How does shareholder governance affect the cost of borrowing? Evidence from the passage of anti-takeover provisions☆

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ABSTRACT

This paper examines the effect of shareholder governance on firms' cost of borrowing using the voting outcomes of shareholder-sponsored anti-takeover governance proposals. Implementing a regression discontinuity design centered around the proposals' passing thresholds, we show that firms' public debt prices fall significantly upon the proposals' passage, and that banks demand higher interest rates and more general covenants on new loans issued to those firms. We find that these effects are more pronounced for riskier firms where shareholder-debtholder conflicts are more severe. Moreover, firms with passed shareholder-sponsored proposals become more volatile, reflecting an increase in their risk-shifting incentives. Collectively, our findings suggest that shareholder governance exacerbates shareholder-debtholder conflicts and raises firms' cost of borrowing.

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1. Introduction

Shareholder governance is an important determinant of corporate control and firm performance.[1] One of its primary expressions is voting on proposed corporate governance provisions, which are typically intended to mitigate conflicts between ownership and control, and can improve firms' internal governance structures. Prior studies document positive stock market reactions to the passage of governance proposals, especially anti-takeover-related provisions, suggesting that

shareholder governance creates value for equityholders (e.g., Cuñat et al. (2012)). However, the overall effectiveness of shareholder governance depends upon its effects on other stakeholders, notably, debtholders. We provide evidence of such effects by studying the impact of governance-related proposals that remove anti-takeover provisions on debtholders. Specifically, we examine the reactions of firms' public debt prices and changes in the contractual features of their newly-issued bank loans upon these proposals' passage.

Our paper makes the following contributions. First, we offer tighter identification than prior literature by employing a regression discontinuity design around majority shareholder votes on governance proposals, which provides plausibly exogenous variations in internal shareholder governance and thus causal estimates of its effects on firms' cost of borrowing. While several prior studies find that shareholder governance has negative effects on debtholders, they use cross-sectional research designs or are based on endogenous events (e.g., Klock et al. (2005); Cremers et al. (2007)). Moreover, a number of studies examining internal shareholder governance in different settings document positive effects on debtholders (e.g., Bhojraj and Sengupta (2003); Roberts and Yuan (2010)). These divergent conclusions are likely attributable to the endogeneity of governance structures, a feature that we address in our setting. Second, we conduct a relatively comprehensive analysis of the effect of shareholder governance on debtholders using public debt prices and bank loan contract features. In a supplementary analysis, we also examine the reactions of the secondary loan market.[2] Our consistent evidence demonstrates that improvements in shareholder governance are perceived unfavorably across groups of debtholders, raising firms' costs of borrowing and leading to more restrictive loan contract features. It also reduces the risk that our findings are an artifact of a particular Table debt market or variable choice. Additionally, we show that banks mainly use general covenants instead of financial covenants to address shareholder-debtholder conflicts arising from shareholder governance.

In theory, the passage of governance proposals could have either beneficial or detrimental effects on firms' creditors. If passing an additional proposal reduces management entrenchment, it could decrease monitoring costs for creditors and lead them to charge lower interest rates and relax other loan contract features. We refer to this mechanism as the Entrenchment Reduction channel. On the other hand, if the additional provision exacerbates agency conflicts between shareholders and creditors, shareholders may act to the detriment of creditors.[3] Creditors would react negatively to the passage of governance provisions, and lenders would demand higher interest rates and impose other restrictive loan contract features to compensate for additional agency costs. We refer to this mechanism as the Agency Conflicts channel.

Identifying the causal impact of shareholder governance on creditors is challenging. Firms' decisions to adopt governance provisions are endogenous, and it is difficult to distinguish the impact of shareholder governance from other factors that affect firms' cost of borrowing, such as unobservable firm credit risks. To overcome these challenges, we implement a regression discontinuity research design that exploits plausibly exogenous variations around majority votes on governance proposals. This framework resembles an experiment where firms are randomly assigned improved internal corporate governance. On average, firms with voting results just above and just below the passing threshold should differ only in their internal governance, and should be similar in other covariates. The discontinuity approach is largely unaffected by any observed or unobserved confounding factors, as long as their effects are continuous around the threshold. We show that the distribution of our forcing variable, vote share, is continuous around the majority threshold. We also show that, for the votes around the majority threshold, a proposal's passage is uncorrelated with a large number of observed firm characteristics. Given the uncertainty inherent in the outcome, the market cannot predict which close-call proposals will pass. Therefore, we can estimate the plausibly causal effects of governance-related proposals on firms' cost of borrowing.

The validity of the regression discontinuity research design requires a discrete jump in the implementation probability of voted proposals at the passing threshold. However, because shareholder proposals are non-binding, it is unclear whether passed proposals are more likely to be implemented. To this end, we hand collect the implementation results of the proposals in our sample and show that those that pass are much more likely to be implemented than those that fail. The average implementation rate is 59.2% for passed proposals and only 5.9% for failed proposals. Importantly, there is a sharp discontinuity in implementation rates around the majority threshold, jumping from 8.2% for proposals that receive 40%–50% of votes to 41.5% for proposals that receive 50%–60% votes.

In our main tests, we examine the effects of the passage of governance-related proposals on the price of public debt and the contractual features of newly-issued private loans. In our test samples, we first confirm prior findings (Cuñat et al. (2012)) that the stock market responds positively to the passage of governance proposals. Specifically, we find that the adoption of a governance proposal leads to a 0.72%–1.33% higher stock return for firms in the public debt sample and a 0.58%–1.06% higher stock return for firms in the private loan sample. Moving to our main results, we find that the public debt market negatively and significantly responds to the passage of governance proposals, i.e., showing a 1% reduction of the corresponding firm's public debt price. In the private loan issuance sample, passing a governance proposal leads to an increase of about 50 basis points in loan interest rates and an increase of about one general covenant in debt contracts. These results contrast sharply with those in the equity market. Our findings are consistent with the Agency Conflicts channel, and suggest that lenders believe that costs associated with increased agency conflicts outweigh the benefit of reduction in managerial entrenchment.

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[2] Prior studies typically study the effect of internal governance on either the public debt (e.g., Klock et al. (2005); Bhojraj and Sengupta (2003)) or the loan issuance market (e.g., Chava et al. (2009); Roberts and Yuan (2010)). Additionally, to the best of our knowledge, no evidence exists on the effect of internal shareholder governance induced by shareholder votes on the secondary loan market.

[3] See Jensen and Meckling (1976), Myers (1977), and John and John (1993).

We conduct several cross-sectional analyses to further investigate this channel. The theory of agency conflicts of interests predicts that the shareholders of distressed firms may want their firms to invest in negative net present value risky projects because such projects benefit shareholders at the expense of debtholders (Jensen and Meckling (1976)). When shareholders exercise sufficient control, they can induce managers to make such investments. Consistent with the Agency Conflicts channel, we find that the effects are stronger for risky companies with low Z-scores. Moreover, we show that firms become more volatile subsequent to the passage of governance proposals.

Lastly, we perform additional robustness tests and discuss potential selection issues. First, our main analyses use the entire distribution of vote shares to facilitate robust estimates of the discontinuity around the majority threshold, and we show that the results are robust when we only focus on close-call proposals around the majority threshold using estimated optimal bandwidths. Second, we conduct several placebo tests using a 40% threshold and a 60% threshold instead of the majority 50% threshold and find no significant results. Third, we provide suggestive evidence that the secondary loan market also reacts negatively to the passage of governance proposals. Fourth, we discuss potential selection issues for the loan issuance sample.

Our paper relates to the literature on the effect of shareholder governance on debtholders. Klock et al. (2005) use G-index from Gompers et al. (2003) as a proxy for shareholder rights and find that strong corporate governance, though beneficial to stockholders, is associated with a higher cost of debt financing in the bond market. Cremers et al. (2007) show that shareholder control proxied by large institutional blockholders is associated with higher bond yields. Chava et al. (2009) document a negative association between strong shareholder governance and bank loan pricing. On the contrary, Bhojraj and Sengupta (2003) and Roberts and Yuan (2010) find that firms with stronger internal shareholder governance receive better terms in the public debt market and bank loans, respectively. Qiu and Yu (2009) study the effect of external governance and show an increase in cost of debt after the passage of business combination laws that raised the cost of takeovers and weakened shareholder control. These mixed results may be partially due to the non-random nature of governance structures.

In particular, our findings relate to studies on shareholder-debtholder conflicts of interest (Jensen and Meckling (1976); John and John (1993); Begley and Feltham (1999)). Prior research has explored the transfer of wealth from creditors to shareholders in other contexts, such as mergers and acquisitions (Billett et al. (2004)), LBOs (Warga and Welch (1993)), hedge fund activism (Klein and Zur (2011)), and seasoned equity offerings (Eberhart and Siddique (2002)). Liao (2015) finds that some corporate governance mechanisms that alleviate manager-shareholder conflicts can worsen shareholder-bondholder conflicts and shows that firms with high outside blockholdings are inclined to choose bank loans over public debt. We contribute to this literature by exploiting plausibly exogenous variations in shareholder governance induced by shareholder voting and by providing a causal estimate of the effect of changes in the firm's shareholder governance across groups of debtholders.

This paper also relates to the literature that examines the effect of shareholder activism. Prior studies investigating this internal governance mechanism focus on its impact on shareholders (Cuñat et al. (2012)), or on firm characteristics and activities, such as corporate culture (Popadak (2013)), innovation (Chemmanur and Tian (2018)), and earnings manipulation (Fan et al. (2021)). A related stream of research examines the effect of hedge fund activism on debtholders. Klein and Zur (2011) document an adverse effect of hedge fund activism on bondholders. Sunder et al. (2014) find heterogenous bank reactions to different hedge fund interventions. This paper illustrates that shareholder voting that removes anti-takeover provisions can benefit equityholders at the expense of debtholders.

The rest of the paper proceeds as follows. Section 2 provides institutional background and hypotheses development. Section 3 describes data and research design. Section 4 presents empirical results. Section 5 discusses additional analyses and Section 6 concludes.

2. Background and hypotheses development

In this section, we review the institutional details of shareholder voting and governance proposals and develop our hypotheses based on prior literature and the institutional setting. Detailed reviews of shareholder voting and corporate governance can be found in Gillan and Starks (2000), Cremers et al. (2007), and Yermack (2010).

2.1. Institutional background

As the beneficial owners, shareholders possess an important protection mechanism, the right to vote. This form of governance is meant to align the interests of managers and shareholders and serves the interest of shareholders. In general, shareholders exercise this legal right by voting on a range of matters at annual meetings, including, but not limited to, the election of directors and governance-related proposals.

Under Rule 14a-8 of the Securities Exchange Act of 1934, any eligible shareholder can include a non-binding shareholder proposal in the company's proxy statement for a vote at the next annual meeting. To be eligible, a shareholder needs to hold at least $2000 or 1% of a company's securities for at least one year. Proposals must be submitted at least 120 days before the proxy is mailed to shareholders. The proxy statement provides information about the proposals and the management's recommendation to either vote "For" or "Against" each proposal. Prior to an annual meeting, a firm must send out voting material, such as proxy statements, to all registered owners. Voters must be registered shareholders and have been confirmed before a record date to be eligible to vote.

We follow Cuñat et al. (2012) and classify each proposal into one of six general categories: G-index governance, compensation, voting, auditors, board structure, and others. Because our goal is to examine the effect of shareholder governance on creditors, we focus on proposals that remove G-index or anti-takeover-related provisions, since removing these provisions strengthens shareholder governance (Gompers et al. (2003)).[4] We refer to these proposals as governance-related proposals.

A proposal can be shareholder-sponsored or management-sponsored. Our study focuses on the former. We exclude management-sponsored proposals because prior studies find that they are subject to manipulation and do not fulfill the requirements for a regression discontinuity design (e.g., Listokin (2008)). Managers exert strong influence over management-sponsored proposals for at least three reasons. First, they can decide which management-sponsored proposals are submitted for a vote, which inclines them to submit proposals that are likely to pass. Second, as meetings approach, managers can strategically withdraw proposals that are likely to fail. Before the vote, they can hire a proxy solicitation firm to assess the extent of opposition to a given proposal. If management predicts that the proposal is unlikely to win, it will often withdraw or alter the proposal. Third, many management proposals are merely formality, part of a standard procedure to implement previous shareholder-sponsored proposals that have already been passed by shareholders.[5] As shown in Fig. A1, the number of management-sponsored proposals passed by a small margin is disproportionately higher than the number of proposals failed by a small margin. This pattern is unlikely to occur by chance and is evidence of strategic action.

