Credit for me but not for thee: The effects of the Illinois rate cap

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Abstract

On March 23, 2021, Illinois imposed an all-in rate cap of 36 percent APR. We use credit bureau data for Illinois and its neighboring state, Missouri, a state without any legislated interest-rate cap, to estimate the effects of the Illinois rate cap on unsecured installment loans. Using difference-in-differences-in-differences estimation, we find that the interest-rate cap decreased the number of loans to subprime borrowers by 38 percent and increased the average loan size to subprime borrowers by 35 percent. Responses to a survey of small-dollar-credit borrowers in Illinois who lost credit access suggest the interest-rate cap worsened the financial well-being of many of these borrowers. Legislators motivated by genuine public interest rationales might not recognize the harmful consequences of their actions for these higher-risk borrowers with few credit alternatives. Legislators might also be motivated by the benefits of the interest-rate cap for lower-risk borrowers. The interest-rate cap increased the number of loans to prime borrowers by 16% and the average loan size to prime borrowers by 7%.

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1. Introduction

Disapprobation of high interest rates reflects a longstanding and widely held belief that lenders take advantage of needy individuals by charging high interest with harsh terms. Interest-rate restrictions existed in the earliest credit contracts in antiquity and enjoyed the support of the Mosaic Law, Aristotle, Plato, the Medieval Christian Church, and even Adam Smith. This disapproval persists today. Proponents of rate caps have succeeded in imposing them, often with a maximum rate of 36 percent.

Presumably, lawmakers impose interest-rate restrictions to improve the welfare of their constituents. But do interest-rate restrictions improve consumer welfare? In this paper, we find interest-rate caps decrease credit access and worsen the self-reported financial well-being of higher-risk borrowers but increase credit access for lower-risk borrowers. Some lawmakers might fail to recognize the harmful consequences of interest-rate restrictions for higher-risk borrowers. Others might be motivated by the benefits created for lower-risk borrowers despite the costs for higher-risk borrowers.

On March 23, 2021, the Predatory Loan Prevention Act (PLPA) became law in Illinois. The PLPA sets a 36 percent "all-in APR" [also known as the Military Annual Percentage Rate (MAPR)] ceiling for "loans below $40,000 for all consumer credit products from any person or entity that offers or makes a loan to a consumer in Illinois."[1] Banks and credit unions are exempt from the rate ceiling.[2]

We study the effects of Illinois's 36 percent interest-rate cap on borrowers using a specific loan product: unsecured installment loans. We use credit bureau data over four consecutive quarters, Q4 2020 through Q3 2021, roughly two six-month periods surrounding the PLPA. We preselected Missouri as the comparison state for a natural experiment to measure the effects of the 36 percent rate cap on credit availability in Illinois. The neighboring state of Missouri is, in many respects, like Illinois, but Missouri has

[1]By including non-credit charges in calculating the finance rate, this all-in rate ceiling is more restrictive than the Truth in Lending rate ceiling.

[2] The act, however, prohibits lending under a bank partnership model or using other structured entities designed to evade the law. The act extends to lenders operating outside of Illinois who make loans to consumers in Illinois (e.g., online lenders). It does not apply to Illinois residents who travel out of state to borrow.

no legislated interest-rate cap—making it a natural comparison state to study the effects of imposing the Illinois rate cap on Illinois consumers.

We focus on unsecured installment loans provided by banks, credit unions, and state-licensed finance companies. Unsecured installment loans have equal payments designed to amortize the debt fully when the borrower makes the last payment. Because of their small size, the costs of producing unsecured installment loans are high relative to loan size. Consequently, interest rates or fees must be high on these loans to be profitable. Chen and Elliehausen (2020) estimate that a 36 percent loan requires a loan size of about $2,900 for lenders to break even. Illinois' 36 percent all-in APR is, therefore, likely binding on small-dollar unsecured installment loans from finance companies and, in general, other forms of small-dollar consumer credit. Unlike most other forms of small-dollar consumer credit, unsecured installment loans are often reported to traditional credit bureaus from whom we draw data.

Using a difference-in-differences-in-differences approach, we find that the cap decreased the number of loans to subprime borrowers in Illinois by 38 percent but *increased* the number of loans to prime borrowers by 16 percent, highlighting the unequal effects by borrowers' VantageScores®. Despite being explicitly exempt from the new Illinois law, banks and credit unions in Illinois did not materially increase their supply of these loans after the interest-rate cap was enacted. The cap also increased the average loan size to subprime borrowers in Illinois by 35 percent. This increase in average loan size is consistent with the notion that a larger loan is needed to make small loans profitable at a maximum rate of 36 percent.

We use the results from a survey of short-term, small-dollar credit borrowers in Illinois to examine the welfare effects of the loss of credit access for subprime borrowers. In this survey of borrowers whose lenders ceased operations in Illinois due to the interest-rate cap, most borrowers say that their unsecured installment loan helped their financial situation at the time, that they lack alternative credit options, and that they would like the option to return to their previous lender. Respondents indicated they faced

difficult circumstances since losing access to their lender, including paying bills late and generating fees, cutting back on everyday expenses, being contacted by debt collectors, skipping urgent appointments, and having utilities turned off.

Our results are consistent with previous studies on the effects of rate caps. Rigby's (2013) summary shows that lower rate caps nearly always reduce the amount of credit extended, especially to high-risk households. Some examples are Benmelech and Moskowitz (2010), who found negative effects of imposing interest-rate restrictions for financially challenged households. For low-and middle-income households, Peterson and Falls (1981), Villegas (1989), and Zinman (2010) found that low interest-rate ceilings reduced credit availability.

For unsecured installment loans, Durkin, Elliehausen, and Hwang (2017) report that states with relatively low interest-rate ceilings have relatively fewer loans. Lukongo and Miller (2022) document that the constitutionally imposed 17 percent interest-rate cap in Arkansas restricts access to unsecured installment loans, especially for non-prime borrowers living in the interior counties of Arkansas.

If high-risk borrowers with few credit alternatives are often harmed by interest-rate caps, what explains the continued attempts by policymakers to regulate the maximum rate of interest? One possible explanation is that policymakers regulate the maximum rate of interest in the name of the "public interest" without considering the harmful consequences.[3] The loss of credit access by high-risk borrowers might be unintended. It is also possible that the loss of credit access for high-risk borrowers is intended by policymakers who believe these borrowers are naïve and need protection from "predatory" lenders. But the resulting worsened financial condition of the would-be borrowers is unintended.

Another explanation is that some borrowers benefit from restrictions on the maximum rate of

[3] Price regulations, like interest-rate caps, commonly have unintended consequences. Examples include unintended consequences in COVID-19 price-gouging laws (Chakroborti and Roberts 2023), healthcare price caps (Ramseyer 2009), tax distortions to relative prices of alcoholic beverages (Gant and Ekelund 1997), and wage restrictions (Propper and Van Reenen 2010).

interest and, thus, create the political demand for interest rate regulation. Economic theory suggests that some borrowers benefit from interest-rate caps, namely lower-risk borrowers who receive an increased supply of credit when higher-risk borrowers are rationed out of credit markets. Boyes (1982) argues in what we call the "public choice" argument that the political demand for interest-rate caps is attributable to the benefits they create for lower-risk borrowers.[4]

Neither the "public interest" explanation nor the "public choice" explanation is mutually exclusive. The findings of this paper are consistent with both a public interest and a public choice explanation for the popularity of interest-rate caps among policymakers. We find that prime borrowers benefit from additional credit as a result of the interest-rate cap. Prime borrowers might act as an interest group creating the political demand for interest-rate regulation consistent with the public-choice interpretation.

We also find that subprime borrowers lose credit access and experience worsened financial conditions as a result of the interest-rate cap. Both the loss of credit access and the worsened financial condition could be unintended consequences for policymakers motivated by the public interest. This explanation is consistent with the theme of Black, Schweitzer, and Mandel (1978), which finds that minority groups can be harmed by regulations intended to help them, and Black and Miller (2016), which presents evidence that interest-rate caps harm their intended beneficiaries and shift resources away from the credit impaired to those that are not credit impaired.

2. Model

Economists have long recognized that administrative costs in lending are high relative to loan amounts for small loans. Moreover, administrative costs are mostly fixed in the short run for short-term loans. Lenders' administrative costs include marketing, origination, servicing, and collection. Also, lenders

[4] See Stigler (1971) for the seminal article on the theory of economic regulation, which specifically discusses the fixing of prices (*e.g.,* interest-rate caps) as a government service demanded by interest groups.

must be compensated for bearing risk. Consequently, the interest rate for small-dollar consumer loans must be high enough to cover the lender's costs plus a competitive return on the lender's investment.

