effect of the MMR reform on loan originations, holding constant securitization behavior, we calculate the predicted securitization based on pre-period lenderFE. This allows us to predict propensity of securitization for each lender, and to regress outcomes of interest on this predicted measure. To do this we estimate the following regression using only the pre-period loans:

$$\begin{aligned} Securitized_i &= lenderFE + \omega\ interestrate_i + \upsilon\ grossapproval_i + \gamma jobssupported_i \\ &+ quarterFE + 3DigNAICSsectorFE + borrowerzipFE + \epsilon_i \end{aligned} \tag{3}$$

[4]We also estimate the dynamic version of Equation 1 here:

$$\begin{aligned} Y_i &= \nu\ post_t + \delta\ securitized_i + \sum_T \beta_T 1_T \times securitized_i + \upsilon\ grossapproval_i + \omega\ interestrate_i + \gamma jobssupported_i \\ &+ quarterFE + 3DigNAICSsectorFE + borrowerzipFE + lenderFE + \epsilon_i. \end{aligned} \tag{2}$$

Where $Securitized_i$ is an indicator variable for whether loan i was securitized or not, $lenderFE$ are fixed effects for the lender on a given loan, $quarterFE$ is an indicator for the quarter that a loan was originated, $interestrate_i$ is the interest rate on a loan, $grossapproval_i$ is the logged loan amount, $jobssupported_i$ is the number of jobs created and retained by loan i, $3DigNAICSsectorFE$ are fixed effects for the NAICS sub-sector that a loan is in, and $borrowerzipFE$ are fixed effects for the borrower zip code.

We then use only the lender fixed effects from this regression, estimated on the pre-period data, and predict both pre- and post-period securitization for a given loan. By predicting securitization given lenderFE after stripping out all other variables, we remove factors that may be driven by borrower demand. Thus our predicted securitization is driven entirely by supply side factors without selection on loan characteristics. We plot a histogram of our predicted securitization measure in Figure 3.

[Figure 3 about here.]

As a robustness, we estimate the following regression:

$$Securitized_i = lenderFE + \epsilon_i. \tag{4}$$

We find that predicted securitization utilizing only the $lenderFE$ from either Equation 4 or Equation 3 are highly correlated. The comparison of the two predictions is shown in Figure 4.

[Figure 4 about here.]

Estimating Equation 1 using only the $lenderFE$ to predict whether a loan was securitized, allows us to strip out demand side factors, such as NAICS sector and borrower fixed effects, which may predict securitization. The interpretation of our results is that once we predict securitization on lenderFE, we isolate the part of securitization that is influenced by the lender's need to securitize a loan due, for example, to cost of capital and need for the additional liquidity that the secondary market provides.

To understand the MMR reform's implications for access to credit and access to secondary markets, we then test whether loans that are predicted to be securitized experience shifts in actual securitization probability after the MMR reform using Equation 4. We estimate the difference-in-differences regression in Equation 1 using the predicted securitization to estimate the effect of predicted securitization on actual post-period securitization. In this way we remove any potential confounding effect of observable characteristics that may be correlated with securitization and therefore be driving the result. For robustness we estimate

the following analyses using prediction methods from both Equation 4 and Equation 3, but only report results using the prediction method in Equation 4 because the results match closely. Specifically, we estimate the following regression:

$$\begin{aligned} Y_i &= \nu\ post_t + \delta\ \widehat{securitized}_i + \beta\ post_t \times \widehat{securitized}_i + \upsilon\ grossapproval_i \\ &+ \omega\ interestrate_i + \gamma jobssupported_i + quarterFE \\ &+ 3DigNAICSsectorFE + borrowerzipFE + lenderFE + \epsilon_i \end{aligned} \tag{5}$$

Where Y_i is $Securitization_i$, the actual securitization status of a loan and $\widehat{securitized}_i$ is predicted securitization using the lender fixed effects generated in Equation 4. All other variables are defined as in Equation 1. We report the results in Table 3 and the dynamic effects[5] in Figure 5. The results show that a given loan is about 13% less likely to be securitized after the reform. These impacts are consistent with a higher cost of origination driven by the MMR change making it more challenging for a lender to create a compliant pool of securitized loans in the post period.

[Figure 5 about here.]

[Table 3 about here.]

We then estimate Equation 5 to calculate the effect of predicted securitization on maturity in the post-period, relative to the pre-period. In this way we remove any potential confounding effect of observable characteristics that may be correlated with securitization and therefore be driving maturity. The results are reported in Table 4 and Figure 6 and show that the 17.5 month decrease in maturity documented in Figure 2 and Table 2 increases slightly to close to 19% actual securitization is replaced with predicted securitization. These results are consistent with significant impacts of the MMR reform on primary market lending, rather than simply shifting the proportion of loans securitized or the pool's composition.

[Table 4 about here.]

[Figure 6 about here.]

[5] We estimate the dynamic version of Equation 5 here:

$$\begin{aligned} Y_i &= \nu\ post_t + \delta\ \widehat{securitized}_i + \sum_T \beta_T\ 1_t \times \widehat{securitized}_i + \upsilon\ grossapproval_i + \omega\ interestrate_i + \gamma jobssupported_i \\ &+ quarterFE + 3DigNAICSsectorFE + borrowerzipFE + lenderFE + \epsilon_i \end{aligned} \tag{6}$$

3.3 Effect of MMR Policy Change on Loan Characteristics

We then study the impact of the reform on loan characteristics, including $chargeoff_i$, whether loan i defaults, and $interestrate_i$. We first estimate the endogenous regression specification below.

$$\begin{aligned} Y_i &= \delta\ securitized_i + \beta post_t \times securitized_i \\ &+ quarterFE + borrowerzipFE + lenderFE + \epsilon_i. \end{aligned} \tag{7}$$

Where Y_i represents $chargeoff_i$, the default status of a loan, and $interestrate_i$, the interest rate on a loan. All other variables are defined as in Equation 1. The results are shown in Table 5 and Table 6[6], and in Figure 7(a) and Figure 7(b). Following the policy change, securitized loans experience a significant 1.1 pp decrease in loan defaults relative to undefaulted loans, despite there traditionally being a correlation between short maturity loans (which increase following the policy change) and high chargeoff. The decrease in default as maturity decreases is thus consistent with theories that short debt maturity is associated with lower levels of asymmetric information, allowing lenders to screen more effectively. Interest rates experience a significant 17.7 basis point increase following the reform for securitized loans. This effect may be driven by the MMR change increasing costs associated with securitization, which are passed through to borrowers. Taken together, the decrease in chargeoff and the higher interest rate suggests that lenders are profiting from shifting to the new equilibrium induced by the MMR rule.

[Figure 7 about here.]

[Table 5 about here.]

[Table 6 about here.]

