Shareholder Empowerment and Corporate Leases*

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Abstract

Exploiting the staggered adoption of majority voting laws that strengthen shareholder power in corporate director elections, we find that firms reduce their operating leases following shareholder empowerment. We hypothesize that this effect reflects exacerbated shareholder-debtholder conflicts. Consistently, we document that the effect is less pronounced for firms with better creditor protection, or for firms in which shareholders have greater ownership stakes in the creditors. In addition, we find empirical evidence showing escalated shareholder-debtholder conflicts following majority voting laws. Firms have higher expected bankruptcy risk and operate in fewer geographical segments after majority voting laws are adopted.

JEL classification: G32, G34.

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1. Introduction

This paper studies the effect of shareholder empowerment on corporate leasing policy. Besides equity and debt, operating leases are also an important way for firms to finance their business projects. Firms could acquire their needed assets by using lease contracts rather than purchasing the assets. According to the International Accounting Standards Board (IASB, 2016), listed companies using International Financial Reporting Standard (IFRS) or the U.S. Generally Accepted Accounting Principles (GAAP) disclose nearly US$3 trillion of off-balance sheet lease commitments.[1]

Given the substantial magnitude of leases, the determinants of corporate leasing policy have attracted significant research attention. The existing literature has identified the tax incentive as a critical factor in the decision to lease or buy (Lewellen et al., 1976; Miller and Upton, 1976; Myers et al., 1976; Brealey and Young, 1980; Graham et al., 1998; Ross et al., 2010).[2] Besides tax considerations, Smith and Wakeman (1985) comprehensively analyze various factors affecting leasing policy, including lessee and lessor characteristics. And empirical research has revealed that corporate leasing decisions are influenced by bankruptcy risk (Krishnan and Moyer, 1994), CEO stock ownership (Mehran et al., 1999), CEO compensation and board structure (Robicheaux et al., 2008), and ease of repossessing collateral in the bankruptcy (Chu, 2020), among others.

Yet, there is little research linking shareholder rights to leasing policy. The literature has recognized that shareholder empowerment over management could significantly affect corporate capital structure decisions, such as leverage (Berger et al., 1997) and cash accumulation

[1] See "Effects Analysis: IFRS 16 Leases", International Accounting Standards Board (IASB), January 2016: https://www.ifrs.org/content/dam/ifrs/project/leases/ifrs/published-documents/ifrs16-effects-analysis.pdf

[2] For example, Ross et al. (2010) state that tax reduction is the most crucial determinant for long-term leasing. The reason is that firms in the low tax bracket receive little tax benefit from depreciation and interest tax deductions if they purchase the assets. If they lease the assets, the lessor obtains the depreciation and interest tax deductions so that lessor will, in a competitive market, charge a low lease payment to compensate for these tax shields. Therefore, firms with low marginal tax rates are attempted to lease rather than purchase.

(Nikolov and Whited, 2014).[3] While similar in nature to leverage and cash holdings, the relation between shareholder rights and leases could have very different theoretical predictions and empirical outcomes. In this paper, we fill the gap in the literature and investigate how shareholder power affects leasing decisions.

Theoretically, the effect of shareholder empowerment on corporate leases is ambiguous. The literature has documented the conflict of interest between shareholders and other stakeholders, such as creditors. Jensen and Meckling (1976) point out that, in a world with incomplete contracting, shareholders might have the incentive to take excessive risks or replace existing assets with riskier assets, shifting wealth from, and passing unanticipated risks to debtholders (risk-shifting/asset substitution problem). Similarly, Smith and Warner (1979) put forward the asset substitution problem with bond issuance: after a firm issues bonds, stockholders might prompt the firm management to invest the bond proceeds in riskier assets than advertised in the bond issuance process. Empirically, prior studies have found evidence that stronger shareholder rights could negatively impact debtholders through the increased riskiness of debt (Bhojraj and Sengupta, 2003; Ashbaugh-Skaife et al., 2006).[4] The conflicts between shareholders and debtholders are known as the agency costs of debt.

The use of operating leases helps contain the agency costs of debt in two ways. First, lease contracts could reduce the risk-taking level of the firm. With lease contracts, the firm leases the assets for a certain period and pays rent to the lessor. After the lease contract expires, if the firm returns the assets to the lessor without extra costs other than the lease payments, the lessor takes on the residual value of the assets. That means the lessee is free from the uncertainty of the leased assets' residual value. That is, the firm transfers the variation in the asset value and the residual value risk of the leased property to the lessor (Eisfeldt and Rampini, 2009; Ross et al., 2010; Fairhurst et al., 2021).

[3] Berger et al. (1997) find that corporate leverage increases in the year after a major stockholder joins the board of directors. Nikolov and Whited (2014) show that lower blockholder and institutional ownership are associated with higher managerial perquisite consumption and higher cash accumulation.

[4] Bhojraj and Sengupta (2003) find that concentrated institutional ownership adversely affects bond yields and ratings. Ashbaugh-Skaife et al. (2006) document that firms' credit ratings are negatively correlated with the number of blockholders and positively associated with takeover defenses (weaker shareholder rights).

Second, operating leases, as fixed-term and binding contracts, oblige firms to use the leased assets for the lease contract's life and thus mitigate the asset substitution problem (Smith and Warner, 1979; Smith and Wakeman, 1985). The reasoning here is that, in the case of leasing, the firm obtains the leased assets, but not the cash as in the case of issuing bonds, so the firm is mostly kept away from asset substitution opportunities (Chigurupati and Hegde, 2010). Furthermore, in the case of non-cancellable lease contracts, the firm is bound to use the leased assets until the lease contract expires; therefore, leasing disciplines the firm from replacing current assets with riskier assets.

Based on the theory of shareholder-debtholder conflicts, there are two opposing predictions of the effect of greater shareholder power on the use of corporate leases. On the one hand, more powerful shareholders might be incentivized to change the corporate policies to maximize their own interests at the expense of creditors. Consequently, they may reduce leases to take on more risky projects. On the other hand, greater shareholder power may reduce the willingness of creditors to finance asset acquisition through regular debt issuance because they may fear increased risk of expropriation due to risk-shifting activities. In this case firms may want to commit to not expropriate the debtholders by using more operating leases (Robicheaux et al., 2008).

Given these opposing predictions, the causal effect of shareholder power on the corporate leasing policy remains an open empirical question. We identify this effect by using the staggered adoption of state-level majority voting (MV) laws. In a corporation's director election, the majority voting standard requires that a board member receive more than 50% of the votes cast (Dyck et al., 2022). Compared to the plurality voting standard (the candidate with the most votes is elected to the board regardless of the withheld votes), majority voting pools the opinions from a more extensive set of shareholders, holding directors more accountable to shareholders' interests.[5] From 2006 to 2013, 11 states adopted new laws to facilitate majority voting proposals to strengthen shareholders' voting power. Essentially,

[5]A more detailed description of majority voting is provided in Section 2.

this staggered adoption of MV laws provides an exogenous setting to examine the effect of shareholder empowerment on corporate leasing policy. Following Li et al. (2016) and Chu (2020), we use the present value of lease commitments due in the current year and years 1-5 to measure a firm's operating leases.

Using a difference-in-differences (DiD) framework, we find that firms incorporated in states that adopt MV laws reduce their operating leases after the adoption of the laws by approximately 7.9% of the sample mean relative to untreated firms.[6] This result suggests that increasing shareholder power reduces firms' use of operating leases.[7] The critical underlying assumption for the difference-in-differences strategy is the parallel trends assumption: the change in operating leases of the treated group should not have been different from that of the untreated group if MV laws were absent. The empirical results show that the effect only occurs after, and not before, the adoption of MV laws, supporting the parallel trends assumption.

Next, we explore the underlying mechanisms. We hypothesize that, if the adverse effect of increased shareholder power on leases reflects exacerbated shareholder-debtholder conflicts, the effect of MV laws should be mitigated by corporate mechanisms reducing shareholders' tendency to expropriate debtholder wealth. We conduct two empirical tests to verify this argument. First, we employ the *Credit Lyonnais vs. Pathe Communications Case* in Delaware as an exogenous measure of legal debtholder protection (Becker and Strömberg, 2012) and find that stronger legal creditor protection mitigates the negative effect of MV laws on operating leases.[8]

Second, we calculate the average proportion of the bank lenders' equity held by the bor-

[6]This result comes with variables in which the operating leases are not capitalized. If using adjusted variables with capitalized leases, treated firms reduce their operating leases by around 6% of the sample mean relative to untreated firms. We explain how we capitalize operating leases in Section 3.4.

[7]In the robustness check, we obtain similar results if we use institutional shareholding and CEO compensation delta as alternative proxies for shareholder power.

[8]*Credit Lyonnais vs. Pathe Communications Case* is a case law that extends corporate directors' fiduciary duties to creditors when a firm is in the "zone of insolvency", limiting managers' incentives to take actions in favor of shareholders at the expense of debtholders and thus strengthening creditor protection (Becker and Strömberg, 2012).

rower's shareholders. Arguably, if the shareholders have a greater stake in the lending firm, they would be less willing to engage in expropriation and the agency costs will be lower (Fama and Jensen, 1983; Jiang et al., 2010; Ojeda, 2019; Wang and Wang, 2022). We find that the negative effect of MV laws on leases is less pronounced, if a firm's shareholders hold more equity in the firm's bank lenders. These results support our hypothesis that shareholder-debtholder conflicts are a major channel, through which shareholder power affects corporate leases.

Furthermore, if firms reduce operating leases after shareholder empowerment because of distorted risk-taking incentives, the firm-level risk is expected to increase after the enactment of MV laws. That is to say, we expect more intensified equity-debt conflicts as a result of MV laws. Consistent with this prediction, we find that firms have lower Altman's (1968) Z scores and fewer geographical segments following the MV laws. To further confirm the escalated shareholder-debtholder conflicts after shareholder empowerment, we examine whether creditors actively take actions to protect themselves from shareholder expropriation after the MV laws. Empirical tests indicate that bank loan spreads and the probability of loan lenders using collateral covenants increase following the MV laws.

Finally, we explore three alternative explanations, other than distorted shareholder risk-shifting incentives, of why firms may reduce leases after MV laws are passed. First, we look at the debt coverage hypothesis: firms reduce lease contracts to increase debt coverage in favor of debtholders (Smith and Wakeman, 1985). Second, we examine the balance sheet expansion hypothesis: firms replace lease financing with debt financing (e.g., Eisfeldt and Rampini, 2009; Chu, 2020). The third is the free cash flow problem hypothesis: shareholder empowerment substitutes leases as the governance mechanism to control the free cash flow problem (e.g., Jensen, 1986; Stulz, 1990; Yan, 2006). Our empirical analysis does not provide evidence for these alternative hypotheses.

This paper contributes to at least two strands of literature. First, it provides empirical evidence to identify a significant determinant of corporate leasing policy. Traditionally, the

literature has mainly considered leases as a substitute for debt (e.g., Myers et al., 1976; Franks and Hodges, 1978; Smith and Wakeman, 1985; Marston and Harris, 1988; Yan, 2006; Eisfeldt and Rampini, 2009).[9] In terms of determinants of corporate leasing policy, the existing literature has looked into the tax incentives (e.g., Lewellen et al., 1976; Miller and Upton, 1976; Myers et al., 1976; Brealey and Young, 1980; Graham et al., 1998), lessee and lessor characteristics (Smith and Wakeman, 1985), managerial incentives (Mehran et al., 1999; Robicheaux et al., 2008), debt-lease substitution (e.g., Eisfeldt and Rampini, 2009; Chu, 2020), etc. This paper advances this strand of literature by revealing the significant effect of shareholders' rights and the shareholder-creditor conflicts on leasing policy.

Second, this paper adds to the literature on stockholder-debtholder conflicts. Agency theory has pointed out two primary equity-debt conflicts: the risk-shifting problem (Jensen and Meckling, 1976) and the underinvestment problem (Myers, 1977). The literature has also recognized leases' function to control the agency costs of debt (e.g., Smith and Wakeman, 1985; Stulz and Johnson, 1985; Robicheaux et al., 2008). This paper complements this strand of literature by showing that risk-shifting incentives could be a channel through which shareholder power affects corporate leasing policy.

The remaining parts of this paper proceed as follows. Section 2 describes the institutional background of our identification setting. Section 3 discusses the data, sample, and variable construction. Section 4 presents the empirical results for the effect of shareholder power on operating leases. Section 5 presents the empirical results documenting the mechanisms. Section 6 concludes.