Supply (partly based on costs) and demand determine the equilibrium interest rate and the amount of debt outstanding. Imposing an interest-rate cap below the equilibrium interest rate might prevent high-risk borrowers from obtaining as much credit as they desire—or even exclude prospective borrowers entirely from the market. Moreover, because administrative costs are mostly fixed, binding interest-rate caps cause smaller loan amounts to be unprofitable. Consequently, lenders might require borrowers to take larger loans—but only if these borrowers qualify for them.

Blitz and Long (1965) provided a theoretical analysis of the effects of interest-rate ceilings. Blitz and Long (1965) study a market for three categories of borrowers: riskless, low-risk, and high-risk. The risk that borrowers will be slow to repay or even default is commonly defined in recent years by credit bureau scores. In our paper, we recast the Blitz and Long (1965) categories as credit-score ranges: prime, near-prime, and subprime. Generally, prime borrowers are considered to pose a negligible risk of default. Scores that fall below prime present an increasingly higher risk to lenders. Thus, near-prime borrowers pose some risk, and subprime borrowers pose even more risk.

Blitz and Long (1965) show that interest-rate caps can affect lending to these risk categories differently in competitive and imperfectly competitive markets. Borrowers in the riskless category can benefit, but other borrowers can be harmed. For their analysis, Blitz and Long (1965) specified the loan interest rate as consisting of a base rate plus the premium for risk. In this environment, imposing an interest-rate cap can prevent riskier borrowers from obtaining credit at an interest rate at or below the cap, thereby reducing the effective demand for credit overall.

Using our data, we can investigate these theoretical predictions. We can examine whether the number of loans made to subprime (high-risk) borrowers decreases as predicted by the theoretical model of Blitz and Long (1965). We can also investigate whether lower-risk borrowers receive increased credit

access. If Boyes (1982) is correct that lower-risk borrowers create the political demand for interest-rate caps, we would expect to find that these borrowers experience an increase in the number of loans or, at least, no reduction in the number of loans.

3. Data

We use two datasets obtained under non-disclosure conditions that give us complete control of the research project: 1) quarterly credit bureau data collected by the American Financial Services Association (AFSA) to measure the effects of the 36 percent interest-rate cap on the number and size of unsecured installment loans in Illinois and Missouri and 2) Online Lenders Alliance (OLA) survey responses from borrowers who used short-term, small-dollar credit in Illinois from January 2019 through March 2021.

4.1. Credit Bureau Data

The quarterly credit bureau dataset includes the total number and average size of consumer loans by county of the borrower's residence (where some rural counties are grouped), by loan product, by the type of lender, and by pre-specified VantageScore® bins. The data include all loans that were originated and reported to the bureau from the fourth quarter of 2020 through the third quarter of 2021, where the borrowers' residence is in Illinois or Missouri.[5]

Before obtaining data from the credit bureau, some rural counties were grouped with neighboring rural counties to provide more precise statistics for these counties. Table A1 and Table A2 in Online

[5] Illinois residents are able under the law to cross state borders to receive an unsecured installment loan from lenders located in other states at a rate exceeding the interest rate cap. This action would likely increase the number of loans in border counties relative to interior counties in Illinois after the cap. We find no evidence that border county residents have more access to unsecured installment credit relative interior county residents in Illinois. Regardless, Illinoisians crossing state borders to access unsecured installment credit would increase the number of loans in Illinois, weakening the effects of the interest-rate cap and making our estimates of the effects in Illinois due to the cap a lower-bound estimate.

Appendix A describe the 59 county groupings for Illinois and Missouri. Three types of lenders are included in the data: banks, credit unions, and other lenders. We assume that "other lenders" is composed largely of brick-and-mortar personal finance companies and, to a lesser extent, online lenders.

We categorize the VantageScore® bins present in the data into three familiar groupings: subprime, near-prime, and prime. Subprime includes borrowers with VantageScores® below 600. Near-prime includes borrowers with VantageScores® ranging from 600 to 649. Prime includes borrowers with VantageScores® of 650 or more. No-score borrowers are those who do not have a VantageScore® and are, therefore, dropped from the statistical results section of this paper.[6]

We focus on how the imposition of the 36 percent interest-rate cap in Illinois at the end of the first quarter of 2021 affected the use of unsecured installment loans. Figure 1 shows aggregate data from Illinois in the fourth quarter of 2020 and first quarter of 2021, the two quarters in our data before the imposition of the 36 percent interest-rate cap in Illinois. It illustrates the number of unsecured installment loans originated by each lender type in each VantageScore® category before the interest-rate cap in Illinois.

Unsecured installment loans, especially those to borrowers with poor credit histories, are primarily originated by personal finance companies. Personal finance companies, or "other lenders," originated 68,783 unsecured installment loans to subprime borrowers, which is 90 percent of the total number originated to subprime borrowers. Personal finance companies originated 43,733 unsecured installment loans to near-prime borrowers (82 percent), 3,027 unsecured installment loans to borrowers with no score (78 percent), and 56,207 loans to prime borrowers (59 percent). In terms of total dollars loaned, personal finance companies remain the primary source of unsecured credit, lending 86 percent

[6] No-score borrowers represent a small fraction of the number of borrowers in the credit bureau dataset and cannot easily be classified as high-risk, low-risk, or no-risk borrowers. Therefore, they are removed from the dataset before performing any statistical tests, though their inclusion does not meaningfully change the results.

of all dollars to subprime borrowers, 80 percent of all dollars to near-prime borrowers, 57 percent of all dollars to no-score borrowers, and 52 percent of all dollars to prime borrowers.

Like Figure 1, Figure 2 aggregates data from the fourth quarter of 2020 and first quarter of 2021 in Illinois but for the *average size* of unsecured installment loans originated by each lender type in each VantageScore® category before the interest-rate cap in Illinois. The average size of unsecured installment loans from banks is at least $5,532 in each VantageScore® category. On average, finance companies lend less than $2,000 to subprime and no-score borrowers and less than $4,000 to near-prime borrowers. Credit unions also lend smaller amounts than banks, but they originate only a fraction of the number of unsecured installment loans originated by personal finance companies.

Personal finance companies are the primary source of unsecured installment loan credit for high-risk borrowers, i.e., those with low VantageScores®. In the rare circumstance where banks and credit unions originate unsecured installment loans to high-risk borrowers, banks and credit unions lend larger amounts (which might indicate some prior experience with, or knowledge about, these individuals). Therefore, although they are exempt from Illinois' Predatory Loan Prevention Act requirements, neither banks nor credit unions are common sources of small-dollar unsecured installment credit to high-risk borrowers. Banks might face reputation risk when lending to risky consumers at high rates, and bank regulators discourage risky lending by treating risky loans on safety and soundness grounds (payday/bank partnerships, tax refund anticipation loans, and deposit advance products, for example).

Together, banks and credit unions did not increase the small-dollar credit access to high-risk borrowers after the imposition of the Illinois rate cap. Table 1 shows the number of unsecured installment loans made in Illinois to borrowers in the two quarters before the imposition of the 36 percent interest-rate cap and in the two quarters after the imposition of the cap by lender type and VantageScore®.

Banks and Credit Unions behaved differently in the six months following the rate cap. Banks increased the number of unsecured installment loans to subprime borrowers by 1,746 loans. Credit unions

decreased the number of unsecured installment loans to the same sample of borrowers by 1,175, resulting in a net increase of 571 loans from banks and credit unions. This increase offsets about three percent of the decrease in loans originated by other lenders to subprime borrowers, 20,797. Banks reduced the average size of unsecured installment loans to subprime borrowers from $5,532 to $2,508. Other lenders and credit unions increased the average size of unsecured installment loans to subprime borrowers by $998 and $261, respectively. Together, banks increased the dollar volume of loans to subprime borrowers by about $500,000, while credit unions decreased the dollar volume to these borrowers by about $1,000,000. Other Lenders increased the dollar volume of loans to subprime borrowers by about $7,500,000. Importantly, these differences are not the causal effect of the interest-rate cap but rather simple before and after comparisons in Illinois. We explore the causal effect in Section V.

To summarize, the Predatory Loan Prevention Act in Illinois might only apply to other lenders, such as personal finance companies, but these companies are the primary source of small-dollar credit to high-risk borrowers before and after the imposition of the 36 percent interest-rate cap.

4.2. Survey Data

We use survey results to examine how the loss of credit access due to the Illinois interest-rate cap affected borrowers. The survey is of consumers who used short-term, small-dollar credit in Illinois from January 2019 through March 2021. The Online Lenders Alliance (OLA) prepared and conducted the survey in December 2021—about nine months after the imposition of the rate cap.