In order to test that our results are not driven by selection of different kinds of loans into securitization following the policy change, we estimate the following regression which replaces actual securitization in Equation 7 with predicted securitization:

$$\begin{aligned} Y_i &= \delta\ \widehat{securitized}_i + \beta post_t \times \widehat{securitized}_i \\ &+ quarterFE + borrowerzipFE + \epsilon_i. \end{aligned} \tag{9}$$

[6] We estimate the dynamic version of Equation 7, where 1_T is an indicator for the quarter, here:

$$Y_i = \delta\ securitized_i + \sum_T \beta_T\ 1_T \times securitized_i + quarterFE + borrowerzipFE + lenderFE + \epsilon_i. \tag{8}$$

Where Y_i represents $chargeoff_i$, the default status of a loan, and $interestrate_i$, the interest rate on a loan. All other variables are defined as in Equation 1. The results are reported in Table 7 and Table 8. The results show that the effects documented in Table 5 and Table 6, and in Figure 7 are largely unchanged when actual securitization is replaced with the predicted measure. The results show that an increase in predicted securitization leads to a decrease in chargeoffs, or defaulted loans, compared to unsecuritized loans and to a statistically significant increase in interest rates in the post-period.

[Table 7 about here.]

[Table 8 about here.]

3.4 Industrial Effects

Next, we study whether different types of borrowers access the SBA lending market following the policy change, and thus whether the policy change affects specific industries. Certain industries require longer maturity loans, or capital intensive loans. Thus, if tightening the MMR ratio increases lenders' cost of lending for longer maturity loans, this may more harshly impact industries that rely on longer maturity loans and benefit industries that rely on shorter maturity loans.

To test the effect of the MMR policy on industries, we study indicators for the following two digit NAICS sectors: Accommodation and Food Services, Administrative Support Waste Management and Remediation Services, Agriculture Forestry Fishing and Hunting, Arts Entertainment and Recreation, and Professional Scientific and Technical Services. We regress indicators for these NAICS sectors on the specifications in Equation 7 and Equation 9. The results are reported in Figure 8 and in Table 9 through Table 13. The results show that following the policy change, about 2% fewer loans are made to the Accommodation and Food Services sector, and 0.2% fewer loans are made to the Agriculture Forestry Fishing and Hunting sector, 1% more loans are made to the Professional, Scientific, and Technical Services sector, 0.8% more loans are made to the Administrative Support Waste Management and Remediation sector, and 0.64% more loans are made to the Arts, Entertainment, and Recreation sector.

[Figure 8 about here.]

[Table 9 about here.]

[Table 10 about here.]

[Table 11 about here.]

[Table 12 about here.]

[Table 13 about here.]

To alleviate the concern that the results are driven by shifts in which loans select into being securitized in the post period versus the pre-period, we estimate the specification in Equation 9. This specification predicts whether a loan is predicted to be securitzed based on the coefficients on the lender fixed effects in Equation 4. It then estimates our DiD regression specification using a loan's predicted securitization in the interaction term of interest. Table 14 through Table 18 report the results.

[Table 14 about here.]

[Table 15 about here.]

[Table 16 about here.]

[Table 17 about here.]

[Table 18 about here.]

Our predicted results are consistent with the endogenous results. We find that a 100% increase in predicted securitization (moving from 0% to 100% predicted securitization) decreases post-period lending to the Accommodation and Food Services sector by 2% and to the Agriculture Forestry Fishing and Hunting sector by 0.2%, while the same change in predicted securitization leads to an increase in lending to the Professional Scientific and Technical sector by 6%, to the Administrative Support Waste Management and Remediation sector by 1%, and to the Arts Entertainment and Recreation sector by 1%. The shift that we document is consistent with loans being channeled away from highly capital intensive industries, like accommodation and agriculture, into industries with less reliance on real estate and other physical capital.

3.5 Aggregate Effects

In the following analysis, we aggregate the data to the lender county quarter level and we study whether the policy change has distributional effects on the borrowers who receive loans.

Aggregating to the lender county quarter level allows us to study the aggregate effects of the policy change. We use the lender county quarter level because both treated and untreated lenders operate within a county. Thus, simply aggregating to the county level alone could mask the effect of treatment in the post period. To see this, consider the case in which our predicted securitization measure is highly correlated with actual securitzation. If there was substitution between treated and untreated lenders (i.e. securitizing lenders reduced lending, but unsecuritized lenders expanded lending), then aggregating to the county level would show no change in total origiantions.

Thus, we collapse our data to the lender county quarter level. This means that we see all of a lender's operations within a county. We use a difference-in-differences setting, which allows us to compare a lender's lending in a given county in the post-period relative to the same lender's lending in that county in the pre-period. The design studies whether lenders with high predicted securitization reduce their lending following the policy change, relative to their baseline pre-period lending in a given county. Conversely, if the control lenders increase their lending relative to their pre-period levels, the regression will also flag this. We estimate the following regression:

$$\begin{aligned} Y_i &= \nu\ post_t + \delta\ \widehat{securitized}_i + \beta\ post_t \times \widehat{securitized}_i + \upsilon\ grossapprovalavg_i \\ &+ \omega\ interestrateavg_i + \gamma jobssupportedavg_i + quarterFE + lenderFE + \epsilon_i \quad (10) \end{aligned}$$

Where Y_i is $FractionBlack_c$, defined as the number of inhabitants that identify as Black relative to the total number of inhabitants in a county, $FractionWhite_c$, defined as the number of inhabitants that identify as white relative to the total number of inhabitants in a county, or $MajorityMinority_c$, defined as an indicator for more than 50% of a county's population being non-white. $grossapprovalavg_i$ is the logged average loan amount across loans in a county, $interestrateavg_i$ is the average interest rate weighted by total loan amount across loans in a county, $jobssupported_i$ is the average number of jobs created and retained weighted by total loan amounts across loans in a county. The data on the racial makeup of a county is from the 2023 Census data. We merge the racial makeup variables to the SBA 7(a) loan origination data by 5 digit FIPS code. All other variables are defined as they are

in Equation 1.[7]

We report our results in Figure 9 panels a, b, and c. Aggregating to the county-lender level reveals that counties that are more heavily populated with Black inhabitants receive a disproportional decrease in SBA lending following the MMR policy change. Counties that are more heavily populated with white inhabitants receive a disproportional increase in SBA lending following the change. Majority-minority counties received disproportionately fewer SBA loans after the MMR reform. These results show how secondary market reforms can cause significant distributional consequences for the primary market.

[Figure 9 about here.]

[Table 19 about here.]

[Table 20 about here.]

[Table 21 about here.]