On the other hand, management exercises minimal control over shareholder-sponsored proposals and therefore does not have much capacity to manipulate the vote around the passing threshold. For example, they cannot strategically withdraw shareholder proposals. If managers manipulate shareholder proposals and strategically withdraw those that are likely to pass by the margin, we would expect to find a discontinuity around the passing threshold for shareholder proposals. Panel A of Fig. 1 plots the distribution of the vote share in favor of each shareholder-sponsored governance-related proposal. The frequencies of vote shares are smooth around the majority threshold. The data features are close to those reported in previous studies that use voting results for S&P 1500 firms (e.g., Cuñat et al. (2012)). Panel B of Fig. 1 shows the continuity smoothness test based on McCrary (2008).[6] The log difference in height is -0.073 and the standard error is 0.113 (t-stat of -0.647). Therefore, we cannot reject the null hypothesis that the discontinuity is zero. In other words, there is no evidence of discontinuity around the majority threshold. This result is consistent with prior literature (e.g., Listokin (2008); Cuñat et al. (2012); Chemmanur and Tian (2018)).
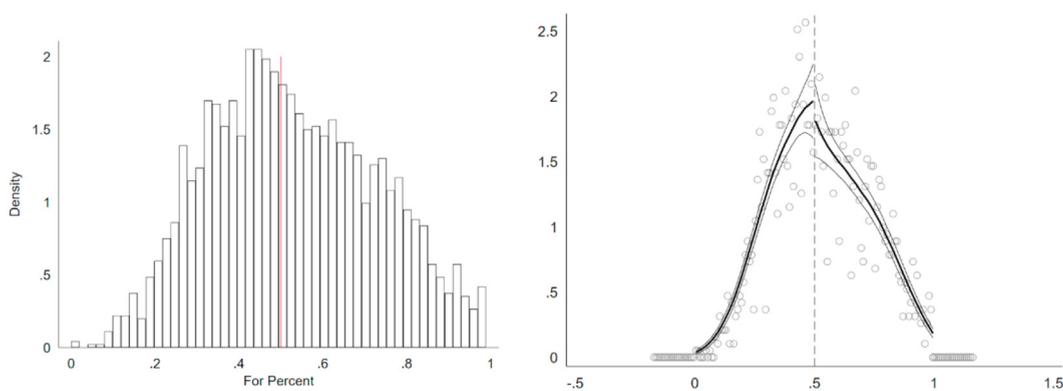
Fig. 1. Distribution of Vote Shares for Shareholder-sponsored Governance Proposals and the McCrary (2008) Test. Note: The sample includes all shareholder-sponsored governance proposals from 1997 to 2013. The left panel (Panel A) plots a histogram of the entire vote share distribution using two percent point bins. The right panel (Panel B) plots the McCrary (2008) continuity test of the vote distribution.

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[4] The G-index is the number of anti-takeover provisions a firm has. The major governance proposals include the following: repeal classified board, cumulative voting, require only majority vote, redeem or vote poison pill, eliminate super-majority provision, confidential voting, and vote on future golden parachutes. Cuñat et al. (2012) show that these proposals increase shareholder control and rights.

[5] For example, Apple decided to adopt the majority voting standard in uncontested elections of directors after a shareholder vote on the proposal. In the proxy statement for the following annual meeting, the management included a proposal (No.2) for shareholders to vote to formally adopt the policy. Specifically, it states that "If Proposal No. 2 is approved, then the Board will separately amend the Company's bylaws at the meeting of the Board immediately following the Annual Meeting to adopt the majority voting standard in an uncontested election of directors set forth in California Corporations Code Section 708.5, and that standard will apply to future uncontested elections of directors." We find that, unsurprisingly, these types of manager-sponsored proposals are very likely to pass. In this example, the shareholders approved the proposal and the voting standard was officially adopted.

[6] The McCrary (2008) test is based on an estimator for the discontinuity at the cutoff in the density function of the running variable. There are three main steps in the estimation process. First, a finely-gridded histogram is obtained for the running variable. Next, the histogram is smoothed using local linear regressions, separately on the two sides of the cutoff. Lastly, the McCrary (2008) test examines whether the log difference of the intercepts of the two regressions is statistically different from zero.

2.2. Hypothesis development

Shareholders have the right to vote on governance proposals that increase their corporate control. However, governance reform does not unambiguously increase firm value (Hermalin and Weisbach (2012)) and, more importantly, shareholder value maximization does not necessarily lead to welfare maximization. Decisions that increase shareholder value may impose costs on other stakeholders, such as debtholders (John and John (1993); Klein and Zur (2011)). Although prior studies document a positive effect of shareholder governance on equityholders based on the passage of shareholder-sponsored governance proposals (Cuñat et al. (2012); Popadak (2013)), the effect of shareholder governance on creditors is inconclusive. Several studies find a negative effect (e.g., Klock et al. (2005); Chava et al. (2009)), while others suggest that shareholder governance can have a positive effect on creditors (e.g., Bhojraj and Sengupta (2003); Roberts and Yuan (2010)). We comprehensively study the effect of shareholder-sponsored governance proposals across groups of creditors by examining firms' cost of borrowing in the public debt market and the contractual features of the private loan issuance market.

2.2.1. Internal corporate governance and cost of borrowing

In theory, the passage of governance proposals could have either beneficial or detrimental effects on firms' creditors. Improved corporate governance may incentivize managers to make profit-maximizing decisions and limit opportunistic behavior, both of which can benefit creditors (Bhojraj and Sengupta (2003); Roberts and Yuan (2010)) and lead to lower costs of borrowing. Empirically, Bhojraj and Sengupta (2003) document that firms with stronger external monitoring are rewarded with lower bond interest rates. Qiu and Yu (2009) show that the passage of anti-takeover laws, which weaken shareholder control, increases the borrowing costs of the corresponding firms. Therefore, following the passage of governance proposals, the public debt market may respond favorably, and banks may charge lower interest rates on loans for the improvement of internal governance and the reduction of managerial entrenchment. We call this the Entrenchment Reduction channel.

On the other hand, additional governance provisions may harm existing creditors. Passing governance proposals may increase agency conflicts between shareholders and debtholders through two main channels: risk-shifting and takeover. Shareholders of distressed firms may prefer risky projects that are value-destroying because the benefits of these projects are primarily conferred on equityholders, whereas the costs are borne by creditors. This is known as the risk-shifting problem (Jensen and Meckling (1976); Warga and Welch (1993)). When managers and shareholders' interests are aligned, managers may have risk-shifting incentives, e.g., they could make risky investments and reduce the assets available for meeting debt obligations. Additionally, they may engage in excess risk-taking, which benefits shareholders at the expense of debtholders. In addition to the risk-shifting channel, the passage of governance proposals may increase firms' takeover vulnerability (Cuñat et al. (2012, 2020)). Creditors may be concerned about the change in takeover probability because takeover events generally lead to a significant increase in target firms' leverage, and thus increase the firms' default risk (Ghosh and Jain (2000); Chava et al. (2009)). Collectively, the public debt market may respond unfavorably, and banks may charge higher interest rates for new loans to compensate for additional risks caused by the change in firms' internal corporate governance structures. We refer to this mechanism as the Agency Conflicts channel. Since there is no theoretical consensus, we state the hypotheses in null form:

H1a. The public debt market does not respond to the passage of shareholder governance proposals.

H1b. The passage of shareholder governance proposals does not affect the interest rates for new loans.

2.2.2. Internal corporate governance and loan covenants

Covenants in private loan contracts have been used as a main mechanism to mitigate agency conflicts between equityholders and lenders.[7] They can be financial or non-financial and allow lenders to limit borrowers' ability to engage in excessive risk-taking, claim dilution, and other actions that are potentially harmful to the lenders. When covenants are triggered, the control rights of firms transfer from equityholders to debtholders.

Theoretically, covenants can mitigate debt-equity conflicts (Smith and Warner (1979)). Empirically, Sunder et al. (2014) show that lenders use covenants to protect themselves when takeover risk is high after hedge fund activism interventions. Cremers et al. (2007) find that the presence of bond covenants (e.g., leverage restricting covenants, net worth requirements, and the poison put covenant) reduces agency conflicts between shareholders and bondholders. Liao (2015) documents that loans to firms with better shareholder protection as proxied by large outside blockholdings are more likely to contain both financial and non-financial covenants.

If additional governance provisions reduce management entrenchment and monitoring costs, we would expect to find that banks use fewer covenants in loan contracts. However, if passing governance proposals increases shareholder-debtholder conflicts, we would expect to find that banks impose more covenants in response to the increase in agency costs. Therefore, we also state our second hypothesis in null form:

H2. The passage of governance proposals does not affect the loan covenants in new loans.

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[7] See, e.g., Jensen and Meckling (1976), Chava and Roberts (2008), and Nini et al. (2012).

2.2.3. Risky firms

The conflicts between shareholders and debtholders are magnified for distressed firms (Jensen and Meckling (1976)). Shareholders of distressed firms tend to have high risk-shifting motives. If the passage of governance proposals is detrimental to existing creditors, we expect creditors to react more to riskier firms. To further explore creditor reactions to the passage of governance proposals, we conduct several cross-sectional analyses based on firms' ex ante riskiness.

H3. The effects of governance proposals' passage on the cost of borrowing are more pronounced for riskier firms.

3. Data and empirical methodology

3.1. Data

3.1.1. Shareholder governance proposals

To estimate how the passage of shareholder-sponsored governance proposals affects debtholders, we collect voting data between 1997 and 2013 from Institutional Shareholder Services (ISS). Specifically, for the period between 2003 and 2013, we use data from Voting Analytics that covers the Russell 3000 companies. We supplement the Voting Analytics data by collecting voting results between 1997 and 2002 from the RiskMetrics dataset, which covers all S&P 1500 companies and an additional 500 widely-held firms. Since our purview is the effect of shareholder governance on creditors, we focus on governance-related proposals that remove G-index or anti-takeover-related provisions, as removing these provisions strengthens shareholder governance (Gompers et al. (2003)). Cuñat et al. (2012) show that the passage of G-index governance-related proposals has a material impact on a firm's valuation and business decisions, while other proposals have a limited impact on stock returns or business activities. In Appendix B, we present detailed descriptions and breakdowns of the governance-related proposals sponsored by shareholders. We also discuss the material effect of the governance proposals on shareholder governance and present real-world examples of the governance proposals included in proxy statements.

Our voting data has 2293 shareholder-sponsored governance-related proposals. For consistency, we only include proposals with a 50% majority threshold, which constitute the majority of the proposals. Table 1 shows summary statistics of the governance-related proposals by year from 1997 to 2013. For each year, we present the total number of proposals, the number of passed proposals, the passage rate, and the number of proposals around the majority threshold. There is a gradual increase in both the number of proposals and the level of shareholder support over time. On average, 52.33% of the shareholder-sponsored governance proposals are approved, which is similar to the approval rate in Cuñat et al. (2012). 433 (812) proposals have voting results that fall within 5 (10) percentage points of the passing threshold.[8]

We merge the voting data with firm accounting information from Compustat. We exclude financial firms because their internal and external corporate governance structures differ from other firms as discussed in De Haan and Vlahu (2016). More specifically, Prowse (1997) and Adams and Mehran (2003) show that the market for corporate control is largely absent for

Table 1
Summary statistics of shareholder-sponsored governance proposals.

Year	Total	Passed	Passed %	(−5, +5)	(−10, +10)
1997	110	33	30.00%	23	39
1998	118	33	27.97%	18	38
1999	140	53	37.86%	39	57
2000	124	62	50.00%	34	51
2001	124	66	53.23%	36	64
2002	145	93	64.14%	25	51
2003	136	88	64.71%	28	56
2004	105	69	65.71%	7	24
2005	139	64	46.04%	24	60
2006	178	92	51.69%	29	76
2007	103	42	40.78%	19	37
2008	123	76	61.79%	18	38
2009	172	92	53.49%	25	43
2010	153	91	59.48%	31	50
2011	153	81	52.94%	24	45
2012	155	101	65.16%	30	43
2013	115	64	55.65%	23	40
Total	2293	1200	52.33%	433	812

Note: This table shows summary statistics of the shareholder-sponsored governance proposals by year. The data span 1997 to 2013. For each year, the table presents the total number of shareholder-sponsored governance proposals, the number of passed shareholder-sponsored governance proposals, the passage rate, and the number of proposals that are near the majority threshold.

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[8] We provide additional summary statistics of the governance-related anti-takeover proposals in Table A1 of the Appendix.

financial firms, due to the lack of hostile takeover threat. Continuous variables are winsorized at the 1st and 99th percentiles to mitigate the influence of outliers. To examine the impact of shareholder governance on creditors, we also include data from the public debt market and the private loan issuance market, which we discuss below.

3.1.2. Public debt market

We obtain public debt transaction data from the Trade Reporting and Compliance Engine (TRACE) database. We then add the Mergent Fixed Income Securities (FISD) database to obtain bond characteristics and coupon information. Following the literature on corporate bonds (e.g., Anderson and Stulz (2017); Bai et al. (2019)), we apply common filters to the bond sample. Specifically, we exclude bonds issued by the U.S. or foreign governments/agencies (including taxable municipal bonds), pass-through securities, banknotes, preferred securities, and mortgage or asset-backed securities issued by U.S. corporations. We also exclude puttable, convertible, and insured debt and bonds that have warrants, sinking fund provisions, floating-rate coupons, and foreign currency denominations. In addition, utilities, 144a issues, and bonds under private placement are removed. Finally, we match the bond data with the voting sample constructed in the previous subsection. Similar to the sample used in Anderson and Stulz (2017), our public debt sample begins in 2004 and ends in 2013, when the voting sample concludes.

The public debt market is not as liquid as the stock market. Therefore, to measure the public debt market's reactions to the passage of governance-related proposals, we use bond returns over a one-month period starting from the voting date. Bond returns are calculated in line with the literature (e.g., Chordia et al. (2017); Bai et al. (2019)) using information from both the TRACE and Mergent FISD databases. Specifically, we calculate logged bond returns as $\log\left(\frac{P_t + AI_t + C_t}{P_{t-1} + AI_{t-1}}\right)$, where P is the price of the bond, AI is the accrued interest, and C is the paid coupon. The bond price is obtained from TRACE, and information on face value, coupon rate, maturity, and other bond characteristics are drawn from the Mergent FISD.

