

# Does Legal Enforcement Matter for Financial Risks?

## The Case of Strategic Default\*

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## **Abstract**

In a frictionless market where firms can always raise capital, debtors default only if their total assets cannot cover their total liabilities. However, in the presence of market imperfection, debtors may default even while solvent if the cost of new capital outweighs the legal penalty on contract violation. Using a unique sample of Chinese bank loans over the period 2007-2012, we analyze the repayment decisions of borrowing firms whose cash holdings are high enough to cover the bank debt coming due. We find that poor legal enforcement significantly increases the likelihood of default. This positive association becomes stronger if firms face tighter financing constraints, or when credit supply becomes more scarce. Our results illustrate the role of legal enforcement in determining financial risks and show that market imperfection strengthening the impact of legal enforcement on financial risks.

**JEL classification:** D22, G32, K22.

**Keywords:** legal enforcement, market imperfection, financial risks, strategic default.

# 1 Introduction

Traditional finance theories usually do not afford a role for the legal enforcement of contracts in financial risks with the assumption of perfect financial markets. For instance, in the case of credit risk, because with a frictionless market, firms can raise more capital as long as their equity values are above zero, the risk of default depends only on firm characteristics and financial variables, not on the enforcement of debt contracts. In particular, if reputation costs or other tangible costs are higher than frictional costs, firms would not default unless the equity is zero. However, when market frictions are significant such that it is difficult for solvent firms to raise more capital from banks or financial markets, it is conceivable that without legal enforcement of debt contracts, firms could choose to default on their payments if the alternatives are more costly.

Indeed, the literature has documented a significant impact of legal environments on financial market development and asset prices across countries (La Porta et al. 1997; Rajan and Zingales 1998). Other papers have found that creditor rights matter for firm-level corporate decisions (La Porta et al. 1999; Acharya, Amihud and Litov 2011) and contract terms (Benjamin and Megginson 2003; Qian and Strahan 2007; Bae and Goyal 2009). However, in these existing studies, the effects of law and the enforcement of the law are not clearly delineated, since they are often entangled across different legal regimes. Yet, without enforcement, no contract would be able to fulfill its promise in protecting the interest of the concerned parties. Thus it is important to be able to identify the role of legal enforcement in determining financial risks and understand how this role is affected by the market environment a firm operates in.

In this paper, we investigate the impact of legal enforcement of contracts on financial risks and identify one channel through which such a significant relationship could materialize, i.e., market imperfection in the form of poor accessibility to capital. We focus on the well-defined

situation for firms to engage in strategic default, which is difficult to identify in a strong legal environment for contract enforcement. Specifically, we address two important questions related to borrowers' repayment decisions: (1) Does weak enforcement of contracts induce *solvent* firms to default on their loan obligations? (2) How does the market imperfection play a role in the effect of legal enforcement?

The notion of “strategic default” stands in contrast to that of “liquidity default.” A liquidity default arises if a firm is unable to raise funds to repay its debt, whereas a strategic default occurs if the firm is unwilling to repay its matured debt, even while it is solvent (Hart and Moore 1994, 1998). Despite a clear difference in theory, it is difficult to identify strategic defaults from liquidity defaults clearly in empirical inquiries, because in order to make a judgement on whether a firm is able to meet its financial obligations, we need information that is comprehensive enough to cover all of the borrower's outstanding debt, and in the meanwhile rich enough to tell us when each debt becomes due. Information from only a single creditor cannot support such an identification.

In this paper, we exploit the unique features of our proprietary database, obtained from China's bank supervising body, the China Banking Regulatory Commission (CBRC), to investigate borrowers' strategic behavior. From October 2006 to December 2012, the CBRC required the largest 19 Chinese banks to record key information on loans extended to firms with annual credit lines exceeding 50 million RMB. The top 19 banks are highly representative of the lenders in the Chinese loan market, as they account for over 80% of the market share of all commercial loans. Since our database covers the majority of bank debt at the firm level, we are able to observe each borrower's total obligations to these banks during the sample period. Moreover, the CBRC database also contains a variety of details on each loan transaction, including the amount of credit extended to each borrower, the size, issue date, maturity date, and repayment date of each loan. Given that China's capital market remains centered on bank debt, it is arguably appropriate to infer whether the borrower is solvent or

not based on a comparison of its cash holdings with its total bank debt that is coming due. We concentrate on the sample of publicly listed firms as borrowers in order to obtain more detailed information on their firm-level characteristics.

We argue that in a legal environment with weak judicial enforcement, the repayment obligation posed by lending contracts is soft in nature due to the insufficient penalty on contract violations. Borrowers are less subject to financial disciplines, and more inclined to act in their own self interest. Solvent firms may refuse to repay the matured loans, and choose instead to invest cash to its profitable growth opportunities if the cost of raising new capital outweighs the perceived sanction cost of debt repudiation. This incentive would become stronger if the cost of new capital becomes more expensive.

The unique availability of a large-scale bank loan database in China allows us to test directly these predictions. The cross-region variation of legal enforcement, the firm-level heterogeneity in financing constraints, and the changes in macro credit conditions and industry regulations provide a rich setting for us to explore the the impacts of legal enforcement on the default probability. We construct three proxies to capture the strength of legal enforcement in three distinct aspects. The number of lawyers per 10,000 inhabitants, which was originally proposed by Hasan, Song and Wachtel (2014), reflects the popularity of legal professionals as a career choice. An increased presence of legal professionals in a province is associated with a higher quality of legal service. The number of legal facilities (including courts and law firms) per 10,000 square kilometers reflects the physical proximity to legal institutions and legal authorities. A larger value of this proxy indicates that a bank or a firm can find a legal institution with a lower cost. The search volume of words related to bankruptcy law per 10,000 network users, which serves as a revealed attention measure (Da, Engelberg and Gao 2011), reflects the development of legal and rights consciousness. A higher value of this proxy indicates that more attention is drawn on the bankruptcy law.

By analyzing borrowing firms' financial characteristics one quarter prior to the maturity

date, we find that on average, the ratio of firms' cash holdings over the total amount of matured loans is quite high, with the mean and median equal to 4.77 and 3.61, respectively. In more than half of loan defaults, borrowers have sufficient cash flows to meet their loan obligations. This fact suggests that loan defaults in China are mainly the outcome of strategic actions rather than liquidity constraints. The regression analysis based on a clean subsample consisting of solvent firms produces a strong link between the strength of legal enforcement and default probability. To preclude the effect of liquidity constraint, we constrain the analysis to the firm-quarter observations in which the firm's cash holdings prior to the maturity date are high enough to cover the maturing loans. After controlling for firms' total debt outstanding at maturity date and other relevant firm-level and region-level fundamentals, we find that firms' propensity to default is significantly negatively related to the strength of legal enforcement. Switching from the region with the strongest enforcement power to that with the weakest enforcement power increases the likelihood of default by 57% (i.e. the likelihood of default decreases from 0.060 to 0.025 accordingly), which is also economically important, given that the mean likelihood of default evaluated from the regression equations with all independent variables taking values at their sample means is 2.2%. Cross-effect tests confirm that the impact of legal enforcement becomes more profound if firms face severer financing constraints, if credit conditions become tightening, or if the development of the corresponding industry is limited. These findings suggest that market imperfection should be a channel through which legal enforcement becomes correlated with firms' default probability.

Our work makes important contributions to the literature in three aspects. First, it provides direct evidence on the existence of strategic default in the credit market. Strategic default has received increasing attention from academia and a handful of papers have explored its impact on the pricing of stocks and bonds (Davydenko and Strebulaev 2007; Garlappi et al. 2008; Favara, et al. 2012). In the banking setting, the importance of strategic default has been long recognized by theorists (Hart and Moore 1994, 1998; Bolton and

Scharfstein 1990, 1996). However, as far as we are aware, no direct evidence has been presented to demonstrate the manifestation of strategic default in the loan market. Our paper offers the first set of firm-level evidence. A related paper is by Schiantarelli, Strahan and Stacchini (2015), who document that firms in Italy default more against banks with high levels of past losses and such selective defaults are more likely where judicial enforcement is weaker. In their paper, firms' incentive to default comes from banks' financial distress. In contrast, in our study, all banks have reasonably good performance and we focus on the strategic behavior of firms with sufficient cash to cover their obligations.

Second, this study enhances our understanding of the role of debt enforcement in firms' decisions. Different from the literature that investigates the effects of judicial enforcement from an ex ante perspective, we focus on the ex post outcome by examining how the likelihood of default depends on the strength of legal enforcement. Our results thus offer direct evidence on the ex post consequences of weak legal enforcement and point to market imperfection as a channel responsible for the association between legal enforcement and default risk.

Third, we add to the debate about whether the law-finance-growth nexus developed by La Porta et al. (1997; 1998) applies to China, the largest developing economy in the world. La Porta et al. (2004) rank China among the worst countries in terms of political freedom and property rights protection, and Allen et al. (2005) treat China as a counterexample to the existing theory on law, finance, and growth, noting that alternative financing channels and governance mechanisms based on reputation and relationships support the fast growth of China's private sector. More recently, using an annual survey of unlisted high-tech firms from 2001 to 2005, Ang et al. (2014) show that effective enforcement of intellectual property rights at the provincial level in China is critical in encouraging firms' financing and investing in R&D. By analyzing the reaction in the Chinese stock market within event windows surrounding the announcement of the enactment of China's Property Law, Berkowitz et al. (2015) conclude that strengthening property rights in China has a

direct impact on firm value. Our study offers fresh evidence that legal enforcement can exert profound influences on debtors' cash and investment policies.

The remainder of this paper is organized as follows. Section 2 develops the hypotheses and Section 3 describes the institutional background. Sample and variables are described in Section 4. The empirical results are reported in Section 5 and robustness tests are conducted in Section 6. Section 7 concludes the paper.

## 2 Theoretical Motivation and Hypothesis Development

To formulate borrowers' incentive behind strategic default in its simplest form, we examine a firm that receives a loan from a bank to finance its project at time 0. At time 1, the loan matures, and its principal plus interest  $l$  comes due. Meanwhile, the firm accumulates a cash reserve  $c \geq 0$  and gains an access to a new project. The new project succeeds with probability  $p \in (0, 1)$ , and will generate a gross rate of return  $R > 0$  after the success. To launch the new project, the firm has to invest  $I > l$  units of dollars. Two financing sources are available to the firm, one of which is bank loans. Due to the regulations on the interest rates of commercial loans, we assume that the interest rate charged by banks is exogenously given by  $r > 0$ . The other financing source is a non-bank fund, the borrowing cost of which is specified by  $f(x)$ , where  $x$  is the amount of the fund raised and  $f(0) = 0$ . Since the marginal financing cost is usually increasing in the fund size (Kaplan and Zingales 1997),  $f(x)$  is a convex function of  $x$  and hence  $f'(0)$  signifies the minimal marginal cost of the borrowing.

