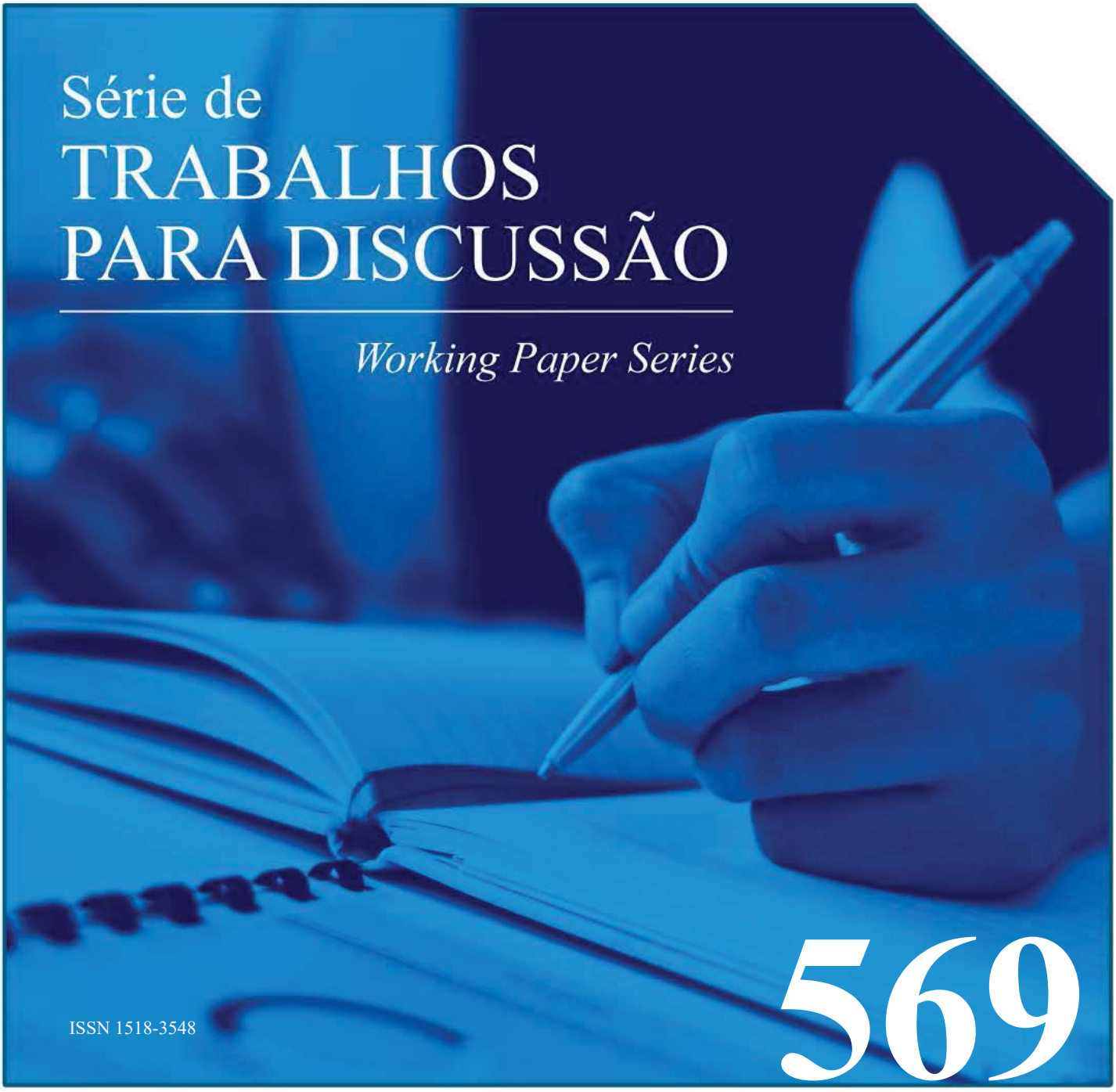

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Creditor Rights and Bank Competition

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Non-Technical Summary

Governments around the world have been implementing policies to improve creditor protection and expand the options of collateralizable assets with the primary objective of increasing access to the credit market by individuals and firms. There is extensive empirical evidence that these reforms have led to a more developed credit market and improved access to credit, especially for poorer borrowers, as initially intended. However, we are still trying to understand how these reforms affect banks differently according to characteristics such as market power, size, and capitalization. This paper focuses on an additional channel through which creditor rights might also affect financial markets: the bank competition channel.

This paper exploits the bankruptcy reform of 2005 as a quasi-natural experiment. This reform substantially enhanced the recovery of secured creditors, i.e., those with outstanding loans with a real asset guarantee. This was done in two ways. First, the goal of the new bankruptcy code was to recover the firm, as opposed to simply liquidating its assets and ceasing operations. This significantly increased the value of companies that had filed for bankruptcy. Second, it improved the repayment priority of secured creditors. Before 2005, secured creditors would only be paid after labor and government claims. After the reform, they became second on the list of priorities behind labor claims. Our empirical strategy compares lending in municipalities with high versus low court efficiency. In areas where courts are efficient, reforms would become effective rapidly. In contrast, in regions where courts are slow, any changes brought forth by the reform would take too long to materialize.

We show that while the reform had the desired effect of increasing credit in areas with strong courts as opposed to those with weak courts, this effect is concentrated in banks with less local market power. In fact, the increase in credit is entirely concentrated in banks that were not local credit leaders. Banks that are local leaders do not increase credit and, if anything, decrease credit in areas with strong courts. Besides increasing credit availability to the average borrower, this reform had the effect of decreasing bank concentration, potentially increasing bank competition.

When we investigate the reasons for this finding, we point out to the reform alleviating the informational asymmetry problem. Stronger collateral may decrease the market power of lenders over borrowers in existing relationships. Smaller or entrant banks might increase their lending when they know they can recover the collateral quickly in case of bankruptcy. We confirm this hypothesis by finding that the credit of banks with low local market power increases the most for smaller and younger firms. Since obtaining information on these firms is harder, it is likely the stronger collateral will have the strongest effect on improving credit for those firms.

Overall, our results show stronger creditor protection might have an additional outcome of improving bank competition. While credit seems to increase to the average borrower, especially smaller and younger borrowers, this effect is mainly concentrated in banks with lower market power. Regulators and policymakers should be aware of this possible additional effect of these policies.

Sumário Não Técnico

Governos de todo o mundo vêm implementando políticas para melhorar a proteção ao credor e expandir as opções de ativos reais para serem usados como garantia. O objetivo principal é aumentar o acesso ao mercado de crédito. Há ampla evidência empírica de que essas reformas levaram a um melhor acesso ao crédito, especialmente para os tomadores mais pobres de empréstimos. No entanto, ainda estamos tentando entender como essas reformas afetam os bancos diferentemente e de acordo com características como poder de mercado, tamanho e capitalização. Dessa forma, este artigo se concentra em um canal adicional através do qual os direitos dos credores também podem afetar os mercados financeiros: o canal de concorrência bancária.

Este artigo explora a Lei da Falência de 2005 como um experimento quase natural. Essa reforma aprimorou significativamente a recuperação de credores com garantia real, ou seja, aqueles empréstimos com garantia real de ativos. Isso foi feito de duas maneiras. Primeiro, o objetivo do novo código de falências era recuperar a empresa e não mais apenas liquidar seu acesso e encerrar suas operações. Segundo, melhorou a prioridade de reembolso dos credores garantidos. Antes de 2005, os credores garantidos só seriam pagos após as dívidas trabalhista e governamental. Após a reforma, os creditos garantidos ficaram em segundo lugar na lista de prioridades, atrás apenas da dívida trabalhista. Nossa estratégia empírica se concentra em comparar empréstimos em municípios com alta e baixa eficiência judicial. Em áreas onde as varas judiciais são eficientes, as reformas se tornariam rapidamente efetivas, enquanto em lugares com varas de justiça morosas, quaisquer mudanças trazidas pela reforma levariam muito tempo para se materializar.

Mostramos que, embora a reforma tenha de fato o efeito desejado de aumentar o crédito em áreas com varas de justiça eficiente versus ineficientes, esse efeito está concentrado em bancos com menor poder de mercado local. De fato, o aumento do crédito está totalmente concentrado em bancos que não são líderes locais em termos de crédito. Bancos que são líderes locais não aumentam o crédito e até parecem reduzir o crédito em áreas com justiça forte. Logo, além de aumentar a disponibilidade de crédito para o tomador de empréstimo médio, essa reforma teve o efeito de diminuir a concentração bancária e, potencialmente, aumentar a concorrência bancária.

Quando investigamos as razões para esse resultado, apontamos para a reforma aliviando o problema da assimetria informacional. Garantias mais fortes podem diminuir o poder de mercado dos credores sobre os devedores. Bancos menores podem emprestar mais quando sabem que podem recuperar a garantia rapidamente em caso de falência. Confirmamos essa hipótese ao constatar que o crédito de bancos com baixo poder de mercado local aumenta mais para empresas menores e mais jovens. Como obter informações sobre essas empresas é mais difícil, é provável que as garantias mais fortes aumentem o crédito especialmente para essas empresas.

No geral, nossos resultados mostram que uma proteção mais forte ao credor pode também melhorar a concorrência bancária. Embora o crédito aumente para o tomador médio, esse efeito está particularmente concentrado em bancos com menor poder de mercado. Reguladores e formuladores de políticas devem estar cientes do possível efeito adicional dessas políticas.

