The Value of Bankruptcy Enforcement in Financial Distress: Evidence from the Chinese Bond Market

Bo Li, Mai Li, Songnan Li, Laura Xiaolei Liu*

Abstract: The bankruptcy process in many countries is lengthy and cumbersome, which prevents creditors from getting repaid efficiently in distress. Exploiting the staggered introduction of specialized bankruptcy courts in China, we find that they lead to sizable reductions in the cost of debt financing. In particular, bond spread represents a decrease by 7.6%, with a stronger effect on privately owned enterprises and issuers of higher default risk. By analyzing manually collected bankruptcy filings, we find court enforcement explains 43.7% of the variation in bond spreads. Exploration on the default resolution shows that the potential mechanisms are reduction in liquidations, shorter bankruptcy proceedings, less government interference, and higher creditor recovery rate. Better creditor protection translates into significant increases in debt capacity, bond maturity and investment by bond issuers. These results indicate that stronger court enforcement is a necessary precondition for firms to benefit from judicial reforms in handling the USD 120.2 billion bond defaults.

Key Words: Bankruptcy Resolution, Creditor Protection, Cost of Debt, China's Bond Market

*Send correspondence to Bo Li, Peking University, Email: boli@gsm.pku.edu.cn. Mai Li and Laura Xiaolei Liu are with Peking University. Songnan Li is with University of International Business and Economics.

We would also like to thank Hui Chen, Lauren Cohen, Hanming Fang, Jiashun Huang, Haoyu Gao, Zhe Geng, Xian Gu (the discussant), Qing He, Zhiguo He, Liping Lu, Yao Lu, Yueran Ma, Randall Morck (the discussant), Frank Packer (the discussant), Jun Pan, Michael Song, Dan Su (the discussant), Takeo Hoshi, Jian Wang, Shaoda Wang, Wei Wang, Wei Xiong, Chengsi Zhang, and conference and seminar participants at the 2022 CICM, the 2022 CICF, the 2022 GISF, the 2023 ABFER Annual Conference, the 2023 AMES, the 2023 BFI-China and BIS Conference, Renmin University School of Finance, Tsinghua University, University of Science and Technology of China, and Wuhan University for their comments and suggestions. We gratefully acknowledge research grants from the National Science Foundation of China (NSFC Grant No. 71790605; 72273006; 71872006) and the support from Guanghua Thought Leadership Program. Yue Shen and Yuan Wang provided excellent research assistance.

The Value of Bankruptcy Enforcement in Financial Distress: Evidence from the Chinese Bond Market

Abstract: The bankruptcy process in many countries is lengthy and cumbersome, which prevents creditors from getting repaid efficiently in distress. Exploiting the staggered introduction of specialized bankruptcy courts in China, we find that they lead to sizable reductions in the cost of debt financing. In particular, bond spread represents a decrease by 7.6%, with a stronger effect on privately owned enterprises and issuers of higher default risk. By analyzing manually collected bankruptcy filings, we find court enforcement explains 43.7% of the variation in bond spreads. Exploration on the default resolution shows that the potential mechanisms are reduction in liquidations, shorter bankruptcy proceedings, less government interference, and higher creditor recovery rate. Better creditor protection translates into significant increases in debt capacity, bond maturity and investment by bond issuers. These results indicate that stronger court enforcement is a necessary precondition for firms to benefit from judicial reforms in handling the USD 120.2 billion bond defaults.

Key Words: Bankruptcy Resolution, Creditor Protection, Cost of Debt, China's Bond Market

1. Introduction

Legal institutions have an important effect on financing costs for companies and households. In many developing countries, the weak protection of creditor rights in bankruptcy cases is an important source of market distortion (La Porta et al., 1997; Djankov et al., 2007). In particular, bankruptcy laws in many countries are underdeveloped, and courts are slow to process cases, leading to high bankruptcy costs, which is a barrier to firms' access to finance and economic development (Ponticelli and Alencar, 2016; Li and Ponticelli, 2022; Müller, 2022).

The Chinese debt market has experienced booms and busts in the past two decades. During the 2008 global financial crisis, the Chinese government introduced several economic stimulus policies, which led to debt expansion and shadow banking (Chen et al., 2020), in turn creating major overcapacity in zombie industries and firms. China has experienced several waves of credit market defaults since 2014, as shown in Panel A of Figure 1, with the total amount of defaults reached RMB 784 billion (USD 120.2 billion) by 2020.[1] More importantly, the number of bond defaults filed for bankruptcy has risen sharply since the deleveraging campaigns in 2017 and the release of *New Regulations on Asset Management* in April 2018. In particular, the percentage of bond defaults by state-owned enterprises (SOEs) that filed for bankruptcy climbed after 2018, as shown in Panel B of Figure 1.

The spike in bond defaults, in particular SOE defaults since 2015 (Amstad and He, 2020; Jin et al., 2023), calls for bankruptcy reform to improve bankruptcy efficiency. The Chinese court system was characterized by a lack of professional judges to deal with bankruptcy cases, rendering the bankruptcy process lengthy and cumbersome, which prevents creditors from getting repaid efficiently. The efficiency of bankruptcy resolution can significantly affect creditor protection and has broader implications for the credit market.

Legal independence is another important issue in bankruptcy resolution. Judicial

[1] Amstad and He (2020) discuss the first Chinese company ever to default on its onshore corporate bonds, Shanghai Chaori Solar (hereinafter Chaori), which failed to meet interest payments in the amount of RMB 89.8 million on a RMB 1 billion bond in March 2014 and filed for bankruptcy one month later. In October 2014, Shanghai No.1 Intermediate People's Court approved Chaori's reorganization plan, changing investors' perception of the implicit government guarantees in corporate bonds.

independence in corporate bankruptcy cases may not be fully guaranteed, even in developed countries with well-established legal institutions (Anginer and Warburton, 2014; Blaylock et al., 2015), let alone in emerging markets including China, where government interference is pervasive in all types of economic activities (Allen et al., 2005; Fan et al., 2013).[2] Recent research documents how implicit government guarantees affect bond spreads and the SOE premium in China (Liu et al., 2021; Geng and Pan, 2022; Li et al., 2023). Prior to 2018, active government interference from both the central and local governments was pervasive, by appointing bankruptcy trustees and administrators that are politically connected.[3] As shown in Figure 2, the government intervenes in 57% of the bankruptcy proceedings associated with SOE bond defaults, based on our case-level information on trustees who are nominated by the state.[4]

With the goal of improving efficiency in financial distress resolutions, China implemented bankruptcy reform by introducing specialized bankruptcy courts. In contrast to traditional civil courts, specialized courts are characterized by better trained judges and reduced government interference (INSOL, 2018). In June 2016, the Supreme People's Court of China promulgated the *Work Plan for Establishing Liquidation and Bankruptcy Tribunals in Intermediate People's Courts*, mandating the introduction of liquidation and bankruptcy tribunals in Intermediate People's Courts in province-level municipalities and prefectural cities. At the end of 2017, there were 97 bankruptcy tribunals in Intermediate People's Courts in China, and each province had at least one bankruptcy tribunal. By June 2020, another eight cities had established this type of bankruptcy

[2] In particular, concerned with the interests of multiple parties such as the valuation of state-owned assets or the resettlement of employees, local governments in China often intervene in the debt resolution or bankruptcy of local enterprises, especially SOEs.

[3] In the US, a bankruptcy trustee is appointed by the court to oversee the debtor's estate in a bankruptcy proceeding according to the Bankruptcy Code. From case-level analysis of media coverage associated with bond defaults and bankruptcy filings, we observe various ways in which the central and local governments can intervene in the corporate debt resolution process in China — to politically influence the bankruptcy process by appointing bankruptcy trustees and administrators that are politically connected. For example, politicians from the Hainan provincial government oversee the bankruptcy proceedings of Hainan Airlines Group by serving as bankruptcy trustees. Alternatively, a local government can take over enterprises in financial distress by replacing the managers and appointed CEOs with state officials (e.g., the Dongbei Steel Company bankruptcy case).

[4] Specifically, we obtain detailed information about the trustees who are nominated by the court and the judges responsible for the cases, and we manually search for the ownership of trustees from firm registration database. A politically connected trustee is assumed to influence the bankruptcy process in the interest of the government.

court outside the Intermediate People's Court.[5]

In this study, we investigate the impact of specialized bankruptcy courts on the financing cost of corporate bonds. Using the sample of corporate bonds in the Chinese onshore bond market, we analyze the change in spreads in the secondary market of bonds issued by the same company before and after the introduction of specialized courts from 2012 to 2021 in a difference-in-differences (DID) regression. However, cities that introduced specialized courts might be affected by the local economic condition and the type of firms going bankrupt, raising a potential self-selection issue. In our setting, even after the introduction of specialized courts, bankruptcy cases were still handled by both traditional civil courts and specialized courts within the same city, in almost equal proportions.[6] This feature of the Chinese judicial system allows us to compare the introduction of bankruptcy and civil courts in the same city and the same year as the identification. To further control for the potential self-selection issue, we take advantage of the fact that specialized courts were introduced at different times in different cities, exploiting the staggered introduction.

We find that specialized courts decrease corporate bond spreads in the secondary market by 17.9 basis points, representing a 7.6% reduction in the average bond spread. The economic benefit associated with the introduction of specialized bankruptcy courts is sizable in magnitude—saving about USD 2.4 billion in annual interest payments for China's corporate bond issuers. To sharpen our identification, we include bond issuer fixed effects in the regression specifications to compare bond pricing before and after the introduction of bankruptcy courts for a given bond issuer. This mitigates the concerns that omitted time-invariant issuer characteristics affect the introduction of specialized courts. In addition, we justify the validity of our DID design by the parallel trend analysis, and placebo tests to rule out the potential confounding factors. Moreover, we conduct the border region regression that compares bond spreads between counties on the borders of adjacent provinces that differ in specialized court. Because of the geographic proximity, any differences in spreads between counties on either side of the border will be less likely to be confounded by

[5] We use the term "specialized courts" to refer to both bankruptcy tribunals in Intermediate People's Courts and bankruptcy courts outside the Intermediate People's Courts throughout the paper.
[6] See Figure 8 in Li and Ponticelli (2022).

potential omitted variables.

Next, we explore the channels through which specialized courts improve creditor protection, where stronger court enforcement leads to the reduction in the cost of bond financing. Using manually collected bankruptcy filings and resolution outcomes of bond defaults, we show that specialized courts improve the efficiency of the bankruptcy process. First, reorganization is more likely to be adopted for bankruptcy resolution in specialized courts, while liquidation is more common in traditional civil courts. Second, the introduction of specialized courts increases efficiency by reducing the time firms spend on bankruptcy proceedings. Third, bankruptcy courts reduce government interference in bankruptcy cases by 42% and are less likely than civil courts to appoint politically connected trustees. Fourth, bankruptcy courts increase the debt recovery rate by 12% compared to the traditional civil courts. Finally, we construct the proxy for the court enforcement based on the recovery rate of defaulted bonds derived from court ruling. Based on average recovery rate aggregated at city level, we find the court enforcement can account for 43.7% of the variation in the treatment effect of the bankruptcy court across cities.

Motivated from the Merton (1974) model, we derive a testable hypothesis that stronger court enforcement will lead to more reduction in bond spread when the default risk is higher. Specifically, we find that the magnitude tends to be larger for riskier bonds, for riskier issuers, in cities with lower GDP growth rates, higher local government debt, and in cities with pre-existing local SOE default. Moreover, we exploit the default of a AAA-rated SOE, Yongmei Group, which triggered market-wide panic among debt market investors, intensifying concerns about the lack of creditor protection.[7] Our results indicate that the reduction in bond spreads is amplified after the Yongmei default event, suggesting that strengthening creditor protection is more important in severe financial distress conditions. In addition, we provide evidence regarding the ownership of the bond issuer; specifically, specialized courts lead to a 31.6 basis point reduction for bonds issued by privately owned enterprises (POEs), compared with a 20.8 basis point reduction for bonds issued

[7] Yongmei Group, a Henan-based coal producer, started defaulting on a series of AAA-rated bonds worth more than RMB3 billion (USD460 million) in November 2020.

by SOEs and a mere 5.5 basis point reduction for local government financing vehicle (LGFV) bonds (Chengtou bonds). The reduction in financing costs among POEs has implications for the literature on the misallocation of resources and preferential lending treatment for SOEs with low productivity (Hsieh and Klenow, 2009; Cong et al., 2019).

Lastly, we explore the real impact of the introduction of specialized bankruptcy courts. Using primary market issuance data, we find that the introduction of specialized courts leads to a 21.0 basis point reduction in corporate bond issuance spreads, representing 10.8% of the average bond issuance spread during the sample period. Further analyses show that firms increase investment, use more debt financing and longer maturity debt after the reform. These results indicate that corporate bond issuers ultimately benefit from lower debt financing costs associated with bankruptcy courts.

Our study is related to the literature on the impact of bankruptcy reform on the credit market. This literature focuses on how creditor protection affects the cost of financing and its redistribution impact, especially in emerging countries with inefficient courts, such as Haselmann et al. (2010), Lilienfeld et al. (2012), Gopalan et al. (2016), Rodano et al. (2016), Ponticelli and Alencar (2016), Cerqueiro et al. (2017), Campello et al. (2018), Müller (2022), and Iverson et al. (2023). Our study is closely related to Li and Ponticelli (2022), which shows that case proceedings in specialized courts are 36% shorter than those in traditional civil courts. In this paper, we investigate the asset pricing implications associated with specialized courts for the Chinese bond market, given the recent spikes in bond defaults. Using manually collected bankruptcy filings, our paper provides novel evidence of the changes in bankruptcy resolution outcomes, creditor recovery rates, and government interference following bankruptcy reform.

There is a growing literature on the Chinese bond market and the role of government on bond pricing. Amstad and He (2020) provide an overview of China's bond market and stylized facts on bond defaults. Bai et al. (2016) and Chen et al. (2020) document the boom in China's bond market and the emergence of shadow banking. Recent studies explore how implicit government guarantees affect bond spreads and investment in China (Liu et al., 2021; Ang et al., 2023; Jin et

al., 2023; Li et al., 2023). Our paper is naturally related to Geng and Pan (2022), who document the perception about government support for SOEs and the SOE premium. Our paper addresses a fundamental question, the conflicts of interests between the government and suppliers of capital, specifically bond creditors. For example, government intervenes by empowering other stakeholders (e.g., workers or politically connected entities) and deviating from absolute priority, leading to reductions in the valuation of claims for unsecured bondholders. By focusing on bankruptcy resolutions associated with bond defaults, our study demonstrates that judicial institutions have asset pricing implications for the corporate bond market in China.

Taken together, this paper documents the cost associated with political interference and weak investor protection. The evidence regarding bankruptcy reform has great policy implications for the design of bankruptcy systems. In many emerging economies, however, the legal institution of investor protection remains underdeveloped, which further hampers corporate financing and financial development, as documented in the literature (Ponticelli and Alencar, 2016; Müller, 2022). In China, as implicit government guarantees lead to distortions, creditor protection in bankruptcy is important to debt issuers, and a "market-oriented" bankruptcy resolution can have great implications for bond pricing in the global debt market.

The rest of this paper is organized as follows. Section 2 introduces the institutional background related to the bankruptcy reform in China. Section 3 describes data and research settings. Section 4 presents identification strategy and baseline result. Section 5 explores the mechanisms. Section 6 discusses heterogeneity, examines the effects on real outcomes, and checks robustness. Section 7 concludes the paper.

2. Institutional Setting: Bankruptcy Resolution in China

2.1 Bankruptcy Law and Traditional Civil Courts

The first bankruptcy code, *Enterprise Bankruptcy Law of the People's Republic of China* (the Bankruptcy Law 1986) was enacted in 1986 to facilitate corporate bankruptcy proceedings. The Bankruptcy Law 1986 stated that secured creditors were to be given priority in debt repayment,

followed by employees, taxes, and unsecured creditors (Articles 32, 37). The Bankruptcy Law 1986 was formulated during a period when China was transitioning from a centrally planned economy to a market economy and was only applicable to SOE bankruptcy. However, during the latter 1990s, the Chinese government enacted several reforms with the goal of prioritizing the rights of employees in distressed SOEs over those of secured creditors to achieve social stability.[8]

After China's accession to the World Trade Organization (WTO), how to better protect creditors, especially foreign creditors, became a central question, given the integration of global markets. The goal of WTO members was to bring Chinese bankruptcy law up to international standards and to ensure that creditors were sufficiently protected, especially when it came to foreign firms operating in China. In 2007, a new bankruptcy code, *the Enterprise Bankruptcy Law of the People's Republic of China* (the Bankruptcy Law 2007) replaced the Bankruptcy Law 1986. First, the Bankruptcy Law 2007 is considered a step forward, as it applies to all types of incorporated firms, regardless of their state ownership, equity structure, and business scope, and provides enhanced protection to creditors by explicitly mandating that secured creditors have priority over employees in bankruptcy proceedings (Article 109, 113). Second, the Bankruptcy Law 2007 introduces reorganization proceedings (Chapter 8) that resemble Chapter 11 of the US Bankruptcy Code, allowing companies in temporary financial distress to be reorganized instead of immediately liquidated. The passage of this bankruptcy law empowered creditors by allowing them to hold meetings with the debtor and giving them the right to review and approve a reorganization plan. These features are intended to shorten the duration of bankruptcy proceedings and increase creditor recovery values.

Although the Bankruptcy Law 2007 improves creditor protection in written law, traditional civil courts still face many challenges in the actual resolution of bankruptcy cases. First, bankruptcy cases often involve a complex set of laws and the interests of multiple parties.