The firm's decision at time 1 depends on the level of its cash holding. If  $c \geq l + I$ , the firm's cash holding is adequate to meet both the loan repayment and the new financial need. The firm repays  $l$  to the bank and runs the second project with self-financing. If, on the other hand,  $l \leq c < l + I$ , the firm's cash holding is adequate to repay the loan but inadequate to fund the second project simultaneously. In this case, the the firm has to raise a new debt



for the new project after repaying the matured loan. Last, if  $c < l$ , the firm's cash holding is too low to cover the matured loan so that the firm has to rely on the non-bank source to repay the loan.

Our primary interest is to analyze whether a solvent firm has an incentive to invest cash to the new project at the cost of default. Therefore, our analysis focuses on the case  $l \leq c < l + I$ , i.e., the firm is solve in cash flow. Throughout the analysis, we assume  $f'(0) > 1 + r$ , which amounts to saying that the non-bank fund is more expensive than bank loans. Thus, the firm in need of financial support always tries first to apply for a bank loan. There is a certain probability that the new loan request can be rejected due to the constraint in the bank credit supply. Assume that, with probability  $1 - q \in (0, 1)$ , the bank favors this project and approves the new loan request. In this case, the firm repays  $l$  to the bank first and borrows  $I - (c - l)$  in the meanwhile. With probability  $q$ , the bank rejects the new loan request, and the firm has to borrow from the non-bank source. In this case, the absence of effective creditor protection creates an incentive for firms to assign a higher priority to new investments rather than to debt repayments in using the cash. Indeed, if the firm repays  $l$  to the bank and borrows  $I - (c - l)$  from the non-bank source, the firm's expected profit equals

$$\Pi^{\text{rep}} = p[(1 + R)I - f(I - (c - l))].$$

Otherwise, if the firm defaults on the matured loan, the firm has to incur a cost associated with contract disputation and legal punishment. Assume that the cost is proportional to the loan size, with a proportionality coefficient equal to  $\gamma$ . Then, the firm's expected profit depends on  $c$  relative to  $I$ , and is given by

$$\Pi^{\text{def}} = \begin{cases} p[(1 + R)I - f(I - c) - (1 + r)l] - \gamma l, & \text{if } l \leq c < I, \\ p[(1 + R)I - (1 + r)(l - (c - I))] - \gamma(l - (c - I)), & \text{if } I \leq c < l + I. \end{cases}$$

The firm invests all its cash to the new project and defaults entirely on the matured loan in the case  $l \leq c < I$  and defaults partially on the first loan without raising any new loan in the case  $I \leq c < l + I$ . In either case, the firm chooses to default on the matured loan if and only if  $\Pi^{\text{def}}$  is bigger than  $\Pi^{\text{rep}}$ .

To facilitate comparative statics analysis, we take  $f(x) = (1 + \delta)x + \frac{k}{2}x^2$ , where  $\delta > r$ . Then, if the firm's new loan request is rejected by banks, there exists a threshold level  $I^*$  such that the firm defaults on the matured loan if and only if  $I > I^*$ . The threshold level  $I^*$  is decreasing in  $\delta$  and increasing in  $\gamma$ . That is, taking into account the increasing marginal cost of borrowing from the non-bank fund, the firm chooses to assign a higher priority to new investments rather than to loan repayments in using the cash if the new financial need exceeds a threshold level. The threshold level,  $I^*$ , decreases as the cost of alternative financing source increases. It also decreases if the intensity of punishment on default becomes weaker.

The analysis above on firms' incentive to default produces two testable predictions concerning the predictability of strategic default. To link the default decision to the firm's characteristics at some time  $t$  prior to time 1, we introduce a random variable, denoted by  $\tilde{I}$ , to describe the uncertainty in the new financial need. Here,  $\tilde{I}$  can be thought of as being determined by the firm's investment opportunity that will realize later. The distribution of  $\tilde{I}$ , denoted by  $F$ , can be inferred from the information available at time  $t$ . Under this plausible setting, the firm's default probability foreseen at time  $t$ , denoted by  $Q$ , should satisfy  $Q = qF(I^*)$ . We have the following results.

**Proposition 1.** *Let  $c$ ,  $l$  and  $p$  be given.*

- (i) *If  $\delta = r$ , or if  $q = 0$ , then  $Q = 0$ ;*
- (ii) *Otherwise,  $Q > 0$  and satisfies  $\frac{\partial Q}{\partial \gamma} < 0$ ,  $\frac{\partial Q}{\partial \delta} > 0$ , and  $\frac{\partial^2 Q}{\partial q \partial \gamma} < 0$ .*

Proposition 1 demonstrates that, the firm never defaults if it can get finance from the non-bank source with the same interest rate as that charged by banks, or if the firm can get

the bank credit for sure. Otherwise, the capital market imperfection would induce the firm to default strategically if its new financial need is large. The comparative statics yields three testable hypotheses.

**Hypothesis 1.** Other things being equal, the likelihood of default is higher if the firm is located in an environment with less effective legal system.

**Hypothesis 2.** Other things being equal, the likelihood of default is higher if the non-bank financial source is more expensive.

**Hypothesis 3.** The increase in the likelihood of default as a result of lower legal enforcement is higher for firms that are more likely to lose the financial support from banks.

We will conduct the empirical analysis using a unique Chinese bank loan database for listed firms spanning from January 2007 through December 2012. Before doing that, we provide below some institutional background on China's banking institutions and loan market.

## **3 Institutional Background**

### **3.1 The Banking System**

Chinese banks were originally established to serve the financing needs of pillar industries in the national economy and to support social stability, and they have made persistent effort towards transforming themselves into market-based commercial institutions since 1978. Perhaps the most significant advance is the separation of political objectives from commercial goals. The Chinese banking sector was notorious for huge volumes of non-performing loans and massive government intervention before 2004 (Bailey et al. 2011), but the situation has changed due to the reform process involving bank restructuring and financial liberalization (Firth et al. 2009; Chang et al. 2014). In this process, three policy banks were created

in 1994 to take over the policy loans and other state-controlled banks were re-oriented towards operating on a commercial basis. The non-performing loans in state-controlled banks were cleaned up through disposals of bad loans and capital injections before 2005 and the government intervention was limited through the establishment of the CBRC in 2003. As a government agency directly appointed by the State Council, the CBRC is responsible for the supervision and regulation of commercial banks. From then on, local governments have lost their direct authority over banks and their local branches. This weakens the political influence of governments on bank decisions.

The CBRC has taken a series of cautious steps to increase the competitiveness of China's banking industry. It has urged Chinese banks to establish statistical systems for customers with large credits since 2004, made the international five-tier loan classification system compulsory for all banks since 2005, limited the scope of related-party lending since 2006, required all banks to track the migration of loans in different categories since 2006, and since 2007 it has encouraged the major banks to meet international principles such as the Basel Accord. As responses to these measures, all the top 17 commercial banks established their internally unified rating systems by the end of 2008.<sup>1</sup> From then on, loan applications have to pass the approval threshold pre-specified by the system. In addition to the regulatory actions launched by the CBRC, other measures taken by the central government such as liberalization of interest rates, opening up to foreign competition and capital account liberalization also enhance commercialization of the banking sector (García-Herrero et al. 2006). All the 17 commercial banks went public in Shanghai or in Hong Kong during the period of 2004-2013 and some of them have introduced foreign shareholders.

Several recent studies confirm that some features of modern banking are emerging among

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<sup>1</sup>China's banking sector is dominated by the 5 big state-owned commercial banks and the 12 joint-stock commercial banks, which account for more than 70% of the banking sector assets over the period 2006-2014. The 5 big state-owned banks refer to Agricultural Bank of China, Bank of China, China Construction Bank, Industrial and Commercial Bank of China, and Bank of Communications. The 12 joint-stock commercial banks include China Merchants' Bank, Pudong Development Bank, Shenzhen Development Bank, and so on.

Chinese banks after the reform. Ayyagari et al. (2010) analyze a survey data collected by the World Bank in 2003 and find that, in China, firms with bank financing grow faster than similar firms with informal financing. Using data on loans to large industrial firms from one of the big five banks in China, Chang et al. (2014) document a substantial decline in loan defaults after the implementation of an internal credit rating system by the bank in 2004. They find that changes in firm-specific financial factors lead to changes in credit ratings. Qian et al. (2015) also find that Chinese banks' internal risk rating becomes a stronger predictor of loan interest rates and ex post outcomes after the banking reforms. These findings indicate that commercial principles have been adopted and applied by Chinese loan officers.

Like many other bank-based economies such as Germany and Japan, the banking sector is the most important part of the financial system in China. According to the Monetary Policy Report issued by People's Bank of China, bank loans are the primary source of external financing for industrial firms, accounting for 75% of all external funds raised by China's non-financial sector by the end of 2012. The Chinese bond market is quite small and underdeveloped. It is difficult for firms to access long-term financing from China's corporate bond market (Qian, Tian and Wirjanto 2009). As a result, bank debt constitutes the largest portion of debt sources of Chinese listed firms, and our bank loan database is comprehensive enough to cover firms' most outstanding debt. We are thus able to approximate a reliable judgment on whether a firm has enough cash to make debt payments based on our database.

## **3.2 Bankruptcy Law and Its Enforcement**

As in many other emerging economies, the protection of creditor rights in China is poor (La Porta et al. 1997) and the enforcement of bankruptcy laws is weak (Allen et al. 2005). It is generally accepted that bank debt is senior to that of other creditors and secured debt has the highest priority among all debt contracts (Diamond 1993; Welch 1997; Park 2000).

However, China's old Bankruptcy Law enacted in 1986 ranked employees' claims above secured claims in the sequence of repayment, rendering banks little confidence in recovering outstanding loans.<sup>2</sup> China's new Bankruptcy Law issued in 2007 gives secured claims priority over employee salaries, taxes, and general claims.<sup>3</sup> However, when banks try to enforce their rights to collateral, they may face a number of difficulties. The primary difficulty comes from local governments' competing interest in sustaining social stability. This conflict of interest causes the Chinese court system to favor reorganization rather than liquidation as a distress resolution. Another difficulty is that the new law still misses many specific clauses on implementation and it needs more time for the new law to work and to set precedents (Ang, Cheng and Wu 2014). Finally, the length that claims for collateral can be tied up in courts is relatively long, and the legal expenses that banks incur when executing collateral claims are high. Due to the weak bankruptcy enforcement, borrowing firms in China face little liquidation threat and have greater bargaining power than their counterparts in developed markets.

