Shareholder Litigation Rights and the Cost of Debt: Evidence from Derivative Lawsuits

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Abstract

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Shareholder Litigation Rights and the Cost of Debt: Evidence from Derivative Lawsuits

Abstract

Exploiting the staggered adoption of universal demand (UD) laws as exogenous shocks to filing derivative lawsuits, we find that weakened shareholder litigation rights cause a significant increase in the cost of debt. Deteriorated corporate governance, increased information asymmetry, and heightened managerial risk-taking are the underlying channels. Shareholders respond to weakened litigation rights by providing managers with less risk-taking incentives. Overall, our findings suggest that the shareholder litigation rights are important to debtholders.

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1. Introduction

Shareholder rights are of vital importance to firms. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) argue that among different types of shareholder rights, the availability of litigation rights, which allow oppressed shareholders to make legal claims against directors and officers, is perhaps the most important one.[1] While there is abundant evidence on how litigation rights affect shareholders (e.g., Jensen and Ruback, 1983; Shleifer and Vishny, 1997), it is less clear how debtholders perceive such rights. In this paper, we exploit state-level law changes that exogenously reduce shareholder litigation rights to investigate the causal effect of shareholder litigation rights on the cost of debt.

The relation between shareholder litigation rights and the cost of debt is theoretically ambiguous. On the one hand, stronger shareholder litigation rights can reduce the cost of debt. Shareholder litigation is a source of corporate governance. Better corporate governance ensures that manager act in the best interest of the firm and improves profitability, leading to a lower cost of debt (Kraakman, Park, and Shavell, 1993; Kinney, 1994; Ferris, Jandik, Lawless, and Makhija, 2007). Second, managers are prone to divert upside gains for private benefits by undertaking excessive risk while leaving the costs of failure to debtholders (Shleifer and Vishny, 1997; Lin, Ma, Malatesta, Xuan, 2011). The threat of forced replacement and reputation losses in shareholder litigation can discipline managers and discourage excessive risk-taking (Kinney, 1994; Ferris, Jandik, Lawless, and Makhija, 2007;

[1] Kraakman, Park, and Shavell (1993) also argue that shareholder suits are the primary mechanism for enforcing the fiduciary duties of corporate managers.

Gormley and Matsa, 2011; Donelson and Yust, 2014; Liu, Aharony, Richardson, and Yawson, 2016). Therefore, stronger shareholder litigation rights can also reduce the cost of debt through a risk-taking channel.

On the other hand, stronger shareholder litigation rights can increase the cost of debt. Good corporate governance may exacerbate the conflicts between shareholder and debtholders, leading to a wealth transfer from debtholder to shareholders though risk-shifting (Smith and Warner, 1979; John, Litov, and Yeung, 2008; Chava, Livdan, Purnanandam, 2009). Debtholders will require a higher premium in anticipating of the increased risk. Further, frivolous litigations often lead to substantial wealth transfers to attorneys at the expense of the company (Romano, 1991; Johnson, Kasznik, and Nelson, 2000). Therefore, debtholders will require a premium if stronger shareholder litigation rights result in more frivolous litigations and lower firm value.

Given these opposing predictions, how debtholders weight various costs and benefits of shareholder litigation rights is ultimately an empirical question. However, as the *actual* shareholder litigation is an equilibrium outcome while the *threat* of shareholder litigation is difficult to quantify, identifying a causal effect is empirically challenging. To address these issues, we utilize the staggered state-level adoption of universal demand (UD) laws as exogenous shocks that weaken shareholder litigation rights and examine how debtholders response to such changes.

Shareholders can file derivative lawsuits on behalf of the corporation to replace

entrenched managers.[2] UD laws impose a "universal demand" requirement, which requires plaintiff shareholders to seek approvals from the board and allow the board to take corrective actions prior to initiating a derivative lawsuit. As derivative lawsuits typically name directors as defendants, directors will almost inevitably decide against proceeding with the litigation (Swanson, 1992). Therefore, the adoption of UD laws raise the procedural hurdles to pursue derivative lawsuits and consequently weakens shareholders' litigation rights (Davis, 2008; Erickson, 2010; Appel, 2015).

We examine the effect of weakened shareholder litigation rights on the cost of debt in a difference-in-differences approach. Using the cost of bank loan data from 1985 to 2009, our analyses suggest that weakened shareholder litigation rights significantly increases the cost of debt. Specifically, the adoption of UD laws lead to a 9.4% increase in the cost of debt.

We next conduct a battery of tests to alleviate concerns that our results are driven by omitted variables. First, we show that the average cost of debt in a state does not predict the adoption of UD laws. Second, we conduct timing tests and find that the cost of debt only increase after the adoption of UD laws and not before, indicating that firms are not anticipating the law change. Third, we restrict the sample of treated firms to those that incorporated in Pennsylvania, where the UD law was implemented by the state supreme court in *Cuker v. Mikalauskas* (1997), to rule out the effect of lobbying. We continue to find similar

[2] Swanson (1992) argues that absent derivative suits, individual shareholders would have no access to compensation for injuries directly inflicted on their corporation. Therefore, the American Law Institute (ALI), sometimes called the most elite lawyers in the United States, acknowledges that "the derivative action may offer the only effective remedy in those circumstances where a control group has the ability to engage in self-dealing transactions with the corporation".

results in this subsample. Fourth, we include additional control variables and our main results remain qualitatively unchanged. Finally, we use a propensity-score-matched sample to control for underlying differences between treated and control firms. Estimation results imply that our findings are robust to controlling for observable heterogeneity.

In the following sections, we investigate whether the effect of UD laws varies in a theoretically predictable order. We predict and find that the effect of UD laws is more pronounced among firms that are *ex ante* more likely to face derivative lawsuits. Specifically, the effect is stronger among *ex ante* more entrenched firms, firms with more institutional investors, and riskier firms.

We next examine the real effects of UD laws to further understand the underlying mechanisms that drive our main findings. Following the adoption of the UD laws, G-index, E-index, the percentage of busy directors, and captured directors all go up, suggesting that the board becomes more entrenched and internal governance deteriorates. These findings are in line with those documented in Appel (2015).[3] Second, the adoption of UD laws is associated with a significant increase in the absolute value of discretionary accruals, suggesting that managers are more likely to engage in earnings management to hide their wrongdoings. Increased information asymmetry makes it more costly for debtholders to monitor, leading to

[3] Directors' busyness is detrimental to board monitoring quality and shareholder value (Shivdasani and Yermack, 1999; Fich and Shivdasani, 2006; Falato, Kadyrzhanova, Lel, 2014). The fraction of co-opted board (the board comprised of directors appointed after the CEO assumed office) is negatively related to boards' monitoring (Coles, Daniel, Naveen, 2014) and positively related to executives committing fraud (Khanna, Kim, and Lu, 2015).

an increase in the cost of debt.[4] Third, firms increase R&D expenditures and spend more on acquisitions. Specifically, firms are more likely to engage in riskier horizontal mergers. Also, among diversified deals, firms are more likely to acquire targets whose assets have lower recovery value in default. These results indicate that the adoption of UD laws increases the cost of debt through a managerial risk-taking channel. Finally, we document a significant decrease in ROA and increase in both systematic risk and idiosyncratic risk, and a higher likelihood of becoming takeover target. Evidence also suggests that shareholders respond to weakened litigation rights by reducing managers' risk-taking incentives.

We contribute to several strands of literature. Our paper belongs to the literature that studies the effect of shareholder rights on debtholder wealth. Previous literature mostly documents that restraining the rights to govern through voice (e.g. an increased usage of anti-takeover provisions) induce managers to "enjoy a quiet life" or "play it safe", which are detrimental to shareholders but beneficial to debtholders (Bertrand and Mullainathan, 2003; Klock, Mansi and Maxwell, 2005; Chava, Livdan and Purnanandam, 2009; Gormley and Matsa, 2016). We connect litigation rights, which are largely ignored in this literature, with the cost of debt, and find that losing the right to make legal claims against self-serving managers on behalf of the corporation harms both shareholders and debtholders. Our paper is related to Qiu and Yu (2009), as the overall effect of UD laws on debtholder wealth is similar to BC laws in some sense, but underlying channels are quite different. Since the lack of

[4] See, for example, Graham, Li, and Qiu (2008); Prevost, Rao, and Skousen (2008); Derrien, Kecskés, and Mansi (2016).

litigation rights will induce managers to take more risk rather than "enjoy a quiet life" or "play it safe", our findings imply that not all shareholder rights are treated equal. Erickson (2010) refers to the litigation right as "a new type of shareholder activism". In this sense, our findings are also in line with Sunder, Sunder, and Wongsunwai (2014), which document that debtholders require a lower premium if activists assert their control rights by addressing managerial entrenchment.

This paper also complements three recent papers on the relation between litigation risk and the cost of debt. Lin, Officer, and Wang (2013) study a sample of Canadian firms and find that the provision of director and officer (D&O) insurance, which shields directors and officers from any *monetary* losses in litigation, is positively associated with the cost of private debt. Our findings imply that even in the presence of D&O insurances, the prospect of *non-monetary* losses such as damaged reputation can still deter corporate insiders' wrongdoing. Deng, Willis and Xu (2014) and Yuan and Zhang (2015) provide evidence that banks price litigation risk into the loan contract terms. In the spirit of shareholder rights, we capture the *ex ante* threat of litigation rather than the *ex post* consequence of actual lawsuits.

A contemporary paper by Chu (2016) finds that increased difficulties in class action lawsuits decrease bank loan spread. Our paper finds the opposite effect because two types of lawsuits are fundamentally different and affect the cost of debt through substantially different channels. Class action lawsuits benefit only a "class" of shareholders at the cost of the company, while derivative lawsuits benefit the company through governance reforms at the

expense of plaintiff shareholders.

Our paper also adds to several recent papers on the effects of UD laws. Appel (2015) provides evidence on the effect of UD laws on corporate governance. Chu and Zhao (2016) argue that UD laws can improve corporate takeover efficiency. Among papers in this strand, the closest to us is Houston, Lin, and Xie (2016), which document that the adoption of UD laws leads to an increase in firms' implied cost of capital. Our findings suggest that weakened shareholder litigation rights hurt not only shareholders but also debtholders.

The remainder of this paper is organized as follows. Section 2 introduces the institutional background. Section 3 describes data and empirical methodology. Section 4 establishes a causal link between shareholder litigation rights and the cost of debt. Section 5 provides cross-sectional tests of the effect of UD laws. Section 6 examines real effects of the adoption of UD laws and discusses underlying mechanisms of the main findings. Section 7 concludes.

