Litigation Risk and the Dispersion of Debt Financing: Evidence from Natural Experiments*

Ebenezer Effah†

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Abstract

An optimal debt structure balances the benefits of deterring strategic defaults against the costs of liquidation inefficiencies. This study builds on the role of litigation risk in this cost-benefit trade-off and examines whether threats of lawsuits affect firms' debt dispersion decisions (i.e., the extent to which firms rely on multiple types of debt simultaneously). Exploiting a matching-based fixed effect difference-in-differences design around two legal events that generate exogenous variations in litigation risk, I find that firms increase debt dispersion upon an increase in litigation risk. Consistent with litigation risk mitigating creditor coordination problems, the effect is stronger for firms facing higher distress risk. Further tests suggest that the mitigation of creditor coordination problems occurs through improved corporate oversight. Beyond debt types, I also demonstrate that litigation risk is associated with firms' creditor composition as well as debt maturity dispersion. Overall, I document a new channel through which litigation risk affects firm value by advancing our knowledge of an important yet often neglected aspect of debt.

Keywords: Debt dispersion; litigation risk; creditor coordination; financial distress.
JEL Classification: G32; G33; K22; K41

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†City University of Hong Kong. Email: eeffah2-c@my.cityu.edu.hk

1. Introduction

Many firms employ multiple types of debt simultaneously (Rauh and Sufi, 2010; Colla et al., 2013, 2020).[1] More importantly, the extent to which firms diversify their debt types (i.e., debt dispersion) varies considerably across different subsamples of firms (Colla et al., 2013). Yet, despite the abundant evidence on debt structure, relatively little is known about how and why firms choose their optimal level of debt dispersion.[2] This is surprising, especially given that debt dispersion is a critical first-order aspect of corporate capital structure (Rauh and Sufi, 2010). Motivated by debt financing theories and the litigation risk literature, I investigate the association between litigation risk and the tendency for firms to disperse their debt.

Debt theories suggest that high debt dispersion makes creditor coordination and debt renegotiation more difficult (Bolton and Scharfstein, 1996; Rauh and Sufi, 2010; Colla et al., 2013, 2020; Zhong, 2021). Different debt types usually have different features regarding, for instance, cash flows, control, collateral, and seniority. Lenders of each debt type may also have different investment horizons and objectives (Lou and Otto, 2020; Li et al., 2021). With the idea that debt contracts usually require coordination within and across debt types, high debt dispersion exacerbates conflicts and free-rider problems among creditors, making it more difficult to restructure debt. The coordination problem associated with debt dispersion has the advantage of discouraging managers from strategically defaulting and diverting cash to themselves. On the contrary, it increases the likelihood of an inefficient liquidation. As Bolton and Scharfstein (1996) theorize, an optimal debt structure must balance the benefits of deterring strategic defaults against the costs of inefficient liquidation.

In this study, I argue that litigation risk can play a crucial role in this cost-benefit trade-off and, therefore, affect firms' debt dispersion decisions. First, lawsuits elicit correc-

[1] Debt type in this study refers to debt instruments such as bank loans, corporate bonds, credit lines, commercial paper, etc. (Colla et al., 2013, 2020; Li et al., 2021).

[2] Colla et al. (2020) provide an extensive review of the debt structure literature.

tive firm behavior and dampen management's motivation to engage in fraudulent activities (Skinner, 1994; La Porta et al., 1998; Ferris et al., 2007; Fich and Shivdasani, 2007; Lin et al., 2013b; Houston et al., 2019). If a concentrated debt structure makes strategic defaults more beneficial when managers want to divert corporate funds to themselves (Bolton and Scharfstein, 1996), then the disciplining function of litigation risk should lessen managers' incentive to maintain a concentrated debt structure. Second, litigation risk can mitigate the coordination costs associated with debt dispersion by reducing information asymmetry. Particularly, litigation risk improves information disclosure (Hopkins, 2018; Houston et al., 2019), which can facilitate coordination among creditors and mitigate the cost of inefficient liquidation associated with debt dispersion (Li et al., 2021). Stated as a whole, threats of lawsuits make a dispersed debt structure less costly and more preferable.[3]

An opposing view to the above prediction is that firms exposed to high threats of lawsuits may experience less favorable debt market conditions and, thus, reduced access to multiple debt types. Particularly, litigation can expose defendant firms to huge costs that can significantly impact cash flow and worsen debt market outcomes (Deng et al., 2014; Arena and Julio, 2015; Arena, 2018). This strand of literature, therefore, suggests that a high risk of facing lawsuits can limit access to multiple debt types, forcing firms to maintain a more concentrated debt. Taken together, the overall effect of litigation risk on debt dispersion is unknown ex-ante. This study resolves the conflicting predictions.

To test my hypotheses, I exploit two legal events, each of which generates exogenous changes in the litigation risk of a subset of U.S. firms.[4] The first and primary event is the Supreme Court's ruling in *Tellabs, Inc. v. Makor Issues & Rights, Ltd* (hereafter, Tellabs) in 2007. The decision, which is the Supreme Court's first effort to interpret the "strong inference" pleading standards of the Private Securities Litigation Reform Act of 1995,

[3] My prediction of a positive relationship between litigation risk and debt dispersion aligns with the corporate finance literature arguing that high litigation firms experience favorable debt market conditions (e.g., Ni and Yin, 2018).

[4] To alleviate concerns that older events potentially reduce the applicability of the results to more recent years, I conduct another test that employs a firm-level measure of litigation risk spanning the period 2001 – 2021 (Lowry and Shu, 2002; Arena and Julio, 2015, 2023).

made it easier for plaintiffs to sue Ninth Circuit firms compared to firms in other states (Choi and Pritchard, 2012; Houston et al., 2019). The second event is the 2001 change in Nevada corporate law (hereafter, Nevada Corporate Law) that reduced the legal liability of directors and officers for breaching fiduciary duties and, thus, decreased the litigation risk of Nevada-incorporated firms, relative to other firms (Barzuza, 2012; Houston et al., 2019). The settings have notable advantages. First, they generate a natural division of treated and control groups, allowing the implementation of a difference-in-differences (DiD) design, which mitigates endogeneity and establishes causality. Second, while *Tellabs* focuses on class action lawsuits, *Nevada Corporate Law* focuses on both class actions and general lawsuits. This helps to strengthen the external validity of the results.

My empirical analysis also incorporates matching procedures that ensure the comparability of the treated and control samples prior to the events. I follow Colla et al. (2013, 2020) to construct two inverse measures of debt dispersion. Namely, I first define debt dispersion as the normalized Herfindahl-Hirschman Index (HHI) of Capital IQ's seven types of debt.[5] Low (high) *HHI* values denote high (low) debt dispersion. Second, I construct a binary variable, *Excl90*, which equals one (low debt dispersion) if a firm obtains at least 90% of its debt from one debt type and zero (high debt dispersion) otherwise.

I begin my analysis by examining whether high litigation risk, as induced by *Tellabs*, affects the degree to which firms diversify their borrowing. With a sample of 9,528 firm-year observations, I find that *Tellabs* is significantly associated with an increase in debt dispersion. Depending on the specification, the treated firms' *HHI* (*Excl90*) decreased by up to 0.053 (0.414) following *Tellabs*, compared to the control firms. The effect is economically huge, given that it represents 29.1 (19.8) percent of the average within-firm standard deviation of *HHI* (*Excl90*). I also show, by means of dynamic DiD regressions, that there are no significant changes in debt dispersion prior to the shock, consistent with the parallel trend assumption. An analysis of the effect of *Nevada Corporate Law* on debt dispersion

[5] Capital IQ groups debt into seven mutually exclusive types, including commercial papers, term loans, lines of credit, senior bonds and notes, subordinated bonds and notes, capital leases, and other debt.

produces results that are consistent with those of *Tellabs*. The evidence aligns with my hypothesis that litigation risk is positively associated with debt dispersion.

Despite documenting consistent results using alternative definitions of debt dispersion and a matching-based fixed-effects DiD design around two different identification settings, I further demonstrate that the relationship between litigation risk and debt dispersion remains qualitatively unchanged when I use a firm-level litigation risk proxy that covers more recent years. Moreover, the effect is robust to using different sampling techniques, varying the matching procedure, clustering standard errors at alternative levels, or controlling for other debt structure dimensions that could be related to either litigation risk or debt dispersion.

Next, I explore cross-sectional tests that offer further support to my hypothesis that litigation risk affects debt dispersion through its role in creditor coordination. More specifically, if litigation risk affects debt dispersion by alleviating creditor coordination problems, then the relationship should be stronger when firms are financially distressed. This is based on the intuition that creditor coordination is more likely if the probability of default is high (Li et al., 2021). In line with this prediction, I find that the relation between litigation risk and debt dispersion is stronger for firms with high Zmijewski's (1984) distress score, firms with high cash flow volatility, and firms with low liquidation value.

In my second cross-sectional test, I investigate whether the effect of litigation risk on debt dispersion varies in a predictable way. If litigation risk has a causal relationship with debt dispersion, then ex-ante factors that increase (decrease) this risk should magnify (reduce) the relationship. I follow the existing literature and use institutional ownership concentration, industry competition, and industry-level technology intensity as proxies for the ex-ante likelihood of facing litigation (Shleifer and Vishny, 1997; Field et al., 2005; Cheng et al., 2010; Kim and Skinner, 2012; Crane and Koch, 2018; Hassan et al., 2021). I find that the effect of litigation risk on debt dispersion is indeed more pronounced for firms with a high ex-ante probability of being sued.

I next examine the impact of litigation risk on management discipline. This test paints a more complete picture of the exact role that litigation risk plays in mitigating creditor coordination problems. My hypothesis is that if managers with self-serving motives are likely to use a concentrated debt structure to facilitate the diversion of cash to themselves (Bolton and Scharfstein, 1996), then one would expect managers who are disciplined through higher litigation risks to have a lower (higher) motivation to choose a concentrated (dispersed) debt structure. To the extent that litigation risk plays a monitoring role, managerial discipline should improve in response to an increase in litigation risk. Consistent with my argument, I find a significant reduction in earnings management, measured by Jones' (1991) Model, and corporate misconducts, proxied by the number of violations in the Violation Tracker database, following *Tellabs*.

The evidence that a rise in litigation risk increases the tendency for firms to disperse their debt raises an important question about whether firms' creditor composition changes in response to litigation risk. I answer this question by testing whether and to what extent threats of lawsuits affect the likelihood that firms borrow from relationship lenders (i.e., creditors with whom the firm has an existing borrower-creditor relationship). I find that firms facing higher litigation risk are less likely to borrow from relationship lenders, suggesting firms diversify not only debt type structure but also creditor composition when litigation risk increases.

Finally, I extend the analysis of debt dispersion to maturity profiles. Firms tend to increase their debt maturity dispersion when they face less cost of raising debt (Choi et al., 2020). Building on the idea that borrowers face favorable debt market outcomes following a rise in litigation risk, I predict that litigation risk increases debt maturity dispersion. Like the dispersion of debt types, I compute two inverse measures of maturity dispersion, including the Herfindahl-Hirschman Index of debt in different maturity buckets (Choi et al., 2020) and an indicator variable defined as one if the firm has at least 90% of its debt in one maturity bucket and zero otherwise. In support of my prediction, I find that firms facing higher litigation risk use highly dispersed debt maturity profiles.