### **3.3 Dimensions of Market Imperfection**

As noted by Stigler (1967), the most pervasive imperfection in the capital market is the inability to borrow fund. Financing constraints are generally attributed to capital market imperfections, stemming from such factors as asymmetric information and incentive problems, or the underdevelopment of the market itself. In China, manifests of market imperfection include: (i) the bank credit is the unique dominant financing source for most firms, and banks' lending policy is not fully commercially oriented but massively influenced by po-

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<sup>2</sup>Accordingly to the old Bankruptcy Law, workers' claims refer to the claims arising from labor relationships before the bankruptcy, including the wages and salaries, social insurance fees, and indemnities legally payable for rescission of labor contracts (Li 2006).

<sup>3</sup>See Chapter 10, entitled "Bankrupt Liquidation", of the new Bankruptcy Law. In this chapter, Article 109 stipulates "the right owners with secured rights against the specific property of the bankrupt person have the preemptive rights for repayment with such specific property."

litical interventions and macroeconomic regulation policies; (ii) the information asymmetry between firms and outside investors is severe; (iii) the stock market and the bond market are under-developed and their financing function is limited.

## 4 Sample and Variables

### 4.1 Sample

The primary data source for our empirical analysis is a proprietary database provided by the CBRC. To strengthen macro-prudential supervision, the CBRC has requested all the 19 major banks to report key information on loans extended to all large and medium-sized firms with an annual credit line exceeding 50 million RMB since 2004.<sup>4</sup> For the period from January 2004 to September 2006, the CBRC only kept record of defaulted loans. Beginning from October 2006, the CBRC expanded its coverage to include the information of all newly approved loans, especially those repaid on time. Our access to the CBRC database spans from January 2007 through to June 2013. The sample consists of over 7 million loan contracts, and covers over 150,000 distinct borrowers located in 31 provinces and autonomous regions and operating in all the 20 sectors.<sup>5</sup> The CBRC database is highly representative of China’s bank loan market, as the yearly amount of the recorded bank loans accounts for around 80% to 90% of the total bank credit in China. The database also provides detailed

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<sup>4</sup>In 2004, the CBRC promulgated three regulatory documents to implement the project. These documents were entitled “The CBRC notice on establishing statistical system for customers with large credits and defaulted retail borrowers” (YJBF [2004] 151), “The CBRC supplementary notice on statistical system for customers with large credits and defaulted retail borrowers” (YJBF [2004] 176) and “The CBRC notice on revising the statistical system for customers with large credits” (YJBF [2004] 246) respectively. The 19 banks include the two policy banks (China Development Bank and Import Export Bank), five largest state-owned commercial banks (Agricultural Bank of China, Industrial and Commercial Bank of China, Bank of China, Construction Bank of China, Bank of Communications), and twelve joint-stock commercial banks (such as Huaxia Bank, China CITIC Bank and etc.). We focus on 17 commercial banks, i.e. five largest state-owned commercial banks and twelve joint-stock commercial banks, to preclude these two policy banks.

<sup>5</sup>Firm sector is based on one-digit Standard Industry Classification (SIC) codes published by National Bureau of Statistics of China (2010), which is broadly consistent with the international standard.

loan-level information, including loan amounts, guarantors, issuing date, maturity date, internal ratings, and the final repayment date. It also contains firm-level information such as the registration number, total assets, leverage, and registered locations, and bank-level information such as bank name and the location of the bank branch that takes charge of a particular loan. Given the collection of all the above information, we are able to observe the total amount of maturing loans for one borrower at a given time point and also the recovery outcome of a defaulted loan.

We use two filters to select eligible observations. First, to accurately evaluate the repayment decision on maturing loans, we exclude the loans whose maturity date is beyond March, 2013, since for these loans we do not clearly know whether they are repaid within the following three months or not. Second, in order to obtain more detailed information on firm-level characteristics, we choose to concentrate on publicly listed firms. To do this, we manually collect the organization code for each listed firm <sup>6</sup>. We obtain financial statement data, analyst coverage data, and institutional ownership data for our tests from the China Stock Market and Accounting Research (CSMAR) database. Deleting observations with missing variables, we finally get 21,865 firm-quarter observations with maturing loans, which include 1,872 distinct listed firms and involve 374,510 loan contracts.

Besides the unique availability of a large-scale bank loan data, there are three other reasons to believe that the Chinese loan market is well suited for the purpose of our study. First, one notable feature of the evolution of the legal environment in China is that the institutional structures for law enforcement are still under development, resulting in a large regional variation in the local enforcement of the bankruptcy law. China traditionally lacked a well-developed legal system and its old Bankruptcy Law enacted in 1986 was creditor-unfriendly (La Porta et al. 2004; Allen et al. 2005). The China's new Bankruptcy Law issued in 2007 increases banks' priority in the debt liquidation. However, it misses many

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<sup>6</sup>Please refer to the website <http://www.nacao.org.cn/> for more information



specific clauses on implementation (Fan, Huang and Zhu 2013) and thus needs more time to work and to set precedents (Ang, Cheng and Wu 2014).

Second, compared with cross country studies, taking China as a single-country setting has two advantages. One shortcoming of cross-country analysis is that it “does not allow researchers to separate the confounding effect of the existence of laws and the effectiveness of their enforcement” (Ang et al. 2014, p. 332). Our focus on China highlights the role of enforcement while precluding the influence of the existence of laws. Another shortcoming of cross country studies is that firms operating in different national environments can be affected by omitted unobservable country-level characteristics. The single country setting allows us to hold national characteristics constant (Jappelli et al. 2005; Lilienfeld-Toal et al. 2012; Ang et al. 2014; Berkowitz et al. 2015).

Third, although China has made remarkable efforts towards transforming policy-oriented banks into market-oriented ones since 2002, Chinese banks still lack enough practical experience and are not sophisticated at risk management (Okazaki 2007). Accordingly, compared with the counterparts in developed countries, Chinese banks may respond less adequately to the weak legal environment at loan origination through contract design. This fact limits the ex ante planning of Chinese banks, but potentially amplifies adverse outcomes ex post.

## 4.2 Variables

### 4.2.1 Dependent Variables

The primary dependent variable is a dummy, *Default*, indicating whether a firm chooses to default. Following prior studies, default in our paper refers to the failure to pay back maturing loans over 90 or more days past due.<sup>7</sup> Similar to us, Jiménez and Saurina (2004)

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<sup>7</sup>The Basel II criteria define a firm as being in default when its scheduled payments are delayed for more than three months. This international standard is employed by the CBRC office. See the CBRC file (No. 2007.54) “Guidelines on Loan Risk Classification.”

point out that default on payment is considered to have occurred when the debt balance remains unpaid three months after the date of maturity. Also, Doblus-Madrid and Minetti (2013) define default as a dummy variable that takes the value of one if the contract had at least one serious delinquency (90 or more days past due).

In the models of Hart and Moore (1989; 1994; 1998) and Bolton and Scharfstein (1990; 1996), there are two types of defaults: liquidity default and strategic default. In event of liquidity default, firms do not have the cash to make debt payments while in event of strategic default, firms lack willingness to pay back maturing debt on time and illegally occupy the maturing debt for other purposes. To strengthen the idea of strategic behavior in our study, we only investigate firms' decision when they are solvent in terms of cash flow.<sup>8</sup> Strategic defaults emerge when firms decide not to honor the debt contract even though they could (Favara, Schroth and Valta, 2012; Valta, 2016).

#### **4.2.2 Proxies for Legal Enforcement**

We manually construct three data sets to capture the variation in legal environment and judicial enforceability across regions. First, we follow Hasan, Song and Wachtel (2014) to manually collect the number of practicing lawyers and the total number of courts, law firms, accounting offices, and independent auditing offices for each province-year from several main sources. These sources include the annual issues of the Chinese Yearbook of Lawyers, the Law Yearbook of China and the Provincial Statistical Yearbooks from 2006 to 2013. Also, we supplement the missing values with data from web-based resources such as the China Lawyering. If the data are still missing, we linearly interpolate this value based on the nationwide growth in number. We use,  $\# \text{ Lawyers}/\text{Population}$ , the total number of lawyers per 10,000 people for a certain province and in a specific year, to proxy for legal enforcement.

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<sup>8</sup>Insolvency is the state of being unable to pay the money owed, by a person or company, on time. There are two forms: cash-flow insolvency and balance-sheet insolvency. Cash-flow solvency always implies balance sheet solvency, which means that firms have the appropriate cash covering the maturing payment.

Prior studies consistently support that regions with more lawyers relative to the overall local population generally have better creditor protection and judicial enforceability (Hasan, Wachtel, and Zhou, 2009; Hasan, Song and Wachtel, 2014). An adequate number of lawyers in a locality implies that a good contracting system exists, where credit defaults or other behavior violating a contract can be effectively handled. We expect that legal agents in local areas with higher ratio of lawyers are more efficient at punishing opportunistic behavior.

Second, Guiso, Sapienza, and Zingales (2004) use the number of total branches (per million inhabitants) present in a region in 1936, the fraction of branches owned by local versus national banks, the number of savings banks, and the number of cooperative banks per million inhabitants. Inspired by their studies, our second identification strategy is similar. We manually search on the website of the Higher People’s Court of different provinces and autonomous regions to collect the total number of courts across different regions, including the Supreme People’s Court, the people’s courts at various local levels, the military courts and other special people’s courts.<sup>9</sup> Our second measure, denoted by  $\# \text{ Law Facilities/Area}$ , is the total amount of courts at various levels and law firms scaled by overall area of certain a province to define the coverage. Both of the measures above can directly distinguish the extent of development in legal institutions and law enforceability from the supply side of legal environment.

Third, we follow Da, Engelberg and Gao (2011) to extract the search volume on specific keywords relevant with contract protection or bankruptcy, such as “bankrupt”, “bankruptcy laws”, “bankrupt liquidation”, “dispute over obligation”, “creditor protection law” and “ask for a lawyer”. We further scale the total amount of search volume of a province in given year by the total number of internet users.<sup>10</sup> This proxy obtains local netizens’ search volume

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<sup>9</sup>Taking Hubei Province for example, we get 148 courts at various levels from the website <http://www.hbfy.gov.cn/>.

