

# The Labor Cost of Pro-Labor Bias in Bankruptcy

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## Abstract

Judicial decisions in bankruptcy are often influenced by the goal of preserving employment in financially distressed firms. Is such pro-labor bias good for workers? We construct a new court-level measure of pro-labor bias based on judges' deviations from the letter of the law, and exploit the random assignment of cases to courts within judicial districts in the state of São Paulo in Brazil to study the effect of pro-labor bias on labor market outcomes. Employees whose firms were assigned to a high pro-labor court experience 4.2 percent lower post-bankruptcy earnings relative to employees whose firms were assigned to a low pro-labor court. This negative effect is persistent in the seven-year period after bankruptcy. We provide evidence consistent with this effect being driven by high pro-labor courts disproportionately favoring firm continuation. While employees of liquidated firms experience a large initial drop in earnings upon bankruptcy and a fast convergence to their pre-bankruptcy level, the earnings of employees of reorganized firms remain significantly below their pre-bankruptcy level. Our results indicate that, on average, pro-labor bias can be detrimental for workers' earnings and employment trajectories after bankruptcy.

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# I INTRODUCTION

Bankruptcy institutions play an important role in the reallocation of production factors of distressed firms and have broader implications for economic growth and aggregate productivity. The objective of a well-functioning bankruptcy system is to prevent the exit of viable firms and the inefficient continuation of non-viable ones, while facilitating the reallocation of resources from distressed firms to more productive ones. However, numerous frictions tend to characterize the reallocative efficiency of the bankruptcy process, especially in developing countries. Courts are often congested, judges lack the specialized knowledge necessary to deal with complex cases and – in some instances – are subject to political influence. An important friction that has received little attention is pro-labor judicial bias in the interpretation of the law. In particular, judges may favor the continuation of a non-viable firm – even if that means deviating from the actual wording of the law – in order to protect workers’ jobs. Despite this type of bias in bankruptcy is considered widespread, there is no direct empirical evidence on how it affects workers’ employment and earnings.<sup>1</sup>

In this paper, we study the labor market effects of pro-labor bias in bankruptcy. We focus on Brazil, which provides a well-suited setting for a number of reasons. First, Brazil has relatively strict labor protection laws, similar to the ones observed in several developing and EU countries (Botero et al., 2004), and a judicial system often described by local observers as biased in favor of debtors and workers (Arida et al., 2005). Recent survey data has consistently shown that a large fraction of the Brazilian judiciary perceives itself as having a re-distributive role, with the majority of surveyed judges reporting that “protecting the weakest party” and “achieving social justice” justifies decisions in breach of contracts (Lamounier and De Souza, 2002; Pinheiro, 2003). Second, according to the data collected for this paper, there is large variation in the degree of pro-labor bias across Brazilian courts dealing with bankruptcy cases; while some courts consistently follow the wording of bankruptcy regulations, others routinely deviate from it when adjudicating cases, often with the declared intent of protecting workers’ employment. Finally, this setting allows us to combine manually-collected information on judicial decisions in bankruptcy cases with a comprehensive employer-employee dataset where we can follow all formal workers over time.

We start by constructing a measure of pro-labor bias using a new dataset covering the universe of bankruptcy cases filed in the state of São Paulo, the largest state in Brazil, between 2005 and 2017. For each case, we collect information on all intermediate decisions

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<sup>1</sup>Blazy et al. (2011) shows that in French bankruptcy courts “social considerations prevail in the arbitration”, with preservation of employment being a key consideration. In the US, Chapter 11 is viewed to be favoring debtors and the continuation of the firm (Franks et al. (1996), Skeel (2001)). Pro-labor bias is evident also outside of bankruptcy. For example, Cahuc et al. (2019) analyzes the impact of pro-labor bias in labor courts in France.

taken by the judges in charge of the case. This allows us to observe whether judges deviate from the letter of specific articles of the bankruptcy code in order to facilitate the continuation of an insolvent firm. Although these decisions are effectively pro-debtor, we use the term “pro-labor” because judges frequently justify them on the basis of preserving employment. We aggregate these intermediate decisions to create a measure of pro-labor judicial bias at the court level.

Using this measure, we study how pro-labor bias in bankruptcy shapes the earnings dynamics of workers of financially distressed firms. The main identification challenge we face is the potential correlation between pro-labor bias and the characteristics of a given region or the firms operating in it. For example, regions with more pro-labor courts could also be characterized by poorly functioning local labor markets. If this is the case, differences in workers’ outcomes after bankruptcy could be driven by differences in the characteristics of the local labor market that workers face, rather than being the effect of judicial bias. To deal with these challenges, we rely on two characteristics of our institutional setting. First, the Brazilian law requires bankruptcy cases to be filed in the judicial district where a firm’s primary establishment is located. Second, bankruptcy cases in the State of São Paulo are randomly assigned across courts within a judicial district. These characteristics ensure that firms cannot choose which court will handle their case, and that the degree of judicial bias they face is plausibly orthogonal to their initial characteristics. Exploiting this feature, our identification strategy compares the labor market outcomes of workers whose firms filed for bankruptcy in the same judicial district and year, and whose cases were assigned to courts with different degrees of pro-labor bias.

Our main empirical finding is that pro-labor courts generate higher labor costs for workers after bankruptcy. Specifically, workers of firms facing high pro-labor courts experience 4.2 percent lower annual labor earnings in the post-bankruptcy period relative to workers of firms facing low pro-labor courts within the same judicial district. This effect is persistent and still present 7 years after the bankruptcy filing. The documented negative impact on labor earnings is mostly driven by workers settling for relatively lower wages rather than by variation in their employment status. In addition, we document that such relative losses are present for both high- and low-skill workers. The result is particularly striking for high-skill workers, whose average earnings are not significantly affected when their firm’s case is assigned to a low pro-labor bias court. Among workers’ occupations, the adverse effects of pro-labor bias are mostly felt by white collar professionals and blue collar workers, the latter being precisely the type of workers that bankruptcy courts are trying to assist when ruling in favor or reorganizing distressed firms.

What explains the negative effect of pro-labor bias on workers’ earnings? To address this question, we start by documenting how pro-labor bias affects bankruptcy outcomes. We find that courts with higher pro-labor bias tend to facilitate the continuation of

insolvent firms, by either being more likely to reject liquidation requests, or less likely to subsequently liquidate a firm that entered reorganization. Notice that this occurs despite high and low pro-labor courts having similar levels of initial court congestion and taking similar time in resolving reorganization cases.

Building on this finding, in the second part of our paper, we study the impact of different bankruptcy regimes – i.e. liquidations vs. reorganizations – on labor outcomes. Differently from the US, but similarly to many other developing countries, a large fraction of bankruptcy cases in Brazil are liquidations, making it a suitable setting to study this question. To this end, we match firms that filed for bankruptcy under each of the two regimes with comparable firms that have never experienced bankruptcy in an event-study difference-in-differences specification, as in Graham et al. (2019).

Workers of liquidated firms experience a large initial drop in annual labor income relative to the control group, but their income converges back within 3 years from the bankruptcy filing. On the other hand, the earnings of employees of reorganized firms remain constantly lower than the control group in the long run. As high pro-labor courts are more likely to grant reorganizations or reject liquidation requests, this evidence is consistent with the negative effect of pro-labor bias on labor earnings. To the best of our knowledge, this is also the first paper to document this differential effect of liquidation versus reorganization on the evolution of workers' earnings. Consistent with the effect of pro-labor bias, we show that this difference in earnings dynamics is mostly driven by differences in wages rather than changes in employment status. In particular, the significant and persistent decline in wages observed in reorganizations is larger for employees that remain in the reorganized firm relative to those that leave the firm.

Overall, our empirical findings indicate that pro-labor bias negatively affects workers' earnings in the long run. The evidence suggests that these effects are driven by pro-labor courts favoring firm continuation, which tends to be associated with lower long-run wages for the average worker. In this sense, results are consistent with bankruptcy courts being myopic in their decisions to reorganize insolvent firms, potentially because they overweigh the expected short-term labor costs associated with initial displacement and fail to consider the long-term effects of inefficient reorganizations.

The rest of the paper is structured as follows: Section II provides a literature review. Section III describes the institutional background, while Section IV introduces the new measure of pro-labor bias. Section V describes the data, Section VI lays out the identification strategy and presents the effect of pro-labor bias on labor market outcomes. Section VII explores the mechanism and finally section VIII offers concluding remarks.

## II RELATED LITERATURE

Our paper contributes to the literature of distress resolution, and more specifically to the literature on the effect of bankruptcy and financial distress on employees.<sup>2</sup> Graham, Kim, Li, and Qiu (2019) show that bankruptcy is associated with large employee costs and estimate that in the US an employee’s annual earnings decrease by 10% in the year of bankruptcy and by 67% over a seven year period after the bankruptcy. Baghai, Silva, Thell, and Vig (2020) use Swedish administrative data and documents that financially distressed firms lose their most skilled employees, although they do not examine the effect on employee wages. Our contribution is twofold. First we provide novel evidence on the cost for bankruptcy on employees in developing countries, which is important given both the weaker institutions relative to the US and the fact that liquidations are the predominant type of bankruptcy resolution which is in contrast with what is the norm in developed countries. Second, we establish the causal effect of pro-labor bias in the outcome of the distress resolution for employees.

In addition, our results relate to the literature on the influence of judges’ individual characteristics on the bankruptcy process. From the theoretical perspective, Posner (2005) and Gennaioli and Shleifer (2008) examine how judicial policy preferences affect judges biases. On the growing empirical literature, Bris et al. (2006) examines bankruptcies in Arizona and New York from 1995 to 2001 and finds evidence that the particular judges drawn to handle a case differ in terms of the fractions they pay out to creditors, the length of the proceedings and how they adhere to absolute priority. Iverson et al. (2020) use large corporate Chapter 11 filing in the US and document that judge experience affects the time spent in bankruptcy, the likelihood of reorganization and refiling, as well as creditor recovery rates. Chang and Schoar (2013) use judge fixed effects to create a measure of pro-debtor friendliness and estimate its impact on bankrupt firms. Specifically, they show that pro-debtor judges lead to worse firm outcomes in terms of firm survival, sales and employment growth. Our paper differs from the existing work since it is the first to examine the impact of pro-labor bias in the the application of the bankruptcy law in a developing setting, where these biases are likely to play a stronger role. Additionally, our focus is on labor market outcomes at the employee level, and our granular data allows us to study labor market outcomes adjusted for employee characteristics and composition effects.

Our paper also relates to the broader literature on bankruptcy and reallocation of production factors. On the one hand, bankruptcy leads to a reduction in employee

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<sup>2</sup>A related literature examines the effect of financial distress and bankruptcy on firm-level employment. Hotchkiss (1995) shows firms downsize in terms of employment after Chapter 11 bankruptcy, Falato and Liang (2016) documents employment cuts following loan covenant violations, Agrawal and Matsa (2013) finds employment decreases by approximately 27% after bond defaults, and Caggese et al. (2019) shows that financial constraints distort firms’ firing decisions.

earnings (e.g. Graham et al., 2019); however, it also promotes self-employment and new firm creation (e.g. Hacamo and Kleiner, 2016). Moreover, the type of resolution, matters for asset reallocation. Hotchkiss (1995) examines 197 public companies post Chapter 11 and finds that many of them either go bankrupt or go through Chapter 11 again in the future, while Bernstein et al. (2019) find that long-run utilization of assets of liquidated firms is lower relative to assets of reorganized firms. Relative to this literature, our contribution is to study how the type of resolution affects labor. Differently from physical assets, firms are not the residual claimants of employees’ human capital (e.g. Hart and Moore, 1990). Thus, for example, employees have the opportunity to voluntarily exit from firms in financial and economic distress. This difference between real assets and human capital makes it challenging to draw insights from existing literature on how bankruptcy and type of resolution affects the reallocation and utilization of the labor input.

Finally, our paper contributes to the literature that explores the impact of institutional frictions in bankruptcy, with a particular emphasis on the experience of developing countries. Existing literature has studied the financial and real effects of lack of judicial specialization (Visaria, 2009), court efficiency (Rodano et al., 2016; Iverson, 2018; Ponticelli and Alencar, 2016), and political influence (Li and Ponticelli, 2020). Our paper contributes to this literature by introducing a measure of pro-labor judicial bias and studying how it affects bankruptcy resolution and labor market outcomes.

### III INSTITUTIONAL BACKGROUND

In this section we provide background information on two aspects of our institutional setting: i) the degree of pro-labor (or pro-debtor) bias characterizing the Brazilian Judiciary as evidenced by survey data, and ii) how the Brazilian bankruptcy system operates – including both its legal framework and rules regarding the assignment of cases to courts.

#### III.A JUDICIAL BIAS IN BRAZIL

Arida et al. (2005) argue that, potentially due to its pervasive income inequality, Brazilian society is traditionally characterized by a diffused anti-creditor bias, especially when contrasted with the positive view of the debtor, who is often described as a job-creator whose financial distress is more the product of unlucky circumstances than of misguided managerial decisions. Numerous surveys show that this bias is deeply rooted in the judicial system. Lamounier and De Souza (2002) conducted an opinion survey of about 500 Brazilian workers in the executive, legislative and judicial branches of government. The survey results showed that 61 percent of members of the judiciary declared that they agreed with the statement that a “judge has to perform a social function, and the quest for social justice justifies decisions in breach of contracts”, while only 7 percent of

them declared that “contracts must be enforced independently of their social effects.”<sup>3</sup> By contrast, the majority of respondents of the same survey that were not part of the judiciary expressed themselves in favor of contract enforcement being independent from social justice.

In a similar survey presented in Pinheiro (2003), approximately 700 judges were confronted with the same question. The results show that 73.1% of judges were *more* in agreement with the statement that social justice justifies decisions in breach of contracts than with the statement that contracts should always be enforced.<sup>4</sup> The latter survey also showed that the social justice view of the judiciary is broadly shared between both young and old judges (with a higher percentage among younger judges), and tends to be stronger *outside* of the richest and more industrialized states of São Paulo, Rio de Janeiro, Federal District and Rio Grande do Sul. As the data used in our paper focuses on judicial decisions in São Paulo, our setting can be considered a lower bound of pro-debtor bias present in the Brazilian context.

### III.B THE BRAZILIAN BANKRUPTCY SYSTEM

#### III.B.1 Legal Framework

The Brazilian Bankruptcy Law shares important similarities with the U.S. Bankruptcy Code by allowing for two types of in-court formal proceedings for insolvent firms, namely judicial reorganization (“Recuperação Judicial”) and liquidation (“Falência”).

Liquidations are predominantly involuntary proceedings initiated by one of the firm’s creditors, although a debtor itself that experiences both financial and economic distress has the opportunity to voluntarily request the commencement of formal liquidation proceedings. The procedure is analogous to Chapter 7 of the U.S. Bankruptcy Code. Once a petition for involuntary bankruptcy is filed with the court, the debtor has the opportunity to submit a defense, and/or file for an in-court restructuring within 15 days. If the liquidation case is not dismissed and the court accepts the request, a court-appointed trustee replaces the management and the debtor’s assets are sold through public auctions, sealed bids or public proclamations based on guidance from the judicial trustee. The proceeds are used to repay the existing liabilities pursuant to the statutory absolute priority order: (i) labor-related claims (capped at 150 minimum wages per employee), (ii) secured credits, (iii) tax liabilities, and (iv) unsecured claims.