The OLA sent hyperlinks by email to about 38,860 customers of four OLA member firms that ceased operations in Illinois after the imposition of the interest-rate cap. When the customers opened the hyperlink, they were directed to a website to complete the survey. The survey asked respondents to identify their age, gender, race, ethnicity, and personal income. The survey received responses from 699 individuals; 45 percent identified as white, 45 percent identified as black, 8 percent identified as two or

more races, and 2 percent identified as Asian/Pacific Islander or American Indian/Alaskan Native. Eleven percent of respondents identified as Hispanic. Two-thirds of the respondents were female. Also, two-thirds of the respondents had annual personal incomes under $50,000.[7] Table B1 in Online Appendix B lists the survey questions asking respondents about their experience with online loans.

The respondents in the OLA survey data are not necessarily the same subjects represented in the AFSA credit-bureau data. We believe, however, that the OLA survey data is informative about the unsecured installment credit experiences of those whose credit experiences are most negatively affected by the Illinois interest-rate cap, subprime borrowers, and that the subprime borrowers in the AFSA credit-bureau dataset would likely have given similar responses to those given by OLA survey respondents.

The average credit score for customers of the institutions represented in the OLA survey is below 600 and falls into the subprime category in the AFSA credit-bureau dataset. The OLA survey responses show that respondents are disproportionately subprime. Of the OLA survey respondents, only 11 percent indicated that they strongly agreed with the statement, "I am confident that I can receive approval for a personal loan from my bank or credit union anytime I need it," and 56 percent indicated they were unable to borrow money at least once in the nine months following the imposition of Illinois's rate cap.

The average loan amount for customers of the institutions represented in the OLA survey is less than $1,000. This amount most closely resembles the average loan size of the most subprime borrowers in the AFSA credit-bureau dataset (borrowers with VantageScores® below 500 borrow $1,400 on average in the credit-bureau data). This amount is much lower than the average loan amount for prime borrowers, which is $11,192.[8]

[7] Percentages omit respondents who did not respond to the survey questions for race (17% of responses), gender (4% of responses), ethnicity (6%), and income (6%), respectively.

[8] The survey did not ask borrowers to report their credit scores nor loan amounts. The average credit score and loan amount reported here are based on the average customer of the OLA institutions involved in the survey. We note further that this sample, as constructed, is not a random sample of all consumers, nor is it a random sample of subprime borrowers.

Finally, the effect of the interest-rate cap on OLA survey respondents and subprime borrowers in the AFSA credit-bureau dataset is substantially identical. OLA survey respondents are selected from customers of online lenders who ceased operations in Illinois following the imposition of the interest-rate cap. Subprime borrowers in the credit-bureau dataset lost access to credit from their lenders in Illinois, as demonstrated in the following section.

Because we believe the OLA survey data is representative of subprime borrowers in the credit-bureau dataset, we examined the OLA survey data to understand the welfare effects on subprime borrowers of losing access to credit. Because prime borrowers are unrepresented or underrepresented in the OLA survey data, we do not make any claims about the welfare effects of the interest-rate cap on prime borrowers.

4. Statistical Results

5.1. Introducing Difference-in-Differences (DD) and Difference-in-Differences-in-Differences (DDD)

We use a difference-in-differences (DD) approach to estimate the effect of the 36 percent interest-rate cap on the number and average size of unsecured installment loans in Illinois. Difference-in-differences is an empirical technique for estimating the causal effect of some "treatment," which, in this paper, is the 36 percent interest-rate cap in Illinois. The assumption underlying the estimation of the causal effect of the interest-rate cap is that the number and average size of unsecured installment loans in Illinois *would have followed* the same trend as in Missouri if the 36 percent interest-rate cap had not been imposed. This assumption is known as the parallel trends assumption.

One simple approach to using difference-in-differences to estimate a causal effect is the case where there are two groups (a treated group and an untreated group) and two periods (a pre-treatment period and a post-treatment period). The total number of unsecured installment loans in Illinois (treated group) in the six months before the imposition of the 36 percent interest-rate cap (pre-treatment period)

was 225,398, and the average size of these loans was $6,312. In Missouri (untreated group), during the same time, the total number of unsecured installment loans was 193,120, with an average size of $4,660.

In the six months following the imposition of the rate cap (post-treatment period), the number of unsecured installment loans in Illinois was 259,260, an increase of 33,862 or 15 percent, and the average size was $8,374, an increase of $2,062 or 33 percent. In the same period, the number of loans in Missouri was 244,911, an increase of 51,791 or 27 percent, and the average size was $5,134, an increase of $474 or 10 percent. If we assume that the number and average size of unsecured installment loans would have changed by the same amount in Illinois as it did in Missouri in the absence of the rate cap, then the rate cap decreased the number of unsecured installment loans in Illinois by 17,930 (or by 6 percent) and increased the average size of unsecured installment loans in Illinois by $1,587 (or 23 percent). Figure 3 and Figure 4 illustrate the causal effects of the interest-rate cap in Illinois on the number and average size of unsecured installment loans and the importance of the parallel trends assumption to those estimates.

Borrowers with poor credit histories are subject to greater risk premiums and are, thus, more likely to be affected by the 36 percent interest-rate cap than borrowers with better credit histories. Therefore, we also use a difference-in-differences-in-differences (DDD) approach. DDD is an empirical technique for estimating the causal effect of some "treatment" where the causal effect might vary by group. The DDD estimate measures the causal effect of the interest-rate cap in Illinois on borrowers in each VantageScore® category separately. This approach allows us to examine whether borrowers with poor credit histories are more likely to lose access to unsecured installment credit than those borrowers with good credit histories, as predicted by the theoretical economic model.

A simple approach to using DDD to estimate a causal effect is to follow the previous DD approach for the three VantageScore® categories (prime, near-prime, and subprime) separately. The effects of the 36 percent interest-rate cap on the number of loans by VantageScore® are presented in Table 3. The VantageScore® categories include prime borrowers (650-850), near-prime borrowers (600-649), and

subprime borrowers (300-599). Illinois subprime borrowers lost 34,052 loans in the six months following the imposition of the interest-rate cap in Illinois, a 38 percent decrease.[9] Illinois prime borrowers gained 19,238 loans in the six months following the imposition of the interest-rate cap (a 16 percent increase). Illinois near-prime borrowers lost 3,115 loans in the same period (a 4 percent decrease).[10] Thus, the net change in the number of unsecured installment loans is -17,929, as expected, given the DD results presented previously.

Table 3 shows the estimated effect of the 36 percent interest-rate cap on average loan size by VantageScore® category. The average loan size for prime borrowers increased by $815 (a 7 percent increase). The average loan size for near-prime borrowers increased by $833 (a 19 percent increase). The average loan size for subprime borrowers increased by $730 (a 35 percent increase). The marginal effect of the 36 percent interest-rate cap on average loan size is similar across VantageScore® categories in dollar terms. However, the effects of the 36 percent interest-rate cap are heterogeneous for the average loan size in percentage terms.

Subprime borrowers received much smaller loans on average before the 36 percent rate cap imposition. Therefore, the percentage change in loan size for subprime borrowers is markedly higher than for prime borrowers. Therefore, the effect of the rate cap on the average loan size in percentage terms is also heterogeneous. Borrowers with subprime VantageScore® (i.e., below 600) experienced the largest increase in average loan size in percentage terms. Moreover, in terms of total dollars loaned, subprime borrowers lost $26.1 million in unsecured installment credit (or 14 percent) because the decrease in the

[9] A previous publicly available working version of this paper reported a decrease in loans to subprime borrowers of 44 percent, which is the percent change relative to preceding the imposition of the interest-rate cap rather than the estimated counterfactual.

[10] Deep subprime borrowers, those with VantageScores® below 500, are included in the Subprime borrower category. These borrowers lost 4693 loans, a 57 percent decrease.

number of unsecured installment loans offsets the increase in loan size. For both near-prime and prime borrowers, the total dollars loaned increased.[11]

The parallel trends assumption underlies these estimates of the causal effects by VantageScore® category. Specifically, the assumption is that if the interest-rate cap had not been imposed, Illinois's number and average size of unsecured installment loans *would have followed* the same trend as Missouri for borrowers in the same VantageScore® category.

No one knows *precisely* what would have happened to the number and average size of unsecured installment loans in Illinois if the 36 percent interest-rate cap had not been imposed. But we can test the parallel trends assumption by examining whether the number and average size of unsecured installment loans followed parallel trends in Illinois and Missouri *before* the imposition of the 36 percent interest-rate cap. Evidence that the number and average size of unsecured installment loans in Illinois and Missouri followed parallel trends *before* the imposition of the 36 percent interest-rate cap supports the assumption that they *would have followed* parallel trends if the interest-rate cap had not been imposed.

To observe parallel trends before the imposition of the interest-rate cap, however, we must use all quarters of available data rather than collapsing to a single pre- and post-rate cap period. We find evidence supporting the parallel trends assumption in the following sections, and we depict it visually in Figure 5 and Figure 6. We present the results of the formal test of the assumption in Table 6.