2. Institutional Background

There are two primary voting standards in corporate director elections. The first standard is plurality voting, in which one candidate needs to receive more "for" votes than the

[9] There are also studies arguing that leases and debt can be complements (Ang and Peterson, 1984; Lewis and Schallheim, 1992).

competing candidate to win the election. In an uncontested election, only one "for" vote is theoretically enough to place a candidate on the board regardless of the number of withheld votes. The disregard for "withhold" votes in plurality voting has been a concern. For example, a study by G.M.I. Ratings and the Investor Responsibility Research Center Institute (IRRCI, 2012) concludes that a high rate of shareholders withholding votes implies that shareholders are dissatisfied with the director in question and the board or company as a whole.[10] A post by Reuters (2012) states that the primary reasons for withholding votes include: concern over executive compensation and general dissatisfaction with the company, "related-party" transactions by corporate insiders, the company's adoption of a poison-pill, or anti-takeover strategy without shareholder approval.[11] However, "withhold" votes fail to convey shareholders' opinions to the board or management in the case of plurality voting.

Other than plurality voting, another voting standard is majority voting, in which a board candidate should receive more than 50% of the votes cast to be elected or re-elected (Dyck et al., 2022). Ertimur et al. (2015) find an increase in boards' responsiveness to shareholders' requests and concerns at firms with majority voting.[12] Moreover, majority voting is argued to make it easier for outsider investors to inhibit insiders' candidates from gaining the board position (e.g., Cuñat et al., 2012; Ertimur et al., 2015; Doidge et al., 2019; Dyck et al., 2022). Therefore, majority voting holds directors more accountable to shareholders' opinions, thus strengthening shareholders' influence in the corporate operation.

Plurality voting has been the default standard in director elections in the U.S. unless the charter or bylaws specify otherwise. In 2004, shareholder activists began to submit nonbinding shareholder proposals under Rule 14-8 to urge firms to employ majority voting (Ertimur et al., 2015). In the summer of 2016, the Council of Institutional Investors (CII)

[10] See "The Election of Corporate Directors: What Happens When Shareowners Withhold a Majority of Votes from Director Nominees", Kimberly Gladman, GMI Ratings & IRRCI, August 2012: http://files.ctctcdn.com/27d4e85b001/bd76ce30-9fc2-46ea-a61f-864b4afd9ea5.pdf

[11] See "Unhappiness runs deep when shareholders withhold votes: study", Emmanuel Olaoye, Reuters, August 2012: https://www.reuters.com/article/us-companies-shareholders/unhappiness-runs-deep-when-shareholders-withhold-votes-study-idUSBRE87F00S20120816

[12] Ertimur et al. (2015) find a 26.3-28.4% rise in the rate of execution of majority-approved shareholder proposals for firms with majority voting relative to non-majority-voting firms.

launched a campaign to encourage all companies in the Russell 3000 index to adopt majority voting, regardless of their history with related shareholder proposals.[13] However, shareholder proposals are not binding. In other words, even though those proposals pass, management has the discretion of whether to implement them. For example, only around half of the passed shareholder proposals were eventually executed among Russell 3000 firms in 2005 (Cuñat et al., 2019).

To facilitate majority voting, the Delaware General Corporation Law (DGCL) was amended in 2006. Under the new law, the board of directors is not allowed to repeal or amend the shareholder-adopted bylaw amendments that request majority voting in director elections, making shareholder proposals related to director elections binding. Moreover, in 2006, the Model Business Corporation Act (MBCA) was amended so that the board of directors could not repeal any bylaw amendment that requires directors elected in plurality voting to serve for no more than 90 days if the director had received more votes "against" than "for". These new laws facilitate a forceful implementation of amendments to bylaws that install majority voting in director elections. From 2006 to 2013, other states where the MBCA is the basis for state corporation laws followed suit. Table 1 presents the states where the new majority voting laws were adopted and the year of adoption. Figure 1 maps the states that adopted these laws by 2013. These new laws place more stringent voting rules in director elections and make it harder for managers to repeal or amend shareholder-sponsored proposals regarding majority voting (Cuñat et al., 2019). We employ these state-level majority voting laws as exogenous shocks increasing shareholders' power in the corporate operation. This identification framework enables us to establish causality from shareholder empowerment to corporate leasing policy.

[Insert Figure 1 and Table 1 near here]

[13] See "Majority Voting for Directors", Council of Institutional Investors: https://www.cii.org/majority_voting_directors

3. Data, Sample, and Variables

3.1. Sample Selection

We obtain our sample and firm-level accounting variables from the CRSP/Compustat Merged database. We retain firms incorporated and headquartered in the U.S. and exclude utilities (SIC 4900-4999) and financial firms (SIC 6000-6999). Our sample begins in 2003, three years before the first adoption year (2006 in Delaware, California, and Florida) of MV laws, and ends in 2016, three years after the last adoption year (2013 in New Hampshire) of MV laws. The final sample contains 30,873 firm-year observations after dropping observations with missing variables and singleton observations. The information on firms' historical incorporation state and headquarter state is available from the augmented 10-K/Q header dataset constructed by Bill McDonald.[14]

3.2. Measure of Operating Leases

Following Li et al. (2016) and Chu (2020), we use the present value of current and future lease commitments to measure firms' operating leases. Specifically, we discount the lease commitments due in years 1-5 (Compustat items MRC1-MRC5) at the BAA bond yield.[15] Then we sum up the present values of future lease commitments and the current year lease commitment (Compustat item XRENT). Lastly, we scale this sum by total assets (Compustat item AT) to make it comparable across different-sized firms. This variable is labeled *Lease*, the primary dependent variable in our regression analysis.

Since lease commitments beyond year 5 (Compustat item MRCTA) are often missing, we do not include these lease commitments in the construction of the variable *Lease* to preserve the sample size. Following Chu (2020), we create two alternative measures of operating

[14]The augmented 10-K/Q data is available on Bill McDonald's website: https://sraf.nd.edu/data/augmented-10-x-header-data/

[15]The BAA bond yield data can be found on the website of the Federal Reserve Bank of St. Louis: https://fred.stlouisfed.org/series/BAA

leases that include MRCTA in the robustness check (Section 4.6.3). Our results still hold with these alternative measures.

3.3. Control Variables

Following Sharpe and Nguyen (1995), Graham et al. (2008), and Chu (2020), we include variables to control for firm characteristics. To control for the firm size, we include *Log Assets* (the natural logarithm of firms' book total assets (Compustat item AT)). To control for firms' financial structure, we include firms' *Tangibility* (Compustat item PPENT / AT), *Tobin's q* (Compustat item (AT-CEQ+CSHO*PRCC_F) / AT), *Book Leverage* (Compustat item (DLC+DLTT) / AT), and *Cash Holding* (Compustat item CHE / AT). To control for firms' operating performance, we include *Profitability* (Compustat item OIBDP / AT). To control for firms' payout status, we include *Dividend* (an indicator equal to 1 if Compustat items DVP+DVC is positive, and 0 otherwise). To control for firms' tax burden, we include *Tax Rate* (Compustat item TXT / PI). To consider firms' access to the debt market, we include *Rating Dummy* (an indicator equal to 1 if the firm has an S&P domestic long-term issuer credit rating (Compustat Ratings item SPLTICRM), and 0 otherwise).

3.4. Adjusted Variables

While equity and debts are on-balance financings, operating leases are off-balance. U.S. GAAP allowed firms to report operating leases as off-balance sheet items in the footnotes of S.E.C. filings.[16] To consider the effect of operating leases on capital structure, we follow Chu (2020) and calculate the adjusted version of variables by capitalizing operating leases. Specifically, we construct the adjusted total assets by summing up total book assets and the lease values (as calculated in the variable *Lease*). Then we replace total book assets

[16] In 2016, the Financial Accounting Standards Board (FASB) published the new lease accounting standard ASC 842. The new standard demands that, after December 2018, public firms report operating leases, capital leases, and leases lasting more than 12 months on the balance sheet. This does not concern our research because our sample period ends in 2016.

with the adjusted total assets in all the variables defined above. We calculate adjusted leverage by adding up total liabilities (Compustat item DLC+DLTT) and the lease values (as calculated in variable *Lease*) and then scale it by adjusted total assets. We calculate the adjusted profitability as the sum of operating income (Compustat item OIBDP) and current rental payment (Compustat item XRENT) divided by adjusted total assets. We also adjust the tangibility as the sum of reported total property, plant, and equipment (Compustat item PPENT) and the lease values (as calculated in variable *Lease*) scaled by adjusted total assets.

3.5. Descriptive Statistics

The detailed definitions of all the variables can be found in Appendix A. We winsorize all continuous variables at the 1st and 99th percentiles by year. Table 2 provides the descriptive statistics for the variables. For the convenience of interpretation in the regression analysis, we express lease-related variables in percentage points. Panel A presents the summary statistics for unadjusted variables, while panel B presents statistics for adjusted variables. Table 2 shows that, on average, operating leases weigh 11.109% of the total book assets or 8.542% of the adjusted total assets, implying that operating leases are a significant component in firms' capital structure. The descriptive statistics are in line with Chu (2020).

[Insert Table 2 near here]

4. Effect of Shareholder Empowerment on Leases

4.1. Timing of Adopting Majority Voting Legislation

The foundation of our identification is that the adoption of state-level MV laws is exogenous to firms' leasing policies. In other words, a state's decision to adopt the MV law is orthogonal to the value of operating leases of firms incorporated in that state. To verify the

exogeneity of MV laws, we follow Acharya et al. (2014) and estimate a Weibull hazard model where the event is the adoption of MV law in a given state.[17] The duration is calculated as the year in which the state adopted MV law minus 2003 (the beginning year of our sample). A state is dropped from the sample once the MV law is adopted in that state. The operating lease value is aggregated at the incorporation-state level by taking the mean of all firms' operating lease values in that state. We control several state characteristics, including state GDP growth rate (%), the natural logarithm of state GDP per capita, the natural logarithm of the state population, unemployment rate (%), and governor's political party affiliation (a dummy equal to 1 if the state governor is a Republican, and 0 otherwise). In addition, we control other state-level antitakeover laws that affect the corporate principal-agency problem, including control share acquisition laws (CS), business combination laws (BC), fair price laws (FP), and poison pill laws (PP).[18] We lag all the independent variables by one year.

Table 3 presents the results of the Weibull hazard model. The coefficients of the state-level mean value of operating leases are insignificant in all specifications, implying that the enactment of MV law in a given state is unlikely to be driven by the preexisting operating lease values of firms incorporated in that state. The results in Table 3 validate the exogeneity of MV laws in our research setting.

[Insert Table 3 near here]

4.2. Baseline Model

To examine the effect of shareholder empowerment on corporate leasing policy, we employ Bertrand and Mullainathan's (2003) staggered difference-in-differences framework:

$$Lease_{i,t,s} = \alpha + \beta_1 * MV_{t,s} + \beta_2 * Controls_{i,t-1} + Firm_{FE} + Year_{FE} + \epsilon_{i,t} \quad (1)$$

[17] In unreported analysis, we also estimate a Cox model as a robustness check and obtain similar results.

[18] The data on the antitakeover laws can be found from Bertrand and Mullainathan (2003) and Karpoff and Wittry (2018).

The dependent variable $Lease_{i,t,s}$ is the value of operating leases of firm i in year t and incorporated in state s. The primary explanatory variable $MV_{t,s}$ is defined as an indicator that takes the value of one if the MV law has been adopted in state s in year t, and zero otherwise. $Controls_{i,t-1}$ is a vector of control variables, as discussed in Section 3.3. We lag the control variables by one year to mitigate the "bad control" concern.[19] $Firm_{FE}$ denotes firm fixed effects, and $Year_{FE}$ denotes year fixed effects. The inclusion of firm and year fixed effects ensures that the coefficient of $MV_{t,s}$ captures the difference-in-differences effects. We cluster the robust standard errors by incorporation state as the exogenous shocks (MV laws) are implemented at the incorporation state level. In the above regression, β_1 captures the before-after effect of MV laws on leasing policy in treated firms relative to untreated firms.

Table 4 presents the estimated results of regression (1). Column (1) and column (2) present results with unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present results with adjusted variables in which operating leases are capitalized. The coefficients of MV laws are negative and significant at 1% level across all specifications, indicating that treated firms reduce their operating leases significantly in response to the adoption of MV laws relative to untreated firms. For example, column (1) shows that MV laws cause operating leases to decrease by 0.874 percent points, which is 7.87% (0.874/11.109) of the sample mean and 17.19% (0.874/5.083) of the sample median. Other columns show similar results. Regarding the control variables, Table 4 indicates that operating leases decrease with firms' total assets, Tobin's q, and profitability. The results on control variables are consistent with previous studies (Graham et al., 1998; Chu, 2020).