In contrast, reorganizations are initiated only voluntarily by the debtor itself and the underlying procedures are largely analogous to the ones followed in Chapter 11 of the U.S. Bankruptcy Code. The reorganization process is a court-supervised procedure that was formally introduced in Brazil as part of the 2005 Bankruptcy Law Reform in an attempt

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<sup>3</sup>Statistics reported in Arida et al. (2005), Table 8.2, pag. 271.

<sup>4</sup>See Table 25, question 8 of the survey, Pinheiro (2003).

to modernize and replace the previously inefficient and rarely used reorganization-like process (“Concordata”) that basically only postponed debt repayment with no renegotiation between parties. The purpose of the judicial reorganization process is to enable economically viable (albeit financially distressed) firms to effectively restructure and overcome insolvency so as to preserve production, employment and the interests of creditors.<sup>5</sup> The stages and the time frame of the reorganization procedure are shown in Appendix Figure A1.

[Insert Appendix Figure A1 Here]

Following the filing of the reorganization request, the court decides its eligibility based on a set of statutory requirements. In most cases, the decision is primarily based on whether or not the firm has attached to the petition the required documentation, including current and previous financial statements and a complete list of creditors. An assessment of economic viability is done in a later stage with the participation of creditors. If the request is accepted, the firm is granted an automatic stay on its assets and creditors are prevented from pursuing their claims or repossessing any collateral for a period of 180 days.<sup>6</sup> In addition, the court appoints a trustee to oversee the proceedings and monitor the debtors’ activities.

Within the first 60 days, the debtor is expected to present a reorganization plan containing: i) a strategy<sup>7</sup> for the recovery of the firm; ii) estimates of the firm’s long-term economic and financial prospects under the proposed terms; and iii) an independent appraisal report with the estimated value of the firm’s existent assets. Claims with voting rights and subject to automatic stay are grouped together according to their types; labor claims, secured credits, unsecured credits and claims from small businesses.<sup>8</sup> Debt renegotiation offers cannot discriminate between creditors in the same class.<sup>9</sup>

After the reorganization plan is submitted, each creditor has 30 days to raise objections. If no objections are raised, the plan is considered to be approved. Otherwise, the court schedules a meeting that includes creditors with voting rights to vote on the proposed plan. If the plan is rejected by creditors that hold more than 50% of the total value of claims in any given class of claims, the firm is liquidated. If the plan is approved,

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<sup>5</sup>Article 47 of the Brazilian Bankruptcy Law No. 11.101/2005

<sup>6</sup>Brazilian law allows some exceptions to automatic stay during reorganization. For example, claims originated from lease contracts, chattel mortgages and accounts receivable lines of credit are not subject to automatic stay. However, during the first 180 days of the automatic stay, creditors holding these types of claims cannot sell “productive capital goods” (such as production plants, machinery or vehicles) that are deemed essential to the firm’s recovery.

<sup>7</sup>The proposed strategies involve a mix of debt renegotiation, asset divestitures, workforce downsizing and any attempt to obtain additional funding.

<sup>8</sup>Creditors whose claims are not subject to automatic stay do not vote on the reorganization plan but are allowed to veto the sale of any collateral supporting their claims.

<sup>9</sup>The law makes an exception for trade creditors that keep supplying the firm during its reorganization.



reorganization starts and the firm begins implementing the proposal restructuring plan.<sup>10</sup>

During the next two years, the firm is expected to adhere to the reorganization plan and any major change that deviates from the initial proposed plan must be approved by creditors. At the end of this two-year period, if everything has gone according to plan, the court declares the end of the reorganization period and the firm is considered to have recovered from insolvency. Otherwise, if at any point in this period the firm is considered to have failed to follow the reorganization plan, the court orders the conversion of its reorganization into a liquidation.

### *III.B.2 Assignment of Cases to District Courts*

Bankruptcy cases are adjudicated in state courts. Any liquidation or reorganization request has to be filed in the judicial district that has jurisdiction over the location of a firm’s primary establishment, which is predominantly where the firm’s headquarters are located. This restriction limits the ability of the debtor to engage in forum shopping by filing the petition in jurisdictions perceived as consisting of pro-debtor courts. The same restriction applies to any creditor that considers filing a liquidation request.

Bankruptcy requests are collected by a central office in the debtor’s judicial district (“Distribuidor Central”), which in turn randomly assigns cases to a district court within the judicial district. The random assignment process of judicial cases (“Distribuição Por Sorteio”) is established in the internal procedures of the Justice Department of the State of São Paulo. Judicial districts vary with regard to how many courts have jurisdiction over bankruptcy cases. For instance, while a case filed in the judicial district of Santos will be assigned to one of 12 general civil courts, bankruptcies filed in Serrana are automatically designated to its one and only district court. This can be seen in Figure I, where each dot represents a court in the judicial district in the state of São Paulo.

## IV A NEW MEASURE OF “PRO-LABOR” BIAS IN BANKRUPTCY

In this section we propose a new measure capturing the degree of pro-labor bias of courts dealing with bankruptcy cases. The objective of this measure is to capture the tendency of bankruptcy judges in a given court to deviate from statutory legal provisions with the goal of preserving employment in financially distressed firms. Judges in Brazil often cite preserving employment as an important consideration underlying a decision to grant a distressed firm the opportunity to reorganize, or when they decide to reject a creditors’ liquidation request. This is consistent with the importance of labor protection in determining policy-making in Brazil. Indeed, Brazil exhibits relatively strict

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<sup>10</sup>The court can still allow the firm to continue with its reorganization even though the plan has been voted down. For that to happen, the plan must have been approved by: i) creditors in attendance representing at least half of the total value of claims in all classes; ii) half of the classes with creditors in attendance; and iii) more than a third of creditors in the classes in which it was rejected.

labor regulations in across-countries comparisons (Botero et al., 2004), and the Brazilian Bankruptcy Law explicitly recognizes the importance of preserving employment in shaping the reorganization process.

To construct our measure of pro-labor bias we rely on the text of intermediate judicial decisions in bankruptcy cases filed in the State of São Paulo. In particular, we collected the text of all decisions made by bankruptcy courts until March 2020 regarding reorganization and liquidation cases filed between 2005 and 2017.<sup>11</sup> Bankruptcy judges typically have some discretion when making these intermediate decisions, even when the article of the law on a specific issue is very clear. This leads to instances in which two judges ruling on the same issue and referring to the same article of the law in their decision, make different – and in some cases, opposite – rulings.<sup>12</sup>

One example of a legal provision where courts exercise discretion is Article 49 of the Brazilian Bankruptcy Law. This article explicitly excludes from the automatic stay specific types of secured claims, including claims originated from lease contracts, chattel mortgages and accounts receivable lines of credit. However, judges can deviate from the wording of this provision by considering the collateral of these secured loans a “productive capital good” (e.g. production plants, machinery or vehicles) that the court deems essential to the firm’s recovery and that therefore cannot be sold by creditors. In these instances, judges often cite Article 47 of the Bankruptcy Law, which states that a reorganization has the general objective of “maintaining jobs and creditors interests while promoting the preservation of the firm, its social function while stimulating economic activity”. Thus, when ruling against creditors seizing the collateral they are entitled to by law, courts routinely refer to this general objective and argue that limiting bankruptcy protection would harm the firm’s chances of survival and generate job losses.

Our methodology proceeds in two steps. First, we analyze the text of all decisions and identify mentions of specific legal provisions or articles of the bankruptcy law and the civil code that judges can use to exercise their discretion either in favor or against the continuation of the firm. Second, for each mention of one of these articles, we read the ruling and classify it as being either pro-labor, pro-creditor, or neutral.<sup>13</sup> In the example

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<sup>11</sup>Especially in the course of the reorganization process, there are several instances in which a court is called to make a decision. For example, in the early stages, courts decide whether to grant bankruptcy protection; rule on the right of particular secured creditors to seize collateral; decide whether trade creditors are allowed to discontinue supply during the stay period; and determine if the 180 days stay period should be extended. In the later stages, it is up to the court to rule on any creditors objections to the proposed plan; to decide on whether to uphold the outcomes of creditors’ votes; to determine whether any particular actions taken by the debtor’s management merit their removal; and to conclude if the reorganization should be resolved or should be turned into a liquidation.

<sup>12</sup>This relative flexibility in interpreting the law was in part granted by design by lawmakers to allow judges to decide based on the specifics of each case while adhering to the general spirit of the law. However, at least to some degree, this flexibility has traditionally allowed judges to make choices more aligned with their preferences and beliefs.

<sup>13</sup>The data collection process involved the creation of three apps that were used by the research assistants to categorize: (a) the outcomes of liquidation cases; (b) the outcomes of reorganization cases;

above, for each mention of Article 49 by a judge in a reorganization case, we read the decision and classify it as “pro-creditor” when the judge allows creditors to seize the assets given as collateral (as the law prescribes), and as “pro-labor” when the request to seize the collateral was denied. Although the pro-labor decisions are effectively pro-debtor, we use this terminology due to the fact that judges frequently justify this deviation from the letter of the law by referring to the goal of preserving employment in their rulings. In Table A1 of the Appendix we provide a detailed description of the legal provisions we searched for and the criteria we used when categorizing the decisions. It also reports some illustrative examples of pro-labor and pro-credit decisions for each article.

Finally, we aggregate pro-labor and pro-creditor decisions at the court level by assigning a value of 1 to pro-labor decisions and a value of -1 to pro-creditor ones, and then normalize the outcome by the total number of decisions of the judicial district (including neutral ones). Therefore, for a decision at time  $t$  pertaining to subject  $s$  in court  $c$  of judicial district  $j$ , our pro-labor bias index is computed as:

$$\text{Pro} - \text{LaborBias}_{cj} = \frac{1}{N_{cj}} \sum_t \sum_s D_{cjts}$$

in which  $N_{cj}$  is the number of total decisions of court  $c$  in judicial district  $j$  in our sample and  $D_{cjts}$  is the sum of pro-labor and pro-creditor decisions. A pro-labor bias value of 1 implies that a court always ruled in a pro-labor direction whenever one of legal provisions above has been mentioned. On the other hand, a value of -1 implies that a court always ruled in a pro-creditor direction. We aggregate decisions as the court-level because that is the level of randomization that we are going to exploit in the empirical analysis. Notice that there is limited mobility of judges across courts in our sample, with 84% of judges only observed in one court during the period under study.

Panel A of Table I reports summary statistics of the pro-labor measure for the 540 courts that have handled bankruptcy cases during the period under study. Figure I shows the geographical variation in pro-labor bias both across and within judicial districts. The upper part of the figure reports a map of the state of São Paulo, with the level of pro-labor bias in each judicial district calculated as the weighted-average of pro-labor bias across the courts in the district.<sup>14</sup> In the lower part of Figure I, we report the list of judicial districts in our sample. Each dot next to the judicial districts’ names represents a court, with the color of the dot indicating the court’s level of pro-labor bias (above vs below the median in our sample). As shown, there is substantial variation of the pro-labor bias measure within districts, and this is the variation we exploit for the empirical analysis in Section VII.A.

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(3) the intermediate judicial decisions into pro-creditor, pro-debtor or neutral. Figure A4 in the Appendix of the paper shows examples of the interface for each of the three apps we created.

<sup>14</sup>Where the weights correspond to the share of bankruptcy cases filed in each court.

[Insert Figure I Here]

Next, in panel B of Table I we document how our measure of pro-labor bias correlates with other observable court characteristics, including measures of court efficiency and incidences of different bankruptcy outcomes. As shown, we find no significant differences in terms of court efficiency as measured by the backlog of pending cases or the average length of reorganization cases (for which we can compute an accurate measure of duration). However, there are important differences in other judicial outcomes at the court level. In particular, high pro-labor courts are more likely to dismiss a liquidation request by a creditor, and less likely to convert a reorganization case into a liquidation. Overall, these differences highlight the role of pro-labor bias in contributing to the continuation of insolvent firms. We investigate this relationship more formally and exploiting the random assignment of cases across courts in a district in Section VII.A.

[Insert Table I Here]

## V DATA

This paper uses two primary data sources for the analysis. First, we manually construct a dataset of bankruptcy requests in the state of São Paulo between 2005 and 2017. Second, we use matched employer-employee records that consist of nearly the universe of formal employment in Brazil from the *Relação Anual de Informações Sociais (RAIS)* from the Brazilian Ministry of Labor (MTE).

### V.A BANKRUPTCY DATA

Information on bankruptcy requests was collected from the electronic records of the *Tribunal de Justiça de São Paulo (TJSP)*, which include detailed information on court decisions related to judicial cases filed and adjudicated in the state of São Paulo. We collected information on the type of the bankruptcy petition, the identity of the debtor, and the intermediate decisions for 13,695 bankruptcy requests filed between 2005 and 2017.

Specifically, the electronic records contain detailed case-level information that includes the filing date, the type of the bankruptcy request (liquidation or reorganization), the judicial district and the court to which the case was assigned, the name of the judge responsible for the case, and finally, the names of the claimant and the defendant. Additionally, we collected information on any intermediate court decisions, including the decision date and the decision outcome (e.g. decision to approve the reorganization, or to convert the reorganization to liquidation). We follow decision updates to the bankruptcy cases from the time they are filed up to March 2020.

## V.B RAIS DATA

Information on linked employer-employee relationships is obtained from RAIS that is collected by the Brazilian Ministry of Labor (*Ministério de Trabalho e Emprego - MTE*) since 1976. RAIS is a longitudinal administrative dataset that is compiled at an annual basis from information collected directly by formally-registered, public or private firms and includes comprehensive information on labor contracts. The objective of the RAIS dataset is to administer and monitor access to unemployment insurance and payment of benefits to eligible employees, and, therefore, firms have strong incentives to provide comprehensive and accurate information in MTE. In addition, control mechanisms are in place to ensure mandatory compliance to the requirements of RAIS. Based on estimates of the Ministry of Labor, RAIS includes over 95% percent of formally-employed individuals in Brazil. We obtained access to RAIS for the period from 1985 to 2016.

The unit of observation in RAIS is a job entry that is identified by an employee-level identifier (PIS) and an establishment-level identifier (CNPJ), and enables us to track individuals over time and across firms. Specifically, the establishment-level identifier, CNPJ, consists of fourteen digits, the first eight of which identify the registration number of the firm and digits nine through twelve determine whether the registered entity is a firm's headquarters or a branch office. The firm name has been used to identify firms filing for a bankruptcy request using information on the debtor's name extracted from the TJSP.

In addition, RAIS includes information regarding the start and end date of the specific job entry, occupation type, wage level, and demographic characteristics. Additionally, RAIS contains information on the terminations of labor contracts which allows us to identify exits from the labor force due to retirement or death. The occupation type is coded according to the *Classificação Brasileira de Ocupações* (CBO). At the establishment-level, RAIS contains information on the geographical location of the establishment, and the sector that the specific establishment operates. At the individual-level, available demographic characteristics include gender, age, race and education level.

## V.C FINAL SAMPLE

Because our employee-employer dataset ends in 2016, for our empirical analysis we focus on bankruptcy requests from June 2005 (after the Bankruptcy Law Reform was introduced) to December 2011, so that employee-level information is available for five years before and at least five years after the bankruptcy request.

