

Risk-Taking Incentives and Risk-Talking Outcomes

Dev R Mishra
Edwards School of Business
University of Saskatchewan
mishra@edwards.usask.ca

I find a strong positive association between CEOs' option-based compensation and political risk revelations during corporate earnings conference calls. Such effect persists only in the subsample of firms that demonstrate lower than median total and idiosyncratic volatility, and within lower volatility subsample it is more pronounced for the firms carrying lower than median new investments. These findings suggest CEOs with options in pay packages likely find political risk-talking during corporate conference calls as a viable alternative to boost proxies of risk-taking outcomes (such as, equity price volatility) for appeasing their board and shareholders, when they anticipate risk-taking expectations untenable. By doing so, CEOs with convex compensation contracts likely influence equity price volatility thus enhance their own wealth attached to the firm and preserve such incentives.

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1. INTRODUCTION

Including executive options in pay packages as a means to enhance managerial risk-taking incentives has been popular for several decades. Opportunistic options backdating that prevailed much of the late 20th and early 21st century created a significant public uproar (Daines, McQueen & Schonlau, 2018), which led to regulation changes around accounting treatment of options with their implementation from 2006, and notable prosecutions for wrongdoing (see, e.g., Ertimur, Ferri & Maber, 2012). This change in accounting treatment of option-based pay (especially option grant date scheduling and fair value reporting) and subsequent prosecutions have significantly reduced the share of option-based compensation in favor of other forms of equity-based compensation, such as performance-based restricted stocks in recent years (Edmans, Gabaix & Jenter, 2017; Bettis, Bizjak, Coles & Kalpathy, 2018). Still, options remain a nontrivial component of CEO pay packages for many firms, accounting for about a fifth of total compensation (Murphy, 2013). For S&P 1500 CEOs a raw estimate shows, while average total equity-based pay (including option-based pay) hovers around 50% of total pay, options component is in declining trend. For example, the annual share of option-based pay remained at about 40% of total pay in 2002 for S&P 1500 CEOs, it ranges from about 7% to 20% since 2006. Yet, options are key to the design of convex compensation packages as option-based pay causes little downside risk to CEOs' wealth, while allowing CEOs to share all the benefits from the upside potentials - effectively motivating them to take on more investment risk. In this paper, I examine whether

option-pay incentivizes managers to reveal more political risk during the earnings conference calls and find strong evidence to this effect.

An optimal executive compensation package is expected to align managerial interests to those of the shareholders, such that managers undertake investment and financing policies that involve positive NPV projects. However, undiversified managers' pursuit for a "quiet life" (Danthine & Donaldson, 2008) may often preclude such alignments, for example, *"Risk-neutral shareholders would like firm managers to undertake all positive net present value (NPV) projects (hence firm value increasing) regardless of their risk. However, risk averse managers prefer to undertake less risky positive NPV projects, thus passing up some positive but risky NPV projects that shareholders would like undertaken"* (see, Rajgopal & Shevlin, 2002, p.148). Literature has long argued executive option-based compensation (or convex compensation contracts) are expected to alleviate managerial risk avoidance and align managerial interests to those of shareholders who seek to accept positive NPV projects irrespective of their riskiness (Jensen & Meckling 1976; Myers, 1977; Smith & Stulz, 1985). While there are some dissenting views. For example, Lambert, Larcker & Verrecchia (1991) argue option-based pay packages likely expose managers' wealth to firm risk thus discourage risk-taking and Ross (2004) argue options pay does not necessarily reduce managerial risk aversion. Prior empirical literature supports the majority view that the convex compensation contracts containing a significant option-based component do help motivate managers to take on risky projects (Guay, 1999; Rogers 2002; Sanders & Hambrick, 2007; Low, 2009; Gormley, Matsa & Milbourn, 2013). While some recent studies provide evidence to the contrary

(Hayes, Lemmon & Qiu, 2012), suggesting that the *“convexity inherent in option- based compensation”* does not necessarily align managerial interests to those of shareholders because there is little evidence *“that the decline in option usage following the accounting change results in less risky investment and financial policies”* p.174.

Despite managerial efforts to consummate the message embedded in compensation packages, the risk outcomes may not necessarily fit those expected by managers and shareholders. Managers that have incentives to demonstrate risk-taking to preserve the incentives they receive in their compensation packages may resort to alternative strategies to influence the demonstration of risk-taking outcomes. In those situations, for example, managers likely have incentives to adjust other inputs that may eventually render visibly risky outcomes. When risk outcomes (often measured by equity price volatility) do not elevate to managerial expectations, managers may resort to *“mitigate such effects through earnings management”* (Grant, Markarian & Parbonetti, 2009, p. 1029). Similarly, Armstrong, Larcker, Ormazabal & Taylor (2013, p. 328) argue *“if misreporting increases both equity values and equity risk, ceteris paribus, managers with greater risk-taking incentives will be more likely to misreport because they will be less averse to the increased equity risk that accompanies misreporting.”* Moreover, analytically Peng and Röell (2008) demonstrate that options pay likely motivates managers to inflate their reports and likely exert a *“more powerful impact on manipulation than stock awards, given their higher pay-performance elasticity.”* Empirical evidence supports these views, for example, risk-taking incentives positively affect income smoothing (Grant et al., 2009) and option-based pay positively associated with misreporting thus equity

compensation that make managers less averse to risk encourage misreporting (Armstrong et al., 2013). Apart from this, there is significant literature that shows compensation structures are related to accounting irregularity, for example, CEO compensation delta positively associated with discretionary accruals (Bergstresser & Philippon, 2006), financial restatements (Burns & Kedia, 2006), instances of fraud and misrepresentations (Feng, Ge, Luo & Shevlin, 2011) and option-based pay encourages restatements (Cheng & Farber, 2008).

Overall, this literature supports the intuition that option-based compensation packages not only encourage managers to take risk, but they likely also motivate them to indulge into practices that likely make equity prices more volatile. Such packages are expected to provide managers incentives to take risk (increase volatility of firms' cash flows and returns), because they allow managers to share the benefits from the increase in firm value with little exposure to downside risk. From the managers' perspective, if risk-reporting increases both the firm's equity value and equity price volatility (risk), managers receiving options in compensation contracts have incentives to highlight and talk more about risk where possible, as they will be less averse to the outcomes of excessive risk reporting. This is consistent with Peng and Röell (2008)'s arguments that options pay (as opposed to stock pay) is a stronger cause for corporate manipulations. Earnings conference calls are voluntary and flexible information events during which corporate executives (e.g., the chair, CEO and CFO, and as appropriate other executives) present information about firms' financial results and answer questions from participants such as analysts, investors and other interested parties. Therefore, earnings

conference calls are the most opportune avenue that provide managers flexibility to voluntarily use words, tone, sentences and discussions that imply risk. I refer the voluntary political risk revelations (*PRR*) during the earnings conference calls as *risk-talking*.

Against the backdrop of these arguments and flexible risk disclosure environment of corporate earnings conference calls, in this paper, I argue that risk-taking incentives likely motivate managers to speak more about political risk during corporate earnings conference calls. Consequently, *risk-taking incentives* may result in *risk-talking outcomes*, such as excessive voluntary revelations of political risk during earnings conference calls. This tendency can be especially strong when managers suspect failure to meet expected risk targets. Accordingly, I test whether CEOs with options in compensation packages reveal more political risk during corporate earnings conference calls. Using Hassan, Hollander, van Lent and Tahoun (2019) measure of firm-level political risk based on the textual analysis of corporate earnings conference call transcripts as the proxy of managerial political risk revelations (*PRR*), I find a strong positive association between the share of options in CEO compensation and *PRR*.¹ Further, I find such effect persists only in the subsample of firms that demonstrate lower than median total and idiosyncratic volatility. Moreover, within lower than median volatility subsample option-pay – *PRR* sensitivity is more pronounced in the subsample

¹ This measure of political risk talks according to Hassan et al. (2019, p.2135) reflects “*the share of their quarterly earnings conference calls that they devote to political risks.that it correctly identifies calls containing extensive conversations on risks that are political in nature, that it varies intuitively over time and across sectors, and that it correlates with the firm’s actions and stock market volatility in a manner that is highly indicative of political risk.*”

demonstrating lower new investments. This suggests that managers with convex compensation packages reveal more political risk when the attained risk outcomes are expected to be lower. These findings support the view that managers with options in pay packages find disguising the actual level of risk-taking by using *risk-talking* as an alternative strategy to appease the board and shareholders, when they sense unattainability of expected risk-taking targets rooted in their compensation packages.

While these results are strong, the literature that examines the effect of convex compensation packages on the risk recognizes significant endogeneity issues (Rajgopal & Shevlin, 2002; Shue & Townsend, 2013; Gormley et al., 2013). In particular, it is difficult to argue that the casualty flows one way from the convexity of compensation package that is determined by the board (or the compensation committee) and the risk-taking outcomes that is attained by managers. The board in fact designs the compensation packages to motivate managers to fulfill their anticipated risk outcomes, therefore, there is an obvious possibility of reverse causality. Also, on one hand, it is possible that a risk averse board may offer fewer options in compensation packages. On the other hand, more risk-averse CEOs who prefer risk mitigation instead of risk-taking are more likely to prefer working for firms that include lower or no options in executive compensation packages. Therefore, it is rather hard to argue that causality is unidirectional in an *option-based pay risk-taking* framework, suggesting spurious empirical association between convex compensation packages and risk-taking. The same arguments apply, to an extent, to *risk-talking* by managers, while clearly boards do not design convex compensation packages to encourage managerial *risk-talking*.