<sup>10</sup>The information on number of internet users in different provinces can be manually collected from the Statistical Report on Internet Development in China released by China Internet Network Information Center (CNNIC)

index for the knowledge relevant with contract protection in different provinces. For each province year, we obtain the measure of *Baidu Search Intensity*, which is higher for regions where the law development or enforcement awareness is stronger.<sup>11</sup>

### 4.2.3 Proxies for Market Imperfection

Collateral plays an important role in bank lending (Berger and Udell, 1990). Brown, Fazzari, and Petersen (2009) point out that firms with high level of intangible assets always have the limited collateral to pledge for banking loans and similarly, Almeida and Campello (2007) show that firms' asset tangibility can increase the availability of fund. A recent paper by Manova (2013) argues that firms' endowments of tangible assets that can serve as collateral in raising outside finance. To investigate the channel of market imperfections, we follow prior literature to use the share of intangible assets in total assets and expect that higher level of intangibility relates with greater market imperfections due to credit constraint. We use the degree of asset intangibility, *Intangibility*, defined as one minus the ratio of tangibility (Favara et al. 2012).

Previous research has established that firms with higher coverage of security analysts generally receive a higher level of publicity, which makes them receive greater attention and scrutiny from investors (Jensen and Meckling, 1976; Johnson et al., 2005). Gentry and Shen (2013) point out that analyst coverage can function as an external monitoring mechanism. Therefore, we also include the number of financial analysts covering the firm to measure the intensity of external monitoring, denoted by  $\#$  *Analysts*. The other is the average level of internal credit rating for all these maturing loan contracts, *Internal Rating*, and a higher score indicates lower credit quality.

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<sup>11</sup>Prior studies also employ the National Economic Research Institute (NERI) Marketization Index of China's provinces proposed by Fan, Wang, and Wu (2010) to construct province-level legal environment, e.g. Berkowitz, Lin, and Ma (2015). Our findings also keep robust if we use this NERI index to proxy for our legal enforcement. In this study, we do not use this measure as our first priority since the NERI index does capture many aspects of provincial variations other than legal environment.

Besides firm-level heterogeneity in the financing conditions, we also consider introducing several proxies from the perspective of macro environment credit conditions.  $M2/GDP$ , the ratio of broad money (M2) to GDP, generally characterizes the growth of the real size of the financial sector in absolute terms. A higher  $M2/GDP$  ratio implies a larger financial sector and therefore greater financial intermediary development (Caldern and Liu, 2003). Levine and Zervos (1993) also argues that  $M2/GDP$  indicates the ratio of liquid liabilities to GDP. Thus, we expect that the larger this ratio means better liquidity conditions in terms of broad money supply.<sup>12</sup> Regarding that  $M2/GDP$  only captures the time-series variations but ignores the provincial level differences, our second measure is the ratio of total amount of outstanding loans granted to each province at the end of a given year to local GDP (*Regional Loan/Local GDP*).

#### 4.2.4 Control Variables

Based on an extensive review of the previous literature on the determinants of default, we control for the heterogeneity in firm-level characteristics. We first include several fundamental accounting variables.

*Assets* is measured as the total amount of book value of assets, and we take a natural log in our regressions. Firm size have two competitive forces driving strategic default, i.e. low information asymmetry probably decrease the likelihood of default while large bargaining power potentially increase the likelihood of default. We use *Leverage*, calculated as total liability divided by total assets, to capture a firm’s capital ratio. We also introduce *ROA* to proxy for firm’s profitability. *ROA* is defined as the ratio of returns to total assets. Further, to measure a firm’s cash flow level, we follow Campbell et al. (2008) to include a liquidity indicator *Cash/Assets*, the ratio of a firm’s cash to its total assets. To capture the variance in firms’ capital investment expenditures, we control for the ratio of cash paid

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<sup>12</sup>We also use the annual average of year-over-year growth rate of M2, *M2 Growth*, to proxy for the monetary liquidity conditions and the effect is similar to  $M2/GDP$

for investment in one quarter over the outstanding cash in the former quarter, denoted by *Cash for Investment/Cash*. We also account for firm’s growth opportunity by including the variable *Sales Growth*, which is the annual percentage increase in sales. Besides *Maturing Loan* and *Internal Rating*, we further include *Guaranteed*, measured as the ratio of maturing loans with credit guarantee over the total amount of maturing loans, to control for the effect of external party guarantee. We also include the institutional ownership, *Institutional Ratio*.

In order to eliminate the concern that the relationship between legal enforcement and strategic default likelihood is driven by other provincial-level characteristics, we introduce the regional annual GDP growth rate, denoted by *Regional GDP Growth*. Similar to a recent work by Li, Makaew, and Winton (2015), we follow Rajan and Zingales (1998) to define *Financial Development*, measured by the relative size of local capital market to regional GDP. Also, to account for the development of private sectors, we refer to National Bureau of Statistics of China and include *Private Sector Development* as another province-level control, measured by the ratio of the number of private industrial enterprises over the total industrial enterprises above designated size. Prior studies show that there exists a significant connection between corruptions in one economy and its legal development. Thus, we follow Ang, Bai, and Zhou (2016) to include the number of graft investigations on “Corruption Tigers” by China’s Central Commission for Discipline Inspection (CCDI) up to December 2014, denoted by *# Corruptions*.

## 5 Empirical Results

### 5.1 Preliminary Analysis

Table 1 describes the distributions of the default frequency at the firm-quarter level over the period 2007-2013. Panel A shows that both the frequency of default and the frequency of strategic default decrease year by year. The most substantial decrease occurs in 2009,

which corresponds exactly to the first phrase of the two-year fiscal stimulus implemented by the central government. Despite a decreasing trend in the default frequency, strategic default always makes up the overwhelming proportion of default, and this proportion does not decline over time. From Panel B, we see that the majority of firms that have bank loans operate in the manufacturing industry, which is the pillar industry in China. For strategic default frequency, the variance across different industries is not large.

Insert Table 1 around here.

Figure 1 depicts the distribution of the ratio of firms' cash holding one quarter prior to loan maturity over the amount of maturing loans for the 956 firm-quarter observations in default. It visualizes the striking feature of the corporate default in China's credit market. For around 60% of the firm-quarter observations in default, firms indeed have sufficient cash holdings to repay the maturing loans. The distribution of firms' cash over maturing loans has a thick tail, indicating that a significant portion of default events occur even when the firm's cash holding is five times more than the amount of the maturing loans. These facts demonstrate that most default events in China's credit market are not driven by borrowers' liquidity constraint, but rather, have a strategic nature.

Insert Figure 1 around here.

Table 2 offers a simple investigation on the correlations of our proxies for legal enforcement, and their associations with the frequency of strategic default. From Panel A, we see that the proxies for legal enforcement are positively correlated with each other at reasonably high levels. The Pearson correlation coefficient between  $\# \text{ Lawyers/Population}$  and  $\# \text{ Law Facilities/Area}$  is around 70%. Panel B and Panel C produce a clear negative relationship between the strength of legal enforcement and the likelihood of strategic default. The default frequency decreases monotonically as the legal enforcement becomes stronger. The difference

between the default frequencies of the groups with the first the last tertile of the strength of legal enforcement is statistically significant the 1% level. This relationship can also be seen from Figure 2.

Insert Table 2 and Figure 2 around here.

## 5.2 Descriptive Statistics

To show the cross-firm variation of each variable, we report its mean, median and percentile values in Table 3. All variables have a great deal of dispersion across sample observations. For example, one of our key independent variable, *# Lawyers/Population*, varies from 0.71 to 9.42, showing that the average level of legal environment in China is not high. Comparing its mean value and standard deviations, we can observe that the variance across different provinces are quite huge. Panel B of Table 3 reports the correlation coefficients between all variables. The variance inflation factor (VIF) is fairly low, showing that multi-collinearity among independent variables is not an issue in the regression analysis.

Insert Table 3 around here.

## 5.3 Legal Enforcement and Strategic Default

Table 4 reports the results of regression analysis on the relationship between the likelihood of strategic default and the regional strength of legal enforcement. In the first three columns, we conduct the univariate tests controlling for only industry and year fixed effects. The coefficients of the proxies for legal enforcement are significantly different from zero and have the expected signs. We then include firm-level and regional-level characteristics in turn as control variables. It confirms that after controlling for all relevant determinants, the coefficients of the proxies for legal enforcement are still significant with the expected signs. These results consistently support that stronger legal enforcement reduces the likelihood



of strategic default. The results shown in Table 5 confirm our expectation, in which the signs of  $\# \text{ Lawyers/Population}$ ,  $\# \text{ Law Facilities/Area}$  and  $\text{Baidu Search Intensity}$  are all negative and significantly different from zero at the 1% level. Consistent with previous studies on default,  $\text{Leverage}$  is positively related to the likelihood of default. The coefficients of  $\text{Log}(\text{Analysts})$  in all columns are negative and significant, showing that firms with less information asymmetries are less likely to default.

Insert Table 4 around here.

## 5.4 Impact of Financing Constraints

Table 5 studies the impact of financing constraints on the role of legal enforcement in shaping firms' strategy in their cash allocation. As shown by Hypothesis 2, if firms' incentive to default strategically appears mostly when they fail to get the new credit from banks, then the role of legal enforcement in mitigating strategic default should be stronger for firms that have more difficulties to obtain new bank loans. As a higher level of asset intangibility, a smaller coverage of analysts and a rating of lower quality imply a smaller probability for banks to approve the firm's new loan request, the expected signs of the interaction terms  $\# \text{ Lawyers/Population}$  and  $\text{Intangibility}$  should be negative,  $\# \text{ Lawyers/Population}$  and  $\text{Log}(\# \text{ Analysts})$  should be positive, and  $\# \text{ Lawyers/Population}$  and  $\text{Internal Rating}$  should be negative. The results shown in Table 5 confirm our expectation with a high statistical significance.

Insert Table 5 around here.

## 5.5 Impact of Credit Conditions

In Table 6, we investigate how changes in macroeconomic conditions affect the association between legal enforcement and strategic default. Since it becomes easier/harder for firms

to borrow from banks in times of credit boom/credit tightening, legal enforcement should play a more significant role in affecting the likelihood of strategic default in times of credit tightening. Using the regional M2 over GDP and the regional total loan supply over GDP as proxies for the credit conditions, we expect that these two variables enter the regression with a positive sign. The coefficients of these variables, which are both positive and significant, are consistent with our expectation.

Insert Table 6 around here.

## 5.6 Impacts of Fiscal Stimulus and Industrial Restructuring

During our sample period, the two-year fiscal stimulus implemented by the central government beginning with 2009 represents a natural shock that increases the credit supply. Thus, this shock should decrease the likelihood of default and weakens the role of legal enforcement at the same time. In Table 7, results in columns (1) and (2) support this assertion. To limit the development of overcapacity industries, the central government has directed commercial banks to reduce their credit support to firms operating in overcapacity industries. This announcement would increase the involved firms' incentive to default and makes the legal enforcement a more important determinant on the likelihood of strategic default. Results in columns (3) and (4) are consistent with this expectation.