[8] *Notice on Some Issues in the Trial Implementation of the Bankruptcy of State-Owned Enterprises in Several Cities*, available at http://www.gov.cn/zhuanti/2015-06/13/content_2878961.htm; *Notice on Some Issues in the Trial Implementation of the Merger and Bankruptcy of State-Owned Enterprises*, available at http://www.sasac.gov.cn/n2588035/n2588320/n2588335/c4260223/content.html; *Supplementary Notice on Some Issues in the Trial Implementation of the Merger and Bankruptcy of State-Owned Enterprises and the Re-employment of Employees in Several Cities*, available at http://www.mofcom.gov.cn/aarticle/b/bf/200207/20020700031314.html%3E.

Traditional civil judges often lack the relevant expertise to deal with such disputes, as judges are equipped with general skills to handle diverse types of civil cases, such as labor- and marriage-related disputes. Second, political influence is still pervasive in bankruptcy resolutions, by discussions with law professionals and judges. Local politicians wield considerable influence by appointing politically connected trustees to oversee bankruptcy proceedings. For example, politicians from the Hainan provincial government were assigned as bankruptcy trustee to oversee the bankruptcy of Hainan Airlines Group. Alternatively, local governments can take over enterprises in financial distress by replacing the managers and appointed CEOs with state officials (e.g., the Dongbei Steel Company bankruptcy case).

Third, the number of bankruptcies has increased rapidly since 2013, as shown in Figure 3, triggered by an increasing number of debt defaults by POEs and SOEs (Amstad and He, 2020; Jin et al., 2023). The surge in bankruptcy cases, along with the lack of expertise and the presence of political influence, leads to lengthy and cumbersome bankruptcy proceedings, preventing creditors from getting repaid and thus aggravating their expected bankruptcy costs. Mitigating these frictions in the bankruptcy system is a necessary step in moving from "state-dominated" resolution to "market-oriented" resolution.

2.2 Introduction of Specialized Bankruptcy Courts

The Shenzhen Intermediate People's Court in Guangdong province established the Liquidation and Bankruptcy Tribunal in December 1993, which was the first specialized bankruptcy court in China. After the passage of the Bankruptcy Law 2007, several local courts in other provinces (i.e., Henan, Shanxi, Shandong, and Chongqing) followed Shenzhen's practice and established bankruptcy tribunals. In October 2014, the fourth Plenary Session of the 18th Central Committee of the Communist Party of China (CPC) and the Supreme People's Court proposed the introduction of specialized bankruptcy courts across the nation. Subsequently, in June 2016, the Supreme People's Court promulgated the *Work Plan for Establishing Liquidation and Bankruptcy Tribunals in Intermediate People's Courts* (the Work Plan 2016). The Work Plan 2016 mandates that

bankruptcy tribunals be established in the four province-level municipalities and provincial capital cities or sub-provincial cities in 11 provinces, including Hebei, Jilin, Jiangsu, and Zhejiang. By the end of December 2016, bankruptcy tribunals shall be introduced in provincial capital cities or sub-provincial cities of the remaining provinces. Figure 4 shows the timeline of the introduction of bankruptcy tribunals in different cities. By the end of December 2020, there were 97 bankruptcy tribunals across China, and each province had at least one liquidation and bankruptcy tribunal.[9]

The bankruptcy tribunal is intended to improve the efficiency of bankruptcy proceedings as follows. First, bankruptcy tribunals are run by judges with better training and specialization in bankruptcy cases. For example, job postings for bankruptcy court require judges to be equipped with "*outstanding experience in handling liquidation and bankruptcy cases*." Additionally, in the detailed case filings in bankruptcy tribunals, we observe an increase in the professionalization of judges—a large number of judges have graduated from China's elite law schools.

Second, in August 2016, the National Enterprise Bankruptcy Information Disclosure Platform (the Bankruptcy Platform) was launched by the Supreme People's Court to improve transparency and credibility in bankruptcy trials. By the end of July 2017, more than 17,600 documents associated with bankruptcy filings had been published on the Bankruptcy Platform, with more than 51.44 million visitors to the site. The online platform improves transparency in bankruptcy resolution by providing timely information for creditors regarding the assets in place. It also allows small and distant creditors to participate in creditor committees and vote on reorganization plans. Therefore, bankruptcy tribunals reduce the cost of coordination across creditors, and improve the efficiency of bankruptcy proceedings.

More recently, in January 2019, a more independent bankruptcy court was established outside the local Intermediate People's Court, in which judges handle only bankruptcy cases and which is considered to be subject to less influence from civil courts and local governments. By the end of June 2020, nine cities had established independent bankruptcy courts, including Shenzhen, Beijing, Shanghai, Tianjin, Guangzhou, Wenzhou, Hangzhou, Chongqing, and Nanjing. In the rest of this

[9] A city can establish several bankruptcy tribunals, and we consider the introduction of the first bankruptcy tribunal or court throughout our empirical analysis.

paper, we use the term "specialized court" to refer to both bankruptcy tribunals and independent bankruptcy courts.

3. Data and Settings

3.1 Data

Following Li and Ponticelli (2022), we obtain the exact dates of the introduction of specialized courts, using the proprietary data from the Supreme People's Court, the Ministry of Justice, and local courts. Our empirical analysis is based on a new case-level dataset of bankruptcy cases in Chinese courts between 2012 and 2021. We source case-level information from the National Corporate Bankruptcy Information Disclosure Platform, an online platform launched in 2016 by the Chinese Supreme People's Court (SPC) that allows debtors and creditors to monitor the evolution of bankruptcy cases.[10] For each case, the Bankruptcy Platform reports the name of the company filing for bankruptcy, the name of the court in which the case was handled, the current status of the case, as well as the province, sector, size, and ownership category of the bankrupt firm. The Bankruptcy Platform also offers access to the court documents accompanying each case. Such court documents include the judicial rulings made by the chief judge in charge of each case, as well as any communications from the government, bankruptcy administrators, and trustees to the parties involved in the case. Using textual analysis, we extract from these court documents relevant information about how bankruptcy cases are handled, such as reorganization or liquidation, duration of bankruptcy proceeding, debt recovery rate, and the potential political interference in judicial institutions.

Bond information is obtained from the Wind database, following Amstad and He (2020) and Geng and Pan (2022), and city-level variables are obtained from the *China City Statistical Yearbook*. Our main sample focuses on corporate bonds issued between 2012 and 2021, including medium-term notes, exchange-traded corporate bonds, and enterprise bonds.[11] To address

[10] The Bankruptcy Platform can be accessed at https://pccz.court.gov.cn/pcajxxw/index/xxwsy.

[11] We exclude bonds issued by financial companies, asset-backed securities, and other convertible securities. See Amstad and He (2020) for a detailed description of China's corporate bond market. Because the trading activities of

concerns about the potential selection of bond issuance before or after the introduction of specialized courts, we focus on the spreads of bonds issued by the same company in the secondary market in our baseline regression. We further exclude bond observations with missing variables, and all continuous variables are winsorized at the 1st and 99th percentiles to mitigate potential outliers.

According to Article 3 of the Bankruptcy Law 2007 and Article 1 in *Provisions on Some Issues concerning the Trial of Enterprise Bankruptcy Cases* promulgated by the Supreme People's Court, bankruptcy cases fall under the jurisdiction of the people's court in the location where the debtor is domiciled. The "domicile of the debtor" refers to the location of the debtor's main office. If the debtor has no office, the bankruptcy case falls under the jurisdiction of the people's court in the location of the debtor's registration, which alleviates the possibility of "forum shopping," as in the US bankruptcy system. Given the unique legal provisions and judicial practice regarding the location of bankruptcy filings, we use the introduction of a specialized court in the city where a bond issuer is registered to isolate the potential selection of bankruptcy locations.

Table 1 reports the descriptive statistics of the variables used in the analysis of the secondary market.[12] The average bond spread during the sample period is 2.362%, with an average maturity of 5.5 years and an average issuance amount of RMB 1.2 billion. Medium-term notes account for 48.1% of the observations, and over 75% of the bonds are traded in the interbank market. Bonds with AAA and AA+ ratings comprise 25.3% and 31.5% of the observations in our sample, respectively.[13] Over the sample period, bonds issued by LGFVs and non-LGFV SOEs account for 88.1% of all observations, with bond issued by POEs accounting for the rest. The average leverage ratio of bond issuers is 57.1%, while the average return on assets (ROA) is only 1.6%.

short-term financing bills (commercial papers) are scarce in the secondary market, we exclude all short-term financing bills in our baseline regression. In Section 3.5, we conduct an analysis in the primary market and include short-term financing bills in the sample.

[12] In Section 6, we conduct an analysis in the primary market and include short-term financing bills in the sample, and the corresponding descriptive statistics are provided in Table A1.

[13] In our sample, approximately 85% of the bonds maintain a constant rating over time. To address concerns about the potential influence of the introduction of courts on bond ratings, we use the initial rating assigned to each bond for our analysis.

3.2 Balance Test

The main concern with this research setting is that the decision to introduce a specialized court in a given city - and the timing of introduction - are not random. In particular, the decision might be driven by local economic conditions that are also correlated with the outcomes of interest. For example, specialized courts might be introduced in cities that are experiencing negative economic shocks and therefore are in need of such courts in order to deal with an increasing number of insolvencies among local firms. Alternatively, specialized courts might be introduced first in cities where local politicians can "afford" to be stricter with financially distressed firms because the local economy is growing fast and can absorb eventual layoffs. This type of correlations with pre-existing and contemporaneous economic trends would bias our estimates of the effect of the introduction of specialized courts on bond spreads.

Before delving into the baseline results, we estimate a discrete time hazard model that studies whether differences in city characteristics predict the timing of introduction of specialized courts across cities. We consider a large set of city characteristic such as the indicator for provincial capital city, city-level economic conditions (log GDP, deficit-to-GDP ratio), and measures of local financial distress (share of zombie firms, number of bond defaults and bankruptcy cases). The results are reported in Table 2. As shown, we observe no significant correlation between these city characteristics and the timing of the introduction of a specialized court.

Although Table 2 eases the concern that the timing of introduction of specialized courts is driven by the economic cycle, it cannot deal with potential unobservable city characteristics that vary over time and may drive both the introduction of specialized courts and the outcomes of interest. In the empirical analysis, we show that our results are robust to augmenting the baseline model with city-level controls studied in Table 2. To the extent that unobservable city-level characteristics are correlated with the observable characteristics reported in Table 2, adding these controls to our specification should ease this concern.

4. Baseline and Identification

4.1 Baseline Results

In the baseline regression, we examine the impact of specialized courts on bond spreads in the secondary market. We aggregate the data to a bond security-quarter panel, similar to Geng and Pan (2022), and exploit the staggered introduction of specialized courts between 2012 and 2021 to estimate the following DID model:[14]

$$Y_{bcft} = \beta \times SpecialCourt_{ct} + \gamma \times Z_{bfct} + \alpha_f + \alpha_t + \varepsilon_{bcft} \quad (1)$$

where Y_{bcft} is the average spread of bond security b traded in the secondary market at time t measured in quarters, f denotes the bond issuer, and c denotes the prefecture-level city where the issuer is registered.[15] $SpecialCourt_{ct}$ is a dummy variable that takes a value of 1 if there is a specialized court in city c, and 0 otherwise.[16] Z_{bfct} is a set of control variables, including firm size, the leverage ratio, ROA, the logarithm of the bond issuance amount, remaining years to maturity of the bond, the logarithm of local GDP, and local fiscal deficit to GDP ratio. α_f and α_t denote bond issuer and time fixed effects, respectively. Standard errors are clustered at the city level for the baseline regressions, which allows for serial correlation across observations at the city level.[17] The coefficient of interest β captures the impact of specialized courts on bond spreads.

Table 3 presents the baseline DID estimates, as specified in Equation (1), at the bond security-quarter level. All of the model specifications in Table 3 include bond issuer fixed effects to control for both observable and unobservable factors that are time-invariant at the issuer level. We also include province-time and sector-time fixed effects to control for potential unobservable variables that may affect the decision to establish a court and bond spreads simultaneously, such as province-

[14] The sample period in the baseline regression starts from 2012, considering that most of the specialized courts were established after 2012, and in the robustness checks, the China Development Bank bond index used as the benchmark yield starts in November 2012. We also conduct our empirical analysis between 2008 and 2021, and between 2014 and 2021, given that the government bond index used as the benchmark yield starts in 2008, and the first bond default event occurs in 2014. The main findings are insensitive to the starting point of the sample period.

[15] The baseline analysis uses the yield to maturity of the government bond index, with a maturity similar to the benchmark yield. In the robustness checks, we use the China Development Bank bond index as the benchmark yield. For a bond security that has multiple transactions within a period, the baseline analysis takes the average to calculate the dependent variable. In the robustness checks, we calculate the median value or weighted average of the bond spreads.

[16] If a city has multiple specialized courts, we consider the establishment of the first court in the city.

[17] We do not include city fixed effects because they are fully subsumed by bond issuer fixed effects, which control for time-invariant issuer characteristics.

level economic conditions and sector-specific shocks.[18] Essentially, our analysis compares the changes of bond spreads for the same bond issuer before and after the introduction of the bankruptcy court. The results in column (1) indicate that the specialized courts decrease the bond spreads of bond issuers in the prefecture city by 17.9 basis points, which is statistically significant at the 1% level. This represents a 7.6% reduction in the average bond spread, suggesting that the effect is not only statistically but also economically sizable.

In column (2), we saturate the model with a comprehensive set of fixed effects to account for time-varying factors in the bond market, some of which are specific to the Chinese context.[19] First, we include the issuer's state ownership-time fixed effects to mitigate the concern that our result could be driven by the difference in state ownership. For example, Geng and Pan (2022) documents the SOE premium in Chinese bond market due to the increased importance of government support. Secondly, we include trading market-time fixed effects to address the policy differences across the interbank market and the exchange market. As documented by Chen et al. (2022), bonds with identical fundamentals could be traded at different prices on two segmented markets that feature distinctive trading rules and different composition of the investors base. Third, we also add bond rating-time, and security type-time fixed effects. As shown in column (2), the coefficient remains statistically significant at the 1% level, and is robust to the inclusion of these fixed effects.

In column (3) to (5), we gradually include other controls at the city, bond-issuer, and bond levels. The estimates are consistent with the baseline results, indicating that the specialized courts lead to a 19.0 basis point decrease in bond spreads, as shown in column (5). Moreover, the coefficients on the other control variables are aligned with the predictions from the literature. We find that higher city deficit ratio, higher firm leverage, smaller size, and lower ROA are associated with higher bond spreads.

[18] The following industry information is obtained from Wind: energy, materials, industrials, consumer discretionary, consumer staples, health care, information technology, telecommunication services, and utilities. Our findings remain robust when using alternative classifications, such as that provided by the China Securities Regulatory Commission (CSRC).

[19] There are three types of issuer's state ownership, LGFV, SOE, or private company (POE). The trading market includes the interbank market and the exchange market. The security types are medium-term notes, exchange-traded corporate bonds, and enterprise bonds. The bond rating is divided into three groups: AAA, AA+, and all others.

4.2 Event Study

We perform an event-study exercise to show the evolution of bond spreads around the introduction of the first specialized court in a given city. This not only enables us to evaluate the speed and the persistence of the impact brought by the court, but also to validate the parallel trend assumption in our DID design. To this end, we use the following specification:

$$Y_{bcft} = \sum_{n} \beta_n \times D_n SpecialCourt_{ct} + \gamma \times Z_{bfct} + \alpha_f + \alpha_t + \varepsilon_{bcft} \quad (2)$$

where $D_n SpecialCourt_{ct}$ is a dummy equal to 1 if time $t = n$ for city c, and captures the time relative to the time of introduction of the first specialized court in city c, which we set at $n = 0$. The specification has the same set of fixed effects and control variables used in column (5) of Table 3. Standard errors are clustered at the city level.

The objective of this exercise is to exploit the different timing of introduction of specialized courts in different cities to document their impact on bond spreads in a dynamic specification. The estimated coefficients β_n are plotted in Figure 5. The result shows that, after 4 quarters from the introduction of specialized courts, cities experience a significant reduction in bond spreads. The magnitude of the reduction is much larger at a longer horizon of 8 quarters. Importantly, there is no pre-trend associated with changes in bond spreads prior to the introduction of specialized courts, which could mitigate the concern of selection bias.

Baker et al. (2022) points out that when research settings combine staggered timing of treatment effects and treatment effect heterogeneity, staggered DID estimates are likely biased. To address this concern, we use the estimates based on methods from the recent literature (i.e., Cengiz et al., 2019; De Chaisemartin and d'Haultfoeuille, 2020; Sun and Abraham, 2021; Borusyak et al., 2022). Figure 6 shows no discernible pre-trends prior to the court introduction, and these results together indicate a persistent impact eight quarters after the court introduction.

We further quantify the aggregate benefits of the specialized courts to bond issuers by conducting a back-of-the-envelope calculation based on Müller (2022). The counterfactual

scenario in this analysis assumes that no specialized court was established during the entire sample period from 2012Q1 to 2021Q4. We estimate ΔI, the total savings in corporate bond interest payments as follows:

$$\Delta I = \sum_{t} \sum_{c} L_{ct} * \Delta r_{ct} \tag{3}$$

where L_{ct} is the total outstanding amount of corporate bonds in quarter t in city c. Δr_{ct} is the decrease in the interest rate of bond financing caused by the specialized court. Based on the estimates in Table 3, Δr_{ct} equals 0.0448% (i.e., 0.179%/4) if a specialized court is established in city c in quarter t, and 0 otherwise. Our calculation indicates that the total savings in interest payments of corporate bonds associated with the courts is approximately RMB 158 billion, which is equivalent to USD 2.4 billion in annual interest payments of corporate bonds. Given the aggregate size of the Chinese bond market, this magnitude of the effect is larger relative to the benefits associated with creditor protection, based on the literature. For example, by exploiting the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005 (BAPCPA) reform which reduces the court congestion as a shock, Müller (2022) finds that a one standard deviation increase in the exposure to BAPCPA is associated with lower credit spreads of 13 basis points, resulting in an annual savings of USD740 million in interest payments.