3.6 Discussion

The results of our analysis shed light on the mechanisms by which secondary market regulation impact primary markets. First, the evidence is consistent with lenders being forward looking and strategic in originations, since maturities, as well as loan and borrower characteristics, shifted with the MMR reform. Second, the direction of the effect, namely the decrease in maturity, suggests that short maturity loans are easier to pool than long maturity loans. They may be more profitable, in part due to the lower levels of asymmetric information previously documented in short maturity lending. Third, changes in loan characteristics demonstrate that lenders reprice in response to MMR reform, and either implicitly or explicitly target different borrower populations as a result. Fourth, evidence suggests that lender welfare increases, since interest rates increase while defaults decrease. Borrower welfare is less clear, since prices increase and some industries and demographic groups have decreased access to small business loans.

[7] We estimate the dynamic version of Equation 10 here:

$$\begin{aligned} Y_i &= \nu\ post_t + \delta\ \widehat{securitized}_i + \sum_T \beta_T\ 1_T \times \widehat{securitized}_i + \upsilon\ grossapprovalavg_i \\ &+ \omega\ interestrateavg_i + \gamma jobssupportedavg_i + quarterFE + lenderFE + \epsilon_i \end{aligned} \tag{11}$$

We have demonstrated how secondary market regulations have an impact on lending, even in smaller government-guaranteed markets such as the SBA 7(a) program. These impacts are likely to be even larger in other guaranteed markets, like GSE mortgages, and in non-guaranteed markets, such as asset-backed securities pooling auto loans, student loans, and other assets. The example of MMR regulation provides a case study where standardizing loan products within a pool can increase lender welfare, potentially overcoming coordination failures. If regulation such as the CFPB's 1071 rule are implemented, further standardization of the loan market may occur, generating additional welfare gains. More work is needed to fully characterize the welfare effects of secondary market regulation on borrowers.

4 Conclusion

We study the effect of secondary market regulation that standardizes securitized pools of small business loans. The results demonstrate the requiring loans sold to the same pool have similar maturities decreases the loan maturity of new originations, driven by a shift in lender behavior rather than selection into securitization. As a result, there are fewer loans securitized, fewer chargeoffs and higher interest rates on securitized loans after the reform. Ultimately, the reform shifts small business lending away from real estate-reliant sectors such as hospitality and towards low-capital-needs sectors like professional, scientific, and technical services. Finally, the reform shifts the allocation of loans away from Black and minority counties. Secondary market regulation has significant real impacts, both on loan characteristics and borrower composition.

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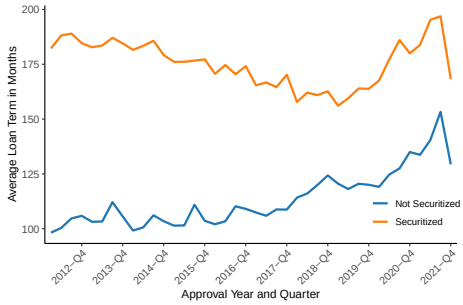
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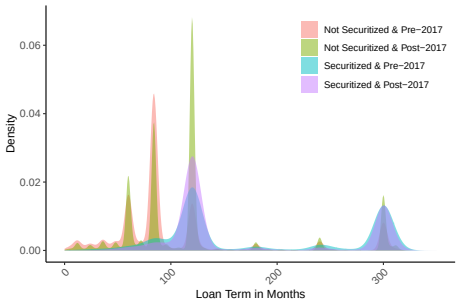
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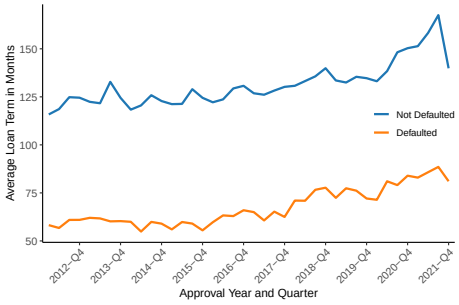
Figure 1. Stylized Facts



(a) Average Loan Maturity by Securitization



(b) Loan Maturities by Securitization and MMR



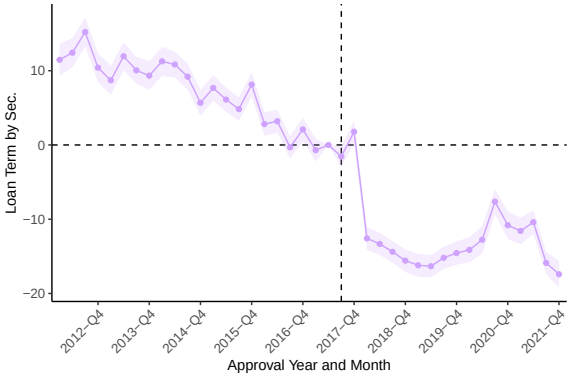
(c) Average Loan Maturity by Default



(d) Average Interest Rate

Notes: This figure presents loan characteristics for all loans approved in the period 2012-2021. Panel (a) shows the average loan maturity on the quarterly time series grouped by whether the loan was securitized. Panel (b) shows the density of loan maturities grouped by whether the loan was securitized and whether the loan was originated after MMR. Panel (c) the average loan maturity on the quarterly time series grouped by whether the loan was defaulted. Panel (d) shows the average interest rate across loan maturities for all samples.