Creditor Rights and Bank Competition*

Dimas Mateus Fazio** Thiago Christiano Silva***

Abstract

This paper examines if and how creditor rights reforms affect banking market competition. By decreasing the expected loss given default of creditors, policies aimed at improving creditor protection may also change the banking market structure. We study a Brazilian bankruptcy reform in 2005 that improved the recoverability of secured creditors in bankruptcy proceedings. We find that local banking concentration decreases in Brazilian municipalities that were more affected by the reform. This result is explained by non-leader banks gaining market share over local leader banks due to the reform. These results are robust to controlling for financial constraints variables. Furthermore, consistent with stronger collateral value reducing information asymmetry, more opaque firms benefit the most from the reform. Overall, our results highlight the role of creditor rights reforms in breaking the information monopoly of incumbent banks.

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1 Introduction

Effective creditor protection plays an essential role in promoting economic development (La-Porta et al., 1997, 1998; Levine, 1998, 1999). Governments worldwide have been implementing reforms to improve the recovery rate of creditors by, for instance, improving the speed of repossession of assets given as a guarantee of these loans. There is substantial empirical evidence that supports the positive effects of creditor rights on credit availability.[1] This evidence is consistent with a *collateral recoverability channel*: banks and investors are willing to supply more credit to borrowers when it is easier and quicker for collateral to be repossessed in case of default.

This paper focuses on an additional channel through which creditor rights might also affect financial markets: the *bank competition channel*. While we have extensive evidence on the effects of strengthening creditor rights on the supply of credit to borrowers by an average creditor, we still do not know much about the heterogeneous effects of these policies on different banks and other creditors. As a result, this paper asks whether some creditors benefit more from stronger creditor rights than others, and if so, what are the implications of this differential treatment to banking market structure and competition.

There might be many channels to explain why more substantial creditor rights may benefit some banks more than others. First, stronger collateral may decrease the market power of lenders over borrowers in existing relationships. Since collateral can mitigate information asymmetry problems between banks and borrowers in credit relationships (Besanko and Thakor, 1987a,b; Berger and Udell, 1995; Jimenez et al., 2006), smaller or entrant banks might increase their lending when they know they can recover the collateral quickly in case of bankruptcy. In other words, borrowers might have a higher number of potentially favorable financing options from other banks, therefore increasing competition. A second channel states the opposite: incumbent banks might initially offer better loan terms if borrowers post collateral in their future loans. This way, these banks can guarantee that they still have market power over their borrowers. This would prevent borrowers from posting collateral in loans from alternative lenders and, thus, it would imply a decrease in bank competition after a collateral reform. Third, there may be a reduction in the riskiness of banks' credit portfolios when collateral is strengthened. This, in turn, may reduce the bank's risk-weighted assets, alleviating banks' financial constraints and allowing them to lend more after collateral value increases.[2]

[1] Some notable examples include Vig (2013) and Lilienfeld-Toal et al. (2012).

[2] See, for instance, Degryse et al. (2021) which show that an increase in bank regulatory capital led to an increase in

There are also clear empirical challenges in tackling this question. The first one is data-related: one needs to observe data on bank lending at a granular level to identify how lending across different banks is affected by changes in creditor rights. A second challenge is related to endogeneity: changes in creditor protection and credit availability are usually simultaneously determined, and it would not be easy to disentangle the causal effect of the former on the latter. Finally, one needs to develop a counterfactual to answer how bank credit and competition would evolve in the absence of the reform. The fact that changes in creditor rights usually affect the entire country makes this job hard.

We propose to overcome these challenges as follows. First, we have access to Credit Registry data from the Central Bank of Brazil (BCB). The universe of banks operating in Brazil must report to the BCB all credit contracts that exceed a certain threshold, set to BRL 5000.[3] Such data allow us to observe loan-level contract information, such as the bank originating the loan, the borrower, and loan terms – interest rates, spreads, loan amounts, and other loan contract characteristics for the universe of Brazilian banks' credit contracts above the minimum threshold. The richness of this data allows us to make meaningful inferences and exploit several outcomes of changes in creditor rights on banks' behavior.

Second, to address the concern of endogeneity, we analyze an exogenous change in regulation that improved creditor rights in Brazil. For this purpose, Brazil presents itself as an ideal laboratory since the government enacted a bankruptcy reform in 2005 that significantly improved the recovery of secured creditors in corporate bankruptcies. This reform promoted two main changes to bankruptcy proceedings in Brazil. First, it made it easier for firms to be sold as a going concern. Second, it improved the ranking of secured creditors in the repayment priority list. Before 2005, secured creditors would only be paid after labor and government claims. After the reform, they became second on the priority list, behind labor claims, which were also subject to a limit for their claims.[4] According to the World Bank Doing Business report, after the 2005 reform, the expected recovery rate in Brazil increased from basically zero to 15 cents on the dollar.

The empirical strategy takes advantage of cross-municipality variation in the quality of courts. While this reform improved the recovery rate of creditors, it would be more effective in areas where courts are

bank's supply of secured loans, as a result of a change in regulation. This is because secured loans require less regulatory capital, making it easier for banks to satisfy the requirement.

[3]Equivalent to USD 1000, considering the exchange rate at the end of 2005.

[4]This reform was enacted in 2005 and was already analyzed by Ponticelli and Alencar (2016) and Fonseca and Van Doornik (2021), who focused on the effects on borrowers. We intend to shift this focus towards the effects of creditor rights on creditors and, more specifically, on their competition.

more able to enforce and settle bankruptcy cases efficiently. In areas where courts are slow, even if the reform improves the recovery rate, the inefficient execution diminishes the benefits of the reform due to low *de facto* rights. In line with this strategy, we collect information on local court congestion from the National Justice Council in Brazil. This variable is measured as the number of backlog cases divided by the number of judges in each municipality. We then compare bank credit outcomes in municipalities with low vs. high court congestion before and after the law in a difference-in-differences setting. As long as bank outcomes across municipalities would follow the same trend in the absence of the reform, we can alleviate the concern of endogeneity and infer meaningful claims from this analysis.

This paper first finds banks increase credit as a result of stronger creditor protection. In areas that are known to have more efficient courts, there is a higher increase in bank loan origination after the passage of the bankruptcy reform. A one-standard-deviation lower court congestion is related to an increase of 0.9% to 1.7% in secured credit after the reform. Overall, the reform had a positive effect on bank credit, consistent with most of the empirical evidence on creditor rights.

In addition to this average effect, we are also interested if banks reacted differently to the reform. We find the treatment effect of the bankruptcy reform is greater for banks with a lower local market share. Secured credit by the local leader banks does not increase in municipalities with more efficient courts after the reform. The increase in credit is entirely concentrated in local non-leader banks. A one-standard-deviation lower court congestion leads to a 1.1% to 1.7% increase in credit by non-local leader banks, while the effect for leader banks ranges from a drop of 0.7% to an increase of 0.62%, all statistically insignificant. A direct consequence of this heterogeneity in results is that local concentration decreases in municipalities with low court congestion. Local credit Herfindahl-Hirschmann Index (HHI) drops after the reform in low vs. high court congestion municipalities.

Next, we investigate the reasons behind why bank competition might be increasing. First, when collateral becomes stronger, information asymmetry problems may be mitigated. We confirm this hypothesis by providing evidence that the increase in lending by banks with low local market share is concentrated in more opaque firms. According to the literature, we measure opaqueness as firms that are younger and smaller in size. We first find the treatment effect is stronger for younger and smaller firms. Second, this pattern is stronger for entrant banks. This result reinforces the information asymmetry channel. Because the bankruptcy reform improved the recovery of secured loans, now entrant banks can lend to more opaque borrowers.

Another possible explanation is that our results are explained by non-leader banks being more financially constrained than leader banks. The bankruptcy reform of 2005 might have allowed constrained banks to expand credit to borrowers deemed too risky before the reform. We indeed find evidence that local leader banks are more likely to be state-owned, larger in size, more liquid, but less capitalized than other banks. But can these differences in bank characteristics explain the treatment effect of the 2005 reform? To answer this question, we rerun our regressions by interacting our court congestion measure with size, liquidity, and capitalization. Our results show the treatment effect does not statistically depend on bank characteristics, such as size, liquidity, and capitalization. Even after controlling for potential differences of the treatment effect across banks with different characteristics, we still find non-leader banks increase credit more than leader banks after 2005. Thus, potential differences in financial constraints do not explain why bank competition increases after the reform.

We also implement an instrumental variable (IV) approach to address a possible endogeneity issue with court congestion. We exploit pre-determined state laws that govern the creation of judicial districts (Ponticelli and Alencar, 2016). Jurisdiction over municipalities that do not meet the requirements is assigned to an adjacent municipality that is the seat of a judicial district, making existing courts more congested. Thus, our measure of potential extra-jurisdiction equals the number of neighboring municipalities that do not meet the requirements. This measure is strongly correlated with court congestion. We show our results are robust even in this IV approach.