My study makes two key contributions. First, I add to the literature that investigates debt and creditor dispersion. Despite being a first-order dimension of capital structure, debt dispersion has received relatively little attention in the capital structure literature. Rauh and Sufi (2010) and Colla et al. (2013) document how debt dispersion varies among different subsamples of firms. The theoretical models of Green and Liu (2021) and Zhong (2021) postulate that borrowing from multiple creditors exposes firms to high debtholder coordination problems. Li et al. (2021) show that accounting quality affects debt dispersion. Because of the relatively little evidence on this aspect of debt, our knowledge of its determinants is far from complete. Therefore, the evidence documented in this study advances this knowledge by showing that litigation risk has important implications for corporate debt dispersion policies.

Second, I contribute to the literature examining the effect of litigation risk on corporate decisions (Skinner, 1994; Lowry and Shu, 2002; Gormley and Matsa, 2011; Arena and Julio, 2015, 2023). More importantly, my study is closely related to the strand of literature that examines the impact of litigation on debt market outcomes. Deng et al. (2014) and Arena (2018) suggest that high litigation firms face less favorable debt market conditions in the form of higher loan spreads, up-front charges, financial covenants, and collateral requirements. On the contrary, Ni and Yin (2018) and Chen et al. (2020) find that a reduction in litigation risk is associated with higher spread and more restrictive covenants, suggesting that litigation risk improves debt market outcomes. Using a multipronged empirical strategy, I demonstrate how litigation risk impacts the tendency for first to diversify their borrowing. Consequently, my study provides insights into another channel through which litigation risk affects firm value.

I organize the remainder of the paper as follows. Section 2 gives the institutional background of the two legal events employed in the study. In Section 3, I review related literature and develop my testable hypotheses. Section 4 provides an overview of my sample construction, variable definitions, and empirical design. Section 5 presents and discusses the empirical results. In Section 6, I provide my concluding remarks.

2. Institutional Background

2.1. Tellabs

The Private Securities Litigation Reform Act of 1995 (PSLRA) implemented several substantive changes in the federal securities laws governing securities fraud class actions in the United States. Before the PSLRA, plaintiffs brought lawsuits against firms with minimal evidence of fraud, leading to a notable number of dubious lawsuits targeting financially endowed defendants (Johnson et al., 2001). Defending against the suits could prove extremely costly, even when the charges were unfounded, and so defendants often found it cheaper to settle than to fight and win. These abuses imposed excessive burdens on firms and led to the birth of the Reform Act, under which plaintiffs must meet a heightened pleading standard before they can initiate a suit. First, plaintiffs must plead false statements "with particularity" by specifically identifying the allegedly fraudulent statements and explaining why they were misleading. Second, the plaintiff must allege that the defendant acted with the required state of mind (i.e., scienter) and knew the challenged statement was false at the time it was made or was reckless in not recognizing that the statement was false. Third, plaintiffs in a Rule 10b-5 case have the burden of proving that the act or omission of the defendant caused the loss for which the plaintiff seeks to recover damages.

Although the PSLSA has generally reduced the number of lawsuits faced by all firms, the U.S. circuits diverged in applying the strong inference standard, with the Ninth Circuit adopting the most stringent standard after the reform.[6] Under the higher Ninth Circuit pleading standard, plaintiffs had to plead, "at a minimum, particular facts giving

[6]See In *Re: Silicon Graphics Inc.* Securities Litigation, 183 F.3d 970 (9th Cir. 1999)

rise to a strong inference of deliberate or conscious recklessness." In the other circuits, however, proving mere recklessness is sufficient. The varied interpretation of the PSLRA, therefore, implied that the dismissal rates between the Ninth Circuit and the other circuits varied substantially (Choi and Pritchard, 2012; Houston et al., 2019).[7]

In June 2007, the Supreme Court made its first effort to interpret the PSLRA's "strong inference" pleading requirements in *Tellabs, Inc. v. Makor Issues & Rights, Ltd*. In rejecting a lenient pleading standard in the Seventh Circuit Court, the Supreme Court held that strong inference required a comparative inquiry. That is, a complaint will survive, only if a reasonable person would deem the inference of the scienter cogent and at least as compelling as any opposing inference one could draw from the facts alleged. *Tellabs* transformed the divergent interpretations across circuits to a relatively uniform standard, effectively lowering the stringent standards followed by the Ninth Circuit Court.

As documented in Choi and Pritchard (2012), *Tellabs* significantly reduced the dismissal rate of class action lawsuits in the Ninth Circuit Court relative to the other circuit courts. Stated differently, it is easier for plaintiffs to sue firms in the Ninth Circuit Court after *Tellabs*, suggesting that firms located in the nine states under the Ninth Circuit Court would expect a much higher probability of litigation following the ruling. Further, *Tellabs* was largely unanticipated, and hence, unlikely that the firms preemptively altered their debt dispersion decisions in anticipation of the ruling outcome. Therefore, *Tellabs* provides a valid test ground to evaluate the effect of greater litigation risk on debt dispersion.

2.2. Nevada Corporate Law

Historically, when a firm is insolvent, directors and officers owe fiduciary duties to all stakeholders, including creditors (Becker and Strömberg, 2012). However, when a firm is solvent, fiduciary duties are owed to the firm's shareholders but not to other stakeholders. The Court of Chancery of Delaware first recognized the concept of a zone or vicinity of

[7]Given that the debt structure data from Capital IQ comprehensively starts from 2001, I could not test how the Ninth Circuit Court's interpretation of the PSLRA in 1999 affected debt dispersion.

insolvency in the 1991 bankruptcy case *Credit Lyonnais v. Pathe Communications*, arguing that when a firm is solvent but in the "vicinity of insolvency," fiduciary duties are already owed to creditors. The court's decision in this case was immediately recognized as an important precedent. While the Nevada courts have not formally recognized the concept of the vicinity of insolvency, they have made passing reference to and, in certain instances, shed light on the concept when determining directors' and officers' fiduciary duties.

In June 2001, Nevada changed its state corporate law by substantially reducing the legal liability for breaching fiduciary duties. Prior to this change, the Nevada corporate law was similar to that of Delaware. Particularly, directors and officers were liable for (a) breach of the duty of loyalty, (b) breach of the duty of care, (c) behavior that is not in good faith, (d) improper personal benefits, and (e) intentional misconduct, fraud, or a knowing violation of law (Barzuza, 2012). Under the new Nevada corporate law, by default, directors and officers of firms incorporated in Nevada are not liable for breaching their fiduciary duties unless their behaviors involve intentional misconduct, fraud, or a knowing violation of law, whereas prior to the change, by default, directors and officers had such liability (Barzuza, 2012). Essentially, Nevada changed its state corporate law by flipping its default from liability to no liability for a number of important categories of behaviors, including conflict of interest, self-dealing, personal benefits, and conscious disregard of duties. This legislative change was implemented swiftly and applied to all firms incorporated under Nevada corporate law without a requirement for shareholders' approval. In this study, I exploit the exogenous decrease in legal liability of directors and officers due to the legislative change to study how litigation risk affects debt dispersion.

3. Literature Review and Hypotheses Development

Debt dispersion (i.e., the use of multiple, heterogeneous types of debt instruments at the same time) is an important aspect of capital structure that has gained attention in the accounting and finance literature over the past few decades. Rauh and Sufi (2010) show that about 70 percent of their sample firms depend on more than two different types of debt. More strikingly, one-quarter of the firms experience no significant year-to-year change in their total debt but significantly adjust the underlying components of their debt. Colla et al. (2013) find that a firm's size and credit rating are correlated with the extent to which the firm disperses its debt. Particularly, large, rated firms tend to diversify across multiple debt types, while small, unrated firms specialize in fewer types. The authors further suggest that firms may decrease debt dispersion if they have higher bankruptcy costs, are more opaque, or lack access to some segments of the debt markets. More recently, Li et al. (2021) build on the connection between debt dispersion and creditors' coordination costs and document that firms with higher accounting quality have more dispersed debt structures.

Debt financing theories suggest that holding a dispersed debt makes debt renegotiation more difficult because it is difficult for multiple creditors to coordinate and agree on the debt restructuring procedures when the borrower defaults and on the division of its assets in the case of bankruptcy (Gertner and Scharfstein, 1991; Asquith et al., 1994; Bolton and Scharfstein, 1996; Colla et al., 2013; Ivashina et al., 2016; Green and Liu, 2021; Zhong, 2021). According to Beatty et al. (2012), debt contracts usually include cross-acceleration or cross-default provisions, requiring debt providers to coordinate not only within but also across debt types. However, different debt types usually have different cash flow claims, control provisions, collateral, or seniority and are owned by investors with different investment horizons or objectives (Lou and Otto, 2020; Li et al., 2021). Consequently, debt dispersion worsens the coordination problem that comes with having multiple creditors.

Holding a dispersed debt structure comes with costs and benefits (Bolton and Scharfstein, 1996; Zhong, 2021). On the plus side, the coordination problems associated with debt dispersion reduce managers' incentives to strategically default and divert cash to themselves. This is because, following a strategic default, the manager needs to pay more to stop the creditors from liquidating the assets when there are many creditors than when there is only one creditor. Hence, debt dispersion disciplines managers by lowering their payoffs from a strategic default.[8] This implies that managers with self-serving motives may be more motivated to maintain a concentrated debt structure and strategically default to divert cash to themselves. On the contrary, well-monitored managers, without such incentives, would likely opt for a more dispersed debt structure.

On the cost side, debt dispersion increases the probability of inefficient liquidation when a firm does not have the cash to make debt payments (Bolton and Scharfstein, 1996). During liquidity defaults, the buyer of the defaulting firm's assets will have to pay more if the debt is dispersed. Although a higher price benefits creditors, the buyer may not have the incentive to sink the costs of becoming informed about the firm's assets. Therefore, ex-ante, the liquidation value can actually be lower when debt dispersion is high. Overall, while debt dispersion deters managers from strategically defaulting, it also reduces efficiency when the firm defaults for liquidity reasons. As Bolton and Scharfstein (1996) model, an optimal level of debt dispersion must trade off the costs and benefits.

In this study, I argue that litigation risk has the potential to influence this trade-off and, hence, the degree of debt dispersion. First, litigation disciplines management (Skinner, 1994; La Porta et al., 1998; Ferris et al., 2007; Fich and Shivdasani, 2007; Lin et al., 2013b; Houston et al., 2019). The legal rights of investors and creditors are an essential component of corporate governance that helps monitor and enforce management duties (La Porta et al., 1998; Ferris et al., 2007). In particular, the law allows key stakeholders to sue the firm when they feel exploited, eliciting corrective behavior from directors and officers. Even if damages are fully insured, litigation identifies managers who violate their duties, and punishment is then meted out by the labor market or the market for corporate control (Ferris et al., 2007). Fich and Shivdasani (2007) observe that managers with high litigation risk tend not to engage in fraudulent activities as litigation levies huge direct and reputational costs. These arguments suggest that litigation risk discourages managers

[8]Debt dispersion also reduces hold-up costs in borrower-lender relationships (Rajan, 1992; Zhong, 2021).

from engaging in activities that destroy corporate value and benefit their own private objectives. Therefore, managers facing high litigation risk are unlikely to divert cash to themselves through the use of debt concentration and strategic default.