While compared to those in ‘incentive-risk-taking’ framework identification issues are likely not as paramount as in ‘incentive-*risk-talking*’ framework, empirical challenges due to firm-CEO (board’s goals-CEO) matching cannot be ignored. These identification challenges point to a significant effect of observed or unobserved firm specific heterogeneity. To this end, I use panel firm-fixed effects framework as the primary empirical design to account for unobserved firm specific heterogeneity, while simultaneously using a healthy set of firm-specific observed controls including controls for prior risk-taking and its outcomes. Apart from this, an alternative argument is that *risk-talking* by managers is likely to reflect actual risk in the firm, such risks for a particular firm may be persistent overtime. To address this, in all tests where *PRR* is the dependent variable, I account for the *PRR* lagged by one period. Moreover, to further address identification issue due to persistency of *PRR*, I rely on annual change in *PRR* as the dependent variable and proxies of option- based pay (risk-taking incentives) as the key test variable, while at the same time I account for firm-fixed effects. In doing so, the key findings of this research continue to persist further alleviating potential causality concerns.

Like firm-specific heterogeneity, *risk-talking* could be one of the inherent attributes of managers themselves. In regression tests, I account for several CEO attributes that may likely have an effect on CEOs’ *risk-talking* outcomes and that may likely be correlated with compensation structures. To further address potential identification issues due of unobserved managerial heterogeneity I account for CEO-firm combination fixed effects. In using a battery of such identification related

corrections, I continue to find strong evidence that options in compensation packages encourage *risk-talking* outcomes.

The political risk revealed in corporate conference calls, *PRR* is the key proxy of *risk-talking* by managers in this study, an alternative explanation could be that managers talk more about political risk, do so correctly, because of the increase in such risk in the firm due to unobserved industry shocks to political risk. Such industry shocks to political risk (e.g., change in federal and local political power, enactment of regulations affecting particular industries such as clean energy) are not fixed such that firm-fixed effects fail to capture them. I address this alternative scenario in two stages: first, by using *PRR* in excess of industry average *PRR* as the dependent variable in the panel firm-fixed effects framework, and second, by controlling for joint Year X Industry effects along with firm-fixed effects. Joint Year X Industry effects capture the dynamic nature of political shocks thus effectively help account for any annual shift in the political risk environment for the firms in a particular industry. The results continue to persist in addressing the effect of potential shocks to the political risk environment of industries.

This study contributes to the past literature on risk-taking incentives embedded in CEO compensation contracts in general and their eventual effect on political risk revelations, in particular. More importantly, it sheds further light on manager-shareholder agency conflicts, and that compensation contracts, such as option-based pay packages, while intended for alleviating managerial opportunism, can have many ways to feed on managerial opportunism (Rajgopal & Shevlin, 2002). Risk-taking

incentives long have been blamed for opportunistic managerial behavior such as option backdating, earnings manipulation, and misreporting (Bergstresser & Philippon, 2006; Burns & Kedia, 2006; Cheng & Farber, 2008; Peng & Röell, 2008; Grant et al., 2009; Feng et al., 2011; Armstrong et al., 2013), risk-shifting (Annantharam & Lee, 2014), selecting projects that increase systematic risk as opposed to idiosyncratic risk (Armstrong & Vashishtha, 2012), all of which are likely motivated to preserve incentives they receive. This study uncovers another likely suboptimal behavior of managers linked to risk-taking incentives embed in pay packages, that I call *risk-talking* as such by opportunistically revealing (or not-revealing) political risk during earnings conference calls. Apart from this, it provides boards and corporate monitors a message that equity price volatility could be a poor criterion for assessing managers' risk-taking performance as it can equally be affected by managerial talks about unpursued or non-existent risks.

2. DATA & VARIABLES

I match S&P 1500 firms from executive compensation database to Hassan et al. (2019) firm-level political risk dataset. Because Hassan et al. dataset covers the period from 2002 to 2021 and ExecuCom covers 1993 to 2020, the sample in this research covers annual CEOs' compensation structure from 2002 to 2020, and political risk measures from 2002 to 2021. I match this dataset with Compustat annual database which returns a sample of 30,495 firm-years with non-missing values for the key test (compensation) and dependent (political risk revelation) variables.

2.1. Firm-level political risk & risk-taking outcomes:

Hassan et al. (2019) perform textual analysis of earnings conference call transcripts to collect the number of bigrams (combinations of words) implying various risks including political risk. They show that the measure of political risk has positive correlation with return volatility, while it has a negative association with firms' investments, capital spending and growth in hiring. This measure of political risk revelations (*PRR*) may account for both *a) existence of political risk in the firm and b) opportunistic as well as honest revelation of such risk during earnings conference calls*. Because political risk is positively associated with firm-level volatility (a common measure used in the literature as an outcome of a firm's risk-taking), I argue that the revelation of political risk to analysts, investors and other parties during earnings conference calls could be a manager's alternative strategy to increase volatility.

I extract Hassan et al. (2019) proxies from <https://www.firmlevelrisk.com/> and scale these estimates of risk revelations by annual sample standard deviations to produce standardized estimates for risk proxies. Therefore, the current proxies of *PRR* represent the number of standard deviations, where one standard deviation represents standard deviation of the sample firms' *PRR* for each sample-year. I also extract and scale the proxies of total risk and non-political risk revelations during earnings conference calls. Further, I create two proxies of outcomes of the firm level risk-taking, which are total volatility (*TVOL*) computed using weekly total returns for 52 weeks and idiosyncratic volatility (*IVOL*) computed using residuals from the market model for the same 52 weekly returns, which is consistent with Roussanov and Savor (2014).

2.2. CEO-compensation structure:

Compensation contracts involve risky as well as fixed non-risk compensation packages. The goal of the risky portion of the compensation package is to align managerial interests to those of the firm's owners by encouraging the former to undertake positive NPV projects irrespective of their riskiness. I create proxies of total compensation measured as "sum of Salary + Bonus + Other Annual + Restricted Stock Grants + LTIP Payouts + All Other + Value of Option Grants". Then decompose this total compensation into several components, starting from *CashPay*, which represents cash salary plus bonus as percentage of total pay; *RiskyPay*, which includes *restricted stock grants, long-term incentive plan payouts* and *fair value of option grants*; *StockPay*, which is the share of non-option equity pay in total pay; and *OptPay*, which is the share of the fair value of annual options grant in annual total pay. I also estimate *Vega* of the option-based pay following Core & Guay (2002), which measures the effect in the value of CEO's new wealth for one percent change in stock return volatility. I use *Vega* of the new wealth (annual options grants) because I focus on the effect of CEO's annual pay on risk revelations, while controlling for CEOs wealth embed in the firm. Finally, I estimate the delta of the CEOs wealth, which measures the change in the value of CEOs firm-specific equity and options ownership for every percent change in the stock price.

2.3. Control and other variables:

I create a set of firm and CEO specific control variables, including LogAssets, Return on Assets (ROA), Leverage, Cash-holdings (Cash_hld), Institutional Ownership

(InstOwn), Tobin's Q (Q), CEO Age, CEO Tenure, CEO Ownership in the firm (CEOOwn), CEO also serving as board chair (CEO Chair) indicator, indicator variable for CEOs gender (Female), indicator variable for CEO education (MBAPHD), indicator variable for CEOs starting their career at the start of the recessions (RecessionStart) (Scholar & Zuo, 2017), CEO with work experience in armed forces (MilitaryCEO) (Benmelech & Frydman, 2015) and various other variables. All these variables including those discussed in section 2.1 and 2.2. are defined in Appendix A.

[Insert Table 1 here]

Table 1 presents statistical properties of these variables. Some points to note, *OptPay* in this sample is about 17%, which is relatively lower than what is reported in prior studies covering periods mostly before the regulations around option-based pay expensing (FAS123R) came into force, still this number is not trivial. However, equity pay (including option-based pay) consistently represents about half of the CEO's total pay package. Table 2 presents pairwise correlation between explanatory variables. Overall, the correlations between explanatory variables are not very high, thus I do not anticipate adverse effect from potential collinearity.

[Insert Table 2 here]

3. ANALYSIS

As discussed above, the key motive behind including options in CEOs' pay packages is to increase convexity of the package and provide CEOs with incentives to take more profitable investments irrespective of their risk consequently aligning CEO

interests with those of the shareholders. I first start by observing political risk revelations during earnings conference calls around CEO options grant years. In Table 3, in a subsample of firms that included options in CEO pay packages for one or more years over the sample period, I estimate mean and standard deviation of the proxy of annual political risk revelations (*PRR*) for the *option grant year*, *one year before the option grant year* and *one year after the option grant year*. In this table, I observe no-significant change in *PRR* from one year before the option grant year to the options grant year, however, *PRR* significantly increases in the years subsequent to the option grant year. This result provides preliminary evidence that option grants likely provide executives with incentive to talk more about risk during earnings conference calls subsequent to receiving options grants.

3.1 Multivariate analysis:

Building on the above univariate premise, in the rest of this section I examine how compensation structures involving option grants incentivize CEOs to reveal political risk during earnings conference calls. It is obvious that univariate results suffer from significant bias due to their inability to account for CEO, firm, or industry specific known or unknown heterogeneity that potentially could drive CEOs' incentives to reveal political risk. Therefore, in multivariate analysis I start by accounting for a healthy set of observable firm and CEO attributes, and unobservable time- and firm-effects. The *PRR* are highly firm specific and likely involve significant correlation overtime,

therefore, in all regressions I account for the *PRR* lagged by one period such that the coefficients of the test variables largely capture their effect on the incremental *PRR*.