This paper contributes to the extensive literature on creditor rights. Seminal contributions by La-Porta et al. (1997, 1998), and Levine (1998, 1999) emphasize that stronger credit contract enforcement fosters financial and economic development. Recent contributions mostly support this traditional view (Campello and Larrain, 2016; Calomiris et al., 2017; Cerqueiro et al., 2016; Ponticelli and Alencar, 2016; Fonseca and Van Doornik, 2021; Alencar et al., 2020; Muller, 2021).[5] While there is vast evidence on the average and heterogeneous effects of stronger creditor rights on borrowers, our paper complements these findings by providing evidence on the heterogeneous effects to banks. We find that banks with lower local market share benefit the most from stronger creditor rights, leading to lower local bank concentration.

This paper also contributes to the literature on relationship lending and banking market competition.

[5]There is also evidence to the contrary. Some papers point out negative aspects of stronger creditor protection: a possible reduction of borrowing capacity in the economy (Vig, 2013) or a reallocation of credit from some borrowers to finance lending to others (Gropp et al., 1997; Lilienfeld-Toal et al., 2012; Kulkarni, 2019; Bian, 2020; Fazio and Silva, 2021).

While lending relationships can help to mitigate information asymmetry issues (Petersen and Rajan, 1994; Berger and Udell, 1995), they also allow banks to exert market power over borrowers by exploiting the private information they obtain during the lending relationship (Petersen and Rajan, 1995; Boot and Thakor, 2000; Degryse and Ongena, 2005; Ioannidou and Ongena, 2010; J. R. Ornelas and M. Soares and B. van Doornik, 2022). Especially when information asymmetry issues are rampant and the expected recovery rate of secured loans is low, outside lenders might be unwilling to provide credit to firms they do not have information on. Thus, stronger collateral should reduce this ex-post market power that incumbent banks have. Our paper contributes to this literature by showing that improving collateral repossession may weaken the local market power of incumbent banks since banks with lower market share increase credit the most. Overall, we observe that better collateral laws strengthen local banking competition.

Finally, this paper contributes to the literature on banking competition. First, we understand how antitrust regulation affects bank conduct and market structure. Our paper highlights that even regulations that did not directly affect banking competition may indirectly do so. Second, another strand of this literature argues that bank competition might improve financial stability (Boyd and Nicoló, 2005; Beck et al., 2006) or deteriorate it (Hellman et al., 2000; Allen and Gale, 2004). Similarly, papers document the effects of competition on corporate risk-taking and bankruptcies. We are showing the other way around: when banks' losses in bankruptcies are smaller, bank competition increases. All in all, understanding how different economic policies affect competition is of uttermost importance for policymakers and academics alike.

2 Institutional Background

The Brazilian financial sector has historically lagged behind other economies in terms of development and size. For instance, according to the World Bank, credit provided to the private sector in Brazil was approximately 31% of the total GDP in 2000, which was low compared to China (112%) and the US (162%) but similar to India (28%).[6] Macroeconomic turmoils in the 80s and 90s, such as hyperinflation periods and frequent economic recessions, might have curbed the development of financial intermediation. There was also a need for reforms to reduce the cost of lending by creditors. Insecure creditor rights and partially implemented reforms may also explain the underdevelopment of the Brazilian financial sector (Pinheiro, 2003).

[6] See the World Bank's World Development Indicators (WDI) available on the World Bank's website.

In the early 2000s, one significant regulatory issue in Brazil regarded its bankruptcy procedure. According to the Doing Business Report from the World Bank, the recovery rate of secured creditors through reorganization, liquidation, or debt enforcement was close to zero cents on the dollar during this period (see Figure 1). Several factors explained why secured creditors struggled to recover what they were owed during this period. First, the speed of the judicial system in Brazil is low. The average time a first instance court takes to sentence a case is three years, according to the National Justice Council.[7] Second, in the early 2000s, secured creditors would only be paid after workers and government claims in bankruptcy procedures. Third, the tendency was to declare firms bankruptcy and liquidate the firm. All these factors greatly reduced the chances that, after labor and tax claims were paid, anything would be left to secured creditors.

In the first half of the 2000s, the Brazilian government enacted a series of pro-market reforms to modernize the economy. One of these reforms was the bankruptcy reform in February 2005. Its goal was to correct a flaw in the regulation that limited creditors' protection in bankruptcy. Among the main changes of this reform was the change in focus to allow businesses to continue operating as a going concern, instead of just liquidating them. This usually increases the firms' value and the amount recovered by the different claims. Another big change was the change in priority in terms of claim repayments. Secured creditors were now moved up in the ranking and stayed just behind worker claims. At the same time, these worker claims were limited in value, allowing secured creditors to recover a larger part of their loans. Indeed, as one can see in Figure 1, the recovery rate in Brazil increased to around 15 cents on the dollar after the 2005 reform.

This paper is going to exploit this reform to understand how changes in creditor rights affect banking competition.

3 Data

We take information on bank credit from the Brazilian Credit Registry (SCR), a comprehensive restricted-access dataset managed by the BCB.[8] Banks in Brazil must report to the BCB all credit contracts that exceed a certain threshold, set to BRL 5,000 in the relevant period for this paper. Such data allows us to observe *loan-level* contract terms, such as interest rates, spreads, loan amounts, and other

[7] This information was taken from *Justiça em Números* from the National Justice Council.

[8] The tasks of collecting, matching, and processing all supervisory data were conducted in secured sites inside the BCB exclusively by its staff.

loan contract characteristics for the universe of Brazilian bank credit contracts above the minimum observable amount. In this paper, we consider lending made by 633 commercial banks, cooperatives, and investment banks between June 2003 and December 2007. This sample consists of bank lending to 1.58 million distinct firms,+ amounting to a total value of BRL 234.6 billion as of December 2004.

We also take information on firm characteristics, such as location, industry, and firm age, from the firm registry by *Receita Federal*. We take information on firms' size from RAIS, a comprehensive restricted-access matched employee-employer administrative dataset from Brazil. The RAIS database records all formally employed workers in a given year and is maintained by the Brazilian Ministry of Labor and Social Security.

Finally, and important to our identification, we take data on local courts from *Justiça Aberta*, a public dataset made available by National Justice Council (CNJ). The CNJ collects data on court productivity through monthly reports filed by each court in Brazil. These reports contain information on the location and productivity of all Brazilian courts, such as the number of pending, new, and sentenced cases, as well as the number of judges in each court. As noted above, we focus on civil courts since they are responsible for judging cases involving firms. Figure 2 shows a map with the variability of our measure of court congestion across Brazil. As you can see, there is a large cross-municipality variation in court congestion across Brazil.

Table **??** provides the summary statistics of the variables used in this paper.

4 Empirical Analysis

Our methodology compares bank outcomes in municipalities with different court congestion around the passage of the bankruptcy reform in 2005 in a difference-in-differences specification. While the reform affected firms and banks in Brazil simultaneously, in the end, the improvement in the recovery rate of secured creditors would be more significant when courts are more efficient (Ponticelli and Alencar, 2016). To proxy for court efficiency, we use the degree of congestion of courts, measured as the number of pending cases over the number of judges per municipality. The greater the number of cases per judge, the longer it takes to sentence a case, and the less effective courts are.[9]

Figure 3 presents our initial results. We compare the year-on-year (YoY) growth in log credit around

[9]Fazio et al. (2020) argue that the correlation between court congestion and time to sentence a case is 77% at the state-level.

the passage of the reform for municipalities with high vs. low court congestion. Bank credit growth in areas with lower court congestion relatively increases after the passage of the reform, consistent with the results from Ponticelli and Alencar (2016). The idea is that firms experience an increase in debt capacity because creditors are more certain that they can recover a larger fraction of their credit in case the firm files for bankruptcy.

While the previous figure shows average credit increases in areas with higher court efficiency, Figure 4 presents a complementary view that these effects are somewhat heterogeneous across banks. In Figure 4, we plot the local bank credit HHI in municipalities with different degrees of court congestion around the passage of the reform. While, before the reform, local HHI appears to be moving at the same rate in these different municipalities, after the reform, areas with lower court congestion experience a higher decrease in HHI. This suggests the overall effect was stronger for banks with a smaller market share in these low court congestion municipalities or weaker for banks that dominated those markets. The overall result is a decrease in local credit market concentration after the bankruptcy reform.

We also present the impact of the 2005 reform on bank credit outcomes by exploiting a difference-in-differences estimation. This strategy allows us to compare credit outcomes around the reform and to control for time-invariant confounding factors and common changes across municipalities with similar characteristics. For this purpose, we run the following specification:

$$y_{mbt} = \alpha_{ib} + \alpha_t + \beta \cdot \text{Court Congestion}_m \cdot \text{Post}_t + \delta \cdot W_{mb} \cdot \text{Post}_t + e_{mbt}, \tag{1}$$

where y_{mbt} is an outcome for municipality m, bank b, and quarter t; $\text{Court Congestion}_m$ is the ratio between pending cases and the number of judges in the municipality m; Post_t is a dummy equal to 1 after February 2005 and 0 otherwise; W_{mb} is a vector of control variables at the municipality m and/or bank b level.

Results of this specification are presented in Table 2. Column I shows a one-standard-deviation lower court congestion is associated with a 1.43% higher secured credit balance growth after the reform — this specification controls for any bank-municipality invariant factor, as well as time-variant bank-specific variables. Since civil courts are the responsibility of state authorities, we also add state-level fixed effects in column II. If anything, the treatment effect becomes a bit larger: a 1.73% increase for a one-standard-deviation lower congestion. In columns III and IV, we also add several control variables interacted with the Post_t dummy: the log of average income per capita, the Gini index, the log of the

municipality area, and the number of branches per capita. Results still show credit increases after the reform in areas where courts are more efficient.