5.2. State-level, Quarterly Difference-in-Differences-in-Differences Analysis

Using two quarters of data before the interest-rate cap and two quarters following the interest-rate cap, we estimate the following difference-in-differences-in-differences regression equation. That is,

$$y_{ast} = \gamma_{st} + \lambda_{at} + \theta_{as} + \delta D_{ast} + \varepsilon_{ast} \quad (3)$$

[11] Borrowers with VantageScores® below 500, or deep subprime borrowers, lost $1.97 million in total credit, a 26 percent decrease.

where “a” indexes VantageScore® categories, “s” indexes states, and “t” indexes quarters. The regressor of interest, D_{ast}, represents VantageScore® categories in counties and quarters in Illinois where the 36 percent interest-rate cap is in effect.

The omitted quarter from the regression results is the fourth quarter of 2020, the first quarter of the pre-treatment period. Table 4 displays the estimated change in the number and average size of loans for each VantageScore® group relative to the fourth quarter of 2020. Prime borrowers gained 9,648 loans per quarter on average, which were roughly $960 larger on average. Near-prime borrowers lost 1,910 loans per quarter on average, which were roughly $1,003 larger on average. Subprime borrowers lost 16,886 loans per quarter on average, which were roughly $785 larger on average.[12]

Figure 5 displays the effects of the 36 percent interest-rate cap on the number of loans by VantageScore® category and quarter. The number of loans to prime borrowers increased in both quarters following the imposition of the cap. The number of loans to subprime borrowers decreased in the first quarter following the imposition of the interest rate cap and then appeared to return to its previous slope without recovering the number of loans lost. The number of loans to near-prime borrowers decreased slightly in the first quarter following the imposition of the interest rate cap, then returned to roughly equal the counterfactual number of loans by the second quarter after the imposition of the interest-rate cap.

Figure 6 displays the effects of the 36 percent interest-rate cap on the average size of loans by VantageScore® category and quarter. The average loan size increased across all VantageScore® categories, though subprime borrowers experienced the largest percentage increase, shown by the sharp upward climb in the first quarter following the imposition of the interest-rate cap.

[12] We calculate the quarterly average change in the number and average size of loans by taking the simple mean of the two post-treatment coefficients (i.e., Q2 2021 and Q3 2021) for each VantageScore® category.

Figure 5 and Figure 6 provide a great visual of the key assumption in the difference-in-differences-in-differences estimates: the parallel trends assumption. The trends for both the number of loans and the average size of loans for all VantageScore® categories visually follow parallel paths before the 36 percent interest-rate cap in Illinois at the end of the first quarter of 2021. Parallel trends before the imposition of the rate cap support the assumption that unsecured installment lending in Missouri serves as a reasonable counterfactual for what unsecured installment lending would have been in Illinois if the cap had not been imposed.

5.3. County-level, Quarterly Difference-in-Differences-in-Differences Analysis

Finally, we estimate the difference-in-differences-in-differences regression equation on the county-level quarterly data,

$$y_{iast} = \gamma_{st} + \lambda_{at} + \theta_{as} + \delta D_{ast} + X'_{iast}\beta + \varepsilon_{iast} \quad (4)$$

where *i* indexes counties, *a* indexes VantageScore® categories, *s* indexes states, and *t* indexes time in quarters. We estimate the effects of the 36 percent interest-rate cap in Illinois on the dependent variables (the number and average size of unsecured installment loans) both in absolute terms and in natural logs or percentage terms.

X'_{iast} is a vector of county-, state-, and time-varying covariates. The regressor of interest, D_{ast}, represents VantageScore® categories likely to be affected in counties and periods in Illinois where the 36 percent interest-rate cap is in effect. X'_{iast} is a vector of county-, state-, and time-varying covariates. County-specific controls include population, median household income, percent black, percent Hispanic, percent non-Hispanic White, and percent with a bachelor's degree or higher. We also control for state unemployment rates and per capita personal income.

Using county-level data allows us to estimate standard errors to determine if our estimates are statistically significant. We are primarily interested in two hypothesis tests using the standard errors

produced by the difference-in-differences-in-differences estimates: 1) whether the estimated effects of the interest-rate cap on prime borrowers is statistically different from the estimated effect on near-prime and subprime borrowers, and 2) whether the estimated effects of the interest-rate cap on prime, near-prime, and subprime borrowers are statistically different from zero. In other words, we care both about the relative impact of the interest-rate cap among VantageScore® categories and the absolute impact on each VantageScore® category. Table 5 displays the estimated change in the number and average size of loans by county for each VantageScore® group relative to the fourth quarter of 2020. Standard errors are clustered by county. Statistical significance in Table 5 is determined by testing the second hypothesis listed above – whether the estimated effects are statistically different from zero. We discuss the results of both hypothesis tests in the proceeding paragraphs.

The first column of Table 5 displays the estimates of the effect of the 36 percent interest-rate cap on the number of unsecured installment loans by VantageScore® category. The interest-rate cap increased the number of loans to prime borrowers by 210.23 loans per county in the second quarter of 2021 and 290.59 per county in the third quarter of 2021, or by 250 loans per county per quarter on average. This effect is not statistically different from zero.

The interest-rate cap decreased the number of loans to near-prime borrowers by 102.87 per county in the second quarter of 2021 and 61.21 per county in the third quarter of 2021, or by 82 per county per quarter on average. Again, this effect is not statistically different from zero. However, the effect on near-prime borrowers is statistically different from the effect on prime borrowers.[13] The 36 percent interest-rate cap decreased the number of unsecured installment loans to near-prime borrowers *relative to prime borrowers* by an average of 332 loans per county per quarter.

[13] Unless we explicitly state otherwise, statistical significance is not sensitive to the inclusion of exclusion of control variables, county fixed effects, or county random effects.

The interest-rate cap decreased the number of loans to subprime borrowers by 496.76 per county in the second quarter of 2021 and 538.18 per county in the third quarter of 2021, or by 517 per county per quarter on average. This effect is highly statistically significant. Moreover, the effect on subprime borrowers is statistically different from the effect on prime borrowers. The 36 percent interest-rate cap decreased the number of unsecured installment loans to subprime borrowers *relative to prime borrowers* by an average of 768 loans per county per quarter.

The second column of Table 5 displays the estimates of the effect of the 36 percent interest-rate cap on the number of unsecured installment loans by VantageScore® category *in percentage terms*. This estimate is produced by taking the natural log of the dependent variable and estimating the same regression equation. The 36 percent interest-rate cap decreased the number of unsecured installment loans by 48 percent for subprime borrowers and 21 percent for near-prime borrowers on average using the averages of the county and quarterly estimates displayed in the second column of Table 5.[14] Both estimates are statistically different from zero and statistically different from the estimated effect on prime borrowers, which is also approximately zero percent. Therefore, the 36 percent interest-rate cap significantly decreased the number of loans in percentage terms for subprime and near-prime borrowers.

The third column of Table 5 displays the estimates of the effect of the 36 percent interest-rate cap on the average size of unsecured installment loans by VantageScore® category. The interest-rate cap increased the average size of loans to prime borrowers by $1,108 in the second quarter of 2021 and $1,398 in the third quarter of 2021, or by $1,253 on average. The interest-rate cap increased the average size of loans to near-prime borrowers by $1,108 in the second quarter of 2021 and $1,398 in the third quarter of 2021, or by $1,253 on average. The interest-rate cap increased the average size of loans to subprime borrowers by $1,108 in the second quarter of 2021 and $1,398 in the third quarter of 2021, or by $1,253

[14] The percent change in each quarter is calculated as $100 \times \left(e^{\beta} - 1\right)$, where β is the estimate quarterly estimate presented in the second column of Table 5. We report the average quarterly percent change by taking the mean of the two quarterly estimates for each VantageScore® category.

on average. Each of these estimates is highly statistically significant. Though, the effect of the interest-rate cap on loan size for near-prime and subprime borrowers relative to prime is not statistically significant. So, the interest-rate cap increased loan sizes in absolute dollar terms by similar amounts regardless of VantageScore® category.

As we have highlighted, the effect of the interest-rate cap on loan size in percentage terms varies by VantageScore® category. The third column of Table 5 displays the estimates of the effect of the 36 percent interest-rate cap on the average size of unsecured installment loans by VantageScore® category *in percentage terms*. This estimate is produced by taking the natural log of the dependent variable and estimating the same regression equation. The 36 percent interest-rate cap increased average loan sizes by 12 percent for prime borrowers, 25 percent for near-prime borrowers, and 31 percent for subprime borrowers on average. Not only are these estimates statistically different from zero, but the effects on near-prime and subprime borrowers are statistically different from the effects on prime borrowers. Therefore, the 36 percent interest-rate cap had a statistically significant effect on average loan sizes for all VantageScore® categories in absolute terms and in relative terms.