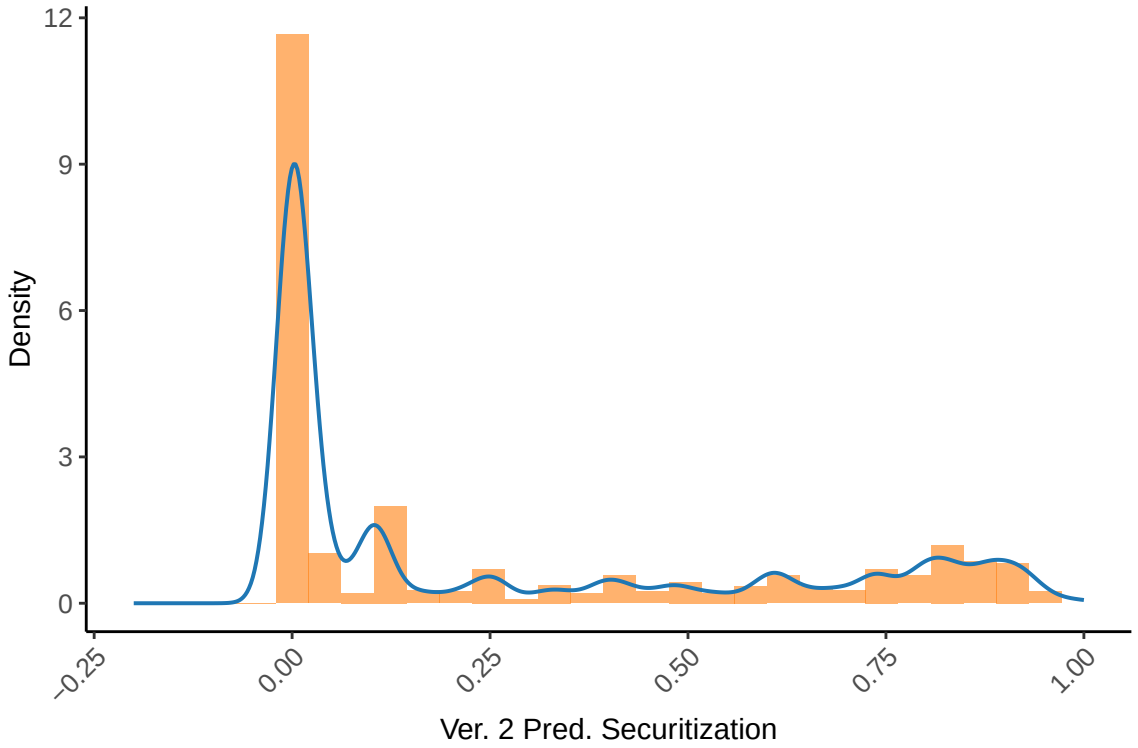
Figure 2. Endogenous DiD - Term



(a) Loan Maturities

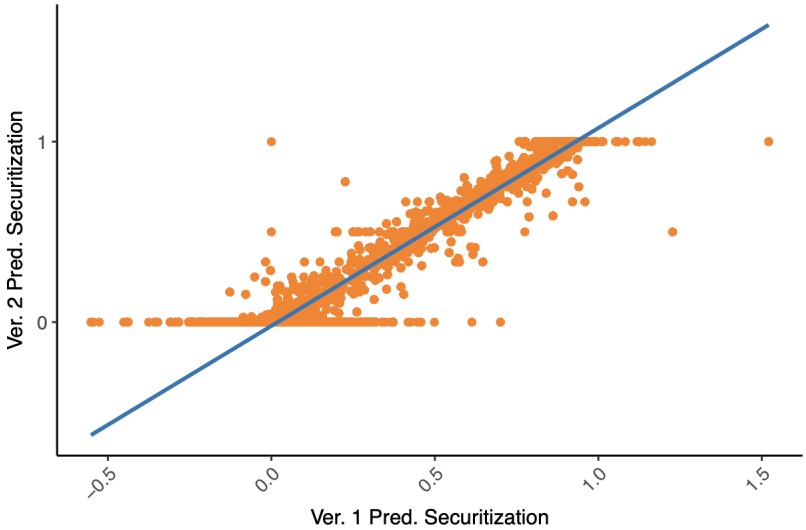
Notes: This figure presents the point estimates and the associated standard errors of Y_i from Equation 1 capturing the changes in loan characteristics before and after the policy change in quarter 3 of 2017 during 2012-2021. The estimation controls for the quarter of loan origination fixed effects, NAICS sub-sector fixed effects, loan borrower zip code fixed effects, and loan lender fixed effects. 95% confidence intervals are included for each quarterly point estimate and standard errors are clustered at the zip code level. Panel (a) shows the average change in loan maturities on the quarterly time series. Panel (b) shows the average change in whether the loan was defaulted on the quarterly time series. Panel (c) shows the average change in loan interest rate on the quarterly time series.

Figure 3. Predicted Securitization



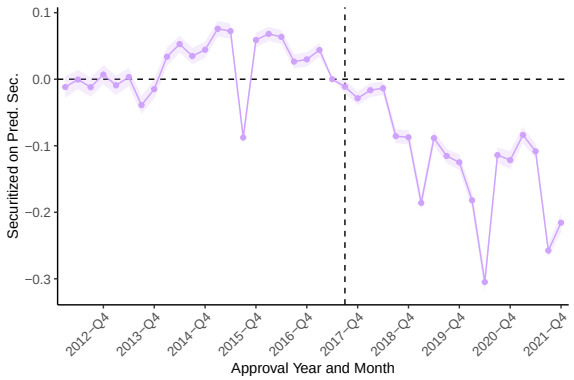
Notes: This figure shows the density of point estimates for $Securitized_i$ from Equation 4 (Ver.2) for all samples approved during 2012-2021. The Ver. 2 estimation only controls for loan lender fixed effects.

Figure 4. Endogenous DiD



Notes: This figure shows the point estimates for $Securitized_i$ from Equation 3 (Ver.1) and Equation 4 (Ver.2) for all samples approved during 2012-2021. The Ver. 1 estimation controls for the quarter of loan origination fixed effects, NAICS sub-sector fixed effects, loan borrower zip code fixed effects, and loan lender fixed effects. The Ver. 2 estimation only controls for loan lender fixed effects. 95% confidence intervals are included for each securitization point estimate and standard errors are clustered at the zip code level.

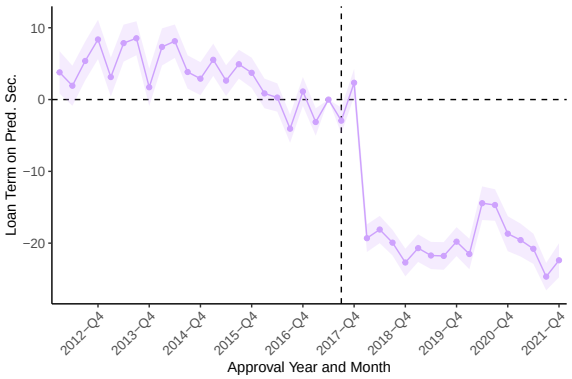
Figure 5. DiD with Predicted Securitization - Actual Securitization



(a) Loan Securitization

Notes: This figure presents the point estimates and the associated standard errors of Y_i from Equation 5 capturing the changes in loan characteristics before and after the policy change in quarter 3 of 2017 during 2012-2021. The estimation controls for the quarter of loan origination fixed effects, loan borrower zip code fixed effects, and loan lender fixed effects. 95% confidence intervals are included for each quarterly point estimate and standard errors are clustered at the zip code level. Panel (a) shows the average change in logged loan amount on the quarterly time series. Panel (b) shows the average change in whether the loan was securitized on the quarterly time series.