[Insert Table 4 near here]

[19] "Bad control" in a difference-in-differences framework means that, if the controls are themselves affected by the treatment, the estimates of difference-in-differences effects will be inconsistent (Angrist and Pischke, 2009).

4.3. Dynamic Analysis

The critical underlying assumption for difference-in-differences strategy is the parallel trends assumption: the evolving trends of operating leases of the treated group and untreated group should be no different without introducing MV laws. To look into the pre-treatment trends of operating leases, we run a dynamic regression as follows:

$$\begin{aligned} Lease_{i,t,s} = \alpha + \beta_1 * MV^{-2}_{t,s} + \beta_2 * MV^{-1}_{t,s} + \beta_3 * MV^{0}_{t,s} + \beta_4 * MV^{1}_{t,s} + \\ \beta_5 * MV^{2}_{t,s} + \beta_6 * MV^{3+}_{t,s} + \beta_7 * Controls_{i,t-1} + Firm_{FE} + Year_{FE} + \epsilon_{i,t} \end{aligned} \tag{2}$$

The variables $MV^{-2}_{t,s}$, $MV^{-1}_{t,s}$, $MV^{0}_{t,s}$, $MV^{1}_{t,s}$, $MV^{2}_{t,s}$, $MV^{3+}_{t,s}$ are dummies that equal to one if the firm is incorporated in a state that: (1) will adopt the MV law two years later; (2) will adopt the MV law one year later; (3) adopts the MV law in the current year; (4) adopted the MV law one year ago; (5) adopted the MV law two years ago; (6) adopted the MV law three or more years ago. Other variables are the same as regression (1).

Table 5 presents the results from estimating regression (2). The coefficients on MV^{-2}, MV^{-1}, and MV^{0} are statistically insignificant in all specifications, suggesting no significant pre-existing divergence of operating leases between the treated group and the control group before the introduction of MV laws. Meanwhile, the coefficients of MV^{1}, MV^{2}, and MV^{3+} are negative and significant, suggesting that the decline of operating leases only occurs after the adoption of MV laws. Overall, the results in Table 5 support the causal effect of MV laws on corporate leasing policy.

[Insert Table 5 near here]

4.4. Treatment Effect Heterogeneity

One feature of our baseline staggered difference-in-differences (DiD) model is that early-treated firms in the sample act as effective control firms for later-treated firms. However, the

advances in econometric theory (e.g., de Chaisemartin and D'Haultfœuille, 2020; Callaway and Sant'Anna, 2021; Athey and Imbens, 2022; Baker et al., 2022; Borusyak et al., 2022) point out one concern with this kind of setting: if earlier-treated firms still react to the treatment and their treatment effects evolve over time, the resultant DiD estimates with two-way fixed effects (TWFE) could reflect differences in treatment effects over time between different treatment cohorts (Baker et al., 2022). As a consequence, staggered DiD estimates with TWFE can obtain the opposite sign of the true average treatment effect on the treated (ATT) (e.g., Callaway and Sant'Anna, 2021; Goodman-Bacon, 2021; Baker et al., 2022). In other words, the staggered DiD estimates with TWFE could be negatively biased when dynamic treatment effects (treatment effects change over time) exist. This imposes a question mark on our baseline results because the results might be negatively biased due to dynamic treatment effects.

To address this concern, we employ two alternative estimators: the Callaway and Sant'Anna (2021) estimator (CS estimator) and stacked regression (Gormley and Matsa, 2011). In both estimators, the key idea is to group firms into cohorts based on the treatment year: an individual cohort refers to a group of firms treated in the same year. For the CS estimator, we first estimate the individual cohort-time-specific ATT allowing for treatment effect heterogeneity, and then aggregate all the ATT to obtain the overall treatment effects. For the stacked regression, we first restrict the time window as ± 3 years around the adoption of each MV law to obtain individual cohorts. In each cohort, if a control firm is treated by the MV law in another year, we drop those post-treatment control observations. Then we stack up all the cohorts into one dataset to estimate the ATT (Gormley and Matsa, 2011).[20] In the CS estimator and stacked regression, already treated firms are not used as control units, thus eliminating the problem of dynamic treatment effects. We report the results of the CS estimator and stacked regression in panel A and panel B of Table 6, respectively. The results still show a negative and significant effect of MV laws on leases, indicating that our results

[20]Some firms will appear multiple times in the stacked dataset.

are robust after accounting for dynamic treatment effects.

[Insert Table 6 near here]

4.5. Alternative Proxies for Shareholder Power

Given that MV laws enhance shareholders' power in director elections, the underlying assumption of our identification strategy is that empowered shareholders influence leasing policy through director elections. To examine if our results hold without this assumption, we use two alternative variables to proxy shareholder power and test their relationship with operating leases.

The first alternative proxy is institutional ownership. Institutional shareholders typically own large blocks of shares and have specialized expertise, which means they have more concentrated voting power and greater access to firm information than individual shareholders (Bainbridge, 2005), so they can more efficiently monitor the firm management (e.g., Hartzell and Starks, 2003; Gillan and Starks, 2005; Ferreira and Matos, 2008). Therefore, we posit that higher institutional shareholding proxies for stronger shareholder power. Using data from the Thomson Reuters 13F filing, we construct the variable *Institutional Ownership* as the annual mean value of institutional shareholding over the shares outstanding (in percentage) for a firm.

The second alternative proxy is the CEO compensation delta (the sensitivity of CEO wealth to stock price change).[21] High delta means that CEO's wealth is sensitive to stock price fluctuations, so CEO shares the gains and losses with stockholders; in other words, managerial interests are closely aligned with shareholder interests (Coles et al., 2006). Therefore, we posit that shareholders are more powerful in firms whose CEO compensation delta is higher. Using data from Execucomp, we calculate the CEO delta following Coles et al. (2006). We then create a dummy labeled *High CEO Delta* that equals one if the firm-year

[21] Delta is defined as the dollar amount change in CEO's wealth in response to a 1% change in stock price.

CEO delta is above the industry (two-digit SIC)-year median, and 0 otherwise.

We replace the explanatory variable *MV* with these two alternative proxies in the baseline regression and cluster the robust standard errors at the firm level.[22] The results are reported in Table 7 where panel A presents the results with *Institutional Ownership* and panel B shows the results with *High CEO Delta*. In all specifications, higher institutional ownership and higher CEO delta appear to be significantly and negatively associated with operating leases, indicating that stronger shareholder power is accompanied by a lower level of operating leases. Table 7 shows that the baseline model results are robust with different proxies for shareholder power.

[Insert Table 7 near here]

4.6. Additional Robustness

4.6.1. Excluding Delaware Incorporated Firms

Delaware has been a prevalent state for firms to incorporate. In our sample, approximately 65% of observations are Delaware-incorporated. Delaware is also one of the first three states that adopted the MV law (in 2006). This raises a concern that our baseline results might be driven by a single state (Delaware). To address this concern, we re-run the baseline model without Delaware-incorporated observations and present the results in Table IA1 of the Internet Appendix. The coefficients of MV laws are still negative and significant at 1% across all specifications, suggesting that the effect of MV laws on leasing policy is not specific to Delaware. Table IA1 also addresses the endogeneity concern that firms with shrinking operating leases choose to incorporate in Delaware.

[22] We obtain similar results if we cluster by the incorporation state.

4.6.2. Headquarter State Effects and Industry Effects

Another endogeneity concern is that regional factors (such as local economic and political fluctuations) might synchronize with the staggered adoption of MV laws. If these confounding factors affect firms' leasing policy, their effects could show up in the coefficients of MV laws. One mitigating point for this concern is that firms usually operate their primary business in a state that differs from their incorporation state. Taking a firm's headquarter state as the place where their primary business resides (Henderson and Ono, 2008), there are just approximately 27% of our observations for which the incorporation state is the same as the headquarter state. Firms' businesses are more likely to be influenced by regional economic and political factors in a firm's headquarter state. These factors are less likely to cofound with MV laws implemented in the incorporation state.

Another concern is that our baseline results might be driven by specific industries that heavily rely on leasing. A post by Trust Capital (2018) argues that leasing is particularly beneficial for those industries that need up-to-date equipment or limited time of use of equipment. For example, leasing allows IT firms to buy extra equipment or the latest equipment to keep them more efficient in serving customers.[23] The baseline model results might be specific to the lease-intensive industries.

To alleviate the concerns of regional confounding factors and industry trends, we re-run the baseline model, adding the headquarter state by year fixed effects and industry (2-digit SIC) by year fixed effects and present the results in Table IA2 of the Internet Appendix. The coefficients of MV laws are again negative and significant, consistent with previous results.

4.6.3. Alternative Measures of Operating Leases

So far, our measure of operating leases (*Lease*) does not include firms' lease commitment beyond year 5 (Compustat item MRCTA) because that data item is often missing in

[23] See "Top 10 Industries That Can Benefit from Equipment Leasing", Paul Kendall, Trust Capital, March 2018: https://www.trustcapitalusa.com/blog/top-10-industries-that-can-benefit-from-equipment-leasing

Compustat. Following Chu (2020), we use alternative measures that include MRCTA for robustness check. For the first alternative measure, *Alt_lease*1, we discount MRCTA by spreading MRCTA evenly from year 6 to 10. Then we include the present value of MRCTA to *Lease*. For the second alternative measure, *Alt_lease*2, we first calculate the approximate life of lease commitment beyond year 5, dividing MRCTA by the average lease commitments over the first five years (Rauh and Sufi, 2012; Lim et al., 2017). Then we discount MRCTA by spreading out MRCTA evenly over the approximate life of leases and include the present value of MRCTA to *Lease*. We re-run the baseline model with these alternative measures of leases and present the results in Table IA3 of the Internet Appendix. The results show that the coefficients of MV laws remain negative and significant across all specifications, suggesting that the results are robust with the inclusion of lease commitments beyond year 5.

4.6.4. Propensity Score Matching

In an ideal experimental setting, the characteristics of the treatment group should be as close as possible to those of the control group. To sharpen the difference-in-differences estimates, we perform a propensity score matching for our sample. We match each treated firm to an untreated firm (with replacement) in the same industry (two-digit SIC) and with the closest propensity score of being treated, using data from one year before the adoption year of MV laws.[24] We conduct the matching using unadjusted variables and adjusted variables separately. We retain all observations for the treated firms and matched control firms in the ±3 years around the adoption of the MV law. For each treated firm, we require that the matched control firm will not be treated by the MV law for three years following the treatment year on which the match is based. By conducting this matching strategy, we obtain a cleaner sample of treated firms and control firms. We report the regression results in Table IA4 of the Internet Appendix. Panel A compares the means of the control

[24]We use the logistic model and all control variables to estimate the propensity score.

variables between the treated group and the matched control group in the year preceding the treatment year, showing no large divergence between the two groups. Panel B presents the effect of MV laws on leases with the matched sample, showing a significant drop in leases for the treated group in response to the adoption of MV laws relative to the control group. The propensity score matching further consolidates our results.

5. Mechanism Analysis

The empirical results have indicated that firms lower their operating leases in response to shareholder empowerment proxied by the adoption of MV laws. We hypothesize that the decrease in operating leases reflects shareholders' risk-shifting incentives and exacerbated shareholder-debtholder conflicts.