4.3 Identification

Our identification strategy exploits the timing of the introduction of specialized court and differences in the jurisdiction of courts dealing with bankruptcy cases. The potential court dealing with bankruptcy cases is predetermined according to Article III of The Enterprise Bankruptcy Law, which states that "*bankruptcy cases shall be under the jurisdiction of the People's Court where the debtor is domiciled*." However, bond issuers from cities with the specialized courts might differ from their counterparts in terms of unobservable characteristics (e.g., default risk, liquidity risk, or localized investment opportunities). In this part, we discuss a few threats to our identification strategies and provide the remedies.

4.3.1 Confounding Factors

First, the reduction in bond spreads could be driven by unobservable factors that affect default risk or liquidity risk of corporate bonds. We construct issuer's distance to default as the proxy for default risk. Proposed by Merton (1974) and popularized by Moody's KMV, the concept of distance-to-default evaluates, in unit of standard deviation, the distance between a firm's current asset value and its default boundary. Guided by structural models of default, it is an effective and disciplined way to measure the issuer-level credit quality. Moreover, we construct two proxies for bond illiquidity following the methods proposed by Corwin and Schultz (2012) and Adbi and Ronaldo (2017), which have been proven as more accurate measures for illiquidity compared to other low-frequency estimates. We add default risk, liquidity risk and city-level business environment index to the baseline model. The standard errors are clustered at the city level in this part. The results are reported in Panel A of Table 4. Notably, the varying number of observations from the baseline is due to the fact that these proxies are unavailable for some bonds. We find that the coefficient of specialized court remains remarkably significant across all specifications, mitigating the concern regarding omitted variables. Consistent with our expectations, the results indicate that bond spread is negatively correlated with distance to default and business environment, while positively correlated with the bond illiquidity proxies.

Second, the baseline results could be driven by the contemporaneous policies other than the introduction of the courts. We consider two policies that have been exploited in the recent research settings. The first policy is the judicial independence reform in China that removed local governments' control over local courts' financial and personnel decisions, thereby substantially improving local courts' independence (Liu et al., 2022). The second policy is the introduction of circuit courts of the Supreme People's Court. We construct the dummy variables for prefecture cities that have been affected by the policies, and include them in the baseline model. The results are presented in Panel B of Table 4. As shown, the coefficient of specialized court remains stable and significant, while neither judicial independence reform nor circuit court has discernable impact on bond spreads in any specifications.

Third, we show that the baseline result is driven by neither bond defaulters nor bonds that are close to maturity as shown column (1) and (2) of Panel C. Another concern is that the newly-issued bonds following the court introduction are different from the existing bonds in terms of the unobservable factors that correlated with bond spreads. To address this concern, we exclude all the newly-issued bonds after the introduction. As shown in column (3), the coefficient of specialized court remains significant. Furthermore, in the most stringent specification, we add bond fixed effects that fully absorb the time-invariant factors at bond level, and the coefficient remains sizable and significant in column (4).[20]

4.3.2 Border Region Regression

To further strengthen our identification, we examine bond spreads differences between regions (cities or counties) on the borders of adjacent provinces that differ in the specialized court introduction. Because of the close geographic proximity of these regions, any differences in spreads between regions on either side of the border can be more readily attributed to the difference between the specialized courts versus the civil courts. The results are reported in Table 5, where we present maps to demonstrate an example from Anhui and Jiangsu province.

Using the bonds from the neighboring prefecture cities and neighboring counties, we estimate the baseline model, and report the results in Panel A of Table 5. By restricting the bonds from the neighboring counties (cities) along with the borders, the sample size is reduced by around 90% (50%). In all specifications, the coefficient is similar to the baseline that uses the full sample.

Furthermore, we refine our sample to include only bond issuers located in close proximity to the court. We compute the geographic distance from each bond issuer to its nearest court, as well as the driving duration to the court. In Panel B, we impose an additional criterion that the distance to the court should be less than 10 km. Similarly, in Panel C, we set an additional requirement for driving duration to be less than 1 hour. The results in both panels closely mirror the baseline results.

[20] Figure A1 presents the results of event study with bond fixed effect. Other fixed effects and control variables are the same as in Figure 5.

5. Mechanisms

5.1 Benchmark Model

In this section, we investigate the potential mechanisms underlying the impact of specialized courts on the reduction of bond spreads. Our analytical framework draws upon the model proposed by Merton (1974) that has been adopted in the recent research on Chinese corporate bond market (Geng and Pan, 2022). Leveraging the Merton model as our benchmark, we formulate several testable hypotheses to guide the ensuing empirical analysis. As shown by Chen, Collin-Dufresne, and Goldstein (2009), the Merton model underscores two crucial quantities for the bond spreads, namely: the default rate, and the recovery rate, which can be summarized by the following explicit formula:

$$y = -\frac{1}{T}\ln\{1-(1-c)\mathcal{N}[\mathcal{N}^{-1}(\pi)+\theta\sqrt{T}]\} \tag{4}$$

where y represents bond spread, T bond maturity, θ the asset Sharpe ratio, π default probability, and c debt recovery rate. It is straightforward to derive two predictions below. First, with all else held constant, an increase in the debt recovery rate results in a decrease in the bond spread, i.e.,

$$\frac{\partial y}{\partial c} < 0 \tag{5}$$

Second, the magnitude of bond spread reduction is larger when default probability is higher, captured by the formula:

$$\frac{\partial^2 y}{\partial c\,\partial \pi} < 0 \tag{6}$$

5.2 Role of Court Enforcement

To bridge the gap between the benchmark model and the empirical analysis, we futher collect the data on the debt recovery rate for the defaulted bonds of issuers that have already filed for bankruptcy.[21] The debt recovery rate comes from multiple sources, including the reorganization

[21] Among 247 unique issuers that defaulted between 2012 and 2021, 99 firms have already filed for bankruptcy. These in-court issuers come from 36 different cities (13 cities have specialized courts), and represent around 50% of total defaulted bonds.

plan, corporate statement, and disclosure provided by courts and appointed trustees. Our computation of the recovery rate of defaulted bonds serves as a direct proxy for court enforcement in each city where the relevant court is located.[22] We interact the indicator of specialized court with the time varying, city-specific average recovery rate. This enables us to quantify the impact on bond spreads with respect to the strength of court enforcement. We estimate the modified model in the subsample with available court enforcement:

$$Y_{bcft} = \beta_1 \times SpecialCourt_{ct} + \beta_2 \times Recovery_{ct} + \beta_3 \times SpecialCourt_{ct} \times Recovery_{ct} + \gamma \times Z_{bfct} + \alpha_f + \alpha_t + \varepsilon_{bcft} \quad (7)$$

We include the same set of control variables and fixed effects as the baseline specification. The standard errors are clustered at the city level in this part. We report the results in Table 6. In column (1) and (2), we use the continuously measured recovery rate. The coefficient of interest, denoted by β_3, is negative and statistically significant. Notably, the varying number of observations from the baseline is due to the fact that recovery rate is available for the defaulted bonds. According to column (1), a 10% (S.D.) increase in debt recovery rate corresponds to a reduction of bond spread by approximately 29 (40.7) basis points.[23] In column (3) and (4), we replace the continuous variable of court enforcement by the categorical variables. Specifically, we construct two dummy variables for city-specific recovery rate between 10% and 30%, or exceeding 30%, respectively. Our analysis reveals that cities with highest enforcement (recovery rate exceeding 30%) experience the most substantial reduction in bond spread following the introduction of specialized court. Meanwhile, those cities with moderate enforcement also witness a reduction in bond spread, albeit to a lesser extent. Overall, the results in Table 6 provide evidence that stronger court enforcement is a crucial determinant in explaining the reduced bond spreads observed after the specialized courts, and is consistent with the first prediction derived from the Merton model as formulated in Equation (5).

Furthermore, we examine the economic significance of court enforcement in explaining the

[22] In instances where there are no observations for a specific year in a given city, we employ the most recent available recovery rate for that city.

[23] The debt recovery rate has the mean of 4.7%, and the standard deviation of 13.8%.

cross-sectional variations of bond spreads. To begin with, we derive the city-level treatment effect by estimating the modified specification that permits the coefficient β to be city-specific, represented as follows:

$$Y_{bcft} = \sum_{c} \beta_c \times SpecialCourt_{ct} + \gamma \times Z_{bfct} + \alpha_f + \alpha_t + \varepsilon_{bcft} \quad (8)$$

Next, we construct a scatter plot to illustrate the relationship between city-specific treatment effect and court enforcement proxied by the recovery rate of defaulted bonds. As depicted in Panel A of Figure 7, there is a clear evidence of negative correlation between the court recovery rate and the treatment effect. More importantly, the slope of the fitted line is significantly negative, indicating that a 10% increase in court recovery rate will generate an increment of treatment effect by 16.2 basis points, and the R^2 is 50.3%, which underscores economic importance of court enforcement in explaining the variation of bond spreads across cities.

Due to the limited observations of the bond defaulters, Panel A of Figure 7 comprises only 13 cities. To ensure the external validity of our analysis, we augment the dataset on debt recovery rate by incorporating a manually collected sample of reorganization plans from bankruptcy firms, which is not restricted to bond issuers. Panel B replicates the procedures and re-create the scatter plot with more than 30 cities. The slope of the fitted line is -2.03, suggesting that a 10% increase in court recovery rate will translate into an additional treatment effect of 20.3 basis points on bond spreads. In this larger sample, the R^2 of the fitted line is 43.7%, slightly smaller compared to Panel A, but still highlights the economic significance of court enforcement as a crucial factor.

5.3 Bankruptcy Resolution Outcomes

In this part, we examine how specialized courts change the bankruptcy resolution outcomes. We manually collect data on bankruptcy filings from 2012 to 2021 from the National Enterprise Bankruptcy Information Disclosure Platform. We extract detailed information from each bankruptcy filing associated with a bond default event, including the firm's name, location, size, and ownership. Additionally, the Bankruptcy Platform discloses detailed information about the

bankruptcy resolution process, including the court, the judges and trustees responsible for the case, the timing of case acceptance and completion, and the resolution outcome in terms of liquidation or reorganization. To capture government interference, we obtain detailed information about the trustees nominated by the court and the judges responsible for the cases. We further manually search for the ownership of trustees from a firm registration database. If the trustee is state-owned or affiliated with a government bureau, we define it as a politically connected trustee. Furthermore, rather than using the market measure of recovery rate, we construct recovery values to capture the *actual* recovery rate as a measure of bankruptcy efficiency, by collecting information on the assets, liabilities, and claim holders to calculate the distribution of assets among all of the claim holders.[24]

We employ several measures to assess the efficiency of bankruptcy proceedings for bond defaulters. First, we consider the choice between liquidation and reorganization. Bris et al. (2006) shows that liquidation tends to result in lower debt recovery rates for creditors and reduced overall efficiency in the bankruptcy resolution process. We expect the specialized courts to reduce the likelihood of bankruptcy proceedings concluding with liquidation, as judges and trustees are equipped with financial expertise.

Second, we examine the duration of bankruptcy cases, defined of the length of the periods between the case acceptance and completion. Duration not only affects the expected present value of recovery but also determines the fees and expenses incurred during litigation (LoPucki and Doherty, 2011). As the goal of specialized courts is to streamline and improve the efficiency of the bankruptcy process, we hypothesize that these courts will lead to shorter case durations.

Third, we provide direct evidence of bankruptcy efficiency using the recovery rate of defaulted bonds based on court rulings. The calculation of the recovery rate for each defaulted bond draws

[24] In Figure A2 and A3, we show that distressed firms handled in specialized courts are less likely to be liquidated in bankruptcy resolution than those handled in traditional civil courts. In Figure A4, we show that a specialized court is more likely than a civil court to bring strategic investors. In bankruptcy courts, a judge with expertise increases the probability of successful reorganization through actively searching for strategic investors with funding. Furthermore, Figure A5 shows that specialized courts are more likely to propose substantive consolidation in bankruptcy, whereby the assets and liabilities of affiliated companies of the distressed firm are consolidated as a single entity to ensure repayment to all creditors of the consolidated debtor. The evidence presented above suggests that by adopting a "market-oriented bankruptcy" model, specialized courts increase debt recovery in bankruptcy resolution and economic value for bondholders.

from various sources, including the reorganization plan, corporate statement, and disclosure provided by courts and appointed trustees. Poor enforcement lowers recovery rate and increases the time spent in repossessing collateral following default (Bae and Goyal, 2009). We conjecture that specialized courts to increase the recovery rate for bond investors.

Fourth, government interference can significantly influence bankruptcy proceedings in the Chinese judicial system. The government has social goals such as local stability and employment, which may not be aligned with the interests of creditors. Moreover, the government can interfere via political connections and favoritism, which can either increase zombie firms' survival, or decrease the likelihood of viable firms to be reorganized. Our paper contributes to the literature by quantifying the degree of government involvement by politically connected bankruptcy trustees in a large sample of bankruptcy cases. In China, bankruptcy trustees exercise significant power during the bankruptcy proceedings who are responsible for overseeing the management and distribution of assets during the bankruptcy process. Politically connected trustees are actively engaged on behalf of the government in bankruptcy resolution, including in the formation of the bankruptcy plan in terms of liquidation or reorganization and the sale of assets in case of liquidation. According to the World Bank's measure of business and investment climates, B-READY, in 180 economies worldwide, an effective insolvency framework should ensure that an insolvency administrator should be objective, clearly established, and publicly available.[25] The representative should objectively take into account the interests of creditors and employees and ensure that the law is applied effectively and impartially.

We formally test how the specialized courts change the bankruptcy efficiency of bond defaulters, and summarize the results in Table 7.[26] For each regression, we include bond spread at issuance and logarithm of issuance amount, as well as the city and sector fixed effects of the defaulters. We also saturate the model with province×default year fixed effects to absorb the time-varying economic conditions at the province level. The key variable, *SpecialCourt*, is set to be one

[25] For more information, refer to Table 14, Subcategory 2.2.2–Insolvency Administrator's Expertise in Practice, available at https://thedocs.worldbank.org/en/doc/357a611e3406288528cb1e05b3c7dfda-0540012023/original/B-READY-Methodology-Handbook.pdf.

[26] The analysis uses the sample of 363 bonds issued by 99 unique companies that defaulted between 2012 and 2021.

if the bankruptcy case is ruled by the specialized court, and zero if is ruled by civil court. The standard errors are clustered at the city level in this part. Column (1) shows that the probability of liquidation is 28.3% lower for cases in specialized courts than for those in traditional civil courts. Column (2) suggests that the duration will be shortened by around 5.7 quarters if the cases are handled by specialized courts compared to the civil courts. Column (3) provides direct evidence that the specialized courts are associated with an average increase of 12.0% in the bond recovery rate. Column (4) demonstrates that specialized courts significantly reduce the likelihood of government interference in bankruptcy cases, making it 42.4% less probable for politically connected trustees to be appointed.

We further examine whether the courts would change the probability of bond default. The result is reported in Table 8. The dependent variable, *Default*, is a dummy variable equal to one if bond defaults, and zero otherwise. For each regression in Table 8, we include the same set of control variables and fixed effects as the baseline results. We find no significant effect of specialized courts on the probability of bond default. That is, there is no evidence that firms change their default strategy with the existence of specialized courts.

In summary, this section provides evidence that the specialized courts strengthen bondholders' economic value through more judicial independence and stronger court enforcement. Our findings reveal that bond defaulters ruled by the specialized courts exhibit a reduced likelihood of liquidation, spend less time in bankruptcy proceedings, and achieve higher bond recovery rates. We also find that city's court enforcement can explain 43% of the variation in the treatment effect on bond spreads.

6. Heterogeneity, Real Outcomes, and Robustness

6.1 Who Benefit from the Courts

According to the Merton model, the effect of stronger court enforcement on bond spreads will be larger if the default probability is higher as captures by Equation (6). This suggests that the bond issuers with higher ex ante default risk should experience more reduction in bond spreads, and

become the beneficiary of the court introduction. We test this conjecture by estimating the heterogeneous effects with various *ex ante* default risk measures, using the following specification:

$$Y_{bcft} = \beta \times SpecialCourt_{ct} + \sum_{risk=med,high} \delta_{risk} \times SpecialCourt_{ct} \times D(risk) \quad (9)$$
$$+\gamma \times Z_{bfct} + \alpha_f + \alpha_t + \varepsilon_{bcft}$$

where $D(med)$ is one for the observations with medium default risk, and $D(high)$ is one for the observations with high default risk. The coefficient of interest, δ_{risk}, represents the incremental effect of the courts on bond spreads of observations with medium or high default risk, compared to those with low risk. We include the same set of control variables and fixed effects as the baseline specification. The standard errors are clustered at the time and city levels in this part.

First, we investigate the heterogenous effects across the bond ratings. We classify AAA-rated bonds as the low risk, AA+ as the medium risk, and AA+ below as the high risk. This approach divides the sample into three parts with approximately equal number of observations. As shown in column (2) in Table 9, the spreads of AAA bonds (low-risk group) decrease by 8.5 basis points following the court introduction, and the spreads of AA+ bonds (medium-risk group) are further reduced by 15.8 basis points, where the difference between two groups is statistically significant. Similarly, the spread of bonds with rating below AA+ (high-risk group) also experience a notable additional reduction of 11.5 basis points compared to the AAA-rated bonds.