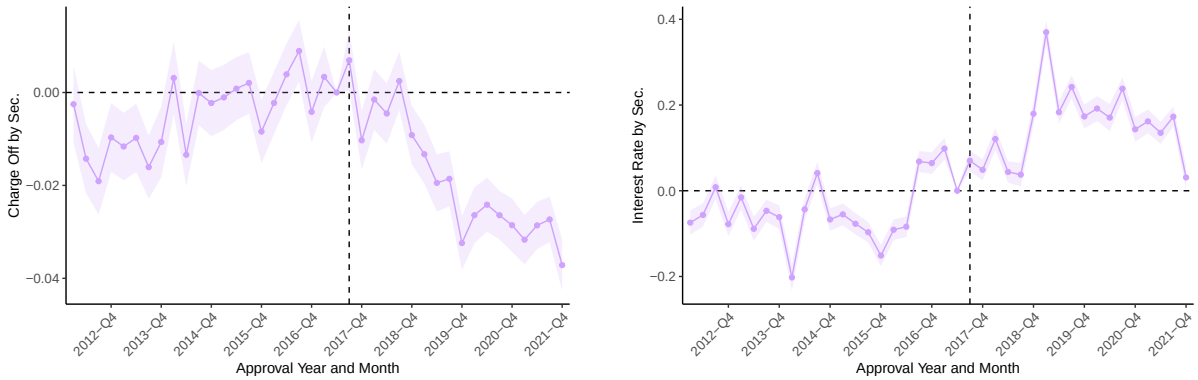
Figure 6. DiD with Predicted Securitization - Term



(a) Loan Maturities

Notes: This figure presents the point estimates and the associated standard errors of Y_i from Equation 5 capturing the changes in loan characteristics before and after the policy change in quarter 3 of 2017 during 2012-2021. The estimation controls for the quarter of loan origination fixed effects, NAICS sub-sector fixed effects, loan borrower zip code fixed effects, and loan lender fixed effects. 95% confidence intervals are included for each quarterly point estimate and standard errors are clustered at the zip code level. Panel (a) shows the average change in the loan maturities on the quarterly time series. Panel (b) shows the average change in whether the loan was defaulted on the quarterly time series. Panel (c) shows the average change in the loan interest rate on the quarterly time series.

Figure 7. Endogenous DiD - Loan Characteristics

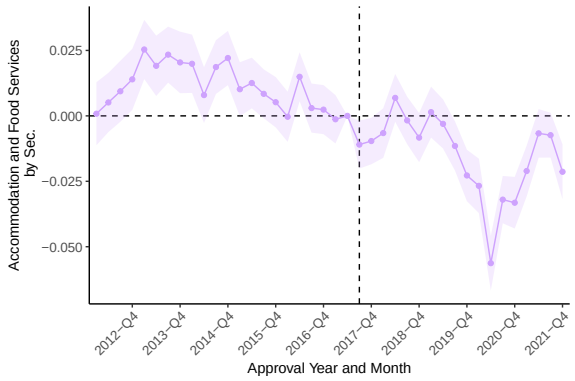


(a) Default Loan Status

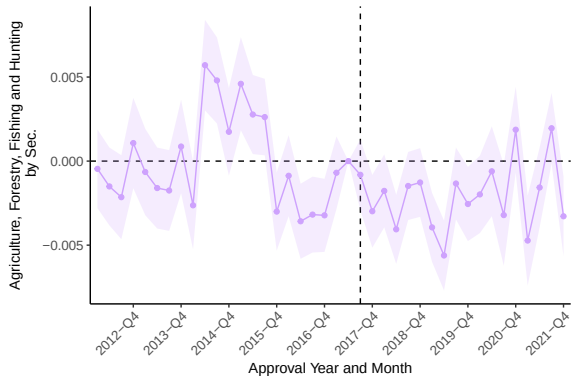
(b) Loan Interest Rate

Notes: This figure presents the point estimates and the associated standard errors of Y_i from Equation 7 capturing the changes in loan characteristics before and after the policy change in quarter 3 of 2017 during 2012-2021. The estimation controls for the quarter of loan origination fixed effects, NAICS sub-sector fixed effects, loan borrower zip code fixed effects, and loan lender fixed effects. 95% confidence intervals are included for each quarterly point estimate and standard errors are clustered at the zip code level. Panel (a) shows the average change in loan maturities on the quarterly time series. Panel (b) shows the average change in whether the loan was defaulted on the quarterly time series. Panel (c) shows the average change in loan interest rate on the quarterly time series.

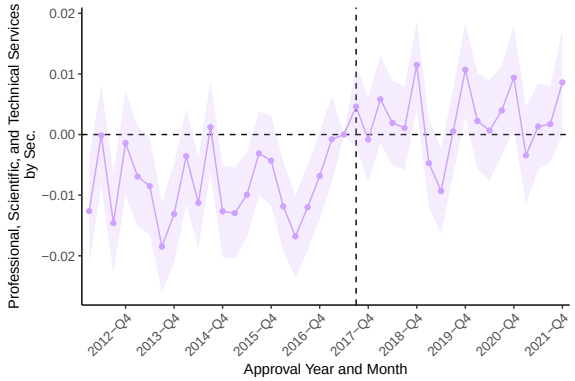
Figure 8. Endogenous DiD - Sectoral Composition



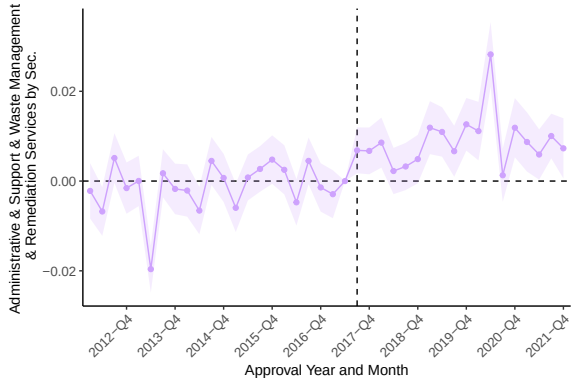
(a) Accommodation & Food Services



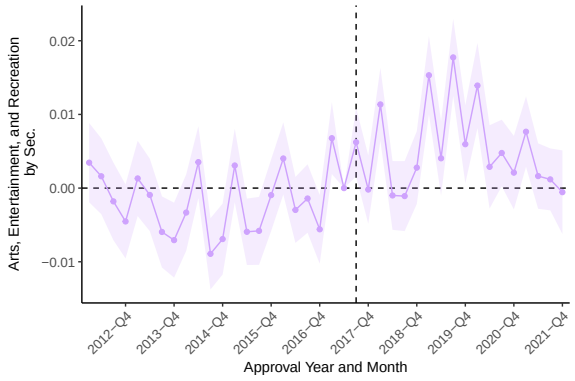
(b) Agriculture, Forestry, Fishing & Hunting