Second, litigation can mitigate information asymmetry between lenders and borrowers. There are direct and indirect justifications for this argument. The direct justification rests on the idea that creditors, as key stakeholders, have legal rights to sue the firm for wrongdoings. Consequently, an increase in creditors' direct involvement in the firm's affairs through litigation can increase the proximity of the firm to its creditors, mitigate borrower-lender conflicts, and alleviate information asymmetry. The indirect justification is that litigation risk generally fosters improved information sharing. Specifically, the threat of lawsuits decreases managers' desire to conceal opportunistic behavior and encourages the production of high-quality, more informative financial reports and forecasts (Lin et al., 2013b; Hopkins, 2018; Houston et al., 2019; Huang et al., 2019). The improved information sharing can help resolve disagreements between different lenders, increase the probability of successful creditor coordination, contribute to achieving a more efficient default resolution, and decrease the costs of coordination failure (Li et al., 2021). Taken together, I argue that litigation risk makes a dispersed debt structure less costly, raising borrowers' willingness to choose higher debt dispersion.

While I predict a positive association between litigation risk and debt dispersion, it is worth highlighting that the optimal level of debt dispersion could also be influenced by supply-side factors as well as firms' access to multiple financing. The predictions from the supply perspective, however, are ambiguous. On the one hand, the improved management discipline, borrower-creditor relationship, and information sharing associated with litigation risk imply that high litigation firms can experience favorable debt market conditions (e.g., Ni and Yin, 2018) and, hence, increased access to multiple types of debt financing. On the other hand, litigation often exposes the defendant firms to significant costs. These costs can impact cash flow (Arena and Julio, 2015), worsen debt market conditions (Deng et al., 2014; Arena, 2018), and as such, limit access to multiple debt types. The discussion in this section suggests that the overall effect of litigation risk on debt dispersion is unknown ex-ante.

4. Data and Methodology

4.1. Sample Construction

I follow Colla et al. (2013) and collect debt structure data from S&P Capital IQ. Firm fundamentals are drawn from Compustat. Because Compustat does not provide historical information about firms' locations, I manually extract data on firms' historical locations from the 10-K filings provided on the SEC's EDGAR website. Lenders' information is sampled from Thomson Reuters Loan Pricing Corporation's (LPC) DealScan Database. I also obtain institutional ownership data from the Thomson Reuters Institutional Holdings (13F) Database. Data on corporate misconduct is obtained from Violation Tracker, which is produced by the Corporate Research Project of Good Jobs First. Data on firm-level shareholder litigation is sourced from the Securities Class Action Clearinghouse (SCAC) website.[9] The study's main analysis focuses on *Tellabs*. Hence, my initial sample consists of all U.S. firms that have data in S&P Capital IQ and Compustat from 2003 to 2011. Beginning with a sample of 72,901 firm-year observations, I exclude utility and financial firms (SIC codes 4900 to 4999 and 6000 to 6999, respectively). Further, I drop observations with apparently unusual values, such as negative total assets and book leverage outside the unit interval (e.g., Colla et al., 2013; Li et al., 2021). I then match the treated firms in the resulting sample to the control firms using a one-to-one matching procedure based on average firm size and industry classification before *Tellabs*.[10] My final sample includes 9,528 firm-year observations corresponding to 2,067 unique firms.

[9] http://securities.stanford.edu/

[10] As I later demonstrate, my findings are not significantly impacted when I use alternative matching procedures or the full unmatched sample.

4.2. Debt Dispersion Measures

My primary measure of debt dispersion is based on the debt specialization measure propounded by Colla et al. (2013), computed as the normalized Herfindahl-Hirschman Index (HHI) of Capital IQ's seven types of debt instruments. Specifically,

$$HHI_{it} = \frac{SS_{it} - \frac{1}{7}}{1 - \frac{1}{7}} \tag{1}$$

In Equation (1),

$$SS_{it} = (\frac{CP_{it}}{TD_{it}})^2 + (\frac{DC_{it}}{TD_{it}})^2 + (\frac{TL_{it}}{TD_{it}})^2 + (\frac{SBN_{it}}{TD_{it}})^2 + (\frac{SUB_{it}}{TD_{it}})^2 + (\frac{CL_{it}}{TD_{it}})^2 + (\frac{Other_{it}}{TD_{it}})^2,$$

where *CP*, *DC*, *TL*, *SBN*, *SUB*, *CL*, *Other*, and *TD* are commercial papers, drawn credit lines, term loans, senior bonds and notes, subordinated bonds and notes, capital leases, other debt, and total debt, respectively. *HHI* is an inverse measure of debt dispersion. As such, the lower bound, 0, indicates the highest level of dispersion, whereas the upper bound, 1, signifies the lowest level of dispersion.

Following Colla et al. (2013), I employ an alternative measure, *Excl90*, which is an indicator variable that takes the value of one if the firm obtains at least 90% of its debt from one debt type and zero otherwise. As an inverse measure, one indicates a lower level of debt dispersion, while zero denotes a higher level of debt dispersion.

4.3. Empirical Design

I investigate the relation between litigation risk and debt dispersion using Tobit and Probit models with fixed effects on a matched sample. After *Tellabs*, it becomes easier for plaintiffs to sue Ninth Circuit firms compared to other firms. Hence, causality is established by comparing the debt dispersion of firms headquartered in the Ninth Circuit (treated sample) with other firms (control sample) four years before and after *Tellabs*. Specifically, I estimate the following difference-in-differences model.

$$Debt\ Dispersion_{it} = \alpha_0 + \beta_1 Ninth_i \times Post\_Tellabs_t + \beta_2 X_{it} + \beta_3 \delta_i + \beta_4 \theta_t + \epsilon_{it} \quad (2)$$

where i and t index firm and year, respectively. *Debt Dispersion* represents *HHI* or *Excl90*. *Ninth* is an indicator variable that takes the value of one if the firm is located in the U.S. Ninth Circuit and zero otherwise. *Post_Tellabs* is an indicator variable that equals one if the year is after 2007 and zero otherwise.

Following the existing literature (e.g., Denis and Mihov, 2003; Rauh and Sufi, 2010; Colla et al., 2013; Lin et al., 2013a; Houston et al., 2019; Li et al., 2021), I control for a set of firm characteristics, X, including firm size, profitability, tangibility, market-to-book ratio, Z-score, leverage, sales growth, dividend payment, and credit rating status. These variables capture different aspects of the firm that could impact debt dispersion. For instance, firm size and tangibility account for asset structure and collateral. Leverage, Z-score, and rating status control for firms' debt default likelihood and credit quality. Appendix A provides detailed variable definitions. I also include firm fixed effects, δ, to control for firm-specific, time-invariant characteristics, and either year or industry-year fixed effects, θ, to condition out the effect from contemporaneous and industry events. In line with Houston et al. (2019), standard errors are clustered at the state level.[11] The coefficient of interest is β_1 because it captures the difference-in-differences impact of litigation risk on debt dispersion. Given the conflicting hypotheses, β_1 could be negative (an increase in debt dispersion) or positive (a decrease in debt dispersion).

5. Results

5.1. Descriptive Statistics

Table 1 reports the descriptive statistics of the study's main variables. To reduce the impact of data errors and outliers, I winsorize the top and bottom 1 percent of all continuous variables. The mean *HHI* is 0.743, indicating that the sample firms mostly use fewer debt

[11] In later sections, I show that clustering standard errors at the circuit or firm level does not significantly affect my conclusions.

types. The average value of *Excl90*, 0.533, suggests that 53.3 percent of the sample firms obtain at least 90% of their debt from one debt type. The average within-firm standard deviations (untabulated) of *HHI* and *Excl90* are 0.182 and 0.344, respectively, implying that the firms' debt dispersion varies over time. My debt dispersion averages are similar to those of existing studies (Colla et al., 2013; Li et al., 2021). The sample firms are relatively large, as shown by the mean (median) firm size of 5.171 (5.142). Table 1 also shows that mean *Profitability* is -0.033, mean *Tangibility* ratio is 0.211, mean market-to-book ratio is 2.638, and mean *Leverage* ratio is 0.228.

The average firm within my sample is approximately 20 years old. About 80 percent of the sample are not credit-rated, and only 18.8 percent pay dividends. The mean values of *Z-score* and cash flow volatility (*CF Volatility*) are 1.755 and 0.065, respectively. Also, the mean value of sales growth, computed as the difference between current and previous years' revenue scaled by the previous year's revenue, is 23.6 percent. Debt issuance occurred in 81.9 percent of the sample period. About 42.4 percent of total debt is private. In a similar vein, 63.8, 91, and 53.8 percent of total debt is long-term, senior, and secured, respectively. Firms also have higher debt maturity dispersion indicated by the mean values of *Maturity HHI* (0.724) and *Maturity Excl90* (0.548). Approximately 49 percent of the sample firms borrow from relationship lenders. Overall, these statistics align with the extant literature (e.g., Colla et al., 2013; Lin et al., 2013a; Li et al., 2021).

[Insert Table 1 about here]

5.2. Litigation Risk and Debt Dispersion

I begin my investigation of the relation between litigation risk and debt dispersion by estimating Equation (2). Panel A of Table 2 presents the results.[12] Across all the model specifications, I find consistent evidence that the increase in litigation risk induced by

[12]Following Li et al. (2021), I compute the reported R-squared as the squared correlation coefficient between predicted and observed outcomes. This is because Pseudo R-squared in models with mixed continuous/discrete distributions (such as Tobit models) can be negative or larger than one.

Tellabs decreased both *HHI* and *Excl90*, indicating that litigation risk increases the tendency for firms to diversify their debt. Columns (1) and (2) show that the treated firms, on average, decreased *HHI* by 0.048 or 0.053 after *Tellabs* relative to the control firms, depending on the specification. Not only are the results statistically significant at the 1% level, but they are also economically large given that they represent 26.4 and 29.1 percent of the average within-firm standard deviation of *HHI* (i.e., 0.182), respectively. The coefficients in Columns (3) and (4), where *Excl90* is the dependent variable, are -0.321 and -0.414, corresponding to respective marginal effects of -0.056 and -0.068. These imply a decrease in the probability of using only one debt type by 5.6 and 6.8 percentage points, translating to 16.3 and 19.8 percent of the average within-firm standard deviation of *Excl90* (i.e., 0.344), respectively. Moreover, the coefficients on the control variables are consistent with the evidence in the extant literature (e.g., Colla et al., 2013; Li et al., 2021). For instance, firm size, profitability, tangibility, and leverage are negatively associated with *HHI* and *Excl90*. On the contrary, cash flow volatility has a positive relation with *HHI* and *Excl90*.