We begin with 2,432 bankruptcy requests from June 2005 to 2011 and use debtor names as reported in TJSP to determine firm-level identifiers. Specifically, for liquidations initiated by one of the creditors, we rely on the name of the defendant, while for reorganizations (that are always initiated by the debtor) the relevant entity is identified

using the name of the claimant. Firms based in Brazil are assigned an identification number from the Department of Federal Revenue (*Secretaria da Receita Federal do Brasil*), namely the National Registry of Legal Entities Number or CNPJ (*Cadastro Nacional da Pessoa Jurídica*) Number. To determine the identification number attached to firms involved in a bankruptcy request, we first match by firm name to RAIS where the CNPJ information is readily available. In case there is no match available, we manually searched and collected the CNPJ information. Following this process, we were able to collect the CNPJ of around 88% of the filings involving 1,627 liquidation and 513 reorganization requests.

Out of the 2,140 bankruptcy requests, there are cases where a debtor appears in multiple requests. This can primarily occur for the following reasons. First, since a liquidation request is primarily initiated by a creditor, it is likely that multiple creditors file for a liquidation petition. Second, one of the potential reasons that a liquidation request is dismissed by a court is if the debtor files for a reorganization request that is subsequently accepted by the court. Finally, the Brazilian Bankruptcy Law allows a debtor to refile for bankruptcy five years after a reorganization has been granted. Though uncommon in our sample, in principle, it is possible to find multiple reorganization cases for the same firm in different time periods. Therefore, to deal with multiple requests, we used the following steps. First, within a year, we prioritize the requests with the status of “ongoing.” Second, we prioritize reorganization over liquidation requests. Finally, for multiple within-year liquidation requests, we keep the one with the earliest filing date. As a result, our sample includes 2,014 bankruptcy requests corresponding to 1,921 unique firms.

Next, we match the information on the identity of bankrupt firms with our administrative employer-employee dataset. Out of the 2,014 bankruptcy requests, we exclude cases where the debtor has no employment information reported in RAIS in the year before the bankruptcy request. To identify firms that are economically active, we only include bankrupt firms with at least five employees in RAIS one year before the bankruptcy request. This leaves us with 990 cases. Finally, we exclude cases of firms with average employment growth rate larger than 100% in the three-year period before bankruptcy. As a result, our final sample includes 882 bankruptcy requests involving 847 insolvent firms.

## VI THE EFFECT OF PRO-LABOR BIAS ON LABOR MARKET OUTCOMES

### VI.A IDENTIFICATION STRATEGY

In this section we present our identification strategy to estimate the causal effect of the measure of pro-labor bias presented in Section IV on the earnings’ dynamics of workers

of financially distressed firms. The main challenge we face is that, presumably, pro-labor bias of courts in a given region might be correlated with other characteristics of that region and of the firms that operate in it. For example, if regions with more pro-labor courts are also characterized by poorly functioning local labor markets, differences in workers' outcomes after bankruptcy could be just driven by differences in the type of job opportunities that workers face. Another potential concern is selection between firms and courts. In particular, relatively less productive firms might decide to file for bankruptcy in courts with a more pro-labor reputation, as that might lead to a higher probability of continuation.

To deal with these challenges, we rely on two characteristics of our institutional setting. First, as described in Section III.B.2, the Brazilian Bankruptcy Law requires any liquidation or reorganization request to be filed in the judicial district where a firm's primary establishment is located. Second, bankruptcy cases in the State of São Paulo are randomly assigned across courts within a judicial district. These two characteristics ensure that, when comparing cases filed within the same judicial district and year, firms cannot choose which court will handle their case, and that the degree of judicial bias they are expected to face is plausibly orthogonal to their initial characteristics. Exploiting these features, our identification strategy compares the labor market outcomes of workers whose firms filed for bankruptcy in the same judicial district and year, and whose case was assigned to courts with different degree of pro-labor bias.

To examine the impact of bankruptcy on employees' labor market outcomes, we employ a difference-in-differences specification, which uses the year of bankruptcy filing as source of time variation, and the degree of pro-labor bias of the court assigned to each case within a district as source of cross-sectional variation. To exploit the random assignment of cases, we restrict our focus to judicial districts that have multiple courts with at least one classified as high and one classified as low pro-labor court.<sup>15</sup> Our main specification at the employee-level is as follows:

$$Y_{icjk,t} = \alpha_i + \alpha_t + \alpha_{jk} + \beta_1 Post_k + \beta_2 Post_k \times I_{cj}^{HighPro-Labor} + \beta X'_{icjk,t} + \varepsilon_{icjk,t} \quad (1)$$

where  $Y_{icjk,t}$  is an outcome for individual  $i$  in calendar year  $t$  – e.g. annual labor earnings – which was employed by a bankrupt firm whose case was allocated to court  $c$  in judicial district  $j$  in year  $k$ . Individuals are assigned to bankrupt firms based on their employment in the year before the bankruptcy case was filed. Our main coefficient of interest is  $\beta_2$ ,

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<sup>15</sup>Out of the 218 judicial districts in our sample, 127 have multiple courts, while 91 have a single court in charge of bankruptcy cases. Out of the 127 districts with multiple courts, 86 districts encompass courts with high and low degrees of judicial bias. Notice that these 86 districts tend to be the largest in our sample both in terms of judicial decisions observed (85.6%) and in terms of bankruptcy cases they deal with (87.9%).

which captures the effect of being assigned to a high pro-labor court relative to a low pro-labor court on workers' outcomes in the post-bankruptcy period. The specification in equation (1) also includes individual fixed effects ( $\alpha_i$ ), calendar year fixed effects ( $\alpha_t$ ), and judicial district interacted with bankruptcy year fixed effects ( $\alpha_{jk}$ ). Thus, the relevant variation identifying  $\beta_2$  derives from differences across workers whose employers filed for bankruptcy in the same judicial district and year, but whose cases were randomly assigned to courts with different levels of pro-labor bias. For each worker, we focus on the five-year period before and the seven-year period after the bankruptcy event. In selecting the timing of the bankruptcy, we use the filing date as provided by the TJSP.

In Table II we formally test whether workers whose employer got assigned to a high vs a low pro-labor court differ in terms of observable characteristics. The results reported in Column (1) demonstrate that workers' characteristics – including years of education, gender, age, tenure and wage level – do not predict whether a worker's employer will face a high or a low pro-labor court. Notice that this specification includes judicial district interacted with year of bankruptcy fixed effects. Thus, the small and non-significant coefficients on workers' characteristics are consistent with random assignment of cases across courts within a district. In Column (2) we show that workers whose employers are assigned to courts with different levels of pro-labor bias exhibit similar pre-existing trends in wage growth in the five years before bankruptcy filings. Finally, in Column (3) we include both worker characteristics and pre-existing wage growth in a single regression. The magnitudes of all estimated coefficients are small and none of them is significant at standard levels. Still, in the empirical analysis we will augment Equation (1) with (time-varying) individual characteristics, and show that such controls have virtually no impact on the magnitude of the coefficient of interest.<sup>16</sup>

## VI.B MAIN RESULTS

The main results from estimating Equation (1) are reported in Table III. We begin our analysis in Panel A by examining the impact of pro-labor bias on workers' earnings in the post-bankruptcy period.<sup>17</sup> The estimated coefficient on the *Post* indicator variable ( $\beta_1$ ) reported in Column (1) indicates that, on average, workers whose employers are assigned to low pro-labor bias courts experience a decline of 11 percent in annual earnings in the seven-year period after the bankruptcy request relative to their earnings in the pre-bankruptcy period. The estimated coefficient on the interaction term ( $\beta_2$ ) captures the

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<sup>16</sup>Specifically,  $X'_{icjk,t}$  in Equation (1) includes the following time-varying worker characteristics: Years of Experience (defined as Age - Years of Education - 4), Years of Experience  $\times$  Years of Education, and years of Experience  $\times$  Female indicator. Notice that the Education and Gender variables are not included in the estimation because they are constant at the individual level and thus absorbed by the worker fixed effects.

<sup>17</sup>We measure earnings as the logarithm of an individual's aggregate annual earnings across all employers. This is because an individual can be employed at more than one firms over a year.



difference in the change in labor earnings between employees facing high versus low pro-labor courts. The magnitude of the estimated coefficient on the interaction term is -0.046, which indicates that the decline in earnings for workers of firms assigned to high pro-labor courts is 4.6 percent larger than the one experienced by workers of firms assigned to low pro-labor courts. This indicates 15.6 percent lower annual earnings on average in the post-bankruptcy period. Given the random assignment of cases across courts within a judicial district, these estimates can be interpreted as the causal effect of our measure of pro-labor bias on workers' earnings.

[Insert Table III Here]

In Column (2) we augment the specification with the set of individual characteristics described in Section VI.A. As shown, the magnitude of the coefficient is stable when including these additional controls. We read the coefficient in Column (2) (-4.2 percent) as the main empirical result of the paper.

In Columns (3) to (5), we explore the impact of pro-labor bias on the evolution of earnings using different time windows for the post-bankruptcy period. Specifically, Column (3) provides earnings estimates for the the two-year period after the request, Column (4) focuses on the three-year period after the bankruptcy, while Column (5) reports the estimates for the five-year period following the filing. The bottom line of this exercise is that the relative losses in earnings from facing a high pro-labor court tend to materialize within the first two to three years after the bankruptcy request, and persist, by remaining relatively stable in the medium to long run.

Since bankruptcy requests are ordinarily followed by a rigorous restructuring process that potentially involves the liquidation of the firm, the observed post-bankruptcy earnings decline likely reflects displacement and wage declines. Therefore, to identify the drivers of this earnings adjustment, we decompose changes in earnings into a wage component and a labor market participation component. The wage component captures any adjustment driven by changes in average monthly wages.<sup>18</sup> The labor market participation component captures any changes in the number of months of employment in a given year.<sup>19</sup>

The results are reported in Panels B and C of Table III and suggest that the differential impact of pro-labor bias on earnings is primarily driven by employees in high pro-labor bias courts earning, on average, lower wages in the post-bankruptcy period. The magnitude of the estimate of the interaction term in Column (2) of Panel B indicates

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<sup>18</sup>Since RAIS reports the number of hours assigned to a specific labor contract, we can alternatively use the average hourly wage of employee  $i$  in year  $t$ . The results are unchanged.

<sup>19</sup>To estimate the impact of bankruptcy on employment months, we follow the displacement literature and start with a balanced sample where we consider years with no information in RAIS to correspond to zero months of employment. As a result, we implicitly assume that an individual with no employment information in RAIS at a specific year is unemployed and the estimates represent a lower bound. The advantage of RAIS is that we are able to capture exits due to retirement or death. As a result, we drop years with zero employment months after we detect a separation that corresponds to retirement or death.

a significant 2.6 percent larger decline in average wages for employees facing high pro-labor bias courts. Interestingly, the estimate in Column (2) of Panel C indicates that, on average, workers facing high pro-labor courts actually experience a relative decline in the number of employment months in the post-bankruptcy period; however, this coefficient is smaller than the effect on wages, and not statistically significant. Nevertheless, this is surprising, given that, at least in the wording of the judicial decisions we use to construct our measure of pro-labor bias, preserving employment emerges as a prominent theme.

## VI.C HETEROGENEOUS EFFECTS BY TYPE OF WORKER

In this section, we exploit cross-sectional employee-level variation to characterize the extent and direction of the impact of pro-labor bias on different groups of employees. The results are reported in Table IV.

We begin our analysis in Columns (1) and (2) by comparing the post-bankruptcy earnings effects of pro-labor bias on high-skill and low-skill workers. Consistent with theories that highlight the role of outside options in macroeconomic search and bargaining models (e.g. Postel-Vinay and Robin, 2002; Cahuc et al., 2006), the demand for high-skill employees is expected to be higher, while barriers to mobility are considered to be comparatively higher for low-skill workers (e.g. Burdett and Mortensen, 1998; Schwartz, 1973). To proxy for skill, we use information on educational attainment of the individual as reported in RAIS. Specifically, we define as high-skill any employee that has completed at least high-school education, while we define as low-skill any employee not having completed high-school education.

Two main findings emerge from the analysis. First, the effect of bankruptcy on employee earnings is negative and large for low-skill employees (about 13 percent), while there is a positive effect (albeit small and statistically insignificant) for high-skill labor. This is consistent with the fact that, absent pro-labor bias, or when courts are more likely to stick to the wording of the law, the cost of bankruptcy in terms of employees' earnings disproportionately falls on low-skill labor, while high-skill workers are better able to absorb the shock and find employment that guarantees similar earnings. Second, pro-labor bias, surprisingly, does not even the field, but actually impose additional costs on *both* types of workers. In particular, we find that high- and low-skill workers experience an additional 4.6 and 3.6 percent decline in earnings respectively when their employers are assigned to high pro-labor courts.

Next, in Columns (3) to (5), we focus on employees with different roles within the firm. We classify employees to occupational categories by exploiting information on the occupational code assigned to the labor contract at  $t = -1$ . Specifically, we categorize employees into Managers, Professionals, Clerks and Blue-Collar Workers.<sup>20</sup>

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<sup>20</sup>Each category corresponds to the following occupational categories in the RAIS data (numbers refer to the first or the first two digits of the CBO occupation code): Managers: 12-13-14, White-Collar

We begin by examining earnings changes for managers. On the one hand, managers are high-skilled individuals and are expected to have better outside options. On the other hand, bankruptcies may lead to significant reputational costs for managers by holding them responsible for the firm’s distress. This implies that in the post-bankruptcy period, managers may encounter adverse labor market outcomes, including increased displacement, occupational downgrading, and non-employment due to negative signaling or a stigma effect (e.g. Vishwanath, 1989). The results in Column (3) demonstrate that managers experience the largest decline in average earnings after bankruptcy (-17.4 percent) among all occupational categories. This is consistent with labor markets disciplining managers that were displaced due to bankruptcy, pointing to the existence of a stigma effect.<sup>21</sup> However, the degree of pro-labor bias does not play a role in their post-bankruptcy earnings trajectory.

In Columns (4) and (5) we restrict our attention on the effect of pro-labor bias on the earnings of white collar workers, which we split in two categories: professionals and clerks. The first category includes relatively high-skill individuals with white collar jobs – such as engineers and specialized technicians – while the second category includes more administrative positions, such as administrative assistants. Finally, in Column (6), we focus on blue-collar workers. Two findings emerge. First, the average effect of bankruptcy when facing low-pro labor bias courts is negative for all categories of workers, and declining with the average skill level of workers within each category; blue collars experience larger declines than clerks, and clerks experience larger declines than professionals. However, when it comes to the differential effect of pro-labor bias, the categories that experience larger relative decline when facing high pro-labor courts are professionals and blue-collar employees. Notice that the latter are precisely the type of workers that bankruptcy courts are usually trying to assist when ruling in favor or reorganizing distressed firms.

## VII MECHANISM

### VII.A THE EFFECT OF PRO-LABOR BIAS ON BANKRUPTCY RESOLUTION

Why does pro-labor bias of courts in charge of bankruptcy cases have a negative and large effect on workers’ post-bankruptcy earnings? In this section we analyze potential mechanisms that can rationalize the findings documented in Section VI. We start by highlighting the role of pro-labor bias in affecting the type of bankruptcy resolution. As documented in Section IV, courts with high pro-labor bias tend to be less inclined to subsequently liquidate a firm in reorganization or to approve a liquidation request by creditors. Therefore, we proceed to formally examine the effect of pro-labor bias on

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Professionals: 2-3, White-Collar Clerks (4-5), Blue Collar Workers: 6-9.

