

Firm Risk, Performance and Executive Compensation: An investigation on China Listed Firms

ABSTRACT

Corporatization and listing of SOEs and the adoption of profit objectives is meant to accelerate growth and encourage innovation and investment. This study assess the relation between executive incentives, risk-taking and firm performance. I applied three-simultaneous-equation using 3 Stage least Square (3SLS) method in which vega, delta and firm risk/performance are all treated as endogenous variables and are jointly determined. I find positive relationship between CEO compensation and performance. Moreover, empirical results show that vega is an incentive compensation measure that encourage managers risk-taking behavior, while delta is party of compensation that could align the interests between firm and shareholders. This study is an innovative study to foster a better understanding of compensation structure in China and has important implications for China's current privatization reforms.

INTRODUCTION

China has achieved impressive economic growth since market reforms Ire first introduced 25 years ago. Central to the reforms are the adoption of free market policies where the pricing and production of goods, services, and labor are set in competitive markets. As a consequence of the reforms, managers of enterprises now have more decision-making responsibilities and the role of the State in commercial decisions has been reduced. One of the key ingredients in the economic modernization of China is the corporatization of State Owned Enterprises (SOEs) and the listing of some of them on the stock exchanges of Shanghai and Shenzhen. With the corporatization and privatization of SOEs, managers are given more discretion in making business decisions and they are held accountable to shareholders rather than to the State and the political hierarchy. Listed firms strive to maximize profitability and managerial decisions and policies are directed towards this objective. A key factor in ensuring the success of firms is the design of incentives that induce managers to increase profits and enhance the value of the business. To date, however, there has been no detailed analysis of how the top management of Chinese listed firms is rewarded and so I help to fill this void in the literature by examining CEO pay.

The purpose of this study is to investigate the compensation of CEOs in China's listed firms. In particular, I are interested in the relation between compensation and firm performance and to this end I estimate the pay-performance sensitivities along the lines pioneered by Jensen and Murphy (1990).

Executive compensation has attracted much attention from economists in the past two decades yet most academic work on executive compensation has been concentrated on a few developed countries (Yang, 2011). In light of the mounting interest in the vital role that corporate governance may play in economic development, however, it is of considerable importance to study

how firms in developing countries compensate their top executives. In particular, for transition economies struggling to transform their state-owned enterprises (SOEs) into profitable modern firms through various reform measures, the provision of efficient managerial incentives is a crucial ingredient of the successful transition of the economy. Since executive pay-performance link represents the bulk of managerial incentives for top management, a closer look at the nature of pay-performance link for top management in transitional economies will provide much needed information for the evaluation of the current reform effort and the designing of future reform measures.

BACKGROUND AND LITERATURE

I now describe how the mechanism for determining executive compensation in Chinese firms, especially Chinese SOEs, has evolved in the past two decades, with particular focus on the current form of executive compensation reform in China, the yearly salary system. Before economic reform started in the late 1970s, executive compensation, as part of the rigid compensation system employed in pre-reform Chinese enterprises, was largely determined based on factors that do not reflect either firm performance or individual contributions. And the factors include the region, industry, level of management (by central or local government) and size of the enterprise, and job title, occupation, and seniority of the individual. The profit retention policies introduced in the late 1970 and the profit responsibility contract system adopted in the 1980s represented the early steps in China's executive compensation reform, where managers were allowed to use a portion of the residual profit to increase compensation for workers and themselves.

Two waves of SOE compensation reforms promulgated in 1985 and 1992 allowed the SOE's wage budget to be linked to its economic performance and permitted the SOE to set its own internal wage structure within the wage budget, thus helped introduce more profit-oriented incentives to employees working for SOEs in general. One main compensation mechanism that emerged from this reform is the system of fixed monthly salary plus bonus payment for SOE employees. It was only after the pilot implementation of the yearly salary system in 1992 that substantive executive compensation reform really started to take off in Chinese SOEs. In the same year when the CCP accepted a market economy with Chinese characteristics as the target for China's economic reform and a modern corporation system resembling corporations in the west as the goal for SOE reform, the State Council approved the Shanghai Hero Pen Company to try out the pilot yearly salary system for its top executives. By 1994, Beijing, Shenzhen, Sichuan, Henan, and Liaoning had also started their own pilot programs, followed by the national pilot program implemented in 100m large SOEs throughout the country. The pilot experiment was well received and the yearly salary system thus became MOL officially advocated vigorous and smooth implementation of the system in SOEs (Liu and Otsuka, 2004).