[Insert Table 2 about here]

The dynamic DiD tests are presented in Panel B of Table 2. I find that there is no significant change in debt dispersion before *Tellabs* for the treated firms. After *Tellabs*, however, the coefficients become economically and statistically significant. Under the specification in column (2), which has the full set of controls, the estimates for the $Ninth \times Post\_Tellabs_n$ variables show that, on average, firms headquartered in the Ninth Circuit respond to *Tellabs* by significantly decreasing *HHI* by 0.040, 0.066, 0.089, and 0.057 in the first through fourth years after *Tellabs*, respectively. Similar results can be observed under the specification in Column (1), which includes firm and year fixed effects, as well as the last two columns, where *Excl90* is the dependent variable. These dynamic regression results are largely supported by Figure 1, which displays the evolution of *HHI* and *Excl90* for the treated and control firms before and after *Tellabs*. In both panels, the trends are parallel and similar before *Tellabs*. After *Tellabs*, there is a downward divergence of the trend for the treated firms compared to the control firms, indicating an increase in debt dispersion for the Ninth Circuit firms. Collectively, the evidence in this section lends support to my prediction that firms facing high litigation risk diversify their borrowing.

[Insert Figure 1 about here]

5.3. Robustness Checks

5.3.1. Additional Legal Event: Nevada Corporate Law

In this section, I conduct an additional DiD test, which exploits a change in Nevada corporate law in 2001 as a quasi-natural experiment that reduced the risk of general lawsuits for Nevada-incorporated firms compared to other firms. In 2001, Nevada unilaterally took steps to limit the legal liability of directors and officers so that they can only be held liable when their behaviors involve a breach of the duty of loyalty and intentional misconduct, fraud, or a knowing violation of law simultaneously (Houston et al., 2019). Relative to managers of firms in other states, executives of Nevada-incorporated firms are now protected by higher pleading standards on all types of securities actions following this amendment. This setting helps alleviate potential concerns about *Tellabs*. First, *Tellabs* almost coincides with the 2007-2008 financial crises. Consistent results from *Nevada Corporate Law*, therefore, help mitigate concerns about confounding factors. Second, unlike *Tellabs*, *Nevada Corporate Law* covers both class actions and general lawsuits. As such, not only does the test mitigate possible endogeneity problems, but it also strengthens the external validity of my results. I estimate the effect of *Nevada Corporate Law* on debt dispersion using the following DiD regression model.

$$Debt\ Dispersion_{it} = \alpha_0 + \beta_1 Nevada_i \times Post\_NCL_t + \beta_2 X_{it} + \beta_3 \delta_i + \beta_4 \theta_t + \epsilon_{it} \tag{3}$$

where *Nevada* is one if a firm is incorporated in Nevada and zero otherwise. *Post_NCL* is equal to one for years after 2001 and zero otherwise. The other variables' definitions remain unchanged. To ensure comparability, I match the treated and control firms using the same approach described under *Tellabs*. My test compares the debt dispersion of firms incorporated in Nevada (treated sample) with other firms (control sample) four years before and after *Nevada Corporate Law*.[13] Like *Tellabs*, my interest is in β_1, which could be positive or negative depending on the effect of *Nevada Corporate Law* on debt dispersion.

In Table 3, I find a significant increase in both *HHI* and *Excl90*, indicating that the reduction in litigation risk induced by *Nevada Corporate Law* decreased the tendency for firms to diversify their debt.[14] The first two columns show an increase in *HHI* by up to 0.101, which economically accounts for about 54 percent of the within-firm standard deviation of *HHI* for the *Nevada Corporate Law* sample (i.e., 0.187). In the last two columns, the coefficients on *Ninth* × *Post_NCL* are up to 1.517, translating to 0.158 in terms of marginal effect. This suggests an increase in the probability of using only one debt type by up to 15.8 percentage points, accounting for 45.78 percent of the average within-firm standard deviation of *Excl90* for the *Nevada Corporate Law* sample (i.e., 0.345).

[Insert Table 3 about here]

5.3.2. Firm-Level Measure of Litigation Risk

Despite the econometric advantages of exploiting two exogenous shocks, a concern is that the legal events occurred over a decade ago, potentially limiting the degree to which the results can be applied to more modern times. I mitigate this concern by using a firm-level litigation risk measure for the period 2001 – 2021. The proxy, *Lawsuit Dummy*, is defined as an indicator variable that equals one if a firm is sued by shareholders in the following year and zero otherwise (e.g., Lowry and Shu, 2002; Arena and Julio, 2015, 2023). I identify firms subject to shareholder litigation using the class action lawsuits dataset from the Securities Class Action Clearinghouse (SCAC) website. I then re-estimate Equation (2) by replacing

[13] The 1999 ruling by the Ninth Circuit court in the *Silicon Graphics* case reduced litigation risk for Ninth Circuit firms compared to other firms. My findings remain qualitatively unchanged if I drop the control firms headquartered in the Ninth Circuit states.

[14] Debt data in Capital IQ becomes comprehensive after 2001. Thus, the sample size for this test is small. Nevertheless, the results are intact. The small number of observations, however, limits the capacity to conduct a comprehensive analysis like that done for *Tellabs*.

the independent variable of interest with *Lawsuit Dummy* and clustering standard errors at the firm level. Table 4 reports the results. Consistent with the baseline finding, *Lawsuit Dummy* is negatively associated with *HHI* and *Excl90*, suggesting that firms with a higher probability of facing litigation increase their debt dispersion.

[Insert Table 4 about here]

5.3.3. Controlling for Other Debt Structure Characteristics

Litigation risk could be related to other aspects of debt structure, which in turn are related to debt dispersion.[15] A concern, therefore, could be that the other debt dimensions, and not the threat of litigation, drive my results. Although I account for leverage in my regressions to help mitigate this concern, I conduct further checks in this section by adding annual debt issuance (i.e., an indicator variable that equals one if a firm issues debt in the year and zero otherwise), private debt (i.e., the sum of term loans and revolving credit, divided by total debt), debt maturity (i.e., the proportion of long-term debt in a firm's total debt), debt seniority (i.e., senior debt as a percentage of total debt), and debt security (i.e., the ratio of secured debt to total debt) as additional control variables in the model. The results in Table 5 are not considerably different from the baseline findings in Table 2, and hence, it is less likely that my findings are driven by other debt structure features. Also, the relationship between litigation risk and the additional debt structure characteristics aligns with existing evidence (e.g., Li et al., 2021).

[Insert Table 5 about here]

5.3.4. Alternative Sampling and Clustering

In the baseline findings, the treated firms are matched with the control firms based on firm size and industry classification. To show that this matching approach does not significantly

[15] For instance, firms that issue more debt are likely to have higher debt dispersion. Changes in firm risk can influence debt issuance, which could be reflected as a change in debt dispersion.

affect my conclusions, I conduct a propensity score matching (PSM) procedure based on all the firm characteristics included in the baseline model. The first four columns in Table 6 show that litigation risk significantly increases debt dispersion when the PSM sample is used. Further, I test whether my results hold for the full unmatched sample. The motivation for this test is to alleviate concerns that the matched sample may not be representative of the full sample. As reported in the last four columns of Table 6, I still find a strong positive relationship between litigation risk and debt dispersion, and as such, the baseline findings remain intact without the matching procedure.

[Insert Table 6 about here]

Next, I examine whether the documented relation between litigation risk and debt dispersion is robust to alternative clustering of standard errors. In the main analysis, I cluster standard errors at the state level. In Columns (1) and (2) of Table 7, I show that clustering standard errors at the circuit level does not significantly influence the results. I perform similar tests in which standard errors are clustered at the firm level. Table 7, Columns (3) and (4) demonstrate that my findings are robust to firm-level clustering as well. The last set of robustness tests examines the sensitivity of the baseline results to different study windows around the event year. Particularly, while the baseline estimates employ -4,+4 years window around *Tellabs*, this section examines three years as well as two years before and after the shock. The results are presented in the last four columns of Table 7. Once again, I find that litigation risk is significantly associated with high debt dispersion. Overall, the results of the robustness tests suggest that my findings are not significantly driven by my empirical design choices.

[Insert Table 7 about here]

5.4. Cross-Sectional Tests

After strengthening my baseline findings, I explore the heterogeneous effects of litigation risk on debt dispersion. In addition to providing a more complete picture of the relation between litigation risk and debt dispersion, these cross-sectional tests further shed light on the economic mechanisms and channels through which the threat of lawsuits affects the level of debt dispersion that firms choose.

5.4.1. Heterogeneous Effects by Financial Distress Risk

In this section, I provide further support to my hypothesis that creditor coordination problems and renegotiation costs play a crucial role in the relationship between litigation risk and debt dispersion. My hypothesis posits that litigation risk makes a dispersed debt structure less costly by increasing the probability of successful creditor coordination and decreasing the costs of coordination failure. Creditor coordination is more likely when firms are financially distressed (e.g., Li et al., 2021). Therefore, to the extent that my hypothesis is true, the relation between litigation risk and debt dispersion would be more pronounced when distress risk is more severe. Following extant studies (e.g., Kothari et al., 2009; Li et al., 2021), I consider three measures of financial distress, including Zmijewski's (1984) distress score (hereafter, Zmijewski score), cash flow volatility, and liquidation value. Specifically, firms are categorized as financially distressed if they are above the median for Zmijewski score and cash flow volatility and if they are below the median for liquidation value.

Table 8 reports the results of the tests. In Panel A, I compare the effect of litigation risk on debt dispersion between subsamples partitioned based on Zmijewski score. Consistent with my predictions, I find that the effect is stronger for firms with above median Zmijewski score. In Columns (1) to (4), where *HHI* is the dependent variable, the coefficients on *Ninth* × *Post_Tellabs* for the high Z-score subsample are -0.08 and -0.052, accounting for 44 and 28.6 percent of the average within-firm standard deviation of *HHI*, respectively. The corresponding coefficients for the low Zmijewski score subsample are not statistically and economically significant. A similar trend of results is documented in Columns (5) to (8), where *Exl90* is the dependent variable. Moreover, the p-values of the differences between the two subsamples' estimates are significant.

In Panel B of Table 8, I partition the sample based on cash flow volatility, defined as the standard deviation of quarterly operating cash flow during the year. I document that the effect of litigation risk on debt dispersion is statistically and economically more significant for the high cash flow volatility firms compared to the low cash flow volatility subsample. For instance, in Columns (3), the coefficient of interest is -0.071, which is more than twice the coefficient in Columns (4), -0.03. The p-values, which capture the statistical significance of the differences across the subgroups' estimates, are also significant.

In Table 8, Panel C, the sample is grouped based on liquidation value, defined following studies such as Berger et al. (1996) and Li et al. (2021). I estimate Equation (3) for firms with above median liquidation values and those with below median liquidation values. I find that the effect of litigation risk on debt dispersion is more pronounced for the low liquidation value subsample. In terms of economic magnitude, firms with below median liquidation values decrease *HHI* by up to 35.7 percent of the average within-firm standard deviation of *HHI*, while firms with above median liquidation values decrease *HHI* by up to only 14.3 percent of the average within-firm standard deviation of *HHI*. Under all specifications, the relation is statistically insignificant for the high liquidation value group. Additionally, the coefficient estimates for the low liquidation value subsample are significantly different from those of the high liquidation value subsample.