We can further show how credit growth around the reform varies for banks with different dominance over the local credit market in a specific municipality. In Table 3, we interact our difference-in-differences variable with a dummy equal to one if the bank is the local credit leader in the municipality and zero otherwise. This variable is defined as of December 2004, before the reform. As Table 1 shows, the average market share of local leaders is 38%, so changes in their market share may contribute immensely to changes in local market concentration. With this in mind, we repeat the same specifications as in the previous table but adding this dummy. Column I shows that, while banks that are not local leaders increase credit in lower court congestion municipalities after the reform, local leaders do not seem to change their credit growth after the reform. This result is robust to adding state-bank-quarter fixed effects (column II) and adding municipality controls as in Table 2.

4.1 Mechanisms

Our previous results show that while the bankruptcy reform seems to increase average bank credit, this effect is particularly pronounced for banks with lower local market share. Dominant local banks do not seem to originate more credit as a result of the reform. As a consequence, local bank concentration decreases after the 2005 reform. This section is going to study the possible mechanisms behind this result. There are at least two possible mechanisms to explain such results: (i) banks' financial constraints; and (ii) information asymmetry.

4.1.1 Banks' Financial Constraints

We start studying if banks' financial constraints can explain our results. The intuition behind this is as follows. Assume a bank with a capital ratio close to the regulatory requirement. An increase in collateral value would incentivize this bank to increase secured loans for two reasons: (1) secured loans incur lower weights for the calculation of risk-weighted assets (Degryse et al., 2021); and (2) the recovery rate increases, which means that loss given default decreases, thus reducing future capital losses.

Applying this reasoning to the context of our paper, financially constrained banks would be the ones that would increase credit the most after the 2005 reform. Since banks that are not local leaders may intuitively be smaller, then the fact that only these banks react may be consistent with this channel.

Table 4 presents cross-sectional regressions of our local leader dummy against a series of bank-specific variables as of December 2004. The table shows that local leaders are more likely to be state-owned banks (column I), less capitalized (column II), more liquid (column III), and larger in size (column IV). When we include all these variables in one specification, we find the results are still highly significant, with liquidity changing the sign to negative: higher liquidity is negatively associated with local leaders. Thus, on the one hand, non-local leaders are smaller in size and are more likely to be privately-owned. On the other hand, they are more capitalized and liquid.

The next step is to allow for the treatment effect depending on bank characteristics. We do that by interacting Court Congestion$_m$ · Post$_t$ with the variables depicted in Table 4. Table 5 first shows whether the treatment is explained by differences in financial constraints. The only significant coefficient is the interaction between the treatment variable and the capital ratio. Banks with higher capital ratios are the ones that increase credit the most in high enforcement municipalities. Nevertheless, this coefficient is only significant in columns I and III. Overall, it does not seem that financial constraints appear to explain why non-leader banks are increasing credit the most due to the 2005 reform.

4.1.2 Banks Ownership

Does the treatment depend on the bank ownership type? Since state-owned banks are more likely to be local leaders (from Table 4), one could ask whether the increase in competition is all explained by private or foreign banks gaining some ground relative to state-owned banks or whether the effect also holds within these different ownership types. We then repeat our analysis from Tables 2 and 3 but adding the interactions of the treatment effects with bank ownership. When we add all of these variables in the same specification in Table 6, we see in Panel A that foreign-owned and private-owned banks are the ones that increase credit the most in treated areas after the bankruptcy reform. There is weak evidence that state-owned banks react to the reform since coefficients are mostly insignificant and only significant in column II.

Panel B shows the results interacting bank-ownership dummies, the treatment variable, and whether the bank is a local leader or not. This Panel complements the analysis above by showing that even within foreign and private owned banks, those that are not local leaders are the ones that benefit from the reform. In fact, for local leaders, the coefficients are either insignificant, or positive and significant for foreign-owned banks. This means that when the bank with the highest local market share is a foreign bank, they appear to reduce credit in areas with higher enforcement vis-a-vis areas with low

enforcement. The opposite happens for non-local leader foreign banks: they appear to increase credit in treated municipalities, gaining market share from other banks. We conclude that our results still hold even within banks of a similar ownership type, even though differences in credit growth across non-state-owned and state-owned banks may partially explain our results.

4.1.3 Borrower Opaqueness and Information Asymmetry

Another potential channel is related to one of the collateral roles in mitigating information asymmetry problems (Petersen and Rajan, 1994; Berger and Udell, 1995). The idea is simple: in an unsecured loan application, banks would be less willing to lend to a new borrower because the bank does not know the borrower's quality. As a result, only those borrowers who have a relationship with the bank would get more credit from the bank. In secured loans, however, banks can start new relationships with a lower fear of default. In the context of this paper, since the 2005 reform improved the collateral value, one would expect that banks would increase secured credit to borrowers, especially if they are more opaque.

To understand whether more opaque firms benefited the most from the reform and whether this was mostly explained by the increase in the credit of local non-leader banks, we construct a firm-year panel with the universe of Brazilian firms with more than 10 employees. This leaves out the firms considered as micro-firms, according to the Brazilian government regulations. This leaves us with 237,232 firms for the quarters from Q1/2003 to Q4/2007. We then rerun the specification in equation (1), but now at the firm level. We then interact our court congestion measure with size and age categorical variables.

In Table 7, we divide firms into 3 distinct groups based on the size definition adopted by the official Brazilian statistical institute, the IBGE. Small firms are those with between 10 and 50 employees. Medium firms have more than 50 employees and less than 100 employees. Large firms are those with more than 100 employees. In column I, we show smaller firms benefit the most from the increase in credit in areas with lower court congestion. We find similar results when dividing firms into young and old firms based on their age as of December 2004. We classify firms as young if their age is lower than the overall median (11 years). Column I of Table 8 shows that in municipalities with lower court congestion, secured credit only increases for young firms by 0.85% for a one-standard-deviation lower court congestion. These results are robust to controlling for municipality-specific controls (column II), state, industry, age, and size fixed effects (column III), and a combination of both (column IV).

Our findings above are consistent with two channels that have to do with higher financial constraints of smaller and younger firms. The first is that these firms have lower availability of collateralizable assets, which prevents them from initiating projects of a certain magnitude, especially when creditor rights are poor. The second channel is that these firms are more opaque, so it is difficult for creditors to assess their riskiness and, thus, more difficult for these firms to start new bank relationships.

To the extent that the first channel is dominating, we should observe similar increases in the borrowing of opaque firms across banks of different relative local sizes. However, suppose the second channel is predominant. In that case, those banks with a lower market share or that are entrants in a particular municipality should increase credit to more opaque firms the most. Indeed, columns V to VIII of Table 7 suggest firm opaqueness is the main reason that explains why some firms are most affected. Column V shows non-leader banks expand credit to small and medium firms. Similarly, in column IX, the largest local bank does not seem to increase lending to more opaque firms in areas with lower court congestion. If anything, they decrease credit to firms.

Overall, these results are consistent with the information asymmetry channel of creditor rights. Our results indicate that firms unable to form new bank relationships before the reform credibly appear to be doing so now.

4.2 Additional Tests

4.2.1 Instrumental Variable Approach

Our benchmark results compare firms located in areas with different court congestion before and after the reform. Court congestion, however, might be endogenous and drive our results. To alleviate concerns about endogenous court congestion, we adopt an empirical strategy proposed by Ponticelli and Alencar (2016). Their strategy exploits pre-determined rules that affect the quality of local courts through potential extra-jurisdiction. Brazil's over 5,500 municipalities are organized into roughly 2,500 judicial districts, where a judicial district is at least as large as a municipality. The size of these districts is determined by state laws that establish the minimum requirements a municipality must satisfy to become the seat of a judicial district. These requirements are expressed in municipality characteristics such as population, number of voters in the last election, number of judicial cases originated in a municipality, amount of tax revenues, or a combination of the above. Jurisdiction over municipalities that do not meet the requirements is assigned to an adjacent municipality that is the seat of a judicial

district. Thus, courts in the municipalities that are the seats of judicial districts may receive cases originating in the neighboring municipalities that are not the seats of judicial districts, potentially making these courts more congested.

Table 9 presents the results using Potential Extra Jurisdiction instead of Court Congestion in a reduced-form approach. We also control for the differential effect across areas with a different number of adjacent municipalities. In column I, we can see that municipalities with one-standard-deviation higher potential extra-jurisdiction experience a drop of 1.83% in credit. Results are robust to including state fixed effects (column II), municipality controls (column III), and the combination of both (column IV).

In Table 10, we present the differential effect based on whether the banks were local leaders or not. All the coefficients for when the Local Leader dummy is equal to zero are negative and significant. The interactions of local leaders are not statistically significant. These results are consistent with those from Table 3. Overall, the results are robust to this specification.

5 Conclusion

This paper provides evidence that not all banks are affected similarly by strengthening creditor rights. We exploit differences in court congestion to identify the effects of the bankruptcy reform in Brazil in 2005 that increased the recovery rate of creditors. We show banks with lower market share in their local markets are the ones that increase secured credit the most to borrowers. Banks that are the local leaders in terms of the credit market share are at best not affected by the reform or slightly negatively affected. There is evidence that the main channel behind our results is information asymmetry. Banks with lower market share are more likely to increase credit to opaque (smaller and younger) firms. Overall, our results mean that one of the outcomes of stronger creditor rights is a reduction in local bank concentration.