Throughout column (3)-(8) in Table 9, we classify default risk based on several financial indicators. We construct issuer-level default risk proxies using three financial distress measures from the literature (Altman, 1968; Asquith et al., 1994; Bhattacharjee and Han, 2014), including the leverage ratio, the interest coverage ratio, and Altman's Z-score. For each financial indicator, we construct three dummy variables by partitioning our sample into groups of high, medium, and low levels of financial risk, each group with equal number of observations. We then interact the medium-risk and high-risk dummies with $SpecialCourt_{ct}$ to examine the heterogeneous responses of bond spreads compared to the low-risk group. For all three financial indicators, we find the coefficient of interest, δ_{risk}, to be negative and statistically significant for high-risk

group.[27] The results imply that bond spreads of the high-risk group can be further reduced by 6.6 ~ 10.5 basis points following the court introduction, depending on which financial indicator used for sorting.

Moreover, in addition to bond rating and financial indicator, we investigate the heterogenous effects across state ownership. According to the literature, bonds issued by LGFVs (referred to as "Chengtou bonds" in China) are generally considered safer due to implicit government guarantees (Liu et al., 2021; Geng and Pan, 2022; Jin et al., 2023). In contrast, bonds issued by POEs are perceived as the riskiest, and while SOE bonds benefit from substantial implicit government guarantees, making them safer than POE bonds, it is to a lesser extent than LGFV bonds. In Table 10, we report the effects of court introduction across three groups of bond issuers based on their state ownership: LGFVs, SOEs, and POEs. To begin with, we provide the results of t-test to show that POE bonds indeed have higher spreads, higher implied default probability, and lower rating relative to SOE bonds. Next, we estimate the regression similar to Equation (9), where the indicators of default risk are replaced by the dummy variables for SOE and POE. As shown in column (2), we find that all types of bond issuers actually benefit from the specialized courts. Moreover, SOE (POE) bond spreads are reduced by additionally 15.3 (26.1) basis points compared the LGFV bonds. And the coefficients δ are statistically significant for SOE and POE.[28]

In summary, we provide supportive evidence for second prediction derived from the Merton model as captured by Equation (6). Specifically, we observe a greater reduction in the magnitude of bond spreads when the default probability is higher. We also find POE bonds experience the largest reduction in bond spreads, signaling an improvement in the efficiency of capital allocation following the introduction of specialized courts.

6.2 Local Government Debt

In this part, we explore the heterogeneous effects across local government indebtedness and

[27] We also study the heterogenous effects across the degree of bond credit enhancement. Table A2 indicates that spreads of bonds without either collateralization or guarantee will experience a substantial decrease following the court introduction.

[28] We also test the difference between the coefficient of POEs and SOEs, and it is significant at the 10% level.

economic conditions. The results are reported in Table 11. In column (1)-(4), we divide the sample into two groups with equal number of observations based on either government debt-to-GDP ratio or GDP growth rate.[29] As shown in column (2), cities with government indebtedness above the sample median will experience an additional reduction of bond spreads by 19.5 basis points after court introduction, compared to the cities with low government leverage. Moving to column (4), cities with GDP growth rate below the sample median will exhibit an extra reduction of 14.4 basis points in bond spreads in comparison to their high-growth counterparts.

We also exploit the SOE bond default events as the shocks to the local bond issuers.[30] Previous studies document that a firm's default is also associated with an increase in default for firms in the same location, partially due to the correlation with local economic conditions (Li et al., 2023). The literature also shows that local governments provide implicit guarantees for local SOEs. Therefore, a SOE default event suggests that either the local government has little incentive to provide implicit guarantees or it has limited financial capacity to provide such implicit guarantees. The SOE bond default events indicate reductions in implicit guarantees, implying a higher default risk of local firms. We construct a dummy variable that is set to be one if the specialized court is introduced after the first SOE bond default in the prefecture city. As shown in column (6), we find the court introduced after the first SOE default will bring an extra reduction in bond spreads by 39 basis points.

Finally, we further exploit a major bond default event in China as a quasi-natural experiment for the heightened default risk. In November 2020, Yongmei Group, a Henan-based coal producer, began defaulting on a series of AAA-rated bonds worth more than RMB 3 billion (USD 460 million).[31] This occurrence triggered market-wide panic among debt market investors, escalating concerns about the lack of creditor protection and a subsequent wave of bond defaults by other companies (Li et al., 2023). Using the unforeseen default of Yongmei Group as an exogenous

[29] The local government debt includes both the explicit debt issued by the local government and those implicitly guaranteed by the local government (Chen et al., 2020; Huang et al., 2020; Liu et al., 2021).
[30] We also consider the initial bond default of all types of issuers, and the results remain similar.
[31] For more information about the default case, see https://www.reuters.com/article/china-bond-probe-idUSL4N2I61MJ.

shock, we assess the effect of specialized courts on bond spreads before and after this event. In column (8) of Table 11, we show a significant reduction in bond spreads in the cities with the specialized courts after the default of Yongmei. This finding aligns with the notion that the effects of the courts become more pronounced when the perceived default risk in the market rises.

6.3 Real Impact on Bond Issuance Costs and Issuer Outcomes

To extend our analysis, we explore the impact of specialized courts on the cost of corporate bond issuance and issuers' economic and financial outcomes. First, we replace the dependent variable in the baseline model by the bond issuance spread in the primary market, and construct the set of control variables and fixed effects in the same way as the baseline. The standard errors are clustered at the city level in this exercise.

Table 12 reports the impact of specialized courts on bond spreads in the primary market throughout the sample period spanning from 2012 and 2021. Column (1) shows that the introduction of specialized courts leads to a reduction in corporate bond issuance spreads of 21.0 basis points, which represents 10.8% of the average bond issuance spread during the sample period. From column (2) to (5), we further saturate the model with the same set of fixed effects, and progressively include the control variables at the city, issuer, and bond level. The statistical significance persists at the 1% level across all of the specifications.[32]

Next, we analyze the impact of bankruptcy courts on economic and financial outcomes using an issuer-year level panel from 2012 to 2021. Specifically, we study various outcomes in the annual growth rate of assets, liabilities, the outstanding amount of bond securities and bank loans, cash holdings, and capital expenditure. For each regression in this part, the model includes bond issuer fixed effects, province-time and sector-time fixed effects, as well as the city and issuer level controls as the baseline. The standard errors are clustered at the city level in this firm-level analysis.

As shown in column (1) and (2) of Table 13, total assets and total liabilities grow faster, by 2.8% and 4.9% after the introduction of the courts, respectively. By decomposing debt into bond

[32] In an unreported table, we exclude short-term commercial papers (SCPs), and the results are similar to the baseline.

securities and bank loans, we further show that bond issuance is more responsive than bank loans as suggested by column (3) and (5). This is consistent with increases in bondholders' unsecured value after stronger court enforcement brought by the courts. We also analyze the term structure of debt, including the average maturity of bonds, and the proportion of long-term loans. The results in column (4) and (6) indicate that the introduction of bankruptcy courts leads to increases in the maturity of debt, given the reductions in bankruptcy costs when firms enter financial distress. Moreover, column (7) and (8) suggest that the court is associated with more cash holdings and increased capital expenditure.

We also perform event study for each issuer-level outcome. The results are presented in Figure 8. The results of the event study suggest the parallel trend assumption generally holds for these economic and financial outcomes, which alleviates the concern about the selection bias. Overall, these findings are consistent with Ponticelli and Alencar (2016), Gopalan et al. (2016), and Müller (2022), who suggest that bankruptcy reforms lead to increased investment and long-term debt.

6.4 Placebo Test

We conduct a placebo test to check the validity of our main findings on the introduction of specialized courts. We randomly select the cities to introduce the specialized courts, with the probability equal to the actual proportion of the sample. Each city is assigned an introduction time that is independently drawn from the uniform distribution. After each random assignment, we construct the pseudo version of the primary variable $SpecialCourt_{c,t}$ and estimate the baseline model to get the pseudo-coefficient. We repeat the procedure 1,000 times to draw the empirical distribution of the pseudo-coefficients. Figure A6 shows that the distribution of the pseudo-coefficients has a mean close to 0 and is not statistically significant, indicating that our baseline results are not driven by alternative events.

6.5 Robustness Check

In this subsection, we show that the baseline result is robust to alternative definition of bond spread,

different estimation method, and additional sample filters. The results of these robustness tests are summarized in Table A3. Column (1) uses bond issuance amount as weight and estimates the model via WLS method. Column (2) replaces the dependent variable by the median value of bond spreads. Column (3) adopts the China Development Bank (CDB) bond indices to construct the risk-free rate instead of the treasury bond indices. Column (4) uses yield to maturity as the dependent variables. In column (5), we exclude bonds issued by central SOEs, as bankruptcy cases could be interfered by the central government. In column (6) and (7), we find that the courts have sizable impacts on bond issuers located in plausibly balanced economic regions, namely the Yangtze River Economic Belt and the Yangtze River Delta region.[33] Column (8) repeats the regression after excluding observations from provincial capital cities, which yields results similar to the baseline. Moreover, we collapse the bond-quarter level panel into the issuer-quarter level, and perform the event study similar to the baseline model. The corresponding results for the average bond spreads at issuer level can be found in Figure A7.

Due to the unique feature of market segmentation in Chinese bond market, we conduct the robustness checks that separately estimate the baseline model for each trading market and security type of corporate bond. As shown in Table A4, the coefficient of interest is statistically significant for all the markets and the security types. As the last robustness check, we estimate the model by clustering the standard errors at different levels, and show that the statistical significance is not sensitive to clustering in Table A5.

7. Conclusion

In this paper, we explore the consequences of China's bankruptcy reform on creditor protection and how court enforcement affects the cost of bond financing. Using the staggered introduction of specialized bankruptcy courts across cities in China, we show that specialized courts have pricing

[33] "Yangtze River Delta" refers to Zhejiang, Jiangsu, and Anhui provinces. "Yangtze River Economic Belt" refers to Zhejiang, Jiangsu, Anhui, Hubei, Jiangxi, Hunan, Sichuan, Yunnan, and Guizhou provinces. We also keep cities located on the provincial boundaries with similar characteristics, and the results from this subsample are consistent with the baseline results.

implications for the bond market, namely a reduction of 7.6% in bond spreads, and that the effect is stronger when default risk is higher. To analyze the channel through which specialized courts improve creditor protection, we manually collect bankruptcy filing and resolution outcomes of bond defaulters. The results indicate that specialized courts help to reduce political interference, increase bondholders' recovery rate, and shorten the time that firms spend on bankruptcy proceedings, which contributes to the reduction in the cost of bond financing. By exploiting the data on debt recovery rate, we show that the court enforcement can explain more than 40% of the variation in court's effect on bond spreads across cities. This paper explores the links between bankruptcy reform and the development of the bond market. Our evidence has policy implications for the future design of the bankruptcy system, especially for countries facing obstacles in bankruptcy resolution, as documented by the Doing Business Report.[34] The economic benefits associated with the introduction of specialized bankruptcy courts is substantial, equal to around USD 2.4 billion in annual interest payment savings for China's corporate bond issuers. In many emerging economies, however, the bankruptcy system remains underdeveloped, which consequently hampers corporate financing and financial development, as documented in the literature (Ponticelli and Alencar, 2016; Müller, 2022). Our paper highlights the importance of stronger court enforcement as a necessary precondition for firms to benefit from judicial reform, as it favors the reallocation of resources towards POEs.

[34] Doing Business Report on insolvency can be accessed via https://archive.doingbusiness.org/en/data/exploretopics/resolving-insolvency.

References

Abdi, F., & Ranaldo, A. (2017). "A Simple Estimation of Bid–Ask Spreads from Daily Close, High, and Low Prices," *Review of Financial Studies*, 30(12), 4437–4480.

Allen, F., Qian, J., & Qian, M. (2005). "Law, Finance, and Economic Growth in China," *Journal of Financial Economics*, 77(1), 57–116.

Altman, E. I. (1968). "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy," *Journal of Finance*, 23(4), 589–609.

Amstad, M., & He, Z. (2020). "Chinese Bond Markets and Interbank Market," in Amstad, M., Sun, G., & Xiong, W. (Ed.), The Handbook of China's Financial System, Princeton University Press, 105–148.

Ang, A., Bai, J., & Zhou, H. (2023). "The Great Wall of Debt: Real Estate, Political Risk, and Chinese Local Government Financing Cost," *The Journal of Finance and Data Science*, 9, 100098.

Anginer, D., & Warburton, A. J. (2014). "The Chrysler Effect: The Impact of Government Intervention on Borrowing Costs," *Journal of Banking & Finance*, 40, 62–79.

Antill, S., & Grenadier, S. R. (2019). "Optimal Capital Structure and Bankruptcy Choice: Dynamic Bargaining versus Liquidation," *Journal of Financial Economics*, 133(1), 198–224.

Asquith, P., Gertner, R., & Scharfstein, D. (1994). "Anatomy of Financial Distress: An Examination of Junk-Bond Issuers," *Quarterly Journal of Economics*, 109(3), 625–658.

Bai, C. E., Hsieh, C. T., & Song, Z. M. (2016). "The Long Shadow of China's Fiscal Expansion," *Brookings Papers on Economic Activity*, 47(2), 129–181.

Baker, A. C., Larcker, D. F., & Wang, C. C. (2022). "How much should we trust staggered difference-in-differences estimates?" *Journal of Financial Economics*, 144(2), 370–395.

Bhattacharjee, A., & Han, J. (2014). "Financial Distress of Chinese Firms: Microeconomic, Macroeconomic and Institutional Influences," *China Economic Review*, 30, 244–262.

Blaylock, B., Edwards, A., & Stanfield, J. (2015). "The Role of Government in the Labor–Creditor Relationship: Evidence from the Chrysler Bankruptcy," *Journal of Financial and Quantitative Analysis*, 50(3), 325–348.

Borusyak, K., Jaravel, X., & Spiess, J. (2022). "Revisiting Event Study Designs: Robust and Efficient Estimation," Working Paper.

Bris, A., Welch, I., & Zhu, N. (2006). "The Costs of Bankruptcy: Chapter 7 Liquidation Versus Chapter 11 Reorganization," *Journal of Finance*, 61(3), 1253–1303.

Campello, M., Gao, J., Qiu, J., & Zhang, Y. (2018). "Bankruptcy and the Cost of Organized Labor: Evidence from Union Elections," *Review of Financial Studies*, 31(3), 980–1013.

Cengiz, D., Dube, A., Lindner, A., & Zipperer, B. (2019). "The Effect of Minimum Wages on Low-Wage Jobs," *Quarterly Journal of Economics*, 134(3), 1405–1454.

Cerqueiro, G., Hegde, D., Penas, M. F., & Seamans, R. C. (2017). "Debtor Rights, Credit Supply, and Innovation," *Management Science*, 63(10), 3311–3327.

Chen, H., Chen, Z., He, Z., Liu, J., & Xie, R. (2022). "Pledgeability and Asset Prices: Evidence from the Chinese Corporate Bond Markets," *Journal of Finance* (forthcoming).

Chen, L., Collin-Dufresne, P., & Goldstein, R. S. (2009). "On the relation between the credit spread puzzle and the equity premium puzzle." *The Review of Financial Studies*, 22(9), 3367-3409.

Chen, Z., He, Z., & Liu, C. (2020). "The Financing of Local Government in China: Stimulus Loan Wanes and Shadow Banking Waxes," *Journal of Financial Economics*, 137(1), 42–71.

Cong, L. W., Gao, H., Ponticelli, J., & Yang, X. (2019). "Credit Allocation under Economic Stimulus: Evidence from China," *Review of Financial Studies*, 32(9), 3412–3460.

Corwin, S. A., & Schultz, P. (2012). "A Simple Way to Estimate Bid–Ask Spreads from Daily High and Low Prices," *Journal of Finance*, 67(2), 719–760.

De Chaisemartin, C., & d'Haultfoeuille, X. (2020). "Two-way Fixed Effects Estimators with Heterogeneous Treatment Effects," *American Economic Review*, 110(9), 2964–2996.

Djankov, S., McLiesh, C., & Shleifer, A. (2007). "Private Credit in 129 Countries," *Journal of Financial Economics*, 84(2), 299–329.

Ersahin, N. (2020). "Creditor Rights, Technology Adoption, and Productivity: Plant-Level Evidence," *Review of Financial Studies*, 33(12), 5784–5820.

Fan, J. P., Huang, J., & Zhu, N. (2013). "Institutions, Ownership Structures, and Distress

Resolution in China," *Journal of Corporate Finance*, 23, 71–87.

Favara, G., Schroth, E., & Valta, P. (2012). "Strategic Default and Equity Risk Across Countries," *Journal of Finance*, 67(6), 2051–2095.

Geng, Z., & Pan, J. (2022). "The SOE Premium and Government Support in China's Credit Market," Working Paper.

Gopalan, R., Mukherjee, A., & Singh, M. (2016). "Do Debt Contract Enforcement Costs Affect Financing and Asset Structure?" *Review of Financial Studies*, 29(10), 2774–2813.

Hackbarth, D., Haselmann, R., & Schoenherr, D. (2015). "Financial Distress, Stock Returns, and the 1978 Bankruptcy Reform Act," *Review of Financial Studies*, 28(6), 1810–1847.

Haselmann, R., Pistor, K., & Vig, V. (2010). "How Law Affects Lending," *Review of Financial Studies*, 23(2), 549–580.

Hsieh, C. T., & Klenow, P. J. (2009). "Misallocation and Manufacturing TFP in China and India," *Quarterly Journal of Economics*, 124(4), 1403–1448.

Huang, Y., Pagano, M., & Panizza, U. (2020). "Local Crowding-Out in China," *Journal of Finance*, 75(6), 2855–2898.