More importantly, literature overwhelmingly echoes significant identification challenges involving the effect of pay packages in managerial risk-taking (for example, Rajgopal & Shevlin, 2002; Shue & Townsend, 2013; Gormley et al., 2013; and others). Because the optimal firm risk targets could be pre-determined by the board and in turn the board also designs CEO compensation contracts that incentivize CEOs to achieve such risk targets, it is rather challenging to mitigate potential reverse causality and identification issues. Existing literature does empirically show that boards adjust risk-taking incentives after observing achieved level of risk in the preceding period (Gormley et al., 2013). While it cannot be denied that both expected risk-taking and pay packages are pre-determined by the firm, literature has many attempts to address endogeneity of pay packages and risk-taking. For example, prior studies relied on systems of equations (see Rajgopal & Shevlin, 2002; Coles, Daniel & Naveen, 2006), instrumental variables (Shue & Townsend, 2017), exogenous shocks to such pay packages and risk (Chava & Purnanandam, 2010; Gormley et al., 2013). While the board does not necessarily structure option-based pay packages to incentivize managers to reveal non-existent risk, I anticipate similar identification challenges, albeit in a smaller way, plague this *risk-talking* analysis. To mitigate these challenges, first, in all regressions I use *PRR* revealed during the fiscal year subsequent to the option grant fiscal year (PRR_{T+1}) as the dependent variable, and simultaneously control for the *PRR* values lagged by a year (PRR_T). The latter not only helps account for potential time-

series correlation, but it also helps control for the effect from the adjustment in compensation packages after observing managers' political risk revelations. Second, to address potential firm specific unobserved or unaccounted for observed tendency of board to grant option-based pay, I adopt panel firm-fixed effects as the key empirical strategy.

Using the empirical framework discussed above that involves a number of firm and CEO specific observable controls, including lagged values of dependent variable, and firm-fixed effects with cluster robust standard errors, I present the key tests in Table 4. In Model 1, I start by examining whether total pay has an effect on subsequent *PRR* and find that there is no significant effect of the size of *Total Pay (LogTDC1)* on *PRR*. Next in Model 2, as expected the share of *CashPay* in the compensation package is insignificantly associated with PRR_{T+1} . Similarly, Model 3 shows the proportion of *RiskyPay* (that also includes option-based and other risky pay) in the pay package not significantly associated with PRR_{T+1} . In model 4, however, *StockPay*, which represents the share of non-option-based equity pay, loads with a weak negative coefficient vs. PRR_{T+1} . This finding is important and suggests that despite significant increase in the share of non-option based risky pay package after the implementation of regulation changes surrounding option-based compensation in 2006 and onwards, surprisingly such non-option risky pay packages do not increase political risk revelations. Next, in Model 5, however, as expected PRR_{T+1} is positively and significantly associated with *OptPay*, which is consistent with analytical predictions that convexity of CEO compensation incentivizes CEOs to reveal more political risk during the earnings

conference calls. This evidence is further backed in Model 6, where natural log of number of options awarded ($LogOptAwd$) loads with a significant positive coefficient and in Model 7, natural log of $Vega$ of the options granted in the firm-years ($LogAwdVega$) is positively associated with PRR_{T+1} . Overall, I interpret this evidence as suggesting that the options in pay packages positively affect CEOs' incentives to reveal risk during earnings conference calls. Economically, one standard deviation (0.234) change in $OptPay$ leads to about a 0.02 change in the value of PRR_{T+1} , which is about 3.34% increase from its median value.

3.2. Additional identification and sensitivity issues:

Table 5 presents sensitivity of these results to several other potential empirical issues. First, the current sample covers four years prior to the changes in regulations surrounding option-based pay reporting (years 2002 to 2005). In untabulated statistics 2002 share of executive options in CEO pay package stood at around 40% (while non-option equity-based compensation remained around 8%). The former gradually declined (while the latter gradually increased) standing at 20% (20%) in 2006, and 7% (44%) in 2019. To test the effect of $OptPay$ in *risk-talking* incentives after these regulation changes, in Panel A of Table 5, I restrict the sample to years 2006 to 2020. In doing so, I continue to observe strong and similar results. While examining sensitivity of risk-taking to CEO pay package, especially, that of $Vega$, prior empirical studies control for CEO pay-performance sensitivity as embedded in Delta of CEOs' wealth. In Panel B,

therefore, I control for CEO's wealth delta measured as the change in CEOs' wealth with a one percent change in the value of the stock and find the results continue to hold.

In the main tests, I account for a healthy set of observable CEO characteristics, while also controlling for observable and unobservable firm specific heterogeneity. However, it is obvious that some observable and unobservable CEO specific heterogeneity that may drive risk and potentially be correlated with CEOs' *risk-talking* incentives could be suspects of being left out. Therefore, in Panel C, I start by accounting for some additional observable CEO attributes, such as CEO Overconfidence (*Holder67*) indicator measured as per Malmendier and Tate (2005, 2008), CEO position at other firms (*CEO at other*) which could be observed by board *a priori*, and *Military CEO* indicator measured as CEOs' employment in Armed Forces similar to that used in Benmelech & Frydman (2015). Both *CEO at Other* and *Military CEO* are extracted from BoardEx employment files. In accounting for these observable CEO attributes, results remain practically unchanged while none of these three attributes are significantly correlated with PRR_{T+1} . Further, in Panel D, results continue to hold when I use panel tests that account for CEO-Firm joint effects apart from other controls. However, I acknowledge that the *StockPay* loads with an insignificant coefficient, while maintaining the sign, and the significance of the coefficient of *OptPay* and *LogAwdVega* slightly declines in accounting for CEO-firm joint effects.

Thus far, I attempt to address potential causality issues by controlling for lagged value of *PRR* and firm-fixed effects. While I understand that time invariant industry-effects are largely accounted for in using time-invariant firm effects, political risk could vary significantly across industries overtime and there could be industry specific differences in the existence and reporting

practices of political risk. Therefore, in Models 1 to 3 of Panel E, I use *PRR* adjusted for industry average *PRR* ($adjPRR_{T+1}$) as dependent variable and control for its lagged value. In doing so, *OptPay*, *LogOptAwd* and *LogAwdVega* all continue to load with a positive and significant coefficient vs. $adjPRR_{T+1}$. In Panel F, I re-run the base case models using joint Industry \times Year fixed effects effectively capturing time-varying industry specific shocks to political risk, along with time-invariant firm effects. In doing so, I continue to find *OptPay*, *LogOptAwd* and *LogAwdVega* continue to load with positive and significant coefficients, while other components of CEO compensation an insignificant coefficient including *StockPay*, which was appeared significant negative in Table 4. Further, in Models 4 to 6 of Panel E, while keeping the same panel firm-fixed effects as main empirical specifications, I use the change in *PRR* from time T to time T+1 as dependent variable. In doing so, I continue to observe *OptPay*, *LogOptAwd* and *LogAwdVega* continue to load with a positive and highly significant coefficient further supporting that these findings are NOT significant outcomes of such identification issues.

3.3. Total and non-political risk revelations:

Now that it is established that political risk revelations during earnings conference calls are a significant positive function of option-based pay, I test whether total and non-political risk revelations are equally associated with CEO risk-taking incentives. In Table 6, models 1 to 3, I find Hassan et al. (2019) proxy of the extent of total risk revelations demonstrates weaker positive correlation vs. the proxies of option-based pay, while in models 4 to 6, non-political risk revelations demonstrate surprisingly negative and rather insignificant association vs. the proxies of option-based pay. Hassan et al. (2019, P.2137) specifically report that “*top-scoring transcripts correctly*

identify conversations that center on risks associated with politics, including, for example, concerns about regulation, ballot initiatives, and government funding.” Therefore, the lack of sensitivity of option-based pay and non-political risk, may be due to this measure’s inability to capture firm risk (other than political risk) substantially or their lack of meaningful relation to future equity price volatility.

3.4. Option-based pay and risk-taking:

To verify whether the findings from the prior literature – option-based pay enhances managerial risk-taking – hold in the current sample, I examine the effect of option-based pay on total volatility measured as the standard deviations of 52 weekly returns for each fiscal-year, and idiosyncratic volatility measured as the standard deviation of residuals from the single factor market model using again 52 weekly returns for each fiscal-year. In Table 7, I use the panel fixed effects specifications where the proxies of total volatility (*TVOL*) and idiosyncratic volatility (*IVOL*) are the dependent variables and proxies of option-based pay are test variables. The result support the evidence presented in prior literature that options in CEO pay packages indeed provide incentives to take on higher risk as evident from these outcomes of the firm-level risk-taking.

Obviously, managers of firms with higher level of political risk are likely to reveal more political risk during the corporate earnings conference calls. Given the findings in Table 7, *PRR* may be suspected to reflect existence of political risk or other risk-taking more closely than *risk-talking*. Therefore, it is prudent empirical strategy to control for

the outcomes of risk-taking in the tests that examine the effect of pay structure in *risk-talking*. I report the results of the analysis performed to this effect in Table 8. Tests reported in Panel A control for some obvious proxies of firms' investment risk-taking such as R&D expenses as percentage of sales, SG&As expenses as percentage of sales as a portion of SG&A expenses also include investment in intangibles such as organizational capital, advertising and publicity which are expected to have long-lasting effects, and capital investments (both via acquisitions and green field investments) as percentage of PPE. In doing so, I do not find these measures of firm-level risk-taking associated with PRR_{T+1} , while the proxies of option-based pay continue to demonstrate a significant positive effect. In Panel B, I control further for two ultimate outcomes of firm-level risk-taking, *TVOL* which measures firms' total risk (both systematic and unsystematic risk) and *IVOL* which measures idiosyncratic risk reflecting firm specific risk-taking. In doing so, I find both *TVOL*, (models 1 to 3), and *IVOL* (models 4 to 6) load with a positive as expected, but statistically insignificant coefficient suggesting that more risk-taking unassociated with *risk-talking*. However, in controlling for *TVOL* or *IVOL*, the proxies for risk-taking incentives (option-based pay) continue to load with strong positive coefficients suggesting that political risk revelations are significant and important outcomes of options in CEO compensation packages upon controlling for the outcomes of risk-taking.

To summarize, CEOs with risk-taking incentives, as evident in annual share of options in their compensation packages, reveal more political risk during corporate earnings conference calls. The results also suggest, consistent with prior literature, such

CEOs also take more risk evident from positive association of firm risk outcomes vs. option-based pay. Therefore, I interpret these findings as suggesting option-based pay likely provide managers with an incentive to take on more risk as well as the incentive to reveal more risk (perhaps, opportunistically) by talking more about it during earnings calls.