[Insert Table 8 about here]

5.4.2. Heterogeneous Effects by Likelihood of Being Sued

Next, I investigate whether the increase in debt dispersion following *Tellabs* varies in a predictable way. Particularly, I argue that ex-ante factors that magnify (reduce) threats of lawsuits would increase (decrease) the documented effect. *Tellabs* made it relatively easier for shareholders to successfully bring a class action lawsuit against the firm by removing stringent procedural hurdles. Thus, I expect the effect of *Tellabs* on debt dispersion to be stronger for firms that are ex-ante more likely to face lawsuits. Worded differently, the legal change should have a smaller impact on firms that are not likely to face litigation in the first place. In line with this idea, I employ three measures that capture firms' ex-ante probability of being sued.

Institutional investors, compared to individual shareholders, normally have larger stakes in the firm and, as such, have more incentives to monitor the firm through lawsuits (Shleifer and Vishny, 1997; Cheng et al., 2010). Using a large sample of securities lawsuits from 1996 to 2005, Cheng et al. (2010) show that institutional investors are more likely to serve as the lead plaintiff for lawsuits with certain characteristics. In fact, the Private Securities Litigation Reform Act of 1995 has a provision that requires lead plaintiff status to be granted to the plaintiff with the largest stake in the lawsuit, which in most cases is the largest stakeholder or institutional owner. Therefore, I use the institutional ownership concentration, collected from the 13-F filings by Thomson Reuters, as my first proxy for ex-ante litigation probability. My second and third measures rely on the extant studies that measure ex-ante lawsuit probability based on industry classification (Johnson et al., 2001; Field et al., 2005; Kim and Skinner, 2012; Crane and Koch, 2018; Hassan et al., 2021). Particularly, a firm has a higher probability of facing lawsuits if it operates in a highly competitive industry or is a high-tech firm.[16]

Table 9, Panel A, shows that the effect of *Tellabs* on the level of debt dispersion varies predictably with the ex-ante probability of facing litigation. Specifically, I find that firms with above-median institutional investor concentration experience a significant increase in debt dispersion, whereas firms with below-median values experience relatively less effect both in terms of magnitude and significance. Panel B compares the effect of litigation risk on debt dispersion between high- and low-competition industries. In line with my hypothesis, firms that operate in highly competitive industries experience a significant

[16]Industry competition is captured by the Herfindahl-Hirschman Index of firms' market share at the Fama-French 48 industry level. The higher the index, the lower the competition. High-tech firms fall in the following SIC codes: 2833 - 2836, 3570 - 3577, 3600 - 3674, 7371 - 7379, and 8731 - 8734.

increase in debt dispersion, whereas firms in less competitive industries do not. In Panel C, I examine whether the documented relationship is stronger for high-tech firms than for low-tech firms. If high-tech firms are highly exposed to litigation, then *Tellabs* should have a more pronounced effect for such firms. Indeed, I find that firms in the high-tech industries increase debt dispersion by larger magnitudes compared to their low-tech counterparts. Except for the last specification in Panel C, the differences in the subgroups' effects are also significant.

[Insert Table 9 about here]

5.5. Additional Tests

5.5.1. Litigation Risk and Managerial Discipline

One central argument underlying my hypothesis is that litigation risk affects the cost-benefit trade-off of debt dispersion by disciplining managers. More specifically, to the extent that litigation discourages managers from engaging in activities that benefit their own private objectives and destroy corporate value, litigation risk can discourage managers from choosing a concentrated debt structure and strategically defaulting. I test the validity of this argument by examining the response of managerial discipline to litigation risk. First, I measure management discipline by the level of earnings management. Higher earnings management signifies low management discipline (e.g., Hopkins, 2018; Houston et al., 2019; Huang et al., 2019). My second proxy is the number of corporate misconducts captured in the Violation Tracker database. Table 10 presents the estimation results.

In the first two columns, I test the effect of litigation risk on Jones' (1991) measure of earnings management, defined as the residuals from a pooled regression of total accruals on one, change in revenue, and PPE, with all variables scaled by the lag of total assets. Under the specification in Column (2), which includes the full controls, I find that litigation risk decreases earnings management by 0.011. This is about 11.5 percent of the average within-firm standard deviation of earnings management (i.e., 0.096). I conduct a similar test in the last two columns with corporate misconduct as the dependent variable. In support of my prediction, I find that corporate misconducts decrease considerably when litigation risk increases. For instance, Column (3) shows that *Tellabs* is associated with a significant reduction in corporate misconduct by about 56.2 percent (i.e., exp(0.446) -1).

[Insert Table 10 about here]

5.5.2. Litigation Risk and the Reliance on Relationship Lenders

The evidence that litigation risk increases the tendency for firms to use different, heterogeneous debt types raises an important question about whether and how creditor composition changes in response to litigation risk. First, an improvement in corporate discipline following an increase in litigation risk can raise firms' access to different lenders. Second, different debt types may have different owners (e.g., Li et al., 2021), and as such, employing multiple debt types may correspond with borrowing from multiple lenders. These arguments suggest that firms facing higher threats of lawsuits are likely to increase the number of different creditors from whom they borrow. I test this hypothesis by exploring how litigation risk affects firms' tendency to use the same lender over the years.

I collect all syndicated loans borrowed by U.S. firms within my sample period and define relationship loan, *Rel. Lender*, as an indicator variable that equals one if the firm borrows from a lender with whom the firm has an existing lender-borrower relationship within the past five years and zero otherwise. In the first two columns of Table 11, the coefficients on *Ninth* × *Post_Tellabs* are -0.508 and -1.001, respectively. The estimates suggest firms reduce the likelihood of borrowing from existing lenders following a rise in litigation risk.

[Insert Table 11 about here]

5.5.3. Litigation Risk and Debt Maturity Dispersion

In this section, I extend the concept of debt dispersion from debt type to debt maturity. Particularly, I test whether and how litigation risk affects the dispersion of debt maturity profiles. Choi et al.'s (2020) theoretical framework on debt maturity profiles suggests that firms are likely to increase their debt maturity dispersion when they face less cost of raising debt. As documented in this study and consistent with studies such as Ni and Yin (2018), high litigation risk increases corporate discipline and improves firms' debt market outcomes. Consequently, I expect firms to increase their debt maturity dispersion when faced with high litigation risk. Following Choi et al. (2020), I first measure debt maturity dispersion as the Herfindahl-Hirschman Index of debt in different maturity buckets–less than one year, one to three years, three to five years, five to ten years, and more than ten years. Second, I generate a binary measure of debt maturity dispersion defined as one if the firm has at least 90 percent of its debt in one debt maturity bucket, and zero otherwise. Then, I regress these measures on litigation risk and the other control variables in Equation (3). The last four columns of Table 11 report the results.

Across all the model specifications, I find consistent evidence that the increase in litigation risk induced by *Tellabs* decreased both *Maturity HHI* and *Maturity Excl90*, indicating that litigation risk increases the tendency for firms to diversify their debt maturity profiles. Columns (3) and (4) show that the treated firms, on average, decreased *Maturity HHI* by 0.039 or 0.036, depending on the specification, after *Tellabs* relative to the control firms. Economically, these account for 20.2 and 18.7 percent of the average within-firm standard deviation of *Maturity HHI* (i.e., 0.193), respectively. Similarly, the results in the last two columns indicate that there is a significant reduction in the probability that firms concentrate their debt in a single maturity bucket upon an increase in litigation risk.

6. Conclusion

Holding a dispersed debt structure discourages managers from strategic defaults. On the contrary, it increases the probability of liquidation inefficiencies. An optimal level of debt dispersion must balance the cost and benefit. Building on the key role of litigation risk in this cost-benefit trade-off, I examine whether threats of lawsuits affect firms' debt dispersion decisions. I establish causality using a matching-based fixed effect difference-in-differences design around two legal events that generate exogenous variations in litigation risk. I find that litigation risk is positively associated with debt dispersion. The effect is stronger for financially distressed firms, consistent with the idea that increased stakeholder participation in corporate governance through litigation reduces creditor coordination problems, which is a more important concern when firms are financially distressed. I also find that litigation risk increases corporate discipline, giving more insights into how litigation risk reduces creditor coordination problems. Additional analyses reveal that firms diversify other aspects of their debt, including maturity and creditors, as a specific response to an increase in litigation risk. Taken together, this study advances our knowledge about debt dispersion and documents a new channel through which litigation risk affects firm value.

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Appendix A: Variable Definitions

This table presents the definitions and data sources of the study's variables.

Variable	Definition	Source
Debt Dispersion		
HHI	Herfindahl-Hirschman Index of Capital IQ's seven types of debt instruments: $\{[(CP/TD)^2 + (DC/TD)^2 + (TL/TD)^2 + (SBN/TD)^2 + (SUB/TD)^2 + (CL/TD)^2 + (Other/TD)^2] - (1/7)\}/[1 - (1/7)]$, where CP, DC, TL, SBN, SUB, CL, Other, and TD are commercial paper, drawn credit lines, term loans, senior bonds and notes, subordinated bonds and notes, capital leases, other debt, and total debt, respectively.	Capital IQ
Excl90	Indicator variable that equals one if a firm obtains at least 90% of its debt from one debt type and zero otherwise.	Capital IQ
Other Debt Structure Characteristics		
Maturity HHI	Herfindahl-Hirschman Index based on the proportion of debt in different maturity buckets–less than one year, one to three years, three to five years, five to ten years, and more than ten years.	Capital IQ
Maturity Excl90	Indicator variable that equals one if a firm has at least 90% of its debt in one maturity bucket and zero otherwise.	Capital IQ
Rel. Lender	Indicator variable that equals one if the firm borrows from a lender with whom it has an existing lender-borrower relationship within the past five years and zero otherwise.	DealScan
Debt Issuance	Indicator variable that equals one if the firm issues debt in the year and zero otherwise.	Capital IQ
Debt Seniority	Ratio of senior debt to total debt.	Capital IQ
Debt Security	Ratio of secured debt to total debt.	Capital IQ
Debt Maturity	Ratio of long-term debt to total debt.	Capital IQ
Private Debt	Sum of term loans and revolving credit, divided by total debt.	Capital IQ
Litigation Risk		

Ninth	Indicator variable that takes the value of one if the firm is located in the U.S. Ninth Circuit and zero otherwise.	Compustat; EDGAR
Post_Tellabs	Indicator variable equal to one if the year is after 2007 and zero otherwise.	Compustat
Nevada	Indicator variable that takes the value of one if the firm is located in Nevada and zero otherwise.	Compustat; EDGAR
Post_NCL	Indicator variable equal to one if the year is after 2001 and zero otherwise.	Compustat
Lawsuit Dummy	Indicator variable that equals one if a firm is sued by shareholders in the following year and zero otherwise.	SCAC
Firm Characteristics		
Firm Size	Natural logarithm of total assets.	Compustat
Profitability	Earnings before interest, taxes, depreciation, and amortization divided by total assets.	Compustat
Tangibility	Ratio of net property, plant, and equipment to total assets.	Compustat
MTB	Ratio of the sum of the market value of equity and the book value of debt to total assets.	Compustat
Z-Score	Altman's Z-score computed as [1.2(working capital) + 1.4(retained earnings) + 3.3(EBIT) + 0.999(sales)]/total assets + 0.6(market value of equity/book value of debt).	Compustat
Ln(Age)	Natural logarithm of the number of years since a firm's first appearance in Compustat.	Compustat
CF Volatility	Standard deviation of quarterly operating cash flows during the year, scaled by total assets.	Compustat
Leverage	Long-term debt plus debt in current liabilities divided by total assets.	Compustat
Sales Growth	Difference between current and previous years' total sales scaled by previous year's total sales.	Compustat
Dividend	Indicator variable that equals one if the firm pays dividends in a year and zero otherwise.	Compustat
Unrated	Indicator variable that equals one if the firm is not rated by S&P in a year and zero otherwise.	Capital IQ