Insert Table 7 around here.

## 6 Robustness Tests

### 6.1 Definitions of Default

In Table 8, we test the robustness of the relationship between the strength of legal enforcement and the likelihood of strategic default regarding the definitions of default. We

refine default as being delinquent for at least 6 months or one year, and repeat the analysis conducted in Table 5 for the solvent sample. Our main qualitative results prevail.

Insert Table 8 around here.

## 6.2 Definitions of Insolvency

Table 9 tests the robustness of the relationship between the strength of legal enforcement and the likelihood of strategic default regarding the definitions of insolvency. We filter the sample by deleting the firm-quarter observations in which the ratio of cash holding over maturing loans is smaller than 1.5, 2, and 3 respectively, and repeat the analysis conducted in Table 5. We see no changes regarding the qualitative insights.

Insert Table 9 around here.

## 6.3 Proxies of Legal Enforcement

Table 10 tests the robustness of the relationship between the strength of legal enforcement and the likelihood of strategic default regarding the proxies of legal enforcement. We orthogonalize the regional number of lawyers per 10,000 people with other regional variables, take the residual as a new proxy for the regional legal enforcement, and repeat the analysis conducted in Table 5. Again, the results are similar to what we have found before.

Insert Table 10 around here.

## 6.4 Samples Including Firms with Inadequate Cash

We further test the robustness of the relationship between default and strength of legal enforcement using an alternative sample consisting firms whose cash is not adequate to

cover the matured loan. The results shown in Table 11 are also consistent with our previous findings.

Insert Table 11 around here.
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## 7 Conclusion

Using a unique sample of Chinese bank loans over the period 2007-2013, we analyze the repayment decisions of borrowing firms whose cash holdings are high enough to cover the matured bank debt. We confirm at the firm level weak legal enforcement does encourage firms to default on its loan obligations strategically. The impact of legal enforcement becomes stronger when firms face tighter financing constraints, when credit conditions become tightening, and when the development of the corresponding industry is regulated. We contribute to the literature on law and finance by demonstrating that legal environment and financial risks can become intertwined in the presence of market imperfection.

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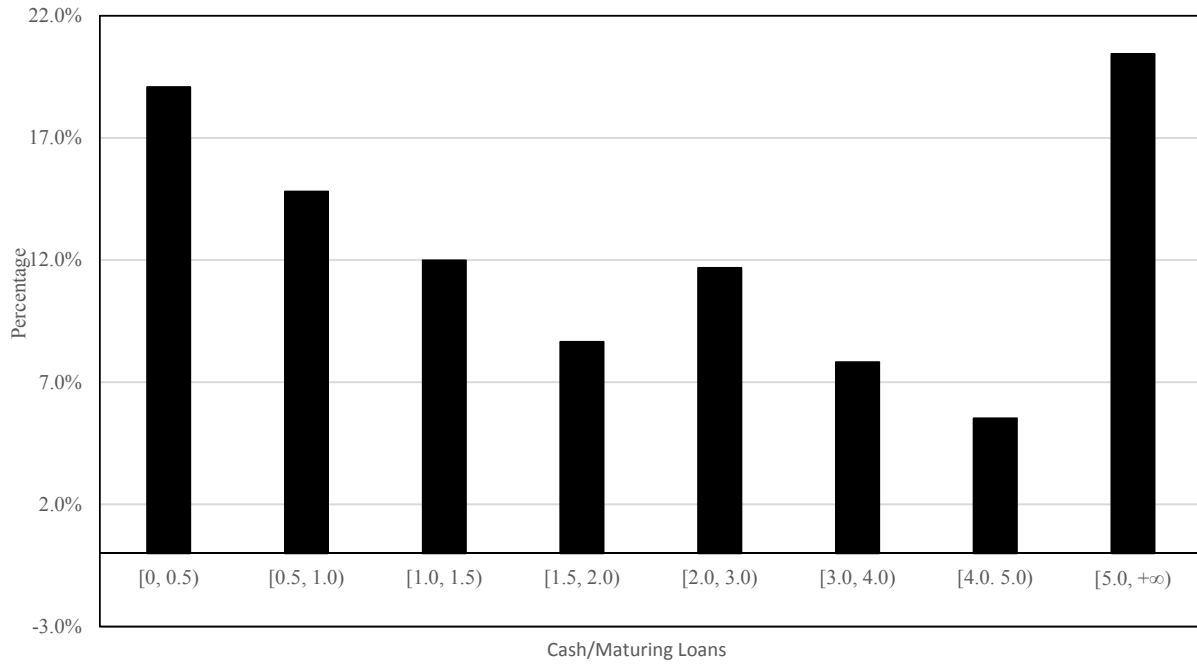
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**Figure 1: Distribution of Cash over Maturing Loans for Defaulted Firms**

This figure illustrates the distribution of the ratio of firms' cash holding one quarter prior to loan maturity over the amount of maturing loans for the 956 firm-quarter observations in default. The horizontal axis signifies the range of the ratio, while the vertical axis depicts the percentage of the default observations in which the ratio lies within specified range.



**Figure 2: Heat Map of Provincial Legal Environment and Strategic Default**



Panel A: The average number of lawyers per 10,000 people in each province during 2007 to 2013



Panel B: The average yearly frequency of default for solvent firms in each province during 2007 to 2013

**Table 1: Sample Distributions**

This table describes the distributions of the default frequency at the firm-quarter level over the period 2007-2013. Panel A shows the temporal distribution, where we group the firm-quarter observations at the yearly level and report the percentage of observations that are in default with different levels of cash holdings. Panel B shows the industrial distribution, where we group the overall observations by 20 one-digit industries and report the percentage of defaulted observations for each industry.

## Panel A: Temporal Distribution

Year	N	Frequency of Default			
		Overall	Cash/Maturing Loan>1	Cash/Maturing Loan>1.5	Cash/Maturing Loan>2
2007	1476	8.54%	5.83%	5.15%	4.47%
2008	3287	7.30%	4.50%	3.47%	2.92%
2009	3508	4.56%	2.77%	2.14%	1.74%
2010	3695	4.55%	3.03%	2.71%	2.33%
2011	4162	3.92%	2.81%	2.33%	1.99%
2012	4571	2.32%	1.42%	1.07%	0.85%
2013	1166	1.11%	0.77%	0.69%	0.43%

## Panel B: Major Industrial Distribution

Industry	N	Frequency of Default			
		Overall	Cash/Maturing Loan		
			>1	>1.5	>2
Agriculture	363	6.61%	2.48%	2.20%	1.65%
Mining	579	4.32%	3.11%	2.59%	2.25%
Manufacturing	14866	4.75%	3.07%	2.48%	2.07%
Utilities	997	5.02%	3.11%	2.01%	1.60%
Construction	596	3.69%	2.85%	2.85%	2.52%
Wholesale & Retail	1547	3.04%	2.13%	1.87%	1.55%
Transport & Storage	788	3.68%	2.54%	2.28%	1.78%
Accommodation & Catering	62	3.23%	3.23%	1.61%	1.61%
information Technology	426	3.76%	3.05%	2.82%	2.58%
Real Estate	907	3.31%	2.09%	1.76%	1.76%
Leasing	183	8.20%	3.83%	3.28%	3.28%
Scientific Research	20	0.00%	0.00%	0.00%	0.00%
Infrastructure & Public Facilities	167	1.20%	1.20%	1.20%	1.20%
Education	15	0.00%	0.00%	0.00%	0.00%
Health Care	1	0.00%	0.00%	0.00%	0.00%
Culture & Entertainment	72	0.00%	0.00%	0.00%	0.00%
Public Administration	266	3.01%	2.63%	2.26%	1.88%

**Table 2: Proxies for Enforcement and Their Relationships with Default**

We have three province-level proxies for the strength of regional legal enforcement: *# Lawyers/Population* is the number of lawyers per 10,000 residents, *# Legal Facilities/Area* is the number of legal facilities (including courts and law firms) per 10,000 square kilometers, and *Baidu Search Intensity* is the search volume of words related to bankruptcy law per 10,000 network users. Panel A reports the correlations between these proxies. Panel B reports the results of portfolio analysis where we sort the firm-quarter observations into different groups based on tertiles of the strength of legal enforcement, and report the frequency of default for each group. In Panel C, we first split the full sample into two subsamples according to the cash level relative to the size of maturing loans, and then for each subsample, we perform the same portfolio analysis as shown in Panel B. The numbers in parentheses are *t*-statistics. \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Correlations between Proxies for Enforcement

	# Lawyers/Population	# Legal Facilities/Area	Baidu Search Intensity
# Lawyers/Population	1.000		
# Legal Facilities/Area	0.706	1.000	
Baidu Search Intensity	0.490	0.392	1.000

Panel B: Default Frequency across Different Groups

	Default with Cash/Maturing Loans>1			Default with Cash/Maturing Loans<1		
	# Lawyers/Population	# Legal Facilities/Area	Baidu Search Intensity	# Lawyers/Population	# Legal Facilities/Area	Baidu Search Intensity
Low	0.048 [0.214]	0.042 [0.201]	0.039 [0.195]	0.022 [0.147]	0.027 [0.163]	0.021 [0.142]
Middle	0.031 [0.174]	0.034 [0.181]	0.025 [0.156]	0.020 [0.141]	0.017 [0.130]	0.014 [0.119]
High	0.022 [0.145]	0.024 [0.153]	0.022 [0.146]	0.011 [0.102]	0.013 [0.112]	0.011 [0.103]
Low-High	0.027	0.018	0.018	0.012	0.015	0.010
<i>T</i> -statistics	(8.31)	(5.08)	(5.62)	(4.27)	(4.25)	(4.44)

Table 2: (continued)

Panel C: Default Rates across Different Groups

	Firms with Sufficient Cash Coverage			Firms with Insufficient Cash Coverage		
	# Lawyers/Population	# Legal Facilities/Area	Baidu Search Intensity	# Lawyers/Population	# Legal Facilities/Area	Baidu Search Intensity
Low	0.060 [0.237]	0.053 [0.225]	0.048 [0.213]	0.118 [0.322]	0.134 [0.341]	0.118 [0.322]
Middle	0.039 [0.193]	0.042 [0.201]	0.030 [0.171]	0.107 [0.309]	0.088 [0.284]	0.082 [0.275]
High	0.025 [0.157]	0.028 [0.166]	0.026 [0.158]	0.071 [0.256]	0.084 [0.278]	0.072 [0.259]
Low-High	0.034	0.025	0.022	0.047	0.050	0.045
T-statistics	(8.84)	(5.71)	(5.96)	(3.30)	(2.99)	(3.19)

**Table 3: Summary Statistics and Correlation Matrix**

This table reports the summary statistics of the variables to be used in this study. The sample covers 18,322 firm-quarter observations, which satisfy two conditions: (1) the firm should have maturing loans at a given quarter; (2) the total amount of cash balance exceeds the total amount of maturing loans. For each variable, we report the mean, median, standard deviation, and various percentile values. All variables are winsorized at the 1st and 99th percentile values.