5.1. Legal Creditor Protection

First, we examine whether the shareholder-debtholder conflicts are a significant channel through which shareholder empowerment affects leasing policy. Suppose firms reduce operating leases due to exacerbated equity-debt conflicts. In that case, the negative effect of MV laws on leases should be smaller for firms with better creditor protection. We employ the *Credit Lyonnais vs. Pathe Communications Case* as an exogenous measure of legal creditor protection to test this conjecture. The historical fiduciary duties of directors in solvent firms have been owed to shareholders but not to other stakeholders, such as creditors. Fiduciary responsibilities are stretched to creditors only if the firm becomes insolvent (Becker and Strömberg, 2012). This was changed by the Delaware Court's ruling of the *Credit Lyonnais vs. Pathe Communications Case* (in 1991) which states that directors' fiduciary duties are already owed to creditors when a firm is in the "zone of insolvency" even though it is not insolvency yet. This case ruling has become a vital precedent ever since. Becker and Strömberg (2012) demonstrate that the Credit Lyonnais case limits managers' ability to take actions

in favor of shareholders at the cost of debtholders and thus strengthens creditor protection for firms incorporated in Delaware. Incorporating legal creditor protection into the baseline model, we run the following regression:

$$Lease_{i,t,s} = \alpha + \beta_1 * MV_{t,s} + \beta_2 * Credit\ Lyonnais_{t,s} + \beta_3 * MV_{t,s} * Credit\ Lyonnais_{t,s} + \beta_4 * Controls_{i,t-1} + Firm_{FE} + Year_{FE} + \epsilon_{i,t} \quad (3)$$

In the above regression, $Credit\ Lyonnais_{t,s}$ is defined as a dummy variable that equals one for the Delaware-incorporated firms after 1991 and zero otherwise. To capture the before-after effect of the *Credit Lyonnais vs. Pathe Communications Case*, we expand the sample period to 1988-2016. The results are presented in Table 8. Across all specifications, the coefficients β_3 of the interaction between MV and *Credit Lyonnais* are positive and significant, suggesting that better legal creditor protection mitigates the decline of operating leases caused by shareholder empowerment. The results provide evidence for the hypothesis that shareholder-debtholder conflicts play a significant role in the adverse effect of MV laws on operating leases.

[Insert Table 8 near here]

5.2. Common Ownership

To further verify the role of shareholder-debtholder conflicts, we examine the common equity ownership between firms and their creditors. In the syndicated loan market, it is increasingly common that the borrower's institutional shareholders simultaneously hold equity in the borrower's lending banks.[25] Common ownership between the firm and its lenders by the same institutional shareholders could align the interests between shareholders and debtholders. First, the common shareholders receive profits not only from the firm but also

[25] Ojeda (2019) reports that the percentage of bank shares held by the borrower's institutional investors doubled to nearly 30% between 1990 and 2012.

from the firm's creditors (Ojeda, 2019). That means the common shareholders might have to absorb the cost to debtholders when the firm's behaviors hurt the debt values (Jiang et al., 2010; Wang and Wang, 2022). Second, common shareholders may restrain themselves from opportunistic actions to preserve their reputational capital as shareholders of lenders (Fama and Jensen, 1983; Wang and Wang, 2022). Therefore, we posit that higher common ownership between the firm and its creditors reduces shareholder-debtholder conflicts. That is to say, higher common ownership should mitigate the negative effect of shareholder empowerment on leases.

To empirically test the moderating effect of common ownership, we extract bank loan data from Dealscan and institutional shareholding data from the Thomson Reuters 13F filing. To match the loan facility data in Dealscan to borrowers' information in Compustat, we use the link table from Chava and Roberts (2008).[26] To match the loan facility data to lenders' information in Compustat, we use the link table from Schwert (2018).[27] Then we match together Dealscan, 13F, and Compustat to obtain the common institutional shareholders' equity holdings in a firm and its lenders. Using the matched data, we construct a firm-year measure of common ownership:

$$Common\ Ownership_{i,t} = \frac{\sum_N Firm\ shares_{i,j,t} * Lender\ shares_{i,j,l,t}}{N},$$

where $Common\ Ownership_{i,t}$ is the common ownership for firm i in year t, $Firm\ shares_{i,j,t}$ is firm i's equity (in percentage) held by common institutional shareholder j in year t, and $Lender\ shares_{i,j,l,t}$ is lender l's equity (in percentage) held by common institutional shareholder j in year t.[28] And N denotes that there are N pairs of institutional investor-bank lender (held by the institutional investor) for firm i in year t. Essentially, $Firm\ shares_{i,j,t} *$

[26] Chava and Roberts's (2008) Compustat-Dealscan link table is available at: http://finance.wharton.upenn.edu/~mrrobert/styled-9/styled-12/index.html

[27] Schwert's (2018) Dealscan Lender link table is available at: https://sites.google.com/site/mwschwert/publications

[28] We focus on the banks that act as lead arranger in the loan facility because lead arrangers are more active in originating the loan and monitoring the borrower (Schwert, 2018; Ojeda, 2019).

$Lender\ shares_{i,j,l,t}$ reflects a common owner's equity holding in a debtholder adjusted by the common owner's equity holding in the firm (Ojeda, 2019). We sum up $Firm\ shares_{i,j,t} * Lender\ shares_{i,j,l,t}$ across all pairs of the common shareholder-bank lender (held by the common shareholder), then divide the summation by N to obtain the mean of common ownership. Therefore, $Common\ Ownership_{i,t}$ measures the average adjusted shares (in percentage) of each creditor held by each common owner for firm i in year t.[29] Then we run the following regression to test the moderating effect of common ownership:

$$Lease_{i,t,s} = \alpha + \beta_1 * MV_{t,s} + \beta_2 * Common\ Ownership_{i,t-1} + \beta_3 * MV_{t,s} * Common\ Ownership_{i,t-1} + \beta_4 * Controls_{i,t-1} + Firm_{FE} + Year_{FE} + \epsilon_{i,t} \quad (4)$$

Table 9 shows the results: across all specifications, the coefficients β_3 of the interaction between MV laws and common ownership are positive and significant. The results imply that if shareholders hold more equity in debtholders, the firm is more inclined to preserve operating leases, supporting our hypothesis that shareholder-debtholder conflicts drive the adverse effect of MV laws on leases.

[Insert Table 9 near here]

5.3. Firm Risk

After verifying the moderating role of shareholder-debtholder conflicts in the effect of MV laws on leases, we further hypothesize that shareholders induce firm management to cut operating leases to exploit risk-shifting opportunities at the cost of debtholders. This hypothesis predicts firms to bear more risk after the adoption of MV laws. To test this prediction, we use two variables to measure the firm-level risk. First, we use Altman's (1968) Z score to measure expected bankruptcy risk. The lower the Z score, the more likely

[29] We set $Common\ Ownership_{i,t}$ to zero if a firm does not have common owners with its bank lenders in a year.

the firm will go bankrupt in the near future, and the higher the default risk for debtholders. Second, we use the number of geographical segments to measure the operational risk. A higher number of segments imply that the firm is more geographically diversified and better positioned to hedge against local economic or political risk (e.g., Hughes et al., 1975; Caves, 1996; Hitt et al., 1997; Kang et al., 2012). Therefore, we posit that fewer geographical segments reflect higher operational risk.

Table 10 shows that both the Z score and the number of geographical segments drop in response to the adoption of MV laws. The results imply that shareholder empowerment leads to higher firm-level risk, consistent with the hypothesis that empowered shareholders cut operating leases for risk-taking intentions at the cost of debtholders. The decrease in geographical segments might also be the mechanism enabling firms to cut leases: since firms have fewer geographical segments, they do not need to lease as many assets as they used to.

[Insert Table 10 near here]

5.4. Cost of Bank Loans

So far, the empirical results support that the decrease in operating leases is due to more acute equity-debt conflicts. A following question would be whether debtholders take active actions to protect themselves in response to the adoption of MV laws. To answer this question, we examine the change in loan contracting, using data from Dealscan. The purpose of this analysis is to further consolidate the exacerbation of equity-debt conflicts following the adoption of MV laws.

First, we investigate the effect of MV laws on bank loan spreads. Gao et al. (2021) find that bank loan spreads drop if the conflicts between shareholders and stakeholders are mitigated. Hypothesizing that MV laws aggravate equity-debt conflicts, we expect lenders to charge higher loan spreads after the adoption of MV laws. We estimate the following

model to check the impact of MV laws on loan spreads:

$$\begin{aligned} Loan\ Spreads_{j,i,t,s} = \alpha + \beta_1 * MV_{t,s} + \beta_2 * Controls_{i,t-1} + Firm_{FE} + \\ (Industry * Year)_{FE} + (Headquarter\ State * Year)_{FE} + \\ Loan\ Type_{FE} + Loan\ Purpose_{FE} + \epsilon_{i,t} \end{aligned} \tag{5}$$

The dependent variable $Loan\ Spreads_{i,t,s}$ is defined as the natural logarithm of all-in spread drawn of a loan facility j originated in year t for borrowing firm i incorporated in state s.[30] We control the borrower's total assets, book leverage, Tobin's q, profitability, cash holding, tangibility, Z score, cash flow volatility, loan size, and loan maturity.[31] We also include borrowing firm fixed effects, industry (2-digit SIC) by year fixed effects, borrower's headquarter state by year fixed effects, loan type fixed effects, and loan purpose fixed effects. Table 11 shows that the coefficients of MV laws are positive and significant, implying that creditors indeed request higher debt premiums in response to shareholder empowerment.

[Insert Table 11 near here]

Furthermore, we investigate the non-price term of loan contracts. Loan lenders might be more likely to require collateral if they notice the exacerbated equity-debt conflicts caused by shareholder empowerment. To test the effect of MV laws on loan collateral covenant, we run the following Probit model, following Gao et al. (2021):

$$\begin{aligned} Probit(Collateral_{j,i,t,s}) = \alpha + \beta_1 * MV_{t,s} + \beta_2 * Controls_{i,t-1} + \\ Incorporation\ State_{FE} + Year_{FE} + Industry_{FE} + \\ Loan\ Type_{FE} + Loan\ Purpose_{FE} + \epsilon_{i,t} \end{aligned} \tag{6}$$

The dependent variable $Collateral_{j,i,t,s}$ is defined as a binary variable that equals one

[30] In Dealscan, the all-in spread drawn is the amount the borrower pays in basis points over LIBOR for each dollar drawn down, including any annual (or facility) fee paid to the bank group (e.g., Graham et al., 2008; Ni and Yin, 2018; Gao et al., 2021).

[31] The detailed definitions of variables can be found in Appendix A.

if the loan facility j originated in year t for the borrowing firm i incorporated in state s is secured by collateral, and zero otherwise. We include the same control variables as regression (5), incorporation state fixed effects, year fixed effects, industry (2-digit SIC) fixed effects, loan type fixed effects, and loan purpose fixed effects.[32] For robustness, we also run regression (6) using Logit model. Table 12 shows that the coefficients of MV are positive and significant for both Probit model and Logit model, suggesting that creditors are more inclined to secure their loans by collateral after shareholder empowerment. Results in Table 11 and Table 12 show that creditors do take active actions to protect themselves in response to stronger shareholder rights, consistent with the hypothesis that MV laws exacerbate equity-debt conflicts.

[Insert Table 12 near here]

5.5. Discussion on Unlevered Firms

The empirical results have supported that escalated shareholder-debtholder conflicts drive the decrease of operating leases following the adoption of MV laws. This hypothesis implies that unlevered firms would be immune to MV laws' effect on operating leases. Since unlevered firms are not financed by debt, shareholder-debtholder conflicts should not be an issue in these firms. That is to say, MV laws lose the mechanism to materialize their effect on leasing policy in unlevered firms. Consistent with this implication, in Table IA5 of the Internet Appendix, we find that MV laws do not significantly change unlevered firms' operating leases.[33]

[32]The large number of different firms makes firm fixed effects impractical in Probit or Logit model, so we follow Gao et al. (2021) and use incorporation state fixed effects instead of firm fixed effects to capture the difference-in-differences estimates.

[33]We define unlevered firms as firms whose current liabilities (Compustat item DLC) and long-term debt (Compustat item DLTT) are equal to zero. Our sample has 5,637 unlevered firm-year observations (1,129 distinct unlevered firms by gvkey). Out of the 5,637 observations, 2,787 observations are treated by MV laws. The effect of MV laws on leases is not significant in these unlevered observations.

5.6. Alternative Explanations

At last, we explore three alternative explanations for the baseline model results other than the hypothesis that empowered shareholders pursue lower operating leases for risk-shifting incentives.

5.6.1. Debt Coverage

To this point, the empirical results are consistent with the argument that the reduction of leases is in shareholders' interests. Interestingly, debtholders could also push firm management to cut operating leases in response to shareholder empowerment. Given that firms pay rents for the leased assets, lease contracts reduce firms' available earnings to repay other fixed claims, such as debt. Given the seniority of lease contracts, the use of leases lessens the coverage of existing outstanding debt (Smith and Wakeman, 1985). If prospective debtholders expect worse equity-debt conflicts after shareholder empowerment, they might restrict the firm's forward use of leases through debt provisions to escalate the debt coverage. Even under the circumstance that debtholders do not push firms to cut leases, firms that wish to have low-cost access to the debt market might cut leases to increase debt coverage, signaling their commitment to debtholders' interests.