The compensation for top executives in the yearly salary system consists of two parts: a fixed component as base salary that depends on both the average wage for ordinary employees and the size of the enterprise, and a variable component as risk salary that is lined to both the base salary and

the performance of the firm in the year. The base salary is paid to executives on a monthly basis, while the risk salary (or at least a large part of it) is distributed at the end of the year.

In other words, the pay-performance structure of the variable component is salary is much like bonus. Thus the importance of executive compensation is recognized by the current policy maker as a key incentive mechanism for top management and consider it a vital component of enterprise reform. Being harbingers of the new modern Chinese enterprises, I expect the listed firms to have been among the first to adopt such a system with the implied strong pay-performance link for top managers.

Previous studies on pay-performance linkage in China focused on SOEs before the stock market era and found positive and significant link of accounting performance measures to executive compensation (Roves et al., 1995, and Mengistae and Xu, 2004). By exploring pay-performance relations for listed firms in China, our paper complements these early pre-stock market studies. By using unique data on executive compensation in China's listed firms, I am able to provide the first estimates on pay-performance sensitivities and elasticities (standard measures of pay-performance relations used in the literature gauging the degree of sensitivities of executive pay to stock market performance as opposed to accounting performance). Extensive empirical research in Britain, the U.S., and elsewhere, has resulted in mixed findings on the pay-for-performance relationship. Coughlan and Schmidt (1985), Mehran (1995), and Murphy (1985, 1988), among others, report a positive relationship. Jensen and Murphy (1990) also find a positive association between CEO pay and stock returns, but they caution that the sensitivity of pay to performance is so small that it is unlikely to be much of an incentive for managers. Other studies have found very weak or no pay-for-performance link (Gregg et al., 1993; Conyon et al., 1995; Zhou, 1999). More recent studies that include the benefits from stock options in top management pay, find positive relationship between pay and stock returns (Conyon and Murphy, 2000; Main et al., 1996). This finding is not surprising given the link between stock option benefits and stock returns. It should be recognized, however, that these studies cover periods when stock prices have been rising quite sharply and the relationships may be different in times of stock market malaise.

This paper contributes to the literature on executive compensation in emerging markets by, it is the first to look at pay-performance sensitivities and elasticities for listed firms in China. Systematic research outside the US on executive compensation is still in its infancy, especially in emerging markets, mostly due to the limited data availability.

This study assess the relation between executive incentives, risk-taking and firm performance measured by both ROA and stock return. I applied three-simultaneous-equation using 3 Stage least Square (3SLS) method in which vega, delta and firm risk/performance are all treated as endogenous variables and are jointly determined, which avoid spurious inferences in OLS estimate and provide asymptotically correct estimates of the standard errors (Sawa, 1969).

The structure of the paper is as follows. In Section II, I provide methodology and model, while reviewing the relevant literature. Section III describes data, followed by Section IV, where the

main results are presented. Section V concludes by summarizing the findings and discussing policy implications.

METHODOLOGY AND MODEL

Most prior studies use the ratio of stock option based compensation to total compensation as a measure of compensation structure or the value of accumulated stock options as a measure of option based wealth. Such compensation measures, however, cannot precisely capture risk-taking incentives of managers induced by their compensation schemes. Core and Guay (2002a) argue such measures are noisy proxies for vega and delta. For instance, a positive relation between the ratio of stock option compensation to total compensation and stock return volatilities could result from a certain factor having a positive effect on the volatility of stock returns. In such a case, the positive relation is not the result of greater incentives for risk-taking by managers due to the structure of their compensation. By estimating vega and delta for managers' option portfolio, I obtain a more precise measure of the incentives faced by managers rather than the potentially noisy proxies. Moreover, I include both vega and delta into empirical models, which allows me to isolate the effect of vega and delta. With the exception of Rogers (2002) and Coles et al. (2006), prior studies tend to focus on one dimension of compensation structure, such as delta or vega, without controlling for the other. The mix of vega and delta are likely to have substantially cross-sectional differences and both affect risk-taking behavior (Guay, 1999). Therefore, any attempt to isolate the relation between risk-taking investments and financial strategies and vega should also control for delta.