## Panel A: Summary Statistics

Variable	N	Mean	Median	Std. Dev.	Q1	Q3	P5	P95
Strategic Default	18322	0.036	0.000	0.185	0.000	0.000	0.000	0.000
# Lawyers/Population	18322	2.180	1.467	2.404	1.086	1.831	0.706	9.422
# Legal Facilities/Area	18322	232.500	83.890	459.700	32.690	115.100	14.560	1574.000
Baidu Search Intensity	18322	25.690	23.100	16.120	13.930	31.830	6.002	58.920
# Analysts	18312	8.255	5.000	9.331	1.000	13.000	0.000	28.000
Institutional Ratio	18269	0.317	0.295	0.226	0.119	0.487	0.009	0.713
Maturing Loan	18322	0.200	0.080	0.407	0.030	0.200	0.008	0.766
Guaranteed	18322	0.289	0.000	0.395	0.000	0.615	0.000	1.000
Internal Rating	18322	1.044	1.000	0.203	1.000	1.000	1.000	1.286
Assets	18312	7.692	2.864	14.416	1.458	6.615	0.724	86.209
Leverage	18312	0.503	0.516	0.190	0.368	0.648	0.174	0.788
ROA	18312	0.027	0.020	0.036	0.007	0.041	-0.011	0.087
Cash/Assets	18312	0.186	0.151	0.127	0.100	0.232	0.049	0.454
Cash for Investment/Cash	18013	0.501	0.244	0.816	0.089	0.589	0.013	1.802
Sales Growth	18322	0.192	0.122	0.523	-0.031	0.298	-0.318	0.818
Regional GDP Growth	18322	0.150	0.156	0.056	0.101	0.198	0.071	0.233
Financial Development	18322	0.888	0.323	2.068	0.213	0.531	0.133	6.096
Private Sector Development	18322	0.535	0.557	0.126	0.424	0.649	0.327	0.686
# Corruptions	18322	3.106	3.135	0.692	2.485	3.611	2.197	4.127

Table 3—Continued

## Panel B: Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Strategic Default	1	1.00																	
# Lawyers/Population	2	-0.05	1.00																
# Legal Facilities/Area	3	-0.04	0.70	1.00															
Baidu Search Intensity	4	-0.04	0.51	0.41	1.00														
Log(# Analysts)	5	-0.02	0.06	-0.05	0.07	1.00													
Institutional Ratio	6	-0.02	0.12	0.08	0.19	0.32	1.00												
Log(Maturing Loan)	7	0.08	0.08	0.06	0.10	0.25	0.23	1.00											
Guaranteed	8	0.01	-0.08	-0.05	-0.05	-0.16	-0.06	0.01	1.00										
Internal Rating	9	0.06	-0.03	0.00	0.01	-0.20	-0.06	-0.06	0.14	1.00									
Log(Assets)	10	0.05	0.16	0.12	0.13	0.40	0.34	0.63	-0.11	-0.08	1.00								
Leverage	11	0.07	0.00	0.01	0.05	-0.13	0.17	0.35	0.14	0.15	0.43	1.00							
ROA	12	-0.03	0.01	-0.01	-0.05	0.35	0.13	-0.04	-0.12	-0.13	-0.01	-0.34	1.00						
Cash/Assets	13	-0.04	0.01	0.00	-0.02	0.16	-0.14	-0.17	-0.02	-0.10	-0.25	-0.46	0.17	1.00					
Cash for Investment/Cash	14	0.00	-0.04	-0.04	-0.04	0.05	0.05	0.02	-0.05	-0.03	0.09	0.05	0.11	-0.30	1.00				
Sales Growth	15	0.00	-0.01	-0.01	0.09	0.04	0.03	-0.01	0.01	-0.01	0.00	0.05	-0.04	0.00	0.00	1.00			
Regional GDP Growth	16	0.07	-0.25	-0.28	-0.12	-0.03	-0.07	-0.08	0.04	0.05	-0.06	0.06	0.02	-0.03	0.00	-0.01	1.00		
Financial Development	17	-0.02	0.83	0.43	0.39	0.06	0.05	0.04	-0.06	-0.01	0.14	0.03	-0.01	-0.03	-0.03	0.01	-0.08	1.00	
Private Sector Development	18	0.01	-0.49	-0.37	-0.23	-0.03	-0.11	-0.04	0.14	0.01	-0.15	0.01	0.01	0.02	0.02	-0.01	0.13	-0.45	1.00
Log(# Corruptions)	19	0.04	-0.42	-0.40	-0.44	0.07	-0.02	-0.02	-0.04	-0.01	-0.02	-0.03	0.01	0.03	0.03	0.02	0.04	-0.31	-0.03



**Table 4: Relationship between Legal Enforcement and Strategic Default**

This table presents the results of the logistic regressions relating the likelihood of strategic default to legal enforcement based on the sample of solvent firms. The dependent variable is an indicator that takes the value of one if a firm with adequate cash chooses to default and zero otherwise. The independent variables of interests are the three proxies for legal enforcement, # *Lawyers/Population*, # *Legal Facilities/Area*, and *Baidu Search Intensity*. All variables are winsorized at the 1st and 99th percentile values. Industry and year fixed effects are included in all regressions. Robust z-statistics (clustered standard errors by firm) are reported in parentheses. \*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% level, respectively.

Variable	Dependent Variable: Strategic Default								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
# Lawyers/Population	-0.145*** (-5.24)			-0.159*** (-5.65)			-0.175*** (-3.49)		
# Legal Facilities/Area		-0.001*** (-5.09)			-0.001*** (-5.75)			-0.001*** (-2.79)	
Baidu Search Intensity			-0.008** (-2.35)			-0.014*** (-3.66)			-0.015* (-1.65)
Log(# Analysts)				-0.107** (-2.16)	-0.123** (-2.49)	-0.102** (-2.06)	-0.118** (-2.38)	-0.120** (-2.41)	-0.108** (-2.19)
Institutional Ratio				-0.017 (-0.08)	0.018 (0.08)	-0.038 (-0.17)	-0.017 (-0.08)	-0.009 (-0.04)	-0.029 (-0.13)
Log(Maturing Loan)				0.420*** (8.84)	0.430*** (9.01)	0.422*** (8.88)	0.431*** (9.00)	0.435*** (9.09)	0.432*** (9.03)
Guaranteed				-0.191* (-1.66)	-0.188 (-1.64)	-0.183 (-1.60)	-0.151 (-1.31)	-0.146 (-1.27)	-0.144 (-1.25)
Internal Rating				0.869*** (6.23)	0.889*** (6.34)	0.880*** (6.30)	0.840*** (5.97)	0.866*** (6.16)	0.857*** (6.11)
Log(Assets)				-0.013 (-0.17)	-0.021 (-0.28)	-0.046 (-0.61)	-0.042 (-0.55)	-0.046 (-0.60)	-0.055 (-0.72)
Leverage				0.823*** (2.71)	0.818*** (2.70)	0.964*** (3.20)	0.891*** (2.94)	0.887*** (2.93)	0.930*** (3.08)
ROA				-1.639 (-1.18)	-1.621 (-1.17)	-1.596 (-1.15)	-1.305 (-0.95)	-1.345 (-0.98)	-1.319 (-0.96)
Cash/Assets				-0.644 (-1.34)	-0.636 (-1.32)	-0.770 (-1.60)	-0.621 (-1.30)	-0.637 (-1.33)	-0.679 (-1.42)
Cash for Investment/Cash				-0.010 (-0.17)	-0.001 (-0.02)	-0.004 (-0.07)	-0.010 (-0.17)	-0.005 (-0.08)	-0.008 (-0.14)
Sales Growth				0.012 (0.15)	0.013 (0.16)	0.022 (0.27)	0.004 (0.05)	0.005 (0.06)	0.005 (0.07)
Regional GDP Growth							2.773* (1.91)	3.244** (2.26)	5.411*** (4.03)
Financial Development							0.065* (1.72)	-0.026 (-0.91)	-0.036 (-1.24)
Private Sector Development							-0.603 (-1.43)	-0.588 (-1.37)	-0.585 (-1.28)
Log(# Corruptions)							0.246*** (3.35)	0.246*** (3.27)	0.255*** (2.96)
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	18,225	18,225	18,225	17,873	17,873	17,873	17,873	17,873	17,873
Pseudo R-squared	0.040	0.039	0.034	0.084	0.084	0.078	0.089	0.088	0.087

**Table 5: Impact of Financing Constraints on The Role of Legal Enforcement**

This table presents the results of the logistic regressions relating the likelihood of strategic default to legal enforcement based on the sample of solvent firms, with special emphasis on the marginal effects of interaction terms. The dependent variable is an indicator that takes the value of one if a firm with adequate cash chooses to default and zero otherwise. The independent variables of interest is the proxy for legal enforcement, # *Lawyers/Population*, and its interactions with three firm-level characteristics, *Intangibility*, *Log(# Analysts)* and *Internal Rating*. All variables are winsorized at the 1st and 99th percentile values. Industry and year fixed effects are included in all regressions. Robust z-statistics (clustered standard errors by firm) are reported in parentheses. \*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% level, respectively.