4. RISK OUTCOMES, 'OPTIONS PAY - PRR' SENSITIVITY

I argue that despite managerial efforts (no efforts) to consummate the message embedded in compensation packages, the realized risk outcomes (e.g., volatility) may not necessarily always meet the expectations of managers and shareholders. If managers with convex compensation packages expect lack of risky outcomes ex-ante given the current state of such outcomes, they have incentives to adjust other inputs that may eventually render visibly risky outcomes by increasing volatility of equity prices. When risk (or volatility) outcomes do not elevate to managerial expectations, they may resort to manipulations (Peng & Röell, 2008), earnings management (Grant et al., 2009), or misreporting (Armstrong et al., 2013). Empirical evidence in these research supports positive association of risk-taking incentives to earnings management (Grant et al., 2009) and positive association of option-based pay (especially, compensation *Vega*) with misreporting (Armstrong et al., 2013). Against the backdrop of these findings, I argue that it is likely that managers who receive high option-based pay but fail to meet investment risk taking targets resort to revealing more political risk during conference calls as an alternative and opportunistic strategy to demonstrate elevated risk-taking

outcomes. To examine this proposition more directly, I divide sample firm-years at median of *TVOL* and *IVOL* in two groups - High and Low, and separately test sensitivity of PRR_{T+1} vs. *OptPay* for each of these groups. In Models 1 and 2 of Table 9, I observe *OptPay-PRR* sensitivity is positive and significant (i.e., more pronounced) in the firms that observe lower *TVOL*. Similarly, in Models 7 and 8, I observe *OptPay-PRR* sensitivity is positive and significant only in the sub-sample of firm-years that observe lower *IVOL*. These results support the arguments that CEOs that receive option-based pay likely compensate for expected risk outcomes by **talking** more about political risk during the earnings conference calls, effectively arbitrarily influencing risk outcomes.

Still, it remains unclear whether such risk talks are heterogeneous across level of investment risk-taking in the firm. To this, end I further divide high-risk outcomes and low risk outcome sub-samples into two additional groups based on investment risk-taking. I measure investment risk-taking as firm-year CAPEX scaled by PPE (*CAPEX_PPE*) and partition high-low *TVOL/IVOL* subgroups at their respective median by *CAPEX_PPE* such that each *TVOL/IVOL* group has *High_CAPEX_PPE* vs. *Low_CAPEX_PPE* subgroup. Then, I test *OptPay-PRR* sensitivity in these four subgroups, keeping PRR_{T+1} as dependent variable. In model 3, I observe a weak positive coefficient of *OptPay* suggesting positive but weak *OptPay-PRR* sensitivity in the firms that have high risk-taking outcomes (*TVOL*) and high new investments (*High_CAPEX_PPE*). In models 4 and 5, the coefficient of *OptPay* is not significant, suggesting no material *OptPay-PRR* sensitivity in the subgroup of firms with *High TOVL* and *Low CAPEX_PPE*, or *Low TVOL* and *High CAPEX_PPE*. This suggests if managers

receiving options compensation have at least one way to justify higher risk in the firm, they are less likely to pursue *PRR* as alternative way to do so. Further and more interestingly, in model 6, the coefficient of *OptPay* is positive and significant at 5% level. Because Model 6 represents the subsample of firms with *Low TVOL & Low CAPEX_PPE*, these results suggest that *OptPay-PRR* sensitivity is more pronounce in the firm with lower risk-taking outcomes (*Low TOVL*) and lower investment risk-taking (*Low CAPEX_PPE*). This further supports the conjecture that the managers of firms that have expressively lower level of risk-taking, pursue risk **talking** as an alternative strategy for potentially influencing future risk outcomes thus appease boards and shareholders who anticipate risky outcomes.

5. CROSS-SECTIONAL ANALYSIS

I examine variations of risk-taking in the cross sections of various firm specific attributes in Table 10. As the literature suggests larger firms are monitored by more analysts, public and media, such firms are expected to involve lower information asymmetry and agency problems. More importantly, in larger firms, managerial behavior would likely be monitored more closely by analysts and media, which likely dampen manager's ability to behave opportunistically. Therefore, in larger firms, CEOs with options in pay packages may have lower opportunities for misreporting or opportunistically reveal risk without taking or observing it. Consistent with this view in Models 1 and 2, I find that *OptPay-PRR* sensitivity significantly positive in smaller than median firms.

Third, I find *OptPay-PRR* sensitivity more pronounced in more profitable (Models 3 & 4), high debt financing (Models 5 & 6), lower cash holdings (Models 7 & 8), and lower Q (Models 9 & 10) firms. This is also the case when CEOs have lower ownership of the firm (Models 11 & 12) and the firms that face lower product-market competition (Models 13 & 14). Both lower CEO ownership and lower product-market competition imply higher agency conflicts. Fourth, however, surprisingly I find CEO *OptPay-PRR* sensitivity more pronounced in the firms featuring higher than median institutional ownership (Models 15 & 16) and the presence of more than 1 institutional blockholders with 5% or more ownership (Models 17 & 18). Both the firms with higher institutional ownership and multiple institutional blockholders are expected to have stronger external governance given the expected monitoring role of institutional blockholders. More so, literature provides analytical and empirical evidence that the presence of multiple large blockholders likely reduces agency conflicts and expropriation of minority investors (e.g., Bennedsen & Wolfenzon, 2000; Bloch & Hege, 2003; Laeven & Levine, 2008; Mishra, 2011). However, it is likely that CEOs of firms with significant institutional monitoring are under pressure to demonstrate materialization of risk-taking incentives imbedded in their compensation packages. Given such pressure, when sensing poor risk-taking outcomes, such managers likely opportunistically reveal more political risk during the earnings conference calls.

Upshot of this analysis is that there is significant heterogeneity in the sensitivity of *OptPay-PRR* across firm characteristics. Most importantly, the CEOs receiving options in their pay packages, feel the pressure to demonstrate more risk in the firms

that apparently have poor existing risk outcomes (lower total and idiosyncratic volatility) in general, and poor existing risk outcomes combined with low new investments in particular. Managers of such firms likely attempt to compensate for their poor investment risk-taking and risk-taking outcomes by opportunistically revealing more political risk during earnings conference calls.

6. CONCLUSION

Using a sample of S&P 1,500 firms and political risk revelations contained in corporate earnings conference calls, I examine whether risk-taking incentives embedded in convex compensation packages also encourage CEOs to reveal more political risk opportunistically. I find strong evidence to support this argument that option-based pay is significantly positively associated with subsequent political risk revelations during corporate earnings conference calls (which I call *Risk-Talking*), while such pay is also significantly positively associated with the outcomes of higher risk-taking. Further, I examine whether such tendency of managers is an alternative (albeit opportunistic) strategy to influence outcomes of risk-taking. To this end, I find strong support that managers reveal more political risk during earnings conference calls in the firms with lower total and idiosyncratic risk, which are often used as the measurements for managerial risk-taking outcomes. Moreover, such effects are more pronounced in the firms that lack strong risk outcomes (i.e., have lower volatility) and that have undertaken lower new investments. Overall, I find strong empirical support for the link

between options-pay managers' political risk revelations during corporate earnings conference calls to influence the outcomes of risk-taking, i.e., equity price volatility.

I find significant cross-sectional variation in the sensitivity of *PRR* to *OptPay*. Such sensitivity is more pronounced in smaller, more profitable, highly leveraged, cash strained, and under-valued firms. Further, such sensitivity is more pronounced in the firms facing lower product-market competition, lower CEO ownership, higher institutional ownership and more institutional blockholders with 5% or higher ownership. Overall, this study sheds further light on the agency conflicts between managers and shareholders, and effectiveness of CEO pay structure in alleviating or exacerbating them.

Appendix A *Variable Definitions and Data Sources*

| Variable | Definition | Source |
|------------------|--|--|
| <i>TDC1</i> | Total Compensation (Salary + Bonus + Other Annual + Restricted Stock Grants + LTIP Payouts + All Other + Value of Option Grants) | ExecuCom Database |
| <i>TCUR</i> | Total Current Compensation (Salary + Bonus) | The same as above |
| <i>OptPay</i> | Fair value of options grant (OPTGRANT), Blacks' value of options grant (OPTION_AWARDS_BLK_VALUE) where missing divided by TDC1 | Authors' estimation based on ExecuCom database |
| <i>LogOptAwd</i> | Natural log of 1+ number of options awarded (OPTION_AWARDS_NUM). | The same as above |
| <i>CashPay</i> | TCUR divided by TDC1 | The same as above |
| <i>StockPay</i> | Non options risky pay, representing restricted stock grants plus long-term incentive plans (RSTKGRNT 1992 format, STOCK_AWARD_FV afterwards) divided by TDC1 | The same as above |
| <i>RiskyPay</i> | (RSTKGRNT (or STOCK_AWARD_FV) +LTIP+OPTGRANT (or OPTION_AWARDS_BLK_VALUE) divided by TDC1. | The same as above |