2. Institutional Background

2.1 Derivative lawsuits

Corporate law in the U.S. requires directors and officers to exhibit prudent judgment (the duty of care) and refrain from self-serving conduct (the duty of loyalty). These fiduciary duties require managers to take actions that are in the best interest of shareholders. When managers breach such duties, shareholders can take legal actions to protect their rights.[5]

[5] Davis (2008) documents that although the United States has the largest and deepest capital markets in the world, it has, in some respects, among the world's loosest corporate laws. Those who control and manage the corporation are given a long

Specifically, derivative lawsuits target self-serving officers or directors for breaching fiduciary duties. Compared to direct action lawsuits, which are filed on behalf of a small group of stakeholders for their own rights and are usually settled with monetary compensation, derivative lawsuits (as the name "derivative" implies) are filed on behalf of the corporation allege potential wrongdoings by corporate insiders (Kinney, 1994).[6]

Corporate governance reforms are always the primary goal of derivative litigation. Lawsuits are usually settled with changes in corporate governance practices, from the number of independent directors on their boards to the payment method of their top executives (Erickson, 2010). Ferris, Jandik, Lawless, and Makhija (2007) reveal that derivative lawsuits are associated with significant improvements in the quality and effectiveness of the board of directors. Davis (2008) documents that derivative suits play an essential governance role especially for transactions involving controlling persons. We focus on the *threat* of initiating derivative lawsuits, rather than the *actual* lawsuits because the lawsuit is an equilibrium outcome. As the prospect of lawsuit could serve to deter costly wrongdoing in the future (Kraakman, Park, and Shavell, 1993; Kinney, 1994), it is a suitable proxy for the strength of shareholder litigation rights.

Prior to a derivative lawsuit, shareholders are required to make a demand on the corporation's board of directors and allow time for the board to address shareholders'

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leash. According to the study that developed the World Bank methodology for measuring investor protection, the United States scored a 0.33 for "*ex ante* private control of self-dealing", which is not only below the world average of 0.36, but also well below the 0.58 average for common law countries. Therefore, investor protection is still an important issue in the U.S.

[6] Swanson (1992) indicates that derivative lawsuits are an exception to the "usual rule that the proper party to bring a claim on behalf of a corporation is the corporation itself".

allegations.[7] However, because derivative suits usually target directors' wrongdoings, it is anticipated that directors almost inevitably decide against proceeding with the litigation.[8] To prevent directors from wrongly blocking a derivative suit, courts have developed the "futility exception", which allows the plaintiff shareholder to bypass the board if she believes that the board is involved in the wrongdoing that it could not make an unbiased decision or appoint an impartial committee (Kinney, 1994).

2.2 The Universal Demand (UD) laws

The availability of "futility excerption" caused abusive use of derivative lawsuits, wasting time and money for courts and corporations. In response to the abuse of "futility excerption", from 1989 to 2005, 23 out of 50 states adopted Universal Demand (UD) laws. After the adoption of UD laws, the "futility exception" expires. A plaintiff shareholder must first file a demand on the board of directors and can proceed with a derivative lawsuit only if the board of directors grants the demand. Since the board members are often named as the defendants in the litigation, they often reject the lawsuit demand. Therefore, the staggered adoption of UD laws reduces the threat of derivative lawsuits and weakens shareholders'

[7] The demand requirement reflects corporate law's "fundamental tenet". That is, directors, not individual shareholders, manage the business and affairs of corporations. If corporate management believes the claims have merit, it may choose to pursue corrective actions or take charge of the litigation. If management disagrees with the shareholder's contentions, the corporate has the chance to reject the proposed action. Regardless of whether the corporate rejects or supports the shareholder action, the demand requirement enables corporate management to pursue alternative remedies and therefore end unnecessary litigation. For detailed description, see Swanson (1992).

[8] The board of directors can respond to the plaintiff shareholder by expanding the board to include independent directors and form a special litigation committee (SLC) to evaluate the merits of derivative actions. For detailed description, see Kinney (1994) and Erickson (2010).

litigation rights by raising procedural hurdles to pursue derivative lawsuits (Davis, 2008; Appel, 2015).

3. Data and Methodology

3.1 Dependent variable: cost of bank loans

We focus on bank loan because it is the most commonly used source of financing over the past two decades (Ivashina, 2009). Roughly 80% of public firms have utilized private loans, while only 15–20% firms have public debt (Faulkender and Petersen, 2006; Sufi, 2009; Nini, Smith, and Sufi, 2009). Our dependent variable is either the cost of bank loans at the deal-level and the weighted average cost of bank loans at the firm-level. We also examine firm-level cost of debt because estimation results at the deal-level could be biased by a small number of firms that take out multiple loans per year. If so, we cannot generalize the effects to all firms.

We follow previous literature and define the deal-level cost of private bank loan as the natural logarithm of the loan spread (all-in-spread-drawn) from the Dealscan database (Graham, Li, and Qiu, 2008 and Chava, Livdan, Purnanandam, 2009). This variable measures the amount paid in basis points over the London Interbank Offered Rate (LIBOR) for each dollar drawn down. The weighted average cost of bank loans equals the natural logarithm of the sum of the loan spread for each private loan borrowed by firm *i* in year *t*, weighted by the loan size. Following Chava and Roberts (2008), we use the Dealscan-Compustat Link file maintained by Michael Roberts to merge bank loan information to firm characteristics.

3.2 The main explanatory variable: UD laws

Our key explanatory variable is an indicator that equals one if the state that the firm incorporated in has adopted a UD law in a given year, and zero otherwise. Since Compustat only report the most recent state of incorporation, we use a computerized text search algorithm written in Perl to collect historical incorporation information from 10-K filings on the SEC Edgar website. The SEC does not require electronic filings until 1996, so we use the oldest incorporation location for missing values prior to 1996. Table 1 reports the detailed universal demand legislation, which includes state, year of adoption, and the citation information.

3.3 Sample selection

Our main sample includes 22,175 loan-level and 12,966 firm-level observations of U.S. incorporated public firms from 1985 to 2009. The sample starts in 1985 so there are four years before the first UD law passage in 1989. We end the sample in 2009 to allow four years after the last UD law passage in 2005 and to avoid noises from the financial crisis. We exclude utilities (SIC 4900-4999) and financials (SIC 6000-6999) industries. Firm characteristics are constructed using Compustat. Board characteristics and governance variables are obtained from the RiskMetrics database. Stock return data is obtained from CRSP. The data on institutional ownership is from the 13f filings from Thomson Reuters

database. We obtain state-level per capita income and state-level GDP from the Bureau of Economic Analysis (BEA) website. State unemployment rate is obtained through Bureau of Labor Statistics (BLS). The percentage of unionized workers is acquired from http://www.unionstats.com (Hirsch, Macpherson, and Vroman, 2001).

We obtain merger and acquisition data from SDC Thomson Platinum database. We require the following criteria for each deal: 1) Announcement dates between 1/1/1985 and 12/31/2009; 2) Both target and acquirer are U.S. firms; 3) The acquirer owns 49% or less of the target's shares before the deal; 4) The acquirer owns 51% or more of the target's shares after the deal; and 5) Transaction larger than 1% of the acquirer's book assets, and of at least $1 million. Table 2 presents summary statistics of the main variables.

4. Estimates of Shareholder Litigation Rights on the Cost of Debt

4.1 Endogeneity of the adoption of the UD laws

Before examining the effect of the adoption of UD laws on the cost of debt, we first check the validity of our quasi-natural experiment. Specifically, we test whether the average cost of debt in a state does not reversely affect the court's decision to adopt a UD law. We follow Acharya, Baghai, and Subramanian (2014) and estimate Cox proportional hazard models, where the "failure event" is the adoption of a UD law. Estimation results are shown in Table 3. Columns (1) and (2) suggest that the average cost of debt in a state is not significantly related

to the state-level adoption of UD laws. Further, various state-level factors such as per capita income, GDP, unemployment rate also do not predict the adoption of UD laws. Evidence from this table suggest that the adoption of UD laws are unlikely to be driven by political economy considerations or lobbying activities.

4.2 Estimation methodology: a difference-in-difference approach

After confirming the validity of our quasi-natural experiment, we estimate the following difference-in-differences model to study the effect of weakened shareholder litigation rights on the cost of debt. The baseline difference-in-differences specification is as follows:

$$\mathrm{COD}_{ijklst} = \beta_1 UD_{st} + f_j + \omega_{kt} + \gamma_{lt} + \varepsilon_{ijklst} \quad (1)$$

where *i* indexes deals, *j* indexes firms, *k* indexes 2-digit SIC industry, *l* indexes states of headquarter, *s* indexes states of incorporate, and *t* indexes year. *COD* is either the cost of bank loans at the deal-level or the weighted average cost of bank loans at the firm-level. The main explanatory variable is *UD*, which is an indicator that equals to one if state *l* has adopted the UD law in year *t*, and zero otherwise. f_j are firm fixed effects, ω_{kt} are industry-by-year fixed effects, γ_{lt} are headquarter-state-by-year fixed effects. This approach essentially compares changes in the cost of debt among firms incorporated in states that adopt UD laws (the treatment group) with changes in the cost of debt among firms incorporated in states that do not adopt the law (the control group). As different states adopt UD laws at different times, we are able to make use of a variety of treatment and control groups in our analyses.

In the spirit of Angrist and Pischke (2009) and Gormley and Matsa (2011, 2014, 2016), we deliberately do not control for firm and deal characteristics because they might also be affected by the adoption of UD laws. Including them may introduce additional biases into the estimation. Instead, we use firm fixed effects to control for time-invariant unobserved heterogeneity within firms and industry-by-year fixed effects and headquarter-state-by-year fixed effects to control for time-varying heterogeneity across industries (e.g., demand shocks) and headquarters location (e.g., local economic conditions, political economy factors).

Our identification strategy relies on the assumption that the state-level adoption of UD laws is exogenous and is uncorrelated with other determinants of the cost of debt. Given that the variation in the shareholder litigation is at the state level, we follow Bertrand and Mullainathan (2003) and cluster standard errors at the state of incorporation level to account for potential time-varying correlations in unobserved factors that affect different firms within the same state.

4.3 Shareholder litigation rights and the cost of debt: a DiD approach

Table 4 presents estimation results from our baseline difference-in-differences regression. In columns (1) - (3), we examine the effect of the state-level adoption of UD laws on the cost of debt at the deal-level. Column (1) include firm and year fixed effects. The coefficient on the UD law dummy is positive and significant at 1% level, indicating that the passage of a UD law leads to a significant increase in the cost of debt. In column (2), we replace year

fixed effects with industry-by-year fixed effects to control for time-varying heterogeneity across industries. The coefficient on the UD law dummy is still positive and significant. Next, we add additional headquarter-state-by-year fixed effects in column (3) to control for time-varying heterogeneity across headquarters location. We continue to find a positive and significant relationship. In terms of economic significance, estimation results in column (3) suggest that, on average, the adoption of UD laws causes a 9.4% increase in interest spreads.