If firms lessen operating leases for higher debt coverage, the effect of MV laws on operating leases should be more pronounced for firms with lower debt coverage. To test this hypothesis, we use three ratios to measure debt coverage. The first is the debt service coverage ratio ($DSCR$), calculated as EBITDA divided by the sum of total debts (Compustat item DLC+DLTT) and interest expenses (Compustat item XINT). The second is the net debt service coverage ratio ($Net\ DSCR$), calculated as EBITDA divided by the sum of net debts (total debts net of cash and short-term investments (Compustat item DLC+DLTT-CHE)) and interest expenses (Compustat item XINT). The third is the interest coverage ratio (ICR), calculated as EBITDA divided by interest expenses (Compustat item XINT). These ratios measure firms' ability to repay the interests and principles of debts using earnings.

Table 13 reports the results: the coefficients of the interaction between MV laws and debt coverage ratios are insignificant in all specifications. The results do not support that firms reduce operating leases in debtholders' interests. It is more likely that firms cut leases only in shareholders' interests.

[Insert Table 13 near here]

5.6.2. Balance Sheet Expansion

In the existing literature, debts and leases have been considered substitutes in corporate financing decisions (e.g., Myers et al., 1976; Franks and Hodges, 1978; Smith and Wakeman, 1985; Marston and Harris, 1988; Yan, 2006; Eisfeldt and Rampini, 2009). If MV laws expand firms' debt capacity, firms might shift from lease financing to debt financing. In that sense, MV laws' negative effect could indicate that operating leases are crowded out by debt. Even if debt and lease are not substitutes, as long as MV laws could expand firms' total assets, we would still observe the negative effect of MV laws on leases through the growth of total assets rather than the decline of operating leases because our lease variables are scaled by total assets. Overall, this alternative explanation states that the effect of MV laws is caused by balance sheet expansion rather than equity-debt conflicts.

If this alternative explanation is true, we should observe an increase in debt or total assets following the enactment of MV laws. To test this hypothesis, we use two measures of debt: *Book Leverage* (Compustat item (DLC+DLTT) / AT) and *Market Leverage* (Compustat item (DLC+DLTT) / (AT-CEQ+CSHO*PRCC_F)). And we use one measure of firm assets: the natural logarithm of total book assets (Compustat item AT). Table 14 shows that MV laws do not significantly affect firms' debts or total assets. Therefore, this alternative explanation is unlikely to be the actual mechanism for the negative effect of MV laws on operating leases.

[Insert Table 14 near here]

5.6.3. Free Cash Flow Problem

The empirical results have pointed to the agency cost of debt as the underlying mechanism for the negative effect of MV laws on leases. However, the agency cost of equity is also possible to explain our baseline results. Jensen (1986) points out a conflict of interest between shareholders and managers: the free cash flow (FCF) problem. If firms have substantial free cash flow under managers' discretion and limited growth opportunities, severe agency problems arise between shareholders and managers because managers might overinvest in negative net present value projects at the cost of shareholders (e.g., Blanchard et al., 1994; Harford, 1999; Opler et al., 1999). Fixed claims such as debt and leases force managers to disgorge cash, thus mitigating the FCF problem (e.g., Jensen, 1986; Stulz, 1990; Yan, 2006; D'Mello and Miranda, 2010). Meanwhile, prior studies find that stronger shareholder rights reduce agency costs derived from the free cash flow problem (e.g., Richardson, 2006; Chen et al., 2011). Therefore, operating leases and shareholder empowerment could both contain the FCF problem.

If majority voting substitutes leases as the corporate governance mechanism to control the FCF problem, we would also observe the negative effect of MV laws on leases. Under this argument, firms with more undistributed cash flows should be more sensitive to the effect of MV laws. To measure FCFs, we follow Lehn and Poulsen (1989) and construct a variable labeled *FCF*, calculated as the post-tax undistributed cash flows scaled by the market value of common equity.[34] Table 15 shows that the interactions between *FCF* and *MV* is not statistically significant. The FCF problem does not appear to intervene in the relationship between shareholder empowerment and leasing policy.

[Insert Table 15 near here]

[34]FCF is calculated as operating income (Compustat item OIBDP) minus total income taxes (Compustat item TXT, and net of change in deferred taxes (Compustat item TXDITC) from the previous year to the current year) minus interest expense (Compustat item XINT) minus dividends on preferred stocks (Compustat item DVP) minus dividends on common stock (Compustat item DVC), and then scaled by the market value of common equity (Compustat item PRCC_F*CSHO)(Lehn and Poulsen, 1989).

6. Conclusion

Using the staggered adoption of state-level majority voting (MV) laws as the exogenous variations of shareholders' power in the corporate operation, we show that firms respond to MV laws by reducing operating leases. We hypothesize that this effect reflects the exacerbated shareholder-debtholder conflicts. After stockholders gain greater power, they might be incentivized to reduce operating leases for risk-shifting intentions. Consistent with this hypothesis, we find that the effect of MV laws on leases is less pronounced for firms incorporated in a state with stronger legal creditor protection or for firms whose shareholders hold more equity in debtholders. And firms have lower Z scores and fewer geographical segments following the adoption of MV laws. Moreover, we find that loan lenders charge higher loan spreads and are more inclined to require collateral to back up their loans after the adoption of MV laws. This paper contributes to the literature by identifying the causal effect of shareholder rights on corporate leasing policy and shedding light on the underlying mechanism (equity-debt conflicts).

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Appendix A. Variable Definitions

Variable	Definition (Compustat data item in parentheses when appropriate)	Data Source
Unadjusted Variables		
MV	A dummy that equals one if the majority voting law has been adopted in a state in a given year, and zero otherwise.	Cuñat et al. (2019)
Lease	The sum of current lease commitment (XRENT) and the present value of lease commitments due in year 1-5 (MRC1-MRC5) scaled by total assets (AT).	CRSP/Compustat Merged
Alt_lease1	The sum of current lease commitment (XRENT) and the present value of future lease commitments (MRC1-MRC5 & MRCTA, assuming MRCTA is evenly spread out from year 6 to year 10) scaled by total assets (AT).	CRSP/Compustat Merged
Alt_lease2	The sum of current lease commitment (XRENT) and the present value of future lease commitments (MRC1-MRC5 & MRCTA, assuming MRCTA is evenly spread out over the approximate life of lease commitments in year 1-5) scaled by total assets (AT).	CRSP/Compustat Merged
Log Assets	The natural logarithm of total assets (AT).	CRSP/Compustat Merged
Book Leverage	The sum of current liabilities (DLC) and long-term debt (DLTT) scaled by total assets (AT).	CRSP/Compustat Merged
Tobin's q	Market value of total assets (AT-CEQ+CSHO*PRCC_F) to book value of total assets (AT).	CRSP/Compustat Merged
Profitability	Operating income (OIBDP) scaled by total assets (AT).	CRSP/Compustat Merged
Dividend	A dummy variable that equals one if dividend payment (DVP+DVC) is positive, and zero otherwise.	CRSP/Compustat Merged
Cash Holding	Cash and short-term investments (CHE) scaled by total assets (AT).	CRSP/Compustat Merged

Tangibility	Total property, plant, and equipment (PPENT) scaled by total assets (AT).	CRSP/Compustat Merged
Tax Rate	Tax payment (TXT) scaled by pre-tax income (PI).	CRSP/Compustat Merged
Rating Dummy	An indicator equal to one if the firm has a S&P domestic long term issuer credit rating (SPLTICRM), and 0 otherwise.	Compustat
Institutional Ownership	Annual mean of institutional shareholding over the shares outstanding.	Thomson Reuters 13F
High CEO Delta	A dummy that equals one if the CEO compensation delta (the sensitivity of CEO wealth to stock price change) is above the industry (two-digit SIC)-year median, and zero otherwise.	Execucomp
Credit Lyonnais	A dummy that equals one for the Delaware-incorporated firms after 1991, and 0 otherwise.	Becker and Strömberg (2012)
Common Ownership	The average shares (in percentage) of each bank lender held by each common owner (adjusted by the common owner's shareholding in the firm (in percentage)) for a firm in a given year.	DealScan, Thomson Reuters 13F, Compustat
Z Score	1.2 * working capital (WCAP) / total assets (AT) + 1.4 * retained earnings (RE) / total assets (AT) + 3.3 * earnings before interest and taxes (EBIT) / total assets (AT) + 0.6 * Market Value of Equity (CSHO*PRCC_F)/total liabilities(LT)+ 0.999 * sales (SALE) / total assets (AT).	CRSP/Compustat Merged
DSCR (Debt Service Coverage Ratio)	Earings before interest, taxes, depreciation and amortization (EBITDA) divided by sum of debt and interest expenses (DLC+DLTT+XINT).	CRSP/Compustat Merged
Net DSCR (Debt Service Coverage Ratio)	Earings before interest, taxes, depreciation and amortization (EBITDA) divided by sum of debt and interest expenses net of cash and short-term investments (DLC+DLTT+XINT-CHE).	CRSP/Compustat Merged
ICR (Interest Coverage Ratio)	Earings before interest, taxes, depreciation and amortization (EBITDA) divided by interest expenses (XINT).	CRSP/Compustat Merged
Cash Flow Volatility	The standard deviation of the annual ratio of cash flow (OIBDP - XINT - DVC - TXT) to total assets (AT) in previous 10 years.	CRSP/Compustat Merged

Loan Spreads	The natural logarithm of all-in spread drawn. All-in spread drawn is the amount the borrower pays in basis points over LIBOR for each dollar drawn down, including any annual (or facility) fee paid to the bank group.	DealScan
Collateral	A dummy that equals one if the loan facility is secured by collateral, and zero otherwise.	DealScan
Loan Size	The natural logarithm of loan amount.	DealScan
Loan Maturity	The natural logarithm of loan maturity in months.	DealScan
Market Leverage	The sum of current liabilities (DLC) and long-term debt (DLTT) scaled by market value of total assets (AT-CEQ+CSHO*PRCC_F).	CRSP/Compustat Merged
FCF	Operating income (OIBDP) - (total income taxes (TXT) - change in deferred taxes (TXDITC) from the previous year to the current year) - interest expense (XINT) - dividends on preferred stocks (DVP) - dividends on common stock (DVC), then scaled by the market value of common equity (PRCC_F*CSHO).	CRSP/Compustat Merged
Governor's Party	A dummy that equals one if the state governor is a Republican, 0 otherwise.	National Governors Association
GDP Growth Rate	State-level real GDP growth rate.	U.S. Bureau of Economic Analysis
Log GDP Per Capita	The natural logarithm of state-level GDP per capita.	U.S. Bureau of Economic Analysis
Log Population	The natural logarithm of state population in thousands.	U.S. Census Bureau
Unemployment Rate	State-level unemployment rate.	U.S. Bureau of Labor Statistics
BC	A dummy that equals one if the business combination law is effective in a state in a given year, and zero otherwise.	Bertrand and Mullainathan (2003)

CS	A dummy that equals one if the control share acquisition law is effective in a state in a given year, and zero otherwise.	Bertrand and Mullainathan (2003)
FP	A dummy that equals one if the fair price law is effective in a state in a given year, and zero otherwise.	Bertrand and Mullainathan (2003)
PP	A dummy that equals one if the poison pill law is effective in a state in a given year, and zero otherwise.	Bertrand and Mullainathan (2003); Karpoff and Wittry (2018)
Adjusted Variables (Capitalizing Operating Leases)		
Lease	The sum of current lease commitment (XRENT) and the present value of lease commitments due in year 1-5 (MRC1-MRC5) (lease values) scaled by total assets plus the lease values (AT + lease values).	CRSP/Compustat Merged
Log Assets	The natural logarithm of total assets plus the lease values (AT + lease values).	CRSP/Compustat Merged
Leverage (Book Leverage)	The sum of current liabilities (DLC), long-term debt (DLTT) and the lease values scaled by total assets plus the lease values (AT + lease values).	CRSP/Compustat Merged
Tobin's q	Market value of total assets (AT-CEQ+CSHO*PRCC_F) to book value of total assets plus the lease values (AT + lease values).	CRSP/Compustat Merged
Profitability	Operating income (OIBDP) plus current lease commitment (XRENT) scaled by total assets plus the lease values (AT + lease values).	CRSP/Compustat Merged
Cash Holding	Cash and short-term Investments (CHE) scaled by total assets plus the lease values (AT + lease values).	CRSP/Compustat Merged
Tangibility	Total property, plant, and equipment plus the lease values (PPENT + lease values) scaled by total assets plus the lease values (AT + lease values).	CRSP/Compustat Merged

Fig. 1. **States Adopting the Majority Voting Laws by 2013**

This figure maps the states that adopted the majority voting law by 2013.