| | | |
|---------------------------|---|---|
| <i>Vega</i> | Change in CEO's wealth for every one percent change in stock price volatility $[e^{-dT}N'(Z)ST^{(1/2)}] \times (0.01) \times (\text{\#options granted})$ estimated as per Core and Guay (2002), where d is $\log(1+\text{annual dividend})$, $N'(Z)$ probability density with estimation value of options Z , S spot price at grant date, T is time to maturity. The Vega is based on firm-year option grants. | Authors' Estimation as per Core and Guay (2002) |
| <i>Delta</i> | Wealth delta representing the change in CEOs' wealth for 1% change in the firm's stock price. | Author calculation |
| <i>PRR</i> | <i>PRR</i> is 'annualized firm-level political risk revelations as per Hassan et al. (2019), based on the textual analysis of corporate earnings conference calls', standardized by dividing sample firms' annual standard deviation of <i>PRR</i> . The higher occurrences of bigrams (combination of words) signifying political risk in conference calls give higher value to <i>PRR</i> . | Hassan et al. (2019) |
| <i>RISK</i> | <i>RISK</i> is 'annualized firm-level total risk as per Hassan et al. (2019), based on the textual analysis of corporate earnings conference calls', standardized by dividing sample firms' annual standard deviation of <i>RISK</i> . | The same as above |
| <i>NPRR</i> | <i>NPRR</i> is 'annualized firm-level nonpolitical risk as per Hassan et al. (2019), based on the textual analysis of corporate earnings conference calls', standardized by dividing sample firms' annual standard deviation of <i>NPRR</i> . | The same as above |
| <i>AdjPRR</i> | <i>PRR</i> in excess of <i>Industry-year average PRR</i> | Authors' estimation |
| <i>ΔPRR_{T+1}</i> | <i>PRR_{T+1}</i> minus <i>PRR_T</i> | Authors' estimation |
| <i>LogAssets</i> | The natural log of total assets (AT - \$ million) for the fiscal year ending prior to the cost of equity estimation year. | Authors' estimation based on Compustat data |
| <i>ROA</i> | Operating income before depreciation (OIBDP) ÷ Total Assets (AT) | The same as above |
| <i>LEVERAGE</i> | Book leverage defined as the ratio estimated as $[\text{total long-term debt (DLTT)} + \text{debt in current liabilities (DLC)}] \div \text{total assets (AT)}$. | The same as above |
| <i>Cash_hld</i> | Cash & equivalent (CHE) divided by total assets (AT) | The same as above |
| <i>R&D/Sale</i> | Research and development expenses (XRD) divided by Total Sales (SALE) | The same as above |
| <i>Missing_R&D</i> | 1 for firm-years where Compustat has a missing value for XRD, zero otherwise | The same as above |
| <i>SG&A/Sale</i> | Selling, general and administrative expenses (XSGA) divided by total sales (SALE) | The same as above |
| <i>CAPEX_PPE</i> | Total Capital expenditure (CAPX+AQC) divided by Plant Property and Equipment Net (PPENT) | The same as above |
| <i>Q</i> | Tobin's Q estimated as $[\text{Market Value of Equity (CSHO*PRCC_F)} + \text{Total Assets (AT)-Common Equity (CEQ)}] \div \text{Total Assets (AT)}$ | The same as above |
| <i>Herfindahl</i> | Herfindahl Index of Industry Construction | Compustat |

| | | |
|-----------------------|--|---|
| <i>FirmAge</i> | Number of years since a firm is represented in Center for Research in Securities Prices (CRSP) database. | Authors' estimation based on CRSP database |
| <i>InstOwn</i> | % Shares owned by institutions (INSTOWN_PERC) | Thompson Reuters/WRDs |
| <i>Female</i> | Female CEO Dummy | Authors' estimation based on ExecuCom |
| <i>CEOOwn</i> | % Shares owned by CEOs (SHROWN_TOT_PCT) | ExecuCom |
| <i>MBAPHD</i> | CEO with either an MBA or Ph.D. degree | BoardEx/ExecuCom |
| <i>CEO Age</i> | Age of the CEO by firm-year | The same as above |
| <i>CEO Tenure</i> | Years worked at the firm | The same as above |
| <i>Holder67</i> | 1 for CEO-years after a CEO was found to hold in the money exercisable options, where the market price was 67% higher than the exercise price following the method proposed by Malmendier & Tate (2005, 2008). | Authors' estimation using executive compensation database |
| <i>RecessionStart</i> | CEOs who likely started their career at the start of the NBER recession (Recession CEOs), based on their likely age of graduation from four-year college (completing 22 years and running in 23). | Authors' estimation |
| <i>CEO Chair</i> | CEO who is also the chair of the board | The same as above |

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Table 1: Descriptive Stats

| Variable | Mean | S.D. | 0.25 | Mdn | 0.75 | N |
|--------------------------|-------|-------|-------|-------|-------|-------|
| <i>PRR_{T+1}</i> | 0.846 | 1.006 | 0.291 | 0.563 | 1.040 | 29940 |
| <i>PRR_T</i> | 0.821 | 1.003 | 0.279 | 0.539 | 1.003 | 30495 |
| <i>LogTDC1</i> | 8.200 | 0.996 | 7.535 | 8.269 | 8.910 | 30495 |
| <i>CashPay</i> | 0.327 | 0.255 | 0.139 | 0.236 | 0.439 | 30495 |
| <i>RiskyPay</i> | 0.461 | 0.276 | 0.273 | 0.516 | 0.672 | 30495 |
| <i>StockPay</i> | 0.290 | 0.268 | 0.000 | 0.273 | 0.505 | 30495 |
| <i>OptPay</i> | 0.171 | 0.234 | 0.000 | 0.000 | 0.296 | 30495 |
| <i>LogOptAwd</i> | 2.355 | 2.546 | 0.000 | 0.000 | 4.836 | 30495 |
| <i>LogAwdVega</i> | 0.928 | 1.478 | 0.000 | 0.000 | 1.871 | 30485 |
| <i>LogWealthDelta</i> | 0.889 | 1.474 | 0.000 | 0.000 | 1.770 | 30485 |
| <i>LogAssets</i> | 7.891 | 1.726 | 6.641 | 7.788 | 9.021 | 30495 |
| <i>ROA</i> | 0.120 | 0.098 | 0.071 | 0.116 | 0.168 | 28411 |
| <i>Leverage</i> | 0.247 | 0.207 | 0.068 | 0.222 | 0.371 | 30495 |
| <i>Cash_hld</i> | 0.151 | 0.166 | 0.029 | 0.087 | 0.213 | 29474 |
| <i>R&D/Sale</i> | 0.040 | 0.089 | 0.000 | 0.000 | 0.032 | 30495 |
| <i>Missing_R&D</i> | 0.446 | 0.497 | 0.000 | 0.000 | 1.000 | 30495 |
| <i>SG&A/Sale</i> | 0.215 | 0.190 | 0.066 | 0.178 | 0.322 | 30495 |
| <i>CAPEX_PPE</i> | 0.527 | 1.062 | 0.116 | 0.229 | 0.448 | 30495 |
| <i>Q</i> | 1.913 | 1.207 | 1.151 | 1.511 | 2.190 | 29296 |
| <i>CEO Age</i> | 4.017 | 0.129 | 3.932 | 4.025 | 4.094 | 30480 |
| <i>CEO Tenure</i> | 1.243 | 0.797 | 0.693 | 1.386 | 1.792 | 30495 |
| <i>CEOown</i> | 1.919 | 4.304 | 0.052 | 0.436 | 1.585 | 30495 |
| <i>InstOwn</i> | 0.652 | 0.344 | 0.520 | 0.768 | 0.898 | 30495 |
| <i>CEO Chair</i> | 0.357 | 0.479 | 0.000 | 0.000 | 1.000 | 30495 |
| <i>Female</i> | 0.036 | 0.186 | 0.000 | 0.000 | 0.000 | 30495 |
| <i>MBAPHD</i> | 0.231 | 0.421 | 0.000 | 0.000 | 0.000 | 30495 |
| <i>RecessionStart</i> | 0.136 | 0.342 | 0.000 | 0.000 | 0.000 | 30495 |

This table presents statistical properties of variables used in the regression tests. The variable definitions are presented in Appendix A

Table 2: Pairwise Correlations

| Variables | LogTDC1 | CashPay | RiskyPay | StockPay | OptPay | LogOptAwd | LogAwdVega | LogAssets | ROA | Leverage | Cash_hld | Q | LogAge | LogTenure | CEOown | InstOwn | CEO Chair | Female | MBAPHD | |
|-----------------------|---------|---------|----------|----------|--------|-----------|------------|-----------|-------|----------|----------|-------|--------|-----------|--------|---------|-----------|--------|--------|------|
| <i>CashPay</i> | -0.70 | | | | | | | | | | | | | | | | | | | |
| <i>RiskyPay</i> | 0.60 | -0.70 | | | | | | | | | | | | | | | | | | |
| <i>StockPay</i> | 0.46 | -0.52 | 0.62 | | | | | | | | | | | | | | | | | |
| <i>OptPay</i> | 0.18 | -0.22 | 0.47 | -0.41 | | | | | | | | | | | | | | | | |
| <i>LogOptAwd</i> | 0.29 | -0.27 | 0.41 | -0.28 | 0.80 | | | | | | | | | | | | | | | |
| <i>LogAwdVega</i> | 0.20 | -0.22 | 0.33 | -0.23 | 0.64 | 0.68 | | | | | | | | | | | | | | |
| <i>LogAssets</i> | 0.62 | -0.33 | 0.22 | 0.25 | -0.03 | 0.07 | -0.06 | | | | | | | | | | | | | |
| <i>ROA</i> | 0.18 | -0.11 | 0.06 | 0.00 | 0.06 | 0.05 | 0.03 | 0.00 | | | | | | | | | | | | |
| <i>Leverage</i> | 0.19 | -0.10 | 0.05 | 0.12 | -0.07 | 0.00 | -0.04 | 0.24 | 0.01 | | | | | | | | | | | |
| <i>Cash_hld</i> | -0.15 | 0.04 | 0.00 | -0.10 | 0.11 | 0.05 | 0.14 | -0.37 | -0.06 | -0.33 | | | | | | | | | | |
| <i>Q</i> | 0.04 | -0.07 | 0.07 | -0.04 | 0.13 | 0.05 | 0.11 | -0.23 | 0.41 | -0.10 | 0.40 | | | | | | | | | |
| <i>CEO Age</i> | 0.09 | 0.01 | -0.07 | 0.01 | -0.09 | -0.06 | -0.10 | 0.13 | 0.01 | 0.04 | -0.12 | -0.08 | | | | | | | | |
| <i>CEO Tenure</i> | 0.16 | -0.17 | 0.02 | 0.17 | -0.17 | -0.11 | -0.09 | 0.11 | 0.03 | 0.01 | -0.04 | 0.02 | 0.29 | | | | | | | |
| <i>CEOown</i> | -0.23 | 0.21 | -0.22 | -0.17 | -0.06 | -0.10 | -0.04 | -0.23 | 0.02 | -0.10 | 0.13 | 0.08 | 0.11 | 0.11 | | | | | | |
| <i>InstOwn</i> | 0.14 | -0.17 | 0.13 | 0.14 | -0.01 | -0.04 | 0.02 | 0.02 | 0.10 | -0.05 | 0.02 | 0.07 | 0.05 | 0.19 | -0.06 | | | | | |
| <i>CEO Chair</i> | 0.11 | 0.03 | 0.01 | -0.08 | 0.10 | 0.11 | 0.01 | 0.15 | 0.03 | 0.01 | -0.09 | -0.05 | 0.18 | 0.08 | 0.10 | -0.04 | | | | |
| <i>Female</i> | 0.02 | -0.03 | 0.01 | 0.04 | -0.03 | -0.02 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.01 | -0.05 | -0.03 | -0.05 | 0.01 | -0.04 | | | |
| <i>MBAPHD</i> | 0.03 | -0.03 | 0.03 | 0.01 | 0.02 | 0.04 | 0.01 | 0.02 | 0.00 | 0.00 | -0.01 | -0.03 | 0.00 | 0.02 | -0.05 | -0.01 | 0.02 | -0.01 | | |
| <i>RecessionStart</i> | 0.02 | 0.00 | 0.01 | -0.02 | 0.04 | 0.03 | 0.02 | 0.01 | 0.04 | 0.03 | -0.02 | 0.01 | 0.06 | 0.00 | 0.01 | -0.02 | 0.04 | 0.00 | 0.00 | 0.00 |