(c) Professional, Scientific, & Technical Services



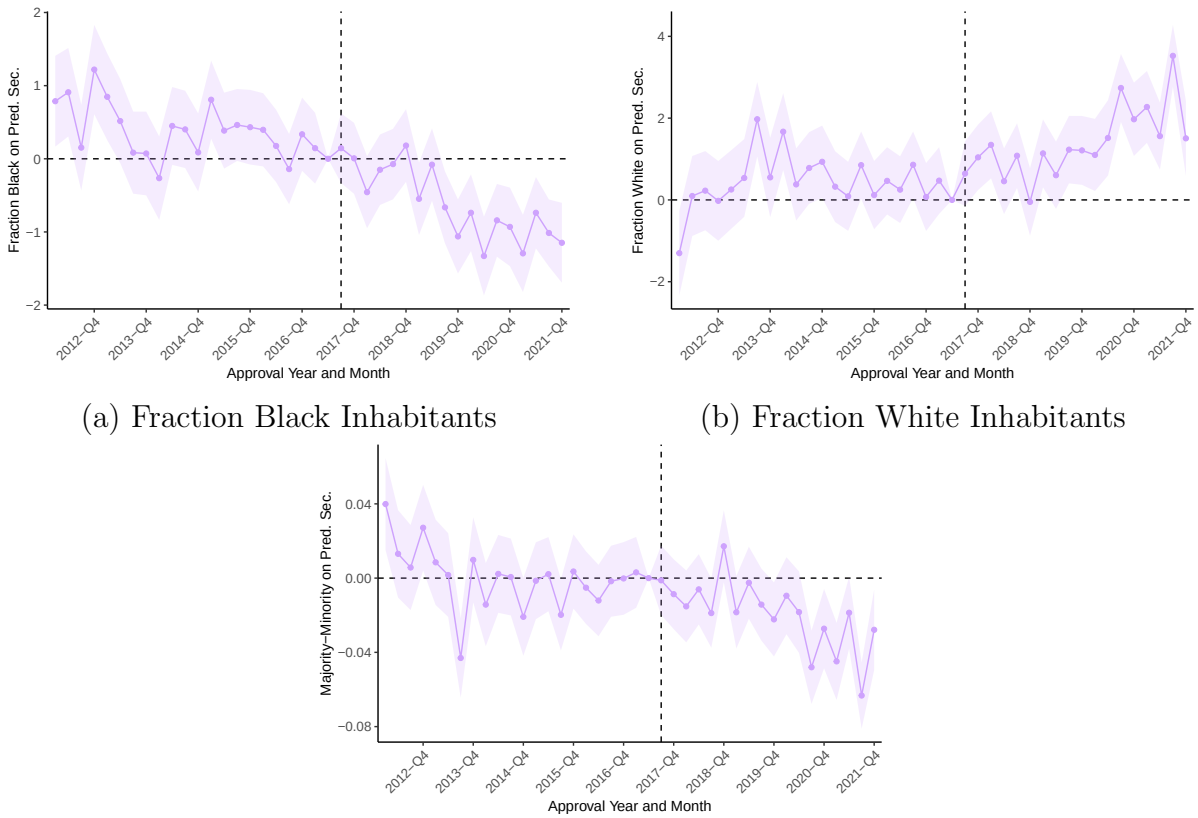
(d) Administrative Support & Waste Management



(e) Arts, Entertainment, & Recreation

Notes: This figure presents the point estimates and the associated standard errors of Y_i from Equation 7 capturing the changes in loan's NAICS sectors before and after the policy change in quarter 3 of 2017 during 2012-2021. The estimation controls for the quarter of loan origination fixed effects, loan borrower zip code fixed effects, and loan lender fixed effects. 95% confidence intervals are included for each quarterly point estimate and standard errors are clustered at the zip code level.

Figure 9. DiD Lender County Level



(a) Fraction Black Inhabitants

(b) Fraction White Inhabitants

(c) Majority-Minority Counties

Notes: This figure presents the point estimates and the associated standard errors of Y_i from Equation 10 capturing the changes in racial makeup before and after the policy change in quarter 3 of 2017 during 2012-2021. The estimation controls for the quarter of loan origination fixed effects and loan lender fixed effects. 95% confidence intervals are included for each quarterly point estimate and standard errors are calculated to be heteroskedasticity-robust. Panel (a) shows the average percentage change of Black inhabitants on the quarterly time series. Panel (b) shows the average percentage change of White inhabitants on the quarterly time series. Panel (c) shows the average percent difference in fraction of loans going to majority-minority counties in the quarterly time series.

Table 1 Summary Statistics Table

Variable	Mean	Median	10%	90%
Loan Term	128.05	120.00	60.00	300.00
Charge Off	0.05	0.00	0.00	0.00
Securitized	0.25	0.00	0.00	1.00
Interest Rate	6.45	6.00	4.75	8.88
Loan Amount	433600.63	150000.00	20000.00	1200000.00
SBA Guaranteed Loan Amount	324380.04	101250.00	10000.00	915000.00
Jobs Supported	10.52	4.00	0.00	25.00
Accommodation and Food Services	0.13	0.00	0.00	1.00
Administrative and Support and Waste Management and Remediation Services	0.05	0.00	0.00	0.00
Agriculture, Forestry, Fishing and Hunting	0.01	0.00	0.00	0.00
Arts, Entertainment, and Recreation	0.03	0.00	0.00	0.00
Professional, Scientific, and Technical Services	0.09	0.00	0.00	0.00

Notes: This table reports summary statistics - mean, median, 10th percentile, and 90th percentile - for all samples in the SBA 7(a) loan data during 2012-2021.

Table 2 Loan Term by Sec. Coefficient Table

Variable	Model 1	Model 2	Model 3	Model 4
Securitized	73.7674***	22.7815***	18.8280***	22.2616***
	(0.5641)	(0.4505)	(0.4206)	(0.4635)
Securitized & Post-treatment	-25.9463***	-19.1756***	-18.1322***	-17.4967***
	(0.5853)	(0.4548)	(0.4436)	(0.4483)
Interest Rate		2.3661***	1.5123***	-1.1237***
		(0.0790)	(0.0869)	(0.0957)
Loan Amount Logged		29.3361***	28.5782***	27.6752***
		(0.1460)	(0.1395)	(0.1339)
Jobs Supported		-0.4343***	-0.4106***	-0.3866***
		(0.0074)	(0.0071)	(0.0069)
NAICS FE		Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes
Zip FE			Yes	Yes
Lender FE				Yes
R^2	0.13	0.44	0.47	0.53
N	534692	534692	534692	534690

Notes: This table reports loan level difference-in-differences regression results for loan maturities ($term_i$) from Equation 1. Securitized ($Securitized_i$) denotes whether the loan was securitized. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. Interest Rate ($interestrate_i$) denotes the logged loan amount. Jobs Supported $jobssupported_i$ denotes the number of jobs supported by the loan. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 3 Securitized on Pred. Sec. Coefficient Table

Variable	Model 1	Model 2
Ver. 2 Pred. Securitization	0.9992***	
	(0.0024)	
Ver. 2 Pred. Securitization & Post-treatment	-0.1298***	-0.1264***
	(0.0032)	(0.0034)
Quarter FE	Yes	Yes
Zip FE		Yes
Lender FE		Yes
R^2	0.51	0.56
N	534692	534690

Notes: This table reports loan level difference-in-differences regression results for actually securitized loans ($Securitized_i$) from Equation 5. Ver. 2 Pred. Securitization ($\widehat{securitized}_i$) denotes the predicted securitization using the lender fixed effects generated in Equation 4. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 4 Maturity on Pred. Sec. Coefficient Table