We next examine the effect of UD laws on the cost of debt at the firm-level. We repeat the same analyses as in columns (1) - (3), but replace the dependent variable with the weighted average cost of debt of all private loans issued by firm i in year t. Estimation results in columns (4) – (6) continue to suggest a positive and significant relationship between UD laws and the firm level cost of debt. The difference-in-differences coefficient implies that the passage of UD laws increases the cost of debt by 11.18%. The relationship is both statistically significant and economically meaningful.

4.4 Dynamic effects

We next investigate the validity of our difference-in-differences design by examining whether there are any pre-treatment trends. If the adoption of UD laws is truly exogenous and is not driven by *ex ante* increases in the cost of debt, then a dummy variable that indicates the year before the adoption of UD laws should not be significantly correlated to the cost of debt. To test this hypothesis, we follow Bertrand and Mullainathan (2003) and allow the effects of

UD laws to vary over time by including a series of dummies indicating the number of years since the law was passed. In this way, we decompose the effect of UD laws into different time periods and examine the timing of cost of debt changes relative to the timing of the passage of the UD laws. The dynamic difference-in-differences specification is as follows:

$$\mathrm{COD}_{ijklst} = \mu_1 UD_{st}^{-1} + \mu_2 UD_{st}^{0} + \mu_3 UD_{st}^{+1} + \mu_4 UD_{st}^{2+} + f_j + \omega_{kt} + \gamma_{lt} + \varepsilon_{ijklst} \quad (2)$$

where the dependent variable and fixed effects are the same as those in equation (1). We decompose the adoption of the UD law into separate time period: UD^{-1} is an indicator variable equals one if a firm is incorporated in a state that will pass a UD law in one year and zero otherwise. UD^{0} is an indicator variable equals one if a firm is incorporated in a state that will pass a UD law in the current year and zero otherwise. UD^{+1} is an indicator variable equals one if a firm is incorporated in a state that has passed a UD law one year ago and zero otherwise. UD^{2+} is an indicator variable equals one if a firm is incorporated in a state that has passed a UD law two or more years ago and zero otherwise.

Table 5 presents estimation results of the dynamic timing tests. The coefficient on UD^{-1} dummy is insignificant at both deal-level and firm-level, indicating that there is no pretreatment trend of increasing the cost of debt before the adoption of UD laws. In contrast, the coefficients on UD^{2+} are positive and significant, suggesting that the adoption of the UD laws have profound and sustainable impacts on the cost of debt even two years after their passage. Overall, Table 5 shows that the cost of debt increases only after the adoption of UD laws and not before, suggesting that the observed relationship is not driven by reverse

causality, and the parallel trends assumption is valid.

4.5 Including endogenous variables

Following Gormley and Matsa (2011), we deliberately omit firm-level and deal-level controls in our main regression to avoid introducing additional biases into the estimation. With that in mind, we include various firm-level and deal-level control variables as used in Graham, Li, and Qiu (2008) and re-estimate the effect of UD laws to see whether the results still hold after we introduce biases. Specifically, we control for firm size, market-to-book ratio, leverage, tangibility, modified Altman-Z score, profitability, and cash flow volatility. In addition, we also consider loan-level variation by controlling loan size, loan maturity, loan purpose, and loan type. Appendix A provides detailed definitions of the control variables. We winsorize all continuous accounting variables at the 1st and 99th level to eliminate outliers. Table 2 presents summary statistics of the control variables. Estimation results are shown in Table 6.

We continue to find a positive and significant relationship between the adoption of UD law and the cost of debt after including firm-level and deal-level controls. In terms of economic significance, the adoption of UD laws lead to an 6.8% increase in the cost of debt. The coefficients on all control variables have the same sign as those in previous studies (Graham, Li, and Qiu, 2008; Chava, Livdan, Purnanandam, 2009). Specifically, the cost of debt is negatively associated with firm size and market-to-book ratio. Firm risks measured by

leverage, modified Altman Z-score, and cash flow volatilities are positively related to the cost of debt. Tangibility and profitability are both negatively related to the cost of debt. At the deal level, the cost of debt is negatively associated with both loan size and loan maturity. Overall, evidence from Table 6 confirms our findings that the cost of debt increases after shareholder litigation rights deteriorate.

4.6 Robustness checks

We conduct two more tests to check the robustness of our results. First, we show that our results are not driven by confounding law changes that affect class action lawsuits. Chu (2016) and Houston, Lin, and Xie (2016) show that a ruling of the Ninth Circuit Court of Appeals in 1999 makes it more difficult for shareholders to engage in class actions lawsuits. To distinguish the effect of shareholder litigation through derivative lawsuits from class action lawsuits, we exclude all firms incorporated or headquartered in The Ninth Circuit states: Alabama, Arizona, California, Hawaii, Idaho, Nevada, Oregon, and Washington. Columns (1) and (3) of Table 7 present the estimated effect of UD laws on the cost of debt in a sample that drops the Ninth Circuit states. The coefficient of UD laws is still positive and significant, suggesting the results of UD laws on the cost of debt are not driven by confounding law changes regarding class action lawsuits.

Our second check aims to alleviate the concern that the passage of UD laws is the outcome of firms' lobbying by restricting the sample of treated firms to those incorporated in

Pennsylvania. The control group consists of firms incorporated in states that do not adopt the UD law. In Pennsylvania, the UD law is implemented by the state supreme court in *Cuker v. Mikalauskas* (1997). Therefore, the adoption decision in Pennsylvania is arguably less likely to be affected by corporate lobbying since the UD was not enacted by legislators as a matter of public policy, but by the courts for the sake of consistency with judicial precedent (Appel, 2015). Columns (2) and (4) of Table 7 present the estimation results. The coefficient on UD is positive and significant at 1% level, suggesting that our main results are actually more pronounced after we rule out the probability that the passage of the UD laws is driven by firm lobbying.

4.7 Confounding events

Next, we check the robustness of our results by exploring whether our results are driven by some confounding law changes which may also positively affect a firm's cost of debt. Karpoff and Wittry (2015) reveal that certain findings on the effect of business combination (BC) laws would disappear once controlling for confounding law changes. Since our sample period overlaps with the adoption of many anti-takeover laws, it is particularly important to control for these confounding events. To address this issue, we include all the confounding law changes discussed in Karpoff and Wittry (2015) as additional controls. Specifically, we control for control share acquisition laws (CS), business combination laws (BC), fair price laws (FP), directors' duties laws (DD), and poison pill laws (PP). These are the most common

types of antitakeover laws that are passed over the same period as the UD laws. If the positive effect of the UD laws is driven by these confounding antitakeover laws, the coefficient on the UD law should be insignificant once we control for these confounding events.[9]

For each law above, we create an indicator variable that equals one if the state that the firm incorporated in has adopted that law. We then include these indicator variables into our main regression as additional controls. Columns (1)-(5) of Panel A of Table 8 include each of the confounding laws dummies, and column (6) includes all five confounding law dummies. The UD law dummy continues to load positive and significant after controlling for these confounding events. We repeat the same analyses on the firm-level weighted average cost of debt in columns (1)-(6) of Panel B and find similar results. Overall, evidence from this section suggests that our results are not driven by confounding anti-takeover law changes.

4.8 Propensity score matching

Our results so far suggest a positive and significant relationship between UD laws and the cost of debt. However, our results could be driven by omitted variables that are correlated with both the adoption of UD laws and the increase in the cost of debt. For example, if firms incorporated in states that adopted UD laws are fundamentally different from the rest of the firms, then unobservable firm characteristics could drive our results. To address the differences between treated and control firms, we use a propensity score matched (PSM)

[9] The dates of adoption for each of the antitakeover laws are provided in Karpoff and Wittry (2015).

sample to correct for any endogenous selection on observed variables (Rosenbaum and Rubin, 1983; Dehejia and Wahba, 2002).

An empirical difficulty in creating a propensity score matched sample in our setting is that the adoption of UD laws is staggered over time. Therefore, firms in the control group at the beginning of the sample could be in the treated group near the end of the sample. To address this empirical difficulty, we follow Gormley and Matsa (2011) and Appel (2015) and create a cohort for each adoption of UD laws. Within each cohort, we only keep 5 years before and after the treatment. Contrary to the standard difference-in-differences sample, this sample is restricted to a smaller window around each treatment and drops any observations that are treated by another event. In this way, we can calculate propensity scores based on *ex ante* firm characteristics. After we create a cohort for each UD law adoption, we stack all cohorts together. The intuition of this approach is to use every untreated observation at a particular point in time as a control for treated observations in that time period. Once a state adopts UD laws, firms incorporated in that state will not show up in later cohorts. The effect we estimate using this sample is the average treatment effect across the staggered adoptions.

For example, North Carolina adopts a UD law in 1995. The sample period in this 1995 cohort is from 1990 to 2000. All firms incorporated in North Carolina are treated firms, and firms incorporated in all other states that have not adopt UD laws serve as control firms until the state where they are incorporated also passes a UD law. For example, Connecticut adopts a UD law in 1997. All firms incorporated in Connecticut will serve as control firms from

1990 to 1996, and then these firms drop out of the sample. Texas adopts a UD law in 1992. All firms incorporated in Texas will not show up in the 1995 cohort.

We first use a logistic regression to estimate the probability of being a treated firm on firm size, profitability, tangibility, market-to-book, and the modified Z-score the year before the law adoption. We then match each treated firm with a control firm (with replacement) on year, three-digit SIC industry, and the nearest propensity scores. We require propensity score difference for each matched pair to be within 1%.

Panel A of Table 9 reports the univariate comparisons of the means of each matched variable between treated and control firms. The means of the matched variables are not significantly different between the two groups, suggesting that the matching procedure is successful. We then re-estimate our baseline regression on the propensity score matched sample. Results are shown in the Panel B of Table 9. Consistent with earlier findings, the coefficient on the UD law dummy continues to load positive and significant. In terms of economic significance, the adoption of UD laws lead to a 13.7% increase in the cost of debt. Overall, findings from the propensity score matched sample test suggest that the observed positive effect is not driven by observable differences in firm characteristics.

5. Cross-Sectional Tests of the Effect of the Universal Demand Laws

In this section, we explore whether the effect of UD law on a firm's cost of debt varies predictability with the *ex ante* probability of facing derivative litigation and firm risks. In

addition of shedding light on the economic mechanisms behind our main results, these tests further alleviate endogeneity concerns that the results are driven by an omitted variable because such omitted variable needs to be able to explain all the cross-sectional findings.

Since the adoption of UD laws directly reduce the probability of facing derivative litigation by imposing the universal demand request and increase firm risks by reducing managers' expected reputation losses during litigation, it is problematic to interact the UD law dummy with litigation probability or firm risk (Gormley and Matsa, 2011). Instead, we examine the effect using the appended cohort sample created following Gormley and Matsa (2011). In this way, we can clearly identify *ex ante* characteristics and investigate heterogeneous effects of UD laws.