INSOL (2018). "PRC Enterprise Bankruptcy Law and Practice in China," Technical Report.

Iverson, B. C., Madsen, J., Wang, W., & Xu, Q. (2023). "Financial Costs of Judicial Inexperience: Evidence from Corporate Bankruptcies," *Journal of Financial and Quantitative Analysis*, 58(3), 1111–1143.

Jin, S., Wang, W., & Zhang, Z. (2023). The Real Effects of Implicit Government Guarantee: Evidence from Chinese State-Owned Enterprise Defaults," *Management Science*, 69(6), 3650–3674.

La Porta, R., Lopez de Silanes, F., Shleifer, A., & Vishny, R. W. (1997). "Legal Determinants of External Finance," *Journal of Finance*, 52(3), 1131–1150.

Li, B., & Ponticelli, J. (2022). "Going Bankrupt in China," *Review of Finance*, 26(3), 449–486.

Li, M., Liu, L. X., Liu, Q., & Zhu, N. (2023). "Collapse of Implicit Government Guarantee

Versus Disorderly Default: The Impact of Bond Default in China," Working Paper.

Lilienfeld‐Toal, U. V., Mookherjee, D., & Visaria, S. (2012). "The Distributive Impact of Reforms in Credit Enforcement: Evidence from Indian Debt Recovery Tribunals," *Econometrica*, 80(2), 497–558.

Liu, L. X., Lyu, Y., & Yu, F. (2021). "Local Government Implicit Debt and the Pricing of LGFV Bonds," *Journal of Financial Research*, 498(12), 170–188 (in Chinese).

LoPucki, L. M., & Doherty, J. W. (2011). "Professional Fees in Corporate Bankruptcies: Data, Analysis, and Evaluation," Oxford University Press.

Merton, R. C. (1974). "On the pricing of corporate debt: The risk structure of interest rates." *The Journal of finance*, 29(2), 449-470.

Mo, J., & Subrahmanyam, M. G. (2020). "What Drives Liquidity in the Chinese Credit Bond Markets?" Working Paper.

Müller, K. (2022). "Busy Bankruptcy Courts and the Cost of Credit," *Journal of Financial Economics*, 143(2), 824–845.

Ponticelli, J., & Alencar, L. S. (2016). "Court Enforcement, Bank Loans, and Firm Investment: Evidence from a Bankruptcy Reform in Brazil," *Quarterly Journal of Economics*, 131(3), 1365–1413.

Rodano, G., Serrano-Velarde, N., & Tarantino, E. (2016). "Bankruptcy Law and Bank Financing," *Journal of Financial Economics*, 120(2), 363–382.

Sun, L., & Abraham, S. (2021). "Estimating Dynamic Treatment Effects in Event Studies with Heterogeneous Treatment Effects," *Journal of Econometrics*, 225(2), 175–199.

Figures

Figure 1: Bond Defaults and Bankruptcy Filings in China

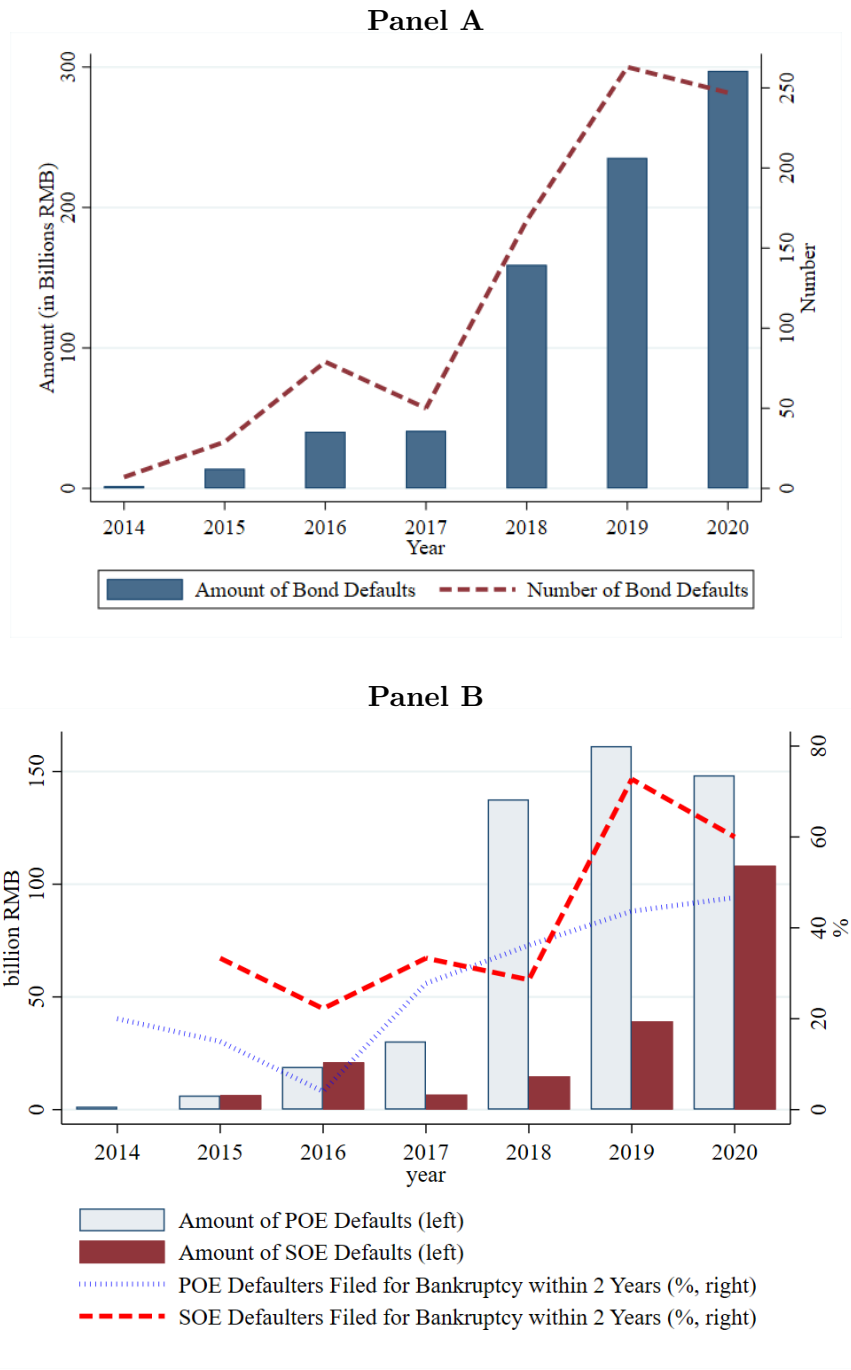


Figure 2: Bond Defaults and Government Interference in China

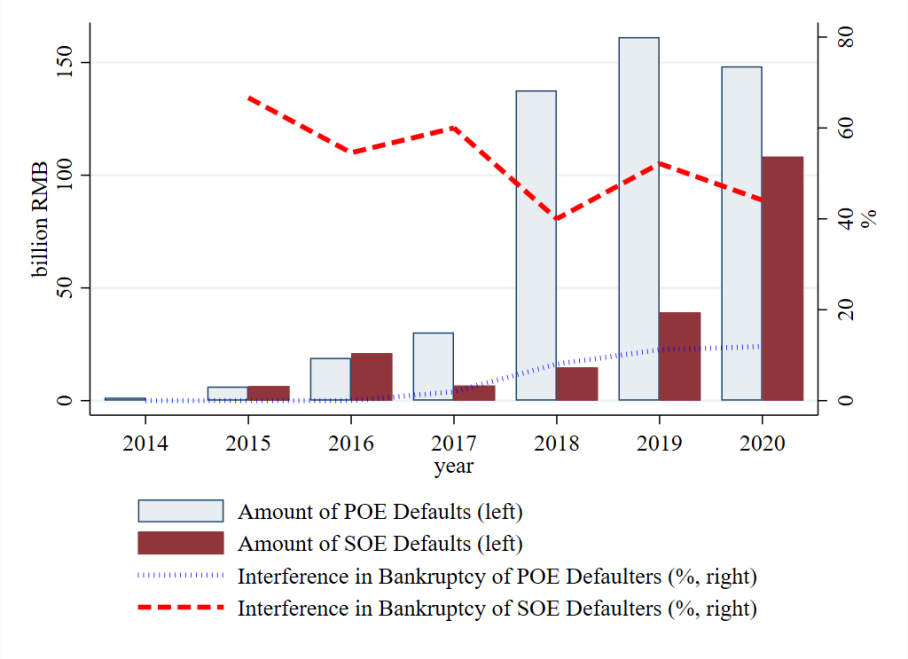


Figure 3: Number of Bankruptcy Cases in China

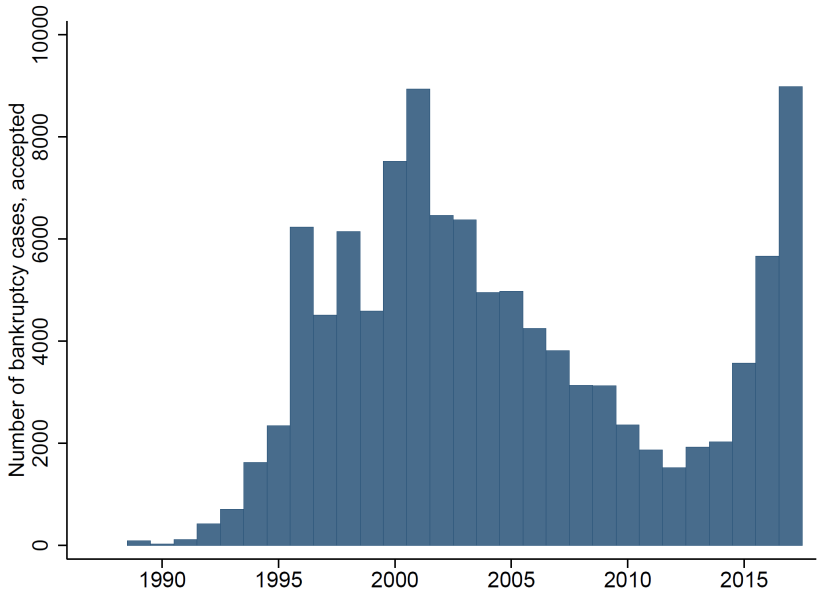


Figure 4: Number of Bankruptcy Courts Introduced

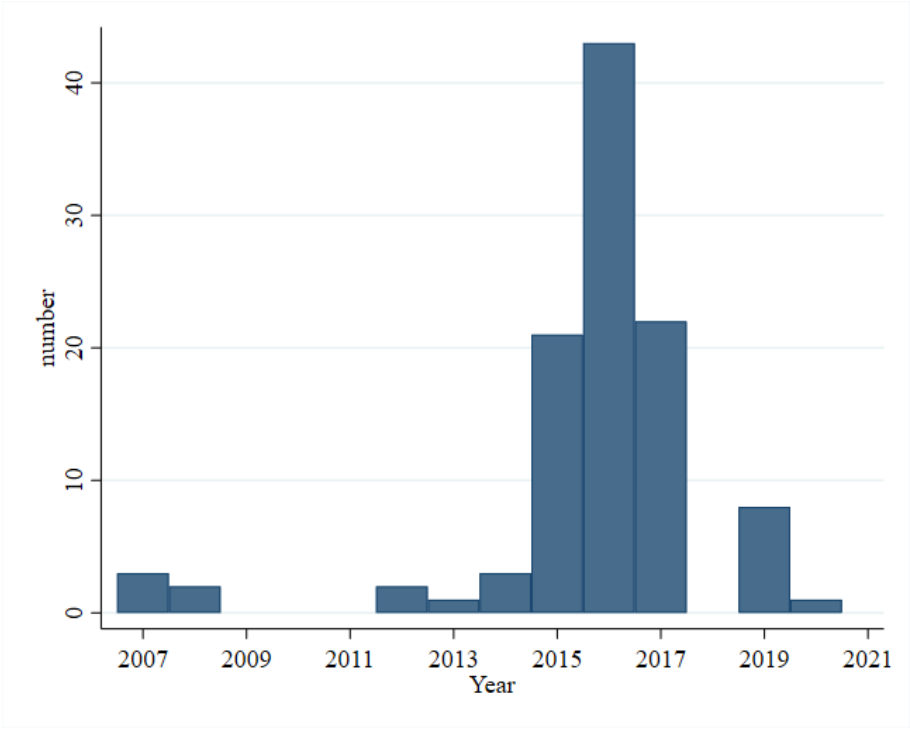


Figure 5: Test for the Parallel Trend Assumption

Notes: This figure tests the parallel trend assumption by estimating the following model specification:

$$y_{bfct} = \sum_n \beta_n D_n \text{SpecialCourt}_{ct} + \gamma X_{bfct} + \alpha_f + \varepsilon_{bfct}$$

Red vertical line indicates the quarter t_0 when a city introduces the court, and is considered as the benchmark period. The dummy variable $D_n\text{SpecialCourt}_{ct}$ takes 1 if it has been n quarters since the city c introduced the court (if n is negative, it will introduce the court in $-n$ quarters). The inner and the outer confidence interval are at significance level of 10% and 5% respectively. Standard errors are clustered at city level.

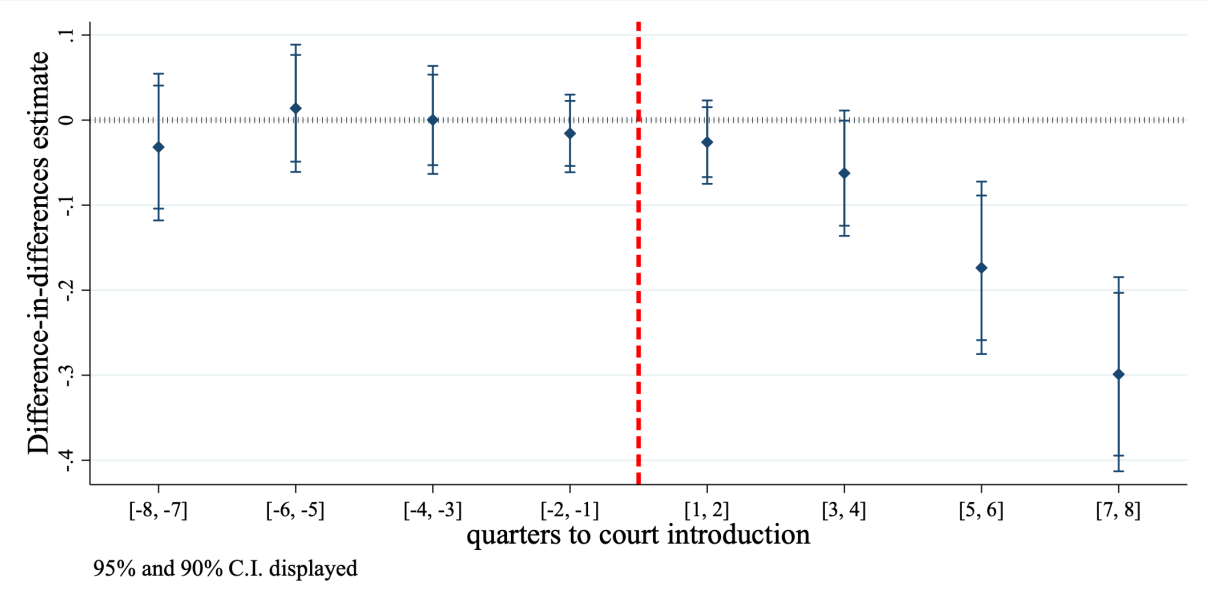


Figure 6: Alternative Event Study Designs

Notes: The figure tests the parallel trend assumption using a set of recently proposed estimators that are robust to treatment effect heterogeneity, including Cengiz et al. (2019), De Chaisemartin and d'Haultfoeuille (2020), Borusyak et al. (2022), and Sun and Abraham (2021). Red vertical line indicates the quarter when a city introduces the court, and is considered as the benchmark period. The confidence interval is at significance level of 5%. Standard errors are clustered at city level.