Zmijewski Score	Zmijewski's (1984) financial distress score, computed as -4.336 - 4.513(net income/total assets) + 5.679(total debt/total assets) - 0.004(current assets/current liabilities).	Compustat
Liquidation Value	Exit value calculated as [cash + 0.72(receivables) + 0.55(inventory) + 0.54(tangible assets) - total debt]/total assets.	Compustat
Inst. Ownership	Herfindahl-Hirschman Index of institutional holdings.	Thompson Reuters
Ind. Competition	Herfindahl-Hirschman Index of firms' market share at the Fama-French 48 industry level. The higher the index, the lower the competition.	Compustat
High- vs Low-Tech	Indicator variable that equals one for high-tech industries (SIC codes: 2833 - 2836, 3570 - 3577, 3600 - 3674, 7371 - 7379, and 8731 - 8734) and zero for low-tech industries.	Compustat
Earnings Mgt.	Jones' (1991) measure of earnings management, defined as the residuals from a pooled regression of total accruals on one, change in revenue, and PPE, with all variables scaled by the lag of total assets.	Compustat
Misconduct	Number of corporate violations.	Violation Tracker

Table 1: Summary Statistics

This table presents the summary statistics of the main variables used in this research, including 2,067 firms and 9,528 firm-year observations. Variable definitions are presented in Appendix A.

	N	Mean	Std. Dev.	P25	Median	P75
HHI	9,528	0.743	0.266	0.476	0.840	1.000
Excl90	9,528	0.533	0.499	0.000	1.000	1.000
Firm Size	9,528	5.171	2.224	3.612	5.142	6.718
Profitability	9,528	-0.033	0.407	-0.043	0.080	0.142
Tangibility	9,528	0.211	0.209	0.060	0.134	0.294
MTB	9,528	2.638	2.519	1.497	2.016	2.897
Z-Score	9,528	1.755	9.415	0.390	2.580	4.750
Ln(Age)	9,528	2.628	0.692	2.197	2.565	3.091
CF Volatility	9,528	0.065	0.081	0.025	0.042	0.070
Leverage	9,528	0.228	0.212	0.051	0.176	0.344
Sales Growth	9,528	0.236	0.860	-0.035	0.088	0.250
Dividend	9,528	0.188	0.391	0.000	0.000	0.000
Unrated	9,528	0.801	0.399	1.000	1.000	1.000
Debt Issuance	9,528	0.819	0.385	1.000	1.000	1.000
Debt Seniority	9,528	0.910	0.243	1.000	1.000	1.000
Debt Security	9,528	0.538	0.440	0.003	0.636	1.000
Debt Maturity	9,528	0.638	0.369	0.340	0.780	0.971
Private Debt	9,528	0.424	0.422	0.000	0.303	0.928
Maturity HHI	9,396	0.724	0.302	0.427	0.863	1.000
Maturity Excl90	9,396	0.548	0.498	0.000	1.000	1.000
Rel. Lender	2,072	0.487	0.500	0.000	0.000	1.000

Table 2: Litigation Risk and the Dispersion of Debt

This table presents the effect of litigation risk on debt dispersion. Panels A and B present the baseline results and dynamic DiD, respectively. *HHI* is an inverse measure of debt dispersion defined as the normalized Herfindahl-Hirschman Index of Capital IQ's seven types of debt that firms hold. *Excl90* is an indicator variable that equals one if a firm obtains at least 90% of its debt from one debt type and zero otherwise. *Ninth* is an indicator variable that equals one if a firm is located in the U.S. Ninth Circuit and zero otherwise. *Post_-Tellabs* is an indicator variable that equals one if the year is after 2007 and zero otherwise. $Post\_Tellabs_n$ is an indicator variable that equals one in the *nth* year relative to 2007. Columns (1) and (2) present Tobit models with *HHI* as the dependent variable. Columns (3) and (4) present Probit models with *Excl90* as the dependent variable. Detailed variable definitions are provided in Appendix A. All regressions include firm-fixed effects and either year-fixed effects or industry-year-fixed effects. Continuous variables are winsorized at the 1st and 99th percentiles. The reported R-squared is the squared correlation coefficient between the predicted and observed value of the dependent variable. Standard errors are clustered at the state level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Baseline Results

	(1)	(2)	(3)	(4)
	HHI	HHI	Excl90	Excl90
Ninth × Post_Tellabs	-0.048***	-0.053***	-0.321***	-0.414***
	(-3.219)	(-3.843)	(-3.272)	(-4.461)
Firm Size	-0.098***	-0.096***	-0.534***	-0.565***
	(-14.65)	(-11.82)	(-11.55)	(-8.572)
Profitability	-0.061***	-0.054***	-0.323*	-0.291**
	(-2.891)	(-2.912)	(-1.873)	(-1.998)
Tangibility	-0.304***	-0.284***	-1.952***	-2.225***
	(-5.889)	(-5.652)	(-5.251)	(-5.390)
MTB	-0.010*	-0.009*	-0.054	-0.054
	(-1.809)	(-1.901)	(-1.546)	(-1.597)
Z-Score	0.007***	0.007***	0.038***	0.041***
	(7.492)	(7.732)	(5.153)	(5.905)
Ln(Age)	0.013	0.020	0.150	0.282
	(0.389)	(0.655)	(0.601)	(1.099)
CF Volatility	0.160	0.153	1.065*	1.179*
	(1.460)	(1.487)	(1.744)	(1.955)
Leverage	-0.409***	-0.416***	-2.163***	-2.241***
	(-13.60)	(-13.98)	(-8.827)	(-8.762)

Sales Growth	-0.007	-0.005	-0.044	-0.033
	(-1.441)	(-1.046)	(-1.360)	(-1.035)
Dividend	0.033**	0.034**	0.191	0.155
	(2.005)	(2.096)	(1.413)	(1.244)
Unrated	-0.019	-0.026	-0.184	-0.274
	(-0.467)	(-0.824)	(-0.810)	(-1.161)
Observations	9,528	9,528	9,528	9,528
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	No
Industry-Year FE	No	Yes	No	Yes
Model	Tobit	Tobit	Probit	Probit
R-Squared	0.389	0.404	0.289	0.323
Panel B: Dynamic DiD				
	(1)	(2)	(3)	(4)
	HHI	HHI	Excl90	Excl90
Ninth × Post_Tellabs$_{-4}$	-0.023	-0.020	-0.290	-0.262
	(-1.127)	(-0.986)	(-1.597)	(-1.264)
Ninth × Post_Tellabs$_{-3}$	-0.021	-0.022	-0.249	-0.284
	(-0.881)	(-0.973)	(-1.508)	(-1.559)
Ninth × Post_Tellabs$_{-2}$	0.005	-0.003	-0.0910	-0.157
	(0.277)	(-0.158)	(-0.636)	(-1.053)
Ninth × Post_Tellabs$_{-1}$	0.006	-0.004	-0.050	-0.126
	(0.387)	(-0.220)	(-0.404)	(-1.034)
Ninth × Post_Tellabs$_{+1}$	-0.038**	-0.040***	-0.421***	-0.496***
	(-2.546)	(-3.213)	(-4.126)	(-4.136)
Ninth × Post_Tellabs$_{+2}$	-0.058***	-0.066***	-0.424***	-0.514***
	(-3.162)	(-3.805)	(-3.008)	(-3.485)
Ninth × Post_Tellabs$_{+3}$	-0.073***	-0.089***	-0.589***	-0.820***
	(-3.537)	(-4.675)	(-4.606)	(-6.488)
Ninth × Post_Tellabs$_{+4}$	-0.051*	-0.057**	-0.317*	-0.436*
	(-1.916)	(-2.186)	(-1.657)	(-1.866)
Observations	9,528	9,528	9,528	9,528
Control Variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	No
Industry-Year FE	No	Yes	No	Yes
Model	Tobit	Tobit	Probit	Probit
R-Squared	0.389	0.404	0.289	0.323

Figure 1: Debt Dispersion around Tellabs

This figure plots *HHI* (Panel A) and *Excl90* (Panel B) before and after *Tellabs*.