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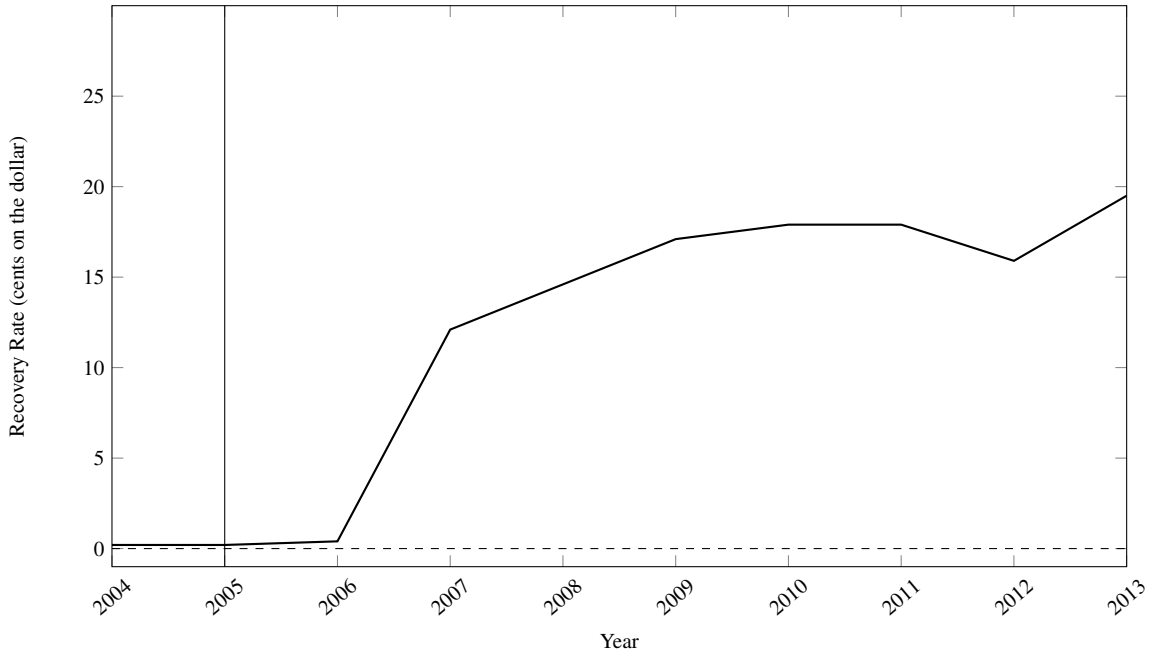
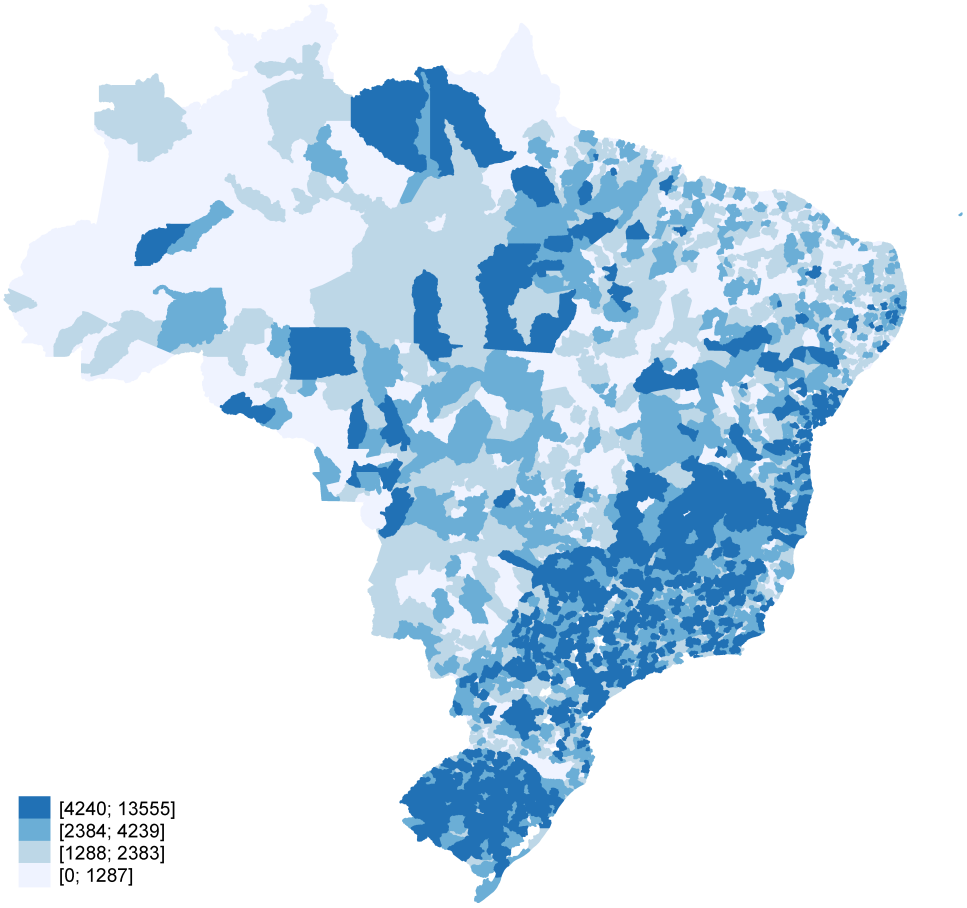
Figure 1: Recovery rate of secured creditors (cents on the dolllar)



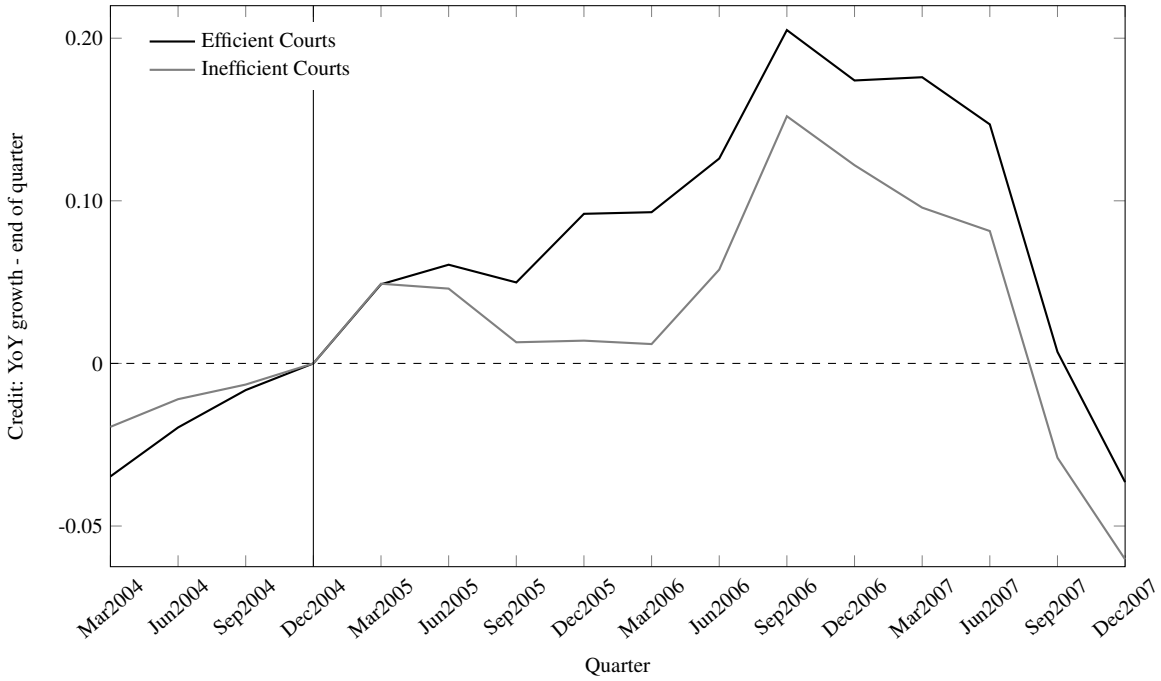
Source: World Bank's Doing Business Report