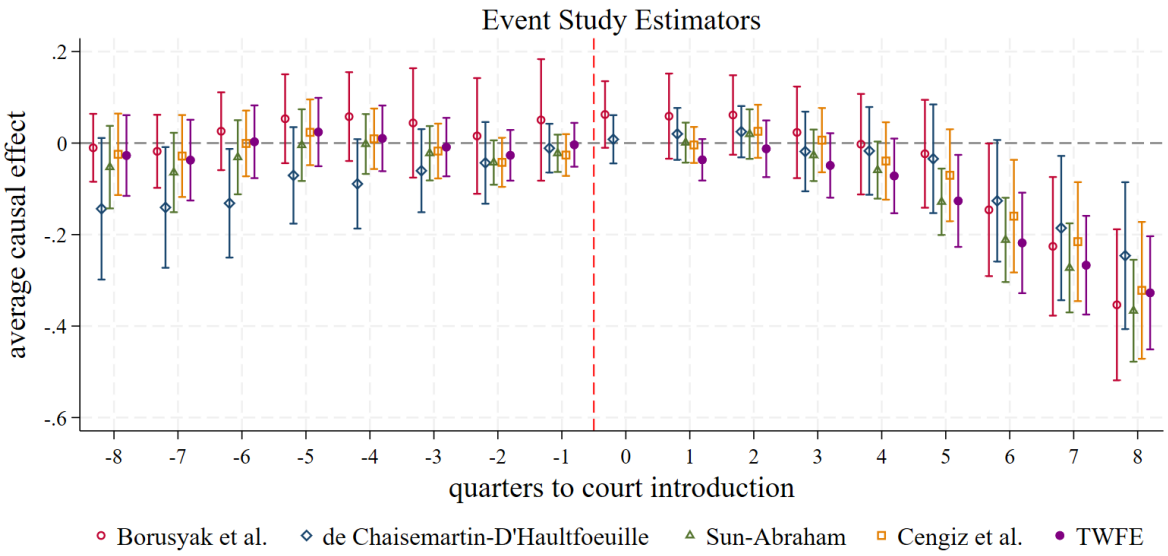
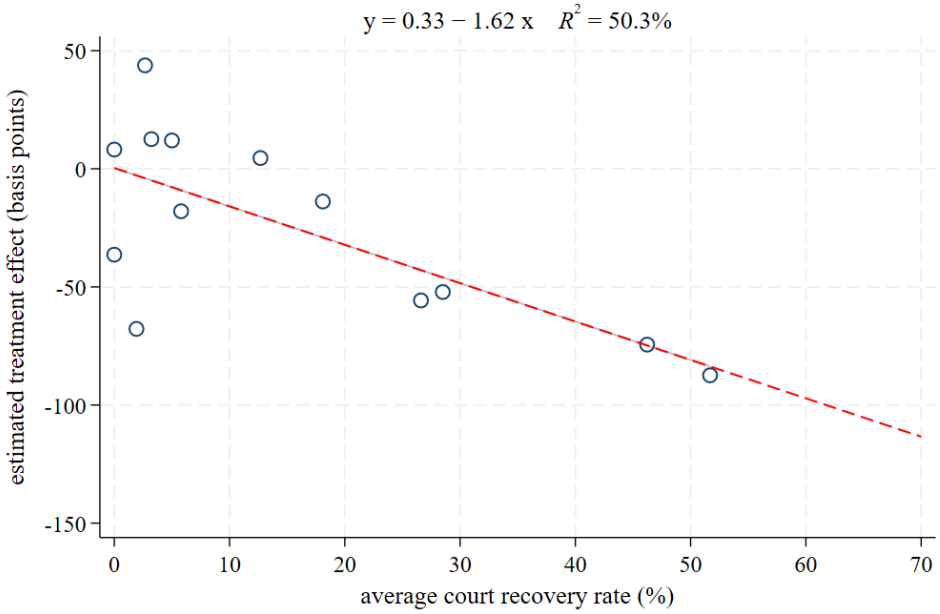


Figure 7: The Explanatory Power of Court Enforcement

Notes: The figure shows the relation between court enforcement and city-specific treatment effect. Each circle represents a city. In Panel A, the city-level court enforcement is measured by the average recovery rate of corporate bonds of the bond defaulters that filed for bankruptcy. In Panel B, we augment the sample with the recovery rate of unsecured debt of the bankrupt firms. The treatment effect is estimated by the modified version of the baseline model that allows for a series of city-specific coefficients of SpecialCourt. The fitted line and R^2 is added to the graph.

Panel A: Bond Defaulter Sample



Panel B: Bankruptcy Case Sample

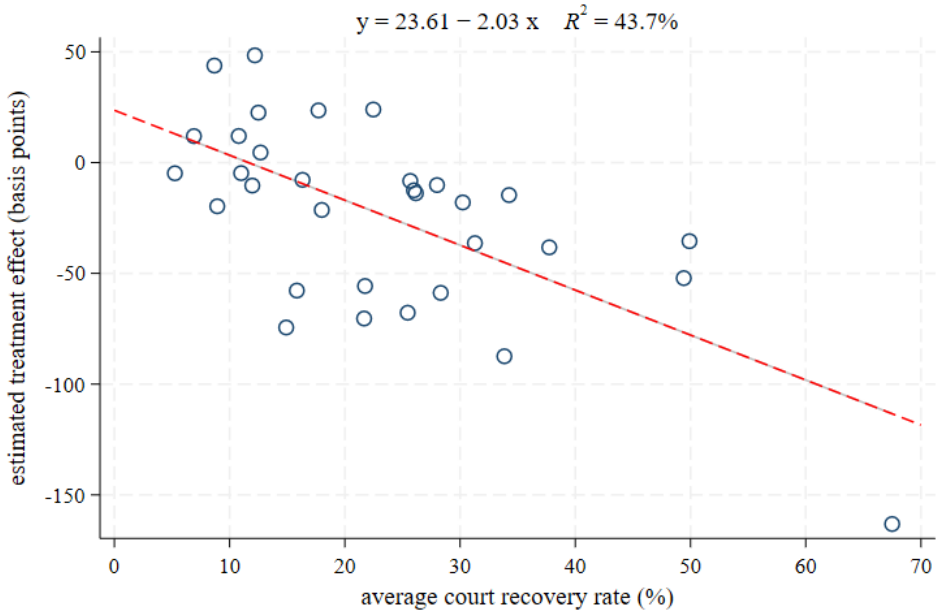
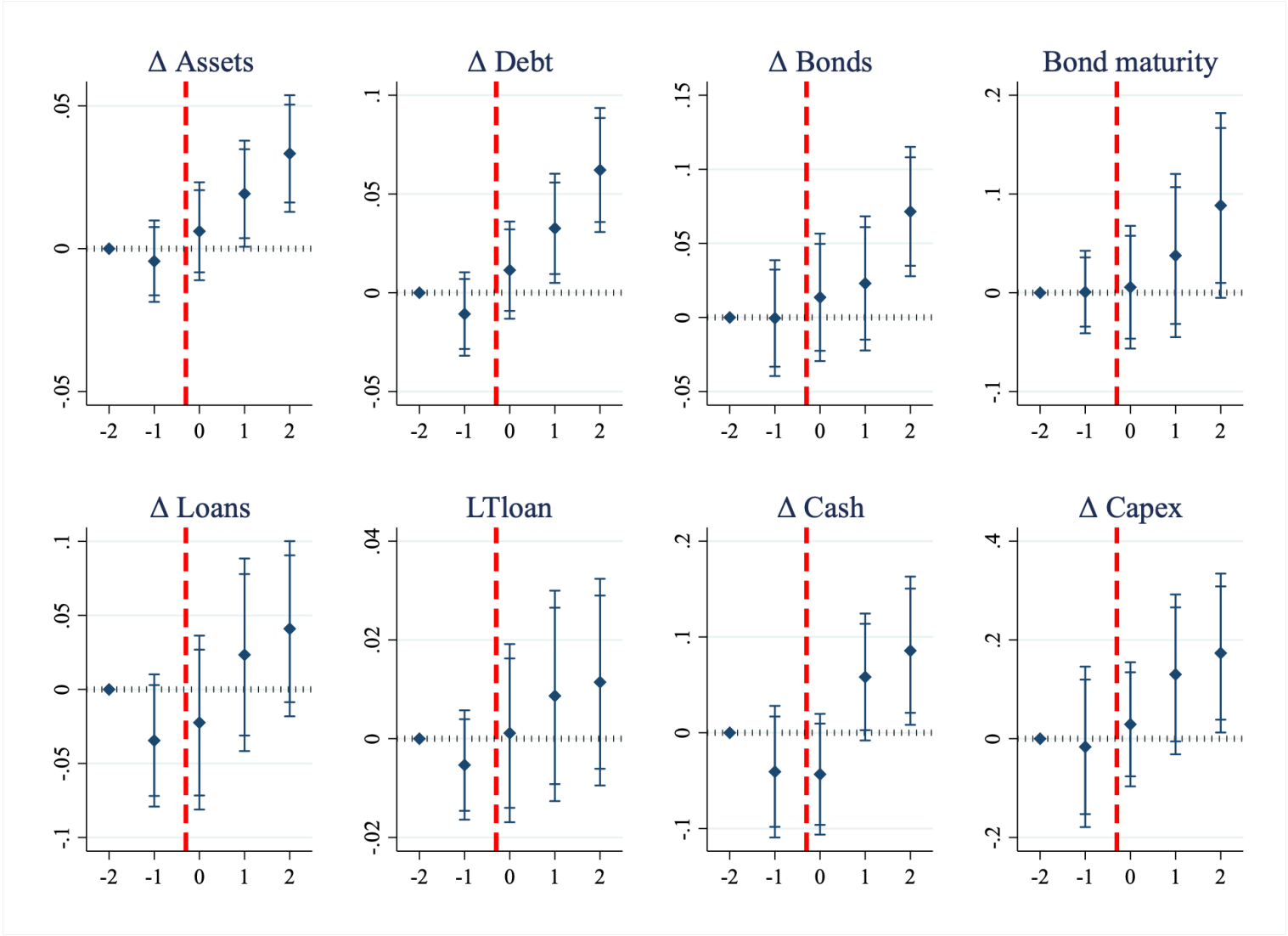


Figure 8: Responses of Real Outcomes to Bankruptcy Court

Notes: These figures show the responses of bond issuer's outcome variables. The inner and the outer confidence interval are at significance level of 10% and 5% respectively. All the continuous variables are winsorized at 1%. Standard errors are clustered at city level.



Tables

Table 1: Summary Statistics

Bond-level characteristics

	count	mean	sd	p10	p50	p90
bond spread(%)	167045	2.362	1.532	0.878	2.032	4.136
issuance amount(100 million)	167045	11.510	7.888	5.000	10.000	20.000
years to maturity	167045	5.511	1.835	2.997	5.000	6.995
remaining maturity	167045	3.493	1.987	1.000	3.250	6.250
bond guaranteed	167045	0.228	0.419	0.000	0.000	1.000
medium term note	167045	0.481	0.500	0.000	0.000	1.000
interbank	167045	0.769	0.421	0.000	1.000	1.000
AAA	167045	0.253	0.435	0.000	0.000	1.000
AA+	167045	0.315	0.464	0.000	0.000	1.000

Issuer-level characteristics

	count	mean	sd	p10	p50	p90
size(log million)	165467	10.600	1.161	9.202	10.447	12.294
leverage	165467	0.571	0.139	0.373	0.590	0.735
ROA(%)	165467	1.595	1.950	0.173	1.029	3.912
tangibility	165467	0.162	0.185	0.003	0.083	0.436
LGFVs	165467	0.186	0.389	0.000	0.000	1.000
non-LGFV SOEs	165467	0.695	0.460	0.000	1.000	1.000

City-level characteristics

	count	mean	sd	p10	p50	p90
SpecialCourt	165114	0.405	0.491	0.000	0.000	1.000
log(GDP)(log million)	165114	8.392	0.922	7.129	8.413	9.606
govt. deficit/GDP	165114	0.058	0.055	0.006	0.043	0.135

Table 2: Balance Test

Notes: This table reports a cox regression of the time to specialized court introduction in a city. As indicated, independent variables include a dummy for provincial capital city, logarithm of local GDP, deficit-to-GDP ratio, credit-to-GDP ratio, logarithm of population, share of manufacturing sector in GDP, share of service sector in GDP, share of zombie firms, number of local bond defaults, number of bankruptcy cases, and business environment. All independent variables are lagged by one year. Share of zombie firms is calculated based on the sample of listed firms following Caballero et al. (2008). Bond default information is obtained from Wind database, and business environment is sourced from *Blue Book: China City Commercial Credit Environment Index*. Other independent variables are obtained from *China City Statistical Yearbook*.

	Cox model estimation	
	(1)	(2)
provincial capital city	0.772	0.916
	(0.556)	(0.774)
log(GDP)	0.714	0.388
	(0.527)	(0.611)
govt. deficit/GDP	-1.529	-4.862
	(5.266)	(7.333)
credit/GDP	0.206	-0.058
	(0.472)	(0.690)
log(population)	0.027	0.352
	(0.478)	(0.590)
% of manufacturing	0.073	0.088
	(0.059)	(0.073)
% of service	0.076	0.076
	(0.060)	(0.075)
% of zombie firms	-0.384	-0.329
	(0.666)	(0.678)
num. of defaults	0.186	0.059
	(0.319)	(0.347)
num. of bankruptcy cases	0.008	0.010
	(0.014)	(0.017)
business environment	-0.040	0.039
	(0.095)	(0.113)
province FEs	No	Yes
N	2907	2907

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Specialized Court and Bond Spread, Baseline Regression

Notes: This table reports the results of the following model specification:

$$y_{bfct} = \beta \text{SpecialCourt}_{ct} + \gamma X_{bfct} + \alpha_t + \alpha_f + \varepsilon_{bfct}$$

where dependent variable y is the average yield spread of bond b in quarter t. If the city c, where the bond issuer f is located, introduces the specialized court at time t_0, the independent variable SpecialCourt is set to be 1 for any $t \geq t_0$. α_t stands for the time fixed effects, and α_f stands for the bond issuer fixed effects. X represents a series of bond-level, issuer-level and city-level control variables. The fixed effects in columns (2)-(5) also include issuer's ownership-time fixed effects (LGFVs, SOEs, or POEs), bond rating bin-time fixed effects (AAA, AA+, or below), bond trading market-time fixed effects (interbank or exchange market), and bond security type-time fixed effects (medium-term notes, enterprise bonds or exchange-traded corporate bonds). Standard errors are clustered at city level.

	Bond Spread				
	(1)	(2)	(3)	(4)	(5)
SpecialCourt	-0.179***	-0.218***	-0.185***	-0.189***	-0.190***
	(0.058)	(0.053)	(0.052)	(0.053)	(0.053)
log(GDP)			-0.292	-0.139	-0.140
			(0.246)	(0.237)	(0.237)
govt. deficit/GDP			2.469**	2.421**	2.417**
			(1.110)	(1.093)	(1.093)
size				-0.249***	-0.249***
				(0.064)	(0.063)
leverage				0.367**	0.364**
				(0.165)	(0.164)
ROA				-0.097***	-0.097***
				(0.011)	(0.011)
tangibility				-0.047	-0.047
				(0.188)	(0.188)
log(issuance amount)					0.011
					(0.024)
remaining maturity					-0.011
					(0.007)
bond issuer FEs	Yes	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	No	Yes	Yes	Yes	Yes
bond characteristics×time FEs	No	Yes	Yes	Yes	Yes
R^2	0.548	0.581	0.580	0.583	0.583
N	166935	166935	165001	163455	163455
Mean of dependent variable	2.362	2.362	2.352	2.348	2.348

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Confounding Factors in Bond Pricing

Notes: These tables address the issues of alternative confounding factors. In Panel A, column (1) controls for issuer's distance to defaul based on KMV model, column (2)-(3) control for bond illiquidity, where High-low spread is developed in Corwin, and Schultz (2012) and Corrected High-low is introduced by Abdi and Ronaldo (2017), column (4) controls for city's business environment, which is sourced from *Blue Book: China City Commercial Credit Environment Index*. Panel B controls for contemporaneous legal events, including the judical reform as Liu et al. (2022), the introduction of the intellectual property court or the circuit court. In Panel C, column (1) excludes all the bond defaulters, column (2) exclude all the issuance after the introduction of the court, and column (3) additonally includes bond fixed effects in the baseline model. Standard errors are clustered at city level.

Panel A	Bond Spread			
	(1)	(2)	(3)	(4)
SpecialCourt	-0.317***	-0.212***	-0.211***	-0.174***
	(0.114)	(0.054)	(0.054)	(0.052)
Distance to Default	-0.007***			
	(0.003)			
High-low Spread		0.121***		
		(0.011)		
Corrected High-low			1.036***	
			(0.100)	
Business Environment				-0.022*
				(0.012)
bond issuer FEs	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	Yes	Yes	Yes	Yes
bond characteristics×time FEs	Yes	Yes	Yes	Yes
city, issuer, bond controls	Yes	Yes	Yes	Yes
R^2	0.674	0.642	0.643	0.583
N	16643	77853	77853	161056

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

(continued)

Panel B	Judicial Reform		Circuit Courts	
	(1)	(2)	(3)	(4)
SpecialCourt		-0.191***		-0.191***
		(0.053)		(0.053)
Other Reform	0.112	0.125	0.041	0.055
	(0.115)	(0.116)	(0.115)	(0.107)
R^2	0.583	0.583	0.583	0.583
N	163455	163455	163455	163455

Panel C	Excl. Defaulters	Excl. obs. with mat. l.t. 1q	Excl. New Issuance	Incl. Bond FEs
	(1)	(2)	(3)	(4)
SpecialCourt	-0.206***	-0.191***	-0.144***	-0.085**
	(0.054)	(0.053)	(0.050)	(0.038)
R^2	0.572	0.589	0.600	0.778
N	159940	160203	121177	161977
bond issuer FEs	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	Yes	Yes	Yes	Yes
bond characteristics×time FEs	Yes	Yes	Yes	Yes
city, issuer, bond controls	Yes	Yes	Yes	Yes

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

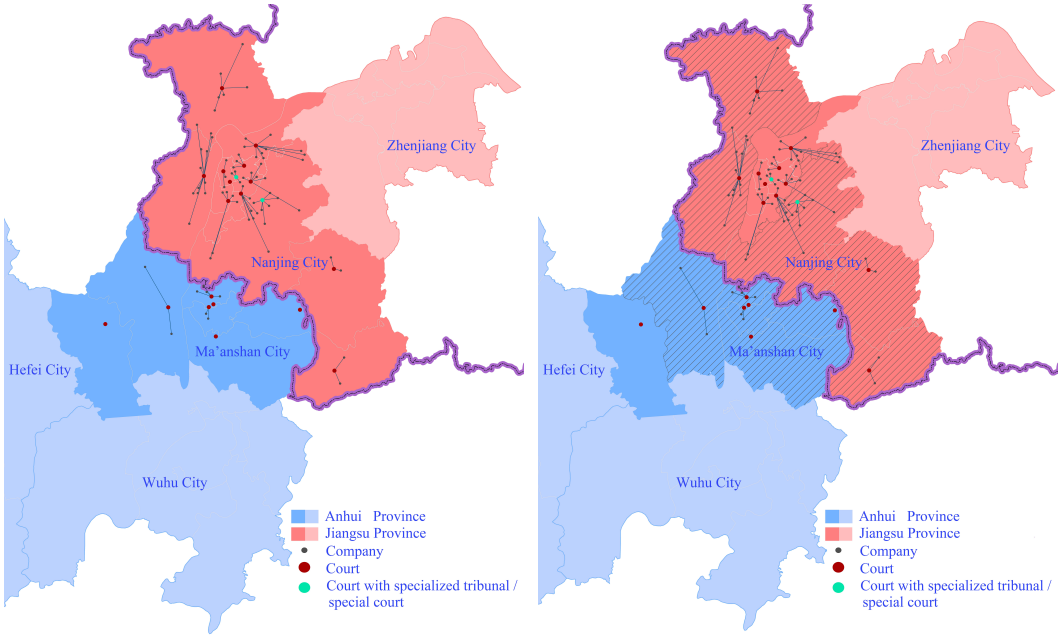
Table 5: Border Region Regression

Notes: Panel A reports the results of regression of bond spread using the bond issuers located in border cities or border counties that are adjacent to provincial boundary. The left figure at the bottom illustrates an example of border cities, where Nanjing is from Jiangsu Province and Ma'anshan is from Anhui Province. The right figure illustrates an example of border counties, where the shaded areas within the two cites are kept. Panel B and C further restrict the sample to the bond issuers whose driving distance to the corresponding court is less than 10 km or the driving duration is less than 1 hour. Standard errors are clustered at city level.