The causal estimates depend on the validity of the underlying identification assumption: the parallel trends assumption. As shown in Figure 5 and Figure 6, the trends for unsecured installment lending in Illinois and Missouri for each VantageScore® category follow parallel paths prior to the imposition of the rate cap. Further, we present in Table 6 tests of the parallel trends assumption using regression. The estimates are triple difference estimates, like the ones shown in Table 5, except they are limited to only the pre-treatment period. We have two periods of pre-treatment data, the fourth quarter of 2020 and the first quarter of 2021. The statistically insignificant estimates for the interaction of Illinois, the first quarter of 2021, and the VantageScore® categories support the validity of the parallel trends assumption.

5. Examining the Welfare Effects of the 36 Percent All-In Rate Cap Using Survey Data

Imposing the all-in rate cap in Illinois reduced unsecured installment credit access to high-risk borrowers. For those who believe that borrowers are better off with more credit options rather than fewer, the loss of credit access implies that borrowers' welfare decreased because of the rate cap. Perhaps for some rate cap advocates, reduced credit access is the desired outcome because borrowers, in their opinion, are incapable of discerning the dangers of these credit products. For example, the Department of Defense, in support of the interest-rate cap imposed by the Military Lending Act in 2006 (the act which inspired Illinois' Predatory Loan Prevention Act), asserts, without factual support, that "predatory lenders seek out young and financially inexperienced borrowers" and make loans based "not on the borrower's ability to repay" and that education is not sufficient to protect service members from the practices of predatory lenders (Department of Defense 2006, p. 9).

We report evidence in Bolen et al. (2020) that most small-dollar credit users understand the product, accurately predict their own repayment behavior, and report satisfaction with their experiences with these products. Nevertheless, to address these arguments as they relate to the interest-rate cap in Illinois, we use the OLA survey results to examine how the loss of credit access due to the interest-rate cap affected borrowers' self-reported welfare. The OLA provided the raw data from the survey to us so that we could calculate and summarize the results presented. We present our tabled results of the survey in Table B2 of Appendix B and discuss the highlights herein. Table B2 summarizes survey responses by race, ethnicity, and gender. As mentioned previously, most survey responses are from racial/ethnic minorities and female borrowers.

Roughly half of all survey respondents indicate that they are not confident that they can receive a personal loan from their bank at any time. The most common reason for obtaining a personal loan is to pay utilities, followed by debt consolidation, car payment/car repair, and rent/mortgage. Non-white respondents and low-income respondents are more likely to use unsecured installment credit for utility

payments and less likely to use unsecured installment credit for debt consolidation relative to non-Hispanic white and high-income respondents, respectively. Of the 699 survey respondents, 93 percent indicate that their loan helped them manage their financial situation at the time of the loan, including 95 percent of non-white borrowers and 97 percent of borrowers with personal incomes below $50,000 annually.

When asked how their financial well-being had been impacted since their previous lender stopped offering loans in Illinois, 39 percent of the respondents replied that their financial well-being had declined. Respondents with incomes below $50,000 annually were more likely to respond that their overall financial well-being had declined relative to higher-income respondents (49 percent vs. 32 percent). Only 11 percent of respondents replied that their financial well-being had improved.

Further, 79 percent of the respondents indicated that they would like the option to return to their previous lender if they had a funding need, including 88 percent of borrowers with personal incomes below $50,000 annually, compared to 73 percent of higher-income borrowers. Nearly three-fourths of the respondents said that they could not pay one or more bills at least once since March 2021, including 77 percent of borrowers with personal incomes below $50,000 annually, compared to 57 percent of higher-income borrowers. Nearly 60 percent of borrowers report that they have been unable to borrow money when they needed it since March 2021.

When asked to select all situations that occurred because they could not borrow money from a lender, the most common response (49 percent) was, “I paid bills late and generated fees.” Roughly 30 percent of the respondents reported they had borrowed money from family and friends, were contacted by a debt collector, and cut back on everyday expenses. Between 9 to 14 percent of respondents report pawning personal possessions, borrowing money from disreputable sources, skipping urgent appointments or expenses, losing utility services, and children being impacted. Other less common

responses include missing work, experiencing repossession of their vehicle, being in an unsafe situation, losing access to their checking account, facing legal action for bounced checks, and eviction.[15]

Racial and ethnic minorities are more likely to report utilities being turned off than non-Hispanic white respondents (16 percent vs. 5 percent). This result is consistent with the data reported previously that racial and ethnic minorities are more likely to use unsecured installment credit for utility payments relative to non-Hispanic white respondents (21 percent vs. 13 percent). Racial and ethnic minorities are twice as likely to report missing work due to lost credit access. Female respondents are twice as likely to report children being adversely impacted due to lost access to their previous lender than male respondents (14 percent vs. 7 percent). Respondents with incomes below $50,000 annually are more likely to report borrowing money from friends and family than higher-income respondents (40 percent compared to 21 percent).

These survey responses are consistent with other surveys of unsecured installment loan borrowers. Unsecured installment loan users in the OLA survey data are like users of other small-dollar consumer credit in their heightened perception of credit rationing relative to individuals who do not use these credit products. The 2015 National Financial Capability Study found that users of small-dollar credit products are five-to-seven times more likely to not apply for credit for fear of rejection. In a survey by Durkin (1975), most respondents of unsecured installment borrowers in Texas also experienced or perceived credit rationing from other credit sources.

Consistent with OLA survey responses, Durkin (1975) found that 85 percent of unsecured installment borrowers said their loan was worth it. A survey by Levy and Sledge (2012) finds that 60 percent of unsecured installment borrowers reported satisfaction with the credit product, while fewer than 10 percent reported dissatisfaction. Levy and Sledge (2012) found that 45 percent of installment loan

[15] It is also possible that the inability to small-dollar, convenient credit options might cause would-be borrowers to resort to criminal activity to obtain needed funds (see Barth et al. 2020).

users would use the product again without hesitation, and 39 percent would "maybe" use the product again "if I have no better options." Fourteen percent reported they would not use the credit product again.

Common reasons for using unsecured installment credit in Durkin (1975) include paying bills, consolidating debts, and paying medical expenses. These responses are consistent with OLA survey responses, where borrowers indicate that without access to unsecured installment credit they paid bills late, were contacted by debt collectors, and skipped urgent appointments.

Overall, the evidence from the OLA survey, which, as we have shown, is consistent with other surveys of unsecured installment loan borrowers, suggests that the interest-rate cap harmed many Illinoisians who lost access to credit. Financial well-being declined when consumers experienced credit rationing.

6. Conclusion

Using credit bureau data, we find that in the six months following the imposition of the 36 percent all-in rate cap in Illinois, the cap decreased the number of unsecured installment loans to subprime borrowers by 34,052 loans (38 percent) and increased the number of unsecured installment loans in Illinois to prime borrowers by 19,238 loans (16 percent). The cap decreased the number of unsecured installment loans in Illinois by 17,930, or 6 percent.

The cap increased the average loan size, measured in dollars, by similar amounts across all borrowers. Because subprime borrowers receive much smaller loans, on average, before the imposition of the 36 percent rate cap, the percentage change in loan size for subprime borrowers is markedly greater than for prime borrowers. The cap increased the average loan size for subprime borrowers in Illinois by about 35 percent following the imposition of the all-in rate cap, compared to only a 7 percent increase in the average loan size for prime borrowers.

We examine the welfare effects of the loss of credit access for subprime borrowers using the results of an online survey of borrowers in Illinois. These borrowers were known users of short-term, small-dollar credit in Illinois whose previous lenders no longer operate there following the imposition of the 2021 Predatory Loan Prevention Act. These borrowers answer that their financial well-being declined because of the rate cap.

Most respondents report being unable to borrow money (presumably from any source) when needed and were unable to pay one or more bills since March 2021. Nearly 80 percent of respondents answered that they would like the option to return to their previous lender, and more than 90 percent indicated their previous loan had helped them manage their financial situation at the time of the loan. Thus, one could conclude that the Illinois all-in rate cap of 36 percent worsened the financial well-being of many consumers.

Our findings are consistent with both a public interest and a public choice explanation for the popularity of interest-rate caps among policymakers. We find that prime borrowers benefit from additional credit after the interest-rate cap. Prime borrowers might act as an interest group creating the political demand for interest-rate regulation consistent with the public-choice explanation. We also find that subprime borrowers lose credit access and experience worsened financial conditions after the interest-rate cap. Both the loss of credit access and the worsened financial condition could be unintended consequences for policymakers motivated by the public interest.

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Figure 1: Number of Unsecured Installment Loans in Illinois by Lender Type and VantageScore® Range for the Six Months before the Interest Rate Cap

Notes. Subprime includes VantageScores® 300-599. Near-prime includes VantageScores® 600-649. Prime includes VantageScores® 650-850.