Figure 2: Geographical Distribution of Court Congestion



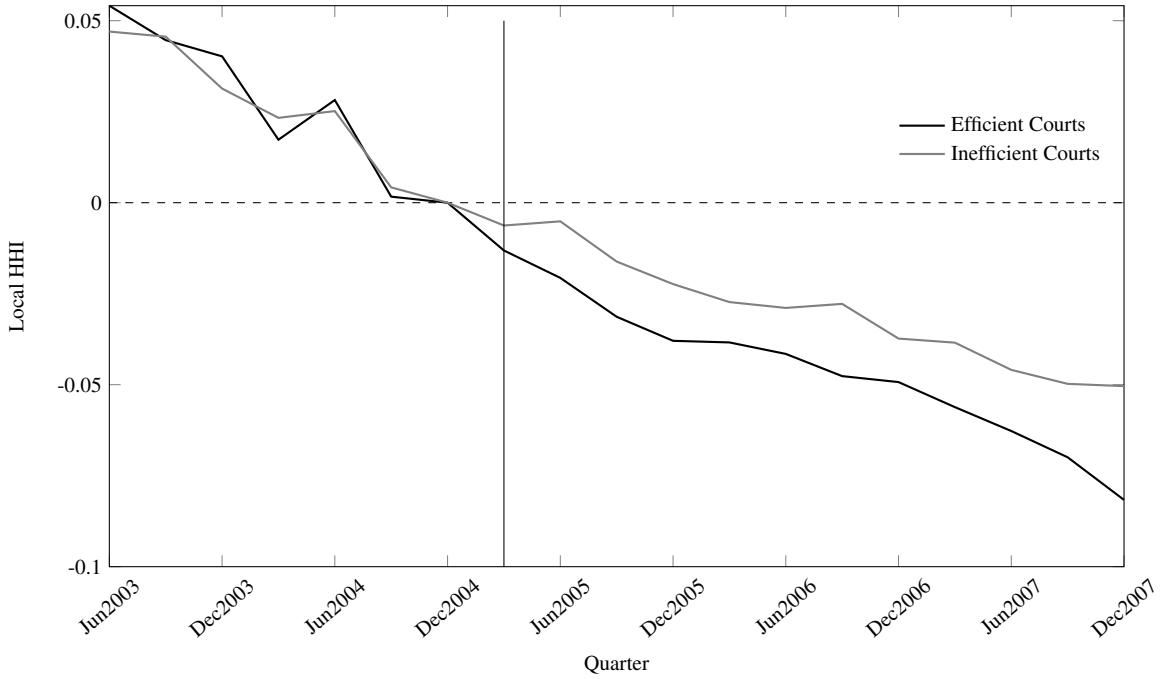
This figure plots the geographical distribution of court congestion, defined as the number of pending cases per judge. This data was collected from the National Justice Council (CNJ).

Figure 3: YoY Secured Credit in Municipalities with Different Court Congestion



This graph plots the average year on year growth of secured credit for municipalities with lower and upper median court congestion municipalities. Low court congestion municipalities are plotted in the black line and high court congestion municipalities in the gray line. We make both curves cross the x-axis in December 2004.

Figure 4: Local HHI in Municipalities with Different Court Congestion



This graph plots the average local credit HHI for municipalities with lower and upper median court congestion municipalities. Low court congestion municipalities are plotted in the black line and high court congestion municipalities in the gray line. We make both curves cross the x-axis in December 2004.

Table 1: *Summary Statistics*

	Unit	N	mean	std dev
Δ ln(secured)	bank-muni-quarter	569,551	0.389	0.806
Local Leader	bank-muni-quarter	1,142,376	0.083	0.276
Market share of Local Leader	muni-quarter	102,594	0.385	0.262
Branch per 100,000 inhabitants	muni	5,385	9.060	10.740
Ln(Income per Capita)	muni	5,385	5.833	0.430
Ln(Area)	muni	5,439	6.212	1.278
Gini Index	muni	5,439	0.547	0.068
Court Congestion	muni	5,335	7.760	0.873
Potential Extra	muni	5,344	4.554	2.810
Nr Adjacent Munis	muni	5,344	7.182	2.264
Capital Ratio	bank	632	0.230	0.212
Ln(Bank Assets)	bank	632	17.426	2.198
Liquid Ratio	bank	632	0.497	0.203
State-Owned Bank	bank	632	0.024	0.152

This table provides the summary statistics of the main variables in our paper. Δ ln(secured) is defined as the growth in secured lending for each bank, municipality, and quarter. Local Leader is a dummy equal to 1 if the bank has the highest market share in a municipality and quarter. Branch per 100,000 inhabitants is the ratio of the number of bank branches from ESTBAN and population from IBGE calculated as of 2004 (pre-treatment), respectively. Ln(Income per Capita), Ln(Area), and Gini Index are defined as the average local income per inhabitant, the municipality area in km squared, and the gini index of income inequality taken from IBGE and calculated as of 2004 (pre-treatment). Court Congestion is defined as the ratio between the number of backlog cases and the number of judges in a municipality from CNJ's Justiça Aberta. Potential Extra is the number of municipalities adjacent to the municipality that do not meet the requirement to have their own judicial district. This variable is constructed using data from Ponticelli and Alencar (2016). Nr Adjacent Munis is the number of adjacent municipalities. Capital Ratio, Ln(Bank Assets), Liquidity Ratio and State-owned banks are variables taken from COSIF as of December 2004. Capital Ratio is defined as the ratio between a bank's equity and total assets; Ln(Bank Assets) is the natural logarithm of bank assets, Liquid Ratio is the ratio between non-credit assets and total assets, and state-owned bank is a variable equal to 1 if the bank is owned by federal or local governments and zero otherwise.

Table 2: *Bankruptcy Reform and Bank Credit*

	Δ ln(secured)$_{mbt}$			
	I	II	III	IV
Court Congestion$_m$ · Post$_t$	-0.0143***	-0.0173***	-0.0093**	-0.100***
	(-2.659)	(-4.567)	(-2.319)	(-2.875)
Obs	551,097	551,097	548,318	548,318
R^2	0.636	0.644	0.636	0.644
Muni*Bank FE	Yes	Yes	Yes	Yes
Bank*Quarter FE	Yes	Yes	Yes	Yes
State*Quarter FE		Yes		Yes
Muni Controls			Yes	Yes

This table presents the average effect of the bankruptcy reform of 2005 on bank credit. It compares lending in areas with different court congestion rates around February 2005 in a difference-in-differences setting following equation (1). The dependent variable is the secured credit growth by bank b at municipality m in quarter t. The main independent variable – Court Congestion $_m$ – is the number of pending judicial cases per judge in municipality m. We normalize this variable by its standard deviation. Post$_t$ is a dummy equal to 1 in the quarters after Q1/2005, and 0 otherwise. We report t-statistics using standard errors clustered at the municipality level in parentheses. *, **, and *** denote significance of 10%, 5%, and 1%, respectively.

Table 3: *Bankruptcy Reform and Bank Credit*

	Δ ln(secured)$_{mbt}$			
	I	II	III	IV
Court Congestion$_m$ · Post$_t$ · Local Leader$_{mb} = 0$	-0.0158***	-0.0168***	-0.0122***	-0.0106***
	(-3.561)	(-5.041)	(-3.056)	(-3.135)
Court Congestion$_m$ · Post$_t$ · Local Leader$_{mb} = 1$	0.0069	-0.0062	0.0062	-0.0047
	(0.938)	(-0.850)	(0.834)	(-0.633)
Obs	551,097	551,097	548,318	548,318
R^2	0.636	0.644	0.636	0.640
Muni*Bank FE	Yes	Yes	Yes	Yes
Bank*Quarter FE	Yes	Yes	Yes	Yes
State*Quarter FE		Yes		Yes
Muni Controls			Yes	Yes

This table presents the differential effect of the bankruptcy reform of 2005 on credit across banks with different local market dominance. It compares lending in areas with different court congestion rates around February 2005 in a difference-in-differences setting following equation (1). The dependent variable is the secured credit growth by bank b at municipality m in quarter t. The main independent variable – Court Congestion $_m$ – is the number of pending judicial cases per judge in municipality m. We normalize this variable by its standard deviation. Post$_t$ is a dummy equal to 1 in the quarters after Q1/2005, and 0 otherwise. Local Leader$_{mb}$ is a dummy variable, equal to 1 if bank b has the largest market share in municipality m. We report t-statistics using standard errors clustered at the municipality level in parentheses. *, **, and *** denote significance of 10%, 5%, and 1%, respectively.

Table 4: *Determinants of Local Leader Banks*

	Local Leader$_{mb}$				
	I	II	III	IV	V
State Owned$_b$	0.2360**				0.2537***
	(11.336)				(10.097)
Capital Ratio$_b$		-0.0335***			-0.0417***
		(-8.321)			(-12.384)
Liquidity Ratio$_b$			0.0596***		-0.1491***
			(8.785)		(-12.731)
Ln(Assets)$_b$				0.1377***	0.1439***
				(9.423)	(7.934)
Obs	58,453	58,453	58,453	58,453	58,453
R^2	0.093	0.002	0.008	0.056	0.141

This table presents the determinants of Local Leader$_{mb}$ dummy. Local Leader$_{mb}$ is a dummy variable, equal to 1 if bank b has the largest market share in municipality m. State-Owned$_b$ is a dummy variable, equal to 1 if bank b is state-owned and 0, otherwise. Capital Ratio$_b$ is the ratio between bank's equity and total assets. Liquidity Ratio is the ratio between bank's non-credit assets and total assets. Ln(Bank Assets) is the log of bank b's total assets. We report t-statistics using standard errors clustered at the municipality level in parentheses. *, **, and *** denote significance of 10%, 5%, and 1%, respectively.