Moreover, very few studies on the association between risk and compensation structure allow estimation of the underlying causal relationships. Rogers (2002) questions if a positive association between stock return volatility and vega indicates that vega is used to implement high-risk decisions, or does it suggest that some underlying and omitted primitive factor drives the association between vega and volatility? Similar questions arise over the association between vega and other managerial decisions. All of these examples imply that causation is likely to run in both directions for vega and delta. It is critical to account for how investment choices and characteristics of the managerial compensation schemes are jointly determined. When both compensation characteristics and managerial decisions are endogenous, OLS results are not appropriate because the orthogonality assumption is violated, and the use of OLS leads to biased and inconsistent parameter estimates. The usual t and F tests for these parameters are no longer valid.

The primary characteristic of compensation considered in this study is the sensitivity of CEO wealth to stock return volatility, or vega. Vega is defined as the change in the dollar value of the executive's wealth for a one percentage point change in the annualized standard deviation of stock returns. Delta is defined as the change in the dollar value of the executive's wealth for a one percentage point change in stock price. Guay (1999) shows that option vega is many times higher than stock vega. Rajgopal and Shevlin (2002), Rogers (2002) and Coles et al. (2006) adopt the same approach. The vega and delta calculations follows Guay (1999) and Core and Guay (2002a). Vega is computed as the partial derivative of the Black-Scholes option pricing model with respect to stock return volatility as follows:

$$\frac{\partial(\text{option value})}{\partial(\text{stock volatility})} = e^{-d\tau} N'(Z) ST^{(1/2)},$$

Where N' is the normal density function. The dollar value measures the magnitude of managers' incentives of risk-taking. Indeed, the higher the sensitivity of the manager's compensation to risk the more he/she gains from increasing risk. Therefore, this measure captures directly the incentives of executives to increase risk. The sensitivity with respect to a 1% change in stock price, delta, is partial derivative with respect to stock price:

$$\frac{\partial(\text{option value})}{\partial(\text{price})} \left(\frac{\text{price}}{100} \right) = e^{-d\tau} N(Z) \left(\frac{\text{price}}{100} \right),$$

In this study, in order to avoid spurious inferences and to isolate causation, I apply 3 stage least square (3SLS) method followed by Coles et al. (2006) and Yang (2010), where one of the interested variables (firm risk, security underwriting, mortgage loan or write-offs), vega and delta, are contemporaneously determined to disentangle the causality between compensation incentives and risk-taking. I used the model to testing: (1) How board and ownership structure affect firms' CEOs' incentive compensation, or vega (controlling for delta), and (2) How equity-based compensation, vega and delta, affect firms' risk-taking investments.

In order to assess the relation between board and ownership structure and vega and firm risk, I apply a three-simultaneous-equation using a 3 Stage Least Square (3SLS) method in which vega, delta, and firm risk are all treated as endogenous variables and are jointly determined. The 3SLS estimate could avoid spurious inferences in OLS estimate and provide asymptotically correct estimates of the standard errors (Sawa, 1969). While I focus on vega as the primary explanatory variable, here and in subsequent sections, all model specifications include both delta and control variables based on evidence elsewhere in the literature. Accordingly, I control for firm size, stock prices, long-term debt ratio and growth opportunities. (Servaes, 1994; Bhagat and Ilch, 1995; and Opler et al., 1999). An important reason to include control variables is to represent forces that drive both vega and delta together with investment or financial strategies. The regression equations include,

$$FirmRisk_{it} = \alpha_0 + \alpha_1 vega_{it} + \alpha_2 delta_{it} + X_{it} + \mu_i + v_t + \varepsilon_{it}$$

$$Vega_{it} = \beta_0 + \beta_1 FirmRisk_{it} + \beta_2 Delta_{it} + Y_{it} + \eta_i + \delta_t + \zeta_{it}$$

$$Delta_{it} = \gamma_0 + \gamma_1 FirmRisk_{it} + \gamma_2 Vega_{it} + Z_{it} + \varphi_i + v_t + \xi_{it}$$

where X_{it} are the explanatory variables for firm risk equation, including firm size. Y_{it} are the explanatory variables for the equation of vega, including firm size, growth opportunities (market value to book value of assets) and long-term debt ratio. Z_{it} are the explanatory variables for the equation of delta, including firm size and stock price. The reasons for choosing these variables as instrument variables are, first, they are informative for the dependent variables, and second, these variables are exogenous in the system equations. μ_i , η_i and φ_i represent a firm-specific effect, v_t ,

δ_i and ν_i represent a cross-sectional time-specific effect, and ε_{it} , ζ_{it} and ξ_{it} captures the measurement errors. In the following sections, the 3SLS models are specified in a similar way, where the dependent variable in the first equation, firm risk, is replaced by one the of investment variables (security underwriting, mortgage loan, and write-offs).