One feature of the bond market is that a single company may issue multiple bonds. In the samples used in previous studies, each firm has about ten bonds on average (Anderson and Stulz (2017); Bai et al. (2019); Huang et al. (2020)).[9] To mitigate concerns that our results are driven by some firms having multiple outstanding bonds, we aggregate bonds to the firm level as the average of individual bond returns of each firm. To control for time-invariant firm characteristics, e.g., those that may be associated with a firm's number of bonds, we include firm fixed effects.

3.1.3. Loan issuance

Next, we collect data on newly-issued bank loans from the Loan Pricing Corporation (LPC) DealScan database. DealScan contains detailed information about private debt contracts, including both pricing (loan interest rate) and non-pricing items (e.g., covenant restrictions, loan structure, loan size, and maturity). Following the literature, we use the all-in-drawn spread on the bank loan over LIBOR as the loan interest rate, which is a direct measure of the cost of private debt. Prior studies show that lenders use loan covenants as governance and monitoring mechanisms (e.g., Asquith et al. (2005); Beatty et al. (2010)). We use the number of covenants to examine the non-pricing component of the loan contracts. Specifically, we follow Bradley and Roberts (2015) and classify covenants as either general or financial. General covenants aim to limit borrowers' financial policy decision-makings. Financial covenants are limits placed on the level of different accounting variables that must be maintained while the loan is outstanding. Finally, it is necessary to adjust the timing of contracts reported on DealScan. DealScan reports the facility start date as a loan's legal effective date, but loan terms are commonly negotiated well in advance (Godlewski (2009); Murfin (2012)). It takes an average of three to five months between a bank's approval of a term sheet and the loan's effective date. For our main tests, we adopt a three-month adjustment. In untabulated results, we find that our main results are qualitatively similar using a five-month adjustment.

We match the DealScan dataset with firms' financial information from Compustat using the linkage table generously made available by Michael Roberts.[10] To be included in our sample, we require firms to have available financial variables prior to the loan issue date. Our tests on private debt compare a firm's loan contract issued before a proposal's voting date to its loan contract issued after the voting date. Our pre-voting sample includes loans with contracting dates within one year before the corresponding firm's voting date. Our post-voting sample includes loans with contracting dates that fall one to three years after the corresponding firm's voting date. We match a firm's post-voting loan contracts with its pre-voting contracts to calculate changes in loan contract terms. This procedure requires a firm to have loans before and after a voting date. The final loan issuance sample starts in 1997 and ends in 2013, when the voting sample concludes.

3.2. Implementation of shareholder-sponsored proposals

Given that shareholder proposals are non-binding, it is unclear whether the passed proposals in our sample are subsequently implemented. Although our identification strategy does not require all proposals to be binding, its validity requires a

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[9] When we replicate these papers using their corresponding sample and filters, we reach these results. To further understand the underlying data, we also examine the distribution of the number of bonds for a given firm in our sample. We find that the 10-percentile firm has only one bond, the 25-percentile has three bonds, the median firm has six bonds, the 75-percentile has 12 bonds, and the 90-percentile firm has 18 bonds. There are four firms that have more than 100 bonds.

[10] The linkage table covers the period from 1987 to 2017.

discrete jump in the implementation probability at the majority threshold. To provide direct evidence, we hand collect the implementation results for the shareholder-sponsored governance proposals in our sample. For each governance proposal, we read the company's proxy statement, 8-K, 10-Q, and 10-K filings in the year after voting to identify the implementation decision. To measure implementation results in response to governance-related proposals, we make a conservative choice and rely on the proxy statements and other SEC filings dated within one year subsequent to shareholder meetings. This data collection procedure is similar to that of Ertimur et al. (2011), who collect implementation decisions of CEO compensation-related proposals.

If the board has taken significant steps toward implementation, we code the proposal as implemented. There is heterogeneity in implementation. For the majority of proposals, it is clear whether they have been implemented or are in the process of implementation based on subsequent filings.[11] For some, the language is ambiguous, and we rely on multiple sources to infer implementation status.

If we find supporting evidence that the board has not taken action toward implementation, then we code the proposal as not implemented. An example of non-implementation would be inclusion of the same shareholder proposal in the following year's proxy statement with the shareholders' statement that "the board ignored our vote for the same proposal last year."[12] In many cases, evidence of non-implementation is indirect. To infer implementation status, we read 10-K and 10-Q filings for the company's articles of incorporation and/or bylaws, or its description of board structure. For example, if a firm still has a classified board, then the firm may state in its board structure that "we have a board of three classes," and thus last year's proposal to "Repeal Classified Board" has not been implemented.[13] We include several examples in Appendix C.

We are able to identify the implementation status for 1954 governance-related proposals in our sample. Table 2 presents the results. "Implemented" is an indicator variable equal to one if the company implemented or has taken significant steps toward implementing a proposal, and zero otherwise. Panel A shows the summary statistics of the "Implemented" variable. In total, 33.7% of the proposals were implemented. The standard deviation of the implementation indicator is 0.47. Panel B shows that the implementation rate is 59.2% for the passed proposals. The rate is significantly higher than the 5.9% implementation rate for proposals that fail to receive majority votes. Panel C shows the frequency of implementation for each decile of voting shares. The results show that passing a proposal by a small margin discretely increases its implementation rate, even though these proposals are not binding. The implementation rate jumps from 8.2% for proposals that receive 40%−50% of votes, to 41.5% for proposals that receive 50%−60% of votes. The discrete jump in the probability of implementation at the passing threshold further supports the validity of our identification strategy (see Lee and Lemieuxa (2010) for a discussion). Moreover, the implementation rate increases from 41.5% for proposals that receive 50%−60% of votes to 97.5% for proposals that receive more than 90% of votes.

The implementation results we collect are comprehensive and cover all governance-related proposals. The summary statistics of the implementation rate are consistent with prior studies. Ertimur et al. (2010) analyze a sample of 620 shareholder proposals between 1997 and 2004 and show that 31.1% of the passed proposals are implemented, while only 3.2% of those not passed are implemented. Their sample of shareholder proposals includes not only governance-related proposals but also other proposals such as executive pay. Cuñat et al. (2012) analyze a sample of governance-related proposals from 1997 to 2007. They do not collect implementation data, but use the change in G-index in response to a provision's passage as a proxy for implementation and estimate that passing a proposal around the discontinuity leads to a discrete 31% increase in the probability of implementation within two years.

3.3. Research design

We implement a regression discontinuity research design that uses natural variation in shareholder governance around the majority threshold. This framework, which has been applied and validated in prior studies on shareholder proposals (Cuñat et al. (2012); Popadak (2013)), mimics an experiment where firms are randomly assigned improved internal corporate governance. On average, the characteristics of firms with 50.1% of shareholder votes are in principle similar to those with 49.9% of shareholder votes, with one critical difference—a vote share of 50.1% leads to the passage of a proposal, while a vote share of 49.9% does not. This quasi-randomness allows us to deal with prior expectations and endogenous internal governance rules. The basic assumption of the research design employed by regression discontinuity methodology is that the distribution of the forcing variable is continuous around the majority threshold. In our case, the forcing variable is vote share and we verify its continuity around the majority threshold in Section 2.

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[11] For example, the Eastman Kodak Company had a proposal on a majority voting standard in its 2008 annual meeting. In its 2009 proxy statement, the company stated: "The Board amended the Company's By-laws to adopt a majority voting standard for uncontested director elections."

[12] Firms may also directly oppose the implementation in the next year's proxy statement. For example, Chesapeake Energy Corporation stated in its 2010 proxy statement that "… The Board believes strongly that it is not advisable, in light of the unique circumstances of our industry, to adopt majority voting or to declassify our Board … For these reasons, the Board has decided to implement neither annual elections nor a majority voting standard."

[13] E.g., BancorpSouth has in its 2011 10-K, following a proposal to declassified board in the prior annual meeting, that "Our governing documents and certain agreements to which we are a party contain provisions that make a change-in-control difficult to accomplish, and may discourage a potential acquirer. These include a classified or "staggered" Board of Directors, change-in-control agreements with members of management, and supermajority voting requirements." Therefore, we code its proposal for a declassified board in the prior annual meeting as not implemented.

Table 2

Implementation of governance-related shareholder proposals.

Panel A: Summary Statistics of Implementation			
Variable	n	Mean	S.D.
Implemented	1954	0.337	0.473

Panel B: Implementations for Proposals Passed/Not-Passed			
% of votes in favor	Total	# Implement	Implement Rate
0−50%	934	55	5.90%
>50%	1020	604	59.20%

Panel C: Frequency of Implementations by Range of Vote in Favor			
% of votes in favor	# Proposals	# Implemented	% Implemented
≤10%	10	0	0.00%
10−20%	64	6	9.38%
20−30%	184	5	2.72%
30−40%	309	14	4.53%
40−50%	367	30	8.17%
50−60%	294	122	41.50%
60−70%	259	134	51.74%
70−80%	238	150	63.03%
80−90%	150	121	80.67%
>90%	79	77	97.47%

Note: Table 2 presents descriptive statistics for the implementation of governance-related shareholder proposals. Panel A shows the summary statistics of the implementation rate. Panel B separately shows the implementation rates for proposals passed and not passed. Panel C shows the frequency of implementation for each decile of voting shares.

We develop the empirical model below in line with Cuñat et al. (2012). The shareholders of firm f vote on a proposal at the meeting date t. The proposal gets a vote share, $vote_{ft}$, in favor of the proposal. We denote an indicator $Pass_{ft}$ equals one if $vote_{ft}$ passes the 50% majority threshold and zero otherwise. A naive way to test the effect of a proposal's passage on an outcome variable y_{ft}, is to test the following regression model:

$$y_{ft} = \alpha + \beta Pass_{ft} + u_{ft} \tag{1}$$

where α is the intercept, β is the coefficient that measures the effect of passing the proposal on the outcome variable, and u_{ft} is the error term.

To improve the estimation's precision and efficiency, we follow the standard approach as documented in Lee and Lemieuxa (2010) and assume that the underlying relationship between the outcome y_{ft} and the voting variable v_{ft} can be approximated by a polynomial, where v_{ft} is defined as the deviation of the vote share from the 50% threshold (i.e., it can vary from −50% to 50%). We then look at proposals with vote shares further away from the majority threshold. In our main specification, we use the entire distribution of vote shares to facilitate robust estimates of the discontinuity around the majority threshold. In additional analyses, we examine proposals around the passing threshold and within the optimal interval estimated based on econometric methods discussed in Section 5. The regression specification becomes:

$$y_{ft} = \alpha + \beta Pass_{ft} + f_l\left(v_{ft}, \gamma_l\right) + f_r\left(v_{ft}, \gamma_r\right) + u_{ft} \tag{2}$$

where f_l and f_r are the polynomials on the left and right sides of the threshold, respectively, and γ_l and γ_r are the coefficients of the corresponding polynomials. We can also require the same polynomial estimations on both sides of the threshold. Because our study is dynamic, it calls for an analogous version of the regression discontinuity framework. The dynamic model is:

$$y_{f,t+\tau} = \alpha + \beta Pass_{ft} + f_l\left(v_{ft}, \gamma_l\right) + f_r\left(v_{ft}, \gamma_r\right) + u_{ft} \tag{3}$$

where τ denotes the number of periods after the meeting time. As discussed in Cuñat et al. (2012), treating each period of $t + \tau$ separately is inefficient because of the presence of an important firm component that is fixed over time but that varies across firms. In addition, if we estimate each period separately, a considerable portion of the sample would be dropped. The strategy we adopt is to pool data for multiple τ. For results based on the public debt market, τ is one month. For results based on loan issuance and firm outcomes, τ is up to three years. In this model, y is one of logged public debt returns, changes in loan interest rates, and changes in the number of covenants. Control variables include different firm characteristics (market-to-book ratio, log of total asset, leverage, tangibility, Z-score, and return-to-asset). We report polynomials of orders one, two, and three for our main regression estimations.

4. Empirical results

This section presents the main empirical findings. We first examine public debt market reactions to the passage of governance proposals. We then study the effect of the passage of governance proposals on loan issuance using both loan interest rates and loan covenants. Next, we test whether the effects on creditors are different for ex ante riskier firms. Lastly, we evaluate the effect of passing a governance proposal on firm outcomes.

4.1. Public debt market

First, we investigate the reactions of the public debt market to the passage of governance-related proposals using corporate bond returns of the corresponding companies. We estimate model (3) and regress logged bond returns on the indicator variable, Pass, and polynomials up to three degrees. As discussed in the data section, a company may have tens of bonds, and we aggregate bond returns to the firm level by taking the average of its individual bonds outstanding. The control variables are the same throughout the tests, including market-to-book, size, leverage, tangibility, Z-score, and return-to-asset. Fig. 2 provides a visual illustration of the discontinuity in the public debt market. Panels A and B of Fig. 2 are based on the second- and third-degree polynomials, respectively. Each circle is the average bond returns within the bin and contains multiple underlying observations. The solid line is the predicted value from the simple polynomial regression without controls around the discontinuity. The graphs show a discontinuity around the 50% majority threshold, indicating that passing governance proposals leads to lower bond returns in the public debt market.