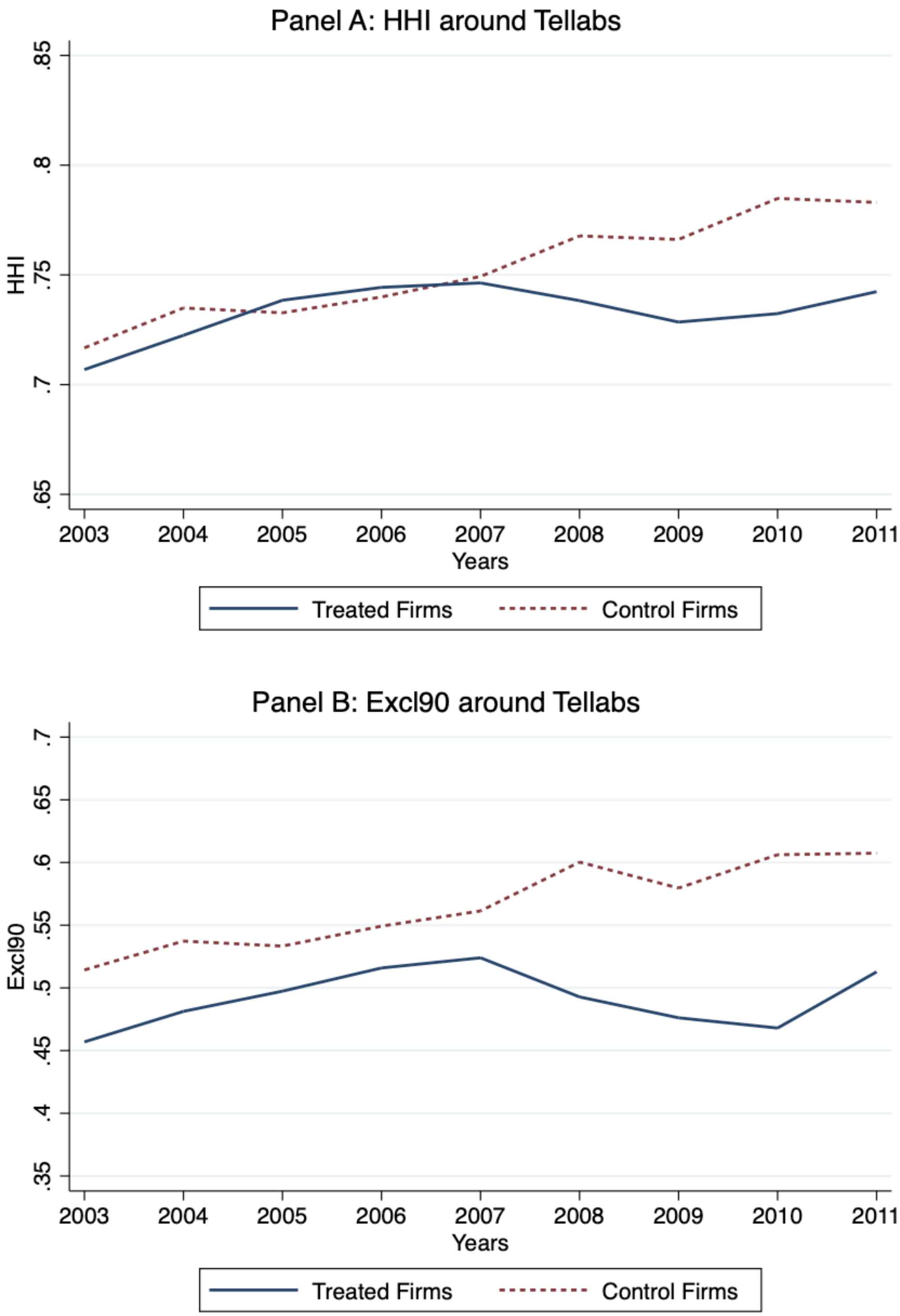

Table 3: Nevada Corporate Law and Debt Dispersion

This table presents the effect of *Nevada Corporate Law* on debt dispersion. *HHI* is an inverse measure of debt dispersion defined as the normalized Herfindahl-Hirschman Index of Capital IQ's seven types of debt that firms hold. *Excl90* is an indicator variable that equals one if a firm obtains at least 90% of its debt from one debt type and zero otherwise. *Nevada* is an indicator variable that equals one if a firm is located in Nevada and zero otherwise. *Post_NCL* is an indicator variable that equals one if the year is after 2001 and zero otherwise. Columns (1) and (2) present Tobit models with *HHI* as the dependent variable. Columns (3) and (4) present Probit models with *Excl90* as the dependent variable. Detailed variable definitions are provided in Appendix A. All regressions include firm-fixed effects and either year-fixed effects or industry-year-fixed effects. Continuous variables are winsorized at the 1st and 99th percentiles. The reported R-squared is the squared correlation coefficient between the predicted and observed value of the dependent variable. Standard errors are clustered at the state level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1) HHI	(2) HHI	(3) Excl90	(4) Excl90
Nevada × Post_NCL	0.084***	0.101***	0.717*	1.517***
	(2.790)	(3.302)	(1.902)	(3.092)
Observations	737	737	737	737
Control Variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	No
Industry-Year FE	No	Yes	No	Yes
Model	Tobit	Tobit	Probit	Probit
R-Squared	0.463	0.562	0.263	0.356

Table 4: Firm-Level Litigation Risk and Debt Dispersion

This table presents the effect of firm-level litigation risk on debt dispersion. *HHI* is an inverse measure of debt dispersion defined as the normalized Herfindahl-Hirschman Index of Capital IQ's seven types of debt that firms hold. *Excl90* is an indicator variable that equals one if a firm obtains at least 90% of its debt from one debt type and zero otherwise. *Lawsuit Dummy* is an indicator variable that equals one if a firm is sued by shareholders in the following year and zero otherwise. Columns (1) and (2) present Tobit models with *HHI* as the dependent variable. Columns (3) and (4) present Probit models with *Excl90* as the dependent variable. Detailed variable definitions are provided in Appendix A. All regressions include firm-fixed effects and either year-fixed effects or industry-year-fixed effects. Continuous variables are winsorized at the 1st and 99th percentiles. The reported R-squared is the squared correlation coefficient between the predicted and observed value of the dependent variable. Standard errors are clustered at the firm level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1) HHI	(2) HHI	(3) Excl90	(4) Excl90
Lawsuit Dummy	-0.029***	-0.027***	-0.178***	-0.170**
	(-3.149)	(-2.894)	(-2.691)	(-2.467)
Observations	50,348	50,348	50,348	50,348
Control Variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	No
Industry-Year FE	No	Yes	No	Yes
Model	Tobit	Tobit	Probit	Probit
R-Squared	0.334	0.344	0.491	0.508

Table 5: Controlling for Other Debt Structure Characteristics

This table reports the results of estimating the baseline regression model after including other debt structure characteristics as additional control variables. *HHI* is an inverse measure of debt dispersion defined as the normalized Herfindahl-Hirschman Index of Capital IQ's seven types of debt that firms hold. *Excl90* is an indicator variable that equals one if a firm obtains at least 90% of its debt from one debt type and zero otherwise. *Ninth* is an indicator variable that equals one if a firm is located in the U.S. Ninth Circuit and zero otherwise. *Post_Tellabs* is one if the year is after 2007 and zero otherwise. *Debt Issuance* is an indicator variable that equals one if a firm issues debt in the year and zero otherwise. *Debt Seniority* is the ratio of senior debt to total debt. *Debt Security* is secured debt as a percentage of total debt. *Debt Maturity* is the percentage of long-term debt in a firm's total debt. *Private Debt* is the sum of term loans and revolving credit, divided by total debt. Columns (1) and (2) present Tobit models with *HHI* as the dependent variable. Columns (3) and (4) present Probit models with *Excl90* as the dependent variable. Detailed variable definitions are provided in Appendix A. All regressions include firm-fixed effects and either year-fixed effects or industry-year-fixed effects. Continuous variables are winsorized at the 1st and 99th percentiles. The reported R-squared is the squared correlation coefficient between the predicted and observed value of the dependent variable. Standard errors are clustered at the state level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1) HHI	(2) HHI	(3) Excl90	(4) Excl90
Ninth × Post_Tellabs	-0.045***	-0.050***	-0.307***	-0.397***
	(-3.218)	(-3.693)	(-3.222)	(-4.103)
Debt Issuance	-0.073***	-0.073***	-0.442***	-0.483***
	(-6.326)	(-6.350)	(-6.568)	(-6.810)
Debt Seniority	0.099**	0.081**	0.475	0.300
	(1.964)	(1.962)	(1.604)	(1.105)
Debt Security	0.034**	0.039**	0.123	0.140
	(2.149)	(2.535)	(1.272)	(1.466)
Debt maturity	0.059***	0.056***	0.424***	0.447***
	(3.121)	(3.118)	(3.072)	(3.525)
Private Debt	-0.139***	-0.134***	-0.616***	-0.606***
	(-10.57)	(-9.948)	(-6.560)	(-6.570)
Observations	9,528	9,528	9,528	9,528
Control Variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	No
Industry-Year FE	No	Yes	No	Yes

Model	Tobit	Tobit	Probit	Probit
R-Squared	0.400	0.398	0.597	0.625

Table 6: Alternative Sampling

This table presents the effect of litigation risk on debt dispersion using alternative samples. The first four columns employ a propensity score matching sample, while the last four columns incorporate the full unmatched sample. *HHI* is an inverse measure of debt dispersion defined as the normalized Herfindahl-Hirschman Index of Capital IQ's seven types of debt instruments. *Excl90* is an indicator variable that equals one if a firm obtains at least 90% of its debt from one debt type and zero otherwise. *Ninth* is an indicator variable that equals one if a firm is located in the U.S. Ninth Circuit and zero otherwise. *Post_Tellabs* is one if the year is after 2007 and zero otherwise. Columns (1), (2), (5), and (6) present Tobit models with *HHI* as the dependent variable. Columns (3), (4), (7), and (8) present Probit models with *Excl90* as the dependent variable. Detailed variable definitions are provided in Appendix A. All regressions include firm-fixed effects and either year-fixed effects or industry-year-fixed effects. Continuous variables are winsorized at the 1st and 99th percentiles. The reported R-squared is the squared correlation coefficient between the predicted and observed value of the dependent variable. Standard errors are clustered at the state level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	PSM Sample				Full Sample			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	HHI	HHI	Excl90	Excl90	HHI	HHI	Excl90	Excl90
Ninth × Post_Tellabs	-0.041**	-0.047***	-0.240**	-0.273**	-0.021***	-0.022**	-0.136**	-0.147**
	(-2.543)	(-2.727)	(-2.168)	(-2.133)	(-2.742)	(-2.239)	(-2.376)	(-2.057)
Observations	9,025	9,025	9,025	9,025	23,520	23,520	23,520	23,520
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	No	Yes	No	Yes	No
Industry-Year FE	No	Yes	No	Yes	No	Yes	No	Yes
Model	Tobit	Tobit	Probit	Probit	Tobit	Tobit	Probit	Probit
R-Squared	0.358	0.373	0.272	0.314	0.402	0.409	0.275	0.296

Table 7: Other Robustness Checks

This table presents other robustness checks of the baseline results. In the first two columns, standard errors are clustered at the circuit level. In columns (3) - (4), standard errors are clustered at the firm level. Shorter study windows of three and two years around *Tellabs* are used in Columns (5) - (6) and Columns (7) - (8), respectively. *HHI* is an inverse measure of debt dispersion defined as the normalized Herfindahl-Hirschman Index of Capital IQ's seven types of debt instruments. *Excl90* is an indicator variable that equals one if a firm obtains at least 90% of its debt from one debt type and zero otherwise. *Ninth* is an indicator variable that equals one if a firm is located in the U.S. Ninth Circuit and zero otherwise. *Post_Tellabs* is one if the year is after 2007 and zero otherwise. Columns (1), (3), (5), and (7) present Tobit models with *HHI* as the dependent variable. Columns (2), (4), (6), and (8) present Probit models with *Excl90* as the dependent variable. Detailed variable definitions are provided in Appendix A. All regressions include firm-fixed effects and either year-fixed effects or industry-year-fixed effects. Continuous variables are winsorized at the 1st and 99th percentiles. The reported R-squared is the squared correlation coefficient between the predicted and observed value of the dependent variable. Standard errors are clustered at the state level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Circuit Level Clustering		Firm Level Clustering		-3, +3 Years Window		-2, +2 Years Window	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	HHI	Excl90	HHI	Excl90	HHI	Excl90	HHI	Excl90
Ninth × Post_Tellabs	-0.052***	-0.412***	-0.053***	-0.414***	-0.053***	-0.494***	-0.046***	-0.611***
	(-5.058)	(-4.928)	(-2.868)	(-3.200)	(-3.624)	(-4.603)	(-2.922)	(-4.027)
Observations	9,526	9,526	9,528	9,528	7,425	7,425	5,367	5,367
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Model	Tobit	Probit	Tobit	Probit	Tobit	Probit	Tobit	Probit
R-Squared	0.404	0.334	0.356	0.323	0.434	0.324	0.373	0.300

Table 8: Heterogeneous Effects by Financial Distress Risk

This table presents the relation between litigation risk and debt dispersion for subsamples based on firms' ex-ante financial distress risk. In Panels A to C, the sample is partitioned based on *Distress*, *CF Volatility*, and *Liquidation Value* before *Tellabs*, respectively. *HHI* is an inverse measure of debt dispersion defined as the normalized Herfindahl-Hirschman Index of Capital IQ's seven types of debt instruments. *Excl90* is an indicator variable that equals one if a firm obtains at least 90% of its debt from one debt type and zero otherwise. *Ninth* is an indicator variable that equals one if a firm is located in the U.S. Ninth Circuit and zero otherwise. *Post_Tellabs* is one if the year is after 2007 and zero otherwise. Columns (1) - (4) present Tobit models with *HHI* as the dependent variable. Columns (5) - (8) present Probit models with *Excl90* as the dependent variable. Detailed variable definitions are provided in Appendix A. All regressions include firm-fixed effects and either year-fixed effects or industry-year-fixed effects. Continuous variables are winsorized at the 1st and 99th percentiles. The reported R-squared is the squared correlation coefficient between the predicted and observed value of the dependent variable. Standard errors are clustered at the state level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Subsample by Zmijewski's (1984) Distress Score