Variable	Dependent Variable: Strategic Default		
	(1)	(2)	(5)
# Lawyers/Population	-0.072 (-1.25)	-0.308*** (-4.02)	0.211 (1.12)
# Lawyers/Population*Intangibility	-3.144*** (-2.79)		
# Lawyers/Population*Log(# Analysts)		0.060** (2.50)	
# Lawyers/Population*Internal Rating			-0.374** (-2.12)
Intangibility	3.398** (2.08)		
Log(# Analysts)	-0.115** (-2.32)	-0.214*** (-3.43)	-0.124** (-2.48)
Institutional Ratio	-0.022 (-0.10)	-0.002 (-0.01)	-0.004 (-0.02)
Log(Maturing Loan)	0.434*** (9.04)	0.434*** (9.06)	0.433*** (9.05)
Guaranteed	-0.153 (-1.32)	-0.154 (-1.33)	-0.137 (-1.19)
Internal Rating	0.828*** (5.85)	0.841*** (5.95)	1.303*** (5.39)
Log(Assets)	-0.052 (-0.68)	-0.049 (-0.64)	-0.043 (-0.56)
Leverage	0.896*** (2.97)	0.901*** (2.98)	0.867*** (2.85)
ROA	-1.318 (-0.95)	-1.212 (-0.88)	-1.295 (-0.94)
Cash/Assets	-0.658 (-1.38)	-0.615 (-1.29)	-0.610 (-1.27)
Cash for Investment/Cash	-0.006 (-0.10)	-0.007 (-0.11)	-0.008 (-0.14)
Sales Growth	0.000 (0.01)	0.002 (0.02)	0.000 (0.00)
Regional GDP Growth	2.746* (1.89)	2.417* (1.66)	2.669* (1.84)
Financial Development	0.052 (1.38)	0.073* (1.86)	0.072* (1.89)
Private Sector Development	-0.575 (-1.35)	-0.606 (-1.44)	-0.557 (-1.31)
Log(# Corruptions)	0.248*** (3.37)	0.240*** (3.28)	0.250*** (3.38)
Industry FE	YES	YES	YES
Year FE	YES	YES	YES
Observations	17.873	17.873	17.873
Pseudo R-squared	0.091	0.090	0.090

**Table 6: Impact of Credit Conditions on The Role of Legal Enforcement**

This table presents the results of the logistic regressions relating the likelihood of strategic default to legal enforcement based on the sample of solvent firms, with special emphasis on the marginal effects of interaction terms. The dependent variable is an indicator that takes the value of one if a firm with adequate cash chooses to default and zero otherwise. The independent variables of interest is the proxy for legal enforcement, # *Lawyers/Population*, and its interactions with two macro-economic variables, *M2/GDP* and *Regional Loan/Local GDP*. All variables are winsorized at the 1st and 99th percentile values. Industry fixed effects are included in all regressions. Robust z-statistics (clustered standard errors by firm) are reported in parentheses. \*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% level, respectively.

Variable	Dependent Variable: Strategic Default			
	(1)	(2)	(3)	(4)
# Lawyers/Population	-0.195*** (-4.22)	-1.127** (-2.42)	-0.084 (-1.49)	-0.354** (-2.07)
# Lawyers/Population*M2/GDP		0.518** (2.03)		
# Lawyers/Population*Regional Loan/Local GDP				0.114* (1.69)
M2/GDP	-2.438*** (-6.65)	-3.146*** (-6.33)		
Regional Loan/Local GDP			-0.738*** (-3.62)	-0.808*** (-3.89)
Log(# Analysts)	-0.107** (-2.19)	-0.107** (-2.18)	-0.121** (-2.48)	-0.127*** (-2.60)
Institutional Ratio	-0.099 (-0.45)	-0.092 (-0.42)	-0.535** (-2.56)	-0.519** (-2.48)
Log(Maturing Loan)	0.430*** (9.06)	0.435*** (9.13)	0.419*** (8.81)	0.419*** (8.81)
Guaranteed	-0.147 (-1.28)	-0.146 (-1.27)	-0.137 (-1.20)	-0.141 (-1.23)
Internal Rating	0.846*** (6.02)	0.848*** (6.02)	0.810*** (5.76)	0.804*** (5.70)
Log(Assets)	-0.057 (-0.76)	-0.060 (-0.79)	-0.071 (-0.93)	-0.067 (-0.89)
Leverage	0.954*** (3.16)	0.935*** (3.09)	1.081*** (3.62)	1.061*** (3.55)
ROA	-1.266 (-0.93)	-1.349 (-0.99)	0.099 (0.07)	0.135 (0.10)
Cash/Assets	-0.647 (-1.35)	-0.638 (-1.33)	-0.924* (-1.93)	-0.874* (-1.83)
Cash for Investment/Cash	-0.024 (-0.40)	-0.023 (-0.39)	-0.022 (-0.38)	-0.020 (-0.33)
Sales Growth	0.063 (0.84)	0.060 (0.80)	0.011 (0.13)	0.006 (0.07)
Regional GDP Growth	3.389*** (3.75)	3.237*** (3.57)	5.285*** (6.51)	5.049*** (6.16)
Financial Development	0.093*** (2.78)	0.151*** (3.37)	0.098*** (3.02)	0.104*** (3.05)
Private Sector Development	-0.490 (-1.18)	-0.464 (-1.12)	-0.729* (-1.79)	-0.674* (-1.65)
Log(# Corruptions)	0.251*** (3.43)	0.244*** (3.34)	0.154** (2.06)	0.179** (2.33)
Industry FE	YES	YES	YES	YES
Year FE	NO	NO	NO	NO
Observations	17.873	17.873	17.873	17.873
Pseudo R-squared	0.085	0.085	0.079	0.080

**Table 7: Impacts of Fiscal Stimulus and Industrial Regulation on The Role of Legal Enforcement**

This table presents the results of the logistic regressions relating the likelihood of strategic default to legal enforcement based on the sample of solvent firms, with special emphasis on the marginal effects of interaction terms. The dependent variable is an indicator that takes the value of one if a firm with adequate cash chooses to default and zero otherwise. The independent variables of interest is the proxy for legal enforcement, *# Lawyers/Population*, and its interactions with two policy shock identification dummy variables, *4-Trillion Package* and *Risky Industry*. All variables are winsorized at the 1st and 99th percentile values. Industry fixed effects are included in the first two regressions and year fixed effect are included in the last two regressions. Robust z-statistics (clustered standard errors by firm) are reported in parentheses. \*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% level, respectively.

Table 7—Continued

Variable	Dependent Variable: Strategic Default			
	(1)	(2)	(3)	(4)
# Lawyers/Population	-0.256*** (-4.28)	-0.336*** (-3.72)	-0.187*** (-3.72)	-0.175*** (-3.36)
# Lawyers/Population*4-Trillion Package		0.095** (1.97)		
# Lawyers/Population*Risky Industry				-0.055* (-1.77)
4-Trillion Package	-0.468*** (-3.87)	-0.606*** (-3.74)		
Risky Industry			0.255*** (2.62)	0.334** (2.39)
Log(# Analysts)	-0.121** (-2.02)	-0.120** (-2.01)	-0.089* (-1.83)	-0.090* (-1.84)
Institutional Ratio	-0.175 (-0.62)	-0.171 (-0.61)	-0.061 (-0.27)	-0.059 (-0.27)
Log(Maturing Loan)	0.387*** (6.91)	0.389*** (6.94)	0.436*** (9.11)	0.436*** (9.10)
Guaranteed	-0.019 (-0.14)	-0.018 (-0.14)	-0.119 (-1.05)	-0.121 (-1.07)
Internal Rating	0.831*** (5.18)	0.832*** (5.19)	0.804*** (5.78)	0.801*** (5.75)
Log(Assets)	0.003 (0.03)	0.002 (0.02)	-0.095 (-1.27)	-0.097 (-1.30)
Leverage	1.057*** (2.99)	1.048*** (2.96)	0.644** (2.20)	0.639** (2.18)
ROA	-1.475 (-0.96)	-1.520 (-0.99)	-1.811 (-1.32)	-1.834 (-1.34)
Cash/Assets	0.046 (0.08)	0.049 (0.09)	-0.570 (-1.20)	-0.579 (-1.22)
Cash for Investment/Cash	-0.115 (-1.43)	-0.115 (-1.43)	0.005 (0.09)	0.006 (0.10)
Sales Growth	-0.041 (-0.40)	-0.044 (-0.43)	-0.032 (-0.40)	-0.033 (-0.41)
Regional GDP Growth	1.307 (1.24)	1.176 (1.10)	2.710* (1.88)	2.719* (1.88)
Financial Development	0.091** (2.23)	0.120** (2.50)	0.079** (2.12)	0.078** (2.11)
Private Sector Development	-1.973*** (-3.89)	-1.961*** (-3.87)	-0.478 (-1.15)	-0.465 (-1.12)
Log(# Corruptions)	0.275*** (3.26)	0.271*** (3.23)	0.255*** (3.53)	0.257*** (3.55)
Industry FE	YES	YES	NO	NO
Year FE	NO	NO	YES	YES
Observations	9,456	9,456	17,960	17,960
Pseudo R-squared	0.078	0.079	0.084	0.084

**Table 8: Robustness Check on Definitions of Default**

This table tests the robustness of the relationship between the strength of legal enforcement and the likelihood of strategic default regarding the definitions of default. We refine default as being delinquent for at least 6 months or one year, and repeat the analysis conducted in prior tables for the solvent sample. All variables are winsorized at the 1st and 99th percentile values. Industry and Year fixed effects are included in all model specifications. Robust  $z$ -statistics (clustered standard errors by firm) are reported in parentheses. For sake of brevity, we just report the effect of legal enforcement and its interaction effect with firms' intangibility. \*, \*\*, \*\*\* Indicate significance at the 10%, 5%, and 1% levels, respectively.

Variable	Dependent Variable: Strategic Default			
	Delinquent over 6 Months		Delinquent over 1 Year	
	(1)	(2)	(3)	(4)
# Lawyers/Population	-0.239*** (-4.27)	-0.144** (-2.25)	-0.418*** (-3.60)	-0.322** (-2.41)
# Lawyers/Population*Intangibility		-2.646** (-2.40)		-2.542** (-1.99)
Intangibility	0.876 (1.10)	4.133*** (2.79)	0.685 (0.54)	3.570 (1.37)
Log(# Analysts)	-0.130** (-2.54)	-0.129** (-2.53)	-0.146* (-1.72)	-0.147* (-1.73)
Institutional Ratio	-0.287 (-1.25)	-0.284 (-1.23)	-0.681* (-1.72)	-0.683* (-1.72)
Log(Maturing Loan)	0.463*** (9.99)	0.466*** (10.03)	0.474*** (6.26)	0.478*** (6.29)
Guaranteed	-0.143 (-1.21)	-0.149 (-1.26)	-0.384** (-1.96)	-0.391** (-2.00)
Internal Rating	0.866*** (7.62)	0.855*** (7.52)	1.018*** (6.41)	1.017*** (6.41)
Log(Assets)	-0.114 (-1.49)	-0.120 (-1.58)	-0.206 (-1.60)	-0.213* (-1.66)
Leverage	1.018*** (3.81)	1.034*** (3.88)	0.820** (2.07)	0.833** (2.11)
ROA	-4.160*** (-3.65)	-4.147*** (-3.64)	-5.571*** (-3.61)	-5.556*** (-3.60)
Cash/Assets	-0.851* (-1.75)	-0.872* (-1.79)	-1.781** (-1.98)	-1.774** (-1.98)
Cash for Investment/Cash	-0.004 (-0.22)	-0.004 (-0.21)	0.000 (0.01)	0.000 (0.01)
Sales Growth	-0.005 (-0.07)	-0.009 (-0.12)	-0.190 (-1.21)	-0.192 (-1.23)
Regional GDP Growth	2.751* (1.90)	2.661* (1.83)	1.480 (0.64)	1.365 (0.59)
Financial Development	0.108*** (2.73)	0.096** (2.41)	0.224*** (3.52)	0.208*** (3.24)
Private Sector Development	-0.499 (-1.18)	-0.498 (-1.18)	-0.489 (-0.67)	-0.502 (-0.69)
Log(# Corruptions)	0.134* (1.88)	0.134* (1.88)	0.398*** (3.15)	0.401*** (3.17)
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Observations	17,873	17,873	17,873	17,873
Pseudo R-squared	0.108	0.109	0.156	0.156