Panel A	Neighboring Cities		Neighboring Counties	
	(1)	(2)	(3)	(4)
SpecialCourt	-0.167**	-0.175**	-0.208**	-0.211**
	(0.068)	(0.071)	(0.080)	(0.087)
bond issuer FEs	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	Yes	Yes	Yes	Yes
bond characteristics×time FEs	Yes	Yes	Yes	Yes
city, issuer, bond controls	No	Yes	No	Yes
R^2	0.597	0.596	0.715	0.711
N	86013	84197	18901	18163

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$



Border Cities Border Counties

(continued)

Panel B	Distance < 10km			
	Neighboring Cities		Neighboring Counties	
	(1)	(2)	(3)	(4)
SpecialCourt	-0.209***	-0.197***	-0.263***	-0.275***
	(0.069)	(0.071)	(0.078)	(0.089)
R^2	0.597	0.595	0.722	0.713
N	73515	71946	15500	14848
Panel C	Duration < 1hr			
	Neighboring Cities		Neighboring Counties	
	(1)	(2)	(3)	(4)
SpecialCourt	-0.162**	-0.171**	-0.204**	-0.215**
	(0.067)	(0.071)	(0.079)	(0.089)
R^2	0.595	0.594	0.708	0.701
N	85569	83802	18668	17978
bond issuer FEs	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	Yes	Yes	Yes	Yes
bond characteristics×time FEs	Yes	Yes	Yes	Yes
city, issuer, bond controls	No	Yes	No	Yes

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: The Role of Court Enforcement

Notes: This table highlights the role of court enforcement in the effect of specialized court on bond spread. Recovery Rate is the average recovery rate of unsecured debt that are constructed based on the sample of bond defaulters that filed for bankruptcy in the courts of city c. In column (3)-(4), we define several indicators if Recovery Rate is in the range of $[0\%, 10\%]$ (the benchmark group), $(10\%, 30\%]$, or $(30\%, 100\%]$. Standard errors are clustered at city level.

	Bond Spread			
	(1)	(2)	(3)	(4)
SpecialCourt	-0.036	0.178	-0.027	0.168
	(0.270)	(0.191)	(0.248)	(0.178)
Recovery Rate	0.150	0.452		
	(0.261)	(0.276)		
SpecialCourt×Recovery Rate	-2.950**	-2.274*		
	(1.436)	(1.264)		
Recovery Rate$\in (10\%, 30\%]$			0.434	0.072
			(0.366)	(0.368)
Recovery Rate$\in (30\%, 100\%]$			0.120	0.369
			(0.208)	(0.218)
SpecialCourt×Recovery Rate$\in (10\%, 30\%]$			-1.292	-0.550
			(0.809)	(0.579)
SpecialCourt×Recovery Rate$\in (30\%, 100\%]$			-1.682***	-1.683***
			(0.565)	(0.535)
bond issuer FEs	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	Yes	Yes	Yes	Yes
bond characteristics×time FEs	Yes	Yes	Yes	Yes
city, issuer, bond controls	No	Yes	No	Yes
R^2	0.635	0.643	0.636	0.644
N	40115	39581	40115	39581

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Bankruptcy Resolution Outcomes

Notes: This table reports the effect of the specialized court on the resolution outcomes of bond defaulters that filed for bankruptcy. Liquidation is a dummy variable that equals one if a bond defaulter ends up in liquidation. Duration is the time spent in bankruptcy from the case acceptance to the completion. Recovery rate is the repaid proportion of defaulted bond. Government Interference is a dummy variable that equals one if the bankruptcy procedure is managed by a trustee who has political connections with any member of local government departments or officials. SpecialCourt equals one if the bankruptcy case is ruled by the specialized court, and zero if ruled by civil court. Standard errors are clustered at city level.

	Liquidation	Duration	Recovery Rate	Government Interference
	(1)	(2)	(3)	(4)
SpecialCourt	-0.283**	-5.720***	0.120***	-0.424**
	(0.134)	(1.914)	(0.032)	(0.208)
yield at issuance	-0.006*	0.132	-0.015*	-0.002
	(0.003)	(0.093)	(0.009)	(0.004)
log(issuance amount)	0.003	-0.023	0.032*	0.008
	(0.017)	(0.207)	(0.017)	(0.021)
city FEs	Yes	Yes	Yes	Yes
sector FEs	Yes	Yes	Yes	Yes
province×year of default	Yes	Yes	Yes	Yes
R^2	0.927	0.916	0.765	0.945
N	363	363	363	363

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Bond Default Probability

Notes: This table reports the results of the following model specification:

$$Default_{bfcm} = \beta \text{SpecialCourt}_{cm} + \gamma X_{bfcm} + \alpha_m + \alpha_f + \varepsilon_{bfcm}$$

where dependent variable $Default$ is a dummy variable equal to 1 if bond b defaults at time m and 0 otherwise, where time m is the default date for defaulted bonds, and the maturity date for bonds with no default. If the city c, where the bond issuer f is located, introduces the specialized court at time t_0, the independent variable SpecialCourt is set to be 1 for any $m \geq t_0$; while SpecialCourt is set to be 0 for any $m < t_0$. α_m stands for the time fixed effects, and α_f stands for the bond issuer fixed effects. X represents a series of bond-level, issuer-level and city-level control variables. Standard errors are clustered at city level.

	Default				
	(1)	(2)	(3)	(4)	(5)
SpecialCourt	0.002	0.001	0.007	0.004	0.003
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
log(GDP)			0.028	0.037	0.032
			(0.047)	(0.043)	(0.044)
govt. deficit/GDP			-0.302	-0.305	-0.317
			(0.254)	(0.248)	(0.248)
size				-0.037***	-0.038***
				(0.011)	(0.011)
leverage				0.091***	0.090***
				(0.032)	(0.032)
ROA				-1.187***	-1.186***
				(0.240)	(0.241)
tangibility				0.019	0.020
				(0.027)	(0.028)
log(issuance amount)					0.005**
					(0.002)
years to maturity					0.005**
					(0.002)
bond issuer FEs	Yes	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	No	Yes	Yes	Yes	Yes
bond characteristics×time FEs	No	Yes	Yes	Yes	Yes
R^2	0.673	0.696	0.695	0.690	0.691
N	14673	14666	13696	12947	12947
Mean of dependent variable	0.018	0.018	0.017	0.013	0.013

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9: Financial Risk

Notes: The table shows the heterogenous effect on bond spread by financial risks. In column (1)-(2), the sample is divided into three groups by bond rating (AAA, AA+, or below), where AAA is considered as low risk, AA+ as medium risk and, all others as high risk. In column (3)-(4), the sample is equally divided into three groups by issuer's leverage ratio observed in the previous year. In column (5)-(6), the sample is equally divided by interest coverage ratio observed in the previous year. In column (7)-(8), the sample is equally divided by Altman Z-score observed in the previous year. D(Medium Risk) and D(High Risk) are indicators for medium risk and high risk group respectively.

	Bond Spread							
Proxy Variable $D=$	Bond Rating		Leverage Ratio		EBITDA/Interest		Altman Z-score	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SpecialCourt	-0.114***	-0.085***	-0.185***	-0.161***	-0.213***	-0.178***	-0.193***	-0.175***
	(0.029)	(0.029)	(0.027)	(0.027)	(0.025)	(0.025)	(0.027)	(0.027)
SpecialCourt×D(Medium Risk)	-0.149***	-0.158***	-0.122***	-0.134***	-0.021	-0.038	0.002	-0.009
	(0.032)	(0.032)	(0.029)	(0.029)	(0.028)	(0.027)	(0.027)	(0.027)
SpecialCourt×D(High Risk)	-0.118***	-0.115***	-0.103***	-0.088**	-0.068**	-0.066**	-0.123***	-0.105***
	(0.033)	(0.033)	(0.036)	(0.036)	(0.027)	(0.026)	(0.034)	(0.034)
financial risk bin×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
bond issuer FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
bond characteristics×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
city, issuer, bond controls	No	Yes	No	Yes	No	Yes	No	Yes
R^2	0.581	0.583	0.584	0.588	0.589	0.591	0.583	0.586
N	166935	163455	166455	163455	156324	153821	166156	163244

Standard errors in parentheses
* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 10: Effect by Issuer's Ownership

Notes: The table on the top shows the heterogenous effect on bond spread by issuer's ownership. The benchmark group is local government financing vehicles (LGFVs). D(SOE) is an issuer-specific indicator for non-LGFV state-owned enterprises, and D(POE) is an issuer-specific indicator for private owned enterprises. At the bottom, we show the summary statistics and t-test results for the default risk proxies of SOE and POE.

	Bond Spread	
	(1)	(2)
SpecialCourt	-0.097***	-0.055**
	(0.023)	(0.023)
SpecialCourt×D(SOE)	-0.138***	-0.153***
	(0.020)	(0.021)
SpecialCourt×D(POE)	-0.234***	-0.261***
	(0.067)	(0.065)
bond issuer FEs	Yes	Yes
province×time, sector×time FEs	Yes	Yes
issuer's ownership×time FEs	Yes	Yes
bond characteristics×time FEs	Yes	Yes
city, issuer, bond controls	No	Yes
R^2	0.581	0.583
N	166935	163455

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

	POE	SOE	Diff.
Bond Spread (%)	3.551	2.214	1.336***
Implied Default Probability (%)	3.757	1.455	2.301***
Rating Grade ($AAA = 1$)	2.316	1.943	0.373***

Table 11: City Indebtedness

Notes: This table shows the heterogenous effect on bond spread by city-level characteristics. In column (1)-(2), D(High Gov. Leverage) is an indicator if a city's local government debt to GDP ratio lagged by one year is above the sample median. In column (3)-(4), D(Low GDP Growth) is an indicator if a city's GDP growth lagged by one year is below the sample median. In column (5)-(6), D(Post Local SOE Default) is an indicator for the observations whose courts are introduced after the first local SOE default in city c. In column (7)-(8), D(Post Yongmei Default) is set to be 1 if time is after the event of Yongmei Default. Yongmei is located in Shangqiu city, Henan province, and it belongs to the energy sector. Its unexpected default on November 2020 has caused tremendous impacts in Chinese bond market.

	Bond Spread							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SpecialCourt	-0.073***	-0.081***	-0.118***	-0.119***	-0.152***	-0.154***	-0.150***	-0.156***
	(0.025)	(0.025)	(0.021)	(0.022)	(0.020)	(0.020)	(0.019)	(0.019)
SpecialCourt×D(High Gov. Leverage)	-0.195***	-0.195***						
	(0.032)	(0.032)						
SpecialCourt×D(Low GDP Growth)			-0.137***	-0.144***				
			(0.025)	(0.024)				
SpecialCourt×D(Post Local SOE Default)					-0.355***	-0.390***		
					(0.050)	(0.049)		
SpecialCourt×D(Post Yongmei Default)							-0.292***	-0.291***
							(0.041)	(0.041)
bond issuer FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
bond characteristics×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
city controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
issuer, bond controls	No	Yes	No	Yes	No	Yes	No	Yes
R^2	0.581	0.584	0.580	0.584	0.580	0.583	0.580	0.584
N	165001	163455	164961	163415	165001	163455	165001	163455

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 12: Evidence from Bond Primary Market

Notes: This table reports the result of the following model specification:

$$y_{bfct} = \beta \text{SpecialCourt}_{ct} + \gamma X_{bfct} + \alpha_t + \alpha_f + \varepsilon_{bfct}$$

where dependent variable y is the issuance spread of bond b issued in quarter t. If the city c, where the bond issuer f is located, introduces the specialized court at time t_0, the independent variable SpecialCourt is set to be 1 for any $t \geq t_0$. α_t stands for the time fixed effects, and α_f stands for the bond issuer fixed effects. X represents a series of bond-level, issuer-level and city-level control variables. The fixed effects in columns (2)-(5) also include issuer's ownership-time fixed effects (LGFVs, SOEs, or POEs), bond rating bin-time fixed effects (AAA, AA+, or below), bond trading market-time fixed effects (interbank or exchange market), and bond security type-time fixed effects (medium-term notes, enterprise bonds, exchange-traded corporate bonds or short-term commercial papers). Standard errors are clustered at city level.

	Bond Spread at Issuance				
	(1)	(2)	(3)	(4)	(5)
SpecialCourt	-0.210***	-0.217***	-0.213***	-0.194***	-0.195***
	(0.065)	(0.062)	(0.061)	(0.060)	(0.059)
log(GDP)			-0.225	-0.070	-0.078
			(0.184)	(0.183)	(0.180)
govt. deficit/GDP			1.924	2.145	2.040
			(1.345)	(1.321)	(1.316)
size				-0.174***	-0.159***
				(0.037)	(0.036)
leverage				1.159***	1.130***
				(0.125)	(0.122)
ROA				-3.446***	-3.535***
				(0.554)	(0.554)
tangibility				-0.071	-0.068
				(0.140)	(0.141)
log(issuance amount)					-0.066***
					(0.012)
years to maturity					-0.037***
					(0.008)
bond issuer FEs	Yes	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	No	Yes	Yes	Yes	Yes
bond characteristics×time FEs	No	Yes	Yes	Yes	Yes
R^2	0.810	0.859	0.859	0.859	0.860
N	36884	36882	35859	35355	35355
Mean of dependent variable	1.946	1.946	1.929	1.918	1.918

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 13: Real Outcomes of Bond Issuer

Notes: This table reports the responses of bond issuer's outcome variables including the growth rates of total assets (Δ Assets), the growth rates of total liabilities (Δ Debt), the growth rates of bond debts (Δ Bonds), the average maturity of outstanding bond weighted by the issuance amount (Maturity), the growth rates of bank loans (Δ Loans), the proportion of long-term loans in bank loans (LTloan), the growth rates of cash equivalents (Δ Cash), and the growth rates of capital expenditure (Δ CAPEX). The panel is at issuer-year level from 2012 to 2021. All the continuous variables are winsorized at 1%. Standard errors are clustered at city level.

	Δ Assets	Δ Debt	Δ Bonds	Maturity	Δ Loans	LTloan	Δ Cash	Δ CAPEX
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SpecialCourt	0.028***	0.049***	0.055***	0.081**	0.033*	0.019**	0.068***	0.088**
	(0.007)	(0.011)	(0.014)	(0.035)	(0.018)	(0.008)	(0.019)	(0.039)
bond issuer FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
province×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
sector×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
city, issuer controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.418	0.357	0.234	0.632	0.168	0.824	0.167	0.113
N	23878	23878	23878	19117	23878	23878	23878	23733

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Appendix Figures

Figure A1: Parallel Trend with Bond Fixed Effects

Notes: This figure shows the responses of bond spread estimated by the model after the inclusion of bond fixed effects. Red vertical line indicates the quarter t_0 when a city introduces the court, and is considered as the benchmark period. The dummy variable $D_n\text{SpecialCourt}_{ct}$ takes 1 if it has been n quarters since the city c introduced the court (if n is negative, it will introduce the court in $-n$ quarters). The inner and the outer confidence interval are at significance level of 10% and 5% respectively. Standard errors are clustered at city level.

