CEO contractual protection and debt contracting*

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Abstract

CEO contractual protection, in forms of CEO employment agreements and CEO severance pay agreements, is prevalent among S&P 1500 firms. While prior research has examined the impact of these agreements on corporate decisions from shareholders' perspective, there is little research on the impact from debt holders' perspective. We find that compared with other loans, loans issued by firms with CEO contractual protection on average contain more performance covenants and performance-pricing provisions. This effect increases with CEOs' risk-taking incentives and opportunities, but it decreases with CEOs' preference for and opportunity of enjoying a quiet life. Furthermore, for loans issued by firms with CEO contractual protection, debt holders include stricter covenants, charge a higher interest rate, and use a more diffuse syndicate structure. Collectively, these results shed light on the impact of CEO contractual protection on debt contracting.

Key words: CEO employment agreement, CEO severance pay agreement, debt contracting

JEL codes: G32, M40

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Abstract

CEO contractual protection, in forms of CEO employment agreements and CEO severance pay agreements, is prevalent among S&P 1500 firms. While prior research has examined the impact of these agreements on corporate decisions from shareholders' perspective, there is little research on the impact from debt holders' perspective. We find that compared with other loans, loans issued by firms with CEO contractual protection on average contain more performance covenants and performance-pricing provisions. This effect increases with CEOs' risk-taking incentives and opportunities, but it decreases with CEOs' preference for and opportunity of enjoying a quiet life. Furthermore, for loans issued by firms with CEO contractual protection, debt holders include stricter covenants, charge a higher interest rate, and use a more diffuse syndicate structure. Collectively, these results shed light on the impact of CEO contractual protection on debt contracting.

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1. Introduction

CEO employment agreements and CEO severance pay agreements provide CEOs with contractual protection and are widely used by companies. Because these agreements protect CEOs from the downside risk, they align CEOs' interests with shareholders' and motivate CEOs to undertake risky projects. However, by sheltering CEOs from dismissals, these agreements can lead to CEO entrenchment, especially in firms with weak corporate governance (Bertrand and Mullainathan 2003).[1] Both CEO risk-taking and entrenchment can significantly affect debt holders' demand for monitoring. While prior research has examined the impact of CEO contractual protection from shareholders' perspective, there is little research on its impact from debt holders' perspective. In this study, we fill the void by investigating the effect of CEO contractual protection on debt contracting.

Following Chen, Cheng, Lo, and Wang (2015), we examine two forms of CEO contractual protection: (1) CEO employment agreements, and (2) standalone CEO *ex-ante* severance pay agreements. As discussed in detail later, CEO employment agreements are comprehensive written contracts with a fixed term, specifying employment terms and conditions (e.g., non-competition) as well as severance payments upon termination. Firms cannot fire those CEOs protected by employment agreements without good cause (e.g., CEO misconduct). In contrast, standalone severance pay agreements do not have a fixed term. They specify the termination conditions and the associated compensation for CEOs. Both types of agreements offer job protection and termination compensation for CEOs (Rusticus 2006; Xu 2013). For firms,

[1] Recent studies find evidence consistent with both CEO risk-taking and entrenchment arguments. For example, consistent with the risk-taking argument, prior studies find that CEO contractual protection is positively associated with firm investments (e.g., Huang 2011; Xu 2011; Cadman et al. 2016; Cziraki and Groen-Xu 2017). Consistent with the CEO entrenchment and quiet life argument, prior studies find that CEO contractual protection is negatively associated with innovation and firm risk (e.g., Muscarella and Zhao 2015).

although these agreements raise the CEO termination cost, they help the firms to attract more CEO candidates and motivate the CEOs to undertake risky, yet positive net present value (NPV), projects.

Given that CEO contractual protection is an important aspect of CEOs' employment package, we expect that when determining debt contract terms, debt holders consider managerial incentives arising from CEO contractual protection. Since the majority of debt financing comes from private debt and public debt holders often free ride on the monitoring by private debt holders (e.g., Beatty, Liao, and Weber 2012), we focus on the monitoring by private debt holders and investigate how they use state-contingent clauses (i.e., financial covenants and performance-pricing provisions) to resolve potential agency conflicts in the presence of CEO contractual protection. Financial covenants can help debt holders monitor management by defining the circumstances under which debt holders can intervene (e.g., Smith and Warner 1979; Aghion and Bolton 1992).[2] Performance-pricing provisions, by linking borrowing costs to firm performance, play a similar role in protecting debt holders' interests.

Under the risk-taking argument, anticipating that CEOs with contractual protection are more likely to invest in risky projects than those without, debt holders likely resort to contracting mechanisms to monitor CEOs' risk-taking behavior. This is because debt holders, as fixed claimants, bear the downside risk but do not enjoy the upside potential of risky projects. Hence, we predict that compared with other firms, firms with CEO contractual protection have *more* state-contingent clauses in their loan contracts.

[2] Covenants that use financial numbers are typically grouped into (i) affirmative covenants, which require firms to maintain stipulated levels of accounting-based ratios, and (ii) negative covenants, which restrict specific investment and financing activities. Our main tests focus on affirmative covenants because they are more commonly used in practice. Also, technical default that gives debt holders rights to intervene "generally is caused by deteriorating corporate performance" and "almost exclusively involves affirmative covenant (Smith 1993, 301)."

CEO contractual protection is a double-edged sword, though. As suggested by Yermack (2006) and Rusticus (2006), CEO contractual protection shields CEOs from dismissals and can lead to CEO entrenchment. Entrenched CEOs tend to enjoy a "quiet life", which can both alleviate and aggravate the agency risk for debt holders. On the one hand, the preferences of CEOs who enjoy a quiet life can ease debt holders' concerns. For example, these CEOs value cash and stable operations, are reluctant to undertake difficult activities, such as expansions and investments, and are resistant to changes (Bertrand and Mullainathan 2003). These preferences can reduce bankruptcy risk and debt holders' demand for monitoring (Chava, Kumar, and Warga 2010). On the other hand, entrenched CEOs might shirk their responsibilities and forgo positive NPV projects, weakening firms' performance and ability to service debt. As such, debt holders might monitor the firms with CEO contractual protection more diligently. As such, under the entrenchment argument, CEO protection can increase or decrease debt holders' demand for monitoring through state-contingent clauses.

Financial covenants as state-contingent clauses can be divided into performance covenants and capital covenants (Christensen and Nikolaev 2012). Performance covenants such as minimum EBITDA requirements are typically set around key performance metrics and can provide timely feedback on adverse changes in credit quality. These covenants thus allow debt holders to promptly intervene in managers' actions, renegotiate loan terms, or even call the loan early when borrowers' conditions deteriorate. Capital covenants such as maximum debt-to-equity ratio, on the other hand, are based on balance sheet numbers. They protect debt holders' interest by limiting the amount of debt the firm can have, but they are less useful in detecting the deterioration of credit quality and in facilitating debt holders' intervention in a timely manner (Christensen, Macciocchi, Morris, and Nikolaev 2022). Since our predictions pertain to debt

holders' monitoring over managers' actions, we expect CEO contractual protection to affect the number of performance covenants in loan contracts, but not necessarily the number of capital covenants. Similarly, we expect CEO contractual protection to affect the likelihood of performance-pricing provisions.

Our investigation is based on a sample of 6,465 loans issued by S&P 1500 companies over the period of 1995-2008. We hand-collect the information about CEO employment and severance pay agreements from companies' proxy statements. Because firm and CEO characteristics affect the existence of CEO contractual protection (e.g., Gillan, Hartzell, and Parrino 2009; Rau and Xu 2013; Chen et al. 2015), we use four state law variables as instrumental variables to control for the endogeneity of CEO contractual protection. The diagnostic tests suggest that they are effective and valid instruments.

We find that *on average* firms with CEO contractual protection include more performance covenants (but not capital covenants) and are more likely to have performance-pricing provisions in their loans, compared with other firms. These results hold before and after controlling for the determinants of debt covenants, as well as CEO ownership and compensation structure. The impact is also economically significant. Compared with loans issued by other firms, loans issued by firms with CEO contractual protection have 8.2 percent more performance covenants and are 12.4 percent more likely to include performance-pricing provisions.

Because the positive effect of CEO protection on state-contingent clauses can arise from either debt holders' concerns with CEOs undertaking excessive risks or their concerns with entrenched CEOs shirking their responsibility, we conduct cross-sectional tests pertaining to the conditions under which each of these two arguments is more applicable. First, if CEO contractual protection leads to debt holders' concerns with risk-taking, such concerns will be exacerbated

when CEOs have a greater risk appetite and more opportunities to take risk. Prior research suggests that CEOs are more likely to undertake risky projects when they are younger (Dechow and Sloan 1991; Cheng 2004; Peltomäki, Sihvonen, Swidler, and Vähämaa 2021) and when their firms are at the growth stage and have more investment opportunities (e.g., Hribar and Yehuda 2015). As expected, we find that the impact of CEO contractual protection on performance covenants is more positive in these cases than in other cases, supporting the risk-taking argument.

Second, if CEO contractual protection leads to debt holders' concerns with firms' debt servicing ability due to entrenched CEOs enjoying a quiet life, such concerns will be exacerbated when CEOs have stronger preferences for and more opportunities of enjoying a quiet life. Prior research argues that CEOs with a longer tenure and higher cash-based compensation have stronger preferences for the status quo (e.g., Jensen and Murphy 1990; Prendergast and Stole 1996). In addition, CEOs of firms with lower board independence are not effectively monitored and have more opportunities to enjoy a quiet life (e.g., Bertrand and Mullainathan 2003). We find that the impact of CEO contractual protection on performance covenants and performance-pricing provisions is *less positive* when the preferences for and opportunities of enjoying a quiet life are greater. This finding is consistent with the argument that protected CEOs' inclination for a quiet life decreases debt holders' demand for monitoring, and it is not supportive of the argument that CEO contractual protection increases debt holders' concerns with firms' debt servicing ability.

Additional tests reinforce our main inferences. First, consistent with the average positive effect of CEO protection on debt holders' demand for monitoring, we find that this positive effect is stronger when the protection's monetary strength is greater. Second, focusing on other

loan terms, we find that the loans issued by firms with CEO protection on average have stricter performance covenants, a higher interest rate, and a more diffuse lender structure as featured by more lenders and lower loan concentration, than loans issued by firms without CEO protection. These results are consistent with the notion that debt holders apply tighter covenants and a higher loan price and diversify their holdings to compensate for greater risk-taking associated with CEO contractual protection. Third, the loans of firms with CEO contractual protection are more likely to have CAPEX covenants to restrict firms' investments when the default risk is higher. Lastly, when we separately examine CEO employment and severance pay agreements, the inferences hold for both.

We contribute to the nascent literature on CEO employment contracts, which primarily focuses on their impact on firms' investment and reporting behavior from shareholders' perspective. We extend this research by investigating the implications of CEO employment contracts for debt contracting. Such an investigation is important because the interests of shareholders and debt holders can conflict and it is unclear how debt holders would react when firms try to align CEOs' interests with shareholders' via CEO contracts. Our findings suggest that debt holders on average perceive CEO employment contracts as a potential threat to their interest. To resolve the potential agency conflicts, debt holders increase the use of state-contingent clauses, impose stricter covenant terms, charge a higher interest, include the CAPEX covenant in loan terms, and diversify their loan portfolios. These findings represent an unintended cost of CEO employment contracts. Such a cost is aggravated by CEOs' tendency to take risk but is alleviated by their inclination to enjoy a quiet life. Thus, our paper complements prior studies and provides a more comprehensive understanding of the economic consequences of CEO employment contracts.

Our paper is related to but is different from Mansi, Wald, and Zhang (2016), who document a positive association between the use of golden parachute and bond yield. First, Mansi et al. focus on the golden parachute, i.e., the severance payment in the event of a change in control, which is only one component of CEO contracts. In comparison, CEO employment and severance pay agreements examined in our paper are much broader. Second, Mansi et al. examine the *fixed* interest rate required by bondholders. In contrast, we investigate how private lenders use *state-contingent* clauses and other loan terms to resolve the potential agency risk. Third, we investigate the implications of CEO contractual protection for both CEO risk-taking and entrenchment in the context of debt contracting.

Our paper complements the literature on the relationship between CEO equity incentives and debt contracting.[3] Prior studies have examined how equity-based compensation and managerial ownership affect debt pricing (Bagnani, Milonas, Saunders, and Travlos 1994; Ortiz-Molina 2006; Tchistyi, Yermack, and Yun 2011; Brockman, Ma, and Ye 2015), debt maturity (Datta, Iskandar-Datta, and Raman 2005; Brockman, Martin, and Unlu 2010), and loan syndicate structure (Chen 2014). CEO equity incentives enhance the *upside* potential of risky investments for CEOs and encourage risk-taking. In contrast, CEO contractual protection, by limiting the *downside* risk and enhancing job security, can encourage both risk-taking and entrenchment, which have opposite implications for debt contracting. Given that CEO contractual protection is widely used in practice, it is important to provide evidence on both the average effect of CEO contractual protection on debt contracting and the cross-sectional variation of the effect.

[3] A recent stream of literature studies how CEO debt-like compensation (i.e., CEO inside debt) aligns the interests of CEOs and debt holders and reduces debt contracting costs (e.g., Sundaram and Yermack 2007; Chava et al. 2010; Wei and Yermack 2011; Anantharaman, Fang, and Gong 2014). This research finds that CEOs with high inside debt behave like debt holders. Our paper, in contrast, focuses on the debt contracting consequences of CEO employment contracts, which, through protecting CEOs from the downside risk, can lead to both risk-taking and entrenchment. Untabulated analyses indicate that our inferences hold after controlling for CEO inside debt.

Furthermore, we focus on the state-contingent mechanisms that private debt holders use in response to CEO contracts, while prior research on CEO equity incentives mainly focuses on the debt pricing dimension. Examining debt covenants and provisions enriches our understanding of how debt holders respond to CEO contracts, and more generally, to the governance mechanisms that align CEOs' interests with shareholders'.

The rest of this paper is structured as follows. Section 2 reviews prior studies and develops the hypotheses. Section 3 discusses sample selection and data. Sections 4, 5 and 6 report the main, cross-sectional, and additional tests, respectively. Section 7 concludes.

2. Prior literature and predictions

2.1 Prior literature on CEO employment and severance pay agreements

We study CEO contractual protection through CEO employment and severance pay agreements. As discussed in Gillan et al. (2009), CEO employment agreement (EA) is a *written* contract that establishes the CEO's employment terms, such as duties and obligations, compensation, perquisites, conditions and severance payments for dismissals, and constraints on outside activities. An EA generally has a fixed term ranging from 2 to 5 years, but it can be extended or renewed. Within the contract term, the CEO cannot be dismissed without good cause; otherwise the CEO will get the severance pay and can potentially sue the firm. Good cause typically includes breaches of fiduciary duties and misconduct. However, poor performance is not considered as good cause. Unlike those with EAs, CEOs without EAs can be removed whenever the boards find it to be in the best interest of the firm. A severance pay agreement (SA) details the termination conditions and payments to a CEO when she is terminated by the firm without cause (Rau and Xu 2013; Chen et al. 2015; Cadman, Campbell,

and Klasa 2016). Unlike an EA, an SA has no fixed term.

Whether CEOs have contractual protection depends on their negotiations with their firms. For CEOs, EAs and SAs increase their job security by raising the costs of CEO termination for their firms. The contractual protection is more valuable for the CEOs who are more concerned about their fit for the firms and the termination risk (Schwab and Thomas 2006). As such, EAs and SAs can help the firms attract CEO candidates who are concerned about job security, expanding the CEO candidate pool.

Several papers investigate the determinants of EAs or SAs and conclude that the use of EAs and SAs is consistent with optimal contracting. Gillan et al. (2009) find that EAs are used more often when the firm's business environment is more volatile, when the likelihood of CEO being fired is higher, and when the CEO has more to lose if she is replaced. Rau and Xu (2013) and Cadman et al. (2016) find that SAs are more likely to be in place when CEOs have a greater need for insurance for their human capital. At the same time, some studies argue that EAs and SAs are associated with CEO entrenchment (e.g., Bebchuk and Fried 2004). Consistent with this entrenchment argument, studies document that CEO contractual protection is more likely to be used when firms' corporate governance is weaker and board independence is lower (Yermack 2006; Rusticus 2006; Chen et al. 2015).

2.2 The main prediction

When deciding the loan terms, creditors are concerned with managers' actions that affect the firms' debt servicing ability. CEO contractual protection can affect loan terms because it can change CEOs' behavior. First, because it is costly to terminate CEOs with contractual protection, these CEOs are better protected from poor performance. Consistent with this argument. Rusticus (2006) and Xu (2011) document that the likelihood of CEO leaving after poor performance is

lower for CEOs with employment or severance pay agreements than for other CEOs. Second, CEO contractual protection compensates CEOs for the downside risk. As argued in Rau and Xu (2013), the termination payment acts as deferred compensation and protects CEOs from termination risk. Overall, through enhanced job security and deferred risk premium, CEO contractual protection has two effects: (1) it can encourage the CEO to undertake risky, long-term projects (the risk-taking argument), and (2) it can lead to CEO entrenchment and entice CEOs to enjoy a "quiet life" (the entrenchment argument). Both effects can increase debt holders' demand for monitoring.

We first discuss the risk-taking argument. Gillan et al. (2009) argue that "CEOs facing less uncertainty are less likely to avoid risky positive net present value projects." Prior research provides evidence that CEO contractual protection positively affects firms' long-term risky investment (Huang 2011; Xu 2011). Because shareholders are risk-neutral and enjoy the upside potential of investments, they benefit from managers taking risky but positive NPV projects. However, debt holders are fixed claimants, and their asymmetric payoffs lead them to bear the cost of the downside risk without enjoying the upside potential. Indeed, managers' excessive risk-taking is one manifestation of the shareholder-debtholder agency conflict (e.g., Smith and Warner 1979), and private lenders are concerned about the downside risk of borrowers' risky projects such as R&D investments (Ciftci and Darrough 2016). It thus follows that when CEOs have contractual protection, debt holders will be concerned about the exacerbated default risk and thus monitor the firm more closely.

Prior research argues that state-contingent clauses such as financial covenants can help debt holders monitor management by defining the circumstances under which debt holders can intervene (e.g., Smith and Warner 1979; Aghion and Bolton 1992). There is ample evidence that

lenders use covenants to influence borrowers' behavior (e.g., Chava and Roberts 2008; Nini, Smith, and Sufi 2009, 2012; Roberts and Sufi 2009). Christensen and Nikolaev (2012) further argue that performance covenants, an important group of financial covenants, act as tripwires to detect early signals of financial distress. When a performance covenant is violated, debt holders have the control rights and can take actions to limit their losses (e.g., through renegotiation and the acceleration of loans). Because performance-pricing provisions tie interest rates to pre-specified performance measures, they can also protect debt holders' interests (Asquith, Beatty, and Webber 2005). Thus, under the risk-taking argument, we expect that debt holders are more likely to include these state-contingent clauses when contracting with firms whose CEOs have contractual protection, because these CEOs have a stronger inclination toward risky projects that benefit shareholders but increase the likelihood of loan default.

We then discuss the entrenchment argument. Under this argument, debt holders' response is unclear because CEO entrenchment can both alleviate and aggravate the agency risk for debt holders. In particular, enhanced job security can induce CEOs with contractual protection to (1) enjoy a quiet life and/or (2) shirk their responsibilities. On the one hand, the preferences of CEOs who enjoy a quiet life can alleviate debt holders' concerns. These CEOs value cash, tend to avoid undertaking difficult activities (e.g., expansions and investments), prefer stable operations, and are resistant to changes. For example, Bertrand and Mullainathan (2003) find that CEOs protected by anti-takeover laws are not only less likely to destruct old plants but also less likely to create new plants. They conclude that "poorly governed managers may prefer to avoid the difficult decisions and costly efforts (p. 1047)." Chava et al. (2010) also argue that entrenched CEOs can resist shareholder opportunism such as large dividend payments, because they value

cash and resist changes.[4] As such, the CEO entrenchment argument can imply that CEO contractual protection lessens debt holders' concerns with agency risk and as a result, debt holders reduce monitoring through financial covenants and performance-pricing provisions.

On the other hand, entrenched CEOs might shirk their responsibilities and forgo positive NPV projects. CEOs' shirking resulted from contractual protection can lead to poor firm performance, hindering firms' ability to service debt. Debt holders may therefore strengthen their monitoring of firms whose CEOs have contractual protection, increasing the use of financial covenants and performance-pricing provisions.

In summary, the risk-taking effect of CEO contractual protection exacerbates the shareholder-debtholder conflict, making the use of financial covenants and performance-pricing provisions more prevalent for firms with CEO contractual protection. In contrast, the entrenchment effect of CEO contractual protection can benefit or hurt debt holders by inducing the CEO to take less risky or forgo positive NPV projects respectively. As a result, the net effect of CEO contractual protection on loan terms is ex ante ambiguous. Therefore, we state our first hypothesis in the null form:

H1: Ceteris paribus, loans issued by firms with CEO contractual protection do not differ from those issued by other firms in financial covenants and performance-pricing provisions.

2.3 Cross-sectional analyses

We conduct cross-sectional analyses to exploit the conditions under which each of the risk-taking and the entrenchment arguments is particularly applicable. Under the risk-taking

[4] Chava et al. (2010) argue that entrenched CEOs may also pursue their own agenda and engage in empire building. Focusing on covenants for bonds, they find that firms with longer tenured CEOs are more likely to have investment restrictions (primarily merger restrictions) but are less likely to have dividend, financing, and event-related restrictions. Because Bertrand and Mullainathan (2003) conclude that for managers with higher job security, "active empire building may not be the norm and managers may instead prefer to enjoy the quiet life," we focus on the quiet life story of CEOs with contractual protection under the entrenchment argument.

argument, debt holders will be more concerned with the risk-taking incentives induced by CEO contractual protection when the CEOs have greater risk-taking appetite and more risk-taking opportunities, and will demand more monitoring accordingly.[5] Prior research suggests that since older CEOs are retiring soon, they are less likely to undertake risky, long-term investments than younger CEOs (Dechow and Sloan 1991; Cheng 2004; Peltomäki et al. 2021). Moreover, CEOs' ability to undertake risky projects depends on firms' growth opportunities. Hribar and Yehuda (2015) argue that firms at the growth stage of their life cycles have more growth opportunities than those at the other stages such as mature and declining stages. Therefore, under the risk-taking argument, the impact of CEO contractual protection on debt holders' monitoring will be stronger for firms with younger CEOs and for firms at the growth stage.[6] Our second hypothesis is thus stated as:

H2: Ceteris paribus, CEO contractual protection has a more positive effect on the use of financial covenants and performance-pricing provisions for firms with younger CEOs and for firms at the growth stage of life-cycle than for other firms.

As discussed above, under the entrenchment argument, CEO contractual protection has either a positive or a negative impact on the use of financial covenants and performance-pricing provisions. Regardless of the direction of the impact, we expect the entrenchment effect of CEO contractual protection on debt holders' monitoring to be more salient when CEOs have stronger preferences for, or have more opportunities of, enjoying a quiet life. Prior research suggests that early in their tenure, CEOs are motivated to prove their abilities and take on major investments,

[5] CEOs' risk appetite and opportunities for risk-taking may affect the use of CEO contractual protection. We obtain the same inferences when we include the proxies for CEOs' risk appetite and risk-taking opportunities in the determinant model of CEO contractual protection.

[6] The entrenchment argument can lead to the same prediction that CEOs have a greater risk-taking appetite in firms at the growth stage of the life cycle. Such firms have ample investment opportunities and thus, under the entrenchment argument, shirking CEOs have more positive NPV projects to forgo, which can have a more adverse effect on firms' future performance and increase debt holders' demand for monitoring. Nevertheless, the prediction based on firms with younger CEOs vs. older CEOs is unique with respect to the risk-taking argument.

whereas longer-tenured CEOs are more conservative and are less willing to change the status quo (e.g., Prendergast and Stole 1996). In a similar vein, CEOs with more cash-based compensation (as opposed to incentive-based compensation) prefer a quiet life, because the cost of enjoying a quiet life is lower when their compensation consists of more cash (Jensen and Murphy 1990). In addition, CEOs in firms with lower board independence are monitored less effectively and have more opportunities of enjoying a quiet life (e.g., Jensen and Murphy 1990; Bertrand and Mullainathan 2003; Chava et al. 2010). Since the entrenchment argument implies either a positive or a negative effect of CEO contractual protection on debt monitoring, our last hypothesis is stated in the null form:

H3: Ceteris paribus, CEO contractual protection has no differential effect on the use of financial covenants and performance-pricing provisions for firms with longer tenured CEOs, CEOs with higher proportion of cash compensation, and lower board independence than for other firms.

3. Sample, data, and research design

3.1 Sample and data

The sample includes loans issued by S&P 1500 companies over the 1995-2008 period. We end our sample period in 2008 to avoid the potential confounding effect of the financial crisis.[7] We collect information on CEO contracts from companies' proxy statements. Under Regulation S-K, firms that have material employment agreements or severance pay agreements with their top executives must disclose such agreements in their proxy statements. There are 18,936 firm-years with proxy statements from the SEC's EDGAR online database. We then match these firm-years with loan issuance data from the DealScan database. We exclude firm-years without loan data, those from financial firms, and those with missing values for the regression variables. For

[7] Indeed, we find that there is a substantial drop in the number of loan facilities in 2009 and early 2010. Dropping observations in 2008 from the sample leads to the same inferences.

the remaining 4,173 firm-years, we obtain all the loans issued in the sample period. Our final sample consists of 6,465 loans.[8] Table 1 describes the sample selection process.

Table 2 reports the descriptive statistics, for the full sample as well as for loans issued by firms with and without CEO protection. Out of the sample loans, 77 percent are issued by firms with CEO contractual protection. Panel A reports the descriptive statistics on loan contract terms. The average number of financial covenants is 1.50 for the full sample, and it is significantly higher for loans of firms with CEO protection (1.55) than for loans of firms without CEO protection (1.33). This difference is driven by the greater number of performance covenants for loans of firms with CEO protection than for loans of other firms (1.09 vs. 0.87). There is no significant difference in the number of capital covenants between the loans issued by these two groups of firms. About 56 percent of loans have performance-pricing provisions. For the two sub-samples, 58 percent of loans of firms with CEO protection include performance-pricing provisions, whereas only 51 percent of the other loans do so. The difference is statistically significant. Hence the univariate comparison is consistent with CEO contractual protection inducing greater debt holders' demand for monitoring. Regarding other loan contract terms, loans of firms with CEO contractual protection have a slightly longer maturity and a smaller amount.

Panel B reports the descriptive statistics on firm characteristics. Firms with CEO protection are smaller and have a lower market to book ratio, higher leverage, lower return on assets, lower z-score, and lower CEO equity ownership. They are also less likely to have founder CEOs and are more likely to be located in the states that have anti-takeover regulations. We include all these firm characteristics in the multivariate analyses.

[8] We conduct the analyses at the loan facility level; conducting the analyses at the loan package level leads to the same inferences. In our sample, each loan package on average has 1.3 loan facilities.

3.2 Research design

Following prior studies (e.g., Ortiz-Molina 2006; Bharath, Sunder, and Sunder 2008; Kim, Song, and Zhang 2011; Christensen and Nikolaev 2012), we develop the regression models to examine the effect of CEO contractual protection on loan terms. We use the Poisson regression for the analysis of the number of financial covenants since it is a count variable and the Logit regression for the analysis of the use of performance-pricing provisions since it is a binary variable. The model specifications are as follows:

$$\begin{aligned} Ln(\lambda)_{i,j,t} = \alpha + \beta CEO\_Protection_{i,t} + \gamma_1 Borrower\text{-}specific\_Control_{i,t} + \\ \gamma_2 CEO\_Equity\_Incentives_{i,t} + \gamma_3 Loan\text{-}specific\_Control_{j,t} + \\ \gamma_4 Economy\text{-}wide\_Control_t + Loan\_Type\_Indicators + \\ Loan\_Purpose\_Indicators + Year\_Indicators + Industry\_Indicators \end{aligned} \quad (1a)$$

$$\begin{aligned} Logit(Prob(Performance\_Pricing_{i,j,t} = 1)) = \alpha + \beta CEO\_Protection_{i,t} + \\ \gamma_1 Borrower\text{-}specific\_Control_{i,t} + \gamma_2 CEO\_Equity\_Incentives_{i,t} + \\ \gamma_3 Loan\text{-}specific\_Control_{j,t} + \gamma_4 Economy\text{-}wide\_Control_t + \\ Loan\_Type\_Indicators + Loan\_Purpose\_Indicators + Year\_Indicators + \\ Industry\_Indicators \end{aligned} \quad (1b)$$

Subscripts *i*, *j*, and *t* refer to firm *i*, loan *j*, and year *t*, respectively. For the Poisson regression model (1a), we model the number of financial covenants (*Covenants*) as being generated by the Poisson process of $P(Covenants = \text{y}) = (e^{-\lambda}\lambda^{y})/y!$ for y =0, 1, 2,…, wherein λ is the conditional mean parameter such that the natural logarithm of it can be represented as a linear function of the explanatory variables. For the Logit regression model (1b), *Performance_Pricing* is an indicator for the existence of any performance-pricing provisions.

The independent variable of interest, $CEO\_Protection_{i,t}$, is an indicator variable for CEO contractual protection. It is set as 1 for firms with an employment agreement or a severance pay

agreement with their CEOs, and 0 otherwise.[9] A positive (negative) coefficient on *CEO_Protection*, β, suggests that CEO contractual protection aggravates (alleviates) the agency risk for debt holders. We adjust the standard errors for firm-level clustering.

We control for borrower-specific characteristics that prior research has shown to affect the terms of loan contracts. Prior studies find that debt covenants are more prevalent when borrowing firms are smaller and have higher growth, higher leverage and lower profits (e.g., Ball, Li, and Shivakumar 2015). Hence, we control for firm size (*Size*), the market to book ratio (*Market-to-Book*), leverage (*Leverage*), and return on assets (*Return on Assets*). In addition, the availability of collateral (proxied by the amount of tangible assets), cash flow volatility and default risk of the borrower also affect the loan contract terms (e.g., Chava et al. 2010; Kim et al. 2011). Accordingly, we control for asset tangibility (*Tangibility*), the volatility of operating cash flows (*Cash Flow Volatility*), and the modified Altman's z-score (*Z-score*).

Prior studies find that CEOs' ownership and compensation structure affect debt contracting. Tchistyi et al. (2011) find that CEOs' equity incentives are related to the steepness and convexity of performance-pricing provisions. Therefore, we include three variables that capture CEO equity incentives: (1) *CEO Equity Compensation*, measured as the ratio of the CEO's stock and option grants to her total compensation; (2) *CEO Equity Ownership*, defined as the CEO's stock and option holdings in shares divided by the firm's outstanding shares; and (3) *CEO Portfolio Sensitivity*, defined as the change in the value of the CEO's option portfolio resulting from a 1% increase in the firm's annualized standard deviation of stock returns. We also include an indicator for founder CEOs (*Founder CEO*) because founder CEOs are

[9] In untabulated analyses, we define two indicators separately for these two types of agreements and replace *CEO_Protection* in the main analyses with these two indicators. We find that both CEO employment and severance pay agreements significantly affect debt contracting.

charismatic and have a longer horizon, likely affecting debt contracting (Anderson, Mansi, and Reeb 2003).[10]

The use of covenants in the loan contracts is also affected by loan characteristics (e.g., Graham, Li, and Qiu 2008). Accordingly, we include loan maturity (*Loan_Maturity*) and loan size (*Loan_Amount*) in the regressions.

Lastly, following prior studies (Kim et al. 2011; Campello and Gao 2017), we control for macroeconomic conditions by adding GDP growth in the loan issuance quarter (ΔGDP) and year indicators to the regressions. We also control for state anti-takeover laws which can affect firm leverage (Garvey and Hanka 1999; Francis, Hasan, John, and Waisman 2010).

We measure the borrower-specific characteristics in the fiscal year immediately before the loan issuance date and the other controls concurrently with the loan issuance. Appendix A provides variable definitions. All the regressions also control for the loan type, loan purpose, and industry fixed effects.[11] Because of these fixed effects, we do not report the intercept.

3.3 Controlling for the endogeneity of CEO contractual protection

As discussed in prior research (e.g., Gillan et al. 2009; Rau and Xu 2013; Chen et al. 2015), CEO contractual protection is endogenously determined. Firm and CEO characteristics can affect both the existence of CEO contractual protection and debt covenants. We include a comprehensive list of control variables to address the concern of omitted correlated variables. However, some firm attributes are difficult to control for. For example, the anticipation of high firm risk can both increase CEOs' demand for contractual protection and drive debt holders to include more covenants in the loan contracts, resulting in a spurious, positive association

[10] We obtain the same inferences after controlling for CEO inside debt for the three years when inside debt data is available (2006-2008).

[11] In a sensitivity test, we include firm, instead of industry, fixed effects. While the results are weaker, the inferences remain the same.

between CEO contractual protection and debt covenants. As another confounding factor, CEO risk aversion increases their demand for contractual protection but reduces their incentives to undertake risky investments, suggesting a spurious, negative association between CEO contractual protection and debt covenants.

Following Doidge et al. (2004) and Chen et al. (2015), we use two alternative approaches to address the potential endogeneity of CEO contractual protection. First, in Equation (1), we use the predicted likelihood of CEO contraction protection to replace the original indicator variable. Second, we adopt the Heckman (1979) approach and add to Equation (1) the inverse Mills ratio. We obtain both the predicted value and the inverse Mills ratio from a determinant model of CEO contractual protection.

For the CEO contractual protection determinant model, we adopt the specification in Chen et al. (2015). The determinants include firm and CEO characteristics.[12] Xu (2011) and Chen et al. (2015) use five state policy variables (public policy, implied contract, good faith and fair dealing, anti-takeover regulation, and the Garmaise index) as instrumental variables. States can adopt exceptions to limit firms' ability to dismiss employees at will. These exceptions, including public policy, implied contract, good faith and fair dealing, provide protection to employees including CEOs and thus reduce the need of CEO contractual protection. The Garmaise index captures how well the non-competition agreements are enforced. Garmaise (2011) documents that CEO turnover is lower in the states that better enforce the non-competition agreements. Thus, the need for CEO protection is likely lower in such states. The state anti-takeover regulation indicator is

[12] The characteristics include R&D intensity, market to book ratio, market-adjusted returns, ROA, an indicator for outside CEOs, an indicator for old CEOs, CEO abnormal compensation, CEO incentive-based compensation, board independence, an indicator for founder CEOs, leverage, and assets. Some of these characteristics are not included in the second stage regression (e.g., the outside CEO indicator and CEO abnormal compensation) because prior research does not suggest that they affect debt contracting. Including them in the second stage regression leads to the same inferences.

used as an instrumental variable in Xu (2011) and Chen et al. (2015), but some prior studies find that state anti-takeover laws affect firms' leverage and debt covenants (Garvey and Hanka 1999; Francis et al. 2010). As such, we only use the other four state policy variables as instrumental variables.

We estimate the determinant model for S&P 1500 firms and report the regression results in Appendix B. The results are similar to those in Chen et al. (2015), who use a sample of S&P 500 firms. We follow the suggestions of Larcker and Rusticus (2010) and conduct the diagnostic tests to confirm the effectiveness and validity of the instrumental variables.[13]

4. Main analyses – Tests of H1

4.1 Tests of H1 – financial covenants

We use Poisson regressions to examine the impact of CEO contractual protection on the use of financial covenants in loan contracts. Following the recommendations by Larcker and Rusticus (2010), we first report the results without controlling for endogeneity in Column (1) of Table 3, Panel A, and we then report the results after controlling for endogeneity by replacing the CEO contractual protection indicator with the predicted value in Column (2) and by including the inverse Mills ratio in Column (3).

In Column (1), CEO contractual protection is positively correlated with the number of financial covenants (p-value = 0.063; we use two-sided p-values when testing H1.) The marginal effect of *CEO_Protection* suggests that loan contracts for firms with CEO protection on average

[13] First, the test of joint significance has an F-statistic of 30.72, which is greater than the benchmark of 13.96 for four instrumental variables as recommended in Stock, Wright, and Yogo (2002). Second, the test of over-identification fails to reject the null hypothesis that the instrumental variables are not correlated with residuals from the second-stage regression (untabulated). The inferences remain the same when we use different combinations of the four state policy variables.

have 0.092 more financial covenants than other loans, which is a relative increase of 6.9 percent from the sample average for firms without CEO protection (1.33 as reported in Table 2). Throughout this study, the marginal effect of an explanatory variable is calculated as the change in the predicted number of financial covenants or the change in the predicted likelihood of including performance-pricing provisions when the variable changes for one standard deviation (or changes from 0 to 1 in the case of an indicator variable), with other explanatory variables taking the value of the sample means. In terms of economic magnitude, the marginal effect of CEO contractual protection is smaller than that of firm size, market to book ratio, founder CEO indicator, and loan amount, but is greater than that of the other explanatory variables.

In Column (2), we use the predicted probability of having CEO contractual protection as *CEO_Protection*. The coefficient on *CEO_protection* is positive but insignificant (p-value = 0.145). We use the Heckman approach in Column (3) and the coefficient on *CEO_protection* is significantly positive (p-value = 0.092). Overall, the results show no reliable evidence.

Regarding the control variables, we find that loan contracts contain fewer financial covenants for firms that are larger and have higher growth potential (i.e., higher market to book ratio). Loan contracts contain more financial covenants for firms with higher leverage and founder CEOs. In addition, larger loans tend to have more financial covenants. These results are largely consistent with prior findings (e.g., Christensen and Nikolaev 2012).

Performance versus capital covenants

As discussed in Christensen and Nikolaev (2012), the two types of financial covenants, performance and capital covenants, limit debt-related agency problems in different ways. Performance covenants are typically based on key performance metrics and provide timely indicators of changes in credit quality. Therefore, performance covenants can serve as an

effective tool in monitoring firms' operations and allow debt holders to renegotiate or intervene in managerial actions when firms' performance and credit quality deteriorate. In contrast, capital covenants are based on balance sheet items so that shareholders have enough financial stake in the firm (through limiting debt, raising additional equity capital, or restricting dividends). These covenants ensure that there will be enough money left for debt holders in the case of financial distress and that shareholders have incentives to monitor managers. However, as long as firms maintain adequate amount of equity capital, capital covenants are not breached; thus they are less useful to debt holders for timely detection of credit quality deterioration and are less effective in facilitating debt holders' intervention in firm's risk-taking behavior or CEOs' shirking when necessary. Consistent with the above discussions, Christensen et al. (2022) find that performance covenants are more useful in influencing borrowers' investment decisions than capital covenants. Thus, we expect CEO contractual protection to affect debt holders' use of performance covenants but not necessarily the use of capital covenants.

We separately investigate the effect of CEO protection on performance and capital covenants and report the results in Panels B and C of Table 3, respectively. Column (1) of Panel B shows that CEO contractual protection is positively associated with the number of performance covenants (p-value = 0.078). The marginal effect suggests that loan contracts for firms with CEO protection on average have 0.071 more performance covenants than other loans, which is a relative increase of 8.2 percent from the sample average for firms without CEO protection (0.87 as reported in Table 2). In Columns (2) and (3), CEO protection remains significantly positive (p-value = 0.028 and 0.023, respectively). These results are consistent with the increased agency risk for lenders of the firms with CEO protection.

Panel C reports the results for capital covenants. We find that the number of capital

covenants does not differ significantly between firms with and without CEO protection. This result indicates that private debt holders use covenants selectively to achieve the goal of addressing the agency problems attributable to CEO protection.

In sum, the results are consistent with CEO contractual protection aggravating the perceived agency risk for debt holders. When the borrowing firm's CEO is better protected by employment agreements or severance pay agreements, debt holders increase their monitoring by using more performance covenants. Moreover, there is no increase in the use of capital covenants. As such, for the later analyses, we focus on performance covenants to increase the power of the tests.

4.2 Tests of H1 – performance-pricing provisions

We next examine the impact of CEO contractual protection on the likelihood of including performance-pricing provisions in loan contracts. Panel A of Table 4 reports the regression results. As shown in Column (1), CEO protection is positively associated with the use of performance-pricing provisions (p-value = 0.022). The effect is economically significant; the marginal effect of CEO contractual protection is 0.063, which is a relative increase of 12.4 percent from the sample average for firms without CEO protection (0.51 as reported in Table 2). The marginal effect of CEO contractual protection is smaller than that of firm size and loan amount, but greater than that of the other explanatory variables. The coefficient on *CEO_protection* remains significantly positive in both Columns (2) and (3), after we control for the potential endogeneity (p-value = 0.001 and 0.000, respectively).

The results on the control variables suggest that performance-pricing provisions are less likely for larger firms and firms with higher growth, and are more likely for firms with founder CEOs and for longer and larger loans.

A performance-pricing provision allows debt holders to charge a higher interest rate when the firm's performance deteriorates. If the initial interest rate is already the highest in the grid, debt holders cannot increase the interest rate further when the firm's performance deteriorates. This limits the protection for debt holders. Prior research refers to these provisions as interest-decreasing provisions (Asquith et al. 2005). In a robustness check, we exclude interest-decreasing provisions and focus only on the rest, interest-increasing, provisions. Specifically, we redefine *Performance_Pricing* to be one for performance-pricing provisions other than interest-decreasing provisions and re-estimate the regression. Panel B of Table 4 reports the results. The results are quantitatively similar to those reported in Panel A. As such, we use all performance-pricing provisions in the subsequent analyses, because even for interest-decreasing provisions, banks still have opportunities to increase interest rate once the firm's performance falls to the middle of the performance grid.[14]

In sum, the findings suggest that compared with other loans, loans issued by firms with CEO contractual protection are more likely to contain performance-pricing provisions.

5. Cross-sectional analyses – Tests of H2 and H3

Debt holders' concerns could result from two sources: CEOs' overinvesting in risky projects under the risk-taking argument or CEOs' shirking their responsibility under the entrenchment argument. The tests of H2 and H3, which are based on the conditions where each of the two concerns is more applicable, can help demonstrate which concern contributes to the overall effect of CEO contractual protection. For the cross-sectional analyses, we report the

[14] Although the initial interest rate is the highest, once the firm's performance improves in the future, the interest rate will decrease. Subsequently, if the firm's performance deteriorates, debt holders can increase the interest rate, although not above the initial interest rate.

results based on the Heckman approach to save space. The inferences are the same when we use the raw or predicted CEO contractual protection in the regressions.

We use the following regression model to test H2 and H3:

$$\begin{aligned} Dependent\_Var_{i,j,t} = \alpha + \beta_1 CEO\_Protection\ with\ Conditional\_Var\ = 0_{i,t} + \\ \beta_2 CEO\_Protection\ with\ Conditional\_Var = 1_{i,t} + \\ \beta_3 Conditional\_Var_{i,t} + \gamma_1 Borrowerspecific\_Control_{i,t} + \\ \gamma_2 CEO\_Equity\_Incentives_{i,t} + \gamma_3 Loan\text{-}specific\_Control_{j,t} + \\ \gamma_4 Economy\text{-}wide\_Control_t + Loan\_Type\_Indicators + \\ Loan\_Purpose\_Indicators + Year\_Indicators + \\ Industry\_Indicators \end{aligned} \quad (2)$$

The dependent variable (*Dependent_Var*) is $Ln(\lambda)_{i,j,t}$ for the Poisson regression of the number of performance covenants and $Logit(Prob(Performance\_Pricing_{i,j,t} = 1))$ for the Logit regression of the presence of performance-pricing provisions. For each cross-sectional test, we split the sample of firms with CEO protection into two subsamples based on the value of the conditional variable (*Conditional_Var*) and then construct two indicator variables: *CEO_Protection with Conditional_Var=0* and *CEO_Protection with Conditional_Var=1*). *CEO_Protection with Conditional_Var=0* (*CEO_Protection with Conditional_Var=1*) equals one for the loans issued by firms whose CEOs have contractual protection *and* for which *Conditional_Var* is 0 (1). We discuss the construction of the conditional variables below.

5.1 Tests of H2—CEOs' appetite and opportunities for risk-taking

To explore the cross-sectional variation based on CEOs' appetite for risk-taking, the conditional variable (*Conditional_Var*) is an indicator variable for young CEOs (*Young_CEO*). *Young_CEO* equals one if the CEO is younger than 64, and zero otherwise. We use 64 as the cutoff age to capture the incentive effects of an imminent retirement (Dechow and Sloan 1991).[15]

[15] The median CEO age in our sample is 56 and the 90th percentile is 64. Prior research uses a similar cutoff to define the elderly age when studying the incentive effects of an imminent retirement, such as the use of age 64 in

Accordingly, the indicator *CEO_Protection with Young_CEO =0* equals one for firms that have CEO protection and an aged CEO (*Young_CEO* =0), and zero otherwise; the other indicator *CEO_Protection with Young_CEO =1* equals one for firms that have the CEO protection and a relatively young CEO (*Young_CEO* =1), and zero otherwise. The coefficient on *CEO_Protection with Young_CEO =0* (*CEO_Protection with Young_CEO =1*), β_1 (β_2), captures the effect of CEO protection on debt contracting for firms with a lower (higher) risk appetite, with loans by firms without CEO protection as the benchmark. H2 predicts that the effect of CEO protection on debt covenants is more positive for firms with a younger CEO (i.e., a higher risk appetite). As such, we expect $\beta_2 - \beta_1$ to be positive.

Table 5, Panel A reports the results. As shown in Column (1), the coefficient on *CEO_Protection with Young_CEO =0* is insignificant (p-value = 0.220), suggesting that CEO protection has no effect on the use of performance covenants when the CEO is relatively old. However, when the CEO is younger and has a stronger appetite to pursue risky projects, the effect of CEO protection on performance covenants is positive; the coefficient on *CEO_Protection with Young_CEO=1* is significantly positive (coefficient =0.222 with p-value = 0.013). The Chi-square test shows that the difference between β_2 and β_1 is significantly positive (p-value = 0.008).

Column (2) of Panel A presents the results for performance-pricing provisions. We find that CEO protection has a positive effect on the use of performance-pricing provisions for firms with either young or old CEOs. The Chi-square test shows that there is no difference between these two coefficients (p-value = 0.693), suggesting that the effect of CEO protection on the use of performance-pricing provisions does not vary with the age of CEOs.

Dechow and Sloan (1991), 63 in Francis, Huang, Rajgopal, and Zang (2008), and 65 in Evans, Nagarajan, and Schloetzer (2010).

To test the cross-sectional variation based on CEOs' opportunities for risk-taking, we define *Conditional_Var* in Equation (2) as an indicator variable, *Growth_Stage*, which equals one if the firm-year is at the growth stage of the firm's life cycle, and zero otherwise.[16] Accordingly, *CEO_Protection with Growth_Stage =0* equals one for firms with CEO protection that are not at the growth stage (*Growth_Stage* =0), and zero otherwise; *CEO_Protection with Growth_Stage =1* equals one for firms with CEO protection that are classified as growth-stage firms (*Growth_Stage* =1), and zero otherwise. To identify the growth stage of the firm's life cycle, we follow Hribar and Yehuda (2015) and create a life-cycle-stage score by summing the standardized values of (1) sales growth, (2) capital expenditures, (3) net capital transactions, and (4) (inverse ranking of) firm age.[17] Firm-years ranked in the top quintile based on the summary score are classified into the growth stage of firm's life cycle. H2 predicts that $\beta_2 - \beta_1$ is positive.

Table 5, Panel B presents the results. For performance covenants, as reported in Column (1), the coefficient on *CEO_Protection with Growth_Stage =0* is not statistically significant, suggesting that CEO contractual protection has an insignificant effect on performance covenants when the firm is not at the growth stage. However, when the firm is at the growth stage, the coefficient on *CEO_Protection with Growth_Stage =1* is significantly positive (coefficient =0.388 with p-value =0.001). This effect is stronger than that for firms that are not at the growth stage, as evidenced by the significant difference between the two coefficients (p-value =0.004).

For performance-pricing provisions, as reported in Column (2), CEO protection has a positive effect on the use of performance-pricing provisions for both firms at and outside of the growth stage. The Chi-square test indicates that the effect of CEO protection on performance-

[16] Twenty percent of the firms in our sample are classified as in the growth stage.
[17] We standardize each variable by subtracting the sample mean and then dividing by the sample standard deviation. The calculation of life-cycle-stage score uses all firm-years from Compustat during the sample period.

pricing provisions does not vary with the stage of the firm's life cycle (p-value = 0.527).

In summary, CEO contractual protection has a larger effect on the use of performance covenants in firms with a younger CEO or firms at the growth stage. However, we do not find that CEO contractual protection affects performance-pricing provisions differently for these firms. The difference in results could be due to the different roles played by performance-pricing provisions and performance covenants in controlling agency risk. Beatty, Dichev, and Weber (2002) note that performance-pricing provisions control agency risk by subjecting borrowers to increased (decreased) interest rate when their performance deteriorates (improves). However, in more severe cases where performance deterioration is hard to predict and be contracted upon in advance, debt holders prefer using performance covenants to protect themselves. In such cases, covenant violations allow debt holders to reassess the situation ex post and choose the most appropriate responses beyond loan repricing (e.g., imposing additional restrictions on borrowers' activities or calling the loan when warranted). Accordingly, debt holders' demand for performance covenants would be particularly strong if they are concerned about the excessive risk-taking by firms with a younger CEO or those at the growth stage. Overall, our evidence is consistent with the notion that the effect of CEO contractual protection on debt contracting varies systematically with CEOs' appetite and opportunities for risk-taking.[18]

5.2 Tests of H3—CEO entrenchment

As discussed in Section 2.3, we use long-tenured CEOs, CEOs with high proportion of cash compensation, and firms with lower board independence, to identify CEOs who are more likely to enjoy a quiet life when there is contractual protection. We create three separate indicator

[18] As discussed before, the more positive effect of CEO contractual protection for firms at the growth stage is also consistent with the entrenchment argument. Hence, we do not focus just on this result but also on the evidence based on younger CEOs to conclude about the contracting implications of the risk-taking arguments.

variables as the conditional variable (*Conditional_Var*): (1) firms whose CEO's tenure is longer than the sample median (*Long_Tenure*), (2) firms whose CEO's cash compensation (salary plus bonus) as a percentage of total compensation is greater than the sample median (*High_CashPay*), and (3) firms with board independence lower than the sample median (*Low_Board_Ind*).[19]

Table 6 presents the regression results, Panel A for CEO tenure, Panel B for cash-based compensation, and Panel C for board independence. Accordingly, *CEO_Protection with Conditional_Var =0* for Panel A (Panel B, Panel C) is coded as one for firms with CEO protection and also with *Long_Tenure* =0 (*High_CashPay* =0, *Low_Board_Ind* =0), and zero otherwise. *CEO_Protection with Conditional_Var =1* for Panel A (Panel B, Panel C) is coded as one for firms with CEO protection and also with *Long_Tenure* =1 (*High_CashPay* =1, *Low_Board_Ind* =1), and zero otherwise. As reported in Panel A, when the CEO is relatively new to the company (i.e., *Long_Tenure* =0), CEO contractual protection has a positive effect on performance covenants and performance-pricing provisions; the coefficient on *CEO_Protection with Long_Tenure =0* is 0.290 and 0.781 with p-value=0.003 and 0.000, respectively, in Columns (1) and (2). However, when the CEO has served for a longer period (i.e., *Long_Tenure* =1), the effect of CEO protection is weakened; the coefficient on *CEO_Protection with Long_Tenure =1* is 0.027 and 0.465, respectively, in Columns (1) and (2) and is significantly smaller than that on *CEO_Protection with Long_Tenure=0* for the regression of performance covenants (p-value =0.008).

As reported in Panel B, when the CEO has lower proportion of cash-based compensation (i.e., *High_CashPay* =0), the coefficient on *CEO_ Protection with High_CashPay =0* is significantly positive in both columns (p-value = 0.003 and 0.000, respectively), indicating that

[19] The median values of CEO tenure, cash-based compensation as a percentage of total compensation, and board independence are four years, 38 percent, 73 percent, respectively.

CEO contractual protection has a positive effect on the use of performance covenants and performance-pricing provisions. However, when the CEO has higher proportion of cash-based compensation (i.e., *High_CashPay* =1), the effect of CEO protection is weakened. The magnitude of the coefficient on *CEO_Protection with High_CashPay =1 is* smaller than that on *CEO_Protection with High_CashPay =0*, and the difference is significantly different from zero based on the Chi-square tests (p-value = 0.014 and 0.035 in Columns (1) and (2), respectively).

As reported in Panel C, when board independence is high (i.e., *Low_Board_Ind* =0), CEO contractual protection has a significantly positive impact on the use of performance covenants and performance-pricing provisions (p-value = 0.004 and 0.000 in Columns (1) and (2), respectively). However, the effect of CEO protection is significantly weaker for firms with lower board independence (i.e., *Low_Board_Ind* =1). Specifically, the coefficient on *CEO_Protection with Low_Board_Ind =1* is smaller than that on *CEO_Protection with Low_Board_Ind =0* for both tests (p-value = 0.078 and 0.009 for the Chi-square tests in Columns (1) and (2), respectively).

Overall, we find that the impact of CEO contractual protection on debt contracts is weaker when CEOs are more likely to enjoy a quiet life, which is consistent with the entrenchment argument that protected CEOs' inclination for a quiet life can decrease their debt holders' demand for monitoring. The results are inconsistent with the argument that CEO contractual protection increases debt holders' concerns with CEOs shirking their responsibilities. Taken together, these cross-sectional results indicate that the average positive effect of CEO protection on debt contracts, as documented in Section 4, is driven by debt holders' concerns of risk-taking induced by CEO contractual protection, and such concerns are mitigated if circumstances are conducive to CEOs' enjoyment of a quiet life.

6. Additional tests

6.1 CEO contractual protection and loan contracting—the monetary strength of protection

As discussed in Chen et al. (2015), CEO contractual protection varies in its monetary strength. When the monetary strength of CEO protection is stronger, its effect on CEOs' risk-taking or entrenchment behavior is likely more pronounced. Given that the risk-taking and entrenchment effects of CEO contractual protection can have opposite impacts on debt holders' demand for monitoring, we do not have a directional prediction on the incremental effect of the monetary strength. If the risk-taking argument dominates, as shown above, then the impact of CEO contractual protection on debt covenants should be more positive when the monetary strength is greater.

We follow prior studies and measure the monetary strength of CEO protection using the amount of the pre-determined severance payment (e.g., Rau and Xu 2013; Chen et al. 2015). Specifically, we use the ratio of severance pay to base salary to define a variable, *Strength*.[20] *Strength* is equal to 2 (1, 0) if the ratio is above three (between two and three, below two). We exclude from this analysis the loans issued by firms that have CEO protection but do not provide enough details for our calculation of *Strength*.[21] The Poisson and Logit regressions in Equations (1a) and (1b) are modified to test the incremental impact of the monetary strength:

$$\begin{aligned} Dependent\_Var_{i,j,t} = \alpha + {} & \beta_1 CEO\_Protection\ with\ Strength = 0_{i,t} + \\ & \beta_2 CEO\_Protection\ with\ Strength = 1_{i,t} + \\ & \beta_3 CEO\_Protection\ with\ Strength = 2_{i,t} + \\ & \gamma_1 Borrower\text{-}specific\_Control_{i,t} + \gamma_2 CEO\_Equity\_Incentives_{i,t} + \end{aligned}$$

[20] As noted in Rau and Xu (2013) and Chen et al. (2015), CEO employment and severance pay agreements typically permit options and stocks that are unexercisable or unvested to become exercisable or vested right away. However, the related value is difficult to determine *ex ante* and is thus not considered here.

[21] *Strength* is 2 (1, 0) for 58.7 (23.0, 18.3) percent of the loan contracts for firms with CEO contractual protection and data on severance pay. In an untabulated test, we alternatively code *Strength* as 2 (1, 0) if the ratio is above two (between one and two, below one), and obtain the same inferences.

$$\gamma_3 Loan\text{-}specific\_Control_{j,t} + \gamma_4 Economy\text{-}wide\_Control_t + Loan\_Type\_Indicators + Loan\_Purpose\_Indicators + Year\_Indicators + Industry\_Indicators\,, \quad (3)$$

where *Dependent_Var* is $Ln(\lambda)_{i,j,t}$ for the Poisson regression of the number of performance covenants and $Logit(Prob(Performance\_Pricing_{i,j,t} = 1))$ for the Logit regression of the presence of any performance-pricing provisions. We use three indicators for firms with CEO protection of different levels of protection strength. *CEO_Protection with Strength=0* equals one for firms with a low protection strength (*Strength* is 0), and zero otherwise. *CEO_Protection with Strength=1 (CEO_Protection with Strength=2*) equals one for firms with *Strength* equal to 1 (2), and zero otherwise. Note that the three subsamples identified by the three indicators fully represent the loans issued by firms with CEO protection in our sample (i.e., *CEO_Protection* =1 sample). Because *Strength* is not defined for firms without CEO contractual protection, unlike the cross-sectional tests in Section 5, we do not include it as a standalone variable in Equation (3). The three indicators have a value of zero for loans by firms without CEO protection. The differences between the coefficients of these three indicators capture the incremental effect of the monetary strength on debt contracting.

Table 7 presents the regression results, Column (1) for performance covenants and Column (2) for performance-pricing provisions. CEO protection has a significantly positive effect on the use of performance covenants and performance-pricing provisions in loans issued by firms with high protection strength, as shown by the positive coefficient on *CEO_Protection with Strength=2* (p-value = 0.014 and 0.000 in Columns (1) and (2), respectively). In contrast, the coefficient on *CEO_Protection with Strength=0*, which captures the effect of CEO protection when the protection strength is low, is not statistically significant for both regressions. With respect to the incremental effect of monetary strength, the marginal effect of CEO protection

increases monotonically from 0.069 for *Strength* =0 firms to 0.160 for *Strength* =2 firms for performance covenants and increases monotonically from 0.073 for *Strength* =0 firms to 0.161 for *Strength* =2 firms for the likelihood of performance-pricing provisions. The Chi-square tests show that the difference between β_1 and β_3 is statistically significant (p-value =0.098 and 0.035 in Columns (1) and (2), respectively).

Overall, these results reinforce the inferences from the main tests and indicate a more positive effect of CEO contractual protection on debt contracting for CEOs with stronger monetary protection.

6.2 Loan covenant strictness, loan spread and loan syndicate structure

In addition to performance covenants and performance-pricing provisions, debt holders can also adjust other loan features to address the agency risk due to CEO protection. To enrich the understanding of the impact of CEO protection on debt contracting, we study three other loan features: (1) the strictness of loan covenants; (2) loan spread; and (3) the syndicate structure of lenders. We use the model in Equation (1) to assess the average effect of CEO protection on these loan features.

We start with the tests of the strictness of loan covenants. Prior studies suggest that debt holders use stricter covenants to monitor borrowers more closely (e.g., Murfin 2012; Demerjian and Owens 2016). Following Demerjian and Owens (2016). We measure a loan's covenant strictness as the aggregate probability of covenant violation for the performance covenants of the loan (*Prob_Violation*). Higher probability of covenant violation suggests stricter covenants. Because of additional data requirement for computing *Prob_Violation*, the regression is based on a smaller sample of 3,131 loans. The mean value of *Prob_Violation* is 0.25 (0.22) for loans issued by firms with (without) CEO protection. Panel A of Table 8 reports the OLS regression of

the loan's covenant strictness. The coefficient on *CEO_Protection* is positive and significant (p-value = 0.005), consistent with the notion that debt holders respond to CEO protection by imposing stricter performance covenants.

We next examine loan spread. The dependent variable for this test is the natural logarithm of loan spread (*Loan_Spread*), where loan spread is measured as the drawn all-in spread over LIBOR. Because the contract terms can affect loan spread (Asquith et al. 2005; Graham et al. 2008), we control for additional loan-specific variables: the number of financial covenants (*Number of Covenants*), an indicator for performance-pricing provisions (*Performance_Pricing*), an indicator for secured loans (*Secured_Loan*), and an indicator for loans with missing information on loan security (*Secured_Missing*). The final sample consists of 5,386 loans with required data for the regression. The mean value of *Loan_Spread* is 129.87 basis points for loans issued by firms with CEO protection but is only 102.07 basis points for loans issued by firms without CEO protection, with the difference being statistically significant (untabulated). Panel B of Table 8 reports the OLS regression of *Loan_Spread*. We find that debt holders charge a higher interest rate for loans issued by firms with CEO protection, as evidenced by the significantly positive coefficient on *CEO_Protection* (p-value = 0.006).

Lastly, we investigate the effect of CEO protection on two aspects of the structure of loan syndicates: the total number of lenders in a loan (*Lenders*) and the concentration of the syndicated loans (*Concentration*). *Concentration* is computed as the sum of the squared loan share of each individual syndicate member. It has a value ranging between zero and one with a larger value indicating a higher concentration. As argued in Graham et al. (2008), when facing a higher agency risk, debt holders may seek to diversify the risk by requiring more lenders to assume the loans, reducing the concentration of loan syndicates. On the other hand, debt holders

could better coordinate with each other and monitor borrowers in a more concentrated syndicate with a smaller number of lenders (Sufi 2007). Therefore, it is ex ante unclear how the structure of loan syndicates is affected by CEO protection. Panel C of Table 8 presents the Poisson regression of *Lenders* in Column (1) and the OLS regression of *Concentration* in Column (2). The sample consists of 5,383 (2,092) loans with the required data for the test of the number of lenders (loan concentration). The mean of *Lenders* is 10.88 for loans issued by firms with CEO protection and 10.67 for those without; the mean values of *Concentration* are 0.31 and 0.37, respectively, for these two groups of loans. The regression results show that CEO protection is associated with a significantly larger number of lenders (p-value = 0.001 in Column (1)) and a significantly lower level of loan concentration (p-value = 0.036 in Column (2)). These results are consistent with the notion that lenders seek to diversify their loan portfolios when they perceive a higher agency risk resulted from CEO contractual protection.[22]

The results in this section reinforce the main inferences and suggest that debt holders on average perceive a higher agency risk associated with CEO protection. Besides using more performance covenants and performance-pricing provisions, debt holders also impose stricter loan covenants, charge a higher interest rate, and adopt a more diversified syndicate structure when contracting with firms with CEO protection.

6.3 CAPEX covenants

CAPEX covenants restrict firms' capital investments by specifying the maximum capital expenditures. Given that the risk-taking (entrenchment) argument is related to CEO's incentives to take risk (lead a quiet life), it seems natural to expect that loans issued by firms with CEO

[22] Since the lead banks of syndicated loans play a vital role in monitoring such loans, we also examine the effect of CEO contractual protection on the number of lead banks. The average number of lead banks is 1.37 for loans issued by firms with CEO protection and 1.26 for those without. The untabulated regression results show that CEO protection has no significant effect on the number of lead banks for the syndicated loans (p-value = 0.257).

protection differ from other loans in the inclusion of CAPEX covenants. However, CAPEX restrictions are very costly to the firm, because they limit capital investments even if the firm is profitable. Hence CAPEX covenants are not commonly used and are usually used for firms with high default risk.[23] In our sample, only 12% of loan facilities have a CAPEX covenant. In addition, some risky projects such as R&D investments and M&As are not in the form of capital investments and are usually not covered by CAPEX covenants. Because of these reasons, we do not investigate CAPEX covenants in the main analyses.

Nevertheless, for completeness, we examine whether CEO contractual protection affects the use of CAPEX covenants. We do not find any significant results for the full sample. However, for the sample of firms with high default risk (i.e., Z-score lower than 1.8 as in Graham et al. 2008), the coefficient on *CEO_Protection* is significantly positive when using the predicted value of *CEO_Protection* or the Heckman approach (p = 0.025 and 0.042, respectively). That is, we find some evidence that loans issued by firms with CEO contractual protection are more likely to include CAPEX covenants when firms have high default risk.

7. Conclusion

We examine whether CEO contractual protection affects debt contracting. Compared with other CEOs, those with employment agreements and standalone severance pay agreements have contractual protection; those CEOs are protected from downside risk and enjoy greater job security. As such, they have stronger incentives to undertake risky projects. Because debt holders do not enjoy the upside potential but bear the negative consequences if the risky projects do not pay off, they will monitor the firms more closely to protect their interest. Therefore, under the

[23] For example, Smith (1993) discusses that negative covenants that restrict specific firm investment activities, including CAPEX covenants, are often added to loans for firms that have had technical violations before.

risk-taking argument, loans issued by firms with CEO contractual protection will have more state-contingent clauses (i.e., financial covenants, particularly performance covenants, and performance-pricing provisions) than other loans.

CEO contractual protection can also lead to CEO entrenchment. Entrenched CEOs tend to enjoy a "quiet life" or shirk their responsibility, leading to two countervailing effects on the agency risk for debt holders. On the one hand, entrenched CEOs tend to avoid making difficult decisions such as expansions and investments, and preserve cash (Bertrand and Mullainathan 2003). Such preferences can alleviate debt holders' concerns about agency risk. On the other hand, entrenched CEOs might exert lower efforts and forgo positive NPV projects, which can lead to poor firm performance and compromise firms' ability to service debt. Accordingly, debt holders may monitor CEOs with contractual protection more diligently. As a result, how the entrenchment effect of CEO protection influences debt contracting is an empirical issue.

Based on 6,465 loans issued by S&P 1500 firms over the period of 1995-2008, we find that CEO contractual protection is on average associated with a larger number of performance covenants and a higher likelihood of performance-pricing provisions. Supporting the risk-taking argument, we find that when CEOs' appetite and opportunities for risk-taking are greater, the impact of CEO contractual protection on debt covenants is more positive. In contrast, we find that the impact of CEO contractual protection on debt covenants is less positive when CEOs' preferences for and opportunities of enjoying a quiet life are greater. Thus, the entrenchment effect of CEO contractual protection does not seem to increase debt holders' demand for monitoring. Instead, it is more likely to mitigate such a demand, possibly because entrenched CEOs' preferences for a quiet life can alleviate debt holders' concerns about the agency risk.

In an additional analysis we show that the positive effect of CEO contractual protection

increases with the monetary strength of the protection. We also find that debt holders include stricter covenants, charge a higher interest rate, adopt a more diffuse syndicate structure, and increase the use of CAPEX covenants in response to the agency risk arisen from CEO protection.

Overall, we contribute to the literature on the consequences of CEO contractual protection. While CEO employment and severance pay agreements can improve firms' risk-taking through riskier investments and increased innovation (e.g., Huang 2011; Xu 2011; Chen et al. 2015; Cadman et al. 2016), they can also have adverse effects on firms' cost of debt financing and financial flexibility in the forms of stricter covenants, higher interest rates, and more restrictions on capital expenditures. Therefore, our study highlights an unintended consequence of using CEO employment and severance pay agreements and extends previous studies that examine how CEO contractual protection affects corporate outcomes.

Data availability Statement

The CEO employment contract data that support the findings of this study are available from the corresponding author upon request. Other data are from subscription-based databases that are publicly available.

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Appendix A
Variable definitions

Loan contract variables

$Financial\ Covenants_{j,t}$	=	the number of financial covenants;
$Performance\ Covenants_{j,t}$	=	the number of performance covenants, defined according to Christensen and Nikolaev (2012), including (i) cash interest coverage ratio, (ii) debt service coverage ratio, (iii) level of EBITDA, (iv) fixed charge coverage ratio, (v) interest coverage ratio, (vi) ratio of debt to EBITDA, and (vii) ratio of senior debt to EBITDA;
$Capial\ Covenants_{j,t}$	=	the difference between the number of financial covenants and the number of performance covenants;
$Performance\_Pricing_{j,t}$	=	1 if the loan facility includes a performance-pricing provision, and 0 otherwise;
$Loan\ Maturity_{j,t}$	=	natural logarithm of the loan maturity in months;
$Loan\ Amount_{j,t}$	=	natural logarithm of the loan facility amount in millions;
$Loan\_Spread_{j,t}$	=	natural logarithm of the drawn all-in spread charged by the bank over LIBOR for the drawn portion of the loan facility;
$Prob\_Violation_{j,t}$	=	the probability of covenant violation as measured in Demerjian and Owens (2016), with a higher value for greater strictness of loan covenants. The data are obtained from Professor Demerjian's personal website.
$Lenders_{j,t}$	=	the total number of lenders in a loan.
$Concentration_{j,t}$	=	the concentration of the syndicated loan, measured as the sum of the squared loan share of each individual syndicate member.
$Secured\_Loan_{j,t}$	=	1 if the loan facility is secured by collateral, and 0 otherwise;
$Secured\_Missing_{j,t}$	=	1 if the loan security information is not available from the Dealscan database, and 0 otherwise;

CEO contractual protection

$CEO\_Protection_{i,t}$	=	the indicator variable for CEO contractual protection; it is 1 if the CEO has an employment agreement, or a standalone severance pay agreement with the firm, and 0 otherwise;

Variables for cross-sectional tests

$Young\_CEO_{i,t}$	=	the indicator variable for young CEOs; it equals 1 if the CEO's age is lower than 64, and 0 otherwise.
$Growth\_Stage_{i,t}$	=	the indicator variable coded as one for firms at the growth stage of life-cycle; zero otherwise. Following Hribar and Yehuda (2015), we create a life-cycle-stage score by summing the standardized values of (1) sales growth, (2) capital expenditures, (3) net capital transactions, and (4) (inverse ranking of) firm age. Firm-years ranked in the top quintile based on this summary score are classified into the growth life-cycle stage.
$Long\_Tenure_{i,t}$	=	the indicator variable coded as one if the CEO's tenure is four years or longer, and 0 otherwise.
$High\_CashPay_{i,t}$	=	the indicator variable coded as one if the percentage of cash pay (salary plus bonus) in the CEO's total pay is greater than the sample median, and 0 otherwise.

$Low\_Board\_Ind_{i,t}$	=	the indicator coded as one if the firm's board independence is less than the sample median, and 0 otherwise.
$Strength_{i,t}$	=	the monetary strength of CEO contractual protection; it equals 2 (1, 0) if the severance pay multiple—the ratio of severance pay to base salary—is above three (between two and three, below two).

Firm characteristics and other variables

$Size_{i,t-1}$	=	natural logarithm of total assets in millions;
$Market\text{-}to\text{-}Book_{i,t-1}$	=	sum of market value of equity and book value of debt, scaled by total assets;
$Leverage_{i,t-1}$	=	sum of debt in current liabilities and long-term debt, scaled by total assets;
$Return\ on\ Assets_{i,t-1}$	=	Earnings before interest, taxes, depreciation and amortization (EBITDA), scaled by total assets;
$Tangibility_{i,t-1}$	=	net property, plant and equipment, scaled by total assets;
$Cash\ Flow\ Volatility_{i,t-1}$	=	standard deviation of quarterly cash flows from operations over the four fiscal years prior to the loan initiation year, scaled by sum of debt in current liabilities and long-term debt;
$Z\text{-}Score_{i,t-1}$	=	modified Altman's z-score [1.2(Working capital) + 1.4(Retained earnings) + 3.3(EBIT) + 0.999(Sales)], scaled by total assets. Following Graham et al. (2008), we do not include the ratio of market value of equity to book value of debt, because a similar term, market-to-book, enters the regressions as a separate variable;
$CEO\ Equity\ Compensation_{i,t}$	=	CEOs' equity-based compensation, calculated as the ratio of the value of CEOs' stock and option grants to their total compensation in year t;
$CEO\ Equity\ Ownership_{i,t}$	=	CEOs' equity ownership, calculated as the total number of CEOs' share and option holdings divided by the firm's total number of outstanding shares in year t;
$CEO\ Portfolio\ Sensitivity_{i,t}$	=	CEOs' portfolio sensitivity to stock volatility in year t, defined as the change in the value of CEOs' option portfolio due to an 1% increase in the annualized standard deviation of the firm's stock return;
$Founder\ CEO_{i,t}$	=	indicator variable for founder CEOs, set as 1 if the CEO is the founder and 0 otherwise;
ΔGDP_t	=	percent change in GDP in the quarter of loan initiation relative to the same quarter of in year t-1;
$Anti\text{-}takeover\ Regulations_{i,t}$	=	1 for the firms with headquarters located in the states with business combination laws and 0 otherwise (Bertrand and Mullainathan 1999);
Loan Type Fixed Effects	=	indicator variables for loan types, including term loan, revolver greater than 1 year, revolver less than 1 year, and 364-day facility;
Loan Purpose Fixed Effects	=	indicator variables for loan purposes, including corporate purposes, debt repayment, working capital, and takeover;
Industry fixed effects	=	indicator variables for different industries, defined according to Fama and French's (1997) industry classifications;
Year fixed effects	=	indicator variables for different years;
i,j,t	=	firm i, loan j, year t subscripts.

Appendix B
Determinants of CEO contractual protection

This appendix reports the determinant model of CEO contractual protection. The sample consists of 8,343 firm-years from S&P 1500 companies in the 1995-2008 period. *R&D intensity* is R&D expenditure scaled by sales and it is set as zero for missing values; *Market to Book ratio* is the sum of market value of equity and book value of debt scaled by total assets; *Market-adjusted returns* is market-adjusted cumulative stock returns over the year; *ROA* is net income scaled by total assets; *Outside CEO* is an indicator for CEOs who were appointed within one year after joining the firm; *Old CEO* is an indicator for the CEOs who are 64 or older; *Abnormal compensation* is abnormal CEO cash compensation, measured as the residual from the regression model of the logarithm of CEO cash compensation as in Gillan et al. (2009); *Incentive-based compensation* is the ratio of the value of the CEO's stock and option grants to the CEO's total compensation; *Board independence* is equal to one if the percentage of independent directors is higher than the sample median, and zero otherwise; *Founder CEO* is an indicator for founder CEOs; *Leverage* is sum of debt in current liabilities and long-term debt scaled by total assets; *Assets* is the logarithm of total assets (in millions); *Public policy* (*Implied contract*, *Good faith and fair dealing*) is the indicator for firms with headquarters located in the states that have a public policy exception (an implied contract exception, a good faith and fair dealing exception) for employment at will; *Garmaise Index* is the state-level enforcement index of non-competition agreement, as constructed by Garmaise (2011). We estimate the regression by industry and report the average coefficients and the corresponding p-values across industries. The marginal effect is the change in the probability of having CEO contractual protection if a continuous variable varies for one standard deviation (or if an indicator variable varies from 0 to 1) while other explanatory variables take the value of sample means. The p-values are one-sided for those variables with signed predictions and are two-sided for other variables.

	Pred. signs	Coef.	P-value	Marginal effect
Intercept		1.490	0.429	
Firm and CEO characteristics				
R&D intensity	+	25.122	0.149	0.033
Market to book ratio	+	-0.218	0.632	-0.045
Market-adjusted returns	–	-0.200	0.094	-0.021
ROA	–	-3.590	0.079	-0.036
Outside CEO	+	0.765	0.002	0.199
Old CEO	–	-0.961	0.000	-0.207
Abnormal compensation	+	1.117	0.000	0.082
Incentive-based compensation	+	1.691	0.000	0.073
Board independence	–	-0.531	0.000	-0.137
Founder CEO	–	-1.125	0.004	-0.239
Leverage	?	1.250	0.149	0.177
Assets	?	-0.266	0.632	-0.121
State policy variables				
Public policy	–	0.024	0.513	0.008
Implied contract	–	-0.638	0.050	-0.168
Good faith and fair dealing	–	-0.724	0.021	-0.183
Garmaise index	–	-0.015	0.443	-0.026
# of observations		8,343		
# of industries		40		
Average pseudo R^2		0.481		

TABLE 1
Sample selection

This table presents the sample selection. The sample includes 6,465 loans issued by S&P 1500 firms with their proxy statements from EDGAR over the period of 1995-2008.

		Sample size
Firm-years with proxy statements from EDGAR for S&P 1500 companies over 1995-2008		18,936
Less:		
Firm-years without loan information from DealScan	12,643	
Firm-years of financial firms	735	
Firm-years without data from COMPUSTAT for the calculation of the regression variables	1,385	
Firm-years with required data		4,173
Number of loans issued by the sample firms		6,465

TABLE 2
Descriptive statistics

This table presents the descriptive statistics on loan contract terms and firm characteristics, for the full sample of 6,465 loans issued by S&P 1500 companies over 1995-2008, and separately for the loans issued by firms with and without CEO contractual protection. Panel A reports loan contract terms. Panel B reports firm characteristics. *Financial Covenants* is the number of financial covenants; *Performance Covenants* is the number of performance covenants, defined according to Christensen and Nikolaev (2012); *Capital Covenants* is the difference between the number of financial covenants and the number of performance covenants; *Performance_Pricing* is an indicator variable that equals 1 if the loan contract includes performance-pricing provisions, and 0 otherwise. Variables of firm characteristics are defined for year t-1 as follows: *Market-to-Book* is the sum of market value of equity and book value of debt scaled by total assets; *Leverage* is sum of debt in current liabilities and long-term debt scaled by total assets; *Return on Assets* is earnings before interest, taxes, depreciation and amortization (EBITDA) scaled by total assets; *Tangibility* is net property, plant and equipment (PP&E) scaled by total assets; *Cash Flow Volatility* is the standard deviation of quarterly cash flows from operations over the four fiscal years prior to the loan initiation year scaled by sum of debt in current liabilities and long-term debt; *Z-score* is the modified Altman's z-score. CEO equity incentives are defined for year t as follows: *CEO Equity Compensation* is the ratio of the CEOs' stock and option grants to their total compensation, *CEO Equity Ownership* is CEOs' stock and option holdings in shares scaled by the firm's outstanding shares, *CEO Portfolio Sensitivity* is the change in the value of the CEOs' option portfolio resulting from a 1% increase in the firm's annualized standard deviation of stock returns, and *Founder CEO* is an indicator for founder CEOs. *Anti-takeover Regulation* is the indicator for firms with headquarters located in the states with business combination laws. *, ** indicate that the difference in mean/median for loans of firms with and without CEO protection is significant at the 0.05 and 0.01 levels, respectively.

TABLE 2 (Cont'd)

	Full Sample (N=6,465)			Loans issued by firms with CEO protection (N=4,981)			Loans issued by firms without CEO protection (N=1,484)		
	Mean	Median	Std Dev.	Mean	Median	Std Dev.	Mean	Median	Std Dev.
Panel A: Loan contract terms									
Financial Covenants	1.50	2.00	1.36	1.55	2.00	1.34	1.33**	1.00**	1.41
Performance Covenants	1.04	1.00	1.10	1.09	1.00	1.10	0.87**	0.00**	1.08
Capital Covenants	0.46	0.00	0.69	0.46	0.00	0.67	0.46	0.00	0.75
Performance_Pricing	0.56	1.00	0.50	0.58	1.00	0.49	0.51**	1.00**	0.50
Loan maturity (months)	43.15	50.00	24.09	43.39	52.00	23.39	42.34	48.00	26.29
Log(maturity) (Loan Maturity)	3.54	3.91	0.76	3.55	3.95	0.75	3.49**	3.87	0.78
Loan amount ($million)	484.60	250.00	657.28	460.57	250.00	624.10	565.28**	275.00**	752.73
Log(loan amount) (Loan Amount)	5.48	5.52	1.26	5.46	5.52	1.23	5.56**	5.62**	1.35
Panel B: Firm characteristics									
Total assets ($million)	7,549	2,213	15,655	6,741	2,114	13,621	10,264**	2,550**	20,872
Log of total assets (Size)	7.80	7.70	1.51	7.75	7.66	1.47	7.99**	7.84**	1.64
Market-to-Book	1.87	1.56	0.96	1.81	1.50	0.93	2.07**	1.73**	1.04
Leverage	0.28	0.27	0.16	0.29	0.28	0.16	0.27**	0.26**	0.16
Return on Assets	0.15	0.14	0.07	0.15	0.14	0.07	0.16**	0.16**	0.07
Tangibility	0.34	0.29	0.21	0.34	0.28	0.22	0.34	0.31**	0.20
Cash Flow Volatility	1.50	0.19	5.63	1.46	0.18	5.58	1.64	0.21**	5.79
Z-score	1.94	1.88	1.08	1.87	1.81	1.08	2.18**	2.11**	1.06
CEO Equity Compensation	0.45	0.46	0.28	0.45	0.47	0.28	0.44	0.45	0.31
CEO Equity Ownership	0.03	0.01	0.04	0.02	0.01	0.04	0.04**	0.01**	0.06
CEO Portfolio Sensitivity	4.22	4.35	1.58	4.24	4.35	1.50	4.16	4.32	1.82
Founder CEO	0.09	0.00	0.29	0.07	0.00	0.26	0.16**	0.00**	0.37
Anti-takeover Regulation	0.91	1.00	0.29	0.91	1.00	0.28	0.89*	1.00*	0.31

TABLE 3
CEO contractual protection and financial covenants of loan contracts

This table presents the results from the following Poisson regression of the number of covenants:

$$Ln(\lambda)_{i,j,t} = \alpha + \beta CEO\_Protection_{i,t} + \gamma_1 Borrower\text{-}specific\_Control_{i,t} + \gamma_2 CEO\_Equity\_Incentives_{i,t} + \gamma_3 Loan\text{-}specific\_Control_{j,t} + \gamma_4 Economy\text{-}wide\_Control_t + Loan\_Type\_Indicators + Loan\_Purpose\_Indicators + Year\_Indicators + Industry\_Indicators$$

Subscripts *i*, *j*, and *t* refer to firm *i*, loan *j*, and year *t*, respectively. We model the number of covenants (*Covenants*) as being generated by the Poisson process of $P(Covenants = \text{y}) = (e^{-\lambda}\lambda^{y})/y!$ for y=0, 1, 2,…, wherein λ is the conditional mean parameter such that the natural logarithm of it can be represented as a linear function of the explanatory variables. *Covenants* is measured in three alternative ways: the number of financial covenants (Financial Covenants) in Panel A, the number of performance covenants (Performance Covenants) in Panel B, and the number of capital covenants (Capital Covenants) in Panel C. $CEO\_Protection_{i,t}$, is an indicator variable for CEO contractual protection. Borrower-specific control variables are defined for year t-1 as follows: *Size* is the natural logarithm of total assets in millions, *Market-to-Book* is the sum of market value of equity and book value of debt scaled by total assets, *Leverage* is sum of debt in current liabilities and long-term debt scaled by total assets, *Return on Assets* is earnings before interest, taxes, depreciation and amortization (EBITDA) scaled by total assets, *Tangibility* is net property, plant and equipment (PP&E) scaled by total assets, *Cash Flow Volatility* is the standard deviation of quarterly cash flows from operations over the four fiscal years prior to the loan initiation year scaled by sum of debt in current liabilities and long-term debt, and *Z-score* is the modified Altman's z-score. CEO equity incentives are defined for year t as follows: *CEO Equity Compensation* is the ratio of the CEOs' stock and option grants to their total compensation, *CEO Equity Ownership* is CEOs' stock and option holdings in shares scaled by the firm's outstanding shares, *CEO Portfolio Sensitivity* is the change in the value of the CEOs' option portfolio resulting from a 1% increase in the firm's annualized standard deviation of stock returns, and *Founder CEO* is an indicator for founder CEOs. Loan-specific control variables are defined for the specific loans as follows: *Loan_Maturity* is the natural logarithm of the loan maturity in months, and *Loan_Amount* is the natural logarithm of the loan facility amount in millions. Economy-wide control variables are defined for year t as follows: ΔGDP is the percent change in GDP in the quarter of loan initiation relative the same quarter of prior year, and *Anti-takeover Regulation* is the indicator for firms with headquarters located in the states with business combination laws.

In Column (1) of each panel, we report the Poisson regression of the above equation. In Column (2) of each panel, we use predicted *CEO_Protection* from the *CEO_Protection* determinant model and report the Poisson regression results. In Column (3) of each panel, we add to the Poisson regression model the inverse Mills ratio from the *CEO_Protection* determinant model. See Appendix B for the *CEO_Protection* determinant model. The sample includes 6,465 loans issued by S&P 1500 firms over the period of 1995-2008. The sample size is smaller for Columns (2) and (3) due to the additional data requirement for estimating the *CEO_Protection* determinant model. The standard errors for p-values (two-sided) are adjusted for firm-level clustering. The marginal effect of an explanatory variable is calculated as the change in the predicted number of covenants when the variable changes for one standard deviation (or changes from 0 to 1 in the case of an indicator variable), with other explanatory variables taking the value of the sample means.

TABLE 3 (Cont'd)

Panel A: Analysis of financial covenants

	(1) Using the raw value of CEO contractual protection			(2) Using the predicted value of CEO protection			(3) Using the Heckman approach		
	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects
CEO_Protection	**0.074**	**0.063**	**0.092**	**0.089**	**0.145**	**0.105**	**0.106**	**0.092**	**0.123**
Size	-0.290	0.000	-0.564	-0.305	0.000	-0.538	-0.303	0.000	-0.536
Market-to-Book	-0.119	0.000	-0.146	-0.119	0.000	-0.134	-0.117	0.000	-0.133
Leverage	0.422	0.000	0.087	0.379	0.005	0.072	0.381	0.005	0.072
Return on Assets	0.440	0.163	0.041	0.329	0.357	0.028	0.324	0.365	0.027
Tangibility	-0.158	0.148	-0.043	-0.156	0.235	-0.039	-0.151	0.252	-0.038
Cash Flow Volatility	0.003	0.199	0.024	0.003	0.382	0.018	0.003	0.361	0.019
Z-score	-0.010	0.658	-0.014	-0.009	0.738	-0.011	-0.008	0.768	-0.010
CEO Equity Compensation	-0.044	0.399	-0.016	-0.032	0.574	-0.011	-0.031	0.581	-0.011
CEO Equity Ownership	0.406	0.170	0.023	0.168	0.674	0.008	0.248	0.533	0.012
CEO Portfolio Sensitivity	-0.002	0.887	-0.004	0.002	0.904	0.003	0.001	0.958	0.001
Founder CEO	0.097	0.036	0.130	0.168	0.002	0.215	0.170	0.002	0.218
Loan Maturity	-0.008	0.814	-0.008	-0.033	0.397	-0.030	-0.033	0.398	-0.030
Loan Amount	0.139	0.000	0.225	0.156	0.000	0.232	0.155	0.000	0.231
Δ*GDP*	-2.709	0.133	-0.054	-1.763	0.383	-0.033	-1.707	0.400	-0.032
Anti-takeover Regulation	-0.010	0.848	-0.013	0.012	0.840	0.014	0.009	0.876	0.011
Inverse Mills Ratio							-0.033	0.401	-0.023
Loan type, purpose fixed effects	YES			YES			YES		
Year, industry fixed effects	YES			YES			YES		
N	6,465			5,386			5,386		
Pseudo R^2	0.132			0.128			0.128		

TABLE 3 (Cont'd)

Panel B: Analysis of performance covenants

	(1) Using the raw value of CEO contractual protection			(2) Using the predicted value of CEO protection			(3) Using the Heckman approach		
	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects
CEO_Protection	**0.090**	**0.078**	**0.071**	**0.178**	**0.028**	**0.131**	**0.190**	**0.023**	**0.136**
Size	-0.328	0.000	-0.406	-0.341	0.000	-0.380	-0.340	0.000	-0.379
Market-to-Book	-0.113	0.000	-0.088	-0.096	0.003	-0.068	-0.095	0.004	-0.068
Leverage	0.722	0.000	0.095	0.724	0.000	0.086	0.725	0.000	0.086
Return on Assets	0.658	0.102	0.039	0.323	0.480	0.017	0.320	0.485	0.017
Tangibility	-0.442	0.002	-0.077	-0.513	0.002	-0.081	-0.507	0.003	-0.080
Cash Flow Volatility	0.006	0.032	0.027	0.005	0.133	0.020	0.005	0.125	0.020
Z-score	-0.042	0.121	-0.037	-0.010	0.731	-0.008	-0.010	0.745	-0.008
CEO Equity Compensation	-0.108	0.090	-0.025	-0.095	0.186	-0.020	-0.093	0.192	-0.020
CEO Equity Ownership	0.129	0.739	0.005	-0.149	0.766	-0.005	-0.075	0.882	-0.002
CEO Portfolio Sensitivity	0.012	0.456	0.016	0.015	0.413	0.018	0.015	0.444	0.017
Founder CEO	0.116	0.029	0.098	0.208	0.001	0.171	0.209	0.001	0.171
Loan Maturity	0.119	0.002	0.073	0.096	0.027	0.055	0.097	0.026	0.055
Loan Amount	0.154	0.000	0.158	0.163	0.000	0.153	0.163	0.000	0.152
Δ*GDP*	-2.713	0.176	-0.034	-2.026	0.371	-0.024	-1.977	0.384	-0.023
Anti-takeover Regulation	0.064	0.329	0.050	0.082	0.255	0.060	0.079	0.274	0.058
Inverse Mills Ratio							-0.080	0.130	-0.035
Loan type, purpose fixed effects	YES			YES			YES		
Year, industry fixed effects	YES			YES			YES		
N	6,465			5,386			5,386		
Pseudo R^2	0.164			0.164			0.164		

TABLE 3 (Cont'd)

Panel C: Analysis of capital covenants

	(1) Using the raw value of CEO contractual protection			(2) Using the predicted value of CEO protection			(3) Using the Heckman approach		
	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects
CEO_Protection	**0.050**	**0.495**	**0.017**	**-0.105**	**0.358**	**-0.036**	**-0.072**	**0.534**	**-0.025**
Size	-0.187	0.000	-0.098	-0.193	0.000	-0.097	-0.190	0.000	-0.095
Market-to-Book	-0.141	0.001	-0.047	-0.172	0.001	-0.056	-0.169	0.001	-0.054
Leverage	-0.528	0.027	-0.030	-0.669	0.015	-0.036	-0.662	0.016	-0.036
Return on Assets	-0.268	0.634	-0.007	0.028	0.965	0.001	0.013	0.984	0.000
Tangibility	0.558	0.012	0.041	0.646	0.011	0.046	0.657	0.010	0.047
Cash Flow Volatility	-0.004	0.357	-0.008	-0.005	0.445	-0.008	-0.004	0.463	-0.008
Z-score	0.075	0.091	0.028	0.016	0.760	0.006	0.019	0.717	0.007
CEO Equity Compensation	0.121	0.170	0.012	0.109	0.263	0.011	0.109	0.261	0.011
CEO Equity Ownership	0.998	0.101	0.015	0.873	0.216	0.012	0.995	0.161	0.014
CEO Portfolio Sensitivity	-0.031	0.229	-0.017	-0.024	0.386	-0.013	-0.026	0.360	-0.014
Founder CEO	0.050	0.568	0.018	0.076	0.466	0.027	0.081	0.441	0.028
Loan Maturity	-0.274	0.000	-0.072	-0.313	0.000	-0.081	-0.313	0.000	-0.081
Loan Amount	0.099	0.001	0.043	0.127	0.000	0.054	0.126	0.001	0.053
Δ*GDP*	-2.557	0.462	-0.014	-2.119	0.573	-0.011	-2.008	0.596	-0.011
Anti-takeover Regulation	-0.150	0.108	-0.055	-0.128	0.232	-0.046	-0.130	0.229	-0.046
Inverse Mills Ratio							0.084	0.257	0.017
Loan type, purpose fixed effects	YES			YES			YES		
Year, industry fixed effects	YES			YES			YES		
N	6,465			5,386			5,386		
Pseudo R^2	0.111			0.104			0.104		

TABLE 4
CEO contractual protection and performance-pricing provisions in loan contracts

This table reports the results from the following Logit regression of the likelihood of including performance-pricing provisions in loan contracts:

$$Logit\ (Prob(Performance\_Pricing_{i,j,t} = 1)) = \alpha + \beta CEO\_Protection_{i,t} + \gamma_1 Borrower\text{-}specific\_Control_{i,t} + \gamma_2 CEO\_Equity\_Incentives_{i,t} + \gamma_3 Loan\text{-}specific\_Control_{j,t} + \gamma_4 Economy\text{-}wide\_Control_t + Loan\_Type\_Indicators + Loan\_Purpose\_Indicators + Year\_Indicators + Industry\_Indicators$$

Subscripts *i*, *j*, and *t* refer to firm *i*, loan *j*, and year *t*, respectively. *Performance_Pricing* is an indicator variable that equals 1 if the loan contract includes performance-pricing provisions, and 0 otherwise. In Panel B, *Performance_Pricing* equals 1 if the loan contract includes interest-increasing performance-pricing provisions, and 0 otherwise. Interest-increasing performance-pricing provisions include those provisions where the initial interest rate is lower than the highest interest rate in the performance grid. $CEO\_Protection_{i,t}$, is an indicator variable for CEO contractual protection. Borrower-specific control variables are defined for year t-1 as follows: *Size* is the natural logarithm of total assets in millions, *Market-to-Book* is the sum of market value of equity and book value of debt scaled by total assets, *Leverage* is sum of debt in current liabilities and long-term debt scaled by total assets, *Return on Assets* is earnings before interest, taxes, depreciation and amortization (EBITDA) scaled by total assets, *Tangibility* is net property, plant and equipment (PP&E) scaled by total assets, *Cash Flow Volatility* is the standard deviation of quarterly cash flows from operations over the four fiscal years prior to the loan initiation year scaled by sum of debt in current liabilities and long-term debt, and *Z-score* is the modified Altman's z-score. CEO equity incentives are defined for year t as follows: *CEO Equity Compensation* is the ratio of the CEOs' stock and option grants to their total compensation, *CEO Equity Ownership* is CEOs' stock and option holdings in shares scaled by the firm's outstanding shares, *CEO Portfolio Sensitivity* is the change in the value of the CEOs' option portfolio resulting from a 1% increase in the firm's annualized standard deviation of stock returns, and *Founder CEO* is an indicator for founder CEOs. Loan-specific control variables are defined for the specific loans as follows: *Loan_Maturity* is the natural logarithm of the loan maturity in months, and *Loan_Amount* is the natural logarithm of the loan facility amount in millions. Economy-wide control variables are defined for year t as follows: ΔGDP is the percent change in GDP in the quarter of loan initiation relative the same quarter of prior year, and *Anti-takeover Regulation* is the indicator for firms with headquarters located in the states with business combination laws.

In Column (1) of each panel, we report the Logit regression of the above equation. In Column (2), we use predicted *CEO_Protection* from the *CEO_Protection* determinant model and report the Logit regression results. In Column (3), we add to the Logit regression model the inverse Mills ratio from the *CEO_Protection* determinant model. See Appendix B for the *CEO_Protection* determinant model. The sample includes 6,465 loans issued by S&P 1500 firms over the period of 1995-2008. The sample size is smaller for Columns (2) and (3) due to the additional data requirement for estimating the *CEO_Protection* determinant model. The standard errors for p-values (two-sided) are adjusted for firm-level clustering. The marginal effect of an explanatory variable is calculated as the change in the predicted likelihood of including performance-pricing provisions when the variable changes for one standard deviation (or changes from 0 to 1 in the case of an indicator variable), with other explanatory variables taking the value of the sample means.

TABLE 4 (Cont'd)

Panel A: Analysis of all performance-pricing provisions

	(1) Using the raw value of CEO contractual protection			(2) Using the predicted value of CEO protection			(3) Using the Heckman approach		
	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects
CEO_Protection	**0.254**	**0.022**	**0.063**	**0.576**	**0.001**	**0.142**	**0.610**	**0.000**	**0.151**
Size	-0.418	0.000	-0.154	-0.400	0.000	-0.144	-0.396	0.000	-0.143
Market-to-Book	-0.203	0.002	-0.048	-0.206	0.003	-0.048	-0.199	0.004	-0.047
Leverage	0.063	0.859	0.003	-0.012	0.975	-0.001	0.001	0.998	0.000
Return on Assets	1.452	0.120	0.026	1.722	0.083	0.030	1.682	0.089	0.030
Tangibility	0.175	0.603	0.009	-0.201	0.588	-0.010	-0.178	0.631	-0.009
Cash Flow Volatility	-0.005	0.469	-0.007	-0.006	0.455	-0.007	-0.005	0.463	-0.007
Z-score	0.082	0.211	0.022	0.058	0.429	0.015	0.062	0.400	0.016
CEO Equity Compensation	0.049	0.728	0.003	0.146	0.337	0.010	0.148	0.333	0.010
CEO Equity Ownership	-0.227	0.834	-0.003	0.803	0.520	0.008	1.041	0.410	0.010
CEO Portfolio Sensitivity	0.015	0.683	0.006	0.001	0.970	0.001	0.000	0.990	0.000
Founder CEO	0.261	0.067	0.063	0.352	0.030	0.085	0.358	0.029	0.086
Loan Maturity	0.189	0.035	0.035	0.181	0.072	0.034	0.181	0.071	0.034
Loan Amount	0.439	0.000	0.135	0.443	0.000	0.135	0.442	0.000	0.135
Δ*GDP*	-5.555	0.278	-0.021	-1.665	0.758	-0.006	-1.420	0.793	-0.005
Anti-takeover Regulation	-0.097	0.558	-0.024	-0.177	0.327	-0.043	-0.176	0.327	-0.043
Inverse Mills Ratio							-0.261	0.029	-0.037
Loan type, purpose fixed effects	YES			YES			YES		
Year, industry fixed effects	YES			YES			YES		
N	6,465			5,386			5,386		
Pseudo R^2	0.148			0.158			0.158		

TABLE 4 (Cont'd)

Panel B: Analysis of interest-increasing performance-pricing provisions

	(1) Using the raw value of CEO contractual protection			(2) Using the predicted value of CEO protection			(3) Using the Heckman approach		
	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects
CEO_Protection	**0.285**	**0.011**	**0.068**	**0.584**	**0.001**	**0.139**	**0.616**	**0.000**	**0.143**
Size	-0.244	0.000	-0.089	-0.256	0.000	-0.091	-0.253	0.000	-0.090
Market-to-Book	-0.187	0.003	-0.044	-0.179	0.008	-0.041	-0.173	0.010	-0.040
Leverage	-0.619	0.061	-0.023	-0.574	0.112	-0.022	-0.562	0.121	-0.022
Return on Assets	3.291	0.000	0.059	2.709	0.006	0.047	2.678	0.006	0.046
Tangibility	0.475	0.153	0.025	0.174	0.632	0.009	0.192	0.595	0.010
Cash Flow Volatility	-0.009	0.136	-0.012	-0.008	0.262	-0.011	-0.008	0.264	-0.011
Z-score	0.013	0.840	0.003	0.055	0.435	0.014	0.059	0.406	0.015
CEO Equity Compensation	-0.054	0.711	-0.005	0.020	0.898	0.001	0.023	0.887	0.002
CEO Equity Ownership	0.074	0.940	0.001	1.185	0.302	0.012	1.410	0.217	0.014
CEO Portfolio Sensitivity	0.029	0.434	0.012	0.022	0.585	0.009	0.020	0.621	0.008
Founder CEO	0.092	0.500	0.022	0.168	0.267	0.041	0.172	0.258	0.042
Loan Maturity	0.204	0.014	0.037	0.167	0.069	0.031	0.167	0.068	0.031
Loan Amount	0.402	0.000	0.122	0.425	0.000	0.128	0.424	0.000	0.127
Δ*GDP*	-5.313	0.281	-0.019	-3.646	0.497	-0.014	-3.410	0.524	-0.013
Anti-takeover Regulation	-0.245	0.109	-0.060	-0.329	0.052	-0.081	-0.331	0.050	-0.081
Inverse Mills Ratio							-0.272	0.020	-0.038
Loan type, purpose fixed effects	YES			YES			YES		
Year, industry fixed effects	YES			YES			YES		
N	6,465			5,386			5,386		
Pseudo R^2	0.104			0.113			0.117		

TABLE 5
CEO contractual protection and loan contracts – Risk appetite and risk-taking opportunities of CEOs

This table reports the results from the following regression:

$$Dependent\_Var_{i,j,t} = \alpha + \beta_1 CEO\_Protection\ with\ Conditional\_Var = 0_{i,t} + \beta_2 CEO\_Protection\ with\ Conditional\_Var = 1_{i,t} + \beta_3 Conditional\_Var_{i,t} + \gamma_1 Borrowerspecific\_Control_{i,t} + \gamma_2 CEO\_Equity\_Incentives_{i,t} + \gamma_3 Loan\text{-}specific\_Control_{j,t} + \gamma_4 Economy\text{-}wide\_Control_t + Loan\_Type\_Indicators + Loan\_Purpose\_Indicators + Year\_dummies + Industry\_dummies$$

Subscripts *i*, *j*, and *t* refer to firm *i*, loan *j*, and year *t*, respectively. *Dependent_Var* is $Ln(\lambda)_{i,j,t}$ for the Poisson regression of the number of performance covenants and $Logit(Prob(Performance\_Pricing_{i,j,t} = 1))$ for the Logit regression of the presence of any performance-pricing provisions. For the Poisson regression model, we model the number of performance covenants (*Covenants*) as being generated by the Poisson process of $P(Covenants = y) = (e^{-\lambda}\lambda^{y})/y!$ for y=0, 1, 2…, wherein λ is the conditional mean parameter such that the natural logarithm of it can be represented as a linear function of the explanatory variables. For the Logit regression model, *Performance_Pricing* is an indicator for the existence of any performance-pricing provisions. *Conditional_Var* is *Young_CEO* in Panel A and *Growth_Stage* in Panel B. *Young_CEO* is an indicator variable that equals one if the CEO is younger than 64, and zero otherwise. *Growth_Stage* is an indicator variable that equals one if the firm-year is at the growth stage of the firm's life cycle, and zero otherwise. In Panel A, *CEO_Protection with Young_CEO =0* is an indicator that equals one for firms that have CEO protection and an aged CEO (i.e., *Young_CEO =0*), and zero otherwise; *CEO_Protection with Young_CEO =1* is an indicator that equals one for firms that have the CEO protection and a relatively young CEO (i.e., *Young_CEO =1*), and zero otherwise. In Panel B, *CEO_Protection with Growth_Stage =0* is an indicator that equals one for firms with CEO protection that are not at the growth stage (i.e., *Growth_Stage* =0), and zero otherwise; *CEO_Protection with Growth_Stage =1* is an indicator that equals one for firms with CEO protection that are classified as growth-stage firms (i.e., *Growth_Stage =1*), and zero otherwise.

Borrower-specific control variables are defined for year t-1 as follows: *Size* is the natural logarithm of total assets in millions, *Market-to-Book* is the sum of market value of equity and book value of debt scaled by total assets, *Leverage* is sum of debt in current liabilities and long-term debt scaled by total assets, *Return on Assets* is earnings before interest, taxes, depreciation and amortization (EBITDA) scaled by total assets, *Tangibility* is net property, plant and equipment (PP&E) scaled by total assets, *Cash Flow Volatility* is the standard deviation of quarterly cash flows from operations over the four fiscal years prior to the loan initiation year scaled by sum of debt in current liabilities and long-term debt, and *Z-score* is the modified Altman's z-score. CEO equity incentives are defined for year t as follows: *CEO Equity Compensation* is the ratio of the CEOs' stock and option grants to their total compensation, *CEO Equity Ownership* is CEOs' stock and option holdings in shares scaled by the firm's outstanding shares, *CEO Portfolio Sensitivity* is the change in the value of the CEOs' option portfolio resulting from a 1% increase in the firm's annualized standard deviation of stock returns, and *Founder CEO* is an indicator for founder CEOs. Loan-specific control variables are defined for the specific loans as follows: *Loan_Maturity* is the natural logarithm of the loan maturity in months, and *Loan_Amount* is the natural logarithm of the loan facility amount in millions. Economy-wide control variables are defined for year t as follows: ΔGDP is the percent change in GDP in the quarter of loan initiation relative the same quarter of prior year, and *Anti-takeover Regulation* is the indicator for firms with headquarters located in the states with business combination laws. We include the inverse Mills ratio from the *CEO_Protection* determinant model to control for the endogeneity of CEO protection. See Appendix B for the *CEO_Protection* determinant model. The sample includes 5,386 (5,338) loans issued by S&P 1500 firms over the period of 1995-2008 in Panel A (Panel B). The standard errors for p-values (two-sided) are adjusted for firm-level clustering. The marginal effect of an explanatory variable is calculated as the change in the predicted number of covenants in Column (1) or the change in the predicated likelihood of including performance-pricing provisions in Column (2), when the variable changes for one standard deviation (or changes from 0 to 1 in the case of an indicator variable), with other explanatory variables taking the value of the sample means.

TABLE 5 (Cont'd)

Panel A: Cross-sectional analysis – capturing CEO risk appetite using CEO age

Loan term of interest =	(1) *Performance Covenants*			(2) *Performance_Pricing*		
	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects
CEO_Protection with Young_CEO=0	**-0.190**	**0.220**	**-0.130**	**0.713**	**0.028**	**0.163**
CEO_Protection with Young_CEO=1	**0.222**	**0.013**	**0.159**	**0.587**	**0.001**	**0.145**
Young_CEO	-0.064	0.556	-0.049	0.119	0.625	0.029
Size	-0.336	0.000	-0.374	-0.396	0.000	-0.143
Market-to-Book	-0.093	0.005	-0.066	-0.199	0.004	-0.046
Leverage	0.718	0.000	0.085	0.006	0.988	0.000
Return on Assets	0.308	0.499	0.016	1.665	0.094	0.029
Tangibility	-0.502	0.003	-0.079	-0.185	0.619	-0.010
Cash Flow Volatility	0.005	0.138	0.019	-0.005	0.463	-0.007
Z-score	-0.010	0.732	-0.008	0.063	0.397	0.017
CEO Equity Compensation	-0.104	0.145	-0.022	0.145	0.344	0.010
CEO Equity Ownership	-0.104	0.840	-0.003	1.127	0.371	0.011
CEO Portfolio Sensitivity	0.014	0.471	0.016	-0.001	0.982	0.000
Founder CEO	0.235	0.000	0.194	0.364	0.028	0.087
Loan Maturity	0.098	0.025	0.056	0.182	0.070	0.034
Loan Amount	0.161	0.000	0.150	0.443	0.000	0.135
ΔGDP	-1.995	0.371	-0.023	-1.438	0.790	-0.006
Anti-takeover Regulation	0.081	0.261	0.059	-0.173	0.337	-0.042
Inverse Mills Ratio	-0.081	0.129	-0.035	-0.258	0.031	-0.037
Loan type, purpose fixed effects	YES			YES		
Year, industry fixed effects	YES			YES		
N	5,386			5,386		
Pseudo R^2	0.165			0.158		
Chi-square Test: $\beta_1=\beta_2$	**Chi-square = 7.17**			**Chi-square = 0.16**		
	P-value = 0.008			**P-value = 0.693**		

TABLE 5 (Cont'd)

Panel B: Cross-sectional analysis – capturing CEO risk-taking opportunities using firm life cycle stage

Loan term of interest =	(1) *Performance Covenants*			(2) *Performance_Pricing*		
	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects
CEO_Protection with Growth_Stage=0	**0.052**	**0.544**	**0.038**	**0.601**	**0.001**	**0.148**
CEO_Protection with Growth_Stage=1	**0.388**	**0.001**	**0.331**	**0.441**	**0.104**	**0.105**
Growth_Stage	-0.001	0.991	-0.001	0.194	0.389	0.047
Size	-0.317	0.000	-0.351	-0.397	0.000	-0.143
Market-to-Book	-0.103	0.001	-0.072	-0.199	0.005	-0.046
Leverage	0.677	0.000	0.080	-0.037	0.925	-0.002
Return on Assets	0.262	0.543	0.014	1.865	0.067	0.033
Tangibility	-0.472	0.005	-0.074	-0.188	0.615	-0.010
Cash Flow Volatility	0.006	0.075	0.021	-0.005	0.510	-0.006
Z-score	0.009	0.753	0.008	0.055	0.477	0.014
CEO Equity Compensation	-0.102	0.153	-0.022	0.125	0.417	0.009
CEO Equity Ownership	-0.325	0.522	-0.010	0.841	0.513	0.009
CEO Portfolio Sensitivity	0.021	0.261	0.025	0.002	0.960	0.001
Founder CEO	0.190	0.003	0.153	0.332	0.044	0.080
Loan Maturity	0.079	0.058	0.045	0.183	0.071	0.034
Loan Amount	0.160	0.000	0.149	0.451	0.000	0.137
ΔGDP	-2.169	0.330	-0.025	-1.345	0.804	-0.005
Anti-takeover Regulation	0.062	0.404	0.045	-0.179	0.324	-0.044
Inverse Mills Ratio	-0.066	0.209	-0.029	-0.258	0.033	-0.037
Loan type, purpose fixed effects	YES			YES		
Year, industry fixed effects	YES			YES		
N	5,338			5,338		
Pseudo R^2	0.171			0.161		
Chi-square Test: β_1=β_2	**Chi-square = 8.32** **P-value = 0.004**			**Chi-square = 0.40** **P-value = 0.527**		

TABLE 6
CEO contractual protection and loan contracts – CEOs' preferences for and opportunities of a quiet life

This table reports the results from the following regression:

$$Dependent\_Var_{i,j,t} = \alpha + \beta_1 CEO\_Protection\ with\ Conditional\_Var = 0_{i,t} + \beta_2 CEO\_Protection\ with\ Conditional\_Var = 1_{i,t} + \beta_3 Conditional\_Var_{i,t} + \gamma_1 Borrowerspecific\_Control_{i,t} + \gamma_2 CEO\_Equity\_Incentives_{i,t} + \gamma_3 Loan\text{-}specific\_Control_{j,t} + \gamma_4 Economy\text{-}wide\_Control_t + Loan\_Type\_Indicators + Loan\_Purpose\_Indicators + Year\_Indicators + Industry\_Indicators$$

Subscripts *i*, *j*, and *t* refer to firm *i*, loan *j*, and year *t*, respectively. *Dependent_Var* is $Ln(\lambda)_{i,j,t}$ for the Poisson regression of the number of performance covenants and $Logit(Prob(Performance\_Pricing_{i,j,t} = 1))$ for the Logit regression of the presence of any performance-pricing provisions. For the Poisson regression model, we model the number of performance covenants (*Covenants*) as being generated by the Poisson process of $P(Covenants = y) = (e^{-\lambda}\lambda^{y})/y!$ for y=0, 1, 2…, wherein λ is the conditional mean parameter such that the natural logarithm of it can be represented as a linear function of the explanatory variables. For the Logit regression model, the indicator *Performance_Pricing* is for the existence of any performance-pricing provisions. *Conditional_Var* is *Long_Tenure* in Panel A, *High_CashPay* in Panel B, and *Low_Board_Ind* in Panel C. *Long_Tenure* is the indicator variable that equals one if the CEO's tenure is four years or longer, and zero otherwise. *High_CashPay* is the indicator variable that equals one if the percentage of cash pay (salary plus bonus) in the CEO's total pay is greater than the sample median, and 0 otherwise. *Low_Board_Ind* is the indicator variable that equals one if the firm's board independence is less than the sample median, and 0 otherwise. The indicator *CEO_Protection with Long_Tenure =0* for Panel A (*CEO_Protection with High_CashPay =0* for Panel B, *CEO_Protection with Low_Board_ind =0* for Panel C) is coded as one for firms with CEO protection and also with *Long_Tenure* =0 (*High_CashPay* =0, *Low_Board_Ind* =0), and zero otherwise. The indicator *CEO_Protection with Long_Tenure =1* for Panel A (*CEO_Protection with High_CashPay =1* for Panel B, *CEO_Protection with Low_Board_ind =1* for Panel C) is coded as one for firms with CEO protection and also with *Long_Tenure* = 1 (*High_CashPay* =1, *Low_Board_Ind* =1), and zero otherwise.

Borrower-specific control variables are defined for year t-1 as follows: *Size* is the natural logarithm of total assets in millions, *Market-to-Book* is the sum of market value of equity and book value of debt scaled by total assets, *Leverage* is sum of debt in current liabilities and long-term debt scaled by total assets, *Return on Assets* is earnings before interest, taxes, depreciation and amortization (EBITDA) scaled by total assets, *Tangibility* is net property, plant and equipment (PP&E) scaled by total assets, *Cash Flow Volatility* is the standard deviation of quarterly cash flows from operations over the four fiscal years prior to the loan initiation year scaled by sum of debt in current liabilities and long-term debt, and *Z-score* is the modified Altman's z-score. CEO equity incentives are defined for year t as follows: *CEO Equity Compensation* is the ratio of the CEOs' stock and option grants to their total compensation, *CEO Equity Ownership* is CEOs' stock and option holdings in shares scaled by the firm's outstanding shares, *CEO Portfolio Sensitivity* is the change in the value of the CEOs' option portfolio resulting from a 1% increase in the firm's annualized standard deviation of stock returns, and *Founder CEO* is an indicator for founder CEOs. Loan-specific control variables are defined for the specific loans as follows: *Loan_Maturity* is the natural logarithm of the loan maturity in months, and *Loan_Amount* is the natural logarithm of the loan facility amount in millions. Economy-wide control variables are defined for year t as follows: ΔGDP is the percent change in GDP in the quarter of loan initiation relative the same quarter of prior year, and *Anti-takeover Regulation* is the indicator for firms with headquarters located in the states with business combination laws. We include the inverse Mills ratio from the *CEO_Protection* determinant model to control for the endogeneity of CEO protection. See Appendix B for the *CEO_Protection* determinant model. The sample includes 5,327 (5,382, 5,240) loans issued by S&P 1500 firms over the period of 1995-2008 in Panel A (B, C). The standard errors for p-values (two-sided) are adjusted for firm-level clustering. The marginal effect of an explanatory variable is calculated as the change in the predicted number of covenants in Column (1) or the change in the predicated likelihood of including performance-pricing provisions in Column (2), when the variable changes for one standard deviation (or changes from 0 to 1 in the case of an indicator variable), with other explanatory variables taking the value of the sample means.

TABLE 6 (Cont'd)

Panel A: Cross-sectional analysis – capturing CEOs' quiet life preference using CEO tenure

Loan term of interest =	(1) *Performance Covenants*			(2) *Performance_Pricing*		
	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects
CEO_Protection with Long_Tenure=0	**0.290**	**0.003**	**0.222**	**0.781**	**0.000**	**0.188**
CEO_Protection with Long_Tenure=1	**0.027**	**0.771**	**0.020**	**0.465**	**0.023**	**0.113**
Long_Tenure	-0.007	0.938	-0.005	0.193	0.295	0.048
Size	-0.344	0.000	-0.377	-0.395	0.000	-0.142
Market-to-Book	-0.093	0.003	-0.065	-0.201	0.004	-0.047
Leverage	0.722	0.000	0.085	0.015	0.970	0.001
Return on Assets	0.185	0.669	0.010	1.571	0.114	0.028
Tangibility	-0.514	0.002	-0.080	-0.173	0.641	-0.009
Cash Flow Volatility	0.006	0.081	0.021	-0.006	0.457	-0.007
Z-score	-0.001	0.967	-0.001	0.068	0.364	0.018
CEO Equity Compensation	-0.110	0.120	-0.023	0.160	0.306	0.011
CEO Equity Ownership	-0.077	0.868	-0.002	0.887	0.497	0.009
CEO Portfolio Sensitivity	0.031	0.105	0.036	0.009	0.825	0.004
Founder CEO	0.274	0.000	0.227	0.372	0.026	0.089
Loan Maturity	0.095	0.025	0.054	0.176	0.084	0.033
Loan Amount	0.164	0.000	0.151	0.440	0.000	0.135
Δ*GDP*	-2.848	0.214	-0.033	-1.873	0.730	-0.007
Anti-takeover Regulation	0.076	0.296	0.054	-0.180	0.315	-0.044
Inverse Mills Ratio	-0.072	0.184	-0.031	-0.260	0.031	-0.037
Loan type, purpose fixed effects	YES			YES		
Year, industry fixed effects	YES			YES		
N	5,327			5,327		
Pseudo R^2	0.169			0.158		
Chi-square Test: $\beta_1=\beta_2$	**Chi-square = 7.16** **P-value = 0.008**			**Chi-square = 2.39** **P-value = 0.122**		

TABLE 6 (Cont'd)

Panel B: Cross-sectional analysis – capturing CEOs' quiet life preference using CEO cash-based compensation

Loan term of interest =	(1) *Performance Covenants*			(2) *Performance_Pricing*		
	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects
CEO_Protection with High_CashPay=0	**0.330**	**0.003**	**0.257**	**0.809**	**0.000**	**0.194**
CEO_Protection with High_CashPay=1	**0.094**	**0.283**	**0.071**	**0.404**	**0.038**	**0.098**
High_CashPay	0.120	0.207	0.090	0.155	0.382	0.038
Size	-0.344	0.000	-0.382	-0.405	0.000	-0.146
Market-to-Book	-0.097	0.003	-0.069	-0.202	0.004	-0.047
Leverage	0.731	0.000	0.087	0.026	0.948	0.001
Return on Assets	0.347	0.447	0.019	1.678	0.088	0.029
Tangibility	-0.504	0.003	-0.079	-0.170	0.645	-0.009
Cash Flow Volatility	0.005	0.119	0.020	-0.005	0.464	-0.007
Z-score	-0.011	0.710	-0.009	0.063	0.394	0.017
CEO Equity Compensation	-0.143	0.072	-0.030	0.035	0.842	0.002
CEO Equity Ownership	-0.099	0.844	-0.003	0.874	0.489	0.009
CEO Portfolio Sensitivity	0.015	0.440	0.017	0.002	0.967	0.001
Founder CEO	0.206	0.001	0.167	0.353	0.031	0.085
Loan Maturity	0.095	0.029	0.054	0.186	0.063	0.035
Loan Amount	0.162	0.000	0.151	0.440	0.000	0.134
ΔGDP	-1.791	0.433	-0.021	-0.857	0.874	-0.003
Anti-takeover Regulation	0.079	0.270	0.057	-0.182	0.302	-0.044
Inverse Mills Ratio	-0.082	0.129	-0.036	-0.258	0.032	-0.037
Loan type, purpose fixed effects	YES			YES		
Year, industry fixed effects	YES			YES		
N	5,382			5,382		
Pseudo R^2	0.165			0.160		
Chi-square Test: $\beta_1=\beta_2$	**Chi-square = 6.08**			**Chi-square = 4.45**		
	P-value = 0.014			**P-value = 0.035**		

TABLE 6 (Cont'd)

Panel C: Cross-sectional analysis – capturing CEOs' quiet life opportunities using board independence

Loan term of interest =	(1) *Performance Covenants*			(2) *Performance_Pricing*		
	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects
CEO_Protection with Low_Board_Ind=0	**0.332**	**0.004**	**0.254**	**0.934**	**0.000**	**0.223**
CEO_Protection with Low_Board_Ind=1	**0.145**	**0.125**	**0.110**	**0.381**	**0.053**	**0.092**
Low_Board_Ind	0.205	0.040	0.153	0.478	0.013	0.117
Size	-0.340	0.000	-0.376	-0.401	0.000	-0.144
Market-to-Book	-0.107	0.002	-0.075	-0.246	0.000	-0.057
Leverage	0.644	0.000	0.076	-0.057	0.888	-0.002
Return on Assets	0.394	0.395	0.021	2.130	0.030	0.037
Tangibility	-0.536	0.002	-0.083	-0.355	0.335	-0.018
Cash Flow Volatility	0.005	0.118	0.020	-0.004	0.576	-0.006
Z-score	-0.021	0.472	-0.017	0.035	0.639	0.009
CEO Equity Compensation	-0.087	0.231	-0.018	0.192	0.222	0.013
CEO Equity Ownership	-0.187	0.722	-0.006	0.494	0.680	0.005
CEO Portfolio Sensitivity	0.015	0.440	0.017	0.006	0.892	0.002
Founder CEO	0.177	0.007	0.142	0.225	0.167	0.055
Loan Maturity	0.099	0.024	0.056	0.173	0.092	0.032
Loan Amount	0.169	0.000	0.157	0.449	0.000	0.137
Δ*GDP*	-3.484	0.117	-0.040	-2.225	0.684	-0.009
Anti-takeover Regulation	0.095	0.193	0.068	-0.181	0.308	-0.044
Inverse Mills Ratio	-0.083	0.131	-0.036	-0.269	0.028	-0.038
Loan type, purpose fixed effects	YES			YES		
Year, industry fixed effects	YES			YES		
N	5,240			5,240		
Pseudo R^2	0.165			0.164		
Chi-square Test: β_1=β_2	**Chi-square = 3.11**			**Chi-square = 6.86**		
	P-value = 0.078			**P-value = 0.009**		

TABLE 7
CEO contractual protection and loan contracts – Incremental impact of the monetary strength of CEO protection

This table presents the results from the following regression:

$$Dependent\_Var_{i,j,t} = \alpha + \beta_1 CEO\_Protection\ with\ Strength = 0_{i,t} + \beta_2 CEO\_Protection\ with\ Strength = 1_{i,t} + \beta_3 CEO\_Protection\ with\ Strength = 2_{i,t} + \gamma_1 Borrower\text{-}specific\_Control_{i,t} + \gamma_2 CEO\_Equity\_Incentives_{i,t} + \gamma_3 Loan\text{-}specific\_Control_{j,t} + \gamma_4 Economy\text{-}wide\_Control_t + Loan\_Type\_Indicators + Loan\_Purpose\_Indicators + Year\_Indicators + Industry\_Indicators$$

Subscripts *i*, *j*, and *t* refer to firm *i*, loan *j*, and year *t*, respectively. *Dependent_Var* is $Ln(\lambda)_{i,j,t}$ for the Poisson regression of the number of performance covenants in Column (1) and $Logit(Prob(Performance\_Pricing_{i,j,t} = 1))$ for the Logit regression of the presence of any performance-pricing provisions in Column (2). For the Poisson regression model, we model the number of performance covenants (*Covenants*) as being generated by the Poisson process of $P(Covenants = \mathrm{y}) = (e^{-\lambda}\lambda^{y})/y!$ for y=0, 1, 2…, wherein λ is the conditional mean parameter such that the natural logarithm of it can be represented as a linear function of the explanatory variables. For the Logit regression model, *Performance_Pricing* is an indicator for the existence of any performance-pricing provisions. We use the ratio of severance pay to base salary to define a variable, *Strength*. *Strength* is coded as 2 (1, 0) if the ratio is above three (between two and three, below two). We then use three indicators to classify firms with CEO protection into groups of different levels of protection strength. *CEO_Protection with Strength=0* equals one for firms with a low protection strength (*Strength* is 0), and zero otherwise. *CEO_Protection with Strength=1 (CEO_Protection with Strength=2*) equals one for firms with *Strength* equal to 1 (2), and zero otherwise. Because *Strength* is not defined for firms without CEO contractual protection, we do not include it as a standalone variable in the equation. By definition, all the three indicators have a value of zero for loans by firms without CEO protection.

Borrower-specific control variables are defined for year t-1 as follows: *Size* is the natural logarithm of total assets in millions, *Market-to-Book* is the sum of market value of equity and book value of debt scaled by total assets, *Leverage* is sum of debt in current liabilities and long-term debt scaled by total assets, *Return on Assets* is earnings before interest, taxes, depreciation and amortization (EBITDA) scaled by total assets, *Tangibility* is net property, plant and equipment (PP&E) scaled by total assets, *Cash Flow Volatility* is the standard deviation of quarterly cash flows from operations over the four fiscal years prior to the loan initiation year scaled by sum of debt in current liabilities and long-term debt, and *Z-score* is the modified Altman's z-score. CEO equity incentives are defined for year t as follows: *CEO Equity Compensation* is the ratio of the CEOs' stock and option grants to their total compensation, *CEO Equity Ownership* is CEOs' stock and option holdings in shares scaled by the firm's outstanding shares, *CEO Portfolio Sensitivity* is the change in the value of the CEOs' option portfolio resulting from a 1% increase in the firm's annualized standard deviation of stock returns, and *Founder CEO* is an indicator for founder CEOs. Loan-specific control variables are defined for the specific loans as follows: *Loan_Maturity* is the natural logarithm of the loan maturity in months, and *Loan_Amount* is the natural logarithm of the loan facility amount in millions. Economy-wide control variables are defined for year t as follows: ΔGDP is the percent change in GDP in the quarter of loan initiation relative the same quarter of prior year, and *Anti-takeover Regulation* is the indicator for firms with headquarters located in the states with business combination laws. We include the inverse Mills ratio from the *CEO_Protection* determinant model to control for the endogeneity of CEO protection. See Appendix B for the *CEO_Protection* determinant model. We exclude the loans issued by firms that have CEO protection but do not provide enough details for the calculation of *Strength*. The sample includes 5,265 loans issued by S&P 1500 firms over the period of 1995-2008. The standard errors for p-values (two-sided) are adjusted for firm-level clustering. The marginal effect of an explanatory variable is calculated as the change in the predicted number of covenants in Column (1) or the change in the predicated likelihood of including performance-pricing provisions in Column (2), when the variable changes for one standard deviation (or changes from 0 to 1 in the case of an indicator variable), with other explanatory variables taking the value of the sample means.

TABLE 7 (Cont'd)

Loan term of interest =	(1) *Performance Covenants*			(2) *Performance_Pricing*		
	Coef.	P-value	Marginal effects	Coef.	P-value	Marginal effects
CEO_Protection with Strength=0	**0.089**	**0.405**	**0.069**	**0.304**	**0.188**	**0.073**
CEO_Protection with Strength=1	**0.169**	**0.062**	**0.131**	**0.592**	**0.002**	**0.141**
CEO_Protection with Strength=2	**0.213**	**0.014**	**0.160**	**0.664**	**0.000**	**0.161**
Size	-0.343	0.000	-0.375	-0.417	0.000	-0.148
Market-to-Book	-0.094	0.005	-0.066	-0.203	0.004	-0.047
Leverage	0.738	0.000	0.086	-0.060	0.880	-0.003
Return on Assets	0.287	0.549	0.016	1.383	0.169	0.025
Tangibility	-0.523	0.002	-0.080	-0.152	0.685	-0.009
Cash Flow Volatility	0.005	0.119	0.020	-0.006	0.414	-0.008
Z-score	-0.012	0.704	-0.011	0.056	0.466	0.014
CEO Equity Compensation	-0.093	0.207	-0.020	0.147	0.343	0.010
CEO Equity Ownership	-0.031	0.951	-0.001	1.179	0.354	0.012
CEO Portfolio Sensitivity	0.009	0.629	0.012	0.008	0.847	0.003
Founder CEO	0.201	0.002	0.161	0.341	0.040	0.082
Loan Maturity	0.086	0.046	0.049	0.180	0.077	0.035
Loan Amount	0.160	0.000	0.146	0.443	0.000	0.134
ΔGDP	-1.095	0.629	-0.012	-2.862	0.605	-0.011
Anti-takeover Regulation	0.084	0.257	0.059	-0.186	0.303	-0.046
Inverse Mills Ratio	-0.079	0.143	-0.034	-0.261	0.031	-0.038
Loan type, purpose fixed effects	YES			YES		
Year, industry fixed effects	YES			YES		
N	5,265			5,265		
Pseudo R^2	0.166			0.160		
Chi-square Test: β_1=β_2	**Chi-square = 1.04**			**Chi-square = 2.47**		
	P-value = 0.308			**P-value = 0.116**		
Chi-square Test: β_1=β_3	**Chi-square = 2.74**			**Chi-square = 4.43**		
	P-value = 0.098			**P-value = 0.035**		

TABLE 8
CEO contractual protection and loan contracts – Loan covenant strictness, loan spread and loan syndicate structure

This table reports the results from the following OLS regression:

$$\begin{aligned} Dependent\_Var_{i,j,t} = {} & \alpha + \beta CEO\_Protection_{i,t} + \gamma_1 Borrower\text{-}specific\_Control_{i,t} + \\ & \gamma_2 CEO\_Equity\_Incentives_{i,t} + \gamma_3 Loan\text{-}specific\_Control_{j,t} + \\ & \gamma_4 Economy\text{-}wide\_Control_t + Loan\_Type\_Indicators + Loan\_Purpose\_Indicators + \\ & Year\_Indicators + Industry\_Indicators + \varepsilon_{i,j,t} \end{aligned}$$

Subscripts *i*, *j*, and *t* refer to firm *i*, loan *j*, and year *t*, respectively. *CEO_Protection* =1 for firms with CEO contractual protection, and zero otherwise. *Dependent_Var* is one of the loan contract variables: (1) the aggregate probability of covenant violation (*Prob_Violation*) as measured in Demerjian and Owens (2016) for the performance covenants of a loan in Panel A, with higher values suggesting greater strictness of debt monitoring; (2) the natural logarithm of loan spread (*Loan_Spread*) in Panel B; (3) the concentration of the syndicated loans (*Concentration*) in Column (2) of Panel C, as measured as the sum of the squared loan share of each individual syndicate member, respectively. For Column (1) of Panel C which examines the number of lenders (*Lenders*), we use the following Poisson regression:

$$\begin{aligned} Ln(\lambda)_{i,j,t} = {} & \alpha + \beta CEO\_Protection_{i,t} + \gamma_1 Borrower\text{-}specific\_Control_{i,t} + \gamma_2 CEO\_Equity\_Incentives_{i,t} \\ & + \gamma_3 Loan\text{-}specific\_Control_{j,t} + \gamma_4 Economy\text{-}wide\_Control_t + Loan\_Type\_Indicators \\ & + Loan\_Purpose\_Indicators + Year\_Indicators + Industry\_Indicators \end{aligned}$$

We model the number of lenders (*Lenders*) as being generated by the Poisson process of $P(Lenders = \mathrm{y}) = (e^{-\lambda}\lambda^{y})/y!$ for y=0, 1, 2,…, wherein λ is the conditional mean parameter such that the natural logarithm of it can be represented as a linear function of the explanatory variables.

Borrower-specific control variables are defined for year t-1 as follows: *Size* is the natural logarithm of total assets in millions, *Market-to-Book* is the sum of market value of equity and book value of debt scaled by total assets, *Leverage* is sum of debt in current liabilities and long-term debt scaled by total assets, *Return on Assets* is earnings before interest, taxes, depreciation and amortization (EBITDA) scaled by total assets, *Tangibility* is net property, plant and equipment (PP&E) scaled by total assets, *Cash Flow Volatility* is the standard deviation of quarterly cash flows from operations over the four fiscal years prior to the loan initiation year scaled by sum of debt in current liabilities and long-term debt, and *Z-score* is the modified Altman's z-score. CEO equity incentives are defined for year t as follows: *CEO Equity Compensation* is the ratio of the CEOs' stock and option grants to their total compensation, *CEO Equity Ownership* is CEOs' stock and option holdings in shares scaled by the firm's outstanding shares, *CEO Portfolio Sensitivity* is the change in the value of the CEOs' option portfolio resulting from a 1% increase in the firm's annualized standard deviation of stock returns, and *Founder CEO* is an indicator for founder CEOs. Loan-specific control variables are defined for the specific loans as follows: *Loan_Maturity* is the natural logarithm of the loan maturity in months, and *Loan_Amount* is the natural logarithm of the loan facility amount in millions. Economy-wide control variables are defined for year t as follows: ΔGDP is the percent change in GDP in the quarter of loan initiation relative the same quarter of prior year, and *Anti-takeover Regulation* is the indicator for firms with headquarters located in the states with business combination laws. We add four more loan-specific variables to the regression model of *Loan_Spread* in Panel B: the number of financial covenants (*Number of Covenants*), an indicator for performance pricing provisions (*Performance_Pricing*), an indicator for secured loans (*Secured_Loan*), and an indicator for loans with missing information on loan security (*Secured_Missing*). We include the inverse Mills ratio from the *CEO_Protection* determinant model to control for the endogeneity of CEO protection. See Appendix B for the *CEO_Protection* determinant model. The final sample consists of 3,131 loans issued by S&P 1500 firms over the period of 1995-2008 for the test of *Prob_Violation*, 5,386 loans for the test of *Loan_Spread*, 5,383 loans for the test of *Lenders*, and 2,092 loans for the test of *Concentration*. The standard errors for p-values (two-sided) are adjusted for firm-level clustering.

TABLE 8 (Cont'd)

Panel A: Analysis of the strictness of loan covenants

Loan term of interest =	*Prob_Violation*	
	Coef.	P-value
CEO_Protection	**0.084**	**0.005**
Size	-0.019	0.141
Market-to-Book	0.004	0.763
Leverage	0.663	0.000
Return on Assets	-1.598	0.000
Tangibility	-0.271	0.001
Cash Flow Volatility	0.001	0.406
Z-score	0.009	0.607
CEO Equity Compensation	0.021	0.513
CEO Equity Ownership	0.009	0.971
CEO Portfolio Sensitivity	-0.024	0.003
Founder CEO	-0.002	0.948
Loan Maturity	0.000	0.987
Loan Amount	-0.020	0.036
ΔGDP	-1.877	0.053
Anti-takeover Regulation	0.026	0.379
Inverse Mills Ratio	-0.063	0.003
Loan type, purpose fixed effects	YES	
Year, industry fixed effects	YES	
N	3,131	
Adj. R^2	0.353	

TABLE 8 (Cont'd)

Panel B: Analysis of loan spread

Loan term of interest =	*Loan_Spread*	
	Coef.	P-value
CEO_Protection	**0.119**	**0.006**
Size	-0.113	0.000
Market-to-Book	-0.105	0.000
Leverage	0.705	0.000
Return on Assets	-0.987	0.000
Tangibility	-0.132	0.150
Cash Flow Volatility	0.003	0.192
Z-score	-0.081	0.000
CEO Equity Compensation	0.071	0.055
CEO Equity Ownership	0.889	0.001
CEO Portfolio Sensitivity	-0.027	0.008
Founder CEO	0.062	0.102
Loan Maturity	-0.043	0.099
Loan Amount	-0.117	0.000
ΔGDP	-3.990	0.002
Anti-takeover Regulation	0.110	0.008
Number of Covenants	0.068	0.000
Performance_Pricing	-0.075	0.002
Secured_Loan	0.509	0.000
Secured_Missing	0.048	0.046
Inverse Mills Ratio	-0.047	0.108
Loan type, purpose fixed effects	YES	
Year, industry fixed effects	YES	
N	5,386	
Adj. R^2	0.715	

TABLE 8 (Cont'd)

Panel C: Analysis of loan syndicate structure

Loan term of interest =	(1) *Lenders*		(2) *Concentration*	
	Coef.	P-value	Coef.	P-value
CEO_Protection	**0.154**	**0.001**	**-0.056**	**0.036**
Size	0.052	0.005	0.028	0.013
Market-to-Book	-0.042	0.021	0.022	0.020
Leverage	0.415	0.000	-0.184	0.002
Return on Assets	0.764	0.022	-0.058	0.734
Tangibility	-0.219	0.033	-0.028	0.676
Cash Flow Volatility	-0.002	0.285	0.000	0.823
Z-score	-0.018	0.437	-0.047	0.000
CEO Equity Compensation	-0.041	0.352	0.010	0.707
CEO Equity Ownership	0.405	0.281	0.481	0.009
CEO Portfolio Sensitivity	0.022	0.034	-0.007	0.189
Founder CEO	0.050	0.436	-0.001	0.979
Loan Maturity	0.215	0.000	-0.109	0.000
Loan Amount	0.335	0.000	-0.151	0.000
ΔGDP	-2.974	0.109	-0.252	0.805
Anti-takeover Regulation	0.067	0.087	-0.002	0.930
Inverse Mills Ratio	-0.027	0.321	0.013	0.475
Loan type, purpose fixed effects	YES		YES	
Year, industry fixed effects	YES		YES	
N	5,383		2,092	
Pseudo R^2 / Adj. R^2	0.274		0.439	