Table 3: Univariate Analysis

| Variable = Annual PRR | | | |
|---|-----------------------------|-----------------------------------|----------------------------|
| Variable | PRR for Years Before | PRR for Option Award Years | PRR for Years After |
| N | 10503 | 10766 | 10620 |
| Mean | 0.7400 | 0.758 | 0.796 |
| S.D. | 0.838 | 0.844 | 0.926 |
| Analysis: PRR Increase vs. Last Year | | | |
| | Difference | 0.018 | 0.038*** |
| | T-STAT | 1.56 | 3.14 |

Presents univariate test of political risk revelations during, before, and after the option-grant year for the sample of firms represented in ExecuCom database for which Hassan et al. (2019) measure of firm-level political risk is available in the years 2002 to 2021. PRR is 'annualized firm-level political risk revelations as per Hassan et al. (2019), based on the textual analysis of corporate earnings conference calls', standardized by dividing sample firms' annual standard deviation of PRR. The higher occurrences of bigrams signifying political risk in conference calls give higher value to PRR. Stars indicate significance levels as follows: *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$ (two tailed), and \$ $p < 0.1$ (one tailed).

Table 4: CEO Pay Structure & Political Risk Revelations

| VARIABLES | (1) <i>PRR_{T+1}</i> | (2) <i>PRR_{T+1}</i> | (3) <i>PRR_{T+1}</i> | (4) <i>PRR_{T+1}</i> | (5) <i>PRR_{T+1}</i> | (6) <i>PRR_{T+1}</i> | (7) <i>PRR_{T+1}</i> |
|------------------------|--|--|--|--|--|--|--|
| <i>LogTDC1</i> | 0.0049 (0.686) | | | | | | |
| <i>CashPay</i> | | -0.0074 (-0.243) | | | | | |
| <i>RiskyPay</i> | | | 0.0135 (0.544) | | | | |
| <i>StockPay</i> | | | | -0.0473* (-1.756) | | | |
| <i>OptPay</i> | | | | | 0.0833*** (2.668) | | |
| <i>LogOptAwd</i> | | | | | | 0.0084*** (3.047) | |
| <i>LogAwdVega</i> | | | | | | | 0.0112** (2.471) |
| <i>PRR_T</i> | 0.1522*** (6.135) | 0.1522*** (6.138) | 0.1522*** (6.134) | 0.1522*** (6.135) | 0.1522*** (6.131) | 0.1523*** (6.137) | 0.1523*** (6.134) |
| <i>LogAssets</i> | -0.0221 (-1.329) | -0.0207 (-1.264) | -0.0209 (-1.280) | -0.0187 (-1.148) | -0.0215 (-1.318) | -0.0223 (-1.359) | -0.0216 (-1.319) |
| <i>ROA</i> | 0.1060 (1.142) | 0.1090 (1.176) | 0.1113 (1.197) | 0.1094 (1.180) | 0.1190 (1.282) | 0.1169 (1.261) | 0.1128 (1.214) |
| <i>Leverage</i> | -0.0094 (-0.166) | -0.0105 (-0.185) | -0.0102 (-0.179) | -0.0130 (-0.228) | -0.0080 (-0.140) | -0.0108 (-0.191) | -0.0067 (-0.118) |
| <i>Cash_hld</i> | -0.0442 (-0.675) | -0.0450 (-0.689) | -0.0438 (-0.668) | -0.0475 (-0.724) | -0.0446 (-0.681) | -0.0448 (-0.684) | -0.0448 (-0.684) |
| <i>Q</i> | -0.0168* (-1.946) | -0.0165* (-1.931) | -0.0165* (-1.927) | -0.0166* (-1.943) | -0.0177** (-2.074) | -0.0169** (-1.973) | -0.0171** (-1.995) |
| <i>CEO Age</i> | -0.0116 | -0.0108 | -0.0090 | -0.0148 | -0.0022 | -0.0021 | -0.0066 |

| | | | | | | | |
|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | (-0.157) | (-0.145) | (-0.121) | (-0.200) | (-0.029) | (-0.029) | (-0.089) |
| <i>CEO Tenure</i> | 0.0057 | 0.0058 | 0.0059 | 0.0057 | 0.0055 | 0.0053 | 0.0060 |
| | (0.539) | (0.555) | (0.561) | (0.535) | (0.524) | (0.507) | (0.566) |
| <i>CEOown</i> | 0.0008 | 0.0007 | 0.0007 | 0.0005 | 0.0009 | 0.0009 | 0.0008 |
| | (0.293) | (0.266) | (0.280) | (0.212) | (0.348) | (0.355) | (0.309) |
| <i>Instown</i> | -0.0278 | -0.0274 | -0.0282 | -0.0248 | -0.0290 | -0.0261 | -0.0277 |
| | (-0.871) | (-0.862) | (-0.884) | (-0.777) | (-0.908) | (-0.814) | (-0.864) |
| <i>CEO Chair</i> | 0.0002 | 0.0004 | 0.0004 | 0.0010 | 0.0006 | 0.0005 | 0.0015 |
| | (0.014) | (0.026) | (0.024) | (0.064) | (0.039) | (0.031) | (0.090) |
| <i>Female</i> | -0.0580 | -0.0580 | -0.0580 | -0.0575 | -0.0578 | -0.0565 | -0.0595 |
| | (-1.471) | (-1.471) | (-1.471) | (-1.461) | (-1.469) | (-1.439) | (-1.508) |
| <i>MBAPHD</i> | -0.0243 | -0.0241 | -0.0241 | -0.0238 | -0.0249 | -0.0249 | -0.0254 |
| | (-1.172) | (-1.163) | (-1.166) | (-1.154) | (-1.204) | (-1.206) | (-1.227) |
| <i>RecessionStart</i> | 0.0241 | 0.0241 | 0.0241 | 0.0241 | 0.0231 | 0.0237 | 0.0245 |
| | (1.009) | (1.009) | (1.007) | (1.009) | (0.970) | (0.994) | (1.027) |
| <i>Constant</i> | 0.9639*** | 0.9916*** | 0.9763*** | 0.9914*** | 0.9269*** | 0.9314*** | 0.9600*** |
| | (2.969) | (3.059) | (2.989) | (3.051) | (2.848) | (2.865) | (2.955) |
| Observations | 27,717 | 27,717 | 27,717 | 27,717 | 27,717 | 27,717 | 27,707 |
| Adj R2 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 |
| R2-Between | 0.652 | 0.652 | 0.651 | 0.648 | 0.641 | 0.642 | 0.640 |
| R2-Overall | 0.174 | 0.174 | 0.174 | 0.174 | 0.171 | 0.170 | 0.171 |
| Year Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm-Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Presents panel test of the effect of pay structure on delayed political risk reporting for the sample of firms represented in ExecuCom database for which Hassen et al. (2019) measure of firm-level political risk is available in the years 2002 to 2021. All variables are estimated as described in Appendix A. *PRR* is 'annualized firm-level political risk as per Hassen et al. (2019), based on the textual analysis of quarterly earnings conference calls', standardized by dividing sample firms' annual standard deviation of *PRR*. The higher occurrences of words signifying political risk in conference calls give higher value to *PRR*. Subscripts representing number of years prior (negative) and after (positive) CEO-Year. Cluster-robust t-Statistics are in brackets. Stars indicate significance levels as follows: *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$ (two tailed), and $\$p < 0.1$ (one tailed).