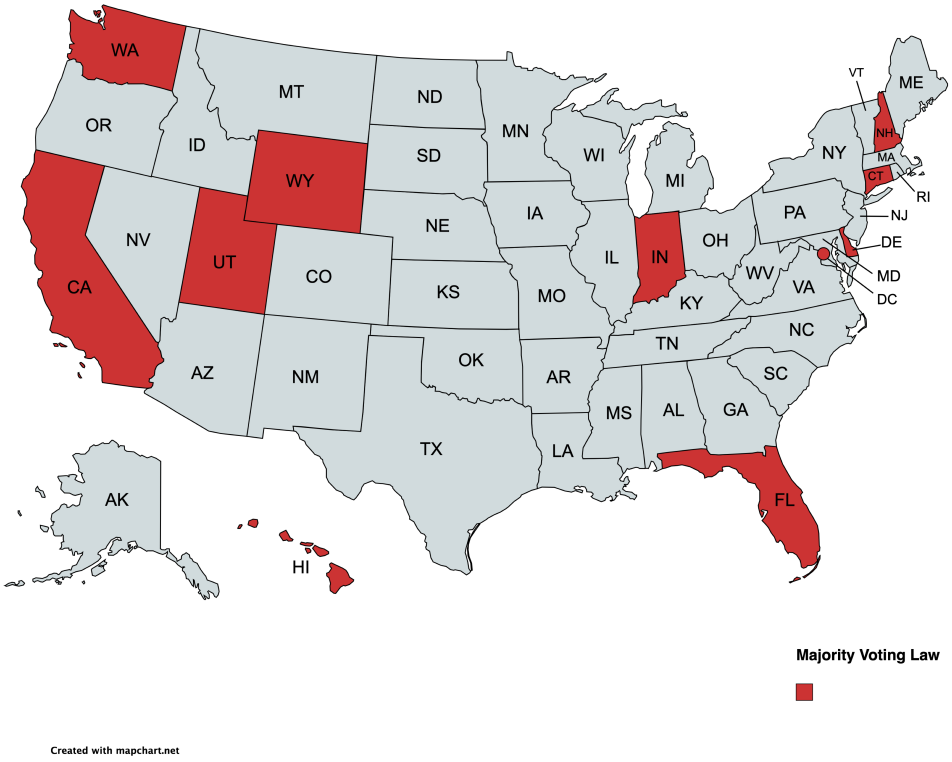

Table 1: **Adoption of Majority Voting Laws by State and Year**

This table presents the state and year in which the majority voting laws were adopted. This table is from Cuñat et al. (2019).

State	Year of Adoption
California	2006
Delaware	2006
Florida	2006
Washington	2007
Utah	2008
Hawaii	2009
Indiana	2010
Wyoming	2010
Connecticut	2011
District of Columbia	2012
New Hampshire	2013

Table 2: **Descriptive Statistics**

This table provides descriptive statistics for the variables. The sample includes firms incorporated and headquartered in the US and excludes utilities (SIC 4900-4999) and financial firms (SIC 6000-6999). All the continuous variables are winsorized at the 1st and 99th percentiles by year. The detailed definitions of variables and data sources can be found in Appendix A.

	Mean	S.D.	P25	Median	P75	Count
Panel A: Unadjusted Variables						
MV	0.488	0.500	0.000	0.000	1.000	30,873
Lease (%)	11.109	16.651	2.439	5.083	11.608	30,873
Alt_lease1 (%)	15.300	24.295	2.954	6.492	15.062	21,195
Alt_lease2 (%)	13.874	22.406	2.766	5.877	13.530	26,367
Log Assets	6.109	2.036	4.600	6.114	7.533	30,873
Book Leverage	0.208	0.213	0.007	0.164	0.326	30,873
Market Leverage	0.147	0.162	0.004	0.098	0.229	30,808
Tobin's q	2.031	1.530	1.138	1.534	2.305	30,873
Dividend	0.389	0.488	0.000	0.000	1.000	30,873
Profitability	0.052	0.237	0.039	0.107	0.162	30,873
Cash Holding	0.216	0.232	0.040	0.127	0.316	30,873
Tangibility	0.236	0.222	0.067	0.158	0.336	30,873
Tax Rate	0.176	0.471	0.000	0.288	0.370	30,873
Rating Dummy	0.315	0.465	0.000	0.000	1.000	30,873
Institutional Ownership (%)	64.229	30.154	40.920	71.953	88.439	23,594
High CEO Delta	0.498	0.500	0.000	0.000	1.000	15,250
Common Ownership (%)	0.185	0.291	0.000	0.000	0.311	30,873
Z score	3.638	7.017	1.632	3.206	5.307	29,891
Geographical Segments	5.220	3.973	2.000	4.000	7.000	25,597
DSCR	27.601	204.777	0.167	0.421	1.097	25,799
Net DSCR	0.290	3.435	-0.277	0.283	0.729	25,799
ICR	49.959	341.994	2.523	7.672	21.649	25,718
FCF	0.033	0.275	0.014	0.064	0.115	27,611
Cash Flow Volatility	0.047	0.066	0.018	0.029	0.051	11,158
Loan Spread	5.168	0.731	4.828	5.298	5.617	11,158
Loan Size	19.089	1.482	18.133	19.232	20.069	11,158
Loan Maturity	3.866	0.524	3.761	4.094	4.094	11,158
Collateral	0.722	0.448	0.000	1.000	1.000	8,509
Panel B: Adjusted Variables						
Lease (%)	8.542	9.901	2.380	4.837	10.401	30,873
Log Assets	6.208	2.018	4.699	6.226	7.623	30,873
Book Leverage	0.278	0.207	0.107	0.246	0.396	30,873
Tobin's q	1.847	1.380	1.041	1.412	2.106	30,873
Profitability	0.071	0.208	0.055	0.120	0.172	30,873
Cash Holding	0.197	0.215	0.036	0.114	0.286	30,873
Tangibility	0.301	0.221	0.132	0.229	0.425	30,873

Table 3: **Timing of Adopting Majority Voting Legislation**

This table provides the results of the Weibull hazard model where the event is the adoption of MV law in a given state. The duration is calculated as the year in which the state adopted the MV law minus 2003, and a state is dropped from the sample once the MV law is adopted in that state. All explanatory variables are at the incorporation state level and lagged by one year. The explanatory variable *Lease* is aggregated at the incorporation-state level by taking the mean of all firms' operating lease commitments incorporated in that state. The detailed definitions of variables can be found in Appendix A. Robust standard errors are clustered at the incorporation state level, and z statistics are reported in parentheses. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	(1)	(2)	(3)
Lease (mean at the incorporation state level)	-0.040	-0.026	-0.009
	(-1.00)	(-0.73)	(-0.22)
Governor's Party		0.059	0.093
		(0.08)	(0.13)
GDP Growth Rate		-0.108	-0.126
		(-0.63)	(-0.69)
Log GDP Per Capita		1.867**	2.000**
		(2.31)	(2.34)
Log Population		0.074	0.149
		(0.16)	(0.18)
Unemployment Rate		-0.124	-0.109
		(-0.54)	(-0.45)
CS			0.279
			(0.34)
BC			-1.148
			(-1.07)
FP			-0.796
			(-0.89)
PP			1.194
			(0.88)
Constant	-4.714***	-24.950*	-27.718
	(-10.30)	(-1.74)	(-1.51)
N	517	517	517

Table 4: **Baseline Model**

This table provides the results for the baseline model. The dependent variable *Lease* is firms' operating lease values scaled by total assets (in percentage). The interest explanatory variable is MV which is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. Column (1) and column (2) present results with unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present results with adjusted variables in which operating leases are capitalized. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Lease			
	(1)	(2)	(3)	(4)
	Unadjusted Variables		Adjusted Variables	
MV	-0.874***	-0.828***	-0.510***	-0.453***
	(0.26)	(0.29)	(0.16)	(0.12)
Log Assets		-2.414***		-0.940***
		(0.24)		(0.10)
Book Leverage		0.749		3.978***
		(0.45)		(0.53)
Tobin's q		-0.446***		-0.420***
		(0.05)		(0.03)
Dividend		0.119		0.091
		(0.18)		(0.11)
Profitability		-4.402***		-1.026***
		(0.50)		(0.35)
Cash Holding		-3.145***		0.090
		(0.48)		(0.29)
Tangibility		1.329		12.574***
		(1.36)		(0.80)
Tax Rate		-0.042		-0.062***
		(0.03)		(0.02)
Rating Dummy		-0.016		-0.548***
		(0.19)		(0.10)
Constant	11.535***	27.570***	8.791***	10.691***
	(0.13)	(1.32)	(0.08)	(0.52)
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	30,873	30,873	30,873	30,873
Adjusted R^2	0.89	0.90	0.89	0.91

Table 5: **Dynamic Analysis**

This table provides the results from estimating the dynamic regression. The dependent variable *Lease* is firms' operating lease values scaled by total assets (in percentage). The variables MV^{-2}, MV^{-1}, MV^{0}, MV^{1}, MV^{2}, MV^{3+} are dummies that equal to one if the firm is incorporated in a state that: (1) will adopt the MV law two years later; (2) will adopt the MV law one year later; (3) adopts the MV law in the current year; (4) adopted the MV law one year ago; (5) adopted the MV law two years ago; (6) adopted the MV law three or more years ago. Column (1) and column (2) present results with unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present results with adjusted variables in which operating leases are capitalized. Column (1) and column (3) include no control variables, while column (2) and column (4) include the same control variables as Table 4. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Lease			
	(1)	(2)	(3)	(4)
	Unadjusted Variables		Adjusted Variables	
MV^{-2}	-0.040	0.078	-0.029	0.089
	(0.22)	(0.24)	(0.13)	(0.14)
MV^{-1}	-0.209	-0.142	-0.165	-0.087
	(0.26)	(0.29)	(0.14)	(0.15)
MV^{0}	-0.305	-0.198	-0.243	-0.180
	(0.32)	(0.37)	(0.19)	(0.22)
MV^{1}	-0.839***	-0.719**	-0.560***	-0.434**
	(0.31)	(0.35)	(0.18)	(0.18)
MV^{2}	-1.020**	-0.892**	-0.565**	-0.419*
	(0.40)	(0.44)	(0.24)	(0.23)
MV^{3+}	-1.070**	-0.956**	-0.657***	-0.545**
	(0.42)	(0.47)	(0.24)	(0.21)
Control Variables	NO	YES	NO	YES
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	30,873	30,873	30,873	30,873
Adjusted R^2	0.89	0.90	0.89	0.91

Table 6: **Treatment Effect Heterogeneity**

This table provides the results of robustness tests on treatment effect heterogeneity. We group firms into cohorts based on the treatment year: an individual cohort refers to a group of firms treated in the same year. Panel A reports the Callaway and Sant'Anna (2021) estimators. We first estimate the individual cohort-time-specific average treatment effect on the treated (ATT) allowing for treatment effect heterogeneity and then aggregate all the ATT to obtain the overall treatment effects. Panel B reports the stacked regression estimators (Gormley and Matsa, 2011). We first restrict the time window as ±3 years around the adoption of each MV law to obtain an individual cohort. In each cohort, if the control firms are treated by the MV law in another year, we drop those post-treatment observations of the control firms. Then we stack up all the cohorts into one dataset to estimate the ATT. The dependent variable *Lease* is firms' operating lease values scaled by total assets (in percentage). Column (1) and column (2) present results with unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present results with adjusted variables in which operating leases are capitalized. Column (1) and column (3) include no control variables, while column (2) and column (4) include the same control variables as Table 4. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05 and 0.01 levels, respectively.

	Lease			
	(1)	(2)	(3)	(4)
	Unadjusted Variables		Adjusted Variables	
Panel A: CS Estimator				
Aggregated ATT	-0.481**	-0.727**	-0.239*	-0.400**
	(0.23)	(0.31)	(0.14)	(0.20)
Covariates	NO	YES	NO	YES
Panel B: Stacked Regression				
MV	-0.721***	-0.731***	-0.428***	-0.420***
	(0.24)	(0.24)	(0.15)	(0.12)
Control Variables	NO	YES	NO	YES
Firm*Cohort Fixed Effects	YES	YES	YES	YES
Year*Cohort Fixed Effects	YES	YES	YES	YES
N	45,342	45,342	45,342	45,342
Adjusted R^2	0.92	0.92	0.92	0.93

Table 7: **Alternative Proxies for Shareholder Power**

This table provides the results from estimating the baseline model with two alternative proxies for shareholder power. In panel A, the shareholder power proxy is *Institutional Ownership* calculated as the annual mean percentage (%) of institutional shareholding over the shares outstanding. In panel B, the shareholder power proxy is *High CEO Delta* which is defined as a dummy equal to one if the CEO delta is above the industry (two-digit SIC)-year median, and zero otherwise. The dependent variable *Lease* is firms' operating lease values scaled by total assets (in percentage). Column (1) and column (2) present results with unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present results with adjusted variables in which operating leases are capitalized. Column (1) and column (3) include no control variables, while column (2) and column (4) include the same control variables as Table 4. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the firm level. The superscripts *, ** and *** denote significance at 0.10, 0.05 and 0.01 levels, respectively.