<sup>21</sup>53 percent of the managers are displaced in the first year of the bankruptcy and 57 percent experience occupational downgrade by reallocating to non-managerial positions.

bankruptcy resolution by estimating the following specification:

$$Y_{icjk} = \alpha_{jk} + \delta \times I_{cj}^{HighPro-Labor} + \varepsilon_{icjk} \quad (2)$$

where  $Y_{icjd}$  is a case-level outcome for case  $i$ , filed in court  $c$  of judicial district  $j$  in year  $k$ . The coefficient of interest is  $\delta$ , which captures the impact of a high level of pro-labor bias on bankruptcy resolution. Notice that Equation (2) includes judicial district interacted with bankruptcy year fixed effects ( $\alpha_{dk}$ ). Thus, given the random allocation of cases across courts within a district, we interpret the coefficient  $\delta$  as the causal effect of our pro-labor bias measure on case-level outcomes.

[Insert Table V Here]

Panel A of Table V reports the results of estimating Equation (2). In Columns (1), (3), (5), and (7) we use the continuous court-level measure of pro-labor bias, while in Columns (2), (4), (6), and (8) we use an indicator variable that is equal to 1 for courts with pro-labor labor bias measure larger than the median value, and 0 otherwise.

We start by focusing on reorganization cases that were filed in São Paulo from 2005 to 2017. In particular, in Columns (1) and (2) we examine the relation between pro-labor bias and the probability that a reorganization case is converted into a liquidation. As demonstrated, reorganization requests in high pro-labor courts are associated with a significantly lower incidence of conversions to liquidation. The magnitude of the coefficient estimate in Column (2) indicates that reorganization cases filed in high pro-labor courts are 8.4 percent less likely to be converted into liquidations. In Columns (3) and (4) we investigate the impact of pro-labor bias on the probability that a reorganization request is dismissed, finding no significant effects when comparing cases filed within the same judicial district and year. In Columns (5) and (6) we focus on case length, as measured by the logarithm of the number of days between the filing of the reorganization request and resolution of the case. We find that cases randomly assigned to courts with high pro-labor bias have on average similar duration than those assigned to low pro-labor bias courts. That is, courts with different bias levels do not seem to differ in terms of their efficiency (within a judicial district). Finally, in Columns (7) and (8), we transition our focus on liquidation cases and demonstrate that there is a positive relationship between the degree of pro-labor bias and the likelihood that a liquidation request is dismissed. Specifically, the coefficient estimate in Column (8) suggests that the incidence of a liquidation request dismissal is 16.5 percent higher in high pro-labor courts.

In a second step of our analysis, we explore the relation between pro-labor bias and firm-level outcomes for different types of bankruptcy regimes. Panel B of Table V reports the effects of pro-labor bias on firm employment and continuation using a firm-level version of Equation 2. The outcome variable in Column (1) is the logarithm of a firm's number of

employees at a specific year around the bankruptcy event, while in Columns (2) to (4) we examine firm continuation by using an indicator variable that equals 1 in the years when the firm reports non-zero employment in RAIS, and 0 for the year that the firm exits our sample.

The estimates in Columns (1) to (4) demonstrate that firms whose bankruptcy case was randomly assigned to high pro-labor courts experience a lower decline in employment, and are less likely to exit in any time window over the seven-year post-bankruptcy period. In particular, the magnitudes of the coefficient estimates indicate that the effects are economically large, with firms in high pro-labor bias courts having 28 percent higher employment and around a 10 percent higher probability of continuation in the seven-year period after the request.

## VII.B ASSESSING THE IMPACT OF DIFFERENT BANKRUPTCY TYPES ON EMPLOYEES' EARNINGS

Having established that pro-labor bias matters for the type of bankruptcy resolution, we attempt to characterize the direct impact of different bankruptcy resolutions – and in particular liquidations vs reorganizations – on employees' earnings.

To this end, we implement a matching estimator approach, and construct a matched sample of firms that have never experienced bankruptcy during the period under study based on firm observable characteristics. More specifically, for each firm that filed for bankruptcy in our sample, we select a potential counterfactual firm that is located in São Paulo, and (i) has never experienced a bankruptcy event, (ii) operates in the same two-digit sector, (iii) is registered as the same business type as the bankrupt firm, (iv) has the same multi-establishment status, (v) is in the same size decile in the year prior to the bankruptcy event, (vi) is in the same quintile of average employment growth for the three-year period prior to the year before the bankruptcy filing, and (vii) has been present in RAIS for precisely the same pre-bankruptcy period as the treated firm.<sup>22</sup> Similar matching strategies have been extensively used in the literature (e.g. Davis et al., 2014; Olsson and Tåg, 2017; Graham et al., 2019).

Table VII presents firm- and employee-level summary statistics for treated and control firms. Panel A reports firm-level employment-related characteristics and documents that control and treated firms are similar in terms of total employment, total wage bill and labor composition. This is consistent with the matching procedure finding comparable counterfactuals. Panel B of Table VII presents employee-level descriptive statistics for the 179,329 workers of treated and control firms. As shown, workers display similar characteristics in terms of education, gender, age, tenure and average log wage.

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<sup>22</sup>In case there are multiple potential control firms, we select the two firms that experience the closest three-year employment growth prior to the year before the bankruptcy event. The matching strategy identifies at least one counterfactual firm in about 77% of the cases.

[Insert Table VII Here]

To examine the impact of different bankruptcy types on employees' labor market outcomes, we employ a difference-in-differences specification around the timing of the bankruptcy event by comparing outcomes for employees of firms filing for liquidations or reorganizations relative to outcomes for employees of counterfactual firms. Our main specification at the individual level for this analysis is as follows:

$$Y_{it} = \alpha_i + \alpha_t + \alpha_b + \alpha_{dt} + \sum_{p=-5}^{p=+7} \lambda_p d_{jt}(p) + \sum_{p=-5}^{p=+7} \delta_p d_{it}(p) \times I_i^{Treated} + \beta X'_{it} + \varepsilon_{it} \quad (3)$$

where  $Y_{it}$  is an outcome for worker  $i$  in calendar year  $t$ , and  $p$  is used to index normalized time expressed in years relative to the bankruptcy filing and ranges from -5 to +7. The indicator variable  $d_{it}(p)$  is equal to 1 if  $d_{it}(p) = p$  and is used to identify leads and lags around the time of the bankruptcy event.  $I_i^{Treated}$  is an indicator function equal to 1 for employees of firms that have experienced either a liquidation or a reorganization event at any point in time, and equal to 0 for employees of counterfactual firms. The specification includes worker fixed effects and calendar year fixed effects. Moreover, we also present results adding judicial district  $\times$  year fixed effects, so as to absorb unobservable time-varying differences across judicial districts  $d$ . We include bankruptcy fixed effects to ensure that each treated firm is matched with its respective control firms. Finally,  $X'_{it}$  includes the time-varying worker characteristics also used in Equation (1). The coefficients of interest ( $\delta_p$ ) capture the average difference in the outcome variable between employees in treated and control firms when  $d_{it}(p) = p$  and are normalized to zero at  $p = -1$ . The standard errors are clustered at the firm level. To account for changes in the composition of workers in the post-bankruptcy period and make sure that we estimate the effects for workers who experience bankruptcy, the estimation considers only the set of employees that were present in treated and control firms in the year prior to the bankruptcy event ( $t = -1$ ).<sup>23</sup>

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<sup>23</sup>The identifying assumptions that allow a plausibly causal interpretation of the estimated treatment effect in a difference-in-differences specification are the parallel trend assumption and the stable unit value treatment assumption (SUVTA). In our empirical analysis, we document the existence of pre-bankruptcy parallel trends of the outcome variables. The SUVTA requires that bankruptcies have no general equilibrium effects on worker-related outcomes of counterfactual firms. For example, the bankruptcy of a firm that employs a large share of the local labor market may affect the employment decisions of control firms located in the same local labor market and compete in the same product market. However, given that the set of counterfactual firms has been selected using a broad definition of sector within the State of São Paulo, where there is a sufficient number of firms, it is unlikely that any of the firms included in the sample constitutes a large fraction of the sector in the State of São Paulo.

### *VII.B.1 The Effect of Different Bankruptcy Regimes on Earnings*

We begin our analysis by studying the evolution of average workers' earnings in the post-bankruptcy period. Figure II plots the estimated  $\delta_p$ s from Equation (3) along with the respective 95% confidence intervals. The horizontal line represents the timing of the bankruptcy event, that is the year in which the bankruptcy request was filed. We focus on a five-year period prior to the bankruptcy event and up to a seven-year post-bankruptcy period so as to document the long-term dynamics of employee earnings. The excluded year is  $p = -5$ . This implies that the difference in earnings between employees of bankrupt and control firms are expressed relative to their earnings five years prior to the bankruptcy request.

[Insert Figure II Here]

As shown, employees of firms that file for bankruptcy experience a statistically significant and persistent decline in earnings over the post-bankruptcy period. In particular, treated employees' earnings dropped sharply at the year of the filing and gradually increased in the seven-year period following the request. The gap in earnings between treated and control workers never recovers, remaining constantly at a lower level compared to what was observed prior to the bankruptcy event. In support of the parallel trends assumption, we find no significant differences in the earnings trajectory between treated and control workers in the five-year period preceding the bankruptcy request.

Next, in Figure III, we estimate Equation (3) separately for liquidations and reorganizations. The classification of bankruptcies is based on the nature of the initial bankruptcy request. The estimates reveal significant heterogeneity in the post-bankruptcy earnings trajectory of treated employees based on the type of the bankruptcy process. Specifically, we find that, in the year of bankruptcy filing, workers of liquidated firms experience a larger decline in earnings relative to workers of reorganized firms. Annual labor income drops by around 18 percent for workers in liquidated firms, compared to an 11 percent decline for employees of reorganized firms. Importantly though, there are fundamental differences in the persistence of these effects between the two types of bankruptcy. In particular, annual labor earnings of workers of liquidated firms start converging back to their pre-bankruptcy level already one year after the liquidation request, reaching their pre-bankruptcy level within 3 to 4 years. On the other hand, workers of reorganized firms tend to earn consistently lower earnings – around 10 percent – in the post-bankruptcy period relative to the control group. These effects are long-lasting and persistent, with no sign of an upward trajectory or convergence even after seven years from the filing of reorganization.

The magnitude of the estimated effects are reported in Table VIII. Columns (1) and (2) report magnitudes of the earnings estimates for employees that experience a bankruptcy

event relative to the set of employees in control firms. The estimated coefficients in Column (1) indicate that employees in treated firms experience a 15 percent decline in annual total earnings in the year of the bankruptcy request with respect to the control group. This decline remains large in the short-run at a level between 11 and 6 percent from year 1 to year 3. The magnitude of the relative decline in workers' earnings is comparable to the one documented in the US by Graham et al. (2019). In Brazil, as in the US, the effect is persistent; seven years after the bankruptcy request, workers still have around 4 percent lower labor earnings relative to the control group.

[Insert Table VIII Here]

[Insert Figure III Here]

Columns (3) and (4) of Table VIII present the empirical estimates from using Equation (3) for the set of liquidation requests, while Columns (5) and (6) provide estimates from restricting the sample to include only reorganizations. We find that, in the year of bankruptcy filing, employees of liquidated firms experience an outside 17.8 percent decline in earnings which gradually diminishes over the seven-year post-bankruptcy period; in fact, after four years there are no statistically significant differences in earnings between treated and control employees. Employees of reorganized firms experience a lower decline of 10.9 percent at the year of the bankruptcy request; however, in stark contrast to the earnings trajectory of employees in liquidated firms, the initial earnings decline is persistent and long-lasting. Post-bankruptcy earnings losses are large at levels ranging from 13.4 percent one year after the bankruptcy to 8.9 percent seven years after the request.

In addition, in Columns (2), (4) and (6) of Table VIII, we report magnitudes of the earnings estimates for specifications that use a different set of fixed effects. In particular, we augment our specification with judicial district times year fixed effects so that the identifying variation originates from comparing employees facing the same local labor market shocks. As shown, our results are stable to this more conservative specification.

Finally, Table VIII provides estimates of the present value (PV) of earnings losses for the seven-year post-bankruptcy period. To estimate present values of earnings changes, we follow Walker (2013) and calculate the discounted sum of the coefficients ( $\delta_p$ ) using a 4% annual discount rate. The estimates show that employees of bankrupt firms experience on average earnings losses of around 53%, and that reorganizations are associated with larger long-term earnings losses compared to liquidations: 71% vs. 40%. Overall, our results demonstrate that liquidations are associated with an initially larger but transitory impact on employee earnings, while reorganizations lead to a steady decline in earnings that persists in the long-run.



A potential concern is that the observed differences are not due to the different bankruptcy regimes, but to the fact that firms that file for liquidation and their employees are fundamentally different in terms of observable and unobservable characteristics compared to firms and employees that experience reorganization. For example, Table VI suggests that reorganized firms are larger both in terms of number of employees and total wage bill. The observable differences in their employee characteristics are small in terms of economic magnitude with the only exception of the average employee wage level. To partially address the selection of firms into a bankruptcy regime, we replicate this exercise focusing on firms that initially filed for reorganization and separate firms based on the outcome of the bankruptcy process.<sup>24</sup> Figure A3 reports the results. As shown, we observe an analogous pattern as in Figure III in liquidations and reorganizations.<sup>25</sup>

[Insert Figure A3 Here]

Taken together, our findings in this section suggest that part of the negative impact of pro-labor bias on workers' earnings documented in Section VI might be driven by pro-labor courts disproportionately favoring continuation of firms via reorganizations. In particular, pro-labor bias appears to lead to bankruptcy resolutions that are associated with adverse outcomes for employees. This is despite the fact that high pro-labor courts often justify their decisions on the grounds of mitigating the adverse effects of liquidating a firm on workers. Our results instead are consistent with pro-labor courts over-weighting the immediate large earnings decline expected in liquidations when allowing a firm to reorganize and continue to operate, and lacking the foresight in assessing the long-term costs and consequences for employees of keeping an inefficient firm active.

#### *VII.B.2 Drivers of the Differential Earnings Changes in Liquidations Vs. Reorganizations*

In this section, we explore the drivers of the earnings adjustment by decomposing changes in earnings into a wage component and a labor market participation component, as in Section VI. The magnitudes of the estimated coefficients from using Equation (3) are reported in Figures IV and V and summarized in Table IX. Figure IV examines the differential impact of the two bankruptcy regimes on wages. We find that, in the first two years of bankruptcy filing, there is an initial decline in wages that is larger for employees in reorganized firms. Specifically, employees in liquidated firms experience a drop of 3.6

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<sup>24</sup>Table A3 reports summary statistics in the year prior to the reorganization request for firms that experience conversion of the reorganization to liquidation, relative to firms in reorganization which were not converted to liquidation. While subsequently liquidated firms employ slightly less workers, the estimates for the firm-level characteristics are not statistically significant. In addition, employee characteristics are largely comparable across the two types.

<sup>25</sup>The reason we focus on firms that were subsequently liquidated in the first two years after the reorganization request is so that we have enough years in the post-bankruptcy period to examine the reallocation effects of liquidations.

percent in the year after the bankruptcy request, while employees in reorganized firms sustain a larger wage decline of 6.3 percent. However, we document important heterogeneity in the long-run dynamics of the bankruptcy effects on wages between bankruptcy types. In particular, the decline in wages of workers of liquidated firms is short-lived and gradually recovers. On the other hand, workers of reorganized firms tend to earn consistently lower wages. In addition, the magnitudes continue to increase over time resulting in a 7.4 percent decline seven years after the reorganization filing relative to the benchmark wages five years prior to the bankruptcy request and to the set of employees in control firms. As a result, the effects of reorganization on wage levels are long-lasting and persistent, with no sign of convergence even in the long run.