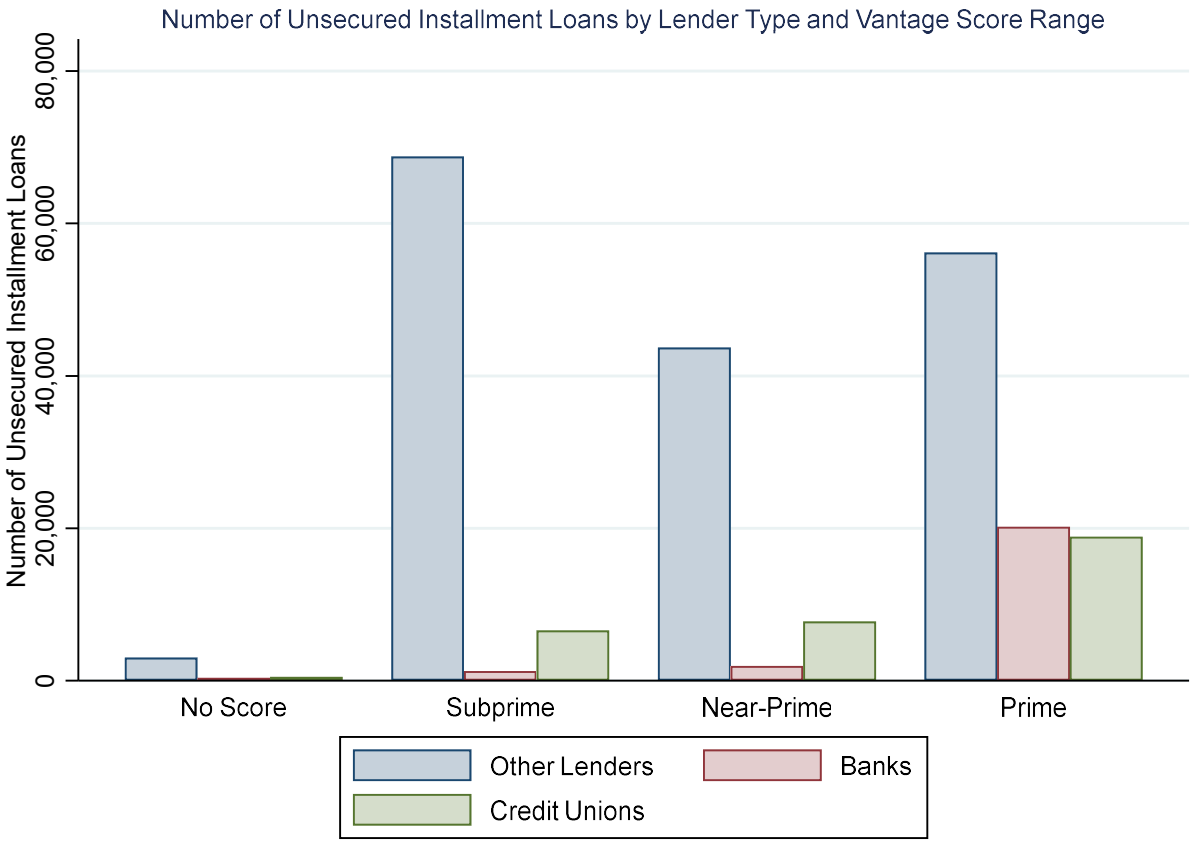


Figure 2: Average Size of Unsecured Installment Loans in Illinois by Lender Type and VantageScore® Range for the Six Months before the Interest Rate Cap

Notes. Subprime includes VantageScores® 300-599. Near-prime includes VantageScores® 600-649. Prime includes VantageScores® 650-850.

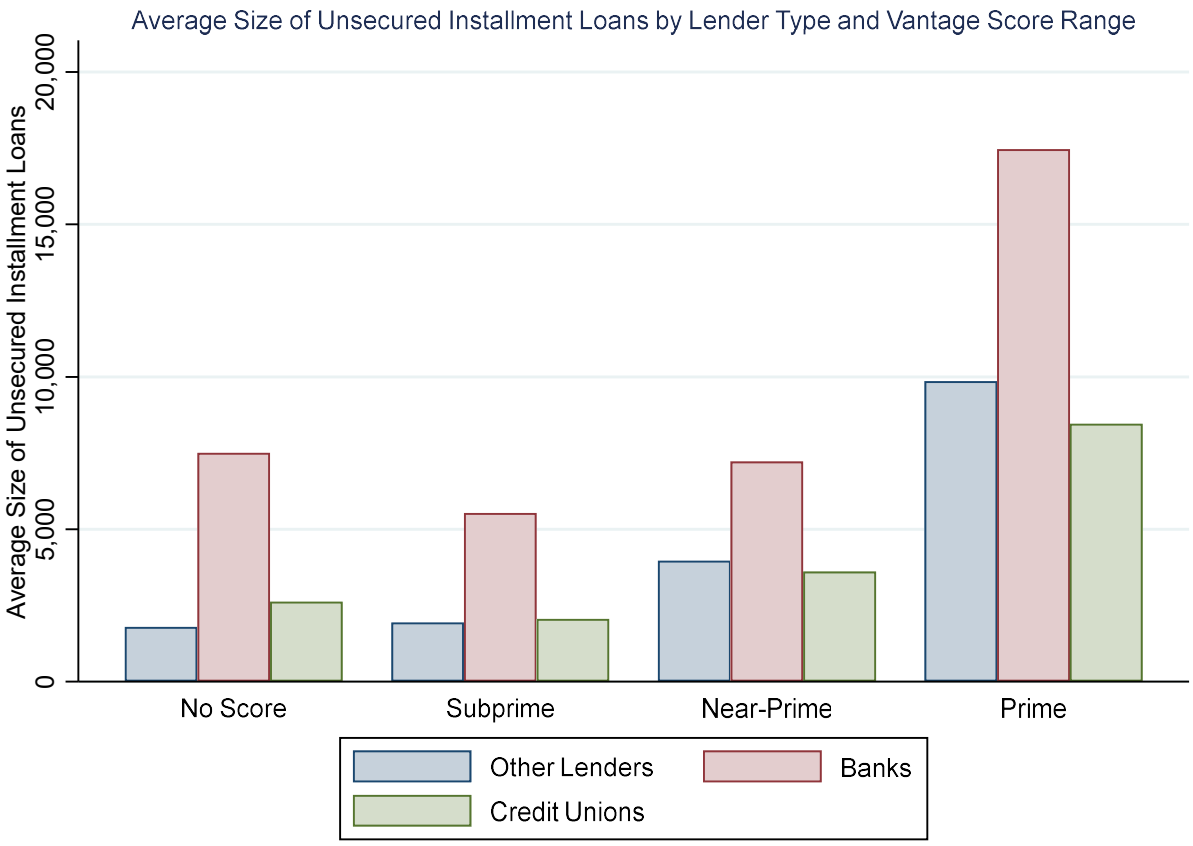
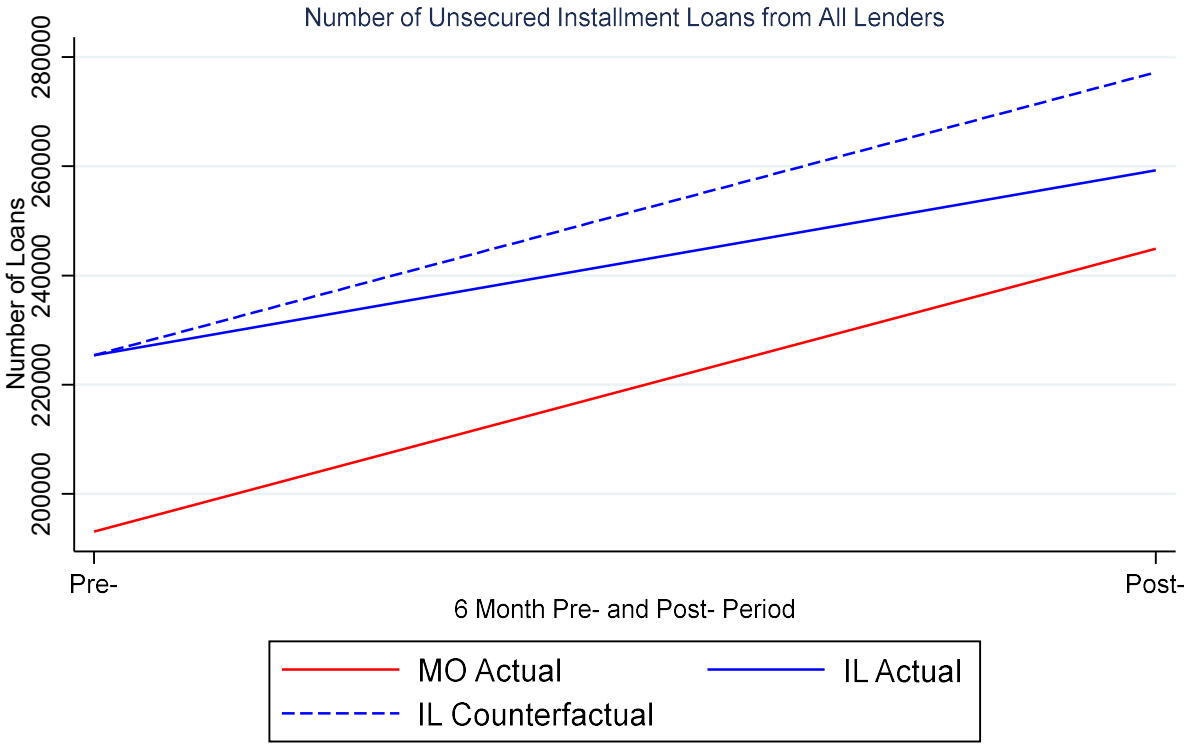