Table 5: CEO Pay Structure & Political Risk Revelations

| Panel A: 2006 and onwards | | | | | | | |
|----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| <i>VARIABLES</i> | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| | <i>PRR</i> _{T+1} | <i>PRR</i> _{T+1} | <i>PRR</i> _{T+1} | <i>PRR</i> _{T+1} | <i>PRR</i> _{T+1} | <i>PRR</i> _{T+1} | <i>PRR</i> _{T+1} |
| <i>LogTDC1</i> | 0.0031 (0.351) | | | | | | |
| <i>CashPay</i> | | 0.0108 (0.285) | | | | | |
| <i>RiskyPay</i> | | | 0.0040 (0.146) | | | | |
| <i>StockPay</i> | | | | -0.0584** (-1.984) | | | |
| <i>OptPay</i> | | | | | 0.1003*** (2.849) | | |
| <i>LogOptAwd</i> | | | | | | 0.0087*** (2.899) | |
| <i>LogAwdVega</i> | | | | | | | 0.0105** (2.201) |
| <i>PRR</i> _T | 0.1601*** | 0.1600*** | 0.1601*** | 0.1600*** | 0.1601*** | 0.1602*** | 0.1602*** |

| | (5.092) | (5.095) | (5.093) | (5.093) | (5.087) | (5.095) | (5.090) |
|---------------------------|---------|---------|---------|---------|---------|---------|---------|
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 22,548 | 22,548 | 22,548 | 22,548 | 22,548 | 22,548 | 22,538 |
| Adj R2 | 0.045 | 0.045 | 0.045 | 0.045 | 0.045 | 0.045 | 0.045 |
| R2-Between | 0.584 | 0.585 | 0.584 | 0.581 | 0.568 | 0.571 | 0.574 |
| R2-Overall | 0.189 | 0.190 | 0.189 | 0.190 | 0.186 | 0.186 | 0.187 |
| Year/Firm Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Panel B: Control for CEO Wealth-Performance sensitivity

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| VARIABLES | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} |
| <i>LogTDC1</i> | 0.0041 (0.577) | | | | | | |
| <i>CashPay</i> | | -0.0043 (-0.142) | | | | | |
| <i>RiskyPay</i> | | | 0.0110 (0.444) | | | | |
| <i>StockPay</i> | | | | -0.0467* (-1.733) | | | |
| <i>OptPay</i> | | | | | 0.0801** (2.562) | | |
| <i>LogOptAwd</i> | | | | | | 0.0081*** (2.938) | |
| <i>LogAwdVega</i> | | | | | | | 0.0107** (2.358) |
| <i>LogWealthDelta</i> | 0.0081 (1.110) | 0.0084 (1.137) | 0.0082 (1.115) | 0.0083 (1.120) | 0.0060 (0.814) | 0.0051 (0.684) | 0.0065 (0.874) |
| PRR_T | 0.1522*** (6.135) | 0.1522*** (6.138) | 0.1522*** (6.135) | 0.1522*** (6.135) | 0.1522*** (6.131) | 0.1524*** (6.137) | 0.1524*** (6.134) |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 27,717 | 27,717 | 27,717 | 27,717 | 27,717 | 27,717 | 27,707 |
| Adj R2 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 |
| R2-Between | 0.641 | 0.641 | 0.640 | 0.637 | 0.632 | 0.634 | 0.630 |
| R2-Overall | 0.172 | 0.172 | 0.172 | 0.172 | 0.170 | 0.169 | 0.170 |
| Year/Firm Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Panel C: Observed CEO & Unobserved Firm Effects

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|-------------------|-------------------|---------------------|-------------------|----------------------|----------------------|----------------------|---------------------|
| VARIABLES | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} |
| <i>LogTDC1</i> | 0.0046 (0.646) | | | | | | |
| <i>CashPay</i> | | -0.0059 (-0.194) | | | | | |
| <i>RiskyPay</i> | | | 0.0126 (0.508) | | | | |
| <i>StockPay</i> | | | | -0.0467* (-1.731) | | | |
| <i>OptPay</i> | | | | | 0.0816*** (2.626) | | |
| <i>LogOptAwd</i> | | | | | | 0.0081*** (2.955) | |
| <i>LogAwdVega</i> | | | | | | | 0.0109** (2.406) |
| PRR_T | 0.1520*** | 0.1520*** | 0.1520*** | 0.1520*** | 0.1520*** | 0.1522*** | 0.1522*** |

| | | | | | | | |
|---------------------------|----------|----------|----------|----------|----------|----------|----------|
| | (6.132) | (6.136) | (6.132) | (6.132) | (6.128) | (6.135) | (6.131) |
| <i>Holder67</i> | 0.0296 | 0.0299 | 0.0298 | 0.0296 | 0.0276 | 0.0253 | 0.0278 |
| | (1.389) | (1.402) | (1.395) | (1.379) | (1.297) | (1.186) | (1.298) |
| <i>CEO at Other</i> | -0.0139 | -0.0136 | -0.0137 | -0.0136 | -0.0143 | -0.0134 | -0.0150 |
| | (-0.432) | (-0.425) | (-0.426) | (-0.423) | (-0.446) | (-0.416) | (-0.468) |
| <i>MillitaryCEO</i> | -0.0046 | -0.0044 | -0.0046 | -0.0043 | -0.0049 | -0.0048 | -0.0042 |
| | (-0.090) | (-0.086) | (-0.090) | (-0.083) | (-0.095) | (-0.094) | (-0.082) |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 27,717 | 27,717 | 27,717 | 27,717 | 27,717 | 27,717 | 27,707 |
| Adj R2 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 |
| R2-Between | 0.652 | 0.652 | 0.651 | 0.647 | 0.639 | 0.639 | 0.639 |
| R2-Overall | 0.174 | 0.174 | 0.174 | 0.174 | 0.171 | 0.170 | 0.171 |
| Year/Firm Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Panel D: Unobserved Firm-CEO Effects

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> |
| <i>LogTDC1</i> | 0.0022 (0.245) | | | | | | |
| <i>CashPay</i> | | 0.0107 (0.336) | | | | | |
| <i>RiskyPay</i> | | | 0.0067 (0.262) | | | | |
| <i>StockPay</i> | | | | -0.0267 (-0.891) | | | |
| <i>OptPay</i> | | | | | 0.0516* (1.763) | | |
| <i>LogOptAwd</i> | | | | | | 0.0069** (2.446) | |
| <i>LogAwdVega</i> | | | | | | | 0.0078* (1.747) |
| <i>PRR_T</i> | 0.0370 (1.547) | 0.0369 (1.547) | 0.0370 (1.548) | 0.0369 (1.546) | 0.0370 (1.548) | 0.0372 (1.556) | 0.0371 (1.555) |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 27,717 | 27,717 | 27,717 | 27,717 | 27,717 | 27,717 | 27,707 |
| Adj R2 | 0.018 | 0.018 | 0.018 | 0.018 | 0.018 | 0.018 | 0.018 |
| R2-Between | 0.0676 | 0.0690 | 0.0676 | 0.0708 | 0.0678 | 0.0648 | 0.0644 |
| R2-Overall | 0.0423 | 0.0428 | 0.0422 | 0.0434 | 0.0418 | 0.0402 | 0.0408 |
| Year Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| CEO-Firm-Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Panel E: First Difference Tests

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) |
|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| | <i>adjPRR_{T+1}</i> | <i>adjPRR_{T+1}</i> | <i>adjPRR_{T+1}</i> | Δ <i>PRR_{T+1}</i> | Δ <i>PRR_{T+1}</i> | Δ <i>PRR_{T+1}</i> |
| <i>OptPay</i> | 0.0774** (2.515) | | | 0.0813** (2.398) | | |
| <i>LogOptAwd</i> | | 0.0078*** (2.870) | | | 0.0112*** (3.563) | |
| <i>LogAwdVega</i> | | | 0.0111** (2.449) | | | 0.0121** (2.507) |
| <i>adjPRR_T</i> | 0.1505*** (6.106) | 0.1507*** (6.113) | 0.1507*** (6.108) | | | |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes |

| | | | | | | |
|-------------------|--------|--------|--------|--------|--------|--------|
| Observations | 27,717 | 27,717 | 27,707 | 27,717 | 27,717 | 27,707 |
| Adj R2 | 0.022 | 0.022 | 0.022 | 0.012 | 0.012 | 0.012 |
| R2-Between | 0.780 | 0.781 | 0.777 | 0.009 | 0.010 | 0.008 |
| R2-Overall | 0.175 | 0.175 | 0.175 | 0.0113 | 0.0114 | 0.0112 |
| Year/Firm Effects | Yes | Yes | Yes | Yes | Yes | Yes |

Panel F: Joint Industry-Year Effects

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} |
| LogTDC1 | 0.0058 (0.787) | | | | | | |
| CashPay | | -0.0112 (-0.363) | | | | | |
| RiskyPay | | | 0.0153 (0.615) | | | | |
| StockPay | | | | -0.0380 (-1.401) | | | |
| OptPay | | | | | 0.0783** (2.514) | | |
| LogOptAwd | | | | | | 0.0082*** (2.906) | |
| LogAwdVega | | | | | | | 0.0115** (2.480) |
| PRR _T | 0.1491*** (5.990) | 0.1491*** (5.993) | 0.1491*** (5.989) | 0.1490*** (5.990) | 0.1491*** (5.986) | 0.1492*** (5.992) | 0.1492*** (5.991) |
| Controls/Intercept | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 27,717 | 27,717 | 27,717 | 27,717 | 27,717 | 27,717 | 27,707 |
| Adj R2 | 0.044 | 0.044 | 0.044 | 0.044 | 0.044 | 0.044 | 0.044 |
| R2-Between | 0.121 | 0.117 | 0.137 | 0.117 | 0.114 | 0.136 | 0.120 |
| R2-Overall | 0.0693 | 0.0667 | 0.0732 | 0.0667 | 0.0656 | 0.0728 | 0.0646 |
| Ind × Year Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm-Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Presents robustness tests for unobserved and observed CEO effects, and potential causality on the effect of pay structure on subsequent political risk revelations for the sample of firms represented in ExecuCom database for which Hassan et al. (2019) measure of firm-level political risk is available in the years 2002 to 2021. All variables are estimated as described in Appendix A. PRR is 'annualized firm-level political risk revelations as per Hassan et al. (2019), based on the textual analysis of corporate earnings conference calls', standardized by dividing sample firms' annual standard deviation of PRR. The higher occurrences of bigrams signifying political risk in conference calls give higher value to PRR. Subscripts representing number of years prior (negative) and after (positive) CEO-Year. Cluster-robust t-Statistics are in brackets. Stars indicate significance levels as follows: *** p < 0.01, ** p < 0.05, and * p < 0.1 (two tailed), and \$p<0.1 (one tailed).