Table 5: *Financial Constraints Channel*

	Δ ln(secured)$_{mbt}$			
	I	II	III	IV
Court Congestion$_m$ · Post$_t$	-0.0159***	-0.0165***	-0.0102**	-0.0039*
	(-2.585)	(-0.925)	(-2.095)	(-1.782)
Court Congestion$_m$ · Post$_t$ · Capital Ratio$_b$	-0.0060**	-0.0027	-0.0047*	-0.0016
	(-2.383)	(-0.925)	(-1.920)	(-0.554)
Court Congestion$_m$ · Post$_t$ · Liquidity Ratio$_b$	-0.0043	-0.0020	-0.0038	-0.0016
	(-0.578)	(-0.250)	(-0.511)	(-0.208)
Court Congestion$_m$ · Post$_t$ · Ln(Bank Assets)$_b$	0.0041	-0.0001	0.029	-0.0006
	(0.576)	(-0.012)	(0.392)	(-0.075)
Obs	549,476	549,476	546,699	540,846
R^2	0.636	0.643	0.636	0.674
Muni*Bank FE	Yes	Yes	Yes	Yes
Bank*Quarter FE	Yes	Yes	Yes	Yes
State*Quarter FE		Yes		Yes
Muni Controls			Yes	Yes

This table presents the differential effect of the bankruptcy reform of 2005 on credit across banks with different characteristics. It compares lending in areas with different court congestion rates around February 2005 in a difference-in-differences setting following equation (1). The dependent variable is the secured credit growth by bank b at municipality m in quarter t. The main independent variable – Court Congestion $_m$ – is the number of pending judicial cases per judge in municipality m. We normalize this variable by its standard deviation. Post$_t$ is a dummy equal to 1 in the quarters after Q1/2005, and 0 otherwise. State-Owned$_b$ is a dummy variable, equal to 1 if bank b is state-owned and 0, otherwise. Capital Ratio$_b$ is the ratio between bank's equity and total assets. Liquidity Ratio is the ratio between bank's non-credit assets and total assets. Ln(Bank Assets) is the log of bank b's total assets. We report t-statistics using standard errors clustered at the municipality level in parentheses. *, **, and *** denote significance of 10%, 5%, and 1%, respectively.

Table 6: *Heterogenous Results: Bank Ownership*

	Δ ln(secured)$_{mbt}$			
	I	II	III	IV
Panel A: Heterogeneous Treatment Across Bank Ownership				
Court Congestion$_m$ · Post$_t$ · State-Owned$_b$	-0.0049	-0.0106**	-0.0012	-0.0046
	(-0.759)	(-2.043)	(-0.232)	(-1.067)
Court Congestion$_m$ · Post$_t$ · Private Owned$_b$	-0.0156***	-0.0168***	-0.0105**	-0.0092*
	(-3.106)	(-3.961)	(-2.023)	(-1.778)
Court Congestion$_m$ · Post$_t$ · Foreign-Owned$_b$	-0.0277***	-0.0294***	-0.0227***	-0.0216***
	(-3,706)	(-4.377)	(-3.920)	(-3.819)
Obs	551,097	551,097	548,318	548,318
R^2	0.636	0.643	0.636	0.644
Muni*Bank FE	Yes	Yes	Yes	Yes
Bank*Quarter FE	Yes	Yes	Yes	Yes
State*Quarter FE		Yes		Yes
Muni Controls			Yes	Yes
Panel B: Heterogeneous Treatment Across Bank Ownership & Local Leader				
Court Congestion$_m$ · Post$_t$ · State-Owned$_b$ · Local Leader$_{mb} = 0$	-0.0100	-0.0102*	-0.0060	-0.0044
	(-1.585)	(-1.909)	(-0.997)	(-0.821)
Court Congestion$_m$ · Post$_t$ · State-Owned$_b$ · Local Leader$_{mb} = 1$	0.0089	-0.0055	0.0084	-0.0039
	(1.489)	(-0.944)	(1.379)	(-0.656)
Court Congestion$_m$ · Post$_t$ · Private Owned$_b$ · Local Leader$_{mb} = 0$	-0.0125***	-0.0136***	-0.0091*	-0.0074*
	(-2.659)	(-3.575)	(-1.939)	(-1.651)
Court Congestion$_m$ · Post$_t$ · Private Owned$_b$ · Local Leader$_{mb} = 1$	-0.0079	-0.0153	-0.0090	-0.0140
	(-0.289)	(-0.578)	(-0.0331)	(-0.524)
Court Congestion$_m$ · Post$_t$ · Foreign-Owned$_b$ · Local Leader$_{mb} = 0$	-0.0285***	-0.0299***	-0.0253***	-0.0239***
	(-3.964)	(-4.537)	(-4.053)	(-4.141)
Court Congestion$_m$ · Post$_t$ · Foreign-Owned$_b$ · Local Leader$_{mb} = 1$	0.1092*	0.1065*	0.1095*	0.1070*
	(1.732)	(1.752)	(-4.053)	(1.735)
Obs	551,097	551,097	548,318	548,318
R^2	0.636	0.643	0.636	0.644
Muni*Bank FE	Yes	Yes	Yes	Yes
Bank*Quarter FE	Yes	Yes	Yes	Yes
State*Quarter FE		Yes		Yes
Muni Controls			Yes	Yes

This table presents the differential effect of the bankruptcy reform of 2005 on credit across banks with different ownership. It compares lending in areas with different court congestion rates around February 2005 in a difference-in-differences setting following equation (1). The dependent variable is the secured credit growth by bank b at municipality m in quarter t. The main independent variable – Court Congestion $_m$ – is the number of pending judicial cases per judge in municipality m. We normalize this variable by its standard deviation. Post$_t$ is a dummy equal to 1 in the quarters after Q1/2005, and 0 otherwise. State-Owned$_b$ is a dummy variable, equal to 1 if bank b is state-owned and 0, otherwise. Private-Owned$_b$ is a dummy variable equal to 1 if bank b is privately-owned and 0, otherwise. Foreign-Owned$_b$ is a dummy variable equal to 1 if the bank is controlled by a foreign institution and 0, otherwise. We report t-statistics using standard errors clustered at the municipality level in parentheses. *, **, and *** denote significance of 10%, 5%, and 1%, respectively.

Table 7: *Bankruptcy Reform and Bank Credit: Firm Size*

	Δ ln(secured)$_{ibt}$				Δ ln(secured non leader)$_{ibt}$				Δ ln(secured leader)$_{ibt}$			
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Court Congestion$_m$· Post$_t$ · Small Firm$_i$	-0.0089**	-0.0116***	-0.0070***	-0.0080**	-0.0141***	-0.0162***	-0.0120***	-0.0121***	0.0116***	0.0103**	0.0117**	0.0090*
	(-2.148)	(-3.528)	(-2.609)	(-2.358)	(-3.389)	(-4.511)	(-3.865)	(-3.443)	(3.247)	(2.325)	(2.550)	(1.932)
Court Congestion$_m$· Post$_t$ · Medium Firm$_i$	0.0005	-0.0081	0.0093	0.0006	-0.0064	-0.0188**	0.0039	-0.0072	0.0167**	0.0210**	0.0150*	0.0173*
	(0.070)	(-0.976)	(1.189)	(0.061)	(-0.870)	(-2.416)	(0.497)	(-0.745)	(2.558)	(2.333)	(1.872)	(1.807)
Court Congestion$_m$· Post$_t$ · Large Firm$_i$	0.0098	0.0119	0.0088	0.0168*	0.0027	0.0028	0.0038	0.0125	0.0164*	0.0175	0.0102	0.0064
	(1.045)	(1.269)	(0.868)	(1.699)	(0.299)	(0.265)	(0.360)	(1.193)	(1.879)	(1.408)	(1.114)	(0.544)
Obs	5,071,396	4,978,292	5,049,132	4,956,292	5,071,396	4,978,292	5,049,132	4,956,292	5,071,396	4,978,292	5,049,132	4,956,292
R^2	0.221	0.221	0.242	0.242	0.202	0.202	0.223	0.224	0.229	0.229	0.279	0.280
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Quarter FE	Yes				Yes				Yes			
State*Industry*Age*Size FE			Yes	Yes			Yes	Yes			Yes	Yes
Muni Controls		Yes		Yes		Yes		Yes		Yes		Yes

This table presents the effect of the bankruptcy reform of 2005 on bank credit across firms of different size categories. It compares lending in areas with different court congestion rates around February 2005 in a difference-in-differences setting following equation (1). The dependent variable is the secured credit growth by bank b to firm i in quarter t. The main independent variable – Court Congestion $_m$ – is the number of pending judicial cases per judge in municipality m. We normalize this variable by its standard deviation. Post$_t$ is a dummy equal to 1 in the quarters after Q1/2005, and 0 otherwise. We report t-statistics using standard errors clustered at the municipality level in parentheses. *, **, and *** denote significance of 10%, 5%, and 1%, respectively.