**Table 9: Robustness Check on Definitions of Insolvency**

This table tests the robustness of the relationship between the strength of legal enforcement and the likelihood of strategic default regarding the definitions of insolvency. We filter the sample by deleting the firm-quarter observations in which the ratio of cash holding over maturing loans is smaller than 1.5, 2.0, and 3.0 respectively, and repeat the analysis conducted in prior tables. All variables are winsorized at the 1st and 99th percentile values. Industry and Year fixed effects are included in all model specifications. Robust  $z$ -statistics (clustered standard errors by firm) are reported in parentheses. For sake of brevity, we just report the effect of legal enforcement and its interaction effect with firms' intangibility. \*, \*\*, \*\*\* Indicate significance at the 10%, 5%, and 1% levels, respectively.

Variable	Dependent Variable: Strategic Default					
	Cash/Maturing Loans>1.5	Cash/Maturing Loans>2.0	Cash/Maturing Loans>2.0	Cash/Maturing Loans>2.0	Cash/Maturing Loans>3.0	Cash/Maturing Loans>3.0
	(1)	(2)	(3)	(4)	(5)	(6)
# Lawyers/Population	-0.179*** (-3.37)	-0.068 (-1.11)	-0.189*** (-3.29)	-0.101 (-1.51)	-0.240*** (-3.45)	-0.149* (-1.83)
# Lawyers/Population*Intangibility		-3.606*** (-2.83)		-2.669** (-2.03)		-3.047* (-1.72)
Intangibility	-0.928 (-0.87)	3.708** (2.04)	-1.642 (-1.33)	1.951 (0.96)	-3.226** (-2.01)	0.811 (0.30)
Log(# Analysts)	-0.141** (-2.58)	-0.138** (-2.51)	-0.158*** (-2.64)	-0.155*** (-2.58)	-0.153** (-2.21)	-0.151** (-2.18)
Institutional Ratio	0.305 (1.26)	0.298 (1.23)	0.393 (1.49)	0.383 (1.45)	0.513* (1.66)	0.502 (1.63)
Log(Maturing Loan)	0.455*** (8.37)	0.457*** (8.38)	0.458*** (7.58)	0.459*** (7.59)	0.488*** (6.69)	0.489*** (6.69)
Guaranteed	-0.225* (-1.76)	-0.222* (-1.74)	-0.176 (-1.29)	-0.172 (-1.26)	-0.223 (-1.43)	-0.219 (-1.40)
Internal Rating	0.715*** (4.20)	0.692*** (4.08)	0.670*** (3.44)	0.655*** (3.38)	0.823*** (3.66)	0.815*** (3.64)
Log(Assets)	-0.065 (-0.76)	-0.067 (-0.77)	-0.067 (-0.70)	-0.067 (-0.70)	-0.145 (-1.25)	-0.144 (-1.25)
Leverage	0.867*** (2.58)	0.877*** (2.62)	0.770** (2.06)	0.778** (2.09)	0.486 (1.14)	0.495 (1.16)
ROA	-0.234 (-0.15)	-0.280 (-0.18)	0.027 (0.02)	0.003 (0.00)	-0.822 (-0.40)	-0.834 (-0.41)
Cash/Assets	-0.566 (-1.10)	-0.569 (-1.11)	-0.516 (-0.93)	-0.517 (-0.94)	-0.737 (-1.20)	-0.740 (-1.21)
Cash for Investment/Cash	-0.060 (-0.80)	-0.055 (-0.74)	-0.020 (-0.25)	-0.018 (-0.22)	0.003 (0.03)	0.004 (0.04)
Sales Growth	0.065 (0.76)	0.063 (0.73)	0.048 (0.51)	0.047 (0.51)	0.053 (0.51)	0.053 (0.51)
Regional GDP Growth	2.783* (1.72)	2.672 (1.64)	3.364* (1.91)	3.324* (1.88)	2.251 (1.09)	2.184 (1.05)
Financial Development	0.073* (1.89)	0.056 (1.46)	0.075* (1.85)	0.061 (1.51)	0.082* (1.74)	0.068 (1.44)
Private Sector Development	-0.768* (-1.65)	-0.761 (-1.63)	-0.902* (-1.80)	-0.903* (-1.80)	-1.066* (-1.86)	-1.064* (-1.85)
Log(# Corruptions)	0.265*** (3.31)	0.266*** (3.32)	0.251*** (2.91)	0.253*** (2.93)	0.240** (2.43)	0.243** (2.46)
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Observations	16.027	16.027	14.409	14.409	11.836	11.836
Pseudo R-squared	0.090	0.091	0.091	0.092	0.097	0.100

**Table 10: Robustness Check on Proxies of Legal Enforcement**

This table tests the robustness of the relationship between the strength of legal enforcement and the likelihood of strategic default regarding the proxies of legal enforcement. We orthogonalize the regional number of lawyers per 10,000 people, # *Lawyers/Population*, with other four regional variables, i.e. *Regional GDP Growth*, *Financial Development*, *Private Sector Development*, and *Log(# Corruptions)*, take the residual as a new proxy for the regional legal enforcement, and repeat the analyses conducted in prior tables. All variables are winsorized at the 1st and 99th percentile values. Industry and Year fixed effects are included in all model specifications. Robust z-statistics (clustered standard errors by firm) are reported in parentheses. For sake of brevity, we just report the effect of legal enforcement and its interaction effect with firms' intangibility. \*, \*\*, \*\*\* Indicate significance at the 10%, 5%, and 1% levels, respectively.

Variable	Dependent Variable: # Lawyers/Population		Dependent Variable: Strategic Default	
	(1)	(2)	(2)	(3)
Residual # Lawyers/Population		-0.174*** (-3.46)		-0.072 (-1.25)
Residual # Lawyers/Population*Intangibility				-3.144*** (-2.79)
Intangibility		-0.690 (-0.72)		3.398** (2.08)
Log(# Analysts)		-0.119** (-2.38)		-0.115** (-2.32)
Institutional Ratio		-0.016 (-0.07)		-0.022 (-0.10)
Log(Maturing Loan)		0.431*** (9.00)		0.434*** (9.04)
Guaranteed		-0.152 (-1.32)		-0.153 (-1.32)
Internal Rating		0.851*** (6.01)		0.828*** (5.85)
Log(Assets)		-0.047 (-0.61)		-0.052 (-0.68)
Leverage		0.892*** (2.95)		0.896*** (2.97)
ROA		-1.275 (-0.92)		-1.318 (-0.95)
Cash/Assets		-0.647 (-1.35)		-0.658 (-1.38)
Cash for Investment/Cash		-0.010 (-0.17)		-0.006 (-0.10)
Sales Growth		0.003 (0.03)		0.000 (0.01)
Regional GDP Growth	-4.878*** (-3.46)	1.976 (1.26)		2.392 (1.52)
Financial Development	0.759*** (15.72)	0.197*** (2.76)		0.107 (1.42)
Private Sector Development	0.321 (0.45)	-0.524 (-1.24)		-0.552 (-1.31)
Log(# Corruptions)	-0.101 (-0.90)	0.230*** (3.05)		0.241*** (3.19)
Industry FE	NO	YES		YES
Year FE	NO	YES		YES
Observations	216	14.409		14.409
Adjusted R-squared	0.577			
Pseudo R-squared		0.092		0.092



**Table 11: Robustness Check with Samples Including Firms with Inadequate Cash**

This table tests the robustness of the relationship between default and strength of legal enforcement using an alternative sample consisting firms whose cash is not adequate to cover the matured loan. The dependent variable is the dummy that takes the value of one if a firm with adequate cash chooses to default and zero otherwise. The independent variables of interest are *# Lawyers/Population*, which is the number of lawyers per 10,000 people. All variables are winsorized at the 1st and 99th percentile values. Industry and Year fixed effects are included in all model specifications. Robust z-statistics (clustered standard errors by firm) are reported in parentheses. For sake of brevity, we just report the effect of legal enforcement and its interaction effect with firms' intangibility. \*, \*\*, \*\*\* Indicate significance at the 10%, 5%, and 1% levels, respectively.

Variable	Dependent Variable: Strategic Default	
	(1)	(2)
# Lawyers/Population	-0.178*** (-4.13)	-0.104** (-2.09)
# Lawyers/Population*Intangibility	0.332 (0.47)	3.034** (2.50)
Intangibility		-2.068** (-2.51)
Log(# Analysts)	-0.130*** (-3.13)	-0.128*** (-3.09)
Institutional Ratio	-0.072 (-0.39)	-0.070 (-0.38)
Log(Maturing Loan)	0.452*** (12.02)	0.454*** (12.05)
Guaranteed	-0.187* (-1.93)	-0.190* (-1.96)
Internal Rating	0.872*** (8.76)	0.860*** (8.63)
Log(Assets)	-0.071 (-1.15)	-0.076 (-1.23)
Leverage	0.706*** (3.14)	0.723*** (3.21)
ROA	-4.259*** (-4.31)	-4.255*** (-4.30)
Cash/Assets	-0.813** (-2.06)	-0.825** (-2.09)
Cash for Investment/Cash	0.010 (0.68)	0.010 (0.68)
Sales Growth	-0.035 (-0.52)	-0.037 (-0.55)
Regional GDP Growth	2.918** (2.46)	2.861** (2.41)
Financial Development	0.062* (1.77)	0.053 (1.52)
Private Sector Development	-0.599* (-1.74)	-0.602* (-1.74)
Log(# Corruptions)	0.135** (2.33)	0.135** (2.33)
Industry FE	YES	YES
Year FE	YES	YES
Observations	21,264	21,264
Pseudo R-squared	0.106	0.106