[Insert Table IX Here]

[Insert Figure IV Here]

In Figure V we characterize the impact of the bankruptcy type on employment months. Contrary to the wage estimates, we document that the extent and direction of the employment trajectory are analogous for reorganizations and liquidations. While employees in liquidations exhibit a larger initial decline in employment months in the year of the bankruptcy filing compared to employees in reorganizations, both bankruptcy types are followed by an upward employment trajectory in the post-bankruptcy period.

[Insert Figure V Here]

Overall, these results demonstrate that, while bankruptcy is generally followed by displacement, reorganization is additionally characterized by a large and persistent decline in employee wages. Specifically, our findings suggest that post-bankruptcy earnings losses in liquidations are largely driven by changes in the employment duration in the short-run through a displacement channel induced by the bankruptcy event. Employees of liquidated firms gradually recover the initially large earnings losses by reallocating to firms that pay similar wages in the post-bankruptcy period. In contrast, employees of reorganized firms experience both an initial decline in employment – albeit not as large as employees in liquidated firms – and a significant long-lasting drop in wages. This implies that reorganization has important adverse effects for employees by leading to persistent wage declines in the long-run. In addition, this differential response between liquidations and reorganizations potentially explains - at least partly - the findings in Panel B of Table III where wage declines appear to be the primary driver of the observed larger earnings declines in high pro-labor courts.

Finally, to better understand the sources of the persistent wage decline in reorganizations, we explore the differential impact of the reorganizations on employees that remain and employees that separate from the firm in the post-bankruptcy period. In

particular, the persistent and long-lasting effects in reorganizations might occur because employees are willing to accept lower wages to preserve the continuation of the firm instead of experiencing displacement and searching for employment. In case reorganizations are driven by pro-labor bias – thus potentially allowing the continuation of otherwise non-viable firms – employees likely bear the costs of an inefficient continuation in the form of lower within-firm wages and worse subsequent labor matching quality. As a result, while liquidations are followed by large costs in the year of the filing due to displacement, they likely lead to better long-term outcomes by forcing individuals to search for employment and increasing the efficiency of the labor market matching.

The results from estimating Equation (3) for employees who are stayers and leavers in reorganizations are reported in Table X. We define as stayers employees that remain in the firm where they were employed at the year prior to the bankruptcy request for at least the two-year period after the reorganization request. As shown, employees that stay in reorganized firms experience persistent within-firm wage declines that gradually increase over time. In fact, reorganizations result in lower wages for stayers seven years after the filing compared to employees that separate from reorganized firms in the two-year period after the request. Specifically, stayers experience an initial decline of around 3 percent in the year of the filing – though not statistically significant – that increases over the post-bankruptcy period, resulting in a 10.4 percent wage loss seven years after the request. In contrast, employees that separate from the firm experience a steady wage decline in the post-bankruptcy period of around 6 percent. Therefore, the observed differences in the earnings trajectory between liquidations and reorganizations primarily reflect differences in the wage trajectory of employees that stay in the bankrupt firms.

A potential interpretation for these findings is that employees face short-term liquidity constraints and, thus, are willing to accept a reduction in wages in reorganized firms instead of searching for new employment that would eventually lead to better earnings outcomes in the long run. Alternatively, a potential behavioral interpretation is that employees overweigh the immediate earnings losses from displacement and are unable to project the long-term benefits of a more efficient labor matching induced by the bankruptcy event. Finally, while the monetary returns to labor are an important determinant, employees' utility function likely considers additional non-pecuniary factors (e.g. reallocation costs) when deciding to stay or leave the reorganized firm.

## VIII CONCLUDING REMARKS

Bankruptcy institutions play an important role in the reallocation of production factors of insolvent and financially distressed firms and have broader implications for economic growth and aggregate productivity. An important friction that has received little attention in the context of developing countries is judicial bias in the interpretation of the law. In

particular, judges may disproportionately consider the adverse effects of liquidating a firm on employees, and delay the liquidation of insolvent firms, even if that means deviating from the actual wording of the law.

In this paper, we used detailed hand-collected information on the universe of bankruptcy cases filed in the state of São Paulo between 2005 and 2017 to understand how pro-labor bias affects bankruptcy resolution and employees' labor market outcomes. Exploiting the random assignment of bankruptcy cases across courts within a judicial district, we first establish that pro-labor bias generate higher costs for workers in bankruptcy. In addition, pro-labor bias matters for the type of bankruptcy resolution by leading to lower incidence of liquidations. Second, we estimate the direct impact of different bankruptcy regimes on employee earnings and document that the effect of bankruptcy on employees' earnings differ significantly between liquidations and reorganizations. Workers of liquidated firms experience a large initial drop in annual labor income, which however converges back to its pre-bankruptcy level within 3 to 4 years from the bankruptcy filing. On the other hand, we document that the earnings of employees of reorganized firms remain constantly lower in the long-run, at a level that is significantly lower than the pre-bankruptcy one.

Overall, our empirical findings suggest that judicial bias and the type of bankruptcy matter for employees' earnings and employment trajectories in developing countries and have important policy implication for the efficiency of bankruptcy institutions. First, the liquidation process acts as a vehicle of "creative destruction" in a developing setting overburdened by frictions in the application of the bankruptcy law by allowing the efficient reallocation of employees. Second, pro-labor bias appears to lead to bankruptcy resolutions that are associated with long-term adverse outcomes for employees, which serves the opposite purpose of what the supposed intention of the courts are when deciding to allow the continuation of an insolvent firm. A potential interpretation is that pro-labor courts either overweigh the immediate earnings declines expected in liquidations when allowing a firm to reorganize and continue to operate, or are myopic by lacking foresight in assessing the long-term costs for employees of keeping an inefficient firm active.

These results are also important in evaluating recent temporary changes in insolvency regimes adopted by governments to mitigate the economic impact of COVID-19. These changes range from extending the automatic stay periods to temporarily preventing creditor actions against firms and suspending the obligation to file for bankruptcy under certain conditions. For example, the Brazilian government prohibited creditors to declare a debtor bankrupt for a 60-day period starting March 20 of 2020, and introduced a 90-day suspension for all obligations established in judicial reorganization plans. These changes – especially if kept in place over long periods of time – may lead to further distortions in the reallocation of labor inputs.

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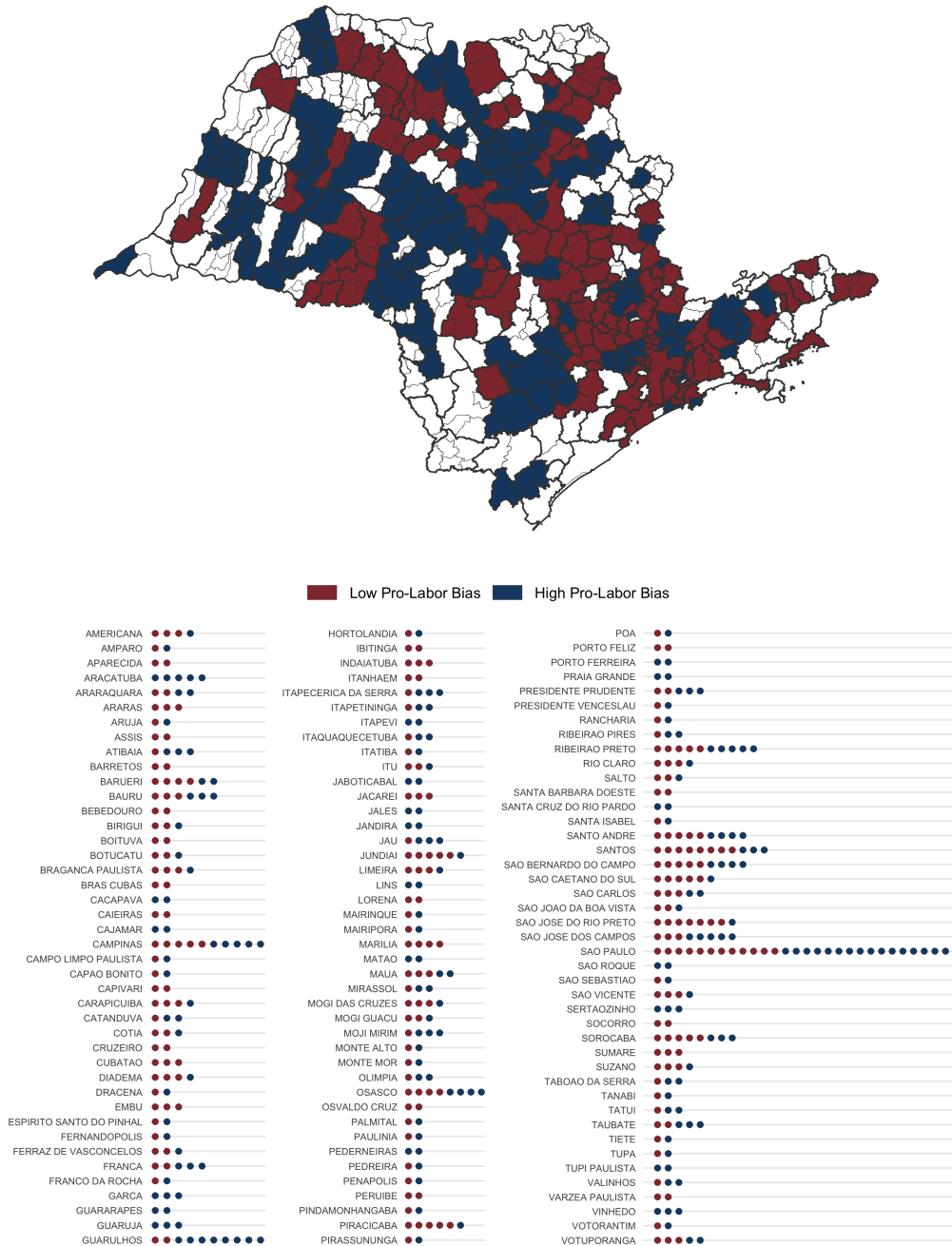
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## FIGURES

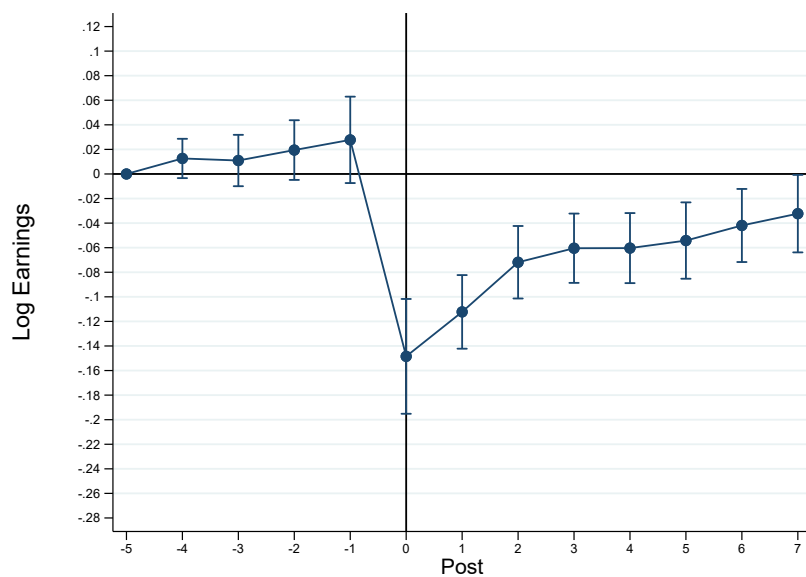
FIGURE I: PRO-LABOR BIAS BY JUDICIAL DISTRICT



**Notes:** The upper part of the figure reports a map showing the geographical distribution of our measure of pro-labor bias across judicial districts in the State of São Paulo. The lower part of the figure reports the number of courts in each judicial district (each court represented by a dot), with the measure of pro-labor bias associated with each court. The blue color represents high pro-labor judicial districts (upper figure), or courts (lower figure). We classify as high-pro labor courts those with pro-labor measure above the median court-level pro-labor measure. The pro-labor bias level of each district is calculated as the weighted average of the bias of its courts, where the weights are the number of bankruptcy cases. We classify as high pro-labor bias districts those with pro-labor measure above the median.

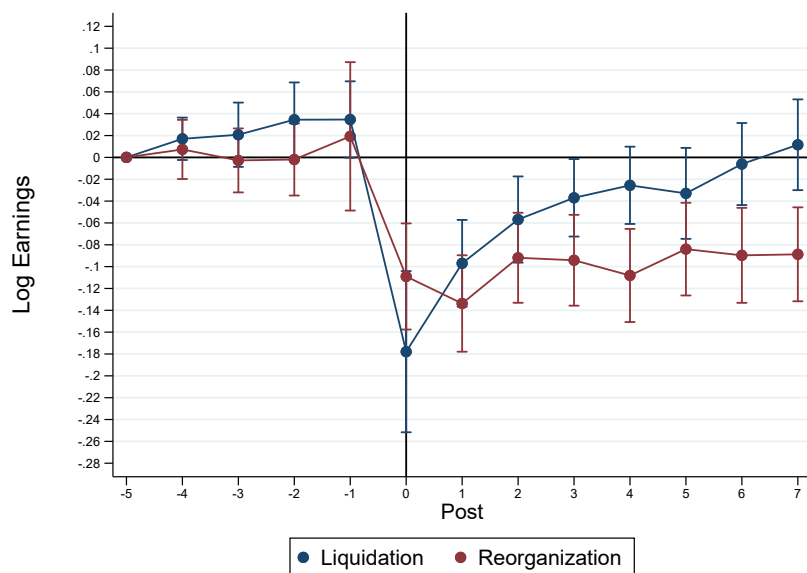


FIGURE II: DYNAMIC EFFECTS OF BANKRUPTCY ON EMPLOYEE EARNINGS



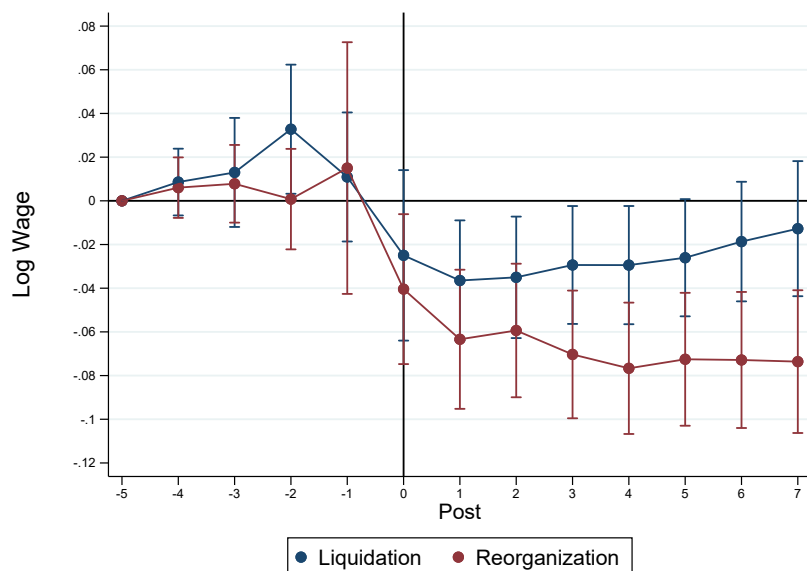
**Notes:** The figure reports estimates from Equation (3) using the log of employee earnings as the dependent variable.