Variable	Model 1	Model 2	Model 3
Ver. 2 Pred. Securitization	91.5392***	23.9707***	
	(1.9597)	(1.9615)	
Ver. 2 Pred. Securitization & Post-treatment	-27.0911***	-18.6177***	-18.9029***
	(3.4153)	(2.9458)	(2.3747)
Interest Rate		2.6482***	-0.6758.
		(0.3104)	(0.3826)
Loan Amount Logged		29.7492***	28.5079***
		(0.5166)	(0.4649)
Jobs Supported		-0.4371***	-0.3917***
		(0.0119)	(0.0101)
NAICS FE		Yes	Yes
Quarter FE	Yes	Yes	Yes
Zip FE			Yes
Lender FE			Yes
R^2	0.12	0.43	0.52
N	534692	534692	534690

Notes: This table reports loan level difference-in-differences regression results for loan maturities ($term_i$) from Equation 5. Ver. 2 Pred. Securitization ($\widehat{securitized}_i$) denotes the predicted securitization using the lender fixed effects generated in Equation 4. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. Interest Rate ($interestrate_i$) denotes the loan's interest rate. Loan Amount Logged ($grossapproval_i$) denotes the logged loan amount. Jobs Supported $jobssupported_i$ denotes the number of jobs supported by the loan. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 5 Charge Off by Sec. Coefficient Table

Variable	Model 1	Model 2	Model 3
Securitized	0.0237***	0.0234***	0.0304***
	(0.0013)	(0.0013)	(0.0013)
Securitized & Post-treatment	-0.0042**	-0.0056***	-0.0114***
	(0.0016)	(0.0016)	(0.0016)
Quarter FE	Yes	Yes	Yes
Zip FE		Yes	Yes
Lender FE			Yes
R^2	0.01	0.02	0.04
N	534692	534692	534690

Notes: This table reports loan level difference-in-difference regression results for defaulted loans ($chargeoff_i$) from Equation 7. Securitized ($Securitized_i$) denotes whether the loan was securitized. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 6 Interest Rate by Sec. Coefficient Table

Variable	Model 1	Model 2	Model 3
Securitized	-0.4963***	-0.5514***	0.0096
	(0.0090)	(0.0083)	(0.0068)
Securitized & Post-treatment	0.3285***	0.3177***	0.1770***
	(0.0100)	(0.0097)	(0.0080)
Quarter FE	Yes	Yes	Yes
Zip FE		Yes	Yes
Lender FE			Yes
R^2	0.20	0.28	0.44
N	534692	534692	534690

Notes: This table reports loan level difference-in-differences regression results for loan interest rates ($interestrate_i$) from Equation 7. Securitized ($Securitized_i$) denotes whether the loan was securitized. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 7 Charge Off on Pred. Sec. Coefficient Table

Variable	Model 1	Model 2
Ver. 2 Pred. Securitization	0.0211***	
	(0.0017)	
Ver. 2 Pred. Securitization & Post-treatment	-0.0010	-0.0173***
	(0.0021)	(0.0022)
Quarter FE	Yes	Yes
Zip FE		Yes
Lender FE		Yes
R^2	0.01	0.04
N	534692	534690

Notes: This table reports loan level difference-in-differences regression results for defaulted loans ($chargeoff_i$) from Equation 5. Ver. 2 Pred. Securitization ($\widehat{securitized}_i$) denotes the predicted securitization using the lender fixed effects generated in Equation 4. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 8 Interest Rate on Pred. Sec. Coefficient Table

Variable	Model 1	Model 2
Ver. 2 Pred. Securitization	-0.8851***	
	(0.0131)	
Ver. 2 Pred. Securitization & Post-treatment	0.4365***	0.1525***
	(0.0154)	(0.0127)
Quarter FE	Yes	Yes
Zip FE		Yes
Lender FE		Yes
R^2	0.21	0.44
N	534692	534690

Notes: This table reports loan level difference-in-differences regression results for loan interest rates ($interestrate_i$) from Equation 5. Ver. 2 Pred. Securitization ($\widehat{securitized}_i$) denotes the predicted securitization using the lender fixed effects generated in Equation 4. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 9 Accommodation and Food Services by Sec. Coefficient Table

Variable	Model 1	Model 2	Model 3
Securitized	0.1041***	0.0982***	0.0511***
	(0.0022)	(0.0021)	(0.0023)
Securitized & Post-treatment	-0.0352***	-0.0367***	-0.0219***
	(0.0025)	(0.0025)	(0.0025)
Quarter FE	Yes	Yes	Yes
Zip FE		Yes	Yes
Lender FE			Yes
R^2	0.01	0.06	0.11
N	534692	534692	534690

Notes: This table reports loan level difference-in-differences regression results for NAICS sector - Accommodation and Food Services from Equation 7. Securitized ($Securitized_i$) denotes whether the loan was securitized. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 10 Agriculture, Forestry, Fishing and Hunting by Sec. Coefficient Table

Variable	Model 1	Model 2	Model 3
Securitized	0.0019*	0.0003	-0.0031***
	(0.0009)	(0.0005)	(0.0006)
Securitized & Post-treatment	-0.0086***	-0.0030***	-0.0017**
	(0.0009)	(0.0006)	(0.0006)
Quarter FE	Yes	Yes	Yes
Zip FE		Yes	Yes
Lender FE			Yes
R^2	0.00	0.43	0.47
N	534692	534692	534690

Notes: This table reports loan level difference-in-differences regression results for NAICS sector - Agriculture, Forestry, Fishing, and Hunting from Equation 7. Securitized ($Securitized_i$) denotes whether the loan was securitized. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 11 Professional, Scientific, and Technical Services by Sec. Coefficient Table

Variable	Model 1	Model 2	Model 3
Securitized	-0.0363***	-0.0399***	-0.0150***
	(0.0015)	(0.0015)	(0.0017)
Securitized & Post-treatment	0.0231***	0.0209***	0.0108***
	(0.0019)	(0.0019)	(0.0019)
Quarter FE	Yes	Yes	Yes
Zip FE		Yes	Yes
Lender FE			Yes
R^2	0.00	0.04	0.05
N	534692	534692	534690

Notes: This table reports loan level difference-in-differences regression results for NAICS sector - Professional, Scientific, and Technical Services from Equation 7. Securitized ($Securitized_i$) denotes whether the loan was securitized. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 12 Administrative & Support & and & Waste Management & Remediation Services by Sec. Coefficient Table

Variable	Model 1	Model 2	Model 3
Securitized	-0.0175***	-0.0141***	-0.0066***
	(0.0009)	(0.0009)	(0.0011)
Securitized & Post-treatment	0.0173***	0.0166***	0.0084***
	(0.0014)	(0.0014)	(0.0014)
Quarter FE	Yes	Yes	Yes
Zip FE		Yes	Yes
Lender FE			Yes
R^2	0.00	0.03	0.04
N	534692	534692	534690