Table 8: *Bankruptcy Reform and Bank Credit: Firm Age*

	Δ ln(secured)$_{ibt}$				Δ ln(secured non leader)$_{ibt}$				Δ ln(secured leader)$_{ibt}$			
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Court Congestion$_m$· Post$_t$ · Young Firm$_i$	-0.0085*	-0.0128***	-0.066*	-0.0110**	-0.0138***	-0.0184***	-0.101***	-0.0142***	0.110***	0.0109**	0.0077*	0.0048
	(-1.785)	(-3.389)	(-1.822)	(-2.426)	(-2.785)	(-4.577)	(-2.647)	(-3.115)	(3.049)	(2.190)	(1.752)	(0.974)
Court Congestion$_m$· Post$_t$ · Old Firm$_i$	-0.0025	-0.043	0.010	0.0023	-0.084**	-0.097**	-0.059	-0.0028	0.0144***	0.0131**	0.0172***	0.0147**
	(-0.725)	(-1.101)	(0.294)	(0.560)	(-2.261)	(-2.195)	(-1.401)	(-0.623)	(3.188)	(2.249)	(2.954)	(2.527)
Obs	5,071,396	4,978,292	5,037,142	4,944,500	5,071,396	4,978,292	5,037,142	4,944,500	5,071,396	4,978,292	5,037,142	4,944,500
R^2	0.221	0.221	0.247	0.247	0.202	0.202	0.228	0.229	0.052	0.071	0.094	0.094
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Quarter FE	Yes				Yes				Yes			
State*Industry*Age*Size FE			Yes	Yes			Yes	Yes			Yes	Yes
Muni Controls		Yes		Yes		Yes		Yes		Yes		Yes

This table presents the effect of the bankruptcy reform of 2005 on bank credit across firms of different age categories. It compares lending in areas with different court congestion rates around February 2005 in a difference-in-differences setting following equation (1). The dependent variable is the secured credit growth by bank b to firm i in quarter t. The main independent variable – Court Congestion $_m$ – is the number of pending judicial cases per judge in municipality m. We normalize this variable by its standard deviation. Post$_t$ is a dummy equal to 1 in the quarters after Q1/2005, and 0 otherwise. We report t-statistics using standard errors clustered at the municipality level in parentheses. *, **, and *** denote significance of 10%, 5%, and 1%, respectively.

Table 9: *Bankruptcy Reform and the Effects of Credit of Banks*

	Δ ln(secured)$_{mbt}$			
	I	II	III	IV
Potential Extra $_m$· Post$_t$	-0.0183***	-0.0190***	-0.0137***	-0.0121***
	(-4.972)	(-4.266)	(-3.323)	(-2.816)
Nr Adjacent Municipalities $_m$· Post$_t$	0.0139***	0.0159***	0.0147***	0.0118***
	(6.865)	(7.407)	(4.526)	(3.552)
Obs	551,396	551,396	548,617	548,617
R^2	0.636	0.644	0.636	0.644
Muni*Bank FE	Yes	Yes	Yes	Yes
Bank*Quarter FE	Yes	Yes	Yes	Yes
State*Quarter FE		Yes		Yes
Muni Controls			Yes	Yes

This table presents the average effect of the bankruptcy reform of 2005 on bank credit. It compares lending in areas with different potential extra-jurisdiction around February 2005 in a difference-in-differences setting following equation (1). The dependent variable is the secured credit growth by bank b at municipality m in quarter t. The main independent variable – Potential Extra $_m$ – is the number of municipalities adjacent to m that do not meet the requirement to have their own judicial district. We normalize this variable by its standard deviation. Post$_t$ is a dummy equal to 1 in the quarters after Q1/2005, and 0 otherwise. We report t-statistics using standard errors clustered at the municipality level in parentheses. *, **, and *** denote significance of 10%, 5%, and 1%, respectively.

Table 10: *Bankruptcy Reform and the Effects of Credit of Banks*

	Δ ln(secured)$_{mbt}$			
	I	II	III	IV
Potential Extra $_m$· Post$_t$ · Local Leader$_{mb} = 0$	-0.0166***	-0.0163***	-0.0137***	-0.0123***
	(-4.157)	(-3.508)	(-3.167)	(2-.713)
Potential Extra $_m$· Post$_t$ · Local Leader$_{mb} = 1$	0.0002	-0.0089	0.0015	0.012
	(0.026)	(-1.023)	(0.0176)	(0.143)
Nr Adjacent Municipalities $_m$· Post$_t$ · Local Leader$_{mb} = 0$	0.0126***	0.0149***	0.0142***	0.0115***
	(5.247)	(6.094)	(4.226)	(3.480)
Nr Adjacent Municipalities $_m$· Post$_t$ · Local Leader$_{mb} = 1$	-0.0013	0.0030	0.019	-0.0012
	(-0.152)	(0.376)	(0.220)	(-0.146)
Obs	551,396	551,396	548,617	548,617
R^2	0.636	0.644	0.636	0.644
Muni*Bank FE	Yes	Yes	Yes	Yes
Bank*Quarter FE	Yes	Yes	Yes	Yes
State*Quarter FE		Yes		Yes
Muni Controls			Yes	Yes

This table presents the differential effect of the bankruptcy reform of 2005 on credit across banks with different local market dominance. It compares lending in areas with different potential extra-jurisdiction around February 2005 in a difference-in-differences setting following equation (1). The dependent variable is the secured credit growth by bank *b* at municipality *m* in quarter *t*. The main independent variable – Potential Extra $_m$ – is the number of municipalities adjacent to *m* that do not meet the requirement to have their own judicial district. We normalize this variable by its standard deviation. Post$_t$ is a dummy equal to 1 in the quarters after Q1/2005, and 0 otherwise. Local Leader$_{mb}$ is a dummy variable, equal to 1 if bank *b* has the largest market share in municipality *m*. We report t-statistics using standard errors clustered at the municipality level in parentheses. *, **, and *** denote significance of 10%, 5%, and 1%, respectively.

Table A1: *Bankruptcy Reform and Bank Credit: Tradable and Non-Tradable Firms*

	Δ ln(secured)$_{mbt}$			
	I	II	III	IV
Panel A: Tradable Firms				
Court Congestion$_m$· Post$_t$	-0.0206***	-0.0271***	-0.0143***	-0.0179***
	(-2.611)	(-3.994)	(-2.691)	(-3.190)
Obs	281,783	281,783	280,780	280,780
R^2	0.516	0.525	0.516	0.525
Muni*Bank FE	Yes	Yes	Yes	Yes
Bank*Quarter FE	Yes	Yes	Yes	Yes
State*Quarter FE		Yes		Yes
Muni Controls			Yes	Yes
Panel B: Non-Tradable Firms				
Court Congestion$_m$· Post$_t$	-0.106*	-0.0135***	-0.0044	-0.0055
	(-1.821)	(-3.087)	(-0.928)	(-1.337)
Obs	481,611	481,611	479,350	479,350
R^2	0.639	0.646	0.640	0.645
Muni*Bank FE	Yes	Yes	Yes	Yes
Bank*Quarter FE	Yes	Yes	Yes	Yes
State*Quarter FE		Yes		Yes
Muni Controls			Yes	Yes

This table presents the average effect of the bankruptcy reform of 2005 on bank credit. It compares lending in areas with different court congestion rates around February 2005 in a difference-in-differences setting following equation (1). The dependent variable is the secured credit growth by bank b at municipality m in quarter t. The main independent variable – Court Congestion $_m$ – is the number of pending judicial cases per judge in municipality m. We normalize this variable by its standard deviation. Post$_t$ is a dummy equal to 1 in the quarters after Q1/2005, and 0 otherwise. Panel A includes only tradable firms, defined as firms from the extractive and transformation industries. Panel B includes only non-tradable firms. We report t-statistics using standard errors clustered at the municipality level in parentheses. *, **, and *** denote significance of 10%, 5%, and 1%, respectively.

Table A2: *Bankruptcy Reform and Bank Credit:Tradable and Non-Tradable Firms*

	Δ ln(secured)$_{mbt}$			
	I	II	III	IV
Panel A: Tradable Firms				
Court Congestion$_m$ · Post$_t$ · Local Leader$_{mb} = 0$	-0.0246***	-0.0287***	-0.0192***	-0.0203***
	(-3.624)	(-4.658)	(-3.475)	(-3.455)
Court Congestion$_m$ · Post$_t$ · Local Leader$_{mb} = 1$	0.0130	-0.0065	0.0100	-0.0048
	(0.882)	(-0.397)	(0.671)	(-0.307)
Obs	281,783	281,783	280,780	280,780
R^2	0.516	0.525	0.516	0.525
Muni*Bank FE	Yes	Yes	Yes	Yes
Bank*Quarter FE	Yes	Yes	Yes	Yes
State*Quarter FE		Yes		Yes
Muni Controls			Yes	Yes
Panel B: Non-Tradable Firms				
Court Congestion$_m$ · Post$_t$ · Local Leader$_{mb} = 0$	-0.0119**	-0.0132***	-0.0065	-0.0058
	(-2.208)	(-3.278)	(-1.310)	(-1.446)
Court Congestion$_m$ · Post$_t$ · Local Leader$_{mb} = 1$	0.0059	-0.0041	0.0066	-0.0023
	(0.744)	(-0.516)	(0.820)	(-0.277)
Obs	481,611	481,611	479,350	479,350
R^2	0.639	0.646	0.640	0.645
Muni*Bank FE	Yes	Yes	Yes	Yes
Bank*Quarter FE	Yes	Yes	Yes	Yes
State*Quarter FE		Yes		Yes
Muni Controls			Yes	Yes

This table presents the differential effect of the bankruptcy reform of 2005 on credit across banks with different local market dominance. It compares lending in areas with different court congestion rates around February 2005 in a difference-in-differences setting following equation (1). The dependent variable is the secured credit growth by bank b at municipality m in quarter t. The main independent variable – Court Congestion $_m$ – is the number of pending judicial cases per judge in municipality m. We normalize this variable by its standard deviation. Post$_t$ is a dummy equal to 1 in the quarters after Q1/2005, and 0 otherwise. Local Leader$_{mb}$ is a dummy variable, equal to 1 if bank b has the largest market share in municipality m. Panel A includes only tradable firms, defined as firms from the extractive and transformation industries. Panel B includes only non-tradable firms. We report t-statistics using standard errors clustered at the municipality level in parentheses. *, **, and *** denote significance of 10%, 5%, and 1%, respectively.