	HHI				Excl90			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	High Distress	Low Distress	High Distress	Low Distress	High Distress	Low Distress	High Distress	Low Distress
Ninth × Post_Tellabs	-0.080***	-0.018	-0.052***	-0.019	-0.551***	-0.183	-0.425**	-0.303**
	(-4.696)	(-0.670)	(-2.684)	(-0.818)	(-3.876)	(-1.202)	(-2.324)	(-2.175)
P-value of Difference	0.000		0.006		0.001		0.007	
Observations	4,471	4,475	4,471	4,475	4,471	4,475	4,471	4,475
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	No	No	Yes	Yes	No	No
Industry-Year FE	No	No	Yes	Yes	No	No	Yes	Yes
Model	Tobit	Tobit	Tobit	Tobit	Probit	Probit	Probit	Probit
R-Squared	0.420	0.355	0.403	0.338	0.325	0.319	0.371	0.346

Panel B: Subsample by Cash Flow Volatility								
	HHI				Excl90			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	High CF Vol.	Low CF Vol.	High CF Vol.	Low CF Vol.	High CF Vol.	Low CF Vol.	High CF Vol.	Low CF Vol.
Ninth × Post_Tellabs	-0.065**	-0.030*	-0.071**	-0.030*	-0.369**	-0.225*	-0.449**	-0.293*
	(-2.241)	(-1.865)	(-2.334)	(-1.830)	(-1.991)	(-1.849)	(-2.297)	(-1.833)
P-value of Difference	0.001		0.001		0.036		0.024	
Observations	4,603	4,605	4,603	4,605	4,603	4,605	4,603	4,605
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	No	No	Yes	Yes	No	No
Industry-Year FE	No	No	Yes	Yes	No	No	Yes	Yes
Model	Tobit	Tobit	Tobit	Tobit	Probit	Probit	Probit	Probit
R-Squared	0.331	0.415	0.312	0.377	0.302	0.326	0.340	0.346

Panel C: Subsample by Liquidation Value								
	HHI				Excl90			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	High Liq.	Low Liq.	High Liq.	Low Liq.	High Liq.	Low Liq.	High Liq.	Low Liq.
Ninth × Post_Tellabs	-0.026	-0.064***	-0.021	-0.065***	-0.146	-0.557***	-0.163	-0.633***
	(-0.941)	(-4.783)	(-0.927)	(-4.156)	(-0.955)	(-4.220)	(-1.007)	(-3.496)
P-value of Difference	0.009		0.006		0.001		0.003	
Observations	4,550	4,551	4,550	4,551	4,550	4,551	4,550	4,551
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Year FE	Yes	Yes	No	No	Yes	Yes	No	No
Industry-Year FE	No	No	Yes	Yes	No	No	Yes	Yes
Model	Tobit	Tobit	Tobit	Tobit	Probit	Probit	Probit	Probit
R-Squared	0.354	0.418	0.339	0.393	0.312	0.342	0.344	0.381

Table 9: Heterogeneous Effects by Likelihood of Being Sued

This table presents the relation between litigation risk and debt dispersion for subsamples based on firms' ex-ante likelihood of being sued. In Panels A to C, the sample is partitioned based on *Inst. Ownership* (i.e., Herfindahl-Hirschman Index of institutional holdings), *Ind. Competition* (captured by the Herfindahl-Hirschman Index of firms' market share at the Fama-French 48 industry level), and *High-* vs *Low-Tech* industries, respectively. *HHI* is an inverse measure of debt dispersion defined as the normalized Herfindahl-Hirschman Index of Capital IQ's seven types of debt instruments. *Excl90* is an indicator variable that equals one if a firm obtains at least 90% of its debt from one debt type and zero otherwise. *Ninth* is an indicator variable that equals one if a firm is located in the U.S. Ninth Circuit and zero otherwise. *Post_Tellabs* is one if the year is after 2007 and zero otherwise. Columns (1) - (4) present Tobit models with *HHI* as the dependent variable. Columns (5) - (8) present Probit models with *Excl90* as the dependent variable. Detailed variable definitions are provided in Appendix A. All regressions include firm-fixed effects and either year-fixed effects or industry-year-fixed effects. Continuous variables are winsorized at the 1st and 99th percentiles. The reported R-squared is the squared correlation coefficient between the predicted and observed value of the dependent variable. Standard errors are clustered at the state level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Subsample by Institutional Ownership

	HHI				Excl90			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	High IO	Low IO	High IO	Low IO	High IO	Low IO	High IO	Low IO
Ninth × Post_Tellabs	-0.059***	-0.046**	-0.075***	-0.048**	-0.395***	-0.266*	-0.565***	-0.344**
	(-2.822)	(-2.414)	(-3.714)	(-2.408)	(-3.404)	(-1.660)	(-4.158)	(-2.020)
P-value of Difference	0.009		0.002		0.067		0.008	
Observations	4,315	4,321	4,315	4,321	4,315	4,321	4,315	4,321
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	No	No	Yes	Yes	No	No
Industry-Year FE	No	No	Yes	Yes	No	No	Yes	Yes
Model	Tobit	Tobit	Tobit	Tobit	Probit	Probit	Probit	Probit

R-Squared	0.382	0.388	0.358	0.378	0.331	0.321	0.368	0.353

Panel B: Subsample by Industry Competition

	HHI				Excl90			
	(1) High Industry Comp.	(2) Low Industry Comp.	(3) High Industry Comp.	(4) Low Industry Comp.	(5) High Industry Comp.	(6) Low Industry Comp.	(7) High Industry Comp.	(8) Low Industry Comp.
Ninth × Post_Tellabs	-0.092***	-0.010	-0.090***	-0.017	-0.552***	-0.119	-0.615***	-0.186
	(-3.931)	(-0.490)	(-4.054)	(-1.179)	(-3.359)	(-0.844)	(-3.507)	(-1.477)
P-value of Difference	0.002		0.001		0.005		0.019	
Observations	4,605	4,603	4,605	4,603	4,605	4,603	4,605	4,603
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	No	No	Yes	Yes	No	No
Industry-Year FE	No	No	Yes	Yes	No	No	Yes	Yes
Model	Tobit	Tobit	Tobit	Tobit	Probit	Probit	Probit	Probit
R-Squared	0.373	0.393	0.344	0.362	0.313	0.318	0.343	0.317

Panel C: Subsample by High- vs Low-Tech Industries

	HHI				Excl90			
	(1) High-Tech	(2) Low-Tech	(3) High-Tech	(4) Low-Tech	(5) High-Tech	(6) Low-Tech	(7) High-Tech	(8) Low-Tech
Ninth × Post_Tellabs	-0.104***	-0.029	-0.104***	-0.038***	-0.568***	-0.232*	-0.636***	-0.376***
	(-4.120)	(-1.633)	(-4.386)	(-2.676)	(-2.950)	(-1.826)	(-3.445)	(-3.259)
P-value of Difference	0.000		0.002		0.001		0.145	
Observations	3,375	6,153	3,375	6,153	3,375	6,153	3,375	6,153
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	No	No	Yes	Yes	No	No
Industry-Year FE	No	No	Yes	Yes	No	No	Yes	Yes
Model	Tobit	Tobit	Tobit	Tobit	Probit	Probit	Probit	Probit
R-Squared	0.358	0.387	0.324	0.363	0.297	0.320	0.308	0.343

Table 10: Litigation Risk and Managerial Discipline

This table reports the effect of litigation risk on managerial discipline. *Earnings Mgt.* is an inverse measure of accrual quality calculated using Jones' (1991) Model. *Misconduct* is the number of corporate violations. *Ninth* is an indicator variable that equals one if a firm is located in the U.S. Ninth Circuit and zero otherwise. *Post_Tellabs* is an indicator variable that equals one if the year is after 2007 and zero otherwise. Columns (1) and (2) present OLS models with *Earnings Mgt.* as the dependent variable. Columns (3) and (4) present Poisson models with *Misconduct* as the dependent variable. Detailed variable definitions are provided in Appendix A. All regressions include firm-fixed effects and either year-fixed effects or industry-year-fixed effects. Continuous variables are winsorized at the 1st and 99th percentiles. The reported R-squared is the squared correlation coefficient between the predicted and observed value of the dependent variable. Standard errors are clustered at the state level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1) Earnings Mgt.	(2) Earnings Mgt.	(3) Misconduct	(4) Misconduct
Ninth × Post_Tellabs	-0.010**	-0.011**	-0.446***	-3.057***
	(-2.231)	(-2.203)	(-2.783)	(-4.997)
Observations	9,210	9,210	179	179
Control Variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	No
Industry-Year FE	No	Yes	No	Yes
Model	OLS	OLS	Poisson	Poisson
R-Squared	0.388	0.408	0.079	0.054

Table 11: Litigation Risk and the Dispersion of Other Debt Features

This table presents the effect of litigation risk on the dispersion of creditors (Columns (1) - (2)) and debt maturity profiles (Columns (3) - (6)). Creditor dispersion is measured by firms' reliance on relationship lenders (*Rel. Lender*), which is an indicator variable that equals one if a firm borrows from a lender with which the firm already has a lending-borrower relationship and zero otherwise. *Maturity HHI* is an inverse measure of maturity dispersion defined as the normalized Herfindahl-Hirschman Index based on the proportion of debt in different maturity categories. *Maturity Excl90* is an indicator variable that equals one if a firm has at least 90% of its debt in one maturity bucket and zero otherwise. *Ninth* is an indicator variable that equals one if a firm is located in the U.S. Ninth Circuit and zero otherwise. *Post_Tellabs* is one if the year is after 2007 and zero otherwise. Detailed variable definitions are provided in Appendix A. All regressions include firm-fixed effects and either year-fixed effects or industry-year-fixed effects. Continuous variables are winsorized at the 1st and 99th percentiles. The reported R-squared is the squared correlation coefficient between the predicted and observed value of the dependent variable. Standard errors are clustered at the state level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1) Rel. Lender	(2) Rel. Lender	(3) Maturity HHI	(4) Maturity HHI	(5) Maturity Excl90	(6) Maturity Excl90
Ninth × Post_Tellabs	-0.508**	-1.001***	-0.039**	-0.036**	-0.218**	-0.211**
	(-2.337)	(-2.910)	(-2.261)	(-2.309)	(-2.224)	(-2.373)
Observations	2,072	2,072	9,396	9,396	9,396	9,396
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	No	Yes	No
Industry-Year FE	No	Yes	No	Yes	No	Yes
Model	Probit	Probit	Tobit	Tobit	Probit	Probit
R-Squared	0.166	0.251	0.246	0.251	0.172	0.171