Table 3 presents the empirical results and includes estimates of the model (3) using linear, quadratic, and cubic polynomials. Panel A of Table 3 reports the results based on the same parameterization on both sides of the threshold and Panel B shows the results based on different parameterizations on the left and right sides of the threshold. Columns (1)–(3) do not include controls, while Columns (4)–(6) include controls. The rows labeled "Pass" show the coefficient estimates of our main indicator variable—the passage of a proposal. In Panel A, the point estimates on Pass range from −0.78 to −1.29. On average, the bond returns following the passage of governance proposals are about 1% lower than those of firms that failed to pass them. The results in Panel B based on different parameterizations on the left and right sides of the threshold are qualitatively similar.

Our regression discontinuity design examines the bond returns for the companies with passed governance proposals relative to those with failed proposals. To guard against the possibility that our results are driven by pre-existing differences in the two groups, we further control for the level of firm characteristics before the votes. The coefficient estimates of the size and market-to-book ratios are negative, consistent with the finding that large and growth firms tend to have lower average returns (e.g., Fama and French (1993)). The coefficient estimates on the leverage ratios are positive, consistent with Chung et al. (2019). The coefficient estimates on Z-scores are positive, consistent with the finding in Dichev (1998) that firms with low bankruptcy risk actually earn higher average returns. The coefficient estimates on the return-to-asset ratios are positive, consistent with the finding that high profitability firms tend to have higher returns (e.g., Novy-Marx (2013)).

Fig. 2. Public Debt Market. Note: Fig. 2 shows a visual illustration of the discontinuity around the 50% majority threshold. The x-axis is the vote fraction beyond the 50% majority threshold, and the y-axis is the logged returns of public debt. Each circle is the average bond return within the bin and contains multiple underlying observations. The solid line is the predicted value from the polynomial regression without controls. Results are based on different parameterizations on the left and right sides of the majority threshold. The left figure is based on a second-degree polynomial regression (Panel A), and the right figure is based on a third-degree polynomial regression (Panel B).

Table 3
Bond returns.

Panel A: Same Parameterization

	(1)	(2)	(3)	(4)	(5)	(6)
	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic
Pass	−0.78	−0.98*	−1.07*	−0.96*	−1.18**	−1.29**
	(−1.47)	(−1.81)	(−1.67)	(−1.85)	(−2.24)	(−2.03)
mb				−5.49***	−5.62***	−5.63***
				(−4.82)	(−4.94)	(−4.95)
size				−1.98***	−1.97***	−1.96***
				(−3.18)	(−3.19)	(−3.16)
leverage				10.70***	10.62***	10.65***
				(4.13)	(4.11)	(4.12)
tangibility				0.01	−0.12	−0.12
				(0.00)	(−0.04)	(−0.04)
zscore				0.52	0.53*	0.54*
				(1.62)	(1.67)	(1.69)
roa				9.69***	9.46***	9.41***
				(3.32)	(3.24)	(3.22)
Adjusted R^2	0.15	0.16	0.15	0.23	0.23	0.23
Num of Obs	818	818	818	818	818	818

Panel B: Different Parameterization

	(1)	(2)	(3)	(4)	(5)	(6)
	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic
Pass	−0.85	−1.28*	−2.59***	−1.05**	−1.47**	−2.59***
	(−1.59)	(−1.73)	(−2.79)	(−2.00)	(−2.05)	(−2.89)
mb				−5.56***	−5.66***	−5.56***
				(−4.88)	(−4.98)	(−4.93)
size				−2.00***	−1.89***	−1.77***
				(−3.22)	(−3.05)	(−2.87)
leverage				10.64***	10.66***	10.20***
				(4.11)	(4.13)	(3.98)
tangibility				−0.17	0.21	1.38
				(−0.05)	(0.07)	(0.45)
zscore				0.52	0.56*	0.52*
				(1.63)	(1.75)	(1.66)
roa				9.57***	9.34***	9.35***
				(3.27)	(3.20)	(3.23)
Adjusted R^2	0.15	0.16	0.17	0.23	0.23	0.25
Num of Obs	818	818	818	818	818	818

Panel C: Stock Market Reaction

Sample	Pass		Polynomial	Para	# Obs	Adjusted R^2
Public Debt	0.92*	(1.82)	Linear	Same	813	0.06
Public Debt	0.72	(1.41)	Linear	Different	813	0.06
Public Debt	0.81	(1.60)	Quadratic	Same	813	0.06
Public Debt	1.33*	(1.87)	Quadratic	Different	813	0.06

Note: Table 3 presents the regression specifications where firm-level bond logged returns are the dependent variable. The table displays estimates using linear, quadratic, and cubic polynomials. The rows labeled "Pass" show the coefficient estimates of our main indicator variable—the passage of proposals. The control variables include market-to-book ratio, log of total asset, leverage, tangibility, Z-score, and return-to-asset. Panel A shows the results based on the same parameterization on both sides of the majority threshold, and Panel B shows the results based on different parameterizations on the left and right sides of the majority threshold. Panel C shows results for stock market reactions of the public debt sample. Firm fixed effects are included. All variables are defined in Appendix A. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Importantly, controlling for the ex ante firm characteristics does not significantly alter the point estimates on Pass, suggesting that the results are not driven by pre-existing differences in the two groups.

Our finding that debtholders react negatively to the passage of governance proposals contrasts sharply with prior studies on shareholder reactions. Analyzing proposals that pass or fail by small margins, Cuñat et al. (2012) find that adoption of a governance proposal leads to a positive and statistically significant stock return of 1.3% on voting day. To examine if these positive reactions hold in our sample and to make a direct comparison with the debt market, we also report the stock market reactions to the same set of proposals used for the public debt sample. Panel C of Table 3 presents the results. We find that a governance proposal's passage leads to a 0.72%–1.33% higher stock return, consistent with Cuñat et al. (2012). The magnitude of the stock market reaction is similar to that of the public debt market reaction, which is between 0.78% and 1.29% in baseline

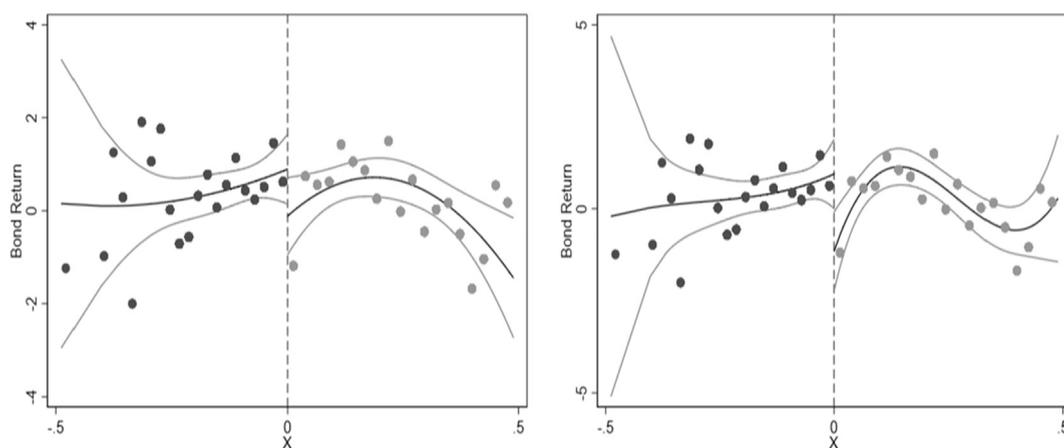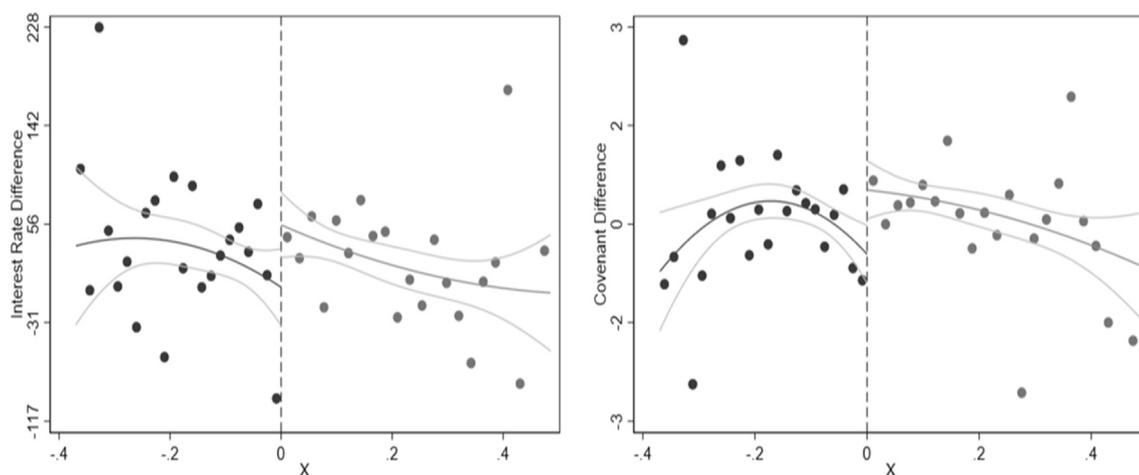**Fig. 3.** Loan Issuance. Note: Fig. 3 shows a visual illustration of the discontinuity around the 50% majority threshold. The x-axis is the vote fraction beyond the 50% majority threshold, and the y-axis is the loan price differences or the number of general covenant differences. Each circle is the average change in the variable indicated by the y-axis within the bin and contains multiple underlying observations. The solid line is the predicted value from the second-degree polynomial regression without controls. Results are based on different parameterizations on the left and right sides of the majority threshold. The left figure is based on interest rate differences (Panel A), and the right figure is based on the number of general covenant differences (Panel B).

specifications using the same parameterization. The sharp contrast between the public debt and stock market reactions highlights the opposing impacts of governance proposals' passage on debtholders and shareholders.[14]

As a robustness test, we conduct the bond return analyses at the individual bond level. We cluster the standard errors at the firm level to address the issue that a company can have tens of bonds. We document the results in Table A2 of the Appendix. The point estimates suggest that companies with passed governance proposals, on average, experience 0.79%−1.53% lower bond returns than companies that fail to pass governance proposals. The magnitudes are comparable to the baseline estimates using firm-level observations. Overall, we find significant and negative reactions in the public debt market in response to the passage of governance proposals, suggesting an increase in borrowing costs in this market.

4.2. Loan issuance

In this section, we examine the effect of the passage of governance proposals on loan issuance. We study both loan interest rates and loan covenants.

4.2.1. Loan price

We first test how the passage of governance proposals affects changes in loan interest rates. Panel A of Fig. 3 presents a visual illustration of the changes in the interest rates and shows a clear discontinuity around the passing threshold, indicating that governance proposals' passage leads to an increase in the interest rates of newly-issued private loans. Table 4 presents the empirical results for our main regression specification. The results include estimates of model (3) using linear, quadratic, and cubic polynomials. Columns (1)−(3) do not include controls, while columns (4)−(6) include controls. The rows labeled "Pass" show the coefficient estimates of our main indicator variable—the passage of a proposal. Panel A reports the results based on the same parameterization on both sides of the threshold and Panel B shows the results based on different parameterizations on the left and right sides of the majority threshold.

In Table 4, the point estimates of Pass suggest that the passage of governance proposals leads to an increase in loan interest rates. For example, in Panel A, the quadratic model shows that passing a proposal leads to a 47.8 basis point increase in the loan spread. The coefficient estimates on the control variables are in general not highly statistically significant. Including controls does not significantly affect the point estimates on Pass. The results suggest that passing governance proposals leads to an increase in borrowing costs from banks.

Similar to the public debt section, as a comparison, we also report the stock market reactions to the same set of proposals used for the loan issuance sample and compare the findings. Panel C of Table 4 shows that the adoption of a governance

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[14] We also calculate the effect in dollar amounts to compare the value gained in the stock market to the value lost in the bond market resulting from the passage of shareholder governance proposals. For the stock market, we multiply the magnitude of the coefficient estimate (0.72%−1.33%) with the median stock market capitalization of the sample firms ($13.4 billion), and the median stock market gain is between $96.5 − $178.2 million. For the bond market, we multiply the magnitude of the coefficient estimate (0.78%−1.29%) with the median value of total bond outstanding of the sample firms ($2.6 billion), and the median bond value loss is between $20.3 − $33.5 million. Because the public debt considered here is only a fraction of all the liabilities companies have, the dollar amount of the estimated bond value lost is likely to be a lower bound of the total debt value lost.

Table 4

Loan interest rates.