DATA

Executive compensation data for China listed companies are not available until 1998. Since then, listed companies have been required to disclose top executive compensation. Required compensation disclosures in the annual report are total remuneration to the members of the board of directors, the supervisory board, and senior management. Compensation of the highest paid executive in the company is also disclosed and I use it as a proxy for the pay of the CEO. The pay is the total cash compensation and includes base salary, bonuses, and commissions. Bonus pay is incentive payment tied to firm performance. The sample includes all non-financial corporations which have been listed on the stock exchanges of Shanghai and Shenzhen since 1998. In line with other studies, I exclude companies in the financial sector. The sample consists of 549 companies and 1647 firm-year observations.

I use the company annual reports as our source of information for executive compensation, share holdings of the three largest shareholders, board size, and board compensations. The analysis is based on information extracted from annual reports over the 1998-2006. The rest of the data, including performance, firm characteristics are obtained from China Stock Market & Accounting Research Database. Table 1 reports descriptive statistics on compensation, firm characteristics, and other control variables. The mean and median cash compensation are RMB432,570/US55,458. Mean and median vega are 10.45 and 12.36. While mean and median delta are 10.23 and 8.57. Mean stock return during sample period is high, which is 42.15% while is associated with high standard deviation of 71%. Debt to ratio is on average low. Mean and median debt ratio are 5% and 8%. State ownership takes more than a half of firms. Ownership concentration on average is 23%. Foreign shares take on average of 10% with median of 5%. Board size on average around 9.

EMPIRICAL RESULTS

In this section I assess the relation between executive incentives and firm risk-taking investments. I examine the relation among three variables: vega, delta, and firm risk. Therefore I apply a three-simultaneous-equation using a 3 Stage Least Square (3SLS) method in which vega, delta and firm risk are all treated as endogenous variables and are jointly determined. The 3SLS estimate could avoid spurious inferences in OLS estimate and provide asymptotically correct estimates of the standard errors (Sawa, 1969).

While I focus on vega as the primary explanatory variable, here and in subsequent sections all model specifications include both delta and control variables based on evidence elsewhere in the literature. Accordingly, I control for firm size, cash compensation and stock price. (Servaes, 1994; Bhagat and Ilch, 1995; and Opler et al., 1999). An important reason to include control variables is to represent forces that drive both vega and delta together with investment or financial strategies. To address the possibility that there are other omitted variables, all specifications throughout include

both industry (two-digit SIC) fixed and year effects. I include all of the endogenous variables on the right-hand side.

Table 2 reports the estimates of three-simultaneous-equation model (3SLS). The jointly determined variables are vega, delta, and firm risk. Here and throughout, reported *t*-statistics are based on robust standard errors. I draw independent variables from the prior literature (e.g., Bizjak et al., 1993; Guay, 1999; Core and Guay, 1999) for vega and delta. First, vega is significantly positively correlated with delta, which is consistent with prior literature. Second, the coefficients on firm risk is positive and significant different from zero. It implies that higher level of risk increase the managerial incentive in compensation, as reflected in vega, which is consistent with my expectations. Moreover, vega is positively correlated with and firm size, which are consistent with prior literature. Finally, in this study, I find the coefficient on firm risk is positive and significant. It implies that higher risk level of firm will induce higher managerial incentives, which cause higher vega. From the equation of delta, delta depends positively on vega. Delta is also positively correlated with stock price and negatively correlated with firm size. These findings are consistent with Guay (1999, 2002) among the others.

As firms expand more risky investments, the risk level of the firm is expected to be higher. Therefore, firms risk should be positively related to vega and negatively related to delta. The regression results in Table 2 are consistent with predictions. The estimated coefficient on vega is positive and is significant at 5% level. It suggests that higher vega induce higher risk level of the firm. On the other hand, higher delta implements low risk level. The coefficient on delta is negative and significant. It implies that firm risk level is negatively associated with delta. All coefficients are significant.