Figure 3: Number of Unsecured Installment Loans, All Lenders, Actual and Counterfactual

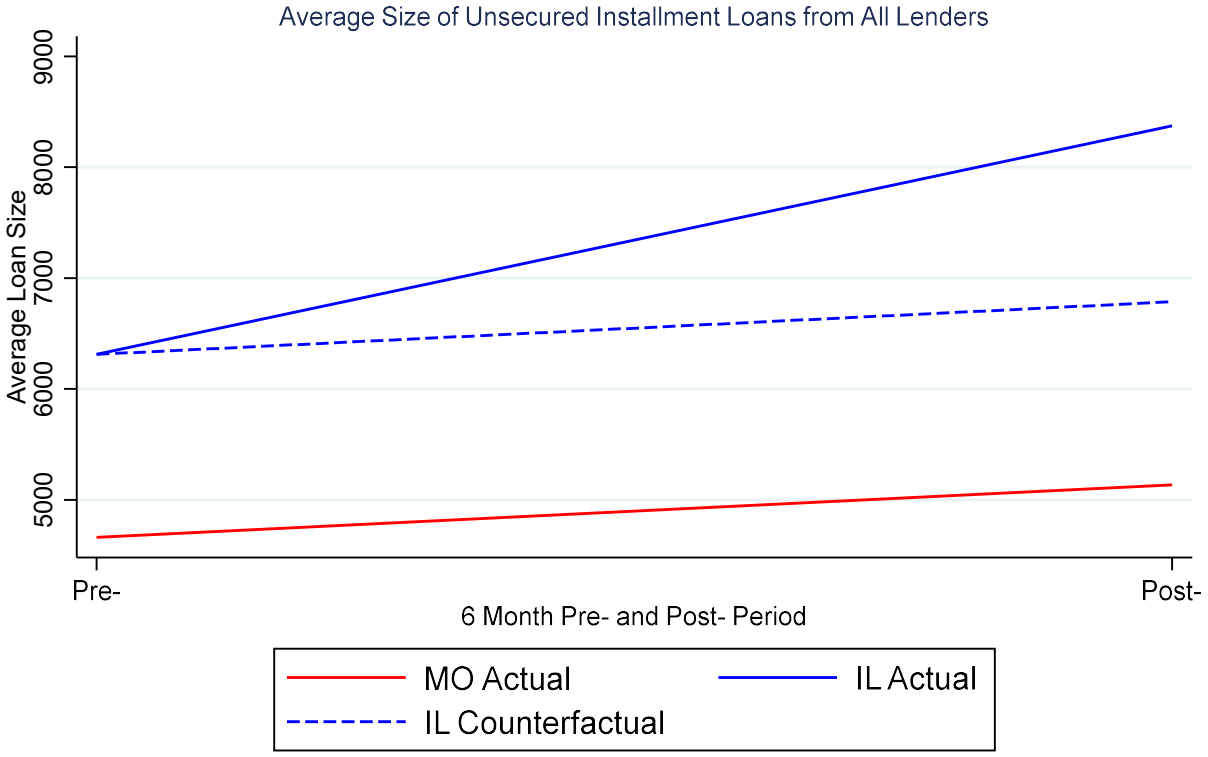
Notes. Data is one pre-treatment total for Illinois and Missouri and one post-treatment total for Illinois and Missouri. The pre-treatment period is the six months before the 36 percent interest-rate cap in Illinois. The post-treatment period is the six months after the rate cap.



Note: Illinois counterfactual created under the assumption that the unsecured installment lending total would have increased by the same amount in IL as it did in MO in the absence of the 36% rate cap in IL.

Figure 4: Average Size of Unsecured Installment Loans, All Lenders, Actual and Counterfactual

Notes. Data is one pre-treatment total for Illinois and Missouri and one post-treatment total for Illinois and Missouri. The pre-treatment period is the six months before the 36 percent interest-rate cap in Illinois. The post-treatment period is the six months after the rate cap.



Note: Illinois counterfactual created under the assumption that the unsecured installment loan size would have increased by the same amount in IL as it did in MO in the absence of the 36% rate cap in IL.

Figure 5: Number of Unsecured Installment Loans

Notes. Data include two pre-treatment, quarterly totals for Illinois and Missouri and two post-treatment, quarterly totals for Illinois and Missouri from all lenders. The Illinois rate cap was enacted near the end of the first quarter 2021.

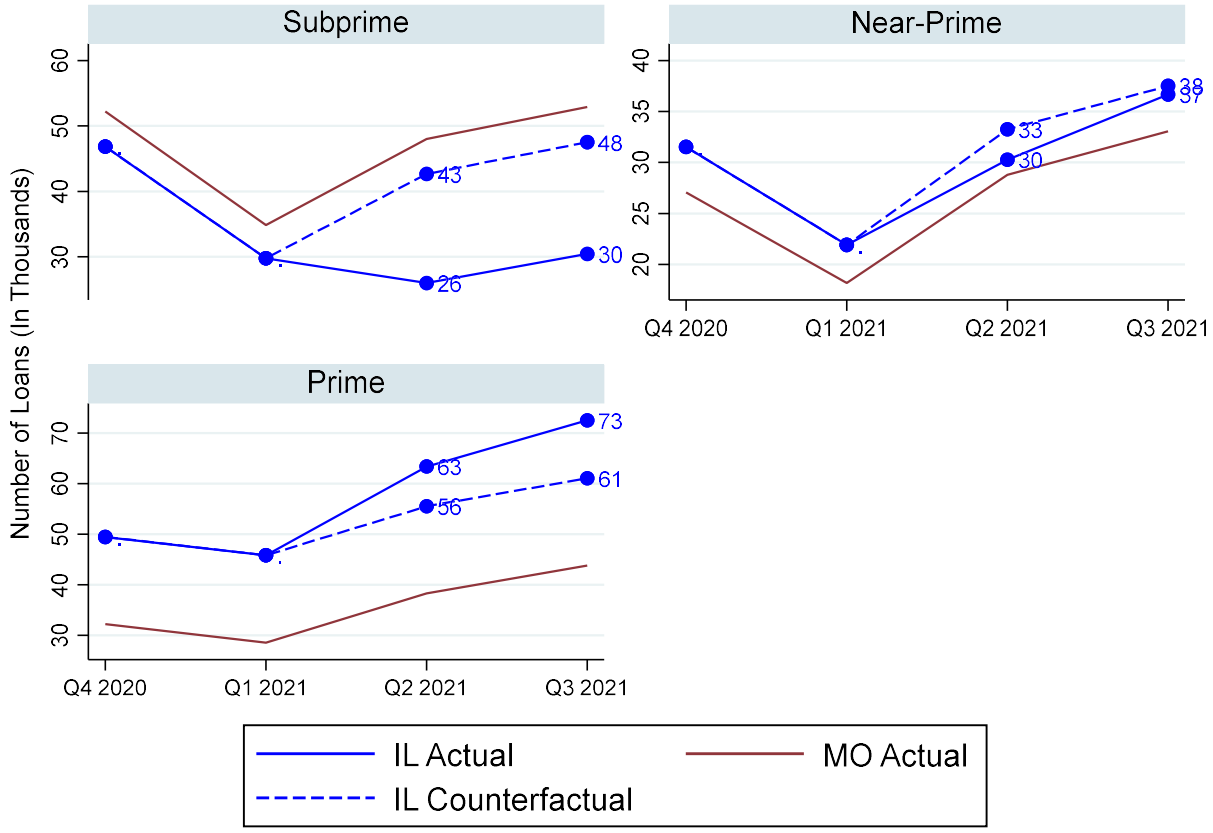


Figure 6: Average Size of Unsecured Installment Loans

Notes. Data include two pre-treatment, quarterly totals for Illinois and Missouri and two post-treatment, quarterly totals for Illinois and Missouri from all lenders. The rate cap was enacted in Illinois near the end of the first quarter 2021.