FIGURE III: DYNAMIC EFFECTS OF BANKRUPTCY ON EMPLOYEE EARNINGS BY BANKRUPTCY PROCESS



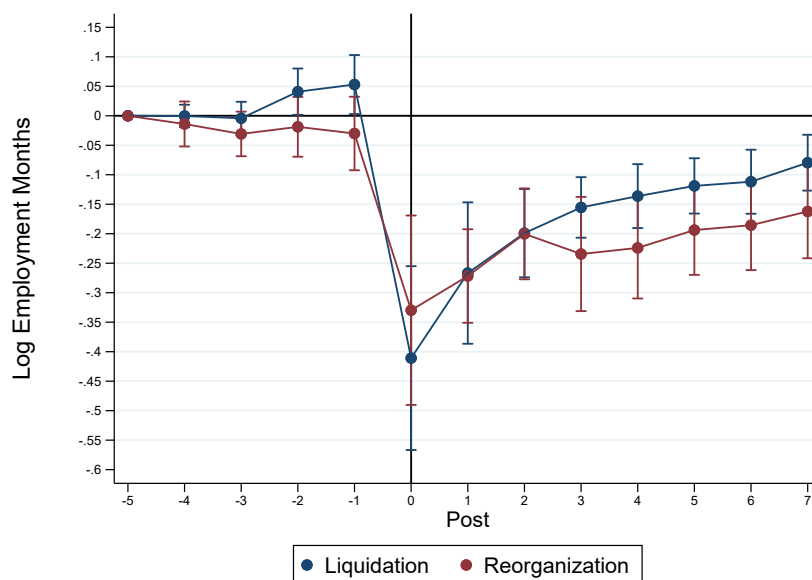
**Notes:** The figure reports estimates from Equation (3) by splitting the sample based on the type of bankruptcy request using the log of employee earnings as the dependent variable.

FIGURE IV: DYNAMIC EFFECTS OF BANKRUPTCY ON EMPLOYEE WAGES BY BANKRUPTCY PROCESS



**Notes:** The figure reports estimates from Equation (3) by splitting the sample based on the type of bankruptcy request using the log of employee wage as the dependent variable.

FIGURE V: DYNAMIC EFFECTS OF BANKRUPTCY ON EMPLOYMENT MONTHS BY BANKRUPTCY PROCESS



**Notes:** The figure reports estimates from Equation (3) by splitting the sample based on the type of bankruptcy request using the log of employment months as the dependent variable.

## TABLES

TABLE I: PRO-LABOR BIAS AND COURT CHARACTERISTICS

Panel A: Pro-Labor Bias Measure					
Variables	Mean		Standard Deviation		N
Pro-Labor Bias	-0.37		0.56		540
Panel B: Court Characteristics					
Variables	High Pro-Labor Bias Courts		Low Pro-Labor Bias Courts		Difference
	Mean	Std Dev.	Mean	Std Dev.	
Pro-Labor Bias	0.09	0.40	-0.82	0.22	0.90***
Log Backlog of Cases in 2009	8.28	0.67	8.34	0.61	-0.06
Share of Liquidation Cases Dismissed	0.23	0.42	0.11	0.31	0.12***
Share of Reorganization Cases Dismissed	0.13	0.13	0.21	0.21	-0.08***
Share of Reorganizations Converted to Liquidations	0.25	0.25	0.34	0.34	-0.09***
Days to Resolution in Reorganizations	1,738	1,738	1,688	1,688	50

**Notes:** The table reports descriptive statistics related to the pro-labor bias measure. Panel A provides descriptive statistics for the pro-labor bias measure. Panel B reports court-level descriptive statistics based on the level of pro-labor bias. Significance Levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

TABLE II: PRO-LABOR BIAS AND EMPLOYEE CHARACTERISTICS (COVARIATE BALANCE)

	(1)	(2)	(3)
Variables	$1^{\text{High Pro-Labor Court}}$		
Years of Education	0.004 (0.003)		0.005 (0.004)
Female	-0.008 (0.008)		-0.010 (0.008)
Age	-0.001 (0.008)		-0.001 (0.001)
Tenure	0.001 (0.001)		-0.001 (0.001)
Log Wage at $t = -1$	-0.013 (0.009)		-0.018 (0.011)
$\Delta \text{Log Earnings } (-5,-1)$		-0.007 (0.005)	-0.008 (0.006)
Judicial District $\times$ Bankruptcy Year FE	Yes	Yes	Yes
Adjusted $R^2$	0.85	0.85	0.85
Observations	53,997	32,463	32,440

**Notes:** The table reports the correlation of employee characteristics across bankruptcies in high and low pro-labor courts. The treatment variable  $1^{\text{High Pro-Labor Court}}$  is a dummy variable that is equal to 1 for courts with a pro-labor bias measure greater than the median value. Column (1) focuses on the employee characteristics, including years of education, tenure, gender, age and wage at the year prior to the bankruptcy request; Column (2) on pre-trends in log earnings; Column (3) considers simultaneously the observable employee and pre-trend characteristics. The specifications include Judicial District  $\times$  Bankruptcy Year fixed effects. The sample includes employees of bankrupt firms in the year prior to the filing. Standard errors are clustered at the Judicial District and Bankruptcy Year.

Significance Levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

TABLE III: THE EFFECT OF PRO-LABOR BIAS ON LABOR MARKET OUTCOMES

	(1)	(2)	(3)	(4)	(5)
<b>Panel A</b>	<b>Log Earnings</b>				
	(-5,+7)	(-5, +2)	(-5, +3)	(-5, +5)	
Post	-0.110*** (0.016)	-0.110*** (0.016)	-0.135*** (0.020)	-0.134*** (0.019)	-0.120*** (0.018)
Post $\times I_i^{\text{High Pro-Labor Bias}}$	-0.046** (0.019)	-0.042** (0.019)	-0.057** (0.026)	-0.053** (0.023)	-0.045** (0.020)
Adjusted R <sup>2</sup>	0.76	0.76	0.74	0.74	0.75
<b>Panel B</b>	<b>Log Wage</b>				
	(-5,+7)	(-5, +2)	(-5, +3)	(-5, +5)	
Post	-0.050*** (0.011)	-0.051*** (0.011)	-0.065*** (0.015)	-0.063*** (0.014)	-0.055*** (0.012)
Post $\times I_i^{\text{High Pro-Labor Bias}}$	-0.029** (0.012)	-0.026** (0.012)	-0.026** (0.012)	-0.026** (0.012)	-0.027** (0.012)
Adjusted R <sup>2</sup>	0.89	0.89	0.89	0.89	0.89
<b>Panel C</b>	<b>Log Months</b>				
	(-5,+7)	(-5, +2)	(-5, +3)	(-5, +5)	
Post	-0.193*** (0.025)	-0.192*** (0.025)	-0.204*** (0.034)	-0.209*** (0.031)	-0.203*** (0.027)
Post $\times I_i^{\text{High Pro-Labor Bias}}$	-0.017 (0.024)	-0.015 (0.023)	-0.027 (0.039)	-0.026 (0.032)	-0.018 (0.026)
Adjusted R <sup>2</sup>	0.13	0.13	0.15	0.15	0.14
Employee Controls	No	Yes	Yes	Yes	Yes
Employee FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Judicial District $\times$ Bankruptcy Year FE	Yes	Yes	Yes	Yes	Yes
Observations	492,388	492,344	334,154	371,483	442,024

**Notes:** The table reports estimates of the  $\delta$  coefficients from Equation (3). The dependent variable is the log of employee earnings in Panel A and the log of wage in Panel B. *Post* in Equation (3) is an indicator variable that equals 1 for the seven-year period after the bankruptcy request, and 0 for the five-year period prior to the bankruptcy.  $I_j^{\text{HighPro-LaborBias}}$  in Equation (3) is an indicator function equal to 1 for employees of bankrupt firms in the year prior to the filing in high pro-labor courts, and equal to 0 for employees of bankrupt firms in low pro-labor courts. Standard errors are clustered at the firm level. The sample period is from 2000 to 2016. Significance Levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

TABLE IV: THE EFFECT OF PRO-LABOR BIAS ON LABOR MARKET OUTCOMES -  
HETEROGENEOUS EFFECTS

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	Log Earnings					
	Skill Level		Occupations			
	High-Skill Employees	Low-Skill Employees	Managers	White-Collar Professionals	White-Collar Clerks	Blue-Collar Employees
Post	0.026 (0.028)	-0.128*** (0.016)	-0.174*** (0.041)	-0.051*** (0.020)	-0.072*** (0.020)	-0.139*** (0.020)
Post $\times I_1^{\text{High Pro-Labor Bias}}$	-0.046* (0.026)	-0.036* (0.019)	0.026 (0.048)	-0.056** (0.025)	-0.010 (0.021)	-0.040* (0.022)
Employee Controls	Yes	Yes	Yes	Yes	Yes	Yes
Employee FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Judicial District $\times$ Bankruptcy Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R <sup>2</sup>	0.80	0.73	0.81	0.79	0.76	0.72
Observations	58,741	427,067	14,545	57,242	127,900	286,073

**Notes:** The table reports estimates of the  $\delta$  coefficients from Equation (3) for different groups of employees. The dependent variable is the log of employee earnings. *Post* in Equation (3) is an indicator variable that equals 1 for the seven-year period after the bankruptcy request, and 0 for the five-year period prior to the bankruptcy.  $I_j^{\text{HighPro-LaborBias}}$  in Equation (3) is an indicator function equal to 1 for employees of bankrupt firms in the year prior to the filing in high pro-labor courts, and equal to 0 for employees of bankrupt firms in low pro-labor courts. Standard errors are clustered at the firm level. The sample period is from 2000 to 2016.

Significance Levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

TABLE V: THE EFFECT OF PRO-LABOR BIAS ON BANKRUPTCY RESOLUTION

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel A: Case-Level Results</b>								
Variables	Reorganizations			Liquidations				
	Turned to Liquidation		Reorganization Dismissed		Log Days to Resolution		Liquidation Dismissed	
Pro-Labor Bias Measure	-0.176*** (0.063)		-0.025 (0.060)		-0.010 (0.018)		0.314*** (0.033)	
High Pro-Labor Court		-0.084** (0.042)		-0.028 (0.040)		-0.019 (0.120)		0.165*** (0.029)
Judicial District $\times$ Bankruptcy Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R <sup>2</sup>	0.07	0.07	0.03	0.03	0.24	0.35	0.19	0.17
Observations	1,689	1,689	1,689	1,689	693	693	2,586	2,586
<b>Panel B: Firm-Level Results</b>								
Variables	Log Employment		Continuation (-5, +3)		Continuation (-5, +5)		Continuation (-5, +7)	
Post <sub>p</sub> $\times$ I <sub>i</sub> <sup>Treated</sup> $\times$ High Pro-Labor Court	0.278*** (0.071)		0.104*** (0.020)		0.099*** (0.018)		0.098*** (0.018)	
Firm FE	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Judicial District $\times$ Bankruptcy Year FE	Yes		Yes		Yes		Yes	
Adjusted R <sup>2</sup>	0.73		0.15		0.13		0.07	
Observations	21,397		16,237		18,973		21,397	

**Notes:** The table reports the relation between pro-labor bias and the type of bankruptcy resolution. Panel A provides estimates from Equation (2). In Columns (1) and (2) of Panel A, the dependent variable is an indicator variable that is equal to 1 for reorganization cases that were converted to liquidation, and 0 otherwise. In Columns (3) and (4) of Panel A, the dependent variable is an indicator variable that is equal to 1 for reorganization cases that were resolved within three years after the bankruptcy request, and 0 otherwise. Panel B reports estimates from Equation (??). The dependent variable in Columns (1) of Panel C is log employment, while in Columns (2) to (4) of Panel C is an indicator that is equal to 1 in the year where firms report non-zero employment in RAIS, and 0 otherwise.

Significance Levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

TABLE VI: SUMMARY STATISTICS BY BANKRUPTCY REGIME

<b>Panel A: Characteristics of Bankrupt Firms at t = -1</b>						
<b>Variables</b>	<b>Firms in Liquidation</b>			<b>Firms in Reorganization</b>		
	<b>p50</b>	<b>Mean</b>	<b>Std Dev.</b>	<b>p50</b>	<b>Mean</b>	<b>Std Dev.</b>
Number of Employees	22.5	90	228	44	138	259
Total Wage Bill (R\$)	20,545	127,185	418,888	47,265	175,775	374,905
Log Employment	3.1	3.4	1.3	3.8	3.9	1.4
Log Total Wage Bill	9.9	10.2	1.6	10.8	10.8	1.6
High-Skill Share	0.055	0.093	0.136	0.069	0.108	0.132
Number of Firms	420			220		
<b>Panel B: Characteristics of Workers in Bankrupt Firms at t = -1</b>						
<b>Variables</b>	<b>Firms in Liquidation</b>			<b>Firms in Reorganization</b>		
	<b>p50</b>	<b>Mean</b>	<b>Std Dev.</b>	<b>p50</b>	<b>Mean</b>	<b>Std Dev.</b>
Years of Education	12	10.54	3.02	12	10.57	3.01
Female	0	0.25	0.44	0	0.27	0.45
Age	33	34.6	10.6	33	34.9	10.7
Tenure (in Months)	27	47.79	56.24	27	50.46	61.13
Log(Wage)	7.16	7.25	0.68	7.12	7.22	0.62
Number of Workers	36,781			26,043		
<b>Panel C: Bankrupt Firms by Sector</b>						
<b>Sector</b>	<b>Firms in Liquidation</b>		<b>Firms in Reorganization</b>			
	<b>Number of Firms</b>	<b>Percentage Share</b>	<b>Number of Firms</b>	<b>Percentage Share</b>		
Agriculture/Mining	0	0.00	1	0.00		
Low-Tech Manufacturing	163	0.37	82	0.35		
High-Tech Manufacturing	71	0.16	33	0.14		
Construction	19	0.04	10	0.04		
Trade	125	0.29	76	0.33		
Services	31	0.07	22	0.10		
Transportation/Utilities/Communications	26	0.06	7	0.03		

**Notes:** The table reports descriptive statistics. In Panel A the table reports descriptive statistics for treated firms at the year prior to the bankruptcy event based on the type of bankruptcy request. In Panel B the table reports descriptive statistics for treated employees at the year prior to the bankruptcy event based on the type of bankruptcy request. In Panel C the table reports the number and percentage of firms by sector for firms that file for bankruptcy based on the type of bankruptcy request.