Table 3 reports the 3SLS model for the jointly determined variables on vega, delta, and firm performance (ROA). The coefficients on both vega and delta are positive and significant. It implies that increase CEO incentive compensation as indicated as vega and delta is positively associated with firm performance. Firm size is positively correlated with firm ROA, which is consistent with literature. For relation between vega and delta, vega is significantly positively correlated with delta as predicted. The coefficients on ROA is positive and significant different from zero. It implies that higher level of firm performance increase the managerial incentive in compensation, as reflected in vega, which is consistent with my expectations. Moreover, vega is positively correlated with firm size which are consistent with prior literature. From the equation of delta, delta depends positively on vega. Delta is also positively correlated with stock price and negatively correlated with firm size. As firms expand and have higher level of return as reflected on higher ROA, CEO incentive compensation should be higher. Therefore, ROA should be positively related to vega and delta. The regression results in Table 3 are consistent with predictions. The estimated coefficient on vega is positive and is significant at 5% level. It suggests that higher vega induce higher performance of the firm. On the other hand, higher delta implements higher level of firm performance. The coefficient on delta is positive and significant.

Table 4 reports the 3SLS model for the jointly determined variables on vega, delta, and firm performance (Return). The coefficients on both vega and delta are positive and significant. It implies that increase CEO incentive compensation as indicated as vega and delta is positively associated with firm stock return. Firm size is positively correlated with return, which is consistent with literature. For relation between vega and delta, vega is significantly positively correlated with delta as

predicted. The coefficients on ROA is positive and significant different from zero. It implies that higher level of stock return increases the managerial incentive in compensation, as reflected in vega, which is consistent with my expectations. Moreover, vega is positively correlated with firm size as predicted. From the equation of delta, delta depends positively on vega. Delta is also positively correlated with stock price and negatively correlated with firm size. As firms expand and have higher level of return, CEO incentive compensation should be higher. Therefore, stock return should be positively related to vega and delta. The regression results in Table 4 are consistent with predictions. The estimated coefficient on vega is positive and is significant at 5% level. On the other hand, higher delta implements higher level of return. The coefficient on delta is positive and significant.

Additionally, for the regressions in both Tables 2, 3 and 4, I include year dummy variables, and I use logarithmic values of vega and delta rather than the raw values. The results on vega are robust to all these alternative specifications.

CONCLUSION

Corporatization and listing of SOEs and the adoption of profit objectives is meant to accelerate growth and encourage innovation and investment. This process requires giving CEOs more autonomy and so it is very important that they are properly rewarded and properly monitored. Since 1998, listed firms in China have had to disclose the compensation of CEOs.

This study assess the relation between executive incentives, risk-taking and firm performance measured by both ROA and stock return. I applied three-simultaneous-equation using 3 Stage least Square (3SLS) method in which vega, delta and firm risk/performance are all treated as endogenous variables and are jointly determined. Empirical results showed as firms expand more risk investments, firm risk is positively related to vega and negatively related to delta. This finding has important implication that vega attribute to managers' risk-taking behavior while delta align interest between investor and firm. Moreover, CEO incentive compensation, measured by both vega and delta, are positively related to firm performance. These results are robust with logarithmic values and I include both industry dummy as well as year dummy variables.

The findings of this study have important implications for privatization reforms in China: First the findings of this study suggests that private blockholders and profit-oriented SOEs provide superior monitoring of listed firms than State bureaucracies, and they encourage the use of performance related pay for CEOs and top management. This policy implication is in line with the ownership reform suggested by Chen et al. (1998). Another policy suggestion is that executive stock options should be encouraged. At the present time, executive stock options, outright stock ownership, and stock appreciation rights are missing ingredients in most CEO reward systems in China. Compensation committees are relatively rare in China yet these can benefit firms by designing appropriate incentive systems that align the interests of managers and investors. Compensation committees should be encouraged. Secondly, the lack of well-qualified and experienced senior managers and CEOs is one glaring impediment to improving efficiency in SOEs is. The State is well aware of this problem and strenuous efforts are being made to train the next

generation of business leaders. Allied to this however, there must be a concerted effort to improve the incentives and rewards for CEOs. Without appropriate top management rewards, the efforts exerted in economic restructuring may be in vain.