Panel A: Same Parameterization

	(1) Linear	(2) Quadratic	(3) Cubic	(4) Linear	(5) Quadratic	(6) Cubic
Pass	46.60***	47.81***	66.44***	47.13***	48.37***	68.76***
	(3.14)	(3.16)	(3.58)	(3.15)	(3.17)	(3.67)
mb				−33.35*	−33.57*	−36.06**
				(−1.82)	(−1.83)	(−1.97)
size				−0.17	−0.05	−0.62
				(−0.04)	(−0.01)	(−0.15)
leverage				−38.19	−38.05	−39.82
				(−0.87)	(−0.86)	(−0.90)
tangibility				−10.96	−11.43	−8.34
				(−0.51)	(−0.53)	(−0.39)
zscore				3.21	3.22	3.42
				(0.80)	(0.80)	(0.85)
roa				−22.60	−20.50	−4.73
				(−0.23)	(−0.21)	(−0.05)
Adjusted R^2	0.14	0.14	0.14	0.14	0.14	0.14
Num of Obs	1008	1008	1008	1008	1008	1008

Panel B: Different Parameterization

	(1) Linear	(2) Quadratic	(3) Cubic	(4) Linear	(5) Quadratic	(6) Cubic
Pass	47.28***	70.99***	56.82**	47.83***	74.07***	59.37**
	(3.17)	(3.35)	(2.09)	(3.18)	(3.47)	(2.17)
mb				−33.67*	−36.95**	−38.79**
				(−1.84)	(−2.01)	(−2.12)
size				−0.02	−0.35	−1.23
				(−0.01)	(−0.09)	(−0.30)
leverage				−37.69	−38.02	−28.12
				(−0.85)	(−0.86)	(−0.64)
tangibility				−11.78	−10.66	−7.46
				(−0.55)	(−0.50)	(−0.35)
zscore				3.26	3.83	3.66
				(0.81)	(0.95)	(0.91)
roa				−21.10	−12.21	18.44
				(−0.21)	(−0.12)	(0.18)
Adjusted R^2	0.14	0.14	0.15	0.14	0.14	0.15
Num of Obs	1008	1008	1008	1008	1008	1008

Panel C: Stock Market Reaction

Sample	Pass		Polynomial	Para	# Obs	Adjusted R^2
Loan Issuance	1.06**	(2.01)	Linear	Same	455	0.06
Loan Issuance	1.02*	(1.93)	Linear	Different	455	0.07
Loan Issuance	1.06**	(2.01)	Quadratic	Same	455	0.07
Loan Issuance	0.58	(0.79)	Quadratic	Different	455	0.06

Note: Table 4 presents the regression specifications where changes in loan interest rates are the dependent variable. The table displays estimates using linear, quadratic, and cubic polynomials. The rows labeled "Pass" show the coefficient estimates of our main indicator variable—the passage of proposals. The control variables include market-to-book ratio, log of total asset, leverage, tangibility, Z-score, and return-to-asset. Panel A shows the results based on the same parameterization on both sides of the majority threshold, and Panel B shows the results based on different parameterizations on the left and right sides of the majority threshold. Panel C shows results for stock market reactions of the loan issuance sample. All variables are defined in Appendix A. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

proposal leads to a 0.58%−1.06% higher stock return. The results further show contrasting impacts of the passage of governance proposals—although shareholders are in favor of the proposals, banks are not.

4.2.2. Loan covenant

We then examine the effect of the passage of governance proposals on the contractual features of the new loans as measured by the changes in loan covenants. Panel B of Fig. 3 shows the changes in the number of general covenants around the passing threshold. The discontinuity close to the majority threshold is apparent. Specifically, the proposals passed by a small margin have more general covenants compared to those that fail by a small margin.

Table 5 and Table 6 present our main findings for changes in the number of general and financial covenants in loan contracts, respectively. As in the previous analyses, we present estimates based on linear, quadratic, and cubic polynomials. Columns (1)–(3) do not include controls, while Columns (4)–(6) include controls. The regression specifications and the

Table 5
General covenants.

Panel A: Same Parameterization						
	(1)	(2)	(3)	(4)	(5)	(6)
	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic
Pass	1.01***	0.95***	1.00***	0.88***	0.83***	0.93**
	(3.22)	(3.01)	(2.63)	(2.79)	(2.64)	(2.44)
mb				1.68**	1.68**	1.66**
				(2.41)	(2.41)	(2.38)
size				0.43	0.42	0.43
				(1.35)	(1.32)	(1.34)
leverage				5.56***	5.48***	5.50***
				(3.80)	(3.75)	(3.75)
tangibility				−1.04	−1.11	−1.12
				(-0.66)	(-0.70)	(-0.70)
zscore				−0.23	−0.24	−0.23
				(-1.41)	(-1.46)	(-1.43)
roa				5.79**	5.35**	5.46**
				(2.56)	(2.34)	(2.38)
Adjusted R^2	0.13	0.13	0.13	0.15	0.15	0.15
Num of Obs	1003	1003	1003	1003	1003	1003

Panel B: Different Parameterization						
	(1)	(2)	(3)	(4)	(5)	(6)
	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic
Pass	1.01***	1.38***	2.32***	0.87***	1.26***	2.15***
	(3.20)	(3.29)	(4.50)	(2.77)	(3.00)	(4.17)
mb				1.68**	1.65**	1.37*
				(2.40)	(2.37)	(1.96)
size				0.44	0.32	0.30
				(1.36)	(0.99)	(0.95)
leverage				5.56***	4.98***	5.21***
				(3.80)	(3.40)	(3.54)
tangibility				−1.06	−1.02	−1.11
				(-0.67)	(-0.65)	(-0.70)
zscore				−0.23	−0.21	−0.17
				(-1.42)	(-1.29)	(-1.02)
roa				5.73**	4.48*	3.84*
				(2.52)	(1.95)	(1.65)
Adjusted R^2	0.12	0.14	0.15	0.15	0.16	0.17
Num of Obs	1003	1003	1003	1003	1003	1003

Note: Table 5 presents the regression specifications where changes in the number of general covenants are the dependent variable. The table displays estimates using linear, quadratic, and cubic polynomials. The rows labeled "Pass" show the coefficient estimates of our main indicator variable—the passage of proposals. The control variables include market-to-book ratio, log of total asset, leverage, tangibility, Z-score, and return-to-asset. Panel A shows the results based on the same parameterization on both sides of the majority threshold, and Panel B shows the results based on different parameterizations on the left and right sides of the majority threshold. All variables are defined in Appendix A. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

presentation of the table are similar to those of Table 4. The rows labeled "Pass" show the coefficient estimates of our main indicator variable—the passage of a proposal.

In Table 5, Panel A reports the results based on the same parameterization on both sides of the threshold, and Panel B shows the results based on different parameterizations on the left and right sides of the majority threshold. The point estimates of Pass suggest that the passage of governance proposals leads to an increase in the number of general covenants. For example, in Panel A, the quadratic model shows that passing a proposal leads to about one more general covenant. We also briefly discuss the control variables. Growth firms and firms with high leverage ratios tend to face more general covenants. Surprisingly, firms with high return-to-asset ratios also tend to face increasing general covenants in this sample. Importantly, controlling for ex ante firm characteristics does not significantly alter the point estimates on Pass, suggesting that our results are not driven by pre-existing differences in the two groups. We further analyze each individual covenant included in the general covenants by applying the same model specification. The results are documented in Panel A of Table A3 in the Appendix. We find that the passage of governance proposals leads to increases in the inclusion of each individual general covenant, suggesting that the findings based on changes in the number of general covenants also apply to the individual general covenants.

Table 6 examines changes in the number of financial covenants. The passage of governance proposals does not have a statistically significant impact on the number of financial covenants in loan contracts. Panel B of Table A3 in the Appendix examines each individual financial covenant by applying the main model specification. We find that the passage of governance proposals generally does not lead to changes in the inclusion of each individual financial covenant. The one exception is

Table 6
Financial covenants.

Panel A: Same Parameterization

	(1) Linear	(2) Quadratic	(3) Cubic	(4) Linear	(5) Quadratic	(6) Cubic
Pass	−0.01	−0.06	−0.02	0.00	−0.04	0.02
	(−0.13)	(−0.56)	(−0.18)	(0.03)	(−0.38)	(0.13)
mb				−0.19	−0.18	−0.18
				(−1.48)	(−1.42)	(−1.47)
size				0.02	0.02	0.01
				(0.71)	(0.55)	(0.49)
leverage				0.04	0.03	0.03
				(0.12)	(0.10)	(0.08)
tangibility				0.04	0.05	0.06
				(0.26)	(0.37)	(0.42)
zscore				−0.00	−0.00	−0.00
				(−0.08)	(−0.10)	(−0.08)
roa				1.72**	1.65**	1.70**
				(2.53)	(2.43)	(2.48)
Adjusted R^2	0.01	0.02	0.02	0.02	0.02	0.02
Num of Obs	1003	1003	1003	1003	1003	1003

Panel B: Different Parameterization

	(1) Linear	(2) Quadratic	(3) Cubic	(4) Linear	(5) Quadratic	(6) Cubic
Pass	−0.04	−0.04	0.12	−0.03	0.00	0.15
	(−0.43)	(−0.27)	(0.66)	(−0.25)	(0.03)	(0.79)
mb				−0.17	−0.17	−0.16
				(−1.38)	(−1.32)	(−1.31)
size				0.01	0.01	0.02
				(0.48)	(0.47)	(0.57)
leverage				0.01	−0.01	−0.01
				(0.05)	(−0.03)	(−0.03)
tangibility				0.07	0.09	0.09
				(0.48)	(0.59)	(0.59)
zscore				−0.00	−0.01	−0.01
				(−0.16)	(−0.26)	(−0.20)
roa				1.66**	1.72**	1.67**
				(2.45)	(2.53)	(2.44)
Adjusted R^2	0.02	0.02	0.02	0.02	0.02	0.02
Num of Obs	1003	1003	1003	1003	1003	1003

Note: Table 6 presents the regression specifications where changes in the number of financial covenants are the dependent variable. The table displays estimates using linear, quadratic, and cubic polynomials. The rows labeled "Pass" show the coefficient estimates of our main indicator variable—the passage of proposals. The control variables include market-to-book ratio, log of total asset, leverage, tangibility, Z-score, and return-to-asset. Panel A shows the results based on the same parameterization on both sides of the majority threshold, and Panel B shows the results based on different parameterizations on the left and right sides of the majority threshold. All variables are defined in Appendix A. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

the financial covenant "Max Debt to Tangible Net Worth," where the passage of governance proposals leads to a decrease in its inclusion. The results suggest that the findings based on changes in the number of financial covenants also apply to the individual financial covenants. Overall, banks are concerned about firms' real business decisions and seek to use general covenants to address elevated shareholder-debtholder conflicts. Together with the findings on loan interest rates, our results indicate that the passage of governance proposals increases both pricing and non-pricing borrowing costs from banks.

4.3. Risky firms

The results documenting creditor reactions suggest debtholders' unfavorable perception to the passage of governance proposals. The evidence thus far corresponds with the Agency Conflict channel, where stronger shareholder control and high alignment of interests between shareholders and managers may intensify conflicts of interest between shareholders and creditors. In this subsection, we explore a direct implication of the Agency Conflict channel (Hypothesis 3 in Section 2): the adverse effects of improved internal governance on creditors should be more pronounced for ex ante riskier firms.

A common measure to capture firms' financial riskiness is the Z-score (Altman (1968)), which uses accounting measurements associated with a firm's likelihood of experiencing financial distress. A lower Z-score implies a higher probability of the firm becoming financially distressed. We split our sample based on a firm's Z-score prior to the shareholder meetings and estimate model (3) within each subsample. We use four model specifications: same parameterization without controls, different parameterization without controls, same parameterization with controls, and different parameterization with controls.

Table 7

Split sample based on Z-score.

Panel A: Public Debt, Returns

< Median					> Median				
Parameter	Same	Different	Same	Different	Parameter	Same	Different	Same	Different
Pass	−1.82**	−1.93**	−1.36*	−1.42*	Pass	0.17	0.16	−0.24	−0.26
	(-2.02)	(-2.10)	(-1.68)	(-1.71)		(0.30)	(0.29)	(-0.42)	(-0.46)
mb			−6.53***	−6.63***	mb			−3.51***	−3.55***
			(-2.86)	(-2.87)				(-2.84)	(-2.88)
size			−2.69**	−2.71**	size			−0.98	−1.01
			(-2.20)	(-2.21)				(-1.56)	(-1.61)
leverage			21.05***	20.87***	leverage			1.95	2.03
			(4.66)	(4.57)				(0.59)	(0.61)
tangibility			2.06	2.03	tangibility			−1.38	−1.99
			(0.44)	(0.43)				(-0.36)	(-0.51)
zscore			−0.21	−0.22	zscore			0.22	0.21
			(-0.15)	(-0.16)				(0.70)	(0.69)
roa			24.14***	24.05***	roa			2.16	2.12
			(4.51)	(4.48)				(0.70)	(0.68)
Adj R²	0.01	0.01	0.08	0.08	Adj R²	0.54	0.54	0.55	0.56
# Obs	409	409	409	409	# Obs	409	409	409	409

Panel B: Loan Issuance, Changes in Interest Rate

< Median					> Median				
Parameter	Same	Different	Same	Different	Parameter	Same	Different	Same	Different
Pass	91.30***	93.90***	89.74***	90.88***	Pass	1.29	−0.14	1.04	−0.37
	(3.58)	(3.67)	(3.48)	(3.50)		(0.09)	(-0.01)	(0.07)	(-0.02)
mb			−121.08**	−121.02**	mb			−34.08**	−33.67**
			(-2.55)	(-2.54)				(-2.01)	(-1.99)
size			2.88	2.99	size			3.83	3.68
			(0.35)	(0.36)				(0.95)	(0.92)
leverage			−41.42	−36.89	leverage			0.72	6.67
			(-0.51)	(-0.45)				(0.02)	(0.15)
tangibility			17.98	14.46	tangibility			−25.84	−26.95
			(0.49)	(0.39)				(-1.02)	(-1.06)
zscore			33.63**	33.49**	zscore			0.41	0.30
			(2.01)	(2.00)				(0.12)	(0.09)
roa			−311.26*	−297.76*	roa			120.98	127.57
			(-1.96)	(-1.84)				(0.98)	(1.04)
Adj R²	0.16	0.16	0.17	0.16	Adj R²	0.14	0.14	0.14	0.14
# Obs	517	517	517	517	# Obs	491	491	491	491

Panel C: Loan Issuance, Changes in Number of Covenants

< Median					> Median				
Parameter	Same	Different	Same	Different	Parameter	Same	Different	Same	Different
Pass	1.27***	1.27***	0.95**	0.93**	Pass	0.39	0.34	0.47	0.41
	(2.79)	(2.78)	(2.04)	(2.00)		(0.88)	(0.77)	(1.07)	(0.91)
mb			1.82	1.83	mb			2.88***	2.79***
			(1.40)	(1.40)				(3.27)	(3.16)
size			−0.15	−0.20	size			1.30***	1.32***
			(-0.28)	(-0.37)				(2.91)	(2.95)
leverage			5.84**	6.13**	leverage			4.25**	4.80**
			(2.43)	(2.53)				(2.18)	(2.42)
tangibility			−2.72	−2.99	tangibility			7.53**	7.40**
			(-1.15)	(-1.26)				(2.52)	(2.48)
zscore			0.09	0.17	zscore			−0.42**	−0.40**
			(0.19)	(0.33)				(-2.42)	(-2.31)
roa			2.57	2.59	roa			0.61	0.71
			(0.71)	(0.71)				(0.15)	(0.17)
Adj R²	0.16	0.16	0.17	0.17	Adj R²	0.18	0.18	0.23	0.23
# Obs	514	514	514	514	# Obs	489	489	489	489

Note: Table 7 presents the regression results based on the Z-score subsamples. The sample is split based on the median of a firm's Z-score prior to the shareholder meetings. The table displays estimates using linear polynomials based on either the same parameterization on both sides of the threshold ("Same" column) or different parameterizations on the left and right sides of the threshold ("Different" column). The rows labeled "Pass" show the coefficient estimates of our main indicator variable—the passage of proposals. The control variables include market-to-book ratio, log of total asset, leverage, tangibility, Z-score, and return-to-asset. Panels A, B, and C report results for the public debt market, loan interest rate, and general covenant, respectively. All variables are defined in Appendix A. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 7 presents the results. We find that the effect of passing governance proposals on firms' cost of borrowing is more pronounced for the subsample of firms with low Z-scores. Specifically, we find a stronger reduction of returns in the public debt market and larger increases in both interest rates and number of general covenants in bank loan issuances for firms with a below-median Z-score. The point estimates of Pass for the public debt market in the below-median Z-score subsample are about −1.5 and are largely statistically significant, while the point estimates of Pass in the above-median Z-score subsample are small and statistically insignificant.

In terms of loan issuances, for firms with a below-median Z-score, the point estimates of Pass are positive and statistically significant. The passage of governance proposals leads to a about 90 basis point increase in loan interest rates. However, for firms with an above-median Z-score, the passage of governance proposals has a negligible effect on loan spreads. The split sample results for general covenants are also consistent. The point estimates of Pass for low Z-score firms are much larger than those for high Z-score firms. We recognize the caveat that the Z-score is an endogenous variable, which may lead to endogeneity concerns with this subsample analysis. We view the subsample results based on Z-score as suggestive evidence in line with Hypothesis 3.

4.4. Firm outcomes

In this subsection, we evaluate how passing governance proposals impacts firm outcomes. Evaluating these real effects helps us better understand why creditors react adversely to stronger shareholder governance. The negative reactions in the public debt market and the new loan issuance market indicate that the Agency Conflict channel is the dominating force. There are two possible channels with respect to the increase in agency conflicts between shareholders and debtholders: risk-shifting and takeover. Cuñat et al. (2012, 2020) document that passing governance proposals increases firms' takeover vulnerability. Their findings provide support for the takeover mechanism. Here, we test the risk-shifting channel by examining changes in firms' real activities after the passage of governance proposals. Specifically, using all shareholder-sponsored governance proposals with available data, we test whether firms become more volatile after passing the proposals. We use the same empirical framework to compare the differential responses of firms that pass proposals with those that do not.

We exploit several measures of real activities. First, we use four measures for firm volatility—three cash flow volatility measures and a stock return volatility measure. The first cash flow volatility measure (CFV) is defined as the standard deviation of quarterly cash-flows over total assets in a three-year period. The second cash flow volatility measure (CFV2) is based on Minton and Schrand (1999) and is defined as the standard deviation of quarterly cash-flows over assets scaled by the absolute value of the mean over the same period. The third cash flow volatility measure (CFV3) is also based on Minton and Schrand (1999) and is defined as CFV2 of each firm-year observation adjusted by the median for all sample firms in the same two-digit SIC code for the same sample year. Thus, for a meeting in 2005, the cash flow volatility measures prior to the meeting are calculated using 12 quarters of data from 2002 to 2004, and the cash flow volatility measures subsequent to the meeting use 12 quarters of data from 2006 to 2008. Return volatility is calculated as the standard deviation of monthly stock returns over each firm's fiscal year. Next, we use capital expenditure over total assets to measure investment. We also use dividend per share, EBIDTA, and ROA to examine whether the level of firm performance, instead of the volatility of firm performance, changes subsequent to the passage of governance proposals.

Table 8 presents the results. For each measure, we estimate the model using linear, quadratic, and cubic polynomials with the same parameterizations on both sides of the majority threshold. We find that firms' cash flow volatility measures positively and mostly significantly increase for firms that have passed a governance proposal relative to those that have failed to pass one. Similarly, firms' return volatility positively and significantly increases subsequent to the passage of governance proposals. The economic magnitudes based on the estimates are sizable. For example, based on the return volatility measure,

Table 8
Firm outcomes.

	Cash-Flow Volatility			Cash-Flow Volatility 2			Cash-Flow Volatility 3			Return Volatility		
	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic
Pass	0.11	0.16	0.42**	31.08	37.55*	54.48**	30.38	36.31*	54.74**	0.56**	0.82***	1.18***
t-value	(0.45)	(0.68)	(2.14)	(1.48)	(1.78)	(2.06)	(1.42)	(1.69)	(2.03)	(2.01)	(2.92)	(3.41)
Adj. R^2	0.02	0.02	0.02	0.04	0.06	0.06	0.04	0.06	0.06	0.02	0.02	0.02
	Investment			Dividend			EBIDTA			ROA		
	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic
Pass	−0.07	0.03	−0.02	−0.01	−0.00	0.01	0.20	0.24	0.25	0.11	0.13	0.00
t-value	(-0.25)	(0.08)	(-0.06)	(-0.15)	(-0.07)	(0.16)	(0.43)	(0.52)	(0.54)	(0.22)	(0.25)	(0.01)
Adj. R^2	0.03	0.03	0.03	0.05	0.05	0.05	0.02	0.02	0.02	0.03	0.03	0.03

Note: Table 8 presents the regression results for firm outcomes. The dependent variables related to firm volatility are the three cash flow volatility measures, including changes in CFV, CFV2, and CFV3, and the return volatility measure. The dependent variables related to firm performance measures include changes in investment, dividend, EBIDTA-to-asset, and return-to-asset. The table displays estimates using linear, quadratic, and cubic polynomials. The rows labeled "Pass" show the coefficient estimates of our main indicator variable—the passage of proposals. The results are estimated based on the same parameterization on both sides of the threshold. Coefficients are reported by timing 100 for interpretation purposes. All variables are defined in Appendix A. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

the linear, quadratic, and cubic models imply that firms' return volatility increases by 6.2%, 9.1%, and 13.1% of the sample standard deviation at 0.09, respectively. For the other activity measures, we do not find evidence that firms change investment rate or dividend payout after passing governance proposals. The effects on EBIDTA and ROA are also not statistically significant, though the coefficient estimates are positive, suggesting that the effect of passing governance proposals concentrates on the volatility of cash flows instead of the level of cash flows. Collectively, our results suggest that firms become more volatile following the passage of governance proposals, consistent with an increase in firms' risk-shifting incentives. These findings further support the Agency Conflict channel.

5. Additional tests and discussion

5.1. Optimal interval

Our main test specifications use the entire sample of vote shares. As discussed in Section 3, when applying the regression discontinuity design, a common alternative is to focus on proposals around the majority threshold and within a small interval.

We use the procedure in Imbens and Kalyanaraman (2012) that is implemented by Calonico et al. (2014), one of the most widely used optimal interval selection methods in the literature, to determine the optimal interval for our sample. This procedure calculates the optimal interval in terms of characteristics of the underlying data; in our case, this is the votes distribution. Specifically, the procedure provides a closed-form analytic solution for the interval that minimizes a particular form of bias and precision.[15] The procedure starts with an initial interval,[16] and then, the conditional density function, the conditional variance, the second derivatives, and the regularization term are calculated based on data within the initial interval. Once these elements are computed, they are plugged into formula (4) to compute the optimal interval. We estimate the optimal intervals for each sample separately.

We report the results in Table A4 of the Appendix. Using the optimal interval for each test, we compare firms that pass proposals by a small margin to those where they fail by a small margin. Therefore, the sample size is smaller than that of the main tests. We find consistent and robust results for each borrowing cost type. Specifically, passing a governance proposal leads to lower returns in the public debt market, and higher interest rates and more general covenants in newly-issued bank loans.

5.2. Placebo tests

Next, we conduct placebo tests using alternative thresholds of 40% and 60% as the passing thresholds. Because a proposal is passed only if it receives more than 50% of the votes, there should not be a discontinuity at either of these alternative thresholds, and therefore we do not expect to find any results when using them.

The results of the placebo tests are documented in Table A5 of the Appendix. We repeat the main analyses using the placebo thresholds for the public debt market and the bank loan issuances. We show that the coefficient estimates on the Pass indicator variable are statistically insignificant when the threshold is set at either 40% or 60%.

5.3. Secondary loan market

We also investigate the reactions of the secondary loan market to the passage of governance proposals by looking at the changes in logged prices of secondary loans. The secondary loan data is from the Loan Syndication and Trading Association (LSTA)/Thomson Reuters mark-to-market pricing service. The LSTA is a trade association for the syndicated loan market in the U.S. Through its LPC database, Thomson Reuters publishes mark-to-market prices for syndicated loans, covering more than 80% of all listed loans. The data we use spans 2002 to 2013 and provides each loan's daily bid and ask quotes. We calculate loans' market prices as the averages of the daily bid and ask quotes (e.g., Beyhaghi and Ehsani (2017)). To measure the secondary loan market's reactions to the passage of governance proposals, we use the changes in logged prices over one month starting from the voting date.

The secondary loan market is illiquid, and we are only able to match a small number of secondary loans (145 observations). Moreover, the price data are based on the bid and ask quotes of loans and may have reporting and measurement errors. Therefore, we only use the results from the secondary loan market as suggestive evidence.

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[15] The formula employed in the RD design in Imbens and Kalyanaraman (2012) is the following.

$$\bar{h}_{opt} = C_k \times \left(\frac{2\hat{\sigma}^2(c)/\hat{f}(c)}{(\hat{m}_+^{(2)}(c) - \hat{m}_-^{(2)}(c))^2 + (\hat{r}_+ + \hat{r}_-)} \right)^{1/5} N^{-1/5} \tag{4}$$

where C_k is a constant; c is the cut-off value; $\hat{\sigma}^2(c)$ is the estimated conditional variance function of the running variable at the cut-off; $\hat{f}(c)$ is the estimated density function of the running variable at the cut-off; $\hat{m}_+^2(c)$ and $\hat{m}_-^2(c)$ are the second derivative of the relationship between the outcome variable and the running variable; $\hat{r}_+ + \hat{r}_-$ is the regularization term to the denominator to adjust for potential low precisions in estimating the second derivatives; and N is the number of observations available. The exact analytical forms of the elements can be found in Imbens and Kalyanaraman (2012).

[16] The initial interval used by Imbens and Kalyanaraman (2012) is $1.84 \times S_X \times N^{-1/5}$ where $S_X^2 = \sum \frac{(X_i - \bar{X})^2}{N-1}$.

The results are summarized in Table A6 of the Appendix. Because of the small number of observations, it is likely that high order polynomials overfit the data. This overfitting tends to be most severe when a different parameterization is used on each side of the threshold. Accordingly, we only use up to two degrees in polynomials and require the same parameterization on both sides of the threshold. In the baseline results, the economic magnitudes of the market reactions in the secondary loan market are larger than those of the public debt market, where the point estimates suggest a decrease in secondary loan price by about 3%−4%. However, the estimates are only marginally significant. To further address concerns related to the small sample and that some extreme observations may drive the results, we winsorize changes in logged secondary loan prices at the 10% level. The magnitudes of the point estimates decrease to about 1%, which is comparable to the results for the public debt market. The estimates are statistically significant, and their standard errors are smaller compared to the baseline results.

We emphasize that the sample size of the secondary loan market is much smaller than that of the public debt market, and thus the power of the tests is much lower. The results in the secondary market are only suggestive and are in line with the idea of negative debt market reactions following the passage of governance proposals.

5.4. Selection

Firms that expect stricter loan contracts may opt to finance in ways other than borrowing from banks. Thus, there may be a selection issue in the loan issuance tests where firms endogenously decide to borrow from banks after the passage of governance proposals. However, we consider this issue unlikely, and even if there is selection, it would bias our estimates downward. We conduct additional analyses to further address the sample selection bias concern. First, for the sample of firms that fall within the small interval on either side of the majority threshold, we discern whether or not there are systematic characteristic differences prior to the shareholder vote. The results are reported in Table A7 of the Appendix. We find that the characteristics of firms that pass governance proposals by a small margin are similar to those of firms that fail them by a small margin. Second, if some firms select alternative financing options because loan contracts become stricter after passing a proposal, the selection issue would bias our estimates downward, since firms that finance with private debt after passing a vote are the firms that experience a mild increase in the strictness of their loan contracts. In other words, firms that decide not to borrow from banks would have had much stricter loan terms. If we take this selection issue into consideration, our point estimates for the effect of passing a governance proposal on loan contracts are the lower bound for the real effects.

6. Conclusion

In this paper, we implement a regression discontinuity design and use shareholder voting results of governance proposals to examine the causal impact of shareholder governance on the cost of borrowing. We document that votes around the majority threshold are hard to predict ex ante, leading to a quasi-random assignment near the threshold. Examining public debts and private loans, we find consistent evidence that passing governance proposals significantly increases firms' cost of borrowing. Specifically, we find significant and negative reactions to the passage of governance proposals in the public debt market. We also find that banks demand higher interest rates and more general covenants in loan contracts after the passage of these proposals. Our results are in line with the Agency Conflicts channel: creditors appear concerned about increased shareholder-debtholder conflicts after internal corporate governance improvement. Consistent with this explanation, the effects on creditors are stronger among riskier firms. Moreover, firms with passed proposals become more volatile, indicating an increase in firms' risk-shifting incentives. Collectively, our findings suggest that shareholder governance can exacerbate shareholder-debtholder conflicts and raise firms' costs of borrowing.

Declaration of competing interest

None.

Appendix

Appendix A. Variable Definitions & Sources

Variable	Definition	Data source
Public Debt Returns	Public debt logged returns following Chordia et al. (2017) and Bai et al. (2019)	TRACE + FISD
Loan Interest Rate (in basis point)	All-in-Drawn Spread charged by the bank over LIBOR for the drawn portion of the loan facility	LPC Dealscan
Number of general covenants	Number of general covenants following Bradley and Roberts (2015)	LPC Dealscan
Number of financial covenants	Number of financial covenants following Bradley and Roberts (2015)	LPC Dealscan
Pass	An indicator variable equal to one if a proposal is passed, and zero otherwise	
Size	Log of total assets	Compustat
Leverage	Long-term debt divided by total assets	Compustat
Tangibility	Net property, plant, and equipment divided by total assets	Compustat

(*continued*)

Variable	Definition	Data source
Market-to-Book Ratio (M/B)	Market value of equity (closing price at the fiscal year end times shares outstanding) divided by book value of equity	Compustat
Z-Score	Altman's (1968) Z-Score	Compustat
Cash Flow Volatility (CFV1)	The standard deviation of quarterly cash-flow over total assets over a three-year period	Compustat
Cash Flow Volatility 2 (CFV2)	The standard deviation of quarterly cash-flows over assets scaled by the absolute value of the mean over the period	Compustat
Cash Flow Volatility 3 (CFV3)	CFV2 adjusted by the median for all sample firms in the same two-digit SIC code for the same sample year	Compustat
Return Volatility	The standard deviation of monthly stock returns over the same Compustat fiscal year	CRSP
Investment	Capital expenditures scaled by total assets	Compustat
Dividends per Share	Total dividends scaled by total outstanding common shares	Compustat
EBIDTA-to-Asset (EBITDA)	EBITDA scaled by lagged assets	Compustat
Return-to-Asset (ROA)	Net income scaled by total assets	Compustat

Appendix B: Table of Corporate-Governance Provisions

Proposal	Effect on Shareholder Governance	Excerpts of proposals
Repeal Classified Board	A Classified Board (or "staggered" board) is one in which the directors are placed into different classes and serve overlapping terms, allowing for a staggering of elections. After eliminating the classified board, all directors will be elected on an annual basis. Thus, a declassified board makes it easier for shareholders to gain control.	"… Shareholders of Best Buy Co., Inc. urge the Board of Directors to take all necessary steps (other than any steps that must be taken by shareholders) to eliminate the classification of the Board of Directors and to require that all directors elected at or after the annual meeting held in 2013 be elected on an annual basis. Implementation of this proposal should not prevent any director elected prior to the annual meeting held in 2013 from completing the term for which such director was elected." BEST BUY CO, Proxy Statement, June 21, 2012
Cumulative voting	Cumulative voting allows shareholders to concentrate their directors' votes, where the total number of votes is the product of the number of shares owned and the number of directors elected. This practice helps minority shareholders to elect directors, makes it easier to elect dissident directors, and thus decrease director powers.	"That the stockholders of Aetna, assembled in Annual Meeting in person and by proxy, hereby request the Board of Directors to take the necessary steps to provide for cumulative voting in the election of directors, which means each stockholder shall be entitled to as many votes as shall equal the number of shares he or she owns multiplied by the number of directors to be elected, and he or she may cast all of such votes for a single candidate, or any two or more of them as he or she may see fit." Aetna Inc, Proxy Statement, May 30, 2008
Require only majority vote	Requiring a majority vote to elect directors can empower shareholders with the ability to remove poorly-performing directors and increase the directors' accountability to the shareholders. This requirement usually replaces a plurality vote standard, which is considered a rubber stamp of management's preferred board members. Under the plurality vote standard, a nominee for the board can be elected with as little as a single affirmative vote, making it almost impossible to defeat director nominees who run unopposed.	"… The shareowners of Apple Inc. (Company) hereby request that the Board of Directors initiate the appropriate process to amend the Company's articles of incorporation and/or bylaws to provide that director nominees shall be elected in uncontested elections by the affirmative vote of a majority of the shares represented and voting at a duly held meeting at which a quorum is present (which shares voting affirmatively also constitute at least a majority of the required quorum). This majority voting standard will apply, as permitted by law for California corporations, when the number of nominees does not exceed the number of directors to be elected. A plurality voting standard will apply when the number of nominees exceeds the number of directors to be elected." Apple, Proxy Statement, February 23, 2012

Proposal	Effect on Shareholder Governance	Excerpts of governance shareholder proposals
Redeem or vote Poison Pill	A shareholder rights plan (commonly known as a "poison pill") operates as an anti-takeover device. It provides its holders the right to purchase additional shares at a discount, effectively diluting the ownership interest of any new, hostile party. A shareholder vote on poison pills can avoid an imbalanced concentration of power in the directors who could focus on narrow interests at the expense of the vast majority of shareholders.	"Shareholders request the Board of Directors redeem any poison pill previously issued unless such issuance is approved by the affirmative vote of shareholders to be held as soon as may be practicable." The Allstate Corporation, Proxy Statement, May 16, 2002

(*continued*)

Proposal	Effect on Shareholder Governance	Excerpts of governance shareholder proposals
Eliminate supermajority provision	Supermajority provisions are charter provisions that require a large majority of shareholders (generally 67% −90%) to approve important changes like mergers. It is arguably most often used to block initiatives supported by most shareowners but opposed by management. Eliminating the supermajority provision can decrease director power.	"Shareholders request that our board take the steps necessary so that each shareholder voting requirement in our charter and bylaws, that calls for a greater than simple majority vote, be changed to a majority of the votes cast for and against the proposal to the fullest extent permitted by law. This includes each 67% supermajority provision in our charter and/or bylaws." Devon Energy Corporation, Proxy Statement, June 9, 2010
Confidential voting	Confidential voting designates a third-party to count proxy votes and prevents management from observing the individual shareholder votes. This practice helps shareholders feel free to oppose management nominees and issue positions without fear of retribution, and thus increases shareholder power	"… The shareholders of the Corporation request that the board of directors adopt and implement a policy requiring all proxies, ballots and voting tabulations that identify how shareholders voted be kept confidential, except when disclosure is mandated by law, such disclosure is expressly requested by a shareholder or during a contested election for the board of directors, and that the tabulators and the inspectors of election be independent and not the employees of the Corporation." Armstrong World Industries, Proxy Statement, April 28, 1997

Proposal	Effect on Shareholder Governance	Excerpts of governance shareholder proposals
Vote on future golden parachutes	Golden Parachutes are severance agreements that provide cash and non-cash compensation to senior executives upon an event such as termination, demotion, or resignation following a change in control. In other words, these are bonuses for an early exit and are treated as a restriction of shareholder rights. Requiring shareholder approval on future golden parachutes increases shareholder power, where shareholders can fire management without incurring an additional cost.	"The shareholders of Norfolk Southern Corporation ("Norfolk Southern" or the "Company") urge the Board of Directors (the "Board") to seek shareholder approval for future severance agreements with senior executives that provide benefits in an amount exceeding 2.99 times the sum of the executive's base salary plus bonus. "Future severance agreements" include employment agreements containing severance provisions; retirement agreements (other than arrangements under the Company's pension plans); change in control agreements; and agreements renewing, modifying or extending existing such
Shareholders may call special meeting	Special meetings allow bidders to replace board members or dismantle takeover defenses prior to the annual meeting. This practice decreases director power.	"Shareowners ask our board to take the steps necessary to amend our bylaws and each appropriate governing document to give holders of 10% of our outstanding common stock (or the lowest percentage allowed by law above 10%) the power to call special shareowner meetings. This includes that such bylaw and/or charter text will not have any execution or exclusion conditions (to the fullest extent permitted by state law) that apply only to shareowners but not to management and/or the board." NiSource, Proxy Statement, May 12, 2009

Appendix C: Excerpts of Selected Implementation of Governance Proposals

Declassify the board of directors

"At the Annual Meeting of Shareholders of C.H. Robinson Worldwide, Inc. (the "Company") held on May 10, 2012, the Company's shareholders approved an amendment and restatement of the Certificate of Incorporation of the Company to eliminate the classification of the Board of Directors. On May 15, 2012, the Company filed a Restated Certificate of Incorporation with the Secretary of State of the State of Delaware eliminating the classified Board of Directors in the manner provided therein." C.H. Robinson Worldwide, 8-K, May 10, 2012.

"You are being asked to consider a proposal put forth by management to amend and restate our Amended and Restated By-laws ("By-laws") as necessary to effectuate declassification of our Board of Directors. In response to the shareholder support received for the shareholder proposal for declassification put forth at the 2012 Regular Meeting of Shareholders, the Board committed to implementing a declassified board structure. Amending our By-laws is the first step in that process." BEST BUY CO, Proxy Statement, June 20, 2013.

"At our 2009 annual meeting of shareholders, a proposal requesting that the Board take steps necessary to eliminate classification of terms of the Board of Directors to require that all Directors stand for election annually and that the Board declassification should be completed in a manner that does not affect the unexpired terms of previously-elected Directors was approved by shareholders. In response to this action, the Board of Directors has approved, and is proposing to the

shareholders, an amendment to the Company's Certificate of Incorporation to eliminate this classified board structure. If the shareholders approve this proposal, each director will serve the remainder of his or her current term and thereafter be elected to one-year terms at each Annual Meeting." Comerica Incorporated, Proxy Statement, March 19, 2010.

Requiring majority vote in elections of directions

"With respect to the election of directors (Proposal No. 1), the Company announced at the 2012 annual meeting of shareholders that the Board had unanimously adopted a policy providing for a majority voting standard in uncontested elections of directors." Apple, Proxy Statement, February 27, 2013.

"On February 14, 2007, the Board of Directors (the "Board") of Amgen Inc. (the "Company") approved and adopted the following amendments to the Company's Amended and Restated Bylaws ("Bylaws"): Article III, Section 8 of the Bylaws was amended to provide for a majority voting standard for directors in an uncontested election of directors rather than a plurality voting standard." Amgen Inc, 8-K, February 14, 2007.

"In February 2009, the Board amended the Company's By-laws to adopt a majority voting standard for uncontested director elections." Eastman Kodak Company, Proxy Statement, April 2, 2009.

Stockholder proposal concerning the rights plan (poison pills)

"The Allstate Corporation Board of Directors today announced it has voted to terminate the shareholder rights plan (commonly known as a "poison pill") adopted in 1999." The Allstate Corporation, 8-K, November 11, 2003.

"Following consideration of the favorable vote Mr. Rossi's proposal received in the past two years and in light of this belief, the Board has adopted and reaffirmed a statement of policy on this topic. The Board's policy is that it will only adopt a rights plan if either (1) stockholders have approved adoption of the rights plan or (2) the Board in its exercise of its fiduciary responsibilities, including a majority of the independent members of the Board, makes a determination that, under the circumstances existing at the time, it is in the best interests of 3M's stockholders to adopt a rights plan without the delay in adoption that would come from the time reasonably anticipated to seek stockholder approval." 3M, Proxy Statement, May 11, 2004 "Amgen announced today that the company's board of directors has voted unanimously to terminate the company's stockholder rights plan, commonly referred to as a "poison pill." Originally scheduled to expire on December 12, 2010, the plan has been amended to accelerate the expiration date to July 31, 2006, effectively terminating the plan as of that date. Amgen's board has also established a policy providing for stockholder approval for any future stockholder rights plan, either prior to or within twelve months after adoption." Amgen Inc, 8-K, July 11, 2006.

Stockholder proposal to eliminate supermajority provision

"As noted in Item 5.07 below, amendments to the Certificate of Incorporation of Brocade Communications Systems, Inc. (the "Company") to declassify the Board of Directors of the Company and to eliminate the supermajority voting requirements set forth therein (collectively, the "Certificate of Incorporation Amendments") were approved by the Company's stockholders at the Annual Meeting of Stockholders held on April 12, 2010 (the "Annual Meeting")." Brocade Communications Systems, 8-K, April 13, 2010.

"The Board of Directors has unanimously approved and is recommending that the stockholders approve an amendment to the Company's Restated Certificate of Incorporation to eliminate the supermajority voting provisions contained therein." Devon Energy Corporation, Proxy Statement, June 8, 2011.

Shareholder proposal regarding confidential shareholder voting

"In July 1997, the Board adopted a new confidential voting policy. All proxies, ballots and voting tabulations that identify how shareholders voted shall be kept confidential." Armstrong World Industries, Proxy Statement, March 16, 1998.

"The Board of Directors has adopted a confidential voting … The Corporate Governance and Nominating Committee at its September 2001 meeting developed a confidential voting policy in response to the support by approximately 60% of the shares voted at last year's Annual Meeting of a shareholder proposal to adopt such a policy. The new policy, which was presented to and approved by the full Board, reads as follows." Union Pacific, Proxy Statement, April 19, 2002.

Proposal requesting shareholder approval of future severance payments (golden parachutes)

"In 2002, the Board of Directors agreed to abide by a stockholder approved proposal that future severance agreements with senior executives that exceed 2.99 times the sum of the executive's base salary plus bonus be approved by stockholders." Norfolk Southern Corporation, Proxy Statement, May 8, 2003.
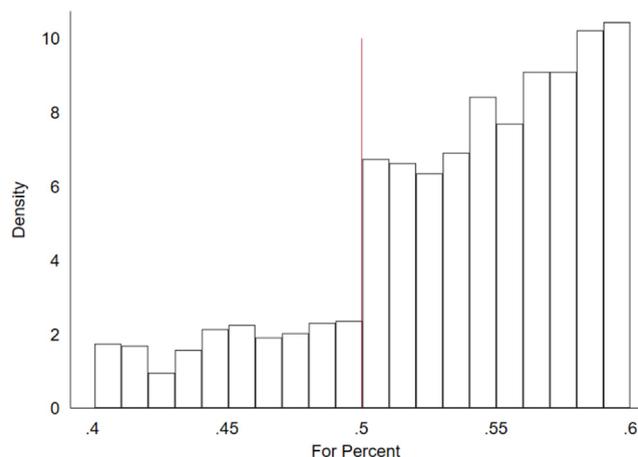
Figure A.1. Distribution of Vote Shares for Management-Sponsored Proposals. Note: The sample includes management-sponsored governance proposals that received votes around the majority threshold from 40% vote share to 60% vote share.

Table A.1
Summary of Governance-related Anti-Takeover Voting Items

Governance-Related Voting Items	Number	Percentage
Repeal classified board	793	34.58%
Cumulative voting	387	16.88%
Require only majority vote	400	17.44%
Redeem or vote poison pill	334	14.57%
Eliminate super-majority provision	142	6.19%
Confidential voting	137	5.97%
Vote on future golden parachutes	92	4.01%
Remove anti-takeover provisions & other	3	0.13%
Shareholders may call special meeting	4	0.17%
Maximum director liability	1	0.04%
Total	2293	100.00%

Note: This table provides a detailed description of the shareholder-sponsored governance proposals. The proposals are sorted by the number of occurrences.

Table A.2
Bond Returns − Additional Results

Panel A: Same Parameterization

	(1)	(2)	(3)	(4)	(5)	(6)
	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic
Pass	−1.53**	−1.36***	−0.79	−1.47***	−1.44***	−1.23**
	(-2.50)	(-3.33)	(-1.45)	(-2.68)	(-3.33)	(-2.24)
mb				−4.39***	−4.51***	−4.49***
				(-6.06)	(-5.67)	(-5.66)
size				−0.84	−0.89	−0.90
				(-1.36)	(-1.42)	(-1.44)
leverage				2.17	0.83	0.56
				(1.12)	(0.30)	(0.19)
tangibility				−1.20	−1.87	−1.89
				(-0.37)	(-0.58)	(-0.60)
zscore				0.43**	0.40**	0.38**
				(2.35)	(2.17)	(2.13)
roa				4.51	3.97	4.03
				(1.18)	(1.02)	(1.03)

Table A.2 (*continued*)

Panel A: Same Parameterization

	(1)	(2)	(3)	(4)	(5)	(6)
	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic
Adjusted R^2	0.07	0.07	0.07	0.10	0.10	0.10
Num of Obs	10,848	10,848	10,848	10,848	10,848	10,848

Panel B: Different Parameterization

	(1)	(2)	(3)	(4)	(5)	(6)
	Linear	Quadratic	Cubic	Linear	Quadratic	Cubic
Pass	−1.50***	−0.38	−0.91	−1.51***	−0.94	−0.41
	(−3.05)	(−0.62)	(−0.91)	(−2.99)	(−1.44)	(−0.36)
mb				−4.50***	−4.44***	−4.68***
				(−5.67)	(−5.64)	(−4.08)
size				−0.87	−0.93	−0.98
				(−1.36)	(−1.57)	(−1.55)
leverage				1.29	0.30	1.11
				(0.49)	(0.10)	(0.44)
tangibility				−1.55	−2.19	−2.40
				(−0.48)	(−0.69)	(−0.71)
zscore				0.42**	0.35**	0.41*
				(2.30)	(2.01)	(1.83)
roa				4.12	4.08	4.43
				(1.06)	(1.05)	(1.14)
Adjusted R^2	0.07	0.07	0.08	0.10	0.10	0.11
Num of Obs	10,848	10,848	10,848	10,848	10,848	10,848

Note: Table A2 presents the regression specifications where individual bond returns are the dependent variable. The table displays estimates using linear, quadratic, and cubic polynomials. The rows labeled "Pass" show the coefficient estimates of our main indicator variable—the passage of proposals. The control variables include market-to-book ratio, log of total asset, leverage, tangibility, Z-score, and return-to-asset. Panel A shows the results based on the same parameterization on both sides of the majority threshold, and Panel B shows the results based on different parameterizations on the left and right sides of the majority threshold. The standard errors are clustered at the firm level and firm fixed effects are included. All variables are defined in Appendix A. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A.3
Individual Covenant

Panel A: Changes in Number of Individual General Covenant

Type	Pass	t-stat	Adjusted R^2
Insurance Sweep	0.13***	(2.89)	0.24
Equity Sweep	0.14***	(2.80)	0.12
Debt Sweep	0.15***	(3.08)	0.23
Asset Sweep	0.12*	(2.33)	0.23
Required Lenders	0.16*	(1.93)	0.09
Term Changes	0.19**	(2.28)	0.09
Collateral Release	0.11*	(2.37)	0.29

Panel B: Changes in Number of Individual Financial Covenant

Type	Pass	t-stat	Adjusted R^2
Min Current Ratio	−0.00	(−0.32)	0.65
Min Interest Cov	−0.03	(−0.51)	0.18
Max Debt to EBIDTA	0.00	(0.04)	0.26
Max Senior Debt to EBIDTA	−0.01	(−0.71)	0.27
Max Debt to Tangible Net Worth	−0.05**	(−2.13)	0.28
Min Fixed Charge Cov	0.02	(0.63)	0.20
Max Lev Ratio	0.01	(0.24)	0.28
Min Debt Service Cov	−0.01	(−1.16)	0.25
Max Debt Equity	0.01	(1.55)	0.34
Min Cash Int Cov	0.01	(0.63)	0.23
Max CAPEX	0.02	(0.71)	0.45

Table A.3 (*continued*)

Panel A: Changes in Number of Individual General Covenant

Type	Pass	t-stat	Adjusted R²
Min EBITDA	−0.01	(-0.78)	0.25
Max Loan Value	0.00	(0.00)	0.34

Note: Table A3 tests the effect of passing governance-related proposals on individual covenants. All individual general and financial covenants, whose changes in number have non-zero values in the sample, are included in this table. The column labeled "Pass" shows the coefficient estimates of our main indicator variable—the passage of proposals. Panel A shows results for each of the general covenants, and Panel B shows results for each of the financial covenants. The column labeled "Type" reports the covenant type used. The table displays estimates using linear polynomials based on the same parameterization on both sides of the threshold. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A.4
Optimal Interval

Type	Pass	t-stat	Model	Controls	Adj R²
Bond Return	−1.45**	(-2.08)	Linear		0.06
Bond Return	−1.45**	(-2.04)	Quadratic		0.06
Bond Return	−1.50*	(-1.68)	Cubic		0.05
Bond Return	−1.55**	(-2.31)	Linear	Y	0.16
Bond Return	−1.57**	(-2.29)	Quadratic	Y	0.16
Bond Return	−1.60*	(-1.88)	Cubic	Y	0.16
Interest Rate	67.79**	(2.59)	Linear		0.16
Interest Rate	66.55**	(2.55)	Quadratic		0.17
Interest Rate	142.14***	(4.18)	Cubic		0.19
Interest Rate	69.55***	(2.62)	Linear	Y	0.16
Interest Rate	68.12**	(2.58)	Quadratic	Y	0.18
Interest Rate	149.87***	(4.35)	Cubic	Y	0.20
General Cov	1.63***	(2.59)	Linear		0.25
General Cov	1.40***	(2.55)	Quadratic		0.29
General Cov	0.97*	(4.18)	Cubic		0.29
General Cov	1.65***	(2.62)	Linear	Y	0.27
General Cov	1.42***	(2.58)	Quadratic	Y	0.31
General Cov	0.87*	(4.35)	Cubic	Y	0.31

Note: Table A4 presents the regression results based on optimal intervals. The column labeled "Pass" shows the coefficient estimates of our main indicator variable—the passage of proposals. The control variables include market-to-book ratio, log of total asset, leverage, tangibility, Z-score, and return-to-asset. The table reports results for the public debt market (Bond Return), loan interest rate (Interest Rate), and loan general covenant (General Cov). The table displays estimates using linear, quadratic, and cubic polynomials based on the same parameterization on both sides of the threshold. All variables are defined in Appendix A. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A.5
Placebo Tests

Type	Pass	t-stat	Threshold	Adjusted R²
Bond Return	0.13	(0.29)	40%	0.15
Bond Return	0.09	(0.15)	60%	0.15
Interest Rate	4.33	(0.31)	40%	0.13
Interest Rate	10.76	(0.71)	60%	0.13
General Cov	−0.62	(-1.25)	40%	0.12
General Cov	0.03	(0.10)	60%	0.11

Note: Table A5 presents the placebo tests using either a 40% or 60% threshold. The column labeled "Pass" shows the coefficient estimates of our main indicator variable—the passage of proposals. The table reports results for the public debt market (Bond Return), loan interest rate (Interest Rate), and loan general covenant (General Cov). The table displays estimates using linear polynomials based on the same parameterization on both sides of the threshold. All variables are defined in Appendix A. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A.6
Results for Secondary Loan Market

	Pass	t-stat	Model	# Obs	Adjusted R²
Baseline	−3.44	(-1.31)	Linear	145	0.21
	−4.76*	(-1.76)	Quadratic	145	0.22
10%	−0.97*	(-1.92)	Linear	145	0.18
	−1.21**	(-2.34)	Quadratic	145	0.19

Note: Table A6 presents the main regression specification where changes in logged secondary loan prices are the dependent variable. The table displays estimates using linear and quadratic polynomials based on the same parameterization on both sides of the threshold. The column labeled "Pass" shows the coefficient estimates of our main indicator variable—the passage of proposals. The dependent variable is winsorized at the 10% level in the last two rows. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A.7
Firm Characteristics with Close-Call Proposals

Market-to-Book Ratio			Total Asset (log)		
	Mean	Number		Mean	Number
0	1.70	248	0	9.81	248
1	1.60	189	1	9.58	189
Diff	0.11		Diff	0.23	
p-value	0.24		p-value	0.11	
Leverage			Tangibility		
	Mean	Number		Mean	Number
0	0.27	248	0	0.31	248
1	0.28	189	1	0.33	189
Diff	−0.01		Diff	−0.02	
p-value	0.40		p-value	0.43	
Z-Score			Return-to-Asset		
	Mean	Number		Mean	Number
0	2.47	248	0	0.05	248
1	2.31	189	1	0.04	189
Diff	0.15		Diff	0.01	
p-value	0.47		p-value	0.06	

Note: This table reports the summary statistics of firms whose proposals receive vote shares that are between 40% and 60%, and compares the characteristics of the treatment firms (50%−60%, indicated by 1) with those of the control firms (40%−50%, indicated by 0). The proposals need to be included in at least one of the public debt, loan issuance, and secondary loan market samples. All variables are defined in Appendix A.

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