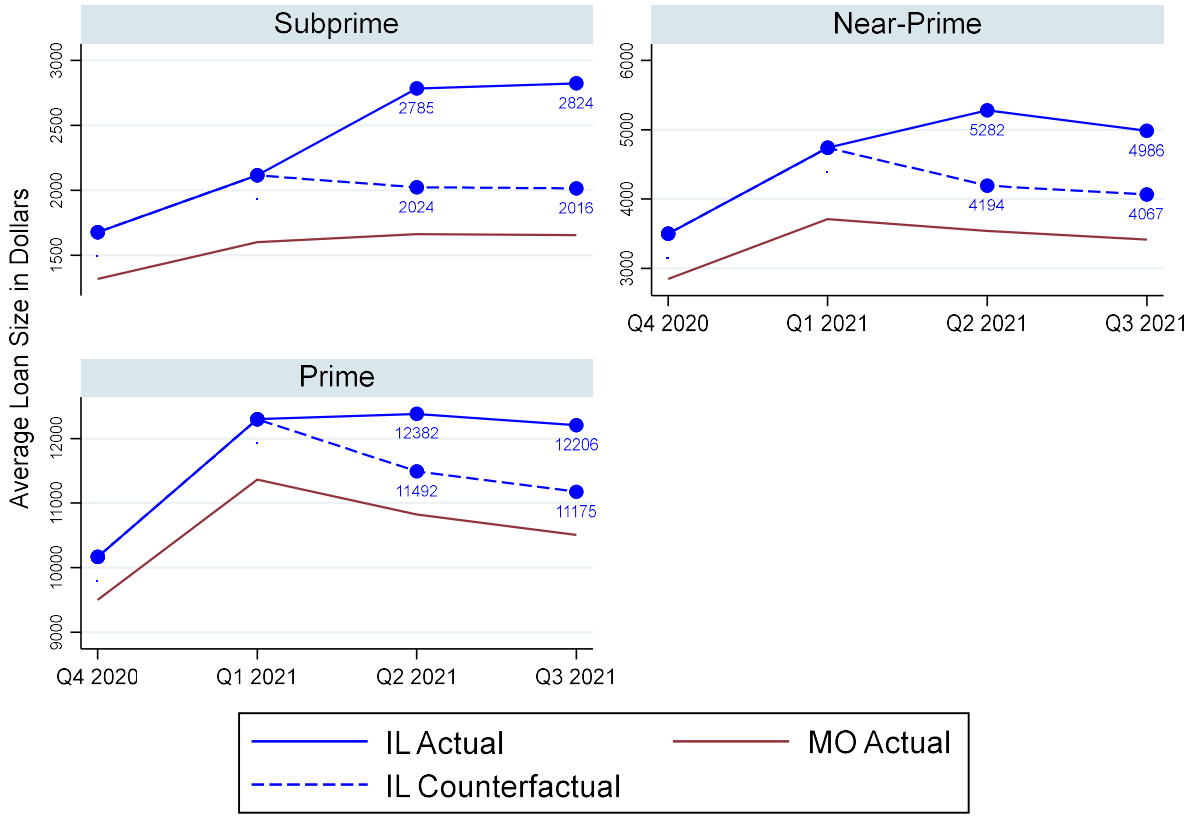


Table 1: Unsecured Installment Lending by Lender Type and VantageScore® in Illinois in the Six Months Pre- and Post- 36 Percent Interest-Rate Cap

Lender Type	Number of Unsecured Installment Loans Pre-36% Cap	Number of Unsecured Installment Loans Post-36% Cap
Subprime (all lenders)	76,644	56,418
Banks	1,279	3,025
Credit Unions	6,582	5,407
Other Lenders	68,783	47,986
Near-prime (all lenders)	53,439	66,955
Banks	1,920	3,562
Credit Unions	7,786	7,566
Other Lenders	43,733	55,827
Prime (all lenders)	95,315	135,888
Banks	20,204	29,490
Credit Unions	18,904	21,783
Other Lenders	56,207	84,615

Lender Type	Avg. Size, in $, of Unsecured Installment Loans Pre-36% Cap	Avg. Size, in $, of Unsecured Installment Loans Post-36% Cap
Subprime (all lenders)	1,848	2,806
Banks	5,532	2,508
Credit Unions	2,061	2,322
Other Lenders	1,940	2,938
Near-prime (all lenders)	4,009	5,120
Banks	7,226	5,604
Credit Unions	3,613	4,268
Other Lenders	3,966	5,204
Prime (all lenders)	11,193	12,288
Banks	17,471	16,819
Credit Unions	8,463	9,387
Other Lenders	9,854	11,456

Table 2: 2x2 Difference-in-differences Results

Notes. Data include a single pre-treatment total for Illinois and Missouri and a single post-treatment total for Illinois and Missouri from all lenders. The pre-treatment period is the six months before the 36 percent interest-rate cap in Illinois. The post-treatment period is the six months following the rate cap.

Dependent Variables:	Number of Unsecured Installment Loans from All Lenders	Avg. Size of Unsecured Installment Loans from All Lenders
Illinois	32,279	1,652
Treatment Period	51,792	474
Illinois × Treatment Period	-17,930	1,587

Table 3: 2x2 Difference-in-differences-in-differences

Notes. Data include a single pre-treatment total for three VantageScore® categories (prime, near-prime, and subprime) for Illinois and Missouri and a single post-treatment total for three VantageScore® categories (prime, near-prime, and subprime) for Illinois and Missouri from all lenders. The pre-treatment period is the six months before the 36 percent interest-rate cap in Illinois. The post-treatment period is the six months following the rate cap.

Dependent Variables:	Number of Unsecured Installment Loans from All Lenders	Avg. Size of Unsecured Installment Loans from All Lenders
Illinois × Treatment Period × Prime	19,238	815
Illinois × Treatment Period × Near-prime	-3,115	833
Illinois × Treatment Period × Subprime	-34,052	730

Table 4: State-level, Quarterly Difference-in-differences-in-differences

Notes. Data include two quarterly pre-treatment totals for three VantageScore® categories (prime, near-prime, and subprime) for Illinois and Missouri and two quarterly post-treatment totals for three VantageScore® categories (prime, near-prime, and subprime) for Illinois and Missouri from all lenders. The rate cap was enacted in Illinois near the end of the first quarter 2021. Regression results are fully saturated and, thus, produce no estimates of variance. The omitted quarter is the fourth quarter of 2020.

Dependent Variables:	Number of Unsecured Installment Loans from All Lenders	Avg. Size of Unsecured Installment Loans from All Lenders
Illinois × Q2 2021 × Prime	7,850	891
Illinois × Q2 2021 × Near-prime	-2,972	1,088
Illinois × Q2 2021 × Subprime	-16,674	761
Illinois × Q3 2021 × Prime	11,446	1,031
Illinois × Q3 2021 × Near-prime	-848	919
Illinois × Q3 2021 × Subprime	-17,098	809

Table 5: County-level and Quarterly Difference-in-differences-in-differences Results

Notes. The pre-treatment period includes the two quarters before the 36 percent interest-rate cap in Illinois. The post-treatment period includes the two quarters following the rate cap. The rate cap was enacted in Illinois near the end of the first quarter 2021. Standard errors are clustered by county.

Dependent Variables:	Number of Unsecured Installment Loans from All Lenders	Natural Log of Number of Unsecured Installment Loans from All Lenders	Avg. Size of Unsecured Installment Loans from All Lenders	Natural Log of Avg. Size of Unsecured Installment Loans from All Lenders
Illinois × Q2 2021 × Prime	210	0.00	1,108***	0.10***
Illinois × Q2 2021 × Near-prime	-103	-0.26***	1,193***	0.26***
Illinois × Q2 2021 × Subprime	-497***	-0.69***	813***	0.32***
Illinois × Q3 2021 × Prime	291	0.00	1,398***	0.14***
Illinois × Q3 2021 × Near-prime	-61	-0.21***	1,008***	0.23**
Illinois × Q3 2021 × Subprime	-538***	-0.61***	774***	0.30***

Table 6: Testing the Parallel Trends Assumption Using Regression

Notes. Credit Bureau data for Missouri and Illinois. Regression estimates for the interaction of an Illinois indicator, VantageScore® categories, and time measured in quarters before the 36 percent interest-rate cap in Illinois. Statistically insignificant results support the parallel trends assumption.

Dependent Variables:	Number of Unsecured Installment Loans from All Lenders	Avg. Size of Unsecured Installment Loans from All Lenders
Illinois × Q1 2021	23.12	292.15
Illinois × Q1 2021 × Near-prime	6.39	-109.53
Illinois × Q1 2021 × Subprime	86.09	115.46