	Lease			
	(1)	(2)	(3)	(4)
	Unadjusted Variables		Adjusted Variables	
Panel A: Institutional Ownership				
Institutional Ownership	-0.068***	-0.034***	-0.045***	-0.020***
	(0.01)	(0.01)	(0.00)	(0.00)
Control Variables	NO	YES	NO	YES
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	23,594	23,594	23,594	23,594
Adjusted R^2	0.92	0.92	0.92	0.93
Panel B: CEO Compensation Delta				
High CEO Delta	-0.783***	-0.464***	-0.539***	-0.293***
	(0.15)	(0.14)	(0.09)	(0.08)
Control Variables	NO	YES	NO	YES
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	15,250	15,250	15,250	15,250
Adjusted R^2	0.94	0.94	0.94	0.95

Table 8: **Legal Creditor Protection**

This table explores the moderating effect of legal creditor protection in the relationship between MV laws and operating leases. The variable *Credit Lyonnais* is defined as a dummy equal to one for the Delaware-incorporated firms after 1991 and 0 otherwise. The sample period for this table is 1988-2016. The dependent variable *Lease* is firms' operating lease values scaled by total assets (in percentage). The variable *MV* is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. Column (1) and column (2) present results with unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present results with adjusted variables in which operating leases are capitalized. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Lease			
	(1)	(2)	(3)	(4)
	Unadjusted Variables		Adjusted Variables	
MV	-2.195***	-2.026***	-1.378***	-1.119***
	(0.45)	(0.45)	(0.34)	(0.31)
Credit Lyonnais	0.041	0.164	-0.038	0.016
	(0.23)	(0.20)	(0.14)	(0.12)
MV * Credit Lyonnais	1.292***	1.307***	0.838***	0.634**
	(0.35)	(0.33)	(0.27)	(0.26)
Log Assets		-2.355***		-0.936***
		(0.15)		(0.06)
Leverage		0.309		4.843***
		(0.35)		(0.54)
Tobin's q		-0.257***		-0.292***
		(0.02)		(0.02)
Dividend		-0.023		-0.007
		(0.12)		(0.07)
Profitability		-5.901***		-1.472***
		(0.33)		(0.19)
Cash Holding		-4.623***		-0.123
		(0.35)		(0.29)
Tangibility		2.647***		13.417***
		(0.74)		(0.69)
Tax Rate		-0.143***		-0.128***
		(0.05)		(0.03)
Rating Dummy		0.240		-0.428***
		(0.16)		(0.08)
Constant	12.362***	26.297***	9.484***	9.700***
	(0.15)	(0.98)	(0.09)	(0.42)
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	64,046	64,046	64,046	64,046
Adjusted R^2	0.84	0.85	0.84	0.87

Table 9: **Common Ownership**

This table explores the moderating effect of common ownership in the relationship between MV laws and operating leases. The variable *Common Ownership* is calculated as the average shares (in percentage) of each bank lender held by each common owner (adjusted by the common owner's shareholding in the firm (in percentage)) for a firm in a given year. The dependent variable *Lease* is firms' operating lease values scaled by total assets (in percentage). The variable *MV* is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. Column (1) and column (2) present results with unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present results with adjusted variables in which operating leases are capitalized. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Lease			
	(1)	(2)	(3)	(4)
	Unadjusted Variables		Adjusted Variables	
MV	-1.028***	-1.004***	-0.615***	-0.545***
	(0.27)	(0.31)	(0.16)	(0.13)
Common Ownership	0.141	-0.175	0.048	-0.225*
	(0.22)	(0.26)	(0.14)	(0.13)
MV * Common Ownership	0.798***	0.925**	0.543***	0.486***
	(0.30)	(0.35)	(0.19)	(0.17)
Log Assets		-2.415***		-0.942***
		(0.24)		(0.10)
Leverage		0.743		3.980***
		(0.45)		(0.53)
Tobin's q		-0.447***		-0.421***
		(0.05)		(0.03)
Dividend		0.110		0.085
		(0.18)		(0.11)
Profitability		-4.395***		-1.025***
		(0.50)		(0.35)
Cash Holding		-3.130***		0.084
		(0.49)		(0.29)
Tangibility		1.290		12.547***
		(1.36)		(0.80)
Tax Rate		-0.042		-0.062***
		(0.03)		(0.02)
Rating Dummy		-0.038		-0.557***
		(0.19)		(0.10)
Constant	11.509***	27.626***	8.782***	10.761***
	(0.13)	(1.37)	(0.08)	(0.54)
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	30,873	30,873	30,873	30,873
Adjusted R^2	0.89	0.90	0.89	0.91

Table 10: **Firm Risk**

This table provides the results from relating MV laws to the firm-level risk. The dependent variables are firms' Z score and the number of geographical segments. The variable MV is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. Columns (1) and (2) present results for score. Columns (3) and (4) present results for the number of geographical segments. This table uses unadjusted variables. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Z score		Geographical Segments	
	(1)	(2)	(3)	(4)
MV	-0.737***	-0.615***	-0.246**	-0.249**
	(0.26)	(0.21)	(0.10)	(0.10)
Log Assets		0.957***		0.134***
		(0.08)		(0.04)
Book Leverage		-5.249***		-0.341**
		(0.27)		(0.15)
Tobin's q		1.257***		0.007
		(0.05)		(0.01)
Dividend		-0.037		0.002
		(0.13)		(0.07)
Profitability		6.701***		0.199
		(0.38)		(0.14)
Cash Holding		2.958***		-0.249*
		(0.47)		(0.14)
Tangibility		-0.633		-0.193
		(0.52)		(0.23)
Tax Rate		-0.149***		-0.046***
		(0.02)		(0.02)
Rating Dummy		-0.529***		0.058
		(0.10)		(0.09)
Constant	3.994***	-4.016***	5.340***	4.626***
	(0.13)	(0.60)	(0.05)	(0.30)
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	29,891	29,891	25,597	25,597
Adjusted R^2	0.56	0.62	0.82	0.82

Table 11: **Loan Spreads**

This table explores the effect of MV laws on bank loan spreads. The dependent variable *Loan Spread* is defined as the natural logarithm of all-in spread drawn of a loan facility. The variable *MV* is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. Column (1) presents results without control variables. Column (2) presents results with control variables. This table uses unadjusted variables. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Loan Spread	
	(1)	(2)
MV	0.075**	0.073**
	(0.03)	(0.03)
Log Assets		-0.087***
		(0.02)
Book Leverage		0.668***
		(0.08)
Tobin's q		-0.082***
		(0.02)
Profitability		-0.659***
		(0.13)
Cash Holding		0.013
		(0.11)
Tangibility		-0.051
		(0.10)
Z Score		0.006
		(0.01)
Cash Flow Volatility		0.008
		(0.10)
Loan Size		-0.127***
		(0.01)
Loan Maturity		0.057*
		(0.03)
Constant	5.132***	8.008***
	(0.02)	(0.14)
Firm Fixed Effects	YES	YES
Headquarter State*Year Fixed Effects	YES	YES
Industry*Year Fixed Effects	YES	YES
Loan Type Fixed Effects	YES	YES
Loan Purpose Fixed Effects	YES	YES
N	11,158	11,158
Adjusted R^2	0.74	0.78

Table 12: **Collateral Requirement for Loans**

This table explores the effect of MV laws on bank loan collateral covenants. The dependent variable *Collateral* is defined as a binary variable that equals one if a loan facility is secured by collateral and zero otherwise. The variable *MV* is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. Column (1) and column (2) present the results of Probit Model. Column (3) and column (4) present the results of Logit Model. This table uses unadjusted variables. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Collateral			
	Probit Model		Logit Model	
	(1)	(2)	(3)	(4)
MV	0.154**	0.173**	0.254**	0.274*
	(0.07)	(0.07)	(0.12)	(0.14)
Log Assets		-0.340***		-0.608***
		(0.03)		(0.05)
Book Leverage		2.309***		4.222***
		(0.14)		(0.27)
Tobin's q		-0.178***		-0.330***
		(0.03)		(0.07)
Profitability		-2.136***		-4.267***
		(0.42)		(0.75)
Cash Holding		0.055		0.006
		(0.20)		(0.36)
Tangibility		-0.094		-0.031
		(0.30)		(0.56)
Z Score		-0.016*		-0.025
		(0.01)		(0.02)
Cash Flow Volatility		5.370***		11.958***
		(0.50)		(1.02)
Loan Size		-0.295***		-0.527***
		(0.03)		(0.05)
Loan Maturity		0.334***		0.571***
		(0.05)		(0.09)
Constant	0.211	7.137***	0.638	13.103***
	(0.61)	(0.64)	(1.02)	(1.04)
Incorporation State Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES
Loan Type Fixed Effects	YES	YES	YES	YES
Loan Purpose Fixed Effects	YES	YES	YES	YES
N	8,509	8,509	8,509	8,509
Pseudo R^2	0.20	0.42	0.20	0.43

Table 13: **Debt Coverage**

This table provides the results for the debt coverage hypothesis. In panel A, the measure of debt coverage is *DSCR* (EBITDA divided by sum of book debt and interest expenses). In panel B, the measure of debt coverage is *Net DSCR* (EBITDA divided by sum of book debt and interest expenses net of cash and short-term investments). In panel C, the measure of debt coverage is *ICR* (EBITDA divided by interest expenses). The dependent variable *Lease* is firms' operating lease values scaled by total assets (in percentage). The variable *MV* is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. Column (1) and column (2) present results with unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present results with adjusted variables in which operating leases are capitalized. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Lease			
	(1)	(2)	(3)	(4)
	Unadjusted Variables		Adjusted Variables	
Panel A: Debt Service Coverage Ratio (DSCR)				
MV	-0.838**	-0.751**	-0.482**	-0.427***
	(0.34)	(0.35)	(0.20)	(0.15)
DSCR	-0.001***	-0.001**	-0.001***	-0.000*
	(0.00)	(0.00)	(0.00)	(0.00)
MV * DSCR	0.001	0.001	0.000	0.000
	(0.00)	(0.00)	(0.00)	(0.00)
Control Variables	NO	YES	NO	YES
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	25,799	25,799	25,799	25,799
Adjusted R^2	0.90	0.91	0.91	0.92
Panel B: Net Debt Service Coverage Ratio (Net DSCR)				
MV	-0.805**	-0.714**	-0.468**	-0.414***
	(0.33)	(0.35)	(0.20)	(0.15)
Net DSCR	0.018	0.010	0.008	0.000
	(0.02)	(0.02)	(0.01)	(0.01)
MV * Net DSCR	-0.006	-0.012	-0.004	0.001
	(0.02)	(0.02)	(0.01)	(0.01)
Control Variables	NO	YES	NO	YES
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	25,799	25,799	25,799	25,799

Adjusted R^2	0.90	0.91	0.91	0.92

Panel C: Interest Coverage Ratio (ICR)

MV	-0.808**	-0.730**	-0.464**	-0.410***
	(0.34)	(0.35)	(0.20)	(0.15)
ICR	-0.001**	-0.000	-0.000***	-0.000
	(0.00)	(0.00)	(0.00)	(0.00)
MV * ICR	0.000	0.000	0.000	0.000
	(0.00)	(0.00)	(0.00)	(0.00)
Control Variables	NO	YES	NO	YES
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	25,718	25,718	25,718	25,718
Adjusted R^2	0.90	0.91	0.91	0.92