Significance Levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



TABLE VII: MATCHING RESULTS

<b>Panel A: Firm Characteristics at t = -1</b>							
<b>Variables</b>	<b>Treated Firms</b>			<b>Control Firms</b>			<b>Difference</b>
	<b>p50</b>	<b>Mean</b>	<b>Std Dev.</b>	<b>p50</b>	<b>Mean</b>	<b>Std Dev.</b>	
Number of Employees	28	93	183	22	88	176	5
Total Wage Bill (R\$)	34,078	163,627	429,357	25,110	165,912	551,459	-7,710
Log Employment	3.3	3.5	1.4	3.1	3.4	1.4	0.1
Log Total Wage Bill	10.4	10.6	1.6	10.1	10.5	1.6	0.1
Number of Firms	676			1,322			
<b>Panel B: Employee Characteristics at t = -1</b>							
<b>Variables</b>	<b>Treated Employees</b>			<b>Control Employees</b>			<b>Difference</b>
	<b>p50</b>	<b>Mean</b>	<b>Std Dev.</b>	<b>p50</b>	<b>Mean</b>	<b>Std Dev.</b>	
Years of Education	12	10.55	3.01	12	10.72	3.03	-0.16
Male	1	0.74	0.44	1	0.73	0.45	0.01
Age	32	34	10.54	32	34	10.47	0
Tenure (in Months)	27	49	58	21	54	64	-5
Log(Wage)	7.14	7.23	0.65	7.08	7.20	0.73	0.03
Number of Workers	62,824			116,505			

**Notes:** The table reports descriptive statistics: **(I)** at the firm-level (Panel A), and **(II)** at the worker-level (Panel B) for treated and control firms. The sample includes the  
Significance Levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

TABLE VIII: THE EFFECT OF BANKRUPTCY REGIMES ON EMPLOYEE EARNINGS - DYNAMIC SPECIFICATION

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	Log Earnings					
	Bankruptcy		Liquidations		Reorganizations	
$d_{it}(-1) \times I_i^{Treated}$	0.028 (0.018)	0.027* (0.014)	0.035* (0.018)	0.033** (0.016)	0.019 (0.035)	0.018 (0.025)
$d_{it}(0) \times I_i^{Treated}$	-0.148*** (0.023)	-0.157*** (0.022)	-0.178*** (0.038)	-0.186*** (0.034)	-0.109*** (0.025)	-0.120*** (0.020)
$d_{it}(1) \times I_i^{Treated}$	-0.112*** (0.015)	-0.119*** (0.013)	-0.097*** (0.020)	-0.107*** (0.017)	-0.134*** (0.023)	-0.139*** (0.018)
$d_{it}(2) \times I_i^{Treated}$	-0.072*** (0.015)	-0.078*** (0.013)	-0.057*** (0.020)	-0.067*** (0.017)	-0.092*** (0.021)	-0.096*** (0.017)
$d_{it}(3) \times I_i^{Treated}$	-0.060*** (0.014)	-0.067*** (0.012)	-0.037** (0.018)	-0.046*** (0.015)	-0.094*** (0.021)	-0.100*** (0.017)
$d_{it}(4) \times I_i^{Treated}$	-0.060*** (0.015)	-0.067*** (0.012)	-0.026 (0.018)	-0.036** (0.016)	-0.108*** (0.022)	-0.112*** (0.018)
$d_{it}(5) \times I_i^{Treated}$	-0.054*** (0.016)	-0.060*** (0.014)	-0.033 (0.021)	-0.042** (0.019)	-0.084*** (0.022)	-0.090*** (0.018)
$d_{it}(6) \times I_i^{Treated}$	-0.042*** (0.015)	-0.048*** (0.013)	-0.006 (0.019)	-0.015 (0.017)	-0.090*** (0.022)	-0.094*** (0.018)
$d_{it}(7) \times I_i^{Treated}$	-0.032** (0.016)	-0.038*** (0.014)	0.012 (0.021)	0.000 (0.019)	-0.089*** (0.022)	-0.093*** (0.018)
<b>PV</b>	<b>-52.88%</b>	<b>-57.65%</b>	<b>-40.18%</b>	<b>-46.89%</b>	<b>-70.66%</b>	<b>-74.60%</b>
Event Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Employee Controls	Yes	Yes	Yes	Yes	Yes	Yes
Employee FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	No	Yes	No
Bankruptcy FE	Yes	Yes	Yes	Yes	Yes	Yes
Judicial District $\times$ Year FE	No	Yes	No	Yes	No	Yes
Adjusted R <sup>2</sup>	0.82	0.82	0.82	0.83	0.80	0.81
Observations	1,565,953	1,565,953	910,230	910,228	655,682	655,682

**Notes:** The table reports estimates of the  $\delta$  coefficients from Equation (3). The dependent variable is the log of employee earnings.  $Post$  in Equation (3) is an indicator variable that equals 1 for the seven-year period after the bankruptcy request, and 0 for the five-year period prior to the bankruptcy.  $I_j^{Treated}$  in Equation (3) is an indicator function equal to 1 for employees that are employed in bankrupt firms in the year prior to filing, and equal to 0 for employees of control firms that have never experienced a bankruptcy during the period under study. The PV estimates use a 4% annual discount rate. Standard errors are clustered at the firm level. The sample period is from 2000 to 2016.

Significance Levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

TABLE IX: IMPACT OF BANKRUPTCY ON EMPLOYEE WAGES AND  
EMPLOYMENT MONTHS

	(1)	(2)	(3)	(4)
	Log Wage		Log Months	
Variables	Liquidations	Reorganizations	Liquidations	Reorganizations
$d_{it}(-1) \times I_i^{Treated}$	0.011 (0.015)	0.015 (0.030)	0.053** (0.026)	-0.030 (0.032)
$d_{it}(0) \times I_i^{Treated}$	-0.025 (0.020)	-0.040** (0.018)	-0.410*** (0.080)	-0.330*** (0.082)
$d_{it}(1) \times I_i^{Treated}$	-0.036*** (0.014)	-0.063*** (0.016)	-0.267*** (0.061)	-0.272*** (0.040)
$d_{it}(3) \times I_i^{Treated}$	-0.029** (0.014)	-0.070*** (0.015)	-0.155*** (0.026)	-0.234*** (0.049)
$d_{it}(5) \times I_i^{Treated}$	-0.026** (0.014)	-0.073*** (0.015)	-0.119*** (0.024)	-0.194*** (0.039)
$d_{it}(7) \times I_i^{Treated}$	-0.013 (0.016)	-0.074*** (0.017)	-0.080*** (0.024)	-0.162*** (0.040)
Event Year Indicators	Yes	Yes	Yes	Yes
Employee Controls	Yes	Yes	Yes	Yes
Employee FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Bankruptcy FE	Yes	Yes	Yes	Yes
Adjusted R <sup>2</sup>	0.92	0.91	0.33	0.33
Observations	909,759	655,489	1,334,018	958,238

**Notes:** The table reports estimates of the  $\delta$  coefficients from Equation (3). The dependent variable is the log of employee wage in Columns (1) and (2), and the log of employment months in Columns (3) and (4).  $Post$  in Equation (3) is an indicator variable that equals 1 for the seven-year period after the bankruptcy request, and 0 for the five-year period prior to the bankruptcy.  $I_j^{Treated}$  in Equation (3) is an indicator function equal to 1 for employees that are employed in bankrupt firms in the year prior to filing, and equal to 0 for employees of control firms that have never experienced a bankruptcy during the period under study. Standard errors are clustered at the firm level in the regressions with log wage and at the municipality level in the regressions with log employment months. The sample period is from 2000 to 2016.

Significance Levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

TABLE X: EMPLOYEE WAGES IN  
REORGANIZATIONS - STAYERS VS. LEAVERS

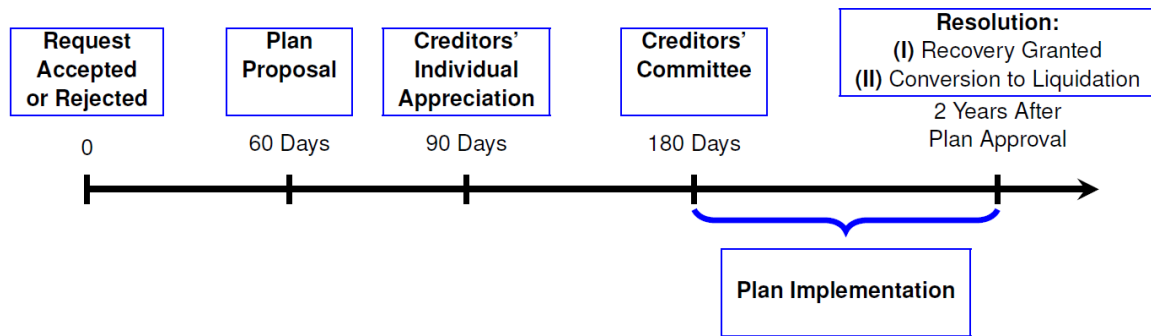
Reorganizations		
	(1)	(2)
Dependent Variable: Log Wage		
Variables	Stayers	Leavers
$d_{it}(-1) \times I_i^{Treated}$	-0.020 (0.022)	0.033 (0.037)
$d_{it}(0) \times I_i^{Treated}$	-0.031 (0.023)	-0.040** (0.019)
$d_{it}(1) \times I_i^{Treated}$	-0.034* (0.020)	-0.064*** (0.017)
$d_{it}(3) \times I_i^{Treated}$	-0.070*** (0.020)	-0.050*** (0.016)
$d_{it}(5) \times I_i^{Treated}$	-0.100*** (0.023)	-0.056*** (0.016)
$d_{it}(7) \times I_i^{Treated}$	-0.104*** (0.031)	-0.065*** (0.017)
Event Year Indicators	Yes	Yes
Employee Controls	Yes	Yes
Employee FE	Yes	Yes
Year FE	Yes	Yes
Bankruptcy FE	Yes	Yes
Adjusted R <sup>2</sup>	0.94	0.88
Observations	281,918	373,571

**Notes:** The table reports estimates of the  $\delta$  coefficients from Equation (3). The dependent variable is the log of employee wage.  $Post$  in Equation (3) is an indicator variable that equals 1 for the seven-year period after the bankruptcy request, and 0 for the five-year period prior to the bankruptcy.  $I_j^{Treated}$  in Equation (3) is an indicator function equal to 1 for employees that are employed in bankrupt firms in the year prior to filing, and equal to 0 for employees of control firms that have never experienced a bankruptcy during the period under study. Stayers are employees that remain in the firm employed at the year prior to the bankruptcy for the two-year period after the bankruptcy request. Standard errors are clustered at the firm level. The sample period is from 2000 to 2016.

Significance Levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

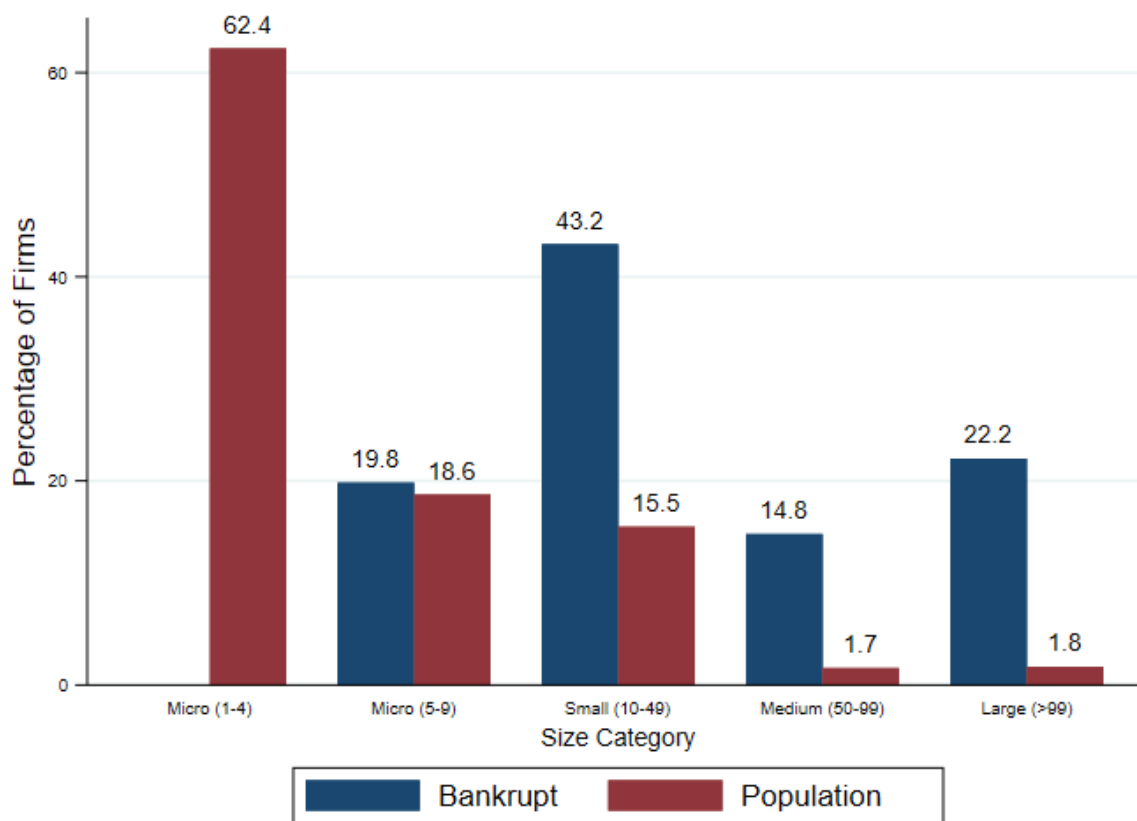
## APPENDIX

FIGURE A1: REORGANIZATION IN BRAZIL



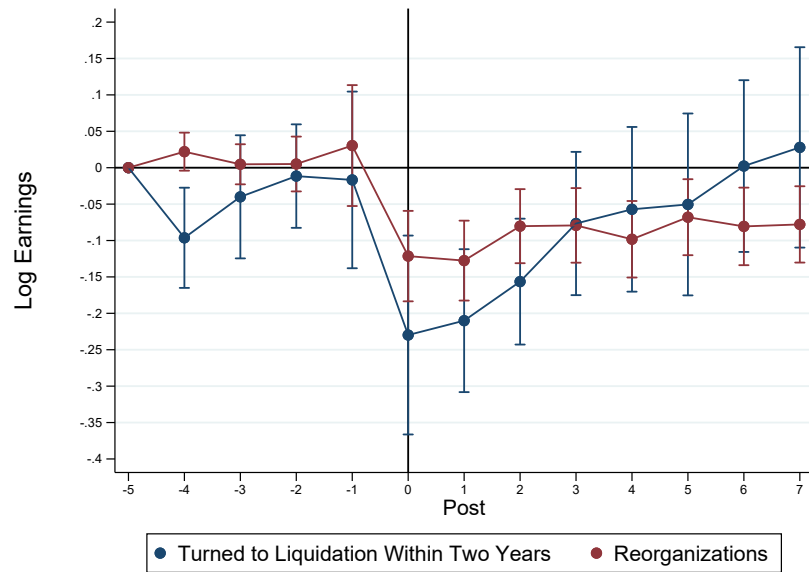
**Notes:** The figure reports the different stages and the timeline of the reorganization process in Brazil.

FIGURE A2: SIZE OF BANKRUPT FIRMS VS. POPULATION



**Notes:** The figure reports the size distribution of bankrupt firms relative to the population of firms in Brazil. The size estimates are based on the number of employees as reported in RAIS. The classification into size categories is based on the classification employed by the Brazilian National Statistical Institute (IBGE) that uses firm-level employment levels in a given year to sort firms in four size categories. IBGE defines as “*Micro*”, firms that employ between 1 and 9 employees, “*Small*”, firms that employ between 10 and 49 employees, “*Medium*”, firms that employ between 50 and 99 employees, and “*Large*”, firms with 100 or more employees.

FIGURE A3: TOTAL WORKERS' EARNINGS - REORGANIZATIONS TURNED TO LIQUIDATION WITHIN TWO YEARS VS. NOT



**Notes:** The figure reports estimates from Equation (3) using the log of employee earnings as the dependent variable. The estimates are based on the subsample of reorganization cases and compare the earnings trajectory of employees in reorganizations that converted to liquidations within the two-year post-bankruptcy period with the earnings trajectory of employees in the rest of reorganizations.

## FIGURE A4: JUDICIAL DECISIONS: DATA COLLECTION PROCESS

**Notes:** The data collection process involved the creation of three apps that were used by the research assistants to categorize: (a) the outcomes of liquidation cases; (b) the outcomes of reorganization cases; (3) the intermediate judicial decisions into pro-creditor, pro-debtor or neutral. This figure reports one example of the interface for each of the three apps we created.