This project is an innovative study to foster a better understanding of compensation structure in China. This paper is timely insofar as it informs the current hot debate on aligning CEO pay scheme to firm performance in the emerging market. This paper provides implications for corporate governance, suggesting that compensation for executives may offer an effective tool for risk regulation. This study provides empirical evidence showing that regulators in China need to consider a new paradigm that provides appropriate incentives for risk-taking within the compensation structure. Especially the use of managerial incentives on the sensitivity of compensation to managerial risk-taking (Coles, et al 2006; Yang, 2011a,b,c.). The empirical findings of this study also have important implication for policy maker and provide critical insight to China privatization reform.

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497 **Table 1:** Data descriptive statistics

Variables	Mean	Median	Min	Max	Std
Compensation					
Vega	10.45	12.36	0.10	105.42	32.56
Delta	10.23	8.57	0.21	123.57	35.12
Cash compensation (000s)	432.57	419.23	82.57	2418.33	898.66
Performance					
ROA	1.86	3.28	-57.21	35.73	15.25
Stock return (RETURN)	42.15	51.28	-25.36	389.26	71.23
Firm characteristics					
Profit (000,000s)	42.11	38.43	-652.56	1315.19	142.38
Sales (000,000s)	852.34	361.78	-58.62	9873.41	889.25
Assets (000,000s)	1361.28	987.56	105.29	20368.57	1053.22
Market to book ratio	2.43	2.10	0	12.35	2.81
Debt ratio (DEBT)	0.15	0.08	-0.25	6.38	0.42
Governance structure					
State ownership (GOV)	0.56	0.76	0	1	0.48
Ownership concentration (CONC)	0.23	0.21	0.02	0.75	0.58
Foreign shares (FSHARE)	0.15	0.08	0	1	0.62
Board size (BOARD)	9.52	8.76	5	22	2.73

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Table 2: Simultaneous Equations (3SLS): Firm risk and CEO compensation structure

Variables	Risk	Vega	Delta
CEO compensation measures			
Vega	0.128*** (0.004)		1.236*** (0.015)
Delta	-0.053*** (0.006)	0.439*** (0.013)	
Risk		2.428*** (1.023)	4.521** (0.051)
Control variables			
Long-term debt ratio		4.135*** (0.006)	
Growth opportunities		2.187*** (0.024)	
Firm size	0.257*** (0.015)	3.315*** (0.062)	-4.136* (0.032)
Stock prices			0.362*** (0.082)
Dummy variables			
Year dummies	YES	YES	YES
Industry dummies	YES	YES	YES
R-square	0.368	0.756	0.718

Robust standard errors are reported in the parentheses. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

511 **Table 3:** Simultaneous Equations (3SLS): Firm Performance and CEO compensation structure

Variables	ROA	Vega	Delta
CEO compensation measures			
Vega	0.135*** (0.006)		1.135*** (0.042)
Delta	0.042*** (0.014)	0.258*** (0.011)	
ROA		3.625*** (1.038)	3.312** (0.046)
Control variables			
Long-term debt ratio		3.672*** (0.015)	
Growth opportunities		2.149*** (0.036)	
Firm size	0.367*** (0.009)	2.897*** (0.041)	-3.316* (0.018)
Stock prices			0.436*** (0.017)
Dummy variables			
Year dummies	YES	YES	YES
Industry dummies	YES	YES	YES
R-square	0.420	0.698	0.731

512 Robust standard errors are reported in the parentheses. ***, **, and * indicate statistical significance
513 at the 1%, 5% and 10% levels, respectively.

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521 **Table 4:** Simultaneous Equations (3SLS): Firm performance measure (Return) and CEO
522 compensation structure

Variables	Return	Vega	Delta
CEO compensation measures			
Vega	0.105*** (0.028)		1.892*** (0.047)
Delta	0.096*** (0.062)	0.586*** (0.008)	
Risk		3.356*** (1.025)	2.289** (0.038)
Control variables			
Long-term debt ratio		4.258*** (0.017)	
Growth opportunities		3.112*** (0.083)	
Firm size	-0.361*** (0.019)	2.576*** (0.078)	-3.361* (0.048)
Stock prices			0.576*** (0.009)
Dummy variables			
Year dummies	YES	YES	YES
Industry dummies	YES	YES	YES
R-square	0.456	0.732	0.691

523 Robust standard errors are reported in the parentheses. ***, **, and * indicate statistical significance
524 at the 1%, 5% and 10% levels, respectively.

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