Table 14: **Balance Sheet Expansion**

This table provides the results for the balance sheet expansion hypothesis. The dependent variable *Book Leverage* is defined as current liabilities plus long-term debt scaled by total book assets, *Market Leverage* is defined as current liabilities plus long-term debt scaled by the market value of assets, and *Log Assets* is defined as the natural logarithm of total book assets. The variable *MV* is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. This table uses unadjusted variables. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Book Leverage		Market Leverage		Log Assets	
	(1)	(2)	(3)	(4)	(5)	(6)
MV	0.008	0.006	0.002	-0.001	0.023	0.012
	(0.01)	(0.01)	(0.01)	(0.01)	(0.04)	(0.03)
Log Assets		0.022***		0.032***		
		(0.00)		(0.00)		
Book Leverage						0.017
						(0.07)
Tobin's q		0.001		-0.007***		0.010***
		(0.00)		(0.00)		(0.00)
Dividend		-0.003		-0.005*		0.051**
		(0.00)		(0.00)		(0.02)
Profitability		-0.102***		-0.073***		0.871***
		(0.02)		(0.01)		(0.04)
Cash Holding		-0.097***		-0.066***		-0.357***
		(0.01)		(0.00)		(0.06)
Tangibility		0.072***		0.094***		-0.530***
		(0.01)		(0.01)		(0.08)
Tax Rate		-0.003***		-0.002***		0.046***
		(0.00)		(0.00)		(0.01)
Rating Dummy		0.084***		0.061***		0.421***
		(0.00)		(0.00)		(0.02)
Constant	0.212***	0.059***	0.146***	-0.055***	6.159***	6.137***
	(0.00)	(0.02)	(0.00)	(0.01)	(0.02)	(0.04)
Firm Fixed Effects	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES
N	30,817	30,817	30,808	30,808	30,873	30,873
Adjusted R^2	0.73	0.74	0.74	0.76	0.96	0.96

Table 15: **Free Cash Flow Problem**

This table provides the results for the free cash flow problem hypothesis. FCF is calculated as the post-tax undistributed cash flows scaled by the market value of common equity. The dependent variable *Lease* is firms' operating lease values scaled by total assets (in percentage). The variable MV is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. Column (1) and column (2) present results with unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present results with adjusted variables in which operating leases are capitalized. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Lease			
	(1)	(2)	(3)	(4)
	Unadjusted Variables		Adjusted Variables	
MV	-0.836***	-0.759**	-0.482***	-0.422***
	(0.30)	(0.32)	(0.18)	(0.14)
FCF	-1.680***	-0.155	-1.180***	-0.275
	(0.38)	(0.31)	(0.22)	(0.19)
MV * FCF	-0.369	-0.252	-0.052	-0.141
	(0.29)	(0.27)	(0.18)	(0.16)
Log Assets		-2.514***		-0.959***
		(0.25)		(0.11)
Leverage		0.665		3.844***
		(0.52)		(0.56)
Tobin's q		-0.486***		-0.437***
		(0.05)		(0.03)
Dividend		0.099		0.082
		(0.23)		(0.15)
Profitability		-3.626***		-0.267
		(0.55)		(0.43)
Cash Holding		-2.649***		0.359
		(0.66)		(0.29)
Tangibility		0.449		12.239***
		(1.35)		(0.75)
Tax Rate		-0.019		-0.053**
		(0.04)		(0.02)
Rating Dummy		0.045		-0.503***
		(0.18)		(0.10)
Constant	11.435***	28.324***	8.714***	10.701***
	(0.15)	(1.47)	(0.09)	(0.67)
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	27,611	27,611	27,611	27,611
Adjusted R^2	0.90	0.90	0.90	0.91

Internet Appendix for Shareholder Empowerment and Corporate Leases

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December 31, 2022

Table IA1: **Excluding Delaware Incorporated Firms**

This table provides the results from estimating the baseline model excluding Delaware-incorporated firms. The dependent variable *Lease* is firms' operating lease values scaled by total assets (in percentage). The interest explanatory variable is *MV* which is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. Column (1) and column (2) present results with unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present results with adjusted variables in which operating leases are capitalized. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Lease			
	(1)	(2)	(3)	(4)
	Unadjusted Variables		Adjusted Variables	
MV	-1.330***	-1.415***	-0.870***	-0.707***
	(0.43)	(0.46)	(0.26)	(0.23)
Log Assets		-3.133***		-1.244***
		(0.38)		(0.20)
Book Leverage		1.924		5.679***
		(1.19)		(0.64)
Tobin's q		-0.500***		-0.473***
		(0.17)		(0.09)
Dividend		-0.179		-0.140
		(0.38)		(0.20)
Profitability		-3.101**		0.021
		(1.37)		(0.89)
Cash Holding		-3.177**		0.926
		(1.34)		(0.80)
Tangibility		4.600**		14.242***
		(2.12)		(1.68)
Tax Rate		-0.009		-0.053
		(0.12)		(0.07)
Rating Dummy		0.074		-0.379
		(0.67)		(0.33)
Constant	11.627***	30.325***	8.877***	11.197***
	(0.06)	(2.19)	(0.03)	(1.47)
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	10,703	10,703	10,703	10,703
Adjusted R^2	0.89	0.90	0.90	0.91

Table IA2: **Headquarter State Effects and Industry Effects**

This table provides the results from estimating the baseline model including headquarter state and year joint fixed effects and industry (2-digit SIC) and year joint fixed effects. The dependent variable *Lease* is firms'operating lease values scaled by total assets (in percentage). The interest explanatory variable is *MV* which is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. Column (1) and column (2) present results with unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present results with adjusted variables in which operating leases are capitalized. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Lease			
	(1)	(2)	(3)	(4)
	Unadjusted Variables		Adjusted Variables	
MV	-0.772***	-0.748**	-0.444**	-0.397***
	(0.29)	(0.28)	(0.18)	(0.14)
Log Assets		-2.434***		-0.956***
		(0.23)		(0.10)
Book Leverage		0.685*		3.792***
		(0.38)		(0.52)
Tobin's q		-0.457***		-0.427***
		(0.05)		(0.03)
Dividend		0.122		0.089
		(0.19)		(0.12)
Profitability		-4.263***		-1.064***
		(0.54)		(0.36)
Cash Holding		-3.314***		-0.152
		(0.43)		(0.35)
Tangibility		1.868		12.559***
		(1.38)		(0.73)
Tax Rate		-0.071*		-0.072***
		(0.04)		(0.02)
Rating Dummy		-0.115		-0.563***
		(0.17)		(0.10)
Constant	11.489***	27.633***	8.759***	10.906***
	(0.14)	(1.22)	(0.09)	(0.49)
Firm Fixed Effects	YES	YES	YES	YES
Headquarter State * Year Fixed Effects	YES	YES	YES	YES
Industry * Year Fixed Effects	YES	YES	YES	YES
N	30,756	30,756	30,756	30,756
Adjusted R^2	0.89	0.90	0.90	0.91

Table IA3: **Alternative Measures of Operating Leases**

This table provides the results from estimating the baseline model using alternative measures (including lease commitments due beyond 5 years) of operating leases as dependent variables. The interest explanatory variable is MV which is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. This table uses unadjusted variables. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Alt_lease1		Alt_lease2	
	(1)	(2)	(3)	(4)
MV	-1.407***	-1.407***	-1.042***	-1.014***
	(0.46)	(0.48)	(0.35)	(0.37)
Log Assets		-2.738***		-2.478***
		(0.31)		(0.34)
Leverage		1.377*		0.847
		(0.70)		(0.65)
Tobin's q		-0.634***		-0.479***
		(0.07)		(0.05)
Dividend		0.253		0.298
		(0.31)		(0.20)
Profitability		-4.992***		-5.541***
		(0.85)		(0.50)
Cash Holding		-2.818***		-3.365***
		(0.57)		(0.53)
Tangibility		3.689**		3.181**
		(1.78)		(1.32)
Tax Rate		0.175		0.029
		(0.12)		(0.06)
Rating Dummy		0.352		0.585**
		(0.36)		(0.26)
Constant	15.824***	32.769***	14.347***	30.009***
	(0.17)	(1.92)	(0.16)	(1.96)
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	21,195	21,195	26,367	26,367
Adjusted R^2	0.90	0.91	0.90	0.90

Table IA4: **Propensity Score Matching**

This table provides the results from estimating the baseline model using the propensity score-matched sample. We match each treated firm to an untreated firm (with replacement) in the same industry (two-digit SIC) and with the closest propensity score of being treated, using the logistic regression and all control variables in the baseline model to estimate the propensity score. We match the treated firms to control firms using data one year preceding the treatment year and require that the matched control firms will not be treated by the MV law in three years following the treatment year on which the match is based. We retain all observations for the treated firms and matched control firms in the ±3 years around the adoption of the MV law. Panel A reports the means of control variables between the treated group and matched control group in the year before the treatment. Panel B presents the effect of MV laws on operating leases. The interest explanatory variable is MV which is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. A cohort refers to a group of firms treated in the same year and the corresponding untreated firms. Column (1) and column (2) present the results for the sample matched based on the unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present the results for the sample matched based on the adjusted variables in which operating leases are capitalized. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

Panel A: Means of Variables in One Year before the Treatment

	Matched with Unadjusted Variables		Matched with Adjusted Variables	
	(1) Treatment Group	(2) Control Group	(3) Treatment Group	(4) Control Group
Log Assets	5.729	5.869	5.834	5.942
Book Leverage	0.185	0.197	0.261	0.266
Tobin's q	2.370	2.173	2.142	2.010
Dividend	0.331	0.327	0.331	0.343
Profitability	0.042	0.067	0.063	0.085
Cash Holding	0.252	0.228	0.229	0.211
Tangibility	0.214	0.218	0.284	0.279
Tax Rate	0.146	0.176	0.146	0.190
Rating Dummy	0.277	0.298	0.277	0.308
N	1,821	1,821	1,821	1,821

Panel B: Matched Sample MV Laws and Leases

	Lease			
	(1) Unadjusted Variables	(2) Unadjusted Variables	(3) Adjusted Variables	(4) Adjusted Variables
MV	-1.002***	-0.926***	-0.738***	-0.614***
	(0.26)	(0.25)	(0.23)	(0.15)

Log Assets		-2.231***		-0.796***
		(0.28)		(0.20)
Book Leverage		2.188***		3.930***
		(0.67)		(0.76)
Tobin's q		-0.657***		-0.453***
		(0.10)		(0.08)
Dividend		-0.167		0.018
		(0.51)		(0.28)
Profitability		-2.908		-1.802*
		(1.89)		(0.95)
Cash Holding		-0.848		1.167*
		(1.06)		(0.69)
Tangibility		4.533*		12.471***
		(2.56)		(1.48)
Tax Rate		0.009		-0.127
		(0.19)		(0.10)
Rating Dummy		-0.483		-0.510**
		(0.34)		(0.19)
Constant	11.391***	25.102***	8.906***	9.929***
	(0.05)	(1.93)	(0.04)	(1.41)
Firm*Cohort Fixed Effects	YES	YES	YES	YES
Year*Cohort Fixed Effects	YES	YES	YES	YES
N	21,075	21,075	21,131	21,131
Adjusted R^2	0.92	0.92	0.92	0.93

Table IA5: **Unlevered Firms**

This table provides the results from estimating the baseline model with the sample of only unlevered firms. The dependent variable *Lease* is firms' operating lease values scaled by total assets (in percentage). The interest explanatory variable is MV which is an indicator equal to one if the MV law has been adopted in a state in a given year and zero otherwise. Column (1) and column (2) present results with unadjusted variables in which operating leases are not capitalized. Column (3) and column (4) present results with adjusted variables in which operating leases are capitalized. The detailed definitions of variables can be found in Appendix A. Robust standard errors (in parentheses) are clustered at the incorporation state level. The superscripts *, ** and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

	Lease			
	(1)	(2)	(3)	(4)
	Unadjusted Variables		Adjusted Variables	
MV	-0.808	-0.675	-0.628	-0.422
	(0.62)	(0.63)	(0.39)	(0.33)
Log Assets		-2.160***		-0.446***
		(0.31)		(0.15)
Book Leverage		7.955**		16.858***
		(3.42)		(2.31)
Tobin's q		-0.350**		-0.363***
		(0.15)		(0.08)
Dividend		0.508		0.367
		(0.68)		(0.30)
Profitability		-4.892***		-0.933**
		(0.53)		(0.39)
Cash Holding		-0.772		1.473***
		(0.55)		(0.50)
Tangibility		6.681*		14.741***
		(3.59)		(1.28)
Tax Rate		0.111*		0.012
		(0.06)		(0.04)
Rating Dummy		-2.246***		-1.653***
		(0.23)		(0.28)
Constant	12.922***	23.403***	9.739***	7.316***
	(0.31)	(1.03)	(0.19)	(0.74)
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
N	5,637	5,637	5,637	5,637
Adjusted R^2	0.90	0.91	0.89	0.91