### (a) Extraction of Liquidation Outcomes

sobre o pedido de desistência formulado a fls. 66, no prazo de cinco (05) dias. Int. Advogados(s): Luis Felipe Rivelli Pereira Lopes (OAB 343802/SP), Claudio Roberto Padilha (OAB 27060PR)

2016-05-04	Desistência	Autos n. 2015/002698. Vistos. 1-Homologo o pedido de desistência ora formulado pelo autor (fls. 120) o qual contou com a anuência da requerida (fls. 123) e, em consequência, sem resolução de mérito, julgo extinta a presente demanda que Motormac Rental - Locação de Equipamentos S/A move em face de Consorcio Construtor Viracopos Ccv, com fundamento no artigo 485, VIII, do Código de Processo Civil. 2-Após, cumpridas as formalidades legais, comuniquo-se a extinção no sistema informatizado oficial e arquivem-se os autos. Publique-se, registre-se e intime-se.	Resultado falência Juiz homologou acordo entre as partes Autor desistiu da causa Devedor pagou a dívida Devedor entrou com pedido de recuperação judicial Recuperação Judicial concluída em falência
2016-05-04	Conclusos para Sentença		Resultado
2016-05-04	Petição Juntada	Nº Protocolo: WCAS.16.70100112-2 Tipo da Petição: Petições Diversas Data: 04/05/2016 10:08	Resultado

### (b) Extraction of Reorganization Outcomes

**Resultados das Recuperações Judiciais**

Processo 1 de 747

0000547-55.2014.8.26.0291

O que aconteceu com esse processo?

☐ Empresa cessou da Recuperação Judicial

☐ Recuperação Judicial foi concluída em falência

☐ Recuperação Judicial ainda está em andamento

☐ Recuperação Judicial foi encerrada

☐ Não sei

☐ Outro

☐ Não tenho certeza sobre esse item

**Observações**

Escreva aqui comentários que achar pertinentes

Em que folha está essa informação?

Número da Folha

Na caixa de texto indicativa do número da folha, colocar o número no canto superior direito da página, que vem logo depois do "fl.". Atenção: a folha a ser indicada deve ser sempre de uma sentença judicial, para que seja possível recuperar depois a data em que o evento ocorreu.

**TRIBUNAL DE JUSTIÇA DO ESTADO DE SÃO PAULO**  
COMARCA DE JABOTICABAL  
FORO DE JABOTICABAL  
1ª VARA  
Praça do Café, s/nº, - Aparecida  
CEP: 14870-230 - Jaboticabal - SP  
Telefone: (16) 3203-3211 - E-mail: jabotici1@tjsp.jus.br

**DECISÃO**

Processo nº: 0000547-55.2014.8.26.0291  
Classe - Assunto: Recuperação Judicial - Recuperação judicial e Falência  
Requerente: Candeloro Máquinas Industriais Ltda

A sociedade empresária CANDELORO MÁQUINAS INDUSTRIAIS LTDA, sediada na Rodovia SP 333 - Carlos Tonani - Km 123 - Bairro Jardim Buenos Aires, Cidade e Comarca de Jaboticabal, CEP: 14.872-000, inscrita no CNPJ sob nº 61.440.913/0001-13, e NIRE nº 35208819285, requer o processamento de sua RECUPERAÇÃO JUDICIAL, pleiteada sob os seguintes fundamentos.

A requerente argumenta em síntese, que em virtude de dificuldades financeiras

fls. 357 303

Para acessar o site: <https://pje.trf4.jus.br/pep/pep3/consulta/informacao.do>

3/2016 às 12:10:21  
Processo 0000547-55.2014.8.26.0291 e código 1CE384A

Próxima RJ

### (c) Categorization of Decisions on Specific Articles in Pro-creditor, Pro-debtor, Neutral

Art. 64

Movimentação

Instruções

**Teor da Decisão nesta Citação**

☐ Decisão pró-creditor: foi pedida e CONCEDIDA a remoção dos administradores da firma.

☐ Decisão pró-debtor: foi pedida e NEGADA a remoção dos administradores da firma.

☐ Citação Neutra: não foi pedida a remoção dos administradores da firma.

☐ Não sei

**Comentários:**

**Decisão** 04/08/2017 ☐ Texto Repetido

Vistos. Fls. 2193: via inadequada. De modo a se realizar o acompanhamento, determino que o administrador judicial apresente relatório mensal nesse mesmo processo. Deve ser apresentados todos os relatórios mensais faltantes. Os relatórios mensais deverão ser instruídos com fotografias do estabelecimento, incluindo maquinário e estoque, com o administrador judicial presente, e deverão constar informações a respeito da existência da atividades, número de empregados em exercício, demissões no período, pagamentos de verbas trabalhistas e rescisórias, recolhimento de impostos e encargos sociais. Também deverá ser objeto de exame, em cada relatório, a movimentação financeira da recuperanda, a fim de que se verifique eventual ocorrência de hipótese prevista no art. 64 da LRF. Apresente o administrador judicial os relatórios no prazo de cinco dias. Intime-se. São Paulo, 04 de agosto de 2017.



TABLE A1: ARTICLES, SUBJECTS, CATEGORIZATION CRITERIA AND EXAMPLES

**Notes:** The Table provides information on the articles that have been used to identify pro-labor and pro-creditor decisions, along with specific examples that clarify the rationale used for the classification.

---

**Article 6, Paragraph 3, of Law 11,101/2005:** The article limits automatic stay to a “non-extendable” period of 180 days, after which creditors rights to collect their claims are reestablished. However, courts routinely allow the extension of the automatic stay period.

**Pro-Creditor Decision:** Court denies extension of 180 days period.

Example from case 0003382-66.2015.8.26.0457

*The request deserves rejection. First, because the 180 days of the stay period is non-extendable (...). The legislators clearly determined that (...) the suspension under examination “shall under no circumstances exceed the non-extendable period of 180 days after the approval of reorganization processing.” Secondly, in this specific case, there is no exceptional situation that justifies the granting of the extension prohibited by Law. Thus, it must be recognized that, even under the inspiration of the constitutional principle of the social function of the company (...), the extension of the legal term for suspension of enforcement is not legitimate (...).*

**Pro-Labor Decision:** Court allows for the 180-day automatic stay period to be extended.

Example from Case 1007014-08.2016.8.26.0309

*One should not forget that the purpose of reorganization is to make it possible for the debtor to overcome its economic and financial crisis in order to preserve its source of production, the employment of workers and the interests of creditors, thus promoting the preservation of the company, its social function and the stimulus of economic activity. In this regard, (...) I extend the period of suspension of individual actions against the recovering party by additional 120 days (totaling 300 days of suspension) (...).*

---

**Article 49, Paragraph 3, of Law 11,101/2005:** The article excludes from automatic stay certain types of secured claims.

**Pro-Creditor Decision:** Court allows creditors to seize collateral.

Example from Case 0001589-66.2012.8.26.0629

*Despite the (...) arguments put forward by the company under reorganization, the request for suspension of the execution of collateral warranties regarding the industrial plant cannot be accepted. In fact, considering the information that the firm’s industrial plant was given as collateral in a mortgage loan agreement, it is important to note that a possible lawsuit is not suspended due to the judicial reorganization action. In this sense, this court cannot prevent the filing of a search and seizure lawsuit founded on the mortgage contract signed by both parties (...)*

**Pro-Labor Decision:** Court denies creditors’ request to seize collateral.

Example from Case 0006602-48.2014.8.26.0638

*(...) the measures [prohibition of collateral seizure] (...) are in line with the purpose of reorganization. Its refusal may result in the infeasibility of its commercial activity and, in consequence, of its recovery. Notwithstanding the controversy in the country’s doctrine and jurisprudence regarding this request and whether or not the aforementioned contracts are subject to [automatic stay under] reorganization, it is evident that a reorganization must not only overcome the economic crisis of the company (...) but also [promote] the preservation of its social function, besides ensuring the continuity of the business, the preservation of jobs and payment of suppliers, as well as generating income for the solvency of past suspended debts. (...) I do not deny the existence of understandings that see provisions of Article 49, Paragraph 3 of Law 11,101/05 as excluding such contracts from the effects of the reorganization. (...) Thus, the damage to the company under reorganization would be evident if the requested measure were not granted (...) I grant the requests (...) and I do so for the purpose of ordering (...) [banks] Bradesco and Santander the lifting of “account freeze”(...) granting free access to the values, in order to guarantee the activity of the restructuring firm (...).*

---

TABLE A1: ARTICLES, SUBJECTS, CATEGORIZATION CRITERIA AND EXAMPLES  
(CONT.)

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**Article 73 or Article 61, Paragraph 1, of Law 11,101/2005:** The articles list the circumstances under which a reorganization can be converted into a liquidation.

**Pro-Creditor Decision:** Court grants request to turn reorganization into liquidation.

Example from Case 0037381-82.2013.8.26.0100

*At this point, it should be noted that the State must not try to recover companies that are unable to meet their purpose and that, therefore, do not generate relevant social benefit. Free market structures would condemn companies in unsustainable conditions, for the good of the economic system and for the healthy survival of other companies. In this sense, there is no reason to use state intervention, through the process of reorganization, to revive companies already doomed to bankruptcy. If the economic system is not interested in maintaining nonviable companies, there is reason for the State, through the Judiciary, to work in this direction, maintaining judicial reorganizations for nonviable companies. Once the plan is not complied with, the hypothesis that justifies the bankruptcy judicial recovery. That said, I declare today, under the terms of article 73, IV, of Law 11,101/05, the bankruptcy of (...)*

**Pro-Debtor Decision:** Court denies request to turn reorganization into liquidation.

Example from Case 1001009-75.2016.8.26.0274

*I reject the request to turn this reorganization into a liquidation, since the requirements of Article 73 (...) are not present, namely: a) deliberation of the General Assembly of Creditors, pursuant to Article 42: the Assembly was not yet summoned for such deliberation; b) failure by the debtor to submit its reorganization plan within the 60-day period provided for in Article 53: the reorganization plan was submitted to pages 2271/2336; c) rejection of the reorganization plan, pursuant to Paragraph 4 of Article 56: the Assembly has not yet been called to deliberate on the reorganization plan; and d) non-compliance with any obligation assumed in the reorganization plan, pursuant to Paragraph 1 of Article 61: given that judicial reorganization has not yet been granted by this court, pursuant to Article 58, and that the reorganization plan has yet to be submitted to the General Meeting of Creditors. (...)*

---

**Article 64 of Law 11,101/2005:** The article lists the circumstances under which creditors can request the removal of the managers in charge of the firm.

**Pro-Labor Decision:** Court grants request to remove managers.

Example from Case 1000226-37.2018.8.26.0299

*The firms under reorganization have repeatedly failed to comply with court orders and failed to present the necessary documents for the trustee to monitor compliance with the reorganization plan. Therefore, under the terms of Article 64, V, of Law 11,101/2005, I remove the managers of the firms under reorganization.*

**Pro-Debtor Decision:** Court denies request to remove managers.

Example from Case 1080970-34.2018.8.26.0100

*Under Article 64 of Law 11.101, there are indications that crimes were committed, which would permit the dismissal of company directors. Considering that the activity has always been linked to the name of said partners and managers, I believe their removal as directors would do more harm than good, as it would remove from the conduction of the activity those who have more information about the reorganization, which could compromise the business. On this point, a conciliatory solution to prevent further damage by the managers to the firm and the creditors (...) would be to limit their powers (...) Even though the law does not explicitly authorize such limitation, if Article 64 of the Bankruptcy Law grants broad powers for removal, it also grants powers to limit their capacity. Accordingly, I determine that the managers (...) should only be able to perform management (...) acts for the legal entities – notably the contraction of new obligations, the payment of existing obligations and any form of commitment of the company’s cash or reallocation of its equity – with the agreement of the third manager (...)*

---

TABLE A2: BANKRUPT FIRMS VS. POPULATION

<b>Panel A: Firm Characteristics</b>						
<b>Variables</b>	<b>Treated Firms</b>			<b>Population</b>		
	<b>p50</b>	<b>Mean</b>	<b>Std Dev.</b>	<b>p50</b>	<b>Mean</b>	<b>Std Dev.</b>
Number of Employees	128	644	2,580	3	16	884
Total Wage Bill (R\$)	153,577	733,777	2,961,635	1,664	22,134	1,224,640
Log Employment	4.9	4.9	1.8	1.4	1.5	1.1
Log Total Wage Bill	11.9	11.8	2.3	7.4	7.1	2.7
Number of Firms	2,430			3,987,765		

<b>Panel B: Firms by Sector</b>				
<b>Sector</b>	<b>Treated Firms</b>		<b>Population</b>	
	<b>Number of Firms</b>	<b>Percentage Share</b>	<b>Number of Firms</b>	<b>Percentage Share</b>
Agriculture/Mining	1	0.00	66,188	0.02
Low-Tech Manufacturing	241	0.37	442,876	0.10
High-Tech Manufacturing	102	0.16	75,727	0.02
Construction	29	0.04	162,058	0.04
Trade	201	0.31	2,029,279	0.48
Services	52	0.08	1,262,749	0.30
Transportation/Utilities/ Communications	33	0.05	212,374	0.05

**Notes:** The table reports descriptive statistics. In Panel A the table reports descriptive statistics for treated firms at the year prior to the bankruptcy event and the population of firms. In Panel B the table reports the number and percentage of firms by sector for firms that file for bankruptcy and the population of firms.

Significance Levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

TABLE A3: TURNING TO LIQUIDATION VS. NOT

Firms in Reorganization							
Panel A: Firm Characteristics at t = -1							
Variables	Turned to Liquidation			In Reorganization			Difference
	p50	Mean	Std Dev.	p50	Mean	Std Dev.	
Number of Employees	38	130	275	44	142	251	-12
Total Wage Bill (R\$)	38,786	141,647	273,701	48,989	193,427	417,543	-51,779
Log Employment	3.6	3.9	1.4	3.8	3.9	1.4	-0.10
Log Total Wage Bill	10.6	10.7	1.6	10.8	10.9	1.7	-0.17
High-Skill Share	0.067	0.096	0.113	0.069	0.114	0.140	-0.018
Number of Firms	75			145			
Panel B: Workers' Characteristics at t = -1							
Variables	Turned to Liquidation			In Reorganization			Difference
	p50	Mean	Std Dev.	p50	Mean	Std Dev.	
Education	7	5.98	1.70	7	5.94	1.81	0.05**
Male	1	0.70	0.46	1	0.72	0.45	-0.02***
Age	32	34	10.9	33	35	10.6	-0.83***
Tenure (in Months)	26	46	56	22	46	59	0.21
Log(Wage)	6.68	6.84	0.58	6.85	6.96	0.65	-0.12***
Number of Workers	11,275			23,657			

**Notes:** The table reports descriptive statistics for firms and employees in firms in reorganizations. Reorganizations are separated based on whether reorganizations are converted to liquidations or not. In Panel A the table reports descriptive statistics for treated firms at the year prior to the bankruptcy event.. In Panel B the table reports descriptive statistics for treated employees at the year prior to the bankruptcy event.. In Panel C the table reports the number and percentage of firms by sector for firms that file for bankruptcy based on the type of bankruptcy request. Education takes values from 1 to 11 ranging from Illiteracy to Doctoral Degree. An education level of 7 reflects completion of high school education.

Significance Levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .