Executive Stock Ownership Guidelines and the Agency Cost of Debt

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Abstract

We examine how the adoption of executive stock ownership guidelinesaffects the agency cost of debt. We find that guideline adoption is associated with lower loan spreads, fewer collateral requirements, and fewer other restrictive covenants. The results are robust to using firm fixed effects, instrumental variables, and difference-in-differences estimation approaches. We also find that guideline adoption has a negative effect on bond yield spreads and that after the adoption, firms' risk-taking incentives are lower and the quality of their financial reporting is higher. Thus, guideline adoption has a real impact on managerial incentives to reduce the agency cost of debt.

Keywords: Stock ownership guideline, CEO, Agency cost of debt, Bank loan, Covenants, Endogeneity.

JEL Classification: G21, G32, M12.

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Does increasing the equity-based compensationofmanagers increase managerial ownership in firms? Ofek and Yermack (2000) find that managers tend to sell shares in response to new share and option-based pay, particularly shares acquired through option exercises. To limit this unwinding of equity-based compensation, and therebyensure that managers' equity stakeis sufficient to align theirinterestswith those of shareholders, many large U.S. firmsvoluntarily adopt executive stock ownership (ESO) guidelinesrequiring thatmanagersobtain apre-determined (minimum) equityownership target within a specified period oftime.[1]For example, according to a 2010 survey by Equilar (2010), in 2009 80.6% of Fortune 250 firms had ESO guidelines in place, with a median target CEO share ownership of $6 million.[2] In line withthe importance of ownership guidelines inreducingthe manager-shareholderagency conflict,[3] Core and Larcker (2002) find that firms observesignificant increases in managerial ownership and stock performanceafter the adoption of ownership guidelines.Benson et al. (2011) similarly find that after implementing ownership guidelines, firms observe a significant increase in operating performance and the sensitivity of CEO wealth to stock price.

While prior studies show thatESO guidelines help align the interests of managersand shareholders and thus improve firm performance, they have less to say about whetherthese guidelines affect managerial risk-taking incentives and thus the shareholder-debtholder agency conflict. Jensen and Meckling (1976) argue that managers who act in the interests of shareholders have strong incentives to take actions that benefit shareholders at the expense of debtholders. However,if ownership guidelines increase managerial ownership above the optimal level and force managers to hold large, undiversified ownership stakes in their firm,

[1]ESO guidelines usually apply to the CEO and other named executives who have the strongest impact on firm performance. Under a typical ESOpolicy, the executives are required to obtain a specified number of shares within a given timeframe, generally ranging from three to five years. Ownership targets are generally set as a multiple of base salary.For most firms, stock options do not count toward the ownership target.
[2]See http://www.executive-compensation.com/ceo_blog/?cat=6.
[3]For expositional purposes, we use the termsESO guidelines and ownership guidelines interchangeably.

they may induce managers to reduce firm risk by undertaking safe projects,thereby benefitting debtholders (Stulz (1984), Smith and Stulz (1985)).In this study, we shed light on this question by examining how the adoption of ESO guidelines affects bank loan spreads and covenant requirements, as well aspost-adoption changes in firms' risk-taking behavior and financial reporting policy.

There are two competing views on how the adoption of ownership guidelines affects the shareholder-debtholder conflict. The conflict of interest view suggests that whilethe adoption of ownership guidelines reduces the agency cost of equity by aligning the interests of managers andshareholders,[4] it can increase the agency cost of debt by providing managers with strong incentives to take risky, high expected return projects,thereby benefitting shareholders at the expense of debtholders (Jensen and Meckling (1976), John and John (1993), Begley and Feltham (1999)). According to this view, debtholders, anticipating such incentives, demand higher interest rates, require more collateral, or employother covenants that restrict borrowers from taking risky investments.[5]Consistent withthis argument, Bagnani et al. (1994), Begley and Feltham (1999), Molina (2006), and Vasvari (2008) document a positive relation between managerial ownershipand borrowing costs.

In contrast to the conflict of interest view, the interest alignment view suggests that the adoption of ownership guidelines benefits debtholders by reducing asset substitution problems and the degree of information asymmetry between shareholders/managers and

[4] Many firms in our sample indicate in their proxy statements that the motivation for adopting ESO guidelines is to ensure that their managers have appropriate equity incentives to increase shareholder value. See, for example, 3M's proxy statement in 2009 (https://materials.proxyvote.com /Approved/88579Y/20090313/NPS_36407/PDF/3m Proxy2009_0043.pdf). Morck, Shleifer, and Vishny (1988) and McConnell and Servaes (1990) find a positive relation between managerial ownership and firm value, suggesting that managers' interests become more closely aligned with those of shareholders as managerial ownership increases, although the relation is not monotonic.

[5]Nini, Smith, and Sufi (2009) argue that the conflict of interest between borrowers and creditors has a significant impact on a firm's future investment, and show that 32% of their sample private credit agreements use an explicit restriction on capital expenditures to alleviate such conflict. They also find that creditors are more likely to impose capital expenditure restrictions in debt contracts as the riskiness of debt increases. Berger and Udell (1990), John, Lynch, and Puri (2003), and Jimenez, Salas, and Saurina (2006) suggest that collateral requirementsare often associated with riskier borrowers.

debtholders. First, if risk-averse managers have to increase their personal wealth in the firm, and hence their non-diversifiable risk associated with the firm, to alevel above the optimal value due to ownership guidelines, they willhave strong incentives to reduceinvestment risk, mitigating debtholders' asset substitution concerns.[6] Consistent with this argument, Stulz (1984) and Smith and Stulz (1985) argue that when risk-averse managers receive large stock ownership in the firm, they pursue risk-reducing strategies that can be beneficial to debtholders. Lambert, Larcker, and Verrecchia (1991) and Ross (2004) similarlyargue that risk-averse, underdiversified managers have a strong incentive to adopt risk-reducing policies if their compensation has high pay-performance sensitivity. In line with these arguments, Anderson, Mansi, and Reeb (2003) show that family control is associated with lower bank loan spreadsbecause large, undiversified ownership by founding families reduces the agency conflicts between shareholders and debtholders. Billett, Mauer, and Zhang (2010) document a positive bond price reaction to an increase in CEO pay-for-performance sensitivity, and Shaw (2012) shows that yield spreads on new debt issues are lower for firms with higher CEO pay-for-performance sensitivity.

Second, Burns and Kedia (2006) and Johnson, Ryan, and Tian (2009)find that firms whose managers have greater short-term incentives due to significant vested options and stocks are more likely to engage in earnings management, and Gopalan et al. (2014) document that executive pay duration is negatively related to earnings-increasing accruals. These misreporting behaviors associated with short-termism can increase the degree of information asymmetry between the firm and debtholders, and thus the firm's interest rates, collateral requirements,orother covenantsthat restrictborrowers from taking risky

[6] Anecdotal evidence supports this view. According to the survey by Equilar (2010), about 59% of the U.S. firms surveyed believe that ownership guidelines help mitigate managers' excessive risk-taking(http://www.equilar.com/company/press-release/press-release-2010/long-term-performance-compensation-is-most-popular-risk-management-strategy.html).

investments.[7]By requiringthat executives hold a certain amount of the firm's shares until leaving the firm, ownership guidelinesreduce these problems.

Using hand-collected data on ESOguidelines obtained from firms' proxy statements, we find that the adoption of ownership guidelines is associated with a statistically and economically significant reduction inthe cost of bank loans: adopting ownership guidelines is associated with a decrease in loan spread equal toabout 4.5% of the average loan spread of sample firms (i.e., 156.24 basis points). We also find that afterthe adoption of ownership guidelines, the likelihood of banks using collateral requirementsto secure their loans decreases by approximately 5.6 percentage points.Similarly, we find that the adoption of ownership guidelines is associated with a 0.318lower covenant strictness index.[8]Given that the unconditional probability of a collateral requirement being included in the loan agreement and the average covenant strictness index for our sample firms areabout 57.7% and 3.75, respectively, these numbers appear to be economically large and significant.We further find that amongfirms that violate the covenants in their loan contracts, those firms thatinitiate ownership guidelinesexperience less of an increase in the cost of bank debt than those that do not. Taken together, the results are consistent with the interest alignment view, and suggest that aminimum ownership policy for executives better aligns the interests of shareholders and debtholders and thus is valued by debtholders.

To address potential endogeneity problems, we perform four sets of tests. First, to control for the possibility that omitted governance characteristics affect firms' implementation of ownership guidelines as well as theterms of their bank loans, resulting in a spurious correlation between the two, we include various governance variables such as CEO tenure,

[7]Graham, Li, and Qiu (2008) show that information risk is a key factor shaping debt contracts and Graham, Li, and Qiu (2008), Prevost, Skousen, and Rao (2008), and Shen and Huang (2013) find that earnings management increases the cost of debt financing.

[8] In this paper we use the sum of the following five covenant indicators to construct the loan covenant strictness index: dividend restriction, the existence of more than two financial covenants, asset sales sweep, equity issuance sweep, and debt issuance sweep.

institutional block ownership, the Gompers, Ishii, and Metrick (2003)governance index (G-index), board size, and the fraction of outside directors on the board in the regressions. We find that our results are robust to including these governance measures.

Second, to mitigate the concern that our results are driven by omitted observable variables, we use a propensity score matching approach.We again find that our results do not change.

Third, to control for the possibility that omitted unobservablefirm characteristics affect a firm's implementation of ownership guidelines as well as itsloan terms, we include firm fixed effects in the regressions. We also estimate the regressions using a difference-in-differencesapproach, which allows us to examine the change in bank loan termsfor treatment firms around the adoption of ownership guidelines compared withthat for non-adoption control firms. Adoption firms are matched to a group of non-adoption firms using propensity score matching to mitigate the self-selection bias associated with the decision to adopt ownership guidelines. Our conclusions remain unchanged.

Fourth, we explicitly address potential endogeneity problems using two-stage least squares (2SLS). We use the indicatorfor CEOs' outside job opportunitiesand that for local firms' CEO compensation policies as instrumental variables for the adoption of ownership guidelines: an indicator that takes the value of one if the non-compete agreement enforcement score forthe state in which the firm is headquartered is below the sample median and zero otherwise, and an indicator that takes the value of one if the average ESO guideline adoption rate forthe state in which a firm's headquarters is located is above the sample median and zero otherwise. We find that our main results do not change.

In addition, wetest whether banks do indeed benefit from the adoption of ESO guidelines by borrowersbyexaminingthe valuation effect of ESO guideline adoption announcements for creditors and post-adoption changes in firms' risk-taking behavior and financial reporting. We find that the adoption of ESO guidelines has significant positive and negative impacts on

stock prices and bond yield spreads, respectively. We also find that after the adoption of ownership guidelines, firms are more likely to pursue risk-reducing activities such as initiating interest rate hedgingandengaging in diversifying mergers and acquisitions(M&A). Moreover, the quality of adopting firms' financial reporting is improvedas measured by the absolute value of discretionary accrualsand accruals quality. In addition, we find that adopting firms experience lowerfuture cash-flow volatility and improved long-term S&P credit ratings. These findings suggest that ESO guidelines alleviate creditors' concerns aboutmanagerial incentives to invest in risky projects and manage earnings, and thus reduce the agency cost of debt.

To understand the circumstances under which the impact of ownership guidelines on loan rates andcovenant strictness is more pronounced, we perform subsamples analyses. While the question of which of the two competing views dominates is an empirical question, we first expect the hypothesized effects of ownership guidelines under both views to be more pronounced when top executives have smaller equity ownershipprior to the adoption of the ownership guidelines. The rationale is that if top executives already have high equity ownership prior to the adoption of ESO guidelines, they may not need to increase their stock holdings to meet the minimum ownership requirements,or they may be able to sell significant part of their equity holdings without much constraint, in which case the ESO policy is less binding.[9] For example, in 2006 GUESS adopted ownership guidelines that required CEO Paul Marciano to achieve a target stock ownership with market value equal to five times his annual base salary ($1 million in 2006). However, this target stock value represented only

[9] Bebchuk and Fried (2010) argue thattarget ownership is often set at a low level, raising questions about the effectiveness of ownership guidelines.

0.52% of Marciano's total holdings of GUESS stock,[10] suggesting that the company's ownership guidelinesdid not considerably change managerial risk-taking incentives.

We also expect that the hypothesized effects of ownership guidelines are less (more) pronounced when the capital gain tax rate in the state in which firms are headquartered is higher (lower). The effective long-term marginal capital gain tax rate varies across states. For example, California has the highest marginal long-term capital gain tax rate of 33.0%in 2013, and Texas and Florida have the lowest marginal long-term capital gain tax rate of 23.8% in the same year. Landsman and Shackelford (1995) and Jin and Kothari (2008) argue that a high capital gain tax rate discourages managers from selling firm equity due to its lock-in effect. This argument suggests that executiveswhose firms are located in the states with a higher capital gain tax rate would have weaker incentives to sell their stocksbecause such a tax rate imposes a significant limitation on the unwinding of equity incentives of executives. Thus, we expect the hypothesized effects of ESO guidelines to be less pronouncedin this case.

Finally, we expect the hypothesized effects to be more pronounced whena minimumnumber of targetshares required byESO guidelines is calculated on the basis of a multiple of executives' salary than when it is set at a fixed number of shares. While the minimumownership target is fixed under the latter type of guidelines, itvaries under the former type of guidelines since, for example, the decline in stock pricesand no change in executive salary force executives to hold more shares in order to meet the minimum requirement specified in ESO guidelines. Thus,compared with the latter type of ESO guidelines, the former type of guidelines is expected to have a stronger impact in mitigating debtholders'asset substitution concerns.

[10] GUESS' proxy statement can be found at http://www.sec.gov/Archives/edgar/data/912463/000104746908006714 /a2185695zdef14a.htm. We calculate the market value of the CEO's stock holdings based on the stock price at the 2006 fiscal year-end.

Consistent with these predictions, we find thatthe impact is more evident when CEOshold smaller equity ownership, when the capital gain tax ratesin the states in which firmsareheadquartered are lower, or when firms adopt ESO guidelines under which executives' target stock ownership is definedon the basis of a multiple of their salary.

Our study contributes to the literature in two ways. First, unlike previous studies that examine how the adoption of ESOguidelinesaffects the manager-shareholder conflict by focusing on changes in managerial ownership and stock performance (Core and Larcker (2002), Cao, Gu, and Yang (2010), Benson et al. (2011)), our study investigates how ownership guidelines affect creditors' perception of the shareholder-debtholder conflict. By examininghow guidelineadoptionmitigatescreditors' concerns about asset substitution problems and information risk, we show that it increases firm value through a reduction in the agency cost of debt. Second, by examining how creditors perceive firms' implementation of ownership guidelines, our paper adds to the literature on the determinants of bank loan contract terms (Graham, Li, and Qiu (2008), Chava, Livdan, and Purnanandam (2009), Lin et al. (2011), Lin et al. (2013)). We show that the existence of binding ownership guidelines is an important factor when banks determine the terms of loan contracts.

The rest of the paper is organized as follows. In Section I, we describe the data and sample characteristics. Section II investigates the impact of ESOguidelines on the cost of bank loans and covenant restrictions using ordinary least squares (OLS), difference-in-differences estimation, and 2SLS regressions. In Section III, we study the impact of ownership guidelines on capital expenditure restrictions. In Section IV, we examine how banks adjust loan terms after covenant violationsfor borrowers that initiateownership guidelines versus those that donot. In Section V, we test the valuation effects of ownership guidelines on shareholders and debtholders. In Section VI, we investigate post-adoption

changes in firms' risk-taking behavior and financial reporting policy. Section VII discusses robustness tests. Section VIIIsummarizes and concludes the paper.

I. Data and Summary Statistics

A.Sample

Our initial sample comprisesall firms covered in the S&P ExecuComp database for the 1996 to 2010 fiscal period.[11]We restrict our sample to those firms whose stock returns and financial data are available in CRSP and Compustat, respectively, andwe exclude firms in the financial industries (primary SIC 6000-6999) and utility industries (primary SIC 4900-4999) from the sample.

We obtain information on each firm's usage of ESO guidelines by extensively searching the firm's proxy statements filed electronically on Form DEF14A in the SEC's Electronic Data Gathering and Retrieval (EDGAR) database. Specifically, we use the following keywords to locate information on a firm's adoption of ownership guidelines in their Form DEF14A filings: *"ownership guideline," "ownership target," "ownership requirement," "ownership goal," "ownership program," "ownership policy,"* and *"ownership plan."* When we find at least one of these keywords, we carefully read thesurrounding text. If the proxy statement makes no reference to the adoption of ownership guidelines, we treat the firm as a non-adoption firmin that year. We identify ESO guideline information for 2,249 firms corresponding to 20,522 firm-year observations.

We nextmerge this list of firms from theS&P ExecuComp database with the list of firms covered in Loan Pricing Corporation's (LPC's) DealScan databasefor calendar years1996 to

[11]We restrict our sample firms to those in the S&P ExecuComp database because our tests of the two competing viewsrequire that we control for CEO stock and option holdings.

2011.[12]We use the DealScan database to obtain various loan characteristics such as the spread, covenants, size, maturity, type, and purpose. We obtain corporate governance characteristics from RiskMetrics. Our final sample consists of 1,615 firms (9,481 firm-loan observations), of which 803 firms (3,427 firm-loan observations) have ESO guidelines.

To examine whether ESO guidelines affect capital investment restrictions, we also employ a smaller sample of firms with information on investment restrictions in loan contracts. Specifically, we merge our final sample of 1,615 firms with firms used in Nini, Smith, and Sufi (2009).[13]To be included in our sample, we require thata firm have at least one loan agreement covered in the database used by Nini, Smith, and Sufi (2009), resulting in 778 firms with information on investment restrictions in loan contracts (1,489firm-loan observations), of which 201 firms (353 firm-loan observations) have ESO guidelines.

Finally, to investigate whether the adoption of ownership guidelines impacts the change in bank loan terms after a covenant violation, we also merge our final sample of firms with the data used by Nini, Smith, and Sufi (2011),[14] whichcontain information on covenant violations. Following Nini, Smith, and Sufi (2011), we focus on firms' new covenant violations,[15]and only keep firm-loan observations three years before and three years after the new covenant violation. We further require that firms that violate covenants do not adopt ownership guidelines before their covenant violation. These procedures result in a final sample of 373firms (1,459firm-loan observations), of which 43firms (80firm-loan observations) adopt ownership guidelines after a covenant violation.

[12] We thank Michael Roberts for sharing the DealScan-Compustat link file on his website (http://finance. wharton. upenn.edu/~mrrobert/). Since all firm characteristics are measured as of the fiscal year-end immediately before the loan active date, we use the 1996 to 2011 calendar period in the DealScan database to match with the S&P ExecuComp database.

[13] We thank Amir Sufi for making data on firms with investment restrictions in their loan contracts available on his website (http://faculty.chicagobooth.edu/ amir.sufi/data.html).

[14] Information on firms' covenant violations is obtained from Amir Sufi's website (http://faculty.chicagobooth. edu/ amir.sufi/data.html).

[15]Since we use the annual information on ESO guideline adoption, we define the new covenant violations to befinancial covenant violations for firms that have not violated a covenant in the previous three years.

B. Summary Statistics

Panel A (B) of Table I reports the distribution of adopting and non-adopting firms in our sample bycalendaryear (industry). We find that about36.1% of the sample firms haveownership guidelines during our sample period. We also find that the fraction of firms with ownership guidelines increases over time, from 9.85% in 1996 to 79.88% in 2011.[16] It is highest in the agriculture, forestry, and fishing industries (56.25%), followed by manufacturing (39.99%), mining and construction (36.05%), transportation (32.04%), wholesale and retail trade (30.94%), and services industries (29.04%).

Table II presents firms and bank loan characteristics for our sample. Several observations are worth noting. First, compared to non-adoption firms, adoption firms are larger andmore profitable.They also hold more cash, but they have lower book leverage, market-to-book, tangibility, and cash flow volatility. Second, consistent with previous studies (Core and Larcker (2002), Benson et al. (2011)), CEOs in adoption firms have significantly lower stock ownership and option holdings. Third, adoption firms borrow more from banks and enjoy lower loan spreads (as measured by the difference between the interest rate and LIBOR). While the mean loan spread for adoption firms is145.86 basis points, the corresponding number for non-adoption firmsis159.43 basis points. Finally, bank loans of adoption firms have a lower frequency of dividend restrictions (mean frequency of 67.6% compared with 79.3%), a lower frequency of more than two financial covenants (mean frequency of 42.3% compared with 55.0%), and a lower frequency of collateral (mean frequency of 46.7% compared with 63.5%). However, the frequency of other covenants and the covenant

[16] We do not find any sample firms that abandon ownership guidelines after initiating such a policy.

strictness index are higher in adoption firms than in non-adoption firms.[17]Detailed definitions of these variables are provided in the Appendix.

II. Impact of Ownership Guidelines on Bank Loan Terms

A. Impact of Ownership Guidelines on Loan Spreads

To investigate how the adoption of ESO guidelines by borrowers affects creditors' perception ofborrowers' agency conflicts, we estimate anOLS regression in which the dependent variable is the natural logarithm of the loan spread over LIBOR (all-in-drawn loan spread)charged by the bank.

Following Graham, Li, and Qiu (2008), Lin et al. (2011), and Lin et al. (2013), we control for several firm- and loan-specific characteristics that could affect the cost of bank loans.In particular, we control for firm size, book leverage, profitability, market-to-book, tangibility, cash-flow volatility, credit rating, credit spread, term spread, and loan amount, maturity, type, and purpose. We also include as control variables CEO stock ownership, CEO option holdings, and total CEO compensation (Bagnani et al. (1994), Molina (2006), Shuto and Kitagawa (2011)). Further, because corporate governance affects the agency cost of debt (Shleifer and Vishny (1997), Chava, Livdan, and Purnanandam (2009), Li, Tuna, and Vasvari (2013)),which raises the concern that the adoption of ownership guidelines simply reflects the quality of a firm's internal governance, we control for various governance measures such as CEO tenure, institutional block ownership, G-index, board size, and the proportion of outside directors on the board.[18] Finally, we include year and firm fixed effects to control for time

[17]These results may be due largely to a time trend in the proportion of firms having an ownership guideline policy in place, which is much lower in early periodthan in recent years. Supporting this conjecture, we find that adoption firms have a lower covenant strictness index than non-adoption firms after controlling for only year fixed effects in the regressions.

[18] Chava, Livdan, and Purnanandam (2009) show that antitakeover provisions reduce creditors' concerns about borrowers' takeover vulnerability and thus mitigate potential conflicts between shareholders and debtholders. Li,

trends and omitted unobservable firm characteristics. We estimate *p*-values using robust standard errors to adjust for heteroskedasticity (White (1980)) and cluster standard errors at theloan package level.

The results are reported in Table III. Our key explanatory variable of interest is an indicator for guideline adoption that takes the value of one if the firm adopts ESO guidelines and zero otherwise (*Guideline adoption indicator*). Since there are no firms that abandon their ownership guidelines after initiating such a policy, thisindicator always takes the value of one after initiation of the policy. In column (1), we find that the coefficient on *Guideline adoption indicator* is negativeandstatistically significant at the 5% level, suggesting that after the adoptionof ownership guidelines, firms are charged lower interest rates by banks. Further, the coefficient of -0.045 indicatesthat after adopting ownership guidelines, firms'loan spreadsare almost 4.5% lower than the average loan spreadin oursample, and thusthe effect of guideline adoption onthe shareholder-debtholder agency conflict is also economically significant.

In column (2), we include two indicatorsforS&P long-term credit ratings, *Credit rating above BBB* and *Credit rating between BB and B*, to control for the possibility that banks infer borrowers'credit risk from the rating agency. Consistent with previous literature, we find that the coefficient on *Credit rating above BBB* is negativeand highly significant at the 1% level, suggesting that banks charge lowerinterest rates on firms whose bonds are rated as investment-grade bonds than on those whose bonds are rated below B. More importantly, we find that controlling for aborrower's credit ratingdoes not changeour results: the coefficient on *Guideline adoptionindicator*remains negative and significant at the 5% level.

Tuna, and Vasvari (2013) find that bond contracts have fewer restrictions when the borrowing firm's board is larger or is more independent.

In columns (3) and (4), we control for several governance variables including G-index, board size, and the proportion of outside directors on the board. We find that the coefficient on*Guideline adoption indicator*becomes more significant while those on the governance variables are not significant.

Overall, theresults in Table IIIare consistent with the interest alignment view, which holds that ownership guidelines mitigate creditors' concerns about the shareholder-debtholder agency conflict and thus lead to a reduction in the interest rates charged on loans.

B. Impact of Ownership Guidelines on Collateral Requirements

Berger and Udell (1990), John, Lynch, and Puri (2003), and Jimenez, Salas, and Saurina (2006) show that collateral requirementsare associated with riskier borrowers and riskier loans. Reflecting the importance of collateral in mitigating risk, Bradley and Roberts (2004) include collateral requirements in their loan covenant strictness index.To further distinguish between the conflict of interest view and the interest alignment view, in this subsection we examine how the adoption of ownership guidelines affects the likelihood of collateral requirements being included in loan contract terms.[19]We use a linear probit model in which the dependent variable is an indicator that takes the value of one if the bank loan is secured by collateral and zero otherwise.[20] We use the same control variables as in Table III.

The results are reported in Table IV. In column (1), the coefficient on *Guideline adoption indicator*is negative and significant at the 1% level. Thus, firms that adoptownership guidelines are less likely to be required to pledge collateral. The coefficient of -0.056suggests

[19]Bradley and Roberts (2004) measure their covenant strictness index as the sum of the following six covenant indicators: collateral, dividend restriction, the existence of more than two financial covenants, asset sales sweep, equity issuance sweep, and debt issuance sweep.However, unlike information on collateral requirements, information on the other five types of covenants is missing in almost 80% of our sample. Thus, to preserve observations we examine collateral requirements separately from these types of covenants in the regression analyses.

[20]Loan contracts with missing security information are excluded from the analysis.

that the probability of having to pledgecollateralis5.6 percentagepoints lower after adopting ownership guidelines. Given that the unconditional probability of collateral requirements in our sample loan agreementsis57.7%, this reduction is economically as well as statistically significant.

As in Table III, incolumn (2) we control for the two indicators forS&P long-term credit ratings and in columns (3) and (4),we control for several governance measures. Our results do not change: the coefficient on *Guideline adoption indicator*is negative and highly significant in all three regressions. These results provide additional support for the interest alignment view.

C. Impact of Ownership Guidelines on Covenant Strictness

The results so far suggest that ESO guidelinesreduce the price of bank loans and relax the use of collateral requirements in loan contracts. In this subsection we examine the effects of ownership guidelines on other covenant terms. Following Bradley and Roberts (2004), we usea loan covenant strictness indexto capture loan contracts' covenantintensity, but as discussed in the previous subsection, we use the sum of only the following five covenant indicators in constructing ourloan covenant strictness index: dividend restriction, the existence of more than two financial covenants, asset sales sweep, equity issuance sweep, and debt issuance sweep.Using this index, we estimate an OLS regression in which the dependent variable is the covenant strictness index and the key independent variable of interest is*Guideline adoption indicator*;control variables are the same as those used in Tables III and IV.Loan contracts with missing information on one of these five covenantsare excluded from the analysis, resulting in a largereduction in sample size from 9,481 to 2,105 firm-loan observations.

The results are presented in Table V. In column (1), we find that the coefficient on *Guideline adoption indicator*is negative and significant at the 5% level,suggesting that after firms adopt ownership guidelines, bankstend to impose fewer covenant restrictions in their loan contracts. Since the average covenant strictness index is approximately3.75 in our sample, the coefficient of -0.318 suggests that banks' willingness to relax covenant requirementsaftertheir borrowers adopt ownership guidelines is economically as well as statistically significant. The results do not change when we control for S&P long-term credit ratings and additional governance measures (columns (2) to (4)), further supporting the interest alignment view.

D. Controlling forPotential Endogeneity Bias

Thus far, we have not explicitly controlled for potential endogeneity problems other than 1) measuring firm characteristics as of the fiscal year-end before the loan active date,2) including an extensive set of variables (e.g., corporate governance measures and loan type and purpose fixed effects), and 3) controlling for firm fixed effects in the regressions. To further alleviate potential reverse causality and unobservable omitted variable bias, in this subsection we usea difference-in-differences approachand an instrumental variables approach.

D.1. Difference-in-Differences Approach

To alleviate the concern that unobservable firm characteristics simultaneously affect firms' propensity to adopt ESOguidelines and cost of bank debt, we use a difference-in-differences approach similar to that used in Chan, Chen, and Chen (2013) andAcharya and Xu (2015).Specifically,for the non-regulated firms covered in the S&P ExecuComp database over the 1996 to 2010fiscal period, wefirst estimate the probability of a firm adopting ownership guidelines (i.e., a propensity score) for eachfirm-year observationbyrunninga logit

model in which the dependent variable is *Guideline adoption indicator*and the explanatory variables include firm size, CEO stock ownership, ROA, book leverage, market-to-book, cash-flow volatility, and industry fixed effects.We require that adoption firms have at least one loan contract issued during both the pre- and post-adoption periods.Then, for every adoption firmin the adoption year,we choose anon-adoption control firm that has at least one loan contract issued during both the pre- and post-adoption periods with the closest propensity score (one to one matching with replacement).[21]This procedure yields a sample of 2,720adoption and control firm-loan observationsfor the 1996 to 2011calendar period.

Next, we regress loan spreads (non-pricing terms) on atreatment group indicator,whichtakes the value of one for an adoption firm and zero for a control firm, apost-adoption indicator,whichtakes the value of one for an adoption firm in apost-adoption year and zero otherwise, and the other control variables used in previous tables. The post-adoption indicator captures the change in loan spreads (non-pricing terms) for treatment firms around the adoption of ownership guidelines, compared with non-adoption control firms(the difference-in-differences).

The regression results are reported in Table VI. The dependent variable in columns (1) and (4) is the natural logarithm of the loan spread over LIBORcharged by the bank, the dependent variable in columns (2) and (5) is an indicator that takes the value of one if the bank loan is secured and zero otherwise, and the dependent variable in columns (3) and (6) is the covenant strictness index. In columns (1) to (3) we control for industry fixed effects, and in columns (4) to (6) we control for firm fixed effects.

We find that the coefficients on the post-adoption indicator are all negative and significant at the 5% level or better, suggesting that creditorscharge lower interest ratesand/or are less likely to imposecovenant restrictionsin the loan contractsafter borrowers initiate

[21]Financial and ownership characteristics of adoption firms includingfirm size, CEO stock ownership, ROA, book leverage, market-to-book, and cash-flow volatility in the adoption years are not significantly different from those of non-adoption firms, suggesting that our matching is performed properly.

ownership guidelinescompared tothe loan contracts of non-adoption control firms. The results in Table VI thus reveal significant changes in the pricing and non-pricing terms of loans around the adoptionof ownership guidelines in ways that are consistent with the predictions of the interest alignment view.

D.2.Instrumental Variables Approach

As an alternative way to account for reverse causality and unobserved firm characteristics that could affect both the adoption of ownership guidelines and the cost of bank debt, we estimate a 2SLS regressionin which we use two indicators that capture CEOs' outside job opportunities and local peers' CEO compensation policies, respectively,as instrumental variables.Better outside job opportunities increase CEOs'bargaining power and thuscan lead to higher CEO compensation (Murphy and Zábojník (2004), Gabaix and Landier (2008), Giannetti (2011)). Since the economic costs of liquidity restrictions on CEOs'stock holdings can be large(Kahl, Liu, and Longstaff (2003)), CEOswith better outside job opportunities are expected to be less willing to accept ownership guidelinesthat imposesignificantliquidityconstraints.Thus firms are less likely to adopt ESO guidelines when their CEOs have better outside job opportunities.

Deng and Gao (2011), Ang, Nagel, and Yang (2012), and Bouwman (2013)show that firms' geographic location is an important determinant of their executive compensation. In arecent study, Huang and Meschke (2014)also find a significant local peer effect for a firm's CEO compensation structure. Therefore, firms located in the area in which their peers have a high adoption rate of ESO guidelines are more likely to initiate the ESO policy.

As our measure of CEOs' outside job opportunities, we use the exogenous,state-level variation in the enforcement of non-compete agreements.[22] Specifically, we use anindicator that takes the value of one if the non-compete agreement enforcement score for the state in whichthe firm is headquartered is below the sample median and zero otherwise.[23]Under non-compete agreements,an employee isrestricted from working fordirect rivalsofthe employer, makingnon-compete agreementsone of the most important mechanisms binding key employees to a firm.Supporting this view, Garmaise (2009) finds that strong non-compete enforcement promotes executivestability. Thus, if afirm's headquartersis in astate with low enforcement of non-compete agreements, the CEO would have better outside opportunitiesin the same industry, decreasing the likelihood that the firm wouldadoptownership guidelines.Since there is no reason to believethat the enforcement of non-compete agreementsatthe state level directly affects a firm's cost of bank debt, we expect theindicator for low enforcement of non-compete agreementsto satisfyboth the relevance and the exclusion conditions of instrumental variables.

As ameasure of local peers' CEO compensation policies, we use an indicator that takes the value of one if the average adoption rate of ESO guidelinesin the state in which a firm is headquartered is higher than the sample median and zero otherwise.Since construction of this indicator is based on state-level ESO adoption rates, it is unlikely that it has a significant direct effect on a firm's cost of bank debt.

Table VII reports results from the 2SLS regressions. In column (1), we present results from the first-stage regression. Consistent with our prediction, both theindicator for low enforcement of non-compete agreements and the indicator for a high ESO adoption ratein the state in which a firm is headquartered are significantly related to the firm's propensity to

[22] Garmaise (2009) shows that around 70.2% of S&P 1500 firms havenon-compete agreements between the firm and its topexecutives. However, enforcement of these agreements varies across states (Malsberger (2004)).
[23] We collect state-level enforcement scoreson non-compete agreements from the appendix of Garmaise (2009).

adopt ownership guidelines, confirming the relevance of our instrumental variables (*p-value* for the joint significance test (*F statistic*) of the two instruments =0.000).

Columns (2) to (4) reportresultsfrom the second-stage regressions. The dependent variable in column (2) is the natural logarithm of the loan spread over LIBORcharged by the bank,the dependent variable in column (3) is an indicator that takes the value of one if the bank loan is secured and zero otherwise,and the dependent variable in column (4) is the covenant strictness index. We find that the coefficient on instrumented *Guideline adoption indicator*issignificantly negative in columns (2) and (3).[24] However, it is negative but insignificant in column (4), possibly due to a largereduction in sample size from 9,338 to 2,077. Thus, in general these results are in line withthose in above, mitigating concerns that our main results are driven by or reverse causality or omitted unobservable firm characteristics.

III.Impact of Ownership Guidelines on Capital Expenditure Restrictions

Nini, Smith, and Sufi (2009) argue that conflicts of interest between borrowers andcreditors have a significant impact on a firm's future investment, and show that to alleviate such conflicts 32% of their sample private credit agreements use an explicit restriction on capital expenditures.[25] The authorsfurtherargue that capital expenditure restrictionsareparticularly important in managing borrowers' credit risk, because the elasticity of capital expenditure restrictions with respect to borrower credit risk is often larger than the elasticity of other loan contract terms.In this section we merge the list of firms in the S&P ExecuComp and DealScan databases with the dataused in Nini, Smith, and Sufi (2009),which

[24] The *p*-value for the overidentification test (*Hansen J statistic*) of the two instruments is 0.453, suggesting that the overidentification restrictions are valid.

[25]A capital expenditure restriction typicallystates that the firm's future capital expendituresshall not exceed a certain maximum amount.

contain unique information on investment restrictions in loan covenantsfrom 1996 to 2005,and examine how the adoption of ownership guidelines affects the likelihood ofcapital expenditure restrictions.

We estimate a probit regression in which the dependent variable is an indicator that takes the value of one if the bank loan contains a capital expenditure restriction and zero otherwise. The key independent variable of interest is again *Guideline adoption indicator*. Thecontrol variables are the same as those used in Tables III, IV, and V.

The results are reported in Table VIII. In column (1), we find that the coefficient on *Guideline adoption indicator*is significantly negative at the 5% level. This result suggests that firms with ESO guidelines are less likely to have a capital expenditure restriction in their credit agreements. The coefficient estimate of -0.072 suggests that the probability of having a capital expenditure restriction in the credit agreement is 7.2%lower for firms with ownership guidelines than for firms without such guidelines. Given that the unconditional probability of having a capital expenditure restriction is 22.2%for our sample credit agreements, this effect appearsto be economically significant.The results do not change when we control for S&P long-term credit ratings and various governance measures in the regressions (columns (2) to (4)). Overall, the evidence in Table VIII furthersupports the interest alignment view.

IV. Changes in Bank Loan Terms after a Covenant Violation

Previous literature suggests that a covenant violationcan lead to a transfer of controlrights from the borrower to the creditor, who can waive the violationand renegotiate credit agreements with the borrower, imposing stronger contractual restrictions on the borrower(Chen and Wei (1993), DeFond andJiambalvo (1994), Chava and Roberts (2008), Roberts and Sufi (2009), Nini, Smith, and Sufi (2011)). Nini, Smith, and Sufi (2011), for

example,showthat following a covenant violation,creditors reduce the size of the loan, increase the interest spread, and requireadditional collateral. Covenant violations thus represent aninterestingsetting to examine how creditors' perception of borrowers differs between borrowers that adopt ownership guidelinesafter a violation and those that do not. The interest alignment view predicts that after covenant violations, banks will charge lower interest rates or imposefewer restrictionsonfirms that initiate ownership guidelines than on firmsthat do not.The conflict of interest view predicts the opposite.

To test how the pricing and non-pricing termsofloan agreements differ between borrowers that adopt ownership guidelines after a covenant violation and those that do not, we start with firms in Nini, Smith, and Sufi (2011) that experience a covenant violationover the 1996 to 2008period and merge them with firms in the S&P ExecuComp and DealScan databases. Following Nini, Smith, and Sufi (2011), we focus on new covenant violations,keeping firm-loan observations three years before and three years after anew covenant violation. We also require that our sample of covenant-violation firms do not adopt ownership guidelines before covenant violations.

Table IX reports the results. The key independent variable of interest is*Post-violation indicator,*which takes the value of one forobservations in a firm'spost-violation period and zero otherwise. We further employ*Post-violation adoption indicator*that takes the value of one for a firm that adopts ownership guidelines in the post-violation period and zero otherwise,and *Post-violation non-adoption indicator* that takes the value of one for a firm that does not adopt ownership guidelines in the post-violation period and zero otherwise. Thecontrol variables are the same as those used in Tables III, IV, and V.

In columns (1), (3), and (5), we find that the coefficients on *Post-violation indicator*are positive and significant. These results are consistent with previous literature and suggest that following covenant violations, creditors charge higher interest rates and put more restrictions

in the loan agreements.In column (2), (4), and (6), we find that the coefficients on *Post-violation non-adoption indicator*are all significantly positive, but those on *Post-violation adoption indicator*areall insignificantly negative.Thus, creditors do not significantly change pricing and non-pricing terms of loan contracts after covenantviolation forborrowers that adoptownership guidelinesin the post-violation period, in line withthe interest alignment view. In contrast, borrowers that do not adopt ownership guidelinesin the post-violation periodobserve significant increases in loan spreads and restrictive covenants after covenantviolation.

V. Stock and Bond Performance aroundGuideline Adoption

To assess the valuation effect of ESOguideline adoption announcements for shareholders, we manually collect information on the year and month in which the adoption of ownership guidelines is mentioned inForm DEF14A. We identify adoption announcement years for 853 firms and adoption announcement months for 234 firmsfor the 1996 to 2010fiscal period. To assess the effect of ownership guideline adoption announcements on creditors, we merge our sample of 853 (234) firms with adoption announcement years (months)available with the BofA Merrill Lynch US Corporate and High Yield Master Bond Index Database. Of the 853 (234) firms, 166 (44) are covered in Bond Index Database. The number of bond-firm observations is559 (148).

Panels A and B of Table X report firms' stock performance around adoption announcement years and months, respectively.We first find that the average raw stock return in the event year (month) is 25.2% (2%), significant at the 1% (1%) level. When we estimate abnormal stock performance using the market model, wherewe estimate the market model using the past three years (36 months) of monthly return data,and the CRSP value-weighted

index as the market portfolio, we find that the average abnormal return in the event year (month)is 8.4% (1.5%), significant at the 1% (5%) level. Similarly, when we estimate theaverage abnormal return using the Fama-French 3-factor model, we find that the average abnormal returnin the event year (month) is 8.2% (1.6%), significant at the 5% (5%)level.Thus, adoption of ownership guidelines significantly benefits shareholders. These resultsare consistent with Core and Larcker (2002) andBenson et al. (2011),who documentbetter stock performance after the adoption of ownership guidelines.

Panels C and D of Table X report firms' bond performance around adoption announcement years and months, respectively. Consistent with the interest alignment view, we find that in the adoption year (month), the average change in bond yield spread is -0.134% (-0.108%), significant at the 10% (1%) level.[26]When we calculate the abnormal change in bond yield spreadsas the difference between the raw change in its yield spread and the average change in yield spread on other corporate bonds with the same credit rating during the sample period,we find that the average abnormal change in yield spread during the adoption year(month) is -0.076% (-0.088%), significant at the 10% (1%) level.These results suggest that the adoption of ownership guidelines also benefitscreditors, possibly due totheir moderating effect on managerial risk-taking incentives and hence on the shareholder-debtholder conflict.

VI. Post-Adoption Changes in Firms' Risk-Taking Behavior and Financial Reporting

The important implication of the interest alignment view is that the adoption of ESOguidelines reduces the extent of the shareholder-debtholder conflictby changing firms'

[26]We use as the bond yield spread the option-adjusted yield spread reported in the BofA Merrill Lynch US Corporate and High Yield Master Bond Index Database. The option-adjusted yield spread measures the amount a risk-free spot curve must be raised or lowered so that the resulting discounted cash flows equal the market price of the bond. Since this measure simultaneously considers credit risk and contingent cash flow risk, bonds with different cash flow characteristics can be compared on a more equal basis.

risk-taking behavior and financial reporting in a way that reduces firm risk. The interest alignment view thus predicts that compared with non-adoption firms, adoption firms pursue less risk andmake accounting choices thatimprove the quality of financial reporting. To shed further light on this question, in this section we examine whether adoption firms are more likely to engage in hedging and diversifying M&A activities than non-adoption firms,[27] and whether their financial reporting is associated with lower discretionary accruals and higher accruals quality.[28]We also examine whether adoption firms have lower future cash-flow volatility and higher crediting ratings than non-adoption firms. Because creditors have significant concerns about borrower risk and financial reporting quality, we expect that if ownership guidelines benefit creditors, firms employ more risk-reducing and stronger financial reporting quality policies after the adoption of ownership guidelines. Moreover, to the extent that these policies reduce firm risk, we expect firms to experience lower future cash-flow volatility and higher S&P long-term credit ratings after the adoption of ownership guidelines.

To test the above conjectures, we use a sample of 17,336 firm-year observations covered in the Compustat, CRSP, and ExecuComp databases over the1996 to 2009 fiscal period.Since construction of future-cash flow volatility requires accounting data through *t*+3, we end our sample period in 2009.[29]Firms in the financial and utility industries are excluded.

[27] Campello et al. (2011) show that compared with non-hedging firms, hedging firms pay lower loan spreads and are less likely to have capital expenditure restrictions in their loan agreements. Lewellen (1971) argues that merging two firms whose earnings stream is less-than-perfectly correlated reduces the merged firms' risk of default. Similarly, Amihud and Lev (1981) argue that a conglomerate merger generally leads to reduced risk for the combined entity. Acharya, Amihud, and Litov (2011) also consider a diversifying merger as risk-reducing and find that stronger creditor rights induce greater propensity to engage in diversifying acquisitions. Hann, Ogneva, and Ozbas (2013) observe that diversified firms have, on average, a lower cost of debt than standalone firms because the coinsurance across a diversified firm's business segments can reduce systematic risk.

[28] Graham, Li, and Qiu (2008), Prevost, Skousen, and Rao (2008), Qi, Subramanyam, and Zhang (2010), and Shen and Huang (2013) document that earnings management in the form of, for example, earnings restatements, high discretional accruals, and low accruals quality increase the cost of debt financing.

[29]Since we use future five-year rolling windows to calculate accruals quality, the sample period ends in 2007 for the regressions using accruals quality.

We obtain information on a firm's use of interest rate derivatives to hedge interest rate riskby extensively searching its annual report on Form 10-K filed electronically in the EDGAR database.[30] If the firm's annual report on Form 10-K makes no reference to the use of interest rate derivatives, we treat the firm as a non-hedging firmin that year.[31] We obtain information on a firm's M&A activities from Thomson Financial SDC Platinum Mergers and Acquisitions Database. We require that sample M&A transactions be larger than $1 million and that the acquirers obtain 100% ownership of the targets after the transactions.

Following Jones (1991), we estimate non-discretionary accruals as the fitted value from a regression of total accruals on lagged firm size, the change in firm sales, and gross property, plant, and equipment scaled by total assets for sample firms in the same 2-digit SIC industry group. We remove the non-discretionarycomponents from total accrualsto estimate discretionary accruals (Jones (1991), Dechow, Sloan, and Sweeney (1995)).We calculate absolute discretionary accruals as the absolute value of the estimated discretionary accruals (Bergstresser and Philippon (2006)).[32] Following Francis et al. (2005), we measure accruals quality as the standard deviation of the residual from regressions of current accruals on past, current, and future cash flows from operations, calculated over a five-year rolling window.

The results are presented in Table XI. The dependent variable in column (1) is an indicator that takes the value of one if the firm uses derivatives to hedge interest rate risk and zero otherwise. The dependent variable in column (2) is an indicator that takes the value of one if the firm engages in diversifying M&A activities (the acquirer and the target operate in different industries as measured at the2-digit SIC level) and zero otherwise. The dependent

[30]Survey evidence from Graham and Harvey (2001) shows that CFOs perceive market risk (beta) and interest rate risk as the two most important types of risk in adjusting discount rates or cash flows.

[31] We use the following keywords to identify the firm's use of interest rate derivatives in Form 10-K: "derivative," "hedge," "swap," "market risk," "forward contract," "option contract," and "risk management." When we find at least one of these keywords, we read the surrounding text to determine the firm's use of interest rate derivatives.

[32]According to Bergstresser and Philippon (2006), earnings management involves the transfer of earnings from one period to another. Absolute accruals measures capture the total amount of the earnings transfer without being sensitive to the precise timing of when earnings are increased or decreased.

variables in columns (3) and (4) are, respectively, the absolute value of discretionary accruals and accruals quality. The dependent variables in columns (5) and (6) are the firm's future cash-flow volatility and the S&P long-term credit rating (1 for AAA and 23 for D), respectively. We estimate these regressions using OLS with firm fixed effects.

In columns (1) and (2), we find that the coefficients on *Guideline adoption indicator*aresignificantly positiveat the 5% level, suggesting thatfirms are more likely to hedge interest rate risk and engagein diversifying M&As after the adoption of ownership guidelines.In columns (3) and (4), the coefficients on *Guideline adoption indicator*are significantly negative, suggesting that after the adoption of ownership guidelines, firms manage their earnings less aggressively and improve accruals quality.Finally, in columns (5) and (6), we find that *Guideline adoption indicator*is significantly negatively related to future cash-flow volatility andS&P long-term credit ratings. Thus, after the adoption of ownership guidelines, firmsexperiencelower cash-flow volatility and their perceived financial distress risk is reduced, possibly due to changes in firms' risk-taking behavior and financial reporting policiesafter the adoption of the guidelines.

Overall, the results in this section suggest that after the adoption of ownership guidelines,managers who are concerned about the undiversifiable risk associated with their personal wealth tied to their firmare more likely to reduce firm risk and increase financial reporting quality, which benefits creditors bymitigatingthe shareholder-debtholder conflict.Thus, adoption of ownership guidelinesbenefits both shareholders and debtholders by reducing managerial misreporting and excessive risk-taking incentives.[33]

[33]Risk reduction arising from the adoption of ownership guidelines can impose costs on shareholders,but can also benefit them. Since equity can be viewed as a call option on a firm's assets, its value is likely to be reduced if managers take too little risk due tothe ownership guidelines, thus imposing costs on shareholders. On the other hand, the adoption of ownership guidelines can benefit shareholders, particularly long-term shareholders, by alleviating the manager-shareholder conflict as a result of an increase in managerial ownership. Previous studiesfind a significant increase in stock performance after the adoption of ownership guidelines (Core and Larcker (2002), Benson et al. (2011)) and our study also shows that adoption of ownership guidelines is

In untabulated tests, we also examine the change in operating performance after the adoption of ownership guidelines. We find that post-adoption operating performance increases significantly, further supporting the interest alignment view.

VII. Robustness Tests

To check the robustness of our key results, we conduct several additional tests. Below, we briefly summarize the results of these tests.

A.Subsample Analyses

Too understand the circumstances under which the impact of ownership guidelines on loan rates andcovenant strictness is more pronounced, we perform subsamples analyses. The effects of ownership guidelines on loan rates and covenant restrictions are expected to be more pronounced when ownershipguidelines are likely to be more binding, that is, when CEO equity ownership is relatively low. For example, CEOswith high ownership prior to the adoption of ESO guidelines may not need to increase their stock holdings to satisfy the minimum requirement imposed by the ownership guidelines or may be able to sell significant part of their holdings without much constraint. Thus, it is possible that ownership guidelinescan have asmaller impact on the cost of bank debt and on non-pricing covenant terms when theCEO stock ownership is relatively high.

We also expect the effects of ownership guidelines on loan rates and covenant restrictionsto be less pronounced when the capital gain tax rate in the state in which firms are headquartered is higher. Due to the lock-in effect of capital gains taxes, a higher capital gain

associated with an increase in stock prices, suggesting that the potential cost of implementing ownership guidelinesto shareholders is lower than the potential benefit arising from a reduction in the manager-shareholder conflict.

tax rate imposes a significant limitation on the unwinding of equity incentives of executives. Thus, executives whose firms are located in the state with a higher capital gain tax rate would have weakerincentives to sell their stocks than other executives. This argument suggeststhat the adoption of ESO guidelineshave asmaller impact on the cost of bank debt and on non-pricing covenant terms whena firm's state capital gain tax rate is higher.

To test these conjectures, we decompose the full sample into observations with above- and below-median CEO stock ownershipandabove- and below-median state capital gain tax rate, respectively, and reestimate regression (1) of Tables III, IV, and V separately for these subgroups.[34] The results are reported in Panels A and B of Table XII. In both panels, the dependent variable in columns (1) and (2) is the natural logarithm of the loan spread over LIBORcharged by banks. The dependent variable in columns (3) and (4) is an indicator that takes the value of one if the bank loan is secured and zero otherwise. The dependent variable in columns (5) and (6) is the covenant strictness index.

Consistent with our prediction that the effects of ownership guidelines on the cost of bank debt and on non-pricing covenant terms areweaker when the CEO has high stock ownership, we observe that the negative and significant relation between *Guideline adoption indicator*and the price of bank loanconcentrates in the low CEO stock ownership group (columns (1) and (2)of panel A). The coefficients on *Guideline adoption indicator*indicate that for the low (high) CEO stock ownership group, adoption of ownership guidelines is associated with a 8.2%decrease (3.4% increase) in firms' loan spreads. The difference in these coefficient estimates is significant at the 5% level.

In addition, we find that the impact of ownership guidelines on the cost of bank debt issignificantly smaller for the subgroup of firms located in the state in which the capital gain

[34]Forthe high CEO stock ownership group, the average and median CEO stock ownership are $182.9 million and $26.3 million, respectively, while for the low CEO stock ownership group,the corresponding numbers are only $20.1 million and $8.1 million. We use the stock price at the end of fiscal year to calculate the value of CEO stock holdings.

tax rate is higher than for the subgroup of firms located in the state in which the capital gain tax rate is lower (columns (1) and (2) of Panel B). The coefficients on *Guideline adoption indicator*indicate that for firms with a low (high) state capital gain tax rate, adoption of ownership guidelines is associated with a 8.7%decrease (2.2% increase) in firms' loan spreads. The difference in these coefficient estimates is significant at the 5% level.

We obtain similar results with respect to collateral requirement and the covenantstrictness index, albeit the difference in the effects of ownership guidelines on the covenant strictness index between subgroups of low and highstate capital gain tax rates is not economically large. Specifically, for the low (high) CEO stock ownership group, adoption of ownership guidelines is associated with a 10.5% (2.6%) decrease in the likelihood of collateral requirementsbeing in the loan agreement and a 0.4 (0.13) decrease in the covenant strictness index.Similarly, for thesubgroup of firms with a low (high) state capital gain tax rate, adoption of ownership guidelines is associated with a 6.6% (3.5%) decrease in the likelihood of collateral requirementsbeing in the loan agreement. However, the impact of ownership guidelines on the covenant strictness indexissimilar in magnitude in these two subgroups: adoption of ownership guidelines is associated with statistically indistinguishable 0.44and 0.40 decreases in the covenant strictness index, respectively, for them.

We further expect our main results to be more pronounced when a minimumnumber of targetshares required byESO guidelines is calculated on the basis of a multiple of executives' salary than when it is set at a fixed number of shares. There arethree different types of ESO guidelines adopted by our sample firms: multiple of base salary(76%), fixed number of shares(8.5%), and others(15.5%). Under the guideline based on a multiple of base salary, an executive's target stock ownership is calculated as a multiple of her base salary, while under the guideline based on a fixed number of shares, her target stock ownership is set at a fixed number of shares. Thus, the former type of ESO guidelinesis expected to have a stronger

impact in mitigating debtholders'asset substitution concerns thanthe latter types of ESO guidelinesbecause target stock ownership required under the former type varies depending on themarket price of a firm's stock. For example, under the former type, if the market price of the stock drops, the executives whose base salary does not changehaveto hold more shares to meet the minimum ownership requirement.To test this conjecture, we divide our sample ESO guidelines into the abovethree different types and reestimate the regressions in Table III. Consistent with our prediction, untabulated tests show that our previous results for the negative effect of ESO guidelines on the cost of bank loans are mainly driven by firms whose ESO guidelinesare based on the multiple of base salary.

B.Other Robustness Tests

First, since the ESO guidelines are applied not only to the CEO but also to other top executives such as CFO, COO, President, and Vice President, in untabulated tests, we replace CEO stock ownership and CEO option holdingswiththe stock ownership and option holdingsof the top 5 executivesand reestimate all regressions. We also examine whether our results are robust to controlling for the type of CEO compensation byreplacingthe natural log of CEO compensation with stock, option, and cash compensation ratios. We also control for a CEO's risk-taking incentivesby including pay-for-performance sensitivity (delta) and the sensitivity of CEO wealth to stock volatility (vega) (Guay (1999), Core and Guay (2002)). Our results remain qualitatively similar.

Second, in untabulated tests, we replace *Guideline adoption indicator* with the natural log of the market value of CEO target equity holdings.[35] We also replaceS&P long-term credit ratings with an alternative measure of firms' credit risk, namely, the KMV distance-to-default

[35] If the firm adopts ownership guidelines but the value of CEO target equity holdings is not available, we use the industry median CEO equity value instead. If the firm does not adopt ownership guidelines, we set the value of CEO target equity holdings to zero.

measure estimated using the Merton (1977) model (Crosbie and Bohn (2001)). The results are qualitatively unchanged.

Third, we examine whether our results hold for a broader sample of firms not covered by the S&P ExecuComp database bycollecting information on ownership guidelines for all firms used by Nini, Smith, and Sufi (2009) and using these firms in ouranalyses. The results remain the same (not reported).

Finally, to alleviate concerns that our results are driven by omitted *observable*variable bias, in untabulated tests, we employ propensity score matching in comparing adoption and non-adoption firms.We experiment with three different matching techniques: nearest neighborhood, Gaussian kernel, and local linear regressions. All matches are conducted without replacement.[36] Bootstrapped standard errors based on 50 replications are used to conduct statistical inferences. We find that firms adopting ownership guidelines still have a significantly lower cost of bank debt, a lower probability of having collateral requirements, and a lower probability of having other covenant restrictionsthan matched non-adoption firms.

VIII. Summary and Conclusion

In this paper we investigate how the adoption of ESO guidelines affects a firm's agency cost of debt and the strictness of loan covenants.Using hand-collected information on ESO guidelines over the 1996 to 2010 period, we find that the adoption of ownership guidelines leads to lower loan spreads and a lower likelihood of collateral requirements and other restrictivecovenants, suggesting that guideline adoption is favored by creditors.These results

[36]Weestimate the propensity score by using a logit model in which the dependent variable is *Adoption guideline indicator* and the explanatory variables are a set of firm characteristics and loan characteristicsincluding firm size, CEO stock ownership, ROA, book leverage, market to book ratio, cash-flow volatility, log (loan maturity), log (loan amount), loan type, loan purpose, and year and industry fixed effects.

are robust to controlling for potential endogeneity concerns usingfirm fixed effects, instrumental variables,and difference-in-differencesapproaches.

In additional analysis we find that the adoption of ESO guidelines is associated with a significant decrease in bond yield spreads. We also show that the adoption of ownership guidelines has a real impact on managerial incentivesto reduce the agency cost of debt: after the adoption of ownership guidelines, firms are more likely to reducerisk and increase financial reporting qualityby, for example,hedging interest rate risk,undertaking diversifyingmergers, engaging in less aggressive earnings management, and improving accruals quality. Moreover, we find that the adoption of ownership guidelines is associated with lowerfuture cash-flow volatility and higher crediting ratings.

We further find that these results are more pronounced when CEOs hold smaller equity ownership, when the capital gain tax ratesin the states in which firms are headquartered are lower, or when firms adopt ESO guidelines under which executives' target stock ownership is calculated on the basis of a multiple of their salary.

Overall, the paper's results are consistent with the interest alignment view, which holdsthat the adoption of ownership guidelines benefits debtholders by reducing top executives' excessive risk-taking incentives (asset substitution problem) and mitigatingproblems associated with managerial myopiaand information risk.

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Table I
Sample Distribution by Year and Industry

The sample consists of 9,481 firm-loan observations covered inLoan Pricing Corporation's DealScan, Compustat, and ExecuComp databases from 1996 to 2011. Firms in the financial (primary SIC 6000-6999) and utility (primary SIC 4900-4999) industries are excluded. We obtain information on each firm's executive stock ownership (ESO) guidelines by extensively searching its proxy statement on Form DEF14A filed electronically in the SEC's EDGAR database. If the firm's proxy statement on Form DEF14A makes no reference to the adoption of ESO guidelines, we treat the firm as a non-adoption firmin that year.

Panel A. Distribution of Adoption Firms and Non-Adoption Firms by Year

Year	Number of Firms	Number (Percentage) of Adoption Firms	Number (Percentage) of Non-Adoption Firms
1996	457	45 (9.85%)	412 (90.15%)
1997	509	63 (12.38%)	446 (87.62%)
1998	460	63 (13.70%)	397 (86.30%)
1999	497	65 (13.08%)	432 (86.92%)
2000	645	101 (15.66%)	544 (84.34%)
2001	775	167 (21.55%)	608 (78.45%)
2002	683	164 (24.01%)	519 (75.99%)
2003	704	191 (27.13%)	513 (72.87%)
2004	786	281 (35.75%)	505 (64.25%)
2005	817	363 (44.43%)	454 (55.57%)
2006	754	372 (49.34%)	382 (50.66%)
2007	758	439 (57.92%)	319 (42.08%)
2008	416	223 (53.61%)	193 (46.39%)
2009	282	171 (60.64%)	111 (39.36%)
2010	431	314 (72.85%)	117 (37.15%)
2011	507	405 (79.88%)	102 (20.12%)
Total	9,481	3,427 (36.14%)	6,054 (63.86%)

Panel B. Distribution of Adoption Firms and Non-Adoption Firms by Industry

Two-digit SIC industry	Number of Firms	Number (Percentage) of Adoption Firms	Number (Percentage) of Non-Adoption Firms
Agriculture, Forestry and Fishing (Two-digit SIC =01-09)	64	36 (56.25%)	28 (43.75%)
Mining and construction (Two-digit SIC =10-17)	710	256 (36.05%)	454 (63.95%)
Manufacturing (Two-digit SIC=20-39)	5,118	2,047 (39.99%)	3,071 (60.01%)
Transportation (Two-digit SIC =40-48)	593	190 (32.04%)	403 (67.96%)
Wholesale and retail trade (Two-digit SIC=50-59)	1,464	453 (30.94%)	1,011 (69.06%)
Services (Two-digit SIC=70-89)	1,532	445 (29.04%)	1087 (70.96%)
Total	9,481	3,427 (36.14%)	6,054 (63.86%)

TableII
Firm and Bank Loan Characteristics

The sample consists of 9,481 firm-loan observations covered inLoan Pricing Corporation's DealScan, Compustat, and ExecuComp databases from 1996 to 2011. Firms in the financial (primary SIC 6000-6999) and utility (primary SIC 4900-4999) industries are excluded. We obtain information on each firm's executive stock ownership (ESO) guidelines by extensively searching its proxy statement on Form DEF14A filed electronically in the SEC's EDGAR database. If the firm's proxy statement on Form DEF14A makes no reference to the adoption of ESO guidelines, we treat the firm as a non-adoption firm in that year. All firm characteristics are measured as of the fiscal year-end immediately before the loan active date. Appendix provides a detailed description of the construction of the variables. The Appendix provides a detailed description of the variables. The numbers in the test-of-difference columns are*p*-values.***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Adoption Firms (N=1,611): A		Non-Adoption Firms (N=4,668): B		Test-of-Difference (A-B)	
	Mean	Median	Mean	Median	t-test	Wilcoxon z-test
Firm Characteristics						
Firm size ($ millions)	15536.2	3901.3	4751.0	1403.8	0.000***	0.000***
Book leverage	0.264	0.252	0.274	0.262	0.007***	0.014**
Cash holdings	0.085	0.053	0.083	0.041	0.381	0.000***
Profitability	0.149	0.140	0.145	0.136	0.012**	0.03**
Market to book	1.785	1.540	1.901	1.561	0.001***	0.319
Tangibility	0.302	0.246	0.311	0.259	0.067*	0.024**
Cash-flow volatility	0.048	0.040	0.055	0.045	0.000***	0.000***
CEO Characteristics						
CEO total compensation ($ millions)	7.386	4.870	4.764	2.480	0.000***	0.000***
CEO stock ownership (%)	1.518	0.459	3.846	0.803	0.000***	0.000***
CEO option ownership (%)	0.966	0.660	1.361	0.965	0.000***	0.000***
CEO age	55.611	56	55.675	56	0.665	0.669
CEO tenure	5.392	4	7.032	4.5	0.000***	0.000***
Bank Loan Characteristics						
Loan amount ($ millions)	758.3	400	391.4	200	0.000***	0.000***
Loan maturity (years)	3.813	5	3.695	4	0.004***	0.000***
Loan spread (basis point)	145.863	112.5	159.433	125	0.000***	0.000***
Secured loan (indicator)	0.467	0	0.635	1	0.000***	0.000***
Dividend restriction (indicator)	0.676	1	0.793	1	0.000***	0.000***
More than two financial covenants (indicator)	0.423	0	0.550	1	0.000***	0.000***
Assetsalessweep(indicator)	0.914	1	0.785	1	0.000***	0.000***
Equity issuance sweep(indicator)	0.822	1	0.639	1	0.000***	0.000***
Debt issuance sweep(indicator)	0.875	1	0.692	1	0.000***	0.000***
Covenant strictness index	4.027	5	3.685	4	0.000***	0.003***

Table III
OLS Regressions of Loan Spreads on Firm Characteristics

The sample consists of 9,481 firm-loan observations covered inLoan Pricing Corporation's DealScan, Compustat, and ExecuComp databases from 1996 to 2011. Firms in the financial (primary SIC 6000-6999) and utility (primary SIC 4900-4999) industries are excluded. We obtain information on each firm's executive stock ownership (ESO) guidelines by extensively searching its proxy statement on Form DEF14A filed electronically in the SEC's EDGAR database.The dependent variable is the natural logarithm of the loan spread over LIBOR charged by the bank.All firm characteristics are measured as of the fiscal year-end immediately before the loan active date. The Appendix provides a detailed description of the variables. *P*-values are in parentheses. We estimate *p*-values using robust standard errors to adjust for heteroskedasticity (White (1980))and cluster the standard errors at the loan package level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
Guideline adoption(indicator)	-0.045**	-0.055**	-0.060***	-0.064***
	(0.0319)	(0.0242)	(0.0079)	(0.0059)
CEO and governance characteristics				
CEO stock ownership	0.255	0.029	0.200	0.158
	(0.1301)	(0.8936)	(0.3068)	(0.4416)
CEO option ownership	0.073	0.644	0.989	1.298
	(0.9253)	(0.5637)	(0.2862)	(0.1953)
Ln (CEO compensation)	-0.020***	-0.029***	-0.023***	-0.028***
	(0.0045)	(0.0010)	(0.0044)	(0.0008)
Ln (CEO age)	-0.127	-0.108	-0.125	-0.211**
	(0.1567)	(0.3624)	(0.2072)	(0.0431)
Ln (CEO tenure)	0.007	0.007	0.006	0.018
	(0.5233)	(0.6267)	(0.6496)	(0.1653)
Institutional block ownership	0.058	0.174**	0.164**	0.080
	(0.3768)	(0.0350)	(0.0290)	(0.3050)
Credit rating above BBB (indicator)		-0.281***		
		(0.0001)		
Credit rating between BB and B (indicator)		0.014		
		(0.8313)		
G-index			-0.008	
			(0.4150)	
Ln (board size)				-0.036
				(0.5409)
Independent board ratio				-0.063
				(0.3420)
Firm and bank loan characteristics				
Ln (total asset)	-0.136***	-0.087***	-0.113***	-0.148***
	(0.0000)	(0.0015)	(0.0000)	(0.0000)
Profitability	-1.240***	-1.006***	-0.992***	-0.965***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Book leverage	0.637***	0.487***	0.667***	0.708***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Market to book	-0.083***	-0.111***	-0.097***	-0.102***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Tangibility	0.225*	0.215	0.212	0.100
	(0.0562)	(0.1407)	(0.1202)	(0.4747)
Cash-flow volatility	0.917**	0.761	0.510	0.611
	(0.0201)	(0.1611)	(0.2603)	(0.2140)
Credit spread	0.170***	0.179***	0.180***	0.161***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Term spread	0.053***	0.048**	0.050***	0.056***
	(0.0010)	(0.0125)	(0.0038)	(0.0016)
Ln (Loan maturity)	-0.025	0.006	-0.004	0.005
	(0.1042)	(0.7683)	(0.8043)	(0.7641)
Ln (Loan amount)	-0.097***	-0.103***	-0.100***	-0.101***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Loan type and purpose fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Adjusted R^2	0.477	0.489	0.480	0.483
Number of observations	9,481	6,718	8,102	7,792

TableIV
OLS Regressions(Linear Probit Model) of Collateral Requirements on Firm Characteristics

The sample consists of 6,327 firm-loan observations covered inLoan Pricing Corporation's DealScan, Compustat, and ExecuComp databases from 1996 to 2011. Firms in the financial (primary SIC 6000-6999) and utility (primary SIC 4900-4999) industries are excluded. We obtain information on each firm's executive stock ownership (ESO) guidelines by extensively searching its proxy statement on Form DEF14A filed electronically in the SEC's EDGAR database.The dependent variable is an indicator that takes the value of one if the bank loan is secured and zero otherwise. All firm characteristics are measured as of the fiscal year-end immediately before the loan active date. The Appendix provides a detailed description of the variables. *P*-values are in parentheses. We estimate *p*-values using robust standard errors to adjust for heteroskedasticity (White (1980))and cluster the standard errors at the loan package level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
Guideline adoption(indicator)	-0.056***	-0.061***	-0.057***	-0.057**
	(0.0035)	(0.0044)	(0.0074)	(0.0105)
CEO and governance characteristics				
CEO stock ownership	-0.095	-0.141	0.123	0.027
	(0.4392)	(0.2904)	(0.3434)	(0.8616)
CEO option ownership	-0.989	-1.535**	-0.315	-0.806
	(0.1131)	(0.0311)	(0.6918)	(0.3633)
Ln (CEO compensation)	-0.007	-0.000	-0.011	-0.011
	(0.2281)	(0.9819)	(0.1061)	(0.1087)
Ln (CEO age)	0.047	0.041	0.019	0.006
	(0.5214)	(0.6497)	(0.8147)	(0.9457)
Ln (CEO tenure)	0.003	0.008	0.008	0.023**
	(0.7562)	(0.4618)	(0.4432)	(0.0300)
Institutional block ownership	0.043	0.141**	0.086	0.104
	(0.4145)	(0.0197)	(0.1732)	(0.1502)
Credit rating above BBB (indicator)		-0.334***		
		(0.0000)		
Credit rating between BB and B (indicator)		-0.020		
		(0.5770)		
G-index			0.016*	
			(0.0689)	
Ln (board size)				0.158***
				(0.0013)
Independent board ratio				-0.145**
				(0.0207)
Firm and bank loan characteristics				
Ln (total asset)	-0.067***	-0.026	-0.080***	-0.080***
	(0.0001)	(0.1984)	(0.0001)	(0.0005)
Profitability	-0.740***	-0.420***	-0.770***	-0.617***
	(0.0000)	(0.0031)	(0.0000)	(0.0000)
Book leverage	0.208***	0.121**	0.184***	0.218***
	(0.0000)	(0.0204)	(0.0017)	(0.0010)
Market to book	-0.027**	-0.008	-0.033**	-0.055***
	(0.0223)	(0.5893)	(0.0205)	(0.0003)
Tangibility	0.206**	0.140	0.310***	0.256**
	(0.0321)	(0.2308)	(0.0082)	(0.0401)
Cash-flow volatility	0.908***	1.207***	1.142***	0.950**
	(0.0054)	(0.0074)	(0.0042)	(0.0305)
Credit spread	0.007	0.011	0.003	0.023
	(0.7397)	(0.6574)	(0.8809)	(0.3745)
Term spread	-0.011	-0.026*	-0.024	-0.026*
	(0.3929)	(0.0847)	(0.1047)	(0.0865)
Ln (Loan maturity)	0.042***	0.065***	0.043***	0.040***
	(0.0002)	(0.0000)	(0.0012)	(0.0042)
Ln (Loan amount)	-0.048***	-0.058***	-0.046***	-0.043***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Loan type and purpose fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Adjusted R^2	0.151	0.241	0.155	0.150
Number of observations	6,327	4,266	5,282	5,007

Table V
OLS Regressionsofthe Covenant Strictness Index on Firm Characteristics

The sample consists of 2,105 firm-loan observations covered inLoan Pricing Corporation's DealScan, Compustat, and ExecuComp databases from 1996 to 2011. Firms in the financial (primary SIC 6000-6999) and utility (primary SIC 4900-4999) industries are excluded. We obtain information on each firm's executive stock ownership (ESO) guidelines by extensively searching its proxy statement on Form DEF14A filed electronically in the SEC's EDGAR database.The dependent variable is the covenant strictness index, which is constructed using the sum of the following five covenant indicators: dividend restriction, the existence of more than 2 financial covenants, asset sales sweep, equity issuance sweep, and debt issuance sweep. All firm characteristics are measured as of the fiscal year-end immediately before the loan active date. The Appendix provides a detailed description of the variables. ***P***-values are in parentheses. We estimate ***p***-values using robust standard errors to adjust for heteroskedasticity (White (1980)) and cluster the standard errors at the loan package level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
Guideline adoption(indicator)	-0.318**	-0.321**	-0.244**	-0.294**
	(0.0114)	(0.0236)	(0.0456)	(0.0299)
CEO and governance characteristics				
CEO stock ownership	-0.778	-0.931	-0.464	-0.990
	(0.1842)	(0.1305)	(0.4781)	(0.1951)
CEO option ownership	3.914	-0.690	3.081	6.316
	(0.2689)	(0.8745)	(0.5045)	(0.2606)
Ln (CEO compensation)	-0.084**	-0.109**	-0.054	-0.100**
	(0.0201)	(0.0269)	(0.2111)	(0.0453)
Ln (CEO age)	-0.543	-0.325	-0.284	-0.983**
	(0.1573)	(0.4959)	(0.5194)	(0.0475)
Ln (CEO tenure)	-0.057	-0.148**	-0.095	-0.047
	(0.2901)	(0.0470)	(0.1309)	(0.5327)
Institutional block ownership	0.498	0.619	0.191	0.161
	(0.1344)	(0.1294)	(0.6597)	(0.7584)
Credit rating above BBB (indicator)		-0.407		
		(0.2097)		
Credit rating between BB and B (indicator)		-0.121		
		(0.6404)		
G-index			0.103**	
			(0.0407)	
Ln (board size)				-0.189
				(0.5979)
Independent board ratio				-0.254
				(0.4832)
Firm and bank loan characteristics				
Ln (total asset)	-0.137	-0.006	-0.131	-0.112
	(0.1664)	(0.9644)	(0.2728)	(0.4252)
Profitability	-0.482	0.555	0.614	0.781
	(0.4861)	(0.5631)	(0.4196)	(0.3440)
Book leverage	-0.635**	-0.758**	-0.140	-0.456
	(0.0189)	(0.0353)	(0.6622)	(0.2486)
Market to book	-0.096	-0.078	-0.303***	-0.435***
	(0.1811)	(0.4410)	(0.0014)	(0.0000)
Tangibility	0.127	-0.614	0.339	-0.539
	(0.8127)	(0.3273)	(0.5566)	(0.3690)
Cash-flow volatility	-3.162	-5.358**	-4.347*	-2.897
	(0.1393)	(0.0354)	(0.0780)	(0.2974)
Credit spread	0.080	0.047	0.011	0.239
	(0.5815)	(0.8112)	(0.9508)	(0.1642)
Term spread	-0.083	-0.116	-0.138	-0.107
	(0.2935)	(0.2500)	(0.1375)	(0.3241)
Ln (Loan maturity)	0.095*	0.103	-0.010	0.039
	(0.0974)	(0.1430)	(0.8650)	(0.5185)
Ln (Loan amount)	-0.030	-0.037	-0.003	-0.012
	(0.1786)	(0.1536)	(0.9181)	(0.6246)
Loan type and purpose fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Adjusted R^2	0.401	0.350	0.406	0.428
Number of observations	2,105	1,481	1,660	1,567

Table VI
Difference-in-Differences Regressions

The sample consists of 2,720 firm-loan observations covered in Loan Pricing Corporation's DealScan, Compustat, and ExecuComp databases from 1996 to 2011. Firms in the financial (primary SIC 6000-6999) and utility (primary SIC 4900-4999) industries are excluded. We obtain information on each firm's executive stock ownership (ESO) guidelines by extensively searching its proxy statement on Form DEF14A filed electronically in the SEC's EDGAR database.Using a propensity score matchingapproach, for every guideline adoption firmwe identifya control firm with the closest propensity score. We require that adoption firms and control firms have at least one loan contract issued during both the pre- and post-adoption periods. The dependent variable in columns (1) and (4) is the natural logarithm of the loan spread over LIBORcharged by the bank. The dependent variable in columns (2) and (5)is an indicator that takes the value of one if the bank loan is secured and zero otherwise. The dependent variable in columns (3) and (6) is the covenant strictness index. All firm characteristics are measured as of the fiscal year-end immediately before the loan active date.The Appendix provides a detailed description of the variables. *P*-values are in parentheses. We estimate *p*-values using robust standard errors to adjust for heteroskedasticity (White (1980))and cluster the standard errors at the loan package level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Loan Spread	Collateral Requirement	Covenant Strictness	Loan Spread	Collateral Requirement	Covenant Strictness
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment (indicator)	-0.057	-0.058	0.373**			
	(0.1284)	(0.3044)	(0.0468)			
Post-adoption (indicator)	-0.118***	-0.135**	-0.708***	-0.127***	-0.072**	-0.647***
	(0.0028)	(0.0243)	(0.0017)	(0.0003)	(0.0291)	(0.0063)
CEO and governance characteristics						
CEO stock ownership	0.298	0.246	-0.341	0.340	0.084	-0.323
	(0.1671)	(0.4632)	(0.6425)	(0.2071)	(0.6153)	(0.6764)
CEO option ownership	4.252***	8.000***	4.682	-0.061	-0.952	8.140
	(0.0013)	(0.0002)	(0.5281)	(0.9698)	(0.4123)	(0.2462)
Ln (CEO compensation)	-0.020	-0.022	0.008	-0.020*	-0.001	0.026
	(0.1364)	(0.1877)	(0.9080)	(0.0729)	(0.9330)	(0.6113)
Ln (CEO age)	0.148	0.214	0.372	-0.212	-0.273**	-1.319*
	(0.1898)	(0.2043)	(0.5142)	(0.1802)	(0.0316)	(0.0565)
Ln (CEO tenure)	-0.032*	-0.042*	-0.070	0.023	0.024	0.046
	(0.0826)	(0.0875)	(0.4174)	(0.2443)	(0.1244)	(0.7049)
Institutional block ownership	0.423***	0.167	0.455	0.250**	0.087	1.786***
	(0.0002)	(0.3124)	(0.4238)	(0.0376)	(0.3192)	(0.0055)
Firm and bank loan characteristics						
Ln (total asset)	-0.108***	-0.057**	-0.128	-0.122***	-0.080***	-0.038
	(0.0000)	(0.0351)	(0.1886)	(0.0004)	(0.0079)	(0.8304)
Profitability	-1.727***	-1.336***	-0.885	-0.975***	-0.553***	-1.558
	(0.0000)	(0.0001)	(0.5101)	(0.0000)	(0.0056)	(0.2383)
Book leverage	0.960***	1.225***	1.000**	0.847***	0.431***	-0.080
	(0.0000)	(0.0000)	(0.0139)	(0.0000)	(0.0000)	(0.9100)
Market to book	-0.127***	-0.114***	-0.115	-0.122***	-0.016	-0.197
	(0.0000)	(0.0014)	(0.2753)	(0.0000)	(0.5167)	(0.2552)
Tangibility	0.001	0.144	-1.135**	-0.064	0.145	-2.017*
	(0.9908)	(0.3562)	(0.0207)	(0.7518)	(0.3621)	(0.0640)
Cash-flow volatility	2.549***	3.431***	0.879	1.354*	-0.130	5.552
	(0.0000)	(0.0000)	(0.7375)	(0.0685)	(0.8422)	(0.1077)
Credit spread	0.122*	0.291***	-0.094	0.127**	0.145***	0.529
	(0.0565)	(0.0011)	(0.7799)	(0.0170)	(0.0003)	(0.2128)
Term spread	0.055	-0.015	-0.408**	0.050*	-0.002	-0.551***
	(0.1140)	(0.7856)	(0.0327)	(0.0609)	(0.9230)	(0.0006)
Ln (Loan maturity)	0.007	0.093*	0.297**	-0.004	-0.012	-0.098
	(0.8564)	(0.0576)	(0.0296)	(0.8946)	(0.6161)	(0.3255)
Ln (Loan amount)	-0.100***	-0.119***	-0.030	-0.112***	-0.043***	0.021
	(0.0000)	(0.0000)	(0.6080)	(0.0000)	(0.0001)	(0.5844)
Loan type and purpose fixed effects	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	NO	NO	NO
Firm fixed effects	NO	NO	NO	YES	YES	YES
Adjusted R^2 /Pseudo R^2	0.710	0.495	0.714	0.493	0.227	0.485
Number of observations	2,720	1,650	505	2,720	1,739	505

Table VII
Instrument Variables Regressions

The sample consists of 9,338firm-loan observations covered in Loan Pricing Corporation's DealScan, Compustat, and ExecuComp databases from 1996 to 2011. Firms in the financial (primary SIC 6000-6999) and utility (primary SIC 4900-4999) industries are excluded. We obtain information on each firm's executive stock ownership (ESO) guidelines by extensively searching its proxy statement on Form DEF14A filed electronically in the SEC's EDGAR database. Column (1) shows results from the first-stage OLS regression in which the dependent variable is an indicator that takes the value of one if the firm has ESO guidelines and zero otherwise. Columns (2) to (4) show results from the second-stage regression in which the guideline adoption indicator is instrumented with fitted values from the first-stage OLS regression. The dependent variable in column (2) is the natural logarithm of the loan spread over LIBOR charged by the bank. The dependent variable in column (3) is an indicator that takes the value of one if the bank loan is secured and zero otherwise. The dependent variable in column (4) is the covenant strictness index. All firm characteristics are measured as of the fiscal year-end immediately before the loan active date. The Appendix provides a detailed description of the variables. *P*-values are in parentheses. We estimate *p*-values using robust standard errors to adjust for heteroskedasticity (White (1980))and cluster the standard errors at the loan package level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	First Stage	Second Stage		
	OLS Regression	Loan Spread	Collateral Requirement	Covenant Strictness
	(1)	(2)	(3)	(4)
Instrumental variables				
Low enforcementof non-compete agreement (indicator)	-0.038***(0.007)			
High state ESO adoption rate(indicator)	0.079***(0.000)			
Instrumented guideline adoption(indicator)	-	-0.535**	-1.994***	-5.306
		(0.0214)	(0.0000)	(0.4517)
CEO and governance characteristics				
CEO stock ownership	-0.348***	-0.011	-0.153	-2.750
	(0.0000)	(0.9411)	(0.7612)	(0.4365)
CEO option ownership	-0.684	2.907***	1.480	-7.357
	(0.1597)	(0.0000)	(0.5092)	(0.5779)
Ln (CEO compensation)	0.018***	-0.003	0.004	0.053
	(0.0017)	(0.7308)	(0.8775)	(0.4637)
Ln (CEO age)	-0.020	0.003	-0.033	0.443
	(0.6661)	(0.9580)	(0.8455)	(0.3323)
Ln (CEO tenure)	-0.034***	-0.041***	-0.086***	-0.195
	(0.0000)	(0.0015)	(0.0030)	(0.2214)
Institutional block ownership	-0.006	0.297***	0.282	-0.106
	(0.9035)	(0.0000)	(0.1296)	(0.7990)
Firm and bank loan characteristics				
Ln (total asset)	0.074***	-0.097***	-0.043	-0.066
	(0.0000)	(0.0000)	(0.5785)	(0.7401)
Profitability	0.490***	-1.534***	-2.012**	1.268
	(0.0000)	(0.0000)	(0.0417)	(0.5651)
Book leverage	-0.044	0.910***	1.596***	0.732***
	(0.1863)	(0.0000)	(0.0003)	(0.0051)
Market to book	-0.031***	-0.125***	-0.159***	-0.492
	(0.0000)	(0.0000)	(0.0000)	(0.2059)
Tangibility	-0.017	0.076	0.144	-0.606
	(0.6775)	(0.1951)	(0.4096)	(0.1203)
Cash-flow volatility	0.479***	2.812***	5.935***	5.050
	(0.0034)	(0.0000)	(0.0000)	(0.3186)
Credit spread	-0.004	0.126***	-0.019	-0.273
	(0.8607)	(0.0004)	(0.8440)	(0.4214)
Term spread	-0.021	0.033	-0.112*	-0.380
	(0.1796)	(0.1274)	(0.0524)	(0.4055)
Ln (Loan maturity)	-0.012*	-0.001	0.147**	0.213**
	(0.0884)	(0.9533)	(0.0168)	(0.0348)
Ln (Loan amount)	0.006	-0.092***	-0.112**	0.129
	(0.2862)	(0.0000)	(0.0183)	(0.5630)
Loan type and purpose fixed effects	YES	YES	YES	YES
Year and industry fixed effects	YES	YES	YES	YES
Adjusted R^2/Pseudo R^2	0.330	0.677	0.356	0.588
Number of observations	9,338	9,338	6,213	2,077

P-value for the joint significance test (*Fstatistic*)= 0.000; *P-value* for the overidentificationtest (*Hansen J statistic*) = 0.453

TableVIII
Probit Regressions of the Likelihood of Capital Expenditure Restrictions

The sample consists of 1,489firm-loan observations covered in the data set used in Nini, Smith, and Sufi (2009) as well as the Compustat and ExecuComp databases from 1996 to 2005. Firms in the financial (primary SIC 6000-6999) and utility (primary SIC 4900-4999) industries are excluded. We obtain information on each firm's executive stock ownership (ESO) guidelines by extensively searching its proxy statement on Form DEF14A filed electronically in the SEC's EDGAR database. The dependent variable is an indicator that takes the value of one if the bank loan contains capital expenditure restrictions and zero otherwise. All firm characteristics are measured as of the fiscal year-end immediately before the loan active date. The coefficients reported are estimates of the marginal effect on the probability. Industriesareclassified at the2-digit SIC level. The Appendix provides a detailed description of the variables. *P*-values are in parentheses. We estimate *p*-values using robust standard errors to adjust for heteroskedasticity (White (1980))and cluster the standard errors at the loan package level.***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
Guideline adoption(indicator)	-0.072**	-0.067***	-0.082**	-0.077**
	(0.0335)	(0.0081)	(0.0102)	(0.0226)
CEO and governance characteristics				
CEO stock ownership	0.198	0.126	0.064	0.236
	(0.2245)	(0.2974)	(0.7236)	(0.1752)
CEO option ownership	1.627**	0.641	2.365***	1.380*
	(0.0342)	(0.3005)	(0.0021)	(0.0646)
Ln (CEO compensation)	0.002	0.010	-0.019	-0.018
	(0.8927)	(0.2213)	(0.2038)	(0.2339)
Ln (CEO age)	0.091	0.084	0.051	0.082
	(0.2525)	(0.2359)	(0.5250)	(0.3114)
Ln (CEO tenure)	-0.014	-0.006	-0.002	-0.007
	(0.2338)	(0.5612)	(0.8602)	(0.5653)
Institutional block ownership	0.183**	0.092	0.230***	0.233***
	(0.0304)	(0.1439)	(0.0083)	(0.0085)
Credit rating above BBB (indicator)		-0.065		
		(0.4190)		
Credit rating between BB and B (indicator)		0.063		
		(0.4165)		
G-index			-0.002	
			(0.6988)	
Ln (board size)				-0.053
				(0.3236)
Independent board ratio				0.125*
				(0.0824)
Firm and bank loan characteristics				
Ln (total asset)	-0.076***	-0.035***	-0.043**	-0.048**
	(0.0000)	(0.0065)	(0.0261)	(0.0192)
Profitability	-0.137	0.007	-0.062	-0.064
	(0.4651)	(0.9634)	(0.7302)	(0.7360)
Book leverage	0.285***	0.080	0.309***	0.294***
	(0.0001)	(0.1283)	(0.0000)	(0.0002)
Market to book	-0.063***	-0.055***	-0.064***	-0.058***
	(0.0003)	(0.0047)	(0.0013)	(0.0017)
Tangibility	-0.067	-0.056	-0.011	-0.034
	(0.4386)	(0.4130)	(0.8990)	(0.7213)
Cash-flow volatility	0.562*	0.742**	0.714**	0.503
	(0.0714)	(0.0123)	(0.0407)	(0.1345)
Credit spread	-0.029	-0.173**	-0.060	-0.033
	(0.7448)	(0.0190)	(0.5096)	(0.7216)
Term spread	0.012	-0.018	0.017	0.019
	(0.5918)	(0.2754)	(0.4303)	(0.3921)
Ln (Loan maturity)	-0.005	-0.001	0.015	0.020
	(0.8162)	(0.9385)	(0.5458)	(0.3799)
Ln (Loan amount)	0.201***	0.114***	0.174***	0.139***
	(0.0000)	(0.0031)	(0.0007)	(0.0045)
Loan type and purpose fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES
Pseudo R^2	0.282	0.467	0.314	0.288
Number of observations	1,489	972	1,189	1,198

TableIX
Cost of Bank Loansafter a Covenant Violation

The sample consists of 1,459 firm-loan observations covered in thedataset used in Nini, Smith, and Sufi (2011) as well as theLoan Pricing Corporation's DealScan database, Compustat, and ExecuComp database from 1996 to 2008. Firms in the financial (primary SIC 6000-6999) and utility (primary SIC 4900-4999) industries are excluded. We obtain information on each firm's executive stock ownership (ESO) guidelines by extensively searching its proxy statement on Form DEF14A filed electronically in the SEC's EDGAR database.For every newcovenant violation firm, we keep firm-loan observations three years before and three years after thenew covenant violation. We also require that our sample of covenant-violation firms do not adopt ownership guidelines before their covenant violation.The dependent variable in columns (1) and (2) is the natural logarithm of the loan spread over LIBOR charged by the bank. The dependent variable in columns (3) and (4)is an indicator that takes the value of one if the bank loan is secured and zero otherwise. The dependent variable in columns (5) and (6) is the covenant strictness index. All firm characteristics are measured as of the fiscal year-end immediately before the loan active date. The Appendix provides a detailed description of the variables. *P*-values are in parentheses. We estimate *p*-values using robust standard errors to adjust for heteroskedasticity (White (1980))and cluster the standard errors at the loan package level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Loan Spread		Collateral Requirement		Covenant Strictness	
	(1)	(2)	(3)	(4)	(5)	(6)
Post-violation (indicator)	0.071*		0.094***		0.325**	
	(0.0579)		(0.0001)		(0.0372)	
Post-violation adoption (indicator)		-0.051		-0.006		-0.238
		(0.4438)		(0.8890)		(0.5738)
Post-violation non-adoption (indicator)		0.080**		0.099***		0.342**
		(0.0350)		(0.0000)		(0.0284)
CEO and governance characteristics						
CEO stock ownership	-0.037	-0.010	0.147	0.154	0.813	0.922
	(0.8790)	(0.9677)	(0.3083)	(0.2609)	(0.4387)	(0.3655)
CEO option ownership	1.841*	1.992*	0.199	0.275	11.442	12.180*
	(0.0897)	(0.0685)	(0.8118)	(0.7330)	(0.1108)	(0.0953)
Ln (CEO compensation)	-0.008	-0.006	0.003	0.005	-0.000	0.002
	(0.6279)	(0.6932)	(0.7629)	(0.6601)	(0.9980)	(0.9839)
Ln (CEO age)	0.105	0.099	0.130	0.115	0.747	0.821
	(0.3977)	(0.4217)	(0.1132)	(0.1549)	(0.1597)	(0.1188)
Ln (CEO tenure)	-0.033	-0.037*	0.003	0.002	-0.212**	-0.231***
	(0.1137)	(0.0771)	(0.8492)	(0.8917)	(0.0135)	(0.0064)
Institutional block ownership	0.048	0.050	-0.100	-0.094	0.445	0.424
	(0.6999)	(0.6894)	(0.2487)	(0.2614)	(0.4549)	(0.4806)
Firm and bank loan characteristics						
Ln (total asset)	-0.082***	-0.082***	-0.024	-0.025*	-0.030	-0.020
	(0.0018)	(0.0019)	(0.1170)	(0.0882)	(0.8077)	(0.8697)
Profitability	-1.241***	-1.225***	-0.891***	-0.833***	2.329*	2.441*
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0645)	(0.0546)
Book leverage	1.038***	1.040***	0.464***	0.473***	1.401***	1.420***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0018)	(0.0015)
Market to book	-0.074***	-0.074***	-0.002	-0.004	-0.041	-0.053
	(0.0025)	(0.0024)	(0.8858)	(0.7679)	(0.7414)	(0.6772)
Tangibility	0.133	0.131	0.001	-0.014	-0.535	-0.557
	(0.3076)	(0.3124)	(0.9896)	(0.8631)	(0.1542)	(0.1385)
Cash-flow volatility	1.882***	1.899***	1.634***	1.615***	-1.939	-2.058
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.3762)	(0.3340)
Credit spread	0.212**	0.206*	0.036	0.017	-0.367	-0.343
	(0.0490)	(0.0501)	(0.6107)	(0.8051)	(0.6205)	(0.6367)
Term spread	0.070	0.072	-0.069**	-0.067**	-0.280	-0.275
	(0.1541)	(0.1374)	(0.0303)	(0.0324)	(0.1065)	(0.1127)
Ln (Loan maturity)	-0.105***	-0.102***	0.047**	0.050**	0.064	0.067
	(0.0020)	(0.0028)	(0.0472)	(0.0344)	(0.5833)	(0.5652)
Ln (Loan amount)	-0.050***	-0.051***	-0.047***	-0.047***	-0.018	-0.029
	(0.0097)	(0.0084)	(0.0002)	(0.0002)	(0.7523)	(0.6119)
Loan type and purpose fixed effects	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES	YES	YES
Adjusted R^2	0.567	0.569	0.428	0.433	0.516	0.520
Number of observations	1,459	1,459	1,074	1,074	405	405

Table X
Stock and Bond Performance around Adoption Years and Months

The sample consists of 853, 234**,**166, and 44 ESO guideline adoption firms in Panels A, B, C, and D, respectively, for whichinformation on the adoption year or month is mentioned inForm DEF14A. To be included in the samples used in Panels A and B, adoption firms must be covered in the Compustat, CRSP,and ExecuComp databases for the 1996 to 2010fiscal period. To be included in the samples used in Panels C and D, adoption firms must be covered in the Compustat, ExecuComp,and BofA Merrill Lynch US Corporate and High Yield Master Bond Index databases from 1997 to 2009.Firms in the financial (primary SIC 6000-6999) and utility (primary SIC 4900-4999) industries are excluded.We obtain information on each firm's executive stock ownership (ESO) guidelines by extensively searching its proxy statement on Form DEF14A filed electronically in the SEC's EDGAR database.If the firm's proxy statement does not provide information on the exact adoption year, we treat the first year that ownership guidelinesare located in the proxy statement as the adoption year. We use the CRSP value-weighted index as the market portfolio. The Fama-French 3-factor adjusted returns are calculated using a Fama-French 3-factor model. The abnormal change in bond yield spreads is the difference between the raw change in its yield spread and the average change in yield spread on other corporate bonds with the same credit rating during the sample period. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Stock Performance in Adoption Year

Event windows	Raw returns N =853		Market-model adjusted returns N =853		Fama-French 3 factors adjusted returns N = 853	
	Mean	Median	Mean	Median	Mean	Median
12 month	0.252***	0.173***	0.084***	0.019***	0.082**	0.012**

Panel B. Stock Performance in Adoption Month

Event windows	Raw returns N =234		Market-model adjusted returns N = 234		Fama-French 3 factors adjusted returns N = 234	
	Mean	Median	Mean	Median	Mean	Median
1 month	0.020***	0.018**	0.015**	0.017*	0.016**	0.018**

Panel C. Bond Performance in Adoption Year

Event windows	Raw change in bond yield spreads N =559		Abnormal change in bond yield spreads N =559	
	Mean	Median	Mean	Median
12 month	-0.134*	-0.090***	-0.076*	-0.017**

Panel D. Bond Performance in Adoption Month

Event windows	Raw change in bond yield spreads N =148		Abnormal change in bond yield spreads N =148	
	Mean	Median	Mean	Median
1 month	-0.108***	-0.02***	-0.088***	-0.003

Table XI
OLS Regressions of Post-Adoption Changes in Firms' Risk-Taking Behavior and Financial Reporting on Firm Characteristics

The sample consists of 17,336 firm-year observations covered in the Compustat, CRSP, and ExecuComp databases from 1996 to 2009. Firms in the industries (primary SIC 6000-6999) and utility (primary SIC 4900-4999) industries are excluded. We obtain information on each firm's executive stock ownership (ESO) guidelines by extensively searching its proxy statement on Form DEF14A filed electronically in the SEC's EDGAR database. The dependent variable in column (1) is an indicator that takes the value of one if the firm uses derivatives to hedge interest rate risk and zero otherwise. The dependent variable in column (2) is an indicator that takes the value of one if the firm makes a diversifying M&A (the acquirer and the target have different 2-digit SICs) and zero otherwise. The dependent variable in column (3) is the absolute value of discretionary accruals. The dependent variable in column (4) is accruals quality. The dependent variable in column (5) is cash-flow volatility during the future 3 years. The dependent variable in column (6) is the S&P long-term credit rating (1 for AAA and 23 for D). All firm characteristics are measured as of the fiscal year-end. The Appendix provides a detailed description of the variables. *P*-values are in parentheses. We estimate *p*-values using robust standard errors to adjust for heteroskedasticity (White (1980)). ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Interest Rate Hedging Indicator	Diversifying Merger and Acquisition Indicator	Absolute Discretionary Accruals	Accruals Quality	Future Cash-Flow Volatility	S&P Long-Term Credit Ratings
	(1)	(2)	(3)	(4)	(5)	(6)
Guideline adoption(indicator)	0.021**	0.022**	-0.004**	-0.002***	-0.002***	-0.092**
	(0.0466)	(0.0153)	(0.0291)	(0.0028)	(0.0003)	(0.0336)
CEO and governance characteristics						
CEO stock ownership	0.245***	-0.046	0.008	0.016**	0.018***	1.524***
	(0.0058)	(0.5464)	(0.5378)	(0.0130)	(0.0001)	(0.0008)
CEO option ownership	0.017	0.042	-0.155***	0.046*	0.027	3.973**
	(0.9612)	(0.8879)	(0.0030)	(0.0657)	(0.1427)	(0.0303)
Ln (CEO compensation)	0.004	0.006**	0.001	-0.000	-0.000	-0.066***
	(0.2199)	(0.0203)	(0.2588)	(0.8486)	(0.1964)	(0.0000)
Ln (CEO age)	0.013***	0.001	-0.000	-0.000	-0.001***	-0.086***
	(0.0058)	(0.8567)	(0.8194)	(0.5772)	(0.0008)	(0.0000)
Ln (CEO tenure)	-0.109***	-0.032	-0.008	-0.006**	0.005***	0.336**
	(0.0018)	(0.2944)	(0.1063)	(0.0244)	(0.0064)	(0.0406)
Institutional block ownership	-0.010	-0.008	-0.011**	-0.009***	0.001	0.765***
	(0.7291)	(0.7547)	(0.0142)	(0.0000)	(0.4645)	(0.0000)
Firm characteristics						
Stock return	0.008	-0.003	-0.002**	0.002***	0.001***	-0.208***
	(0.1226)	(0.4961)	(0.0387)	(0.0000)	(0.0021)	(0.0000)
Ln (total asset)	0.054***	-0.013*	-0.009***	-0.007***	-0.001**	-1.021***
	(0.0000)	(0.0517)	(0.0000)	(0.0000)	(0.0285)	(0.0000)
Profitability	-0.051	0.103***	-0.053***	-0.011***	-0.003	-6.142***
	(0.2618)	(0.0081)	(0.0000)	(0.0011)	(0.2611)	(0.0000)
Book leverage	0.374***	-0.166***	-0.012***	0.005***	0.007***	2.917***
	(0.0000)	(0.0000)	(0.0069)	(0.0095)	(0.0000)	(0.0000)
Market to Book	0.005*	0.011***	0.004***	0.002***	0.001***	-0.123***
	(0.0993)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R&D	0.102	-0.480***	-0.024	0.046***	0.038***	-0.951
	(0.4478)	(0.0000)	(0.2400)	(0.0000)	(0.0000)	(0.2940)
Tangibility	-0.189***	0.033	-0.019***	-0.013***	0.005*	-0.837***
	(0.0001)	(0.4361)	(0.0099)	(0.0001)	(0.0533)	(0.0001)
Year fixed effects	YES	YES	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES	YES	YES
Adjusted R^2	0.099	0.014	0.033	0.081	0.030	0.370
Number of observations	17,336	17,336	17,288	14,675	16,688	8,434

Table XII
Subsample Analysis Based on CEO Stock Ownership and State Capital Gain Tax Rate

The sample consists of 9,481 firm-loan observations covered inLoan Pricing Corporation's DealScan, Compustat, and ExecuComp databases from 1996 to 2011. Firms in the financial (primary SIC 6000-6999) and utility (primary SIC 4900-4999) industries are excluded. We obtain information on each firm's executive stock ownership (ESO) guidelines by extensively searching its proxy statement on Form DEF14A filed electronically in the SEC's EDGAR database.In both Panels A and B, the dependent variablein columns (1) and (2) is the natural logarithm of the loan spread over LIBOR charged by the bank.The dependent variable in columns (3) and (4) is an indicator that takes the value of one if the bank loan is secured and zero otherwise. The dependent variable in columns (5) and (6) is the covenant strictness index. In Panel A, firms are divided into two subgroups according to the sample median CEO stock ownership and in Panel B, firms are divided into two subgroups according to the sample median capital gain tax rate of the states in which firms are located.All firm characteristics are measured as of the fiscal year-end immediately before the loan active date. The Appendix provides a detailed description of the variables. *P*-values are in parentheses. We estimate *p*-values using robust standard errors to adjust for heteroskedasticity (White (1980))and cluster the standard errors at the loan package level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Analysis Based on CEO Stock Ownership

	Loan Spreads		Collateral Requirement		Covenant Strictness	
	CEO Stock Ownership		CEO Stock Ownership		CEO Stock Ownership	
	Low	High	Low	High	Low	High
	(1)	(2)	(3)	(4)	(5)	(6)
Guideline adoption(indicator)	-0.082**	0.034	-0.105***	-0.026	-0.400**	-0.134
	(0.0111)	(0.2376)	(0.0003)	(0.3931)	(0.0135)	(0.6274)
CEO and governance Characteristics						
CEO option ownership	-0.252	0.779	-0.073	-1.268	-0.294	7.714
	(0.8647)	(0.4147)	(0.9361)	(0.1910)	(0.9466)	(0.2281)
Ln (CEO compensation)	-0.021*	-0.025***	-0.004	-0.014	-0.012	-0.073
	(0.0570)	(0.0071)	(0.5733)	(0.1252)	(0.8122)	(0.1933)
Ln (CEO age)	-0.245	-0.198*	-0.208*	0.196	-1.706***	0.878
	(0.1217)	(0.0846)	(0.0581)	(0.1046)	(0.0028)	(0.2840)
Ln (CEO tenure)	0.008	0.039***	0.023*	-0.017	0.095	-0.087
	(0.6817)	(0.0086)	(0.0803)	(0.2062)	(0.2940)	(0.2879)
Institutional block ownership	0.328***	-0.117	0.024	-0.041	0.525	0.556
	(0.0016)	(0.1784)	(0.7592)	(0.6290)	(0.2560)	(0.3103)
Firm and bank loan Characteristics						
Ln (total asset)	-0.165***	-0.126***	-0.093***	-0.058**	-0.176	-0.430***
	(0.0000)	(0.0000)	(0.0007)	(0.0257)	(0.2677)	(0.0032)
Profitability	-1.140***	-1.403***	-0.969***	-0.538***	-1.199	0.079
	(0.0000)	(0.0000)	(0.0000)	(0.0019)	(0.2906)	(0.9481)
Book leverage	0.601***	0.545***	0.266***	0.157**	-0.484	-0.792**
	(0.0000)	(0.0000)	(0.0003)	(0.0223)	(0.2842)	(0.0477)
Market to book	-0.096***	-0.080***	0.001	-0.071***	-0.115	-0.233**
	(0.0000)	(0.0000)	(0.9601)	(0.0001)	(0.2707)	(0.0476)
Tangibility	0.161	0.243	0.180	0.323**	-0.415	1.957*
	(0.3593)	(0.1213)	(0.1864)	(0.0433)	(0.5426)	(0.0871)
Cash-flow volatility	0.813	1.447***	0.462	1.461***	1.139	-1.436
	(0.2453)	(0.0014)	(0.4407)	(0.0008)	(0.7219)	(0.7576)
Credit spread	0.197***	0.124***	-0.009	0.045	0.416*	0.032
	(0.0000)	(0.0009)	(0.7932)	(0.1356)	(0.0866)	(0.8965)
Term spread	0.054**	0.058**	-0.007	-0.004	-0.205	0.032
	(0.0195)	(0.0113)	(0.7262)	(0.8291)	(0.1013)	(0.7653)
Ln (Loan maturity)	-0.021	-0.031	0.044***	0.035**	-0.022	0.222**
	(0.3450)	(0.1132)	(0.0052)	(0.0429)	(0.7283)	(0.0209)
Ln (Loan amount)	-0.122***	-0.074***	-0.057***	-0.038***	-0.083***	0.005
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0082)	(0.8525)
Loan type and purpose fixed effects	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES	YES	YES
Adjusted R^2	0.486	0.466	0.196	0.134	0.455	0.445
Number of observations	4,741	4,740	3,164	3,163	1,055	1,050

Panel B. Analysis Based on State Capital Gain Tax Rate						
	Loan Spreads		Collateral Requirement		Covenant Strictness	
	State Capital Gain Tax rate		State Capital Gain Tax rate		State Capital Gain Tax rate	
	Low	High	Low	High	Low	High
	(1)	(2)	(3)	(4)	(5)	(6)
Guideline adoption(indicator)	-0.087***	0.022	-0.066**	-0.035	-0.443**	-0.401***
	(0.0024)	(0.4591)	(0.0298)	(0.1774)	(0.0388)	(0.0054)
CEO and governance Characteristics						
CEO stock ownership	0.616***	0.065	-0.288	0.086	-0.454	-0.907
	(0.0017)	(0.7840)	(0.1972)	(0.5454)	(0.7250)	(0.1806)
CEO option ownership	0.966	-1.033	-0.712	-1.082	0.707	1.392
	(0.3500)	(0.4004)	(0.4267)	(0.2239)	(0.8885)	(0.7992)
Ln (CEO compensation)	-0.018*	-0.023**	-0.004	-0.014*	0.016	-0.126**
	(0.0637)	(0.0192)	(0.5834)	(0.0804)	(0.7735)	(0.0138)
Ln (CEO age)	-0.171	-0.091	0.111	-0.027	-1.269**	0.219
	(0.2058)	(0.4637)	(0.3162)	(0.7796)	(0.0489)	(0.6581)
Ln (CEO tenure)	-0.011	0.032**	-0.007	0.012	0.150*	-0.217***
	(0.5051)	(0.0475)	(0.5986)	(0.2950)	(0.0708)	(0.0015)
Institutional block ownership	-0.140	0.303***	0.130*	-0.030	-0.411	1.467***
	(0.1108)	(0.0027)	(0.0801)	(0.6961)	(0.4376)	(0.0007)
Firm and bank loan Characteristics						
Ln (total asset)	-0.142***	-0.138***	-0.044*	-0.106***	-0.318**	-0.090
	(0.0000)	(0.0000)	(0.0838)	(0.0000)	(0.0424)	(0.4501)
Profitability	-1.238***	-1.281***	-0.768***	-0.714***	-1.146	-1.350
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.2716)	(0.1524)
Book leverage	0.633***	0.654***	0.211***	0.204***	0.098	-1.031***
	(0.0000)	(0.0000)	(0.0015)	(0.0050)	(0.8145)	(0.0030)
Market to book	-0.079***	-0.080***	-0.041**	-0.025	-0.137	0.002
	(0.0000)	(0.0000)	(0.0346)	(0.1149)	(0.2333)	(0.9818)
Tangibility	0.165	0.374**	0.126	0.350**	0.418	-0.280
	(0.3203)	(0.0335)	(0.3774)	(0.0145)	(0.6207)	(0.6938)
Cash-flow volatility	-0.189	2.020***	0.804*	0.681	-4.207	-0.077
	(0.7269)	(0.0003)	(0.0876)	(0.1437)	(0.1646)	(0.9765)
Credit spread	0.150***	0.194***	-0.011	0.022	-0.153	0.416**
	(0.0000)	(0.0000)	(0.6843)	(0.5092)	(0.4300)	(0.0429)
Term spread	0.072***	0.043*	-0.017	0.006	-0.173	0.082
	(0.0006)	(0.0748)	(0.4020)	(0.7198)	(0.1436)	(0.4873)
Ln (Loan maturity)	-0.009	-0.039*	0.042**	0.035**	0.164*	0.009
	(0.6455)	(0.0838)	(0.0204)	(0.0118)	(0.0710)	(0.8868)
Ln (Loan amount)	-0.091***	-0.092***	-0.049***	-0.038***	0.012	-0.011
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.7225)	(0.6790)
Loan type and purpose fixed effects	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES	YES	YES
Adjusted R^2	0.484	0.474	0.151	0.175	0.398	0.468
Number of observations	4,688	4,793	3,086	3,241	1,020	1,085

Appendix: Variable Definitions

This appendix provides a detailed description of the variables used in the tables.

Variable	Definition
Absolute discretionary accruals	Using a version of the Jones (1991) model of accruals, non-discretionary accruals are estimated as the fitted value from a regression of total accruals on lagged firm size, the change in firm sales, and gross property, plant, and equipment scaled by total assets for sample firms in the same 2-digit SIC industry group. The absolute discretionary accrual is the absolute value of the estimated residual from the previous regression (winsorized at the 1st and 99th percentiles).
Accruals quality	Standard deviation of the residual from regressions of current accruals on past, current, and future cash flows from operations, calculated over a five-year rolling window (Francis et al. (2005)) (winsorized at the 1st and 99th percentiles).
Book leverage	Long-term debt plus debt in current liabilities divided by total assets (winsorized at the 1st and 99th percentiles).
Cash-flow volatility	Standard deviation of annual cash flows from operations over the past seven fiscal years, divided by the total assets (winsorized at the 1st and 99th percentiles).
Capital expenditure restriction (indicator)	Indicator that takes the value of one if the bank loan contains a capital expenditure restriction in the credit agreement and zero otherwise.
CEO option ownership	Number of option holdings by CEO divided by shares outstanding at the fiscal year end (winsorized at the 1st and 99th percentiles).
CEO stock ownership	Number of stock holdings by CEO divided by shares outstanding at the fiscal year end (winsorized at the 1st and 99th percentiles).
Collateral requirement (indicator)	Indicator that takes the value of one if the bank loan is secured by collateral and zero otherwise (If information on secured loan is missing, we drop the observation).
Covenant strictness index	The sum of the following five covenant indicators: dividend restriction, the existence of more than two financial covenants, asset sales sweep, equity issuance sweep, and debt issuance sweep.
Credit rating above BBB (indicator)	Indicator that takes the value of one if firm's S&P long-term credit rating is above BBB and zero otherwise.
Credit rating between BB and B (indicator)	Indicator that takes the value of one if firm's S&P long-term credit rating is below BBB and above B and zero otherwise.
Credit spread	Difference in the yields on BAA and AAAcorporate bonds.
Diversifyingmerger and acquisition (indicator)	Indicator that takes the value of one if the firm makes a diversifying M&A (the acquirer and the target operate in different industries as measured at the 2-digit SIC level) and zero otherwise.
Future cash-flow volatility	Standard deviation of quarterly cash flows from operations over the future three fiscal years, divided by total assets (winsorized at the 1st and 99th percentiles).
Independent board ratio	Number of independent board members divided by total number of board members.
Institutional block ownership	Number of shares held by institutional investors that own more than 5% of a firm's equity divided by total shares outstanding (winsorized at the 1st and 99th percentiles).
Interest rate hedging(indicator)	Indicator that takes the value of one if a firm engages in interest rate hedging in a given year and zero otherwise.

G-index (governance index)	Governance indexconstructed from data compiled by the Investor Responsibility Research Center ("IRRC"), as described in Gompers,Ishii, Metrick (2003). The index is based on the number of shareholder rights-decreasing provisions a firm has and ranges from 0 to 24. A high G-index means weak shareholder rights.
High state ESO adoption rate (indicator)	Indicator that takes the value of one if the average adoption rate of ESO guidelinesin the state in which a firm is headquartered is higher than the sample median and zero otherwise.
Guideline adoption (indicator)	Indicator that takes the value of one if the proxy statement makes reference to the adoption of the executive stock ownership guideline and zero otherwise.
Ln (board size)	Natural log of the number of board members.
Ln (CEO total compensation)	Natural log of the sum of cash salary, cash bonus,stock granted, and Black-Scholes value of options granted to CEO.
Ln (CEO age)	Natural log of CEO age.
Ln (CEO tenure)	Natural log of CEO tenure.
Loan spread	All-in-drawn spread over LIBOR charged by the bank for the loan facility.
Loan type (indicator)	Indicators for loan type (term loan, revolver line of credit, 364-day facility, and others).
Loan purpose (indicator)	Indicators for loan purpose (corporate purposes, working capital, debt repayment, acquisition, backup line for commercial paper, and others).
Low enforceability of non-compete agreements(indicator)	Indicator that takes the value of one if the non-compete agreementenforcement score for the state in which the firm is headquartered is below the sample median and zero otherwise.
Ln (loan amount)	Natural log of loan deal (facility) amount.
Ln (loan maturity)	Natural log of loan maturity.
Ln (S&P long-term credit rating)	Natural log of a firm's long-term S&P credit rating.
Ln (total asset)	Natural log of total assets.
Market-to-book	Market value of equity plus book value of debt divided by total assets (winsorized at the 1st and 99th percentiles).
Post-adoption (indicator)	Indicator that takes the value of one for an adoption firm in a post-adoption year and zero otherwise.
Post-violation (indicator)	Indicator that takes the value of for observations in a firm's post-violation period and zero otherwise.
Post-violation adoption (indicator)	Indicatorthat takes the value of one for a firm that adopts ownership guidelines in the post-violation period and zero otherwise.
Post-violation non-adoption (indicator)	Indicator that takes the value of one for a firm that does not adopt ownership guidelines in the post-violation period and zero otherwise.
Profitability	Operating income before depreciation divided by total assets (winsorized at the 1st and 99th percentiles).
R&D	R&D expenditures divided by total assets. This variable is set to be zero if R&D expenditure is missing (winsorized at the 1st and 99th percentiles).
S&P long-term credit rating	A firm's long-term S&P credit rating. Categorical credit ratings are converted into a cardinal variable measured on a 23-point scale (1 for AAA and 23 for

	D).
Tangibility	Net property, plant, and equipment divided by total assets (winsorized at the 1st and 99th percentiles).
Term spread	Difference in yields on 10-year and 1-year treasury bonds.
Treatment (indicator)	Indicator that takes the value of one for a firm that adopts ownership guidelines and zero for a non-adoption control firm.
Total accruals	Earnings before extraordinary items and discontinued operations minus operating cash flows from continuing operations scaled by total assets (winsorized at the 1st and 99th percentiles).