5.1 Ex ante Probability of Shareholder Derivative Litigation

We expect that the effect of the adoption of UD laws should be more profound among firms that are *ex ante* more likely to face derivative lawsuits. In other words, the passage of UD laws should have little effect on firms that are not likely to face derivative litigation in the first place. We use four proxies to measure the probabilities of facing derivative lawsuits. First, since most derivative lawsuits target managers' wrongdoing, firms with more entrenched managers are more likely to face derivative lawsuits (Ferris, Jandik, Lawless, and Makhija, 2007; Erickson, 2010; and Appel, 2015). Following Gompers, Ishii, and Metrick (2003) and Bebchuk, Cohen, and Ferrell (2009), we use the G-index and the E-index as

proxies for the probability of facing derivative lawsuits. We obtain governance provisions data through the IRRC database. Since governance provisions are only available for the years 1990, 1993, 1995, 1998, 2000, 2002, and 2004, we fill in missing observations using the index value from the most recent report.

Second, as the plaintiff shareholder in derivative lawsuits usually receives little compensation (less than $20,000 in most cases) and settlements usually involves management changes instead of monetary reward (if any, the money would go to the firm rather than shareholders), individual investors have little incentives to file derivative lawsuits. Institutional investors, on the other hand, especially those with a large stake in the company, have more incentives to file derivative lawsuits (Shleifer and Vishny, 1997; Fisch, 2001). We thus use the total institutional ownership and institutional ownership concentration (HHI) as proxies for institutional incentives to file derivative lawsuits.[10] Institutional ownership data is collected from the 13-f filings by Thomson Reuters.

Table 10 shows the heterogeneous effect of UD laws varies predictably with the *ex ante* likelihood of facing derivative lawsuits. Specifically, we find that firms with above median entrenchment, as measured by G-index and E-index, tend to experience a significant increase in the cost of debt, whereas firms with relatively low entrenched managers do not. Similarly, we find that firms with above median percentage of institutional investors and institutional

[10] Erickson (2010) finds that about one-third of derivative suits involve some kind of institutional plaintiff (in addition to a small group of law firms). Weiss and Beckerman (1995) and Cheng, Huang, Li, and Lobo (2010) find institutional are more likely serve as the lead plaintiff for lawsuits with certain characteristics.

investor concentration experience a significant increase in the cost of debt, whereas firms with below median values do not. The difference in the increases in the cost of debt in response to UD laws between two subsamples are significant at 10%, 1%, 5%, and 1% level, respectively. Overall, findings in Table 10 are consistent with the notion that shareholder litigation is an important governance device, and impairment on such corporate governance affect a firm's cost of debt.

5.2 Ex ante firm risks

We next examine whether the increase in the cost of debt is stronger in the subsample of firms with high risks. Riskier firms have a higher cost of debt because their cash flow are more volatile and as corporate governance weakens, managers might take more actions that benefit their own pecuniary benefit at the cost of the firms. Therefore, we hypothesize that firms with higher *ex ante* business risks should experience a greater increase in the cost of debt. We split the sample based on one of the three proxies for firm risks and estimate our main regression within each subsample.

Our first proxy is the Fama-French 49 industry HHI, which measures product market competition risks. Using import tariff reductions as exogenous shocks to the product market competition, Valta (2012) shows that cost of debt is systematically higher for firms that operate in competitive product markets. Our second proxy is idiosyncratic volatility. Campbell and Taksler (2003) find that idiosyncratic firm-level volatility can explain as much

cross-sectional variation in yields as credit ratings. We define idiosyncratic volatility as the standard deviation of a company's daily stock return over the past fiscal year. Our final proxy is the Altman's Z-score (Altman, 1968). The Z-score is a proxy for a firm's default risk. Firms with a higher Z-score have better financial health and lower default risk. Therefore, firms with lower Z-score should have a higher cost of debt.

Estimation results in Table 11 are consistent with our conjectures. The effect of UD law on the cost of debt is positive and significant among firms with *ex ante* higher product market competition, idiosyncratic volatility, and lower Altman Z-score (higher bankruptcy probability). The effect of UD law on the less risky subsample is still positive, but the t-statistics reject the notion that they are statistically significant. Furthermore, the effect of UD laws on the cost of debt differs significantly between high-risk and low-risk subsamples, providing further support to the validity of the quasi-natural experiment.

6. Real Effects of the Universal Demand Laws

In this section, we examine how various firm characteristics change in response to the state-level adoption of UD laws. If the effect of UD laws on the cost of debt is truly through deteriorating internal governance and increasing firm risks, then we should observe proxies of these variables change accordingly. We examine the effect of UD laws on corporate governance, information asymmetry, managerial risk taking, and firm performance in the following section.

6.1 Corporate Governance

First, we examine whether the board of directors becomes more entrenched and corporate governance deteriorates after the UD law. We adopt five proxies: the average number of directorship, the percentage of board members who hold more than two directorships, the percentage of board members appointed during the CEO tenure, the E-index, and the G-index. Various papers have shown that directors' busyness is detrimental to board monitoring quality and shareholder value (Shivdasani and Yermack, 1999; Fich and Shivdasani, 2006; Falato, Kadyrzhanova, Lel, 2014; among others). If UD laws weaken corporate governance, then we should expect director busyness increases. We also expect the fraction of the board comprised of directors appointed after the CEO assumed office (co-option) increases after the UD laws because co-option is negatively related to boards' monitoring (Coles, Daniel, Naveen, 2014). Finally, the G-index and the E-index are two traditionally used proxies for corporate governance (Gompers, Ishii, and Metrick, 2003; Bebchuk, Cohen, and Ferrell, 2009). We expect both indexes to increase after the adoption of UD laws.

We use the same difference-in-differences regression methodology to examine how these governance proxies change after the adoption of UD laws. Table 12 presents estimation results. We find that after the adoption of UD laws, the probability of having busy directors increases by 2.5%. The average number of directorship increases by 5%. Further, a higher fraction of the board is comprised of directors appointed after the CEO assumed office,

indicating worse corporate governance. Finally, both the E-index and the G-index increase after the UD laws, suggesting that corporate governance is significantly deteriorated. Overall, the evidence here suggests that after shareholder litigation right weakened, the board becomes significantly more entrenched and corporate governance deteriorates, supporting our findings that the increased cost of debt is through weakening corporate governance.

6.2 Earnings management

The threat of shareholder litigation can discipline managerial reporting practices (Hopkins, 2014). Therefore, the adoption of UD laws should increase earnings management. To examine whether this conjecture holds, we test the relation between the adoption of UD laws and the absolute value of earnings management. The estimation result in column (1), Table 13 reveals that there is indeed a significant increase in earnings management after the adoption of UD laws, and therefore it will be more costly for debtholders to monitor.

6.3 Risk-taking

In this section, we examine whether the increase in the cost of debt is due to an increase in the firm's risk taking. Such effects can come from two sources. First, UD laws make derivative litigation more difficult and reduce the expected likelihood of derivative litigation, helping relief managers' short-term concerns and in turn encourage greater risk-taking (DeAngelo and Rice, 1983; Stein, 1988). Second, as shareholder governance weakens,

managers can use their control rights to undertake excessive risk and divert the upside gains for private benefits while leaving the costs of failure to other investors (Shleifer and Vishny, 1997; Lin, Ma, Malatesta, and Xuan, 2011), exacerbating agency conflicts between managers and shareholders as well as between managers and debtholders.

In column (2) of Table 13, we examine whether managers undertake more risk by spending more on R&D expenditures, which tend to be discretionary and risky (Kim and Lu, 2011). The coefficient on *UD* is positive and significant at better than 1% level, which reflects that managers respond to weakened shareholder litigation rights by undertaking more risk. In column (3), we examine whether managers undertake more risk by investing more in acquisitions. Consistent with our conjecture, we find that after the adoption of UD laws, firms are significantly more likely to undertake acquisitions.

As diversified acquisitions can be a tool to reduce firm risk (Gormley and Matsa, 2016), we need to distinguish which sort of acquisitions firms are more likely to involve in. To further investigate whether weakened shareholder litigation risk heightens managers' excessive risk-taking incentives, we next test whether the adoption of UD laws encourages firms to engage in more risky acquisitions. Similar to Acharya, Amihud and Litov (2011), we first examine whether weakened shareholder litigation rights lead to more horizontal mergers, and then investigate whether firms' acquisition decisions result in risk increment or risk reduction. We estimate a logit model for each merge deal:

$$\text{Horizontal}_{dklst} = \delta_1 UD_{st} + \tau_t + \omega_k + \gamma_l + \varepsilon_{dklst} \quad (3)$$

where *d* indexes merger deal, *k* indexes 2-digit SIC industry, *l* indexes states of headquarter, s indexes states of incorporate, and *t* indexes year, τ_t are year fixed effects, ω_k are acquirers' 2-digit SIC industry fixed effects, γ_l are acquirers' headquarter fixed effects, the dependent variable equals to one if the acquirer and the target are in the same 2-digit SIC industry, and zero otherwise. We cluster the standard error at the state of acquirers' incorporation level.

Estimation results in column (1) of Table 14 indicate that weakened shareholder litigation rights are associated with a higher propensity to take horizontal (same-industry) mergers. We also estimate the following OLS regression corresponding to Equation (3):

$$\text{Horizontal}_{dklst} = \delta_1 UD_{st} + \omega_{kt} + \gamma_{lt} + \varepsilon_{dklst} \quad (4)$$

where ω_{kt} are acquirers' 2-digit SIC industry-by-year fixed effects, and γ_{lt} are acquirers' headquarter-state-by-year fixed effects. The results in column (2) are similar to corresponding estimates in column (1). These results indicate that the adoption of UD laws induces horizontal mergers, which are riskier than diversified mergers.

Next, we examine the effect of weakened shareholder litigation rights on the choice of acquisition targets in terms of the recovery rate of its assets in default (hence after recovery). A higher recovery rate indicates lower risk. Specifically, we examine whether the firm chooses riskier targets given that they are involved in a diversified merger. We assign the recovery level of the industry in which they operate to firms using the data in Acharya, Bharath, and Srinivasan (2007), which employ historical experience on defaults in the U.S. over the period 1982–1999. We estimate the determinants of the occurrence of high-recovery

acquirers to acquire low-recovery targets in the following logit model:

$$\text{AH\_buy\_TL}_{dklst} = \delta_1 UD_{st} + \tau_t + \omega_k + \gamma_l + \varepsilon_{dklst} \quad (5)$$

where the whole sample includes all acquirers with high recovery and acquired a target from a different industry (*Horizontal*=0), and the targets are either low recovery (*AH_buy_TL* =1) or high recovery (*AH_buy_TL* =0). Also, we estimate an OLS regression corresponding to Equation (5). In columns (3)-(4), the coefficients on *UD* are positive and significant. That is, weakened shareholder litigation rights results in a greater likelihood of high-recovery firms acquiring low-recovery firms.

6.4 Firm Performance and Firm Risk

Finally, we examine the economic consequences of weakened shareholder litigation rights. Since the state-level adoption of UD laws weaken firms' internal governance and induce managers to engage in more earnings management, we predict that firms will have worse operating performance and higher overall risk. We examine the direct relationship between the adoption of UD laws and firms' overall risk and performances in Table 15. Consistent with our conjectures, we find that after the adoption of UD laws, performance decreases and risk increases. Specifically, in column (1), ROA decreases by almost three percent. Also, in columns (2)-(3), both systematic risk and idiosyncratic risks increase. These findings further support the notion that the effect of UD laws on the cost of debt is through both the governance and the risk-taking channels.

In addition, a substantial part of wealth creation from mergers is due to turn off underperforming targets and create synergies. We examine whether weakened litigation rights increase the likelihood of being acquired:

$$\text{Bid}_{daklst+1} = \delta_1 UD_{st} + \tau_t + \omega_k + \gamma_l + \varepsilon_{daklst} \quad (6)$$

where the dependent variable is an indicator variable that takes the value of one if the firm receives at least one acquisition bid in year t, and zero otherwise. In column (4), the coefficient on UD suggests a positive effect of the policy change on the firm's likelihood of being acquired. These results imply that weakened shareholder litigation rights deteriorate firm value, and such effects dominate the deterrence effects of increased anti-takeover provisions following the enactment of UD laws (Appel, 2015).

Lastly, we consider whether shareholders respond to weakened litigation rights by reducing managerial risk-taking incentives. Previous studies argue that equity-based compensation can encourage managerial risk-taking (Coles, Daniel, and Naveen, 2006). Therefore, we use vega to measure the CEO risk-taking incentive. In column (4), we find that CEO vega decreases following the adoption of the UD laws, indicating that shareholders provide managers with weaker incentives for risk-taking to counteract the adverse effects of increased firm risk.

7. Conclusions

Shareholder litigation rights are of vital importance to firms. However, how debtholders

view such rights remains largely unexplored. Exploiting the staggered adoption of UD laws among 23 states from 1985 to 2005 as exogenous shocks to shareholder litigation rights, we find that weakened shareholder litigation rights increase the cost of debt. We conduct a battery of tests to check the validity of our identification strategy and the robustness of our findings. Also, we explore cross-sectional variation and find that the effect of UD laws on the cost of debt varies in a theoretically predictable pattern. Finally, we find that the state-level adoption of UD laws leads to significant changes in firm characteristics. Overall, we provide comprehensive on that when shareholder litigation right weakens, the cost of debt goes up because of deteriorated corporate governance, increased information asymmetry, and heightened managerial risk-taking incentives, suggesting that shareholder litigation rights are important to debtholders.

References

Acharya, V.V., Amihud, Y. and Litov, L., 2011. Debtholder rights and corporate risk-taking. *Journal of Financial Economics 102*, 150-166.

Acharya, V.V., Bharath, S.T. and Srinivasan, A., 2007. Does industry-wide distress affect defaulted firms? Evidence from debtholder recoveries. *Journal of Financial Economics 85*, 787-821.

Acharya, V.V., Baghai, R.P. and Subramanian, K.V., 2014. Wrongful discharge laws and innovation. *Review of Financial Studies* 27, 301-346.

Altman, E.I., 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *Journal of Finance 23*, 589-609.

Angrist, Joshua D., and Jorn-Steffen Pischke. 2009. Mostly Harmless Econometrics, Princeton University Press: New Jersey.

Appel, I., 2015. Governance by Litigation. Unpublished working paper.

Bebchuk, L., Cohen, A. and Ferrell, A., 2009. What matters in corporate governance? *Review of Financial Studies 22*, 783-827.

Bertrand, M. and Mullainathan, S., 2003. Enjoying the quiet life? Corporate governance and managerial preferences. *Journal of Political Economy 111*, 1043-1075.

Billett, M.T., Hribar, P. and Liu, Y., 2015. Shareholder-manager alignment and the cost of debt. Unpublished working paper.

Bradley, M., and M. Roberts. 2004. The Structure and Pricing of Corporate Debt Covenants. Unpublished working paper.

Campbell, J.Y. and Taksler, G.B., 2003. Equity volatility and corporate bond yields. *The Journal of Finance 58*, 2321-2350.

Chava, S. and Roberts, M.R., 2008. How does financing impact investment? The role of debt covenants. *Journal of Finance 63*, 2085-2121.

Chava, S., Livdan, D. and Purnanandam, A., 2009. Do shareholder rights affect the cost of bank loans? *Review of Financial Studies 22*, 2973-3004.

Cheng, C.A., Huang, H.H., Li, Y. and Lobo, G., 2010. Institutional monitoring through shareholder litigation. *Journal of Financial Economics 95*, 356-383.

Chu Y, Zhao Y., 2016, The dark side of shareholder litigation: Evidence from corporate takeovers. Unpublished working paper.

Chu Y., 2016, Shareholder litigation, shareholder-debtholder conflict, and the cost of bank loans. Unpublished working paper.

Coles, J.L., Daniel, N.D. and Naveen, L., 2006. Managerial incentives and risk-taking. *Journal of Financial Economics 79*, 431-468.

Coles, J.L., Daniel, N.D. and Naveen, L., 2014. Co-opted boards. *Review of Financial Studies 27*, 1751-1796.

Davis, K.B., 2008. The forgotten derivative suit, *Vanderbilt Law Review* 61, 387–451.

DeAngelo, H. and Rice, E.M., 1983. Antitakeover charter amendments and stockholder wealth. *Journal of Financial Economics 11*, 329-359.

Dechow, P.M., Sloan, R.G. and Sweeney, A.P., 1995. Detecting earnings management. *The Accounting Review*, 193-225.

Dehejia, R.H. and Wahba, S., 2002. Propensity score-matching methods for nonexperimental causal studies. *Review of Economics and Statistics 84*, 151-161.

Deng, S., Willis, R.H. and Xu, L., 2014. Shareholder litigation, reputational loss, and bank loan contracting. *Journal of Financial and Quantitative Analysis 49*, 1101-1132.

Derrien, F., Kecskés, A. and Mansi, S.A., 2016. Information asymmetry, the cost of debt, and credit events: Evidence from quasi-random analyst disappearances. *Journal of Corporate Finance*, forthcoming.

Donelson, D.C. and Yust, C.G., 2014. Litigation risk and agency costs: Evidence from nevada corporate law. *Journal of Law and Economics 57*, 747-780.

Erickson, Jessica, 2010, Corporate governance in the courtroom: An empirical analysis. *William & Mary Law Review* 51, 1749–1831.

Falato, A., Kadyrzhanova, D. and Lel, U., 2014. Distracted directors: Does board busyness hurt shareholder value?. *Journal of Financial Economics 113*, 404-426.

Faulkender, M. and Petersen, M.A., 2006. Does the source of capital affect capital structure?. *Review of Financial Studies 19*, 45-79.

Ferris, S.P., Jandik, T., Lawless, R.M. and Makhija, A., 2007. Derivative lawsuits as a corporate governance mechanism: Empirical evidence on board changes surrounding filings. *Journal of Financial and Quantitative Analysis* 42, 143.

Fich, E.M. and Shivdasani, A., 2006. Are busy boards effective monitors? *Journal of Finance 61*, 689-724.

Fich, Eliezer, and Anil Shivdasani, 2007, Financial fraud, director reputation, and shareholder wealth, *Journal of Financial Economics* 86, 306–336.

Gompers, P., Ishii, J. and Metrick, A., 2003. Corporate Governance and Equity Prices. The *Quarterly Journal of Economics* 118, 107-155.

Gormley, T.A. and Matsa, D.A., 2011. Growing out of trouble? Corporate responses to liability risk. *Review of Financial Studies 24*, 2781-2821.

Gormley, T.A. and Matsa, D.A., 2014. Common errors: How to (and not to) control for unobserved heterogeneity. *Review of Financial Studies 27*, 617-661.

Gormley T A, Matsa D A. 2016, Playing it safe? Managerial preferences, risk, and agency conflicts. *Journal of Financial Economics*, forthcoming.

Graham, J.R., Li, S. and Qiu, J., 2008. Corporate misreporting and bank loan contracting. *Journal of Financial Economics 89*, 44-61.

Hirsch, B T., Macpherson D A, Wayne V., 2001. Estimates of union density by state. *Monthly Labor Review* 124, 51-55.

Hopkins, J., 2014. Does the Threat of Securities Litigation Deter Earnings Management? Unpublished working paper.

Houston J F, Lin C, Xie W. 2016. Shareholder protection and the cost of capital. Unpublished working paper.

Ivashina, V., 2009. Asymmetric information effects on loan spreads. *Journal of financial Economics 92*, 300-319.

Jensen, M.C. and Ruback, R.S., 1983. The market for corporate control: The scientific evidence. *Journal of Financial Economics 11*, 5-50.

John, K., Litov, L. and Yeung, B., 2008. Corporate governance and risk‐taking. *Journal of Finance* 63, 1679-1728.

Johnson, M.F., Kasznik, R. and Nelson, K.K., 2000. Shareholder wealth effects of the private securities litigation reform act of 1995. *Review of Accounting Studies 5*, 217-233.

Karpoff, J.M. and Wittry, M.D., 2015. Institutional and political economy considerations in natural experiments: The case of state antitakeover laws. Unpublished working paper.

Khanna, V., Kim, E. and Lu, Y., 2015. CEO connectedness and corporate fraud. *Journal of Finance 70*, 1203-1252.

Kim E H, Lu Y., 2011. CEO ownership, external governance, and risk-taking. *Journal of Financial Economics* 102, 272-292.

Kinney T P., 1994. Stockholder derivative suits: Demand and futility where the board fails to stop wrongdoers. *Marquette Law Review* 78, 172-189.

Klock, M.S., Mansi, S.A. and Maxwell, W.F., 2005. Does corporate governance matter to bondholders? *Journal of Financial and Quantitative Analysis 40*, 693-719.

Kraakman R, Park H, Shavell S., 1993. When are shareholder suits in shareholder interests. *Georgia Law Journal* 82, 1733-2571.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R., 2000. Investor protection and corporate governance. *Journal of Financial Economics 58*, 3-27.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R.W., 1998. Law and Finance. *Journal of Political Economy 106*, 1113-55

LaPorta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R.W., 1997. Legal determinants of external finance. *Journal of Finance* 52, 1131-1150

Lin, C., Ma, Y., Malatesta, P. and Xuan, Y., 2011. Ownership structure and the cost of corporate borrowing. *Journal of Financial Economics 100*, 1-23.

Lin, C., Officer, M.S., Wang, R. and Zou, H., 2013. Directors' and officers' liability insurance and loan spreads. *Journal of Financial Economics 110*, 37-60.

Liu, C., Aharony, J., Richardson, G. and Yawson, A., 2016. Corporate litigation and changes in CEO reputation: Guidance from US Federal Court lawsuits. *Journal of Contemporary Accounting & Economics 12*, 15-34.

Low, A., 2009. Managerial risk-taking behavior and equity-based compensation. *Journal of Financial Economics 92*, 470-490.

MacKIE‐MASON, J.K., 1990. Do taxes affect corporate financing decisions?. *Journal of Finance 45*, 1471-1493.

Nini, G., Smith, D.C. and Sufi, A., 2009. Debtholder control rights and firm investment policy. *Journal of Financial Economics 92*, 400-420.

Prevost, A.K., Rao, R.P. and Skousen, C.J., 2008. Earnings management and the cost of debt. Unpublished working paper.

Qiu, J. and Yu, F., 2009. The market for corporate control and the cost of debt. *Journal of Financial Economics 93*, 505-524.

Romano, R., 1991. The shareholder suit: litigation without foundation? *Journal of Law, Economics, & Organization 7*, 55-87.

Rosenbaum, P.R. and Rubin, D.B., 1983. The central role of the propensity score in observational studies for causal effects. *Biometrika 70*, 41-55.

Shivdasani, A. and Yermack, D., 1999. CEO involvement in the selection of new board members: An empirical analysis. *Journal of Finance 54*, 1829-1853.

Smith, C.W. and Warner, J.B., 1979. On financial contracting: An analysis of bond covenants. *Journal of Financial Economics 7*, 117-161.

Stein, J.C., 1988. Takeover threats and managerial myopia. *Journal of Political Economy*, 61-80.

Sufi, A., 2009. Bank lines of credit in corporate finance: An empirical analysis. *Review of Financial Studies 22*, 1057-1088.

Sunder J, Sunder S V, Wongsunwai W., 2014. Debtholder responses to shareholder activism: Evidence from hedge fund interventions[J]. *Review of Financial Studies 27*, 3318-3342.

Swanson C B., 1992. Juggling shareholder rights and strike suits in derivative litigation: The ALI drops the bell. *Minnesota Law Review* 77, 1339-1443.

Valta, P., 2012. Competition and the cost of debt. *Journal of Financial Economics 105*, 661-682.

Weiss, E.J. and Beckerman, J.S., 1995. Let the money do the monitoring: How institutional investors can reduce agency costs in securities class actions. *The Yale Law Journal 104*, 2053-2127.

Yuan Q, Zhang Y., 2015. Do banks price litigation risk in debt contracting? Evidence from class action lawsuits. *Journal of Business Finance & Accounting* 42, 1310-1340.

Appendix A: Variable definitions

Variable	Definition
Firm characteristics:	
Log(assets)	Natural log of total assets.
MB	Market to book ratio = (Market value of equity plus the book value of debt)/total assets
Leverage	(Long-term debt + debt in current liabilities) / total assets
Tangibility	Property, plant, and equipment / total assets
Z-score	Altman's (1968) Z-score
Modified Z-score	Modified Altman's (1968) Z-score from MacKie-Mason (1990)
Profitability	EBITDA/total assets
Cfvol	Cash flow volatility is the standard deviation of the ratio of income before extraordinary items plus depreciation and amortization to book assets over the past four years
Incorporation state	The historical state of incorporation
Headquarter state	The historical headquarter state
Cboard	Staggered board data provided by Lucian Bebchuk. http://www.law.harvard.edu/faculty/bebchuk/data.shtml
G-index	Anti-takeover index created by Gompers, Ishii, and Metrick (2003). It equals to the sum of 24 governance provisions.
E-index	Entrenchment index created by Bebchuk, Cohen, and Ferrell (2009). It equals to the sum of 6 governance provisions.
Idio Vol	Idiosyncratic volatility is the annualized standard deviation of the residuals from regressing daily individual stock returns over the fiscal year on the contemporaneous CRSP value-weighted market returns
HHI (ff49)	Herfindahl-Hirschman Index at the Fama-French 49 industry level
Earnings management	The absolute value of discretionary accruals calculated using modified Jones model follow Dechow, Sloan, Sweeney (1995)
Co-option	The fraction of the board comprised of directors appointed after the CEO assumed office. This data is kindly provided by Lalitha Naveen at Temple University.
Board size	Number of directors on the board.
R&D	R&D expenditure (xrd) / total assets
Acquisition	Acquisition (aqc) / total assets.
Busy director	A director who sits on the boards of three or more firms.
Busy board	The number of busy independent directors divided by the number of total independent directors.

N Directorship	Average number of directorship independent directors hold
Vega	Vega is the dollar increase in a CEO's portfolio wealth for a 0.01 increase in the standard deviation of underlying stock volatility.

Loan characteristics:

Log(spread)	Natural log of loan spread. Loan spread is measured as all-in spread drawn in the Dealscan database. All-in spread drawn is defined as the amount the borrower pays in basis points over LIBOR or LIBOR equivalent for each dollar drawn down. (For loans not based on LIBOR, LPC converts the spread into LIBOR terms by adding or subtracting a differential which is adjusted periodically.) This measure adds the borrowing spread of the loan over LIBOR with any annual fee paid to the bank group.
Cod_Weighted	The weighted average cost of debt. It equals the natural logarithm of the sum of the loan spread for each private loan borrowed by firm *i* in year *t*, weighted by the amount of that loan.
Log(loan size)	Natural log of the loan facility amount. The loan amount is measured in millions of dollars.
Log(loan maturity)	Natural log of the loan maturity. Maturity is measured in months.

Acquisition-deal characteristics:

Horizontal	Indicator equals to one if the acquirer and the target come from the same SIC2 industry.
AH-buy-TL	Indicator equals to one if the acquirer comes from a high-recovery industry and the target comes from a low-recovery industry. The high/low-recovery industries are defined in Acharya, Amihud, and Litov (2011).
Bid	Indicator equals to one if the firm receives at least one acquisition bid in year t.

Law changes:

UD Law	Indicator equals to one if the firm's incorporated state passed Universal Demand Law (UD) in year t.
BC Law	Indicator equals to one if the firm's incorporated state passed Business Combination Law (BC) in year t.
CS Law	Indicator equals to one if the firm's incorporated state passed

	Control Share Acquisition Law (CS) in year t.
FP Law	Indicator equals to one if the firm's incorporated state passed Fair Price Law (FP) in year t.
DD Law	Indicator equals to one if the firm's incorporated state passed Directors' Duties Law (DD) in year t.
PP Law	Indicator equals to one if the firm's incorporated state passed Poison Pill Law (PP) in year t.

Table 1 Universal Demand Legislation

This table lists in chronological order the adoption of Universal Demand Laws (UD) by 23 states from 1989 to 2005.

Year of Adoption	State	Citation
1989	GA	Georgia Code Ann. §14-2-742
	MI	Michigan Comp. Laws Ann. §450.1493a
1990	FL	Florida Stat. Ann. §607.07401
1991	WI	Wisconsin Stat. Ann. §180.742
1992	MT	Montana Code. Ann. §35-1-543
	VA	Texas Bus. Org. Code. Ann. 607.07401
	UT	Utah Code. Ann. §16-10a-740(3)
1993	NH	New Hampshire Rev. Stat. Ann. §293-A:7.42
	MS	Mississippi Code Ann. §79-4-7.42
1995	NC	North Carolina Gen. Stat. §55-7-42
1996	AZ	Arizona Rev. Stat. Ann. §10-742
	NE	Nebraska Rev. Stat. §21-2072
1997	CT	Connecticut Gen. Stat. Ann. §33-722
	ME	Maine Rev. Stat. Ann. 13-C, §753
	PA	*Cuker v. Mikalauskas* (547 Pennsylvania. 600, 692 A.2d 1042)
	TX	Texas Bus. Org. Code. Ann. 607.07401
	WY	Wyoming Stat. §17-16-742
1998	ID	Idaho Code §30-1-742
2001	HI	Hawaii Rev. Stat. §414-173
2003	IA	Iowa Code Ann. §490.742
2004	MA	Massachusetts Gen. Laws. Ann. Ch. 156D, §7.42
2005	RI	Rhode Island Gen. Laws. §7-1.2-710(C)
	SD	South Dakota Codified Laws 47-1A-742

Table 2 Summary Statistics

This table reports summary statistics of main variables for the full sample from 1985 to 2009. Accounting variables are winsorized at their 1st and 99th percentiles. Appendix A provides definitions of all variables

Variable	N	Mean	SD	Min	Median	Max
UD Law	111,006	0.096	0.295	0	0	1
Log(spread)	26,725	4.959	0.817	0.993	5.165	7.313
Cod_Weighted	16,079	4.845	0.810	0.993	5.492	7.090
Log(assets)	111,412	5.665	1.746	3.026	5.446	11.616
Market-to-book	99,681	1.926	1.507	0.446	1.444	13.937
Leverage	110,940	0.272	0.257	0.000	0.225	1.488
Tangibility	110,786	0.497	0.379	0.005	0.404	2.122
Z-score	88,860	4.541	6.907	-14.204	3.164	77.612
Profitability	111,153	-0.019	0.199	-1.860	0.029	0.349
Cash	111,345	0.168	0.216	0.000	0.072	0.960
Cash flow volatility	103,856	0.021	0.023	0.002	0.013	0.205
Log(loan size)	26,725	11.753	1.016	2.347	11.853	16.683
Log(loan maturity)	26,725	3.675	0.689	0.000	3.892	7.788
BC Law	111,006	0.882	0.323	0	1	1
CS Law	111,412	0.005	0.067	0	0	1
FP Law	111,412	0.004	0.062	0	0	1
DD Law	111,412	0.008	0.090	0	0	1
PP Law	111,412	0.007	0.083	0	0	1
Cboard	29,567	0.542	0.498	0	1	1
G-index	11,969	9.077	2.761	1	9	18
E-index	29,590	2.258	1.362	0	2	6
Idio Vol	85,629	0.034	0.021	0.000	0.029	0.817
Log(forecast dispersion)	60,362	0.030	0.312	0.000	0.002	18.859
CEO Vega	27,242	160.01	350.12	0	61.73	12047.8
HHI (ff49)	111,412	0.088	0.081	0.013	0.068	1.000
Earnings management	99,910	0.084	0.138	0.000	0.048	6.408
% independent	22,234	0.696	0.176	0.000	0.727	1.000
Board size	22,234	9.025	2.335	1	9	22
R&D	86,251	0.472	0.102	0	0	0.562
Acquisition	106,717	0.033	0.085	0	0	0.642
Busy board	20,917	0.264	0.226	0.000	0.250	1.000
N Directorship	20,917	1.971	0.669	1.000	1.875	7.778
Co-option	19,792	0.420	0.289	0.000	0.400	1.000

Table 3 Determinants of Adopting a UD Law

This table reports the results from a Cox proportional hazard model analyzing the hazard of a state adopting a UD law. The sample period is from 1985 to 2009. A failure event is the adoption of a UD law. Once a state adopts a UD law, it drops from the sample. All variables are lagged by one year. Standard errors are clustered at the state level. Z-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

	(1)	(2)
State Cost of Debt	0.874	0.882
	(-0.22)	(-0.25)
State Unemployment Rate		0.920
		(-0.25)
State Union Percentage		0.876
		(-1.61)
State Per Capita Income		1.000
		(0.38)
State GDP Growth		0.011
		(-0.45)
State GDP		1.000
		(0.76)
N	470	470
Pseudo R^2	0.001	0.075

Table 4 Effect of UD Laws on the Cost of Bank Debt

This table reports our baseline regression results of the effect of UD laws on the cost of private bank loans from 1985 to 2009. The dependent variable in columns (1) to (3) is the Log(loan spread). The dependent variable in columns (4) – (6) is the weighted average cost of private bank loans of firm i in year t. UD is an indicator variable that equals one if a firm is incorporated in a state that has adopted a UD law and zero otherwise. Columns (1) and (4) include firm fixed effects and year fixed effects. Columns (2) and (5) include firm fixed effects and industry-by-year fixed effects. Columns (3) and (6) include firm fixed effects, headquarter-state-by-year fixed effects, and industry-by-year fixed effects. Industry is defined at the 2-digit SIC level. Standard errors are clustered at the state of incorporation level. Heteroscedasticity-robust t-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

	Log(spread)			Weighted average cost of debt		
	(1)	(2)	(3)	(4)	(5)	(6)
UD Law	0.084**	0.113***	0.090***	0.087**	0.108***	0.106***
	(2.53)	(4.06)	(2.90)	(2.54)	(3.57)	(2.93)
Firm FE	Y	Y	Y	Y	Y	Y
Year FE	Y	N	N	Y	N	N
State-year FE	N	N	Y	N	N	Y
Industry-year FE	N	Y	Y	N	Y	Y
N	22,175	22,175	22,175	12,966	12,966	12,966
Adjusted R^2	0.681	0.703	0.721	0.677	0.689	0.695

Table 5 Effect of UD Laws on the Cost of Bank Debt: Dynamic Effects

This table reports the dynamic effects of UD laws on the cost of private bank loans from 1985 to 2009. The dependent variable in column (1) is the Log(loan spread). The dependent variable in column (2) is the weighted average cost of private bank loans of firm i in year t. UD^{-1} is an indicator variable equals one if a firm is incorporated in a state that will pass a UD law in one year and zero otherwise. UD^{0} is an indicator variable equals one if a firm is incorporated in a state that will pass a UD law in the current year and zero otherwise. UD^{+1} is an indicator variable equals one if a firm is incorporated in a state that has passed a UD law one year ago and zero otherwise. UD^{2+} is an indicator variable equals one if a firm is incorporated in a state that has passed a UD law two or more years ago and zero otherwise. Both columns include firm fixed effects, headquarter-state-by-year fixed effects, and industry-by-year fixed effects. The industry is defined at the 2-digit SIC level. Standard errors are clustered at the state of incorporation level. Heteroscedasticity-robust t-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

	Log(spread)	Weighted average cost of debt
	(1)	(2)
UD^{-1}	0.040	0.062
	(0.54)	(0.91)
UD^{0}	0.110*	0.147**
	(1.72)	(2.38)
UD^{+1}	0.062	0.089
	(0.75)	(1.53)
UD^{2+}	0.126**	0.146***
	(2.52)	(2.91)
Firm FE	Y	Y
State-year FE	Y	Y
Industry-year FE	Y	Y
N	19,896	11,491
Adjusted R^2	0.726	0.698

Table 6 Effect of UD Laws on the Cost of Bank Debt: Endogenous Controls

This table reports regression results of the effect of UD laws on the cost of private bank loans from 1985 to 2009 using the standard specification with various endogenous controls. The dependent variable in column (1) is the Log(loan spread). The dependent variable in column (2) is the weighted average cost of private bank loans of firm i in year t. UD is an indicator variable that equals one if a firm is incorporated in a state that has adopted a UD law and zero otherwise. Column (1) includes various firm-level and deal-level control variables, loan type fixed effects, loan purpose fixed effects, firm fixed effects, and year fixed effects. Column (2) includes only firm-level control variables, firm fixed effects, and year fixed effects. Appendix A provides definitions of all the variables. Accounting variables are winsorized at their 1st and 99th percentiles. Standard errors are clustered at the state of incorporation level. Heteroscedasticity-robust t-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

	Log(spread)	Weighted average cost of debt
	(1)	(2)
Universal Demand Law (UD)	0.066**	0.075*
	(2.00)	(1.73)
Size	-0.245***	-0.302***
	(-18.19)	(-16.38)
Market to book	-0.038	-0.042
	(-1.36)	(-1.66)
Leverage	0.635***	0.764***
	(18.62)	(23.37)
Tangibility	-0.259***	-0.338***
	(-7.80)	(-9.65)
Modified Altman Z-score	-0.067***	-0.080***
	(-8.94)	(-5.20)
ROA	-0.164**	-0.062
	(-2.13)	(-0.84)
Cash	0.278**	0.256*
	(2.35)	(1.96)
Cash flow volatility	1.269	1.416
	(1.38)	(1.32)
Loan size	-0.072***	
	(-13.92)	
Loan maturity	-0.039***	
	(-3.55)	
Loan Type FE	Y	N
Loan Purpose FE	Y	N

Firm FE	Y	Y
Year FE	Y	Y
N	17,383	9,865
Adjusted R^2	0.762	0.753

Table 7 Effect of UD Laws on the Cost of Bank Debt: Robustness Checks

This table reports the results from two robustness tests. The dependent variable in column (1) and (2) is the Log(loan spread). The dependent variable in columns (3) and (4) is the weighted average cost of private bank loans of firm i in year t. UD is an indicator variable equals one if a firm is incorporated in a state that has passed a UD law and zero otherwise. Columns (1) and (3) drop all firms that incorporate or headquarter in the Ninth Circuit states: Alabama, Arizona, California, Hawaii, Idaho, Nevada, Oregon, and Washington. Columns (2) and (4) restrict the sample of treated firms to Pennsylvania, where universal demand law was implemented by the state supreme court in 1997. All four columns include firm fixed effects, headquarter-state-by-year fixed effects, and industry-by-year fixed effects. The industry is defined at the 2-digit SIC level. Standard errors are clustered at the state of incorporation level. Heteroscedasticity-robust t-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

	Log(spread)		Weighted average cost of debt	
	Drop Ninth Circuit	Pennsylvania	Drop Ninth Circuit	Pennsylvania
	(1)	(2)	(3)	(4)
UD Law	0.105***	0.183***	0.115***	0.195***
	(3.17)	(4.55)	(3.14)	(4.70)
Firm FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
N	21,084	19,979	12,249	11,598
Adjusted R^2	0.722	0.728	0.695	0.701

Table 8 Effect of UD Laws on the Cost of Bank Debt: Confounding Effects

This table reports the regression results of the effect of UD laws on the cost of bank loans from 1985 to 2009 after controlling for confounding law changes. Confounding laws include control share acquisition laws (CS), business combination laws (BC), fair price laws (FP), directors' duties laws (DD), and poison pill laws (PP). The adoption date for each of the laws is provided by Karpoff and Wittry (2015). The dependent variable in Panel A is the Log(loan spread). The dependent variable in Panel B is the weighted average cost of private bank loans of firm i in year t. UD is an indicator variable that equals one if a firm is incorporated in a state that has passed a UD law and zero otherwise. CS is an indicator variable that equals one if a firm is incorporated in a state that has passed a CS law and zero otherwise. BC is an indicator variable that equals one if a firm is incorporated in a state that has passed a BC law and zero otherwise. FP is an indicator variable that equals one if a firm is incorporated in a state that has passed an FP law and zero otherwise. DD is an indicator variable that equals one if a firm is incorporated in a state that has passed a DD law and zero otherwise. PP is an indicator variable that equals one if a firm is incorporated in a state that has passed a PP law and zero otherwise. All columns include firm fixed effects, headquarter-state-by-year fixed effects, and industry-by-year fixed effects. The industry is defined at the 2-digit SIC level. Standard errors are clustered at the state of incorporation level. Heteroscedasticity-robust t-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Panel A: Deal-level Cost of Debt						
	(1)	(2)	(3)	(4)	(5)	(6)
UD Law	0.086***	0.093***	0.091***	0.092***	0.093***	0.082**
	(2.73)	(2.99)	(2.92)	(2.95)	(2.96)	(2.60)
Confounding Laws:						
CS Law	-0.237					-0.219
	(-1.22)					(-1.15)
FP Law		0.206				0.261
		(0.77)				(0.89)
DD Law			-0.155			-0.139
			(-1.51)			(-1.43)
PP Law				-0.106		-0.077
				(-0.84)		(-0.61)
BC Law					0.037	0.025
					(0.27)	(0.18)
Firm FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
N	22,175	22,175	22,175	22,175	22,175	22,175
Adjusted R^2	0.722	0.722	0.722	0.722	0.722	0.722

Panel B: Firm-level Weighted Average Cost of Debt

	(1)	(2)	(3)	(4)	(5)	(6)
UD Law	0.089**	0.096***	0.091**	0.092***	0.095***	0.083**
	(2.66)	(2.90)	(2.56)	(2.73)	(2.86)	(2.33)
Confounding Laws:						
CS Law	-0.211					-0.189
	(-1.14)					(-1.07)
FP Law		0.240				0.299
		(0.93)				(1.04)
DD Law			-0.199*			-0.181
			(-1.68)			(-1.56)
PP Law				-0.136		-0.096
				(-1.06)		(-0.73)
BC Law					0.006	0.004
					(0.05)	(0.03)
Firm FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
N	12,966	12,966	12,966	12,966	12,966	12,966
Adjusted R^2	0.683	0.683	0.683	0.683	0.682	0.683

Table 9 Effect of UD Laws on the Cost of Bank Debt: Propensity Score Matching

This table explores the impact of the adoption of the UD laws on firms' cost of debt capital using a propensity score matched sample and the window ±5 years around the adoption of this law. The treatment and control groups consist of firms incorporated in states that adopt and do not adopt a UD law, respectively. We first use a Logistic regression to estimate the probability of being a treated firm on Log(assets), market-to-book, cash, leverage, tangibility, and Altman Z-Score, and estimate the propensity score. We then match each treatment firm in year t-1 to a control firm (with replacement) on the year, three-digit SIC industry, and require the propensity scores for each matched pair to be within 1% of each other. Panel A present post-match diagnostic tests. Column (1) and (2) present the mean value of the matching variables from the treated and control groups. Column (3) presents t-statistics from t-tests that compare the mean value between two groups. Column (4) presents the p-value from the t-tests. Panel B presents the results from estimating the impact of the adoption of the UD laws on the cost of debt on the propensity score matched sample. The dependent variable in column (1) is Log(loan spread). The dependent variable in column (2) is the weighted average cost of private bank loans of firm i in year t. UD is an indicator variable that equals one if a firm is incorporated in a state that has passed a UD law and zero otherwise. The details of definitions and measurements of all variables are reported in the Appendix A. All four columns include firm fixed effects, headquarter-state-by-year fixed effects, and industry-by-year fixed effects. The industry is defined at the 2-digit SIC level. Standard errors are clustered at the state of incorporation level. Heteroscedasticity-robust t-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Panel A: Post-match diagnostic test

	Mean Treated	Mean Control	T-value	p>|t|
	(1)	(2)	(3)	(4)
Log(assets)	4.9075	4.8829	0.53	0.597
Market-to-book	1.5451	1.5273	0.61	0.541
Cash	0.1174	0.1187	-0.26	0.798
Leverage	0.2419	0.2404	0.23	0.816
Tangibility	0.5765	0.5735	0.26	0.798
Altman Z Score	4.5751	4.5127	0.43	0.67

Panel B: Effect on PSM matched sample

	Log(spread)	Weighted average cost of debt
	(1)	(2)
Universal Demand Law (UD)	0.129**	0.116*
	(2.12)	(1.78)
Firm FE	Y	Y

State-year FE	Y	Y
Industry-year FE	Y	Y
N	4,650	3,788
Adjusted R^2	0.825	0.851

Table 10: Effect of UD Laws on the Cost of Bank Debt: Heterogeneity with Respect to Ex ante Probability of Facing a Derivative Lawsuit

This table reports the effects of UD laws on the cost of debt among different subsets of firms using the triple differences methodology of Gormley and Matsa (2011). The dependent variable is Log(loan spread). It contains firm-panel regressions of the cost of debt on an indicator for whether a firm's state of incorporation has adopted a UD Law, firm fixed effects, state of location-by-year fixed effects, and 2-digit SIC industry-by-year fixed effects. The data include firm-year-cohort observations in the 5 years before and 5 years after the adoption of each UD law. The sample is split into two subsamples based on the median value of E-index, G-index, total institutional ownership, and institutional ownership HHI from Columns (1) to (4), respectively. Panel A restricts the sample to firms with above median value for each variable in the year before a UD law's adoption. Panel B restricts the sample to firms with below median value for each variable in the year before a UD law's adoption. Continuous variables are winsorized at their 1st and 99th percentiles. Appendix A provides definitions of all variables. Standard errors are clustered at the state of incorporation level. Heteroscedasticity-robust t-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

	E-index	G-index	Total IO	IO HHI
	(1)	(2)	(3)	(4)
Panel A: Firms with above median value in year t-1				
UD Law	0.389**	0.597***	0.254***	0.282***
	(2.26)	(3.29)	(3.27)	(4.78)
N	4,577	3,329	13,599	11,678
Adjusted R^2	0.831	0.890	0.739	0.772
Panel B: Firms with below median value in year t-1				
UD Law	0.040	0.060	0.090	-0.032
	(0.32)	(0.37)	(1.11)	(-0.33)
N	6,939	3,606	6,714	8,462
Adjusted R^2	0.843	0.931	0.830	0.861
Firm FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
Difference	0.349*	0.537***	0.164**	0.314***

Table 11: Effect of UD Laws on the Cost of Bank Debt: Heterogeneity with Respect to Ex ante Firm Risks

This table reports the effects of UD laws on the cost of debt among different subsets of firms using the triple differences methodology of Gormley and Matsa (2011). The dependent variable is Log(loan spread). It contains firm-panel regressions of the cost of debt on an indicator for whether a firm's state of incorporation has adopted a UD Law, firm fixed effects, state of location-by-year fixed effects, and 2-digit SIC industry-by-year fixed effects. The data include firm-year-cohort observations in the 5 years before and 5 years after the adoption of each BC law. The sample is split into two subsamples based on the median value of Fama-French 49 industry HHI, stock return volatility, and Altman Z-score from columns (1) to (3), respectively. Panel A restricts the sample to firms with above median value for each variable in the year before a UD law's adoption. Panel B restricts the sample to firms with below median value for each variable in the year before a UD law's adoption. Continuous variables are winsorized at their 1st and 99th percentiles. Appendix A provides definitions of all variables. Standard errors are clustered at the state of incorporation level. Heteroscedasticity-robust t-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

	FF49 HHI	Stock Return Volatility	Altman Z-Score
	(1)	(3)	(4)
Panel A: Firms with above median value in year T-1			
UD Law	0.258***	0.256***	0.040
	(5.33)	(2.81)	(0.42)
N	21,197	32,477	18,632
Adjusted R^2	0.817	0.794	0.841
Panel B: Firms with below median value in year T-1			
UD Law	0.114*	0.057	0.298***
	(1.77)	(0.76)	(4.31)
N	22,640	12,088	30,366
Adjusted R^2	0.793	0.812	0.793
Firm FE	Y	Y	Y
State-year FE	Y	Y	Y
Industry-year FE	Y	Y	Y
Difference	0.144*	0.206**	-0.258***

Table 12 The Real Impact of UD Laws on Corporate Governance

This table reports the regression results of the effect of UD laws on corporate governance from 1985 to 2009. The dependent variable in columns (1) – (5) is the percent of busy independent directors, the average number of directorship independent directors hold, co-opt board, E-index, and G-index. UD Law is an indicator variable that equals one if a firm's state of incorporation has adopted a UD Law and zero otherwise. The details of definitions and measurements of all variables are reported in the Appendix A. All regression specifications include firm fixed effects, headquarter-state-by-year fixed effects, and industry-by-year fixed effects. Continuous variables are winsorized at their 1st and 99th percentiles. Standard errors are clustered at the state of incorporation level. Heteroscedasticity-robust t-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

	Busy board	N Directorship	Co-option	E-Index	G-Index
	(1)	(2)	(3)	(4)	(5)
UD Law	0.025**	0.050**	0.126***	0.190*	0.659**
	(2.24)	(2.42)	(9.60)	(1.69)	(2.28)
Firm FE	Y	Y	Y	Y	Y
State-Year FE	Y	Y	Y	Y	Y
Industry-Year FE	Y	Y	Y	Y	Y
N	17,879	17,879	17,034	25,456	9,938
Adjusted R^2	0.622	0.651	0.434	0.767	0.899

Table 13 The Impact of UD law on Firm Characteristics

This table reports the effect of universal demand (UD) laws on firm characteristics from 1985 to 2009. The dependent variable in columns (1) to (3) is the earnings management value calculated using modified Jones model, R&D expenditure to total assets, and acquisition expenditure to total assets. UD Law is an indicator variable that equals one if a firm's state of incorporation has adopted a UD Law and zero otherwise. The details of definitions and measurements of all variables are reported in the Appendix A. All regression specifications include firm fixed effects, headquarter-state-by-year fixed effects, and industry-by-year fixed effects. Continuous variables are winsorized at their 1st and 99th percentiles. Standard errors are clustered at the state of incorporation level. Heteroscedasticity-robust t-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

	Earnings management	R&D	Acquisition
	(1)	(2)	(3)
UD Law	0.007**	0.002***	0.004***
	(2.10)	(2.43)	(4.00)
Firm FE	Y	Y	Y
State-Year FE	Y	Y	Y
Industry-Year FE	Y	Y	Y
N	70,564	75,367	72,101
Adjusted R^2	0.25	0.84	0.15

Table 14 The Impact of UD Law on Acquisition Target Selection

This table reports the effect of universal demand (UD) laws on the choice of acquisition targets from 1985 to 2009. The dependent variable in columns (1) and (2) is an indicator variable that equals one the acquirer and the target come from the same 2-digit SIC industry. The dependent variable in columns (3) and (4) is an indicator variable that equals one if the acquirer comes from a high-recovery industry and the target comes from a low-recovery industry. UD Law is an indicator variable that equals one if a firm's state of incorporation has adopted a UD Law and zero otherwise. The details of definitions and measurements of all variables are reported in the Appendix A. Columns (1) and (3) include headquarter-state fixed effects, industry fixed effects, and year fixed effects. Columns (2) and (4) include headquarter-state fixed effects, industry fixed effects, year fixed effects, headquarter-state-by-year fixed effects, and industry-by-year fixed effects. Continuous variables are winsorized at their 1st and 99th percentiles. Standard errors are clustered at the state of incorporation level. Heteroscedasticity-robust t-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

	Horizontal indicator		AH-buy-TL indicator	
	Logit	OLS	Logit	OLS
	(1)	(2)	(3)	(4)
UD Law	0.172**	0.050***	0.330**	0.073*
	(2.219)	(3.517)	(2.014)	(1.885)
State FE	Y	N	Y	N
Industry FE	Y	N	Y	N
Year FE	Y	Y	Y	Y
State-Year FE	N	Y	N	Y
Industry-Year FE	N	Y	N	Y
N	50,842	50,624	2,914	2,700
Adjusted R^2	0.14	0.24	0.07	0.31

Table 15 The Impact of UD law on Firm Performance and Firm Risk

This table reports the effect of universal demand (UD) laws on firm performance and firm risk from 1985 to 2009. The dependent variable in columns (1) to (3) is ROA, idiosyncratic risk, and systematic risk. The dependent variable in column (4) is a dummy variable of takeover likelihood. The dependent variable in column (5) is the vega of managerial compensation. UD Law is an indicator variable that equals one if a firm's state of incorporation has adopted a UD Law and zero otherwise. The details of definitions and measurements of all variables are reported in the Appendix A. All regression specifications include firm fixed effects, headquarter-state-by-year fixed effects, and industry-by-year fixed effects. Continuous variables are winsorized at their 1st and 99th percentiles. Standard errors are clustered at the state of incorporation level. Heteroscedasticity-robust t-statistics are in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

	ROA	Idiosyncratic risk	Systematic risk	Bid	Vega
	(1)	(2)	(3)	(4)	(5)
UD Law	-0.028**	0.001*	0.053**	0.007**	-35.140***
	(-2.11)	(1.84)	(2.46)	(2.211)	(-2.76)
Firm FE	Y	Y	Y	Y	Y
State-Year FE	Y	Y	Y	Y	Y
Industry-Year FE	Y	Y	Y	Y	Y
N	75,216	65,514	52,709	106,274	23,456
Adjusted R^2	0.46	0.64	0.53	0.215	0.47