Notes: This table reports loan level difference-in-differences regression results for NAICS sector - Administrative and Support and Waste Management and Remediation Services from Equation 7. Securitized ($Securitized_i$) denotes whether the loan was securitized. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 13 Arts, Entertainment, and Recreation by Sec. Coefficient Table

Variable	Model 1	Model 2	Model 3
Securitized	0.0029***	0.0036***	0.0022*
	(0.0009)	(0.0009)	(0.0011)
Securitized & Post-treatment	0.0061***	0.0054***	0.0064***
	(0.0012)	(0.0012)	(0.0013)
Quarter FE	Yes	Yes	Yes
Zip FE		Yes	Yes
Lender FE			Yes
R^2	0.00	0.02	0.02
N	534692	534692	534690

Notes: This table reports loan level difference-in-differences regression results for NAICS sector - Arts, Entertainment, and Recreation from Equation 7. Securitized ($Securitized_i$) denotes whether the loan was securitized. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 14 Accommodation and Food Services on Pred. Sec. Coefficient Table

Variable	Model 1	Model 2
Ver. 2 Pred. Securitization	0.1379***	
	(0.0031)	
Ver. 2 Pred. Securitization & Post-treatment	-0.0516***	-0.0184***
	(0.0034)	(0.0035)
Quarter FE	Yes	Yes
Zip FE		Yes
Lender FE		Yes
R^2	0.01	0.11
N	534692	534690

Notes: This table reports loan level difference-in-differences regression results for NAICS sector - Accommodation and Food Services from Equation 5. Ver. 2 Pred. Securitization ($\widehat{securitized}_i$) denotes the predicted securitization using the lender fixed effects generated in Equation 4. Post-treatment ($post_t$) denotes whether the loan was originated after MMR was posted. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 15 Agriculture, Forestry, Fishing and Hunting on Pred. Sec. Coefficient Table

Variable	Model 1	Model 2
Ver. 2 Pred. Securitization	0.0109***	
	(0.0015)	
Ver. 2 Pred. Securitization & Post-treatment	-0.0135***	-0.0021*
	(0.0015)	(0.0009)
Quarter FE	Yes	Yes
Zip FE		Yes
Lender FE		Yes
R^2	0.00	0.47
N	534692	534690

Notes: This table reports loan level difference-in-differences regression results for NAICS sector - Agriculture, Forestry, Fishing, and Hunting from Equation 5. Ver. 2 Pred. Securitization ($\widehat{securitized}_i$) denotes the predicted securitization using the lender fixed effects generated in Equation 4. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 16 Professional, Scientific, and Technical Services on Pred. Sec. Coefficient Table

Variable	Model 1	Model 2
Ver. 2 Pred. Securitization	-0.0514***	
	(0.0022)	
Ver. 2 Pred. Securitization & Post-treatment	0.0307***	0.0063*
	(0.0027)	(0.0029)
Quarter FE	Yes	Yes
Zip FE		Yes
Lender FE		Yes
R^2	0.00	0.05
N	534692	534690

Notes: This table reports loan level difference-in-differences regression results for NAICS sector - Professional, Scientific, and Technical Services from Equation 5. Ver. 2 Pred. Securitization ($\widehat{securitized}_i$) denotes the predicted securitization using the lender fixed effects generated in Equation 4. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 17 Administrative & Support & Waste Management & Remediation Services on Pred. Sec. Coefficient Table

Variable	Model 1	Model 2
Ver. 2 Pred. Securitization	-0.0263***	
	(0.0014)	
Ver. 2 Pred. Securitization & Post-treatment	0.0238***	0.0099***
	(0.0020)	(0.0020)
Quarter FE	Yes	Yes
Zip FE		Yes
Lender FE		Yes
R^2	0.00	0.04
N	534692	534690

Notes: This table reports loan level difference-in-differences regression results for NAICS sector - Administrative and Support and Waste Management and Remediation Services from Equation 5. Ver. 2 Pred. Securitization ($\widehat{securitized}_i$) denotes the predicted securitization using the lender fixed effects generated in Equation 4. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 18 Arts, Entertainment, and Recreation on Pred. Sec. Coefficient Table

Variable	Model 1	Model 2
Ver. 2 Pred. Securitization	0.0006	
	(0.0012)	
Ver. 2 Pred. Securitization & Post-treatment	0.0070***	0.0098***
	(0.0016)	(0.0018)
Quarter FE	Yes	Yes
Zip FE		Yes
Lender FE		Yes
R^2	0.00	0.02
N	534692	534690

Notes: This table reports loan level difference-in-differences regression results for NAICS sector - Arts, Entertainment, and Recreation from Equation 5. Ver. 2 Pred. Securitization ($\widehat{securitized}_i$) denotes the predicted securitization using the lender fixed effects generated in Equation 4. Post-treatment ($post_t$) denotes whether the loan was originated after MMR. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are clustered at the zip code level in the regressions where zip code level fixed effects are included. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 19 Fraction Black on Pred. Sec. Coefficient Table

Variable	Model 1	Model 2
Ver. 2 Pred. Securitization	4.6304***	
	(0.1002)	
Ver. 2 Pred. Securitization & Post-treatment	-0.6899***	-0.8446***
	(0.1351)	(0.1299)
Quarter FE	Yes	Yes
Lender FE		Yes
R^2	0.02	0.24
N	243929	243927

Notes: This table presents the lender county level difference-in-differences regression results for Black inhabitants from Equation 10. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are calculated to be heteroskedasticity-robust. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 20 Fraction White on Pred. Sec. Coefficient Table

Variable	Model 1	Model 2
Ver. 2 Pred. Securitization	-10.7450***	
	(0.1769)	
Ver. 2 Pred. Securitization & Post-treatment	0.8797***	0.7890***
	(0.2403)	(0.2160)
Quarter FE	Yes	Yes
Lender FE		Yes
R^2	0.03	0.39
N	243929	243927

Notes: This table presents the lender county level difference-in-differences regression results for White inhabitants from Equation 10. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are calculated to be heteroskedasticity-robust. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.

Table 21 Majority-Minority on Pred. Sec. Coefficient Table

Variable	Model 1	Model 2
Ver. 2 Pred. Securitization	0.1870***	
	(0.0039)	
Ver. 2 Pred. Securitization & Post-treatment	-0.0247***	-0.0156**
	(0.0052)	(0.0051)
Quarter FE	Yes	Yes
Lender FE		Yes
R^2	0.02	0.23
N	243929	243927

Notes: This table presents the lender county level difference-in-differences regression results for majority-minority counties from Equation 10. The sample consists of loans originating during 2012-2021 with information on the originating entity. The additional covariates are included as controls. Standard errors are calculated to be heteroskedasticity-robust. ***, **, *, . represent 0.1%, 1%, 5%, and 10% significance, respectively.