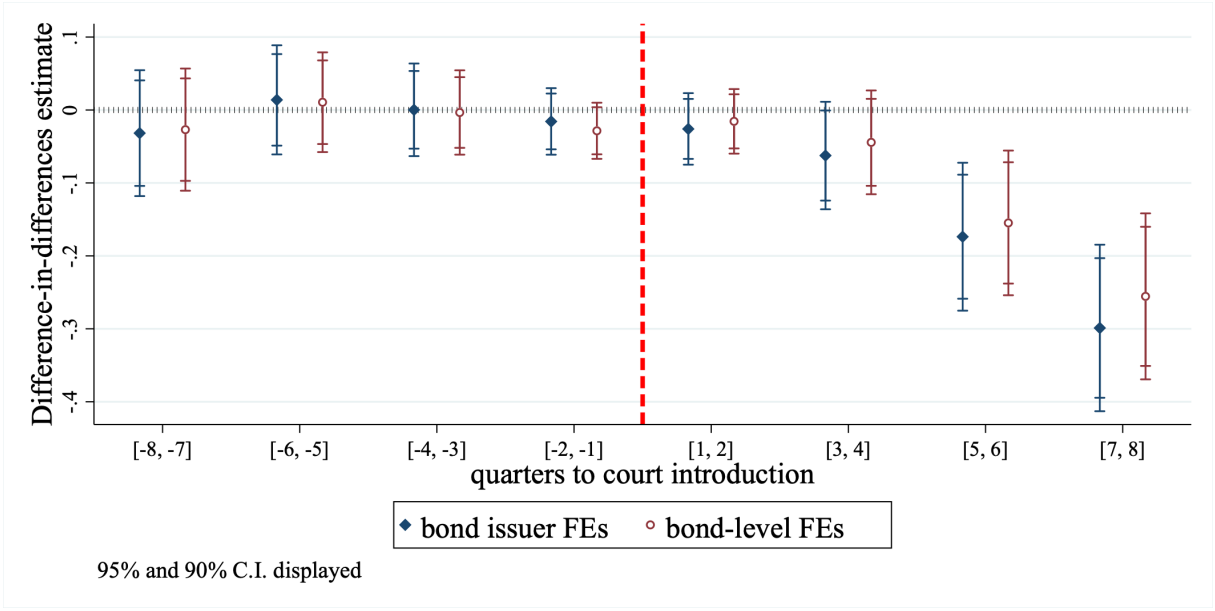


Figure A2: The Number of Liquidations

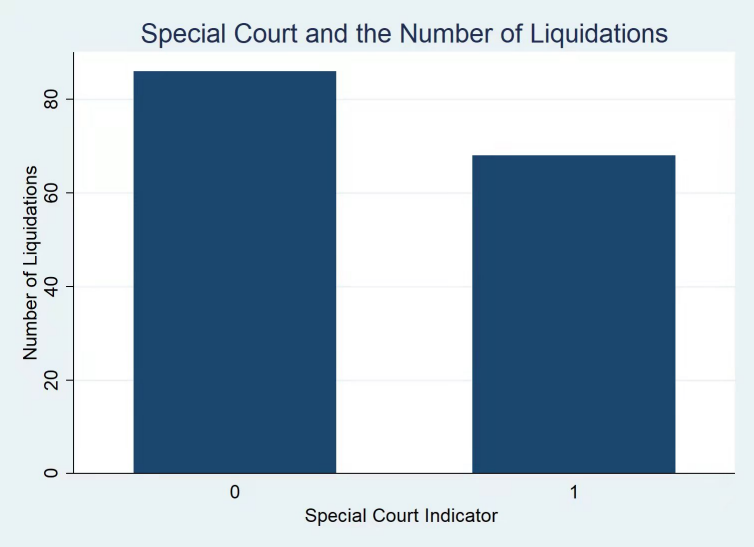


Figure A3: The Number of Reorganizations

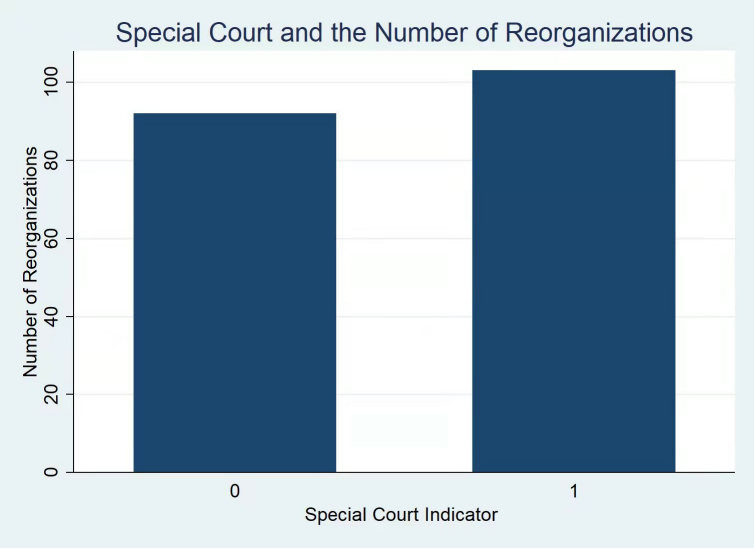


Figure A4: Attracting Outside Investors

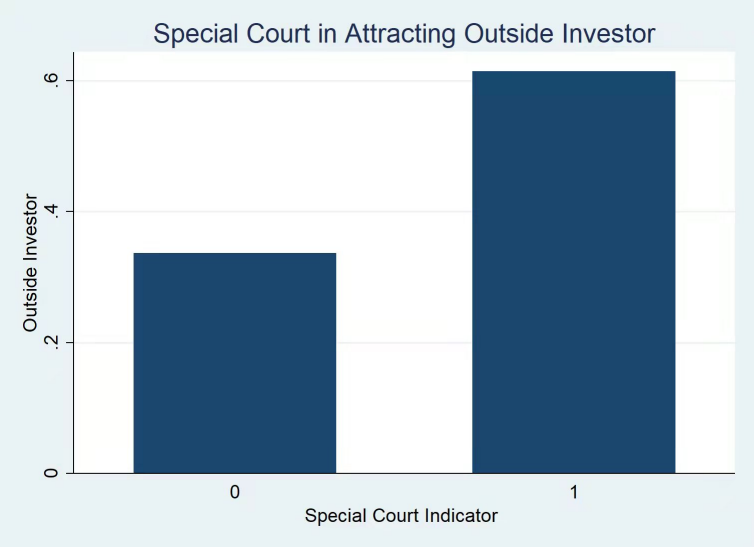


Figure A5: The Probability of Consolidation

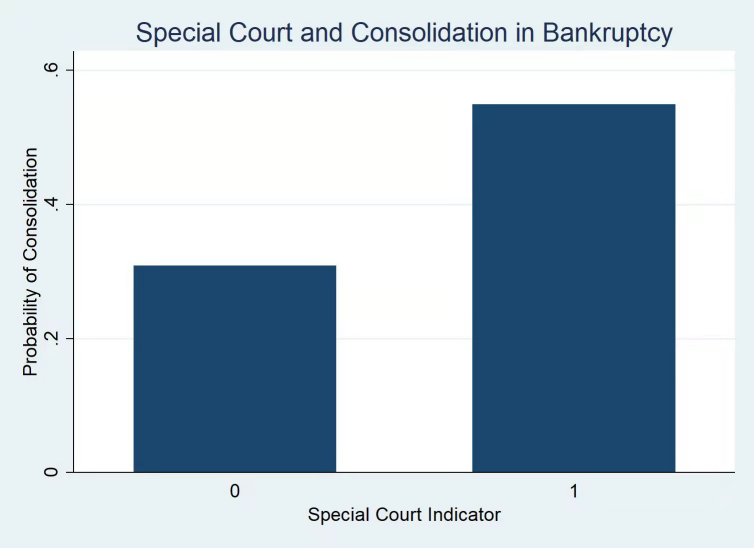


Figure A6: Placebo Test

Notes: This figure shows the distribution of the pseudo coefficients of bond spreads. We randomly select the cities to introduce the specialized court, and each one of the selected cities is randomly assigned the period of court introduction. After each random assignment, we construct the pseudo version of the variable *SpecialCourt*, and estimate the baseline model to get the coefficient. We repeat the procedure for 1000 times to draw the histogram of the pseudo coefficients. The red vertical dash line indicates the baseline result. The values of p1, p5 and mean of the empirical distribution are displayed on the horizontal axis.

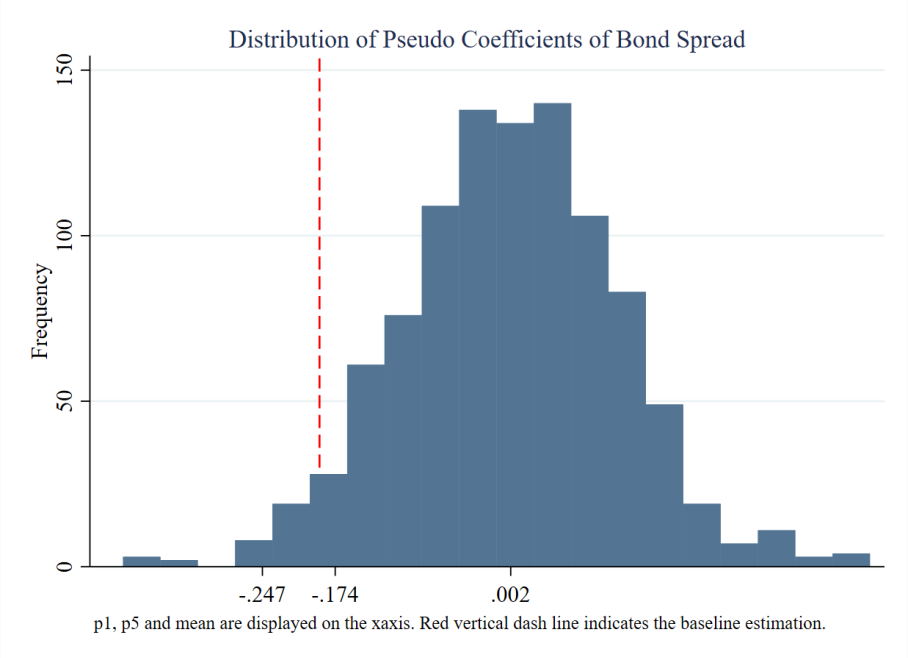
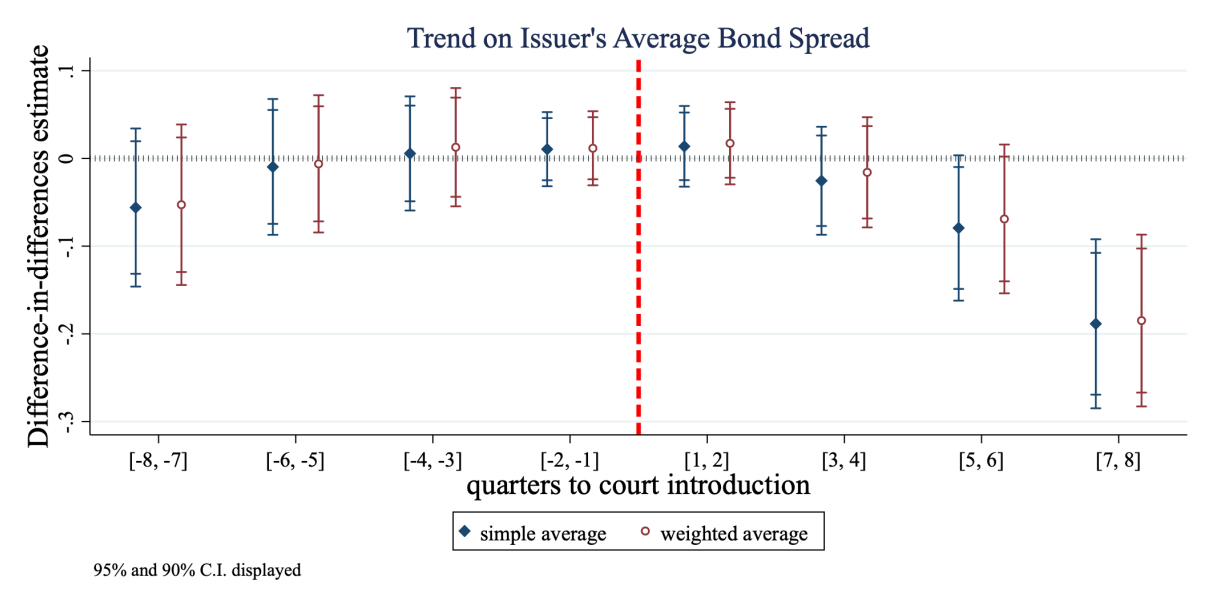


Figure A7: Parallel Trend from Issuer-quarter Regression

Notes: The figure tests the parallel trend assumption using a new panel that is collapsed at the issuer-quarter level. Each observation is the average of yield spreads of all traded bonds issued by a specific issuer within one quarter. Red vertical line indicates the quarter when a city introduces the court, and is considered as the benchmark period. The inner and the outer confidence interval are at significance level of 10% and 5% respectively. Standard errors are clustered at city level.



Appendix Tables

Table A1: Summary Statistics from the Primary Market

Bond-level characteristics

	count	mean	sd	p10	p50	p90
bond spread(%)	38057	1.997	1.304	0.580	1.750	3.899
issuance amount(100 million)	38057	9.191	7.304	3.000	7.500	20.000
years to maturity	38057	2.960	2.537	0.496	3.003	7.008
short-term note	38057	0.459	0.498	0.000	0.000	1.000
medium term note	38057	0.222	0.416	0.000	0.000	1.000
corporate bond	38057	0.150	0.357	0.000	0.000	1.000
enterprise bond	38057	0.169	0.375	0.000	0.000	1.000
interbank	38057	0.771	0.420	0.000	1.000	1.000
AAA	38057	0.169	0.375	0.000	0.000	1.000
AA+	38057	0.147	0.354	0.000	0.000	1.000

Issuer-level characteristics

	count	mean	sd	p10	p50	p90
size(log million)	37558	24.428	1.288	22.801	24.388	26.181
leverage	37558	0.593	0.144	0.392	0.617	0.758
ROA	37558	0.018	0.021	0.001	0.011	0.043
tangibility	37558	0.183	0.195	0.005	0.109	0.481
LGFVs	37558	0.159	0.366	0.000	0.000	1.000
non-LGFV SOEs	37558	0.687	0.464	0.000	1.000	1.000

City-level characteristics

	count	mean	sd	p10	p50	p90
SpecialCourt	37186	0.461	0.498	0.000	0.000	1.000
log(GDP)(log million)	37186	17.777	0.891	16.519	17.828	18.897
govt. deficit/GDP	37186	0.047	0.045	0.003	0.036	0.108

Table A2: The Role of Credit Enhancement

Notes: This table investigates the role of credit enhancement. D(Non-collateralized) is an indicator for bonds without any collaterals. D(Non-guaranteed) is an indicator for bonds without guarantee by a third party.

	Bond Spread			
	(1)	(2)	(3)	(4)
SpecialCourt	-0.090**	-0.069	-0.157***	-0.144***
	(0.045)	(0.044)	(0.026)	(0.026)
SpecialCourt×D(Non-collateralized)	-0.128***	-0.123***		
	(0.044)	(0.044)		
SpecialCourt×D(Non-guaranteed)			-0.074***	-0.056**
			(0.025)	(0.025)
collateralized dummy×time FEs	Yes	Yes	No	No
guaranteed dummy×time FEs	No	No	Yes	Yes
bond issuer FEs	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	Yes	Yes	Yes	Yes
bond characteristics×time FEs	Yes	Yes	Yes	Yes
city, issuer, bond controls	No	Yes	No	Yes
R^2	0.582	0.584	0.583	0.585
N	166935	163455	166935	163455

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: Robustness Tests of the Baseline Model

Notes: This table reports the results of a battery of robustness tests. Column (1) uses bond issuance amount as the weight and estimates the model via WLS method. Column (2) uses median yield spread as the dependent variable. Column (3) uses China Development Bank (CDB) bond index to construct the risk-free rate. Column (4) uses yield to maturity rather than bond spread as the dependent variable. Column (5) excludes all bonds that are issued by central-government-owned enterprises. Column (6) keeps the observations from the provinces along the Yangtze River. Column (7) keeps the observations from the three provinces within Yangtze River Delta Region, including Anhui Province, Jiangsu Province and Zhejiang Province. Column (8) excludes the bond observations from all capital cities. Columns (1)-(8) include the full set of control variables and fixed effects as in the baseline. Standard errors are clustered at city level.

	WLS estimate	Median spread	CDB Bond as benchmark	YTM as dep. var.	Excl. csoe	Yangtze River Belt	Yangtze River Delta	Excl. capital cities
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SpecialCourt	-0.166***	-0.185***	-0.193***	-0.190***	-0.185***	-0.258***	-0.221**	-0.190***
	(0.052)	(0.052)	(0.054)	(0.054)	(0.055)	(0.079)	(0.088)	(0.073)
bond issuer FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
bond characteristics×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
city, issuer, bond controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.567	0.586	0.575	0.632	0.589	0.597	0.606	0.597
N	163455	163455	156369	163455	154380	88028	49833	101274

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: By Trading Market and Security Type

Notes: This table estimates the heterogenous effects on bond spread by splitting the sample according to bond traded market place and bond security type. Standard errors are clustered at city level.

	Bond Spread				
	Market Place		Security Type		
	Exchange Market	Interbank Market	Medium-term Notes	Exchange-Traded Corporate Bonds	Enterprise Bonds
	(1)	(2)	(3)	(4)	(5)
SpecialCourt	-0.194***	-0.177***	-0.276***	-0.275***	-0.126**
	(0.055)	(0.058)	(0.075)	(0.089)	(0.053)
bond issuer FEs	Yes	Yes	Yes	Yes	Yes
province×time, sector×time FEs	Yes	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	Yes	Yes	Yes	Yes	Yes
bond characteristics×time FEs	Yes	Yes	Yes	Yes	Yes
city, issuer, bond controls	Yes	Yes	Yes	Yes	Yes
R^2	0.692	0.567	0.548	0.741	0.677
N	37705	125583	79156	18215	65859
Mean of dependent variable	2.608	2.269	2.154	2.681	2.489

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5: Alternative Standard Error Clustering

Notes: The table reports the results when standard errors are clustered at different levels. This model includes the full set of control variables and fixed effects as in the baseline.

Standard error cluster level	
robust	-0.190***
	(0.0127)
issuer	-0.190***
	(0.0432)
issuer and time	-0.190***
	(0.0567)
issuer-time	-0.190***
	(0.0166)
city	-0.190***
	(0.0529)
city and time	-0.190**
	(0.0637)
city-time	-0.190***
	(0.0192)
province	-0.190**
	(0.0593)
province and time	-0.190**
	(0.0670)
province-time	-0.190***
	(0.0248)

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$