Table 6: CEO Pay Structure, Overall & Nonpolitical Risk Revelations

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) |
|-------------------|--------------------|---------------------|-------------------|----------------------|-------------------|---------------------|
| | $RISK_{T+1}$ | $RISK_{T+1}$ | $RISK_{T+1}$ | $NPRR_{T+1}$ | $NPRR_{T+1}$ | $NPRR_{T+1}$ |
| OptPay | 0.0363* (1.652) | | | -0.0496* (-1.660) | | |
| LogOptAwd | | 0.0040** (2.040) | | | 0.0001 (0.019) | |
| LogAwdVega | | | 0.0015 (0.460) | | | -0.0069 (-1.578) |
| RISK _T | 0.3152*** | 0.3153*** | 0.3153*** | | | |

| | (23.900) | (23.914) | (23.910) | | | |
|---------------------------|----------|----------|----------|-----------|-----------|-----------|
| $NPRR_T$ | | | | 0.1694*** | 0.1695*** | 0.1693*** |
| | | | | (9.681) | (9.679) | (9.669) |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 27,717 | 27,717 | 27,707 | 27,717 | 27,717 | 27,707 |
| Adj R2 | 0.150 | 0.150 | 0.150 | 0.047 | 0.047 | 0.047 |
| R2-Between | 0.869 | 0.869 | 0.869 | 0.572 | 0.569 | 0.574 |
| R2-Overall | 0.481 | 0.481 | 0.482 | 0.183 | 0.182 | 0.183 |
| <i>Year/Firm Effects</i> | Yes | Yes | Yes | Yes | Yes | Yes |

Presents panel test of the effect of pay structure on delayed overall risk and non-political risk revelations for the sample of firms represented in ExecuCom database for which Hassan et al. (2019) measure of firm-level political risk is available in the years 2002 to 2021. All variables are estimated as described in Appendix A. PRR is 'annualized firm-level political risk revelations as per Hassan et al. (2019), based on the textual analysis of corporate earnings conference calls', standardized by dividing sample firms' annual standard deviation of PRR . The higher occurrences of bigrams signifying political risk in conference calls give higher value to PRR . Subscripts representing number of years prior (negative) and after (positive) CEO-Year. Cluster-robust t-Statistics are in brackets. Stars indicate significance levels as follows: *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$ (two tailed), and $\$p < 0.1$ (one tailed).

Table 7: CEO Pay Structure & Risk-taking Outcomes

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <i>VARIABLES</i> | $TVOL_{T+1}$ | $IVOL_{T+1}$ | $TVOL_{T+1}$ | $IVOL_{T+1}$ | $TVOL_{T+1}$ | $IVOL_{T+1}$ |
| $OptPay$ | 0.0014* | 0.0015** | | | | |
| | (1.779) | (2.231) | | | | |
| $LogOptAwd$ | | | 0.0001* | 0.0001* | | |
| | | | (1.660) | (1.651) | | |
| $LogAwdVega$ | | | | | 0.0002* | 0.0002* |
| | | | | | (1.691) | (1.656) |
| $TVOL_T$ | 0.2984*** | | 0.2982*** | | 0.2982*** | |
| | (10.879) | | (10.882) | | (10.885) | |
| $IVOL_T$ | | 0.2990*** | | 0.2989*** | | 0.2989*** |
| | | (9.667) | | (9.671) | | (9.674) |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 27,025 | 27,025 | 27,025 | 27,025 | 27,025 | 27,025 |
| Adj R2 | 0.393 | 0.287 | 0.393 | 0.287 | 0.393 | 0.287 |
| R2-Between | 0.658 | 0.647 | 0.658 | 0.647 | 0.658 | 0.648 |
| R2-Overall | 0.478 | 0.429 | 0.478 | 0.429 | 0.478 | 0.429 |
| <i>Year/Firm Effects</i> | Yes | Yes | Yes | Yes | Yes | Yes |

Presents panel test of the effect of pay structure on firm risk for the sample of firms represented in ExecuCom database for which Hassan et al. (2019) measure of firm-level political risk is available in the years 2002 to 2021. All variables are estimated as described in Appendix A. $TVOL$ is total volatility estimated standard deviation of 52 weekly returns & $IVOL$ is idiosyncratic volatility estimated as the standard deviation of residuals from market model using 52 weekly observations. PRR is based on the textual analysis of corporate earnings conference calls', standardized by dividing sample firms' annual standard deviation of PRR . The higher occurrences of bigrams signifying political risk in conference calls give higher value to PRR . Subscripts representing number of years prior (negative) and after (positive) CEO-Year. Cluster-robust t-Statistics are in brackets. Stars indicate significance levels as follows: *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$ (two tailed), and $\$p < 0.1$ (one tailed).

Table 8: CEO Pay Structure & Political Risk Revelations (controlling for risk-taking)

| Panel A: Controlling for risk-taking | | | | | | | |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} |
| <i>LogTDC1</i> | 0.0050 (0.700) | | | | | | |
| <i>CashPay</i> | | -0.0066 (-0.217) | | | | | |
| <i>RiskyPay</i> | | | 0.0128 (0.517) | | | | |
| <i>StockPay</i> | | | | -0.0479* (-1.775) | | | |
| <i>OptPay</i> | | | | | 0.0830*** (2.664) | | |
| <i>LogOptAwd</i> | | | | | | 0.0085*** (3.061) | |
| <i>LogAwdVega</i> | | | | | | | 0.0112** (2.481) |
| PRR_T | 0.1521*** (6.131) | 0.1521*** (6.134) | 0.1521*** (6.130) | 0.1520*** (6.131) | 0.1521*** (6.126) | 0.1522*** (6.133) | 0.1522*** (6.129) |
| <i>R&D/Sale</i> | 0.0735 (0.405) | 0.0760 (0.419) | 0.0768 (0.423) | 0.0734 (0.404) | 0.0737 (0.405) | 0.0802 (0.440) | 0.0806 (0.443) |
| <i>Missing_R&D</i> | -0.0433 (-0.852) | -0.0431 (-0.848) | -0.0430 (-0.846) | -0.0433 (-0.853) | -0.0428 (-0.845) | -0.0440 (-0.870) | -0.0426 (-0.841) |
| <i>SG&A/Sale</i> | -0.1726 (-1.540) | -0.1722 (-1.536) | -0.1718 (-1.533) | -0.1740 (-1.551) | -0.1714 (-1.526) | -0.1732 (-1.544) | -0.1730 (-1.542) |
| <i>CAPEX_PPE</i> | -0.0005 (-0.071) | -0.0004 (-0.067) | -0.0005 (-0.069) | -0.0003 (-0.047) | -0.0006 (-0.082) | -0.0005 (-0.073) | -0.0008 (-0.122) |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 27,717 | 27,717 | 27,717 | 27,717 | 27,717 | 27,717 | 27,707 |
| Adj R2 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 |
| R2-Between | 0.598 | 0.598 | 0.598 | 0.596 | 0.589 | 0.586 | 0.588 |
| R2-Overall | 0.169 | 0.169 | 0.169 | 0.170 | 0.167 | 0.166 | 0.167 |
| Year/Firm Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Panel B: Control for the outcome of Risk Taking | | | | | | | |
| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | |
| | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} | PRR_{T+1} |
| <i>OptPay</i> | 0.0864*** (2.715) | | | | 0.0865*** (2.719) | | |
| <i>LogOptAwd</i> | | 0.0088*** (3.110) | | | | 0.0088*** (3.119) | |
| <i>LogAwdVega</i> | | | 0.0120*** (2.605) | | | | 0.0121*** (2.618) |
| PRR_T | 0.1504*** (6.468) | 0.1506*** (6.474) | 0.1506*** (6.471) | | 0.1504*** (6.469) | 0.1506*** (6.476) | 0.1506*** (6.472) |
| $TVOL_T$ | 0.2951 (0.987) | 0.2862 (0.959) | 0.2842 (0.952) | | | | |
| $IVOL_T$ | | | | | 0.1938 (0.581) | 0.1842 (0.553) | 0.1837 (0.551) |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | | Yes | Yes | Yes |
| Observations | 27,399 | 27,399 | 27,389 | | 27,399 | 27,399 | 27,389 |
| Adj R2 | 0.040 | 0.040 | 0.040 | | 0.040 | 0.040 | 0.040 |

| | | | | | | |
|-------------------|-------|-------|-------|-------|-------|-------|
| R2-Between | 0.620 | 0.620 | 0.617 | 0.623 | 0.623 | 0.621 |
| R2-Overall | 0.168 | 0.167 | 0.167 | 0.168 | 0.167 | 0.168 |
| Year/Firm Effects | Yes | Yes | Yes | Yes | Yes | Yes |

Presents panel test of the effect of pay structure on subsequent political risk revelations for the sample of firms represented in ExecuCom database for which Hassan et al. (2019) measure of firm-level political risk is available in the years 2002 to 2021. All variables are estimated as described in Appendix A. PRR is 'annualized firm-level political risk revelations as per Hassan et al. (2019), based on the textual analysis of corporate earnings conference calls', standardized by dividing sample firms' annual standard deviation of PRR. The higher occurrences of bigrams signifying political risk in conference calls give higher value to PRR. Subscripts representing number of years prior (negative) and after (positive) CEO-Year. Cluster-robust t-Statistics are in brackets. Stars indicate significance levels as follows: *** p < 0.01, ** p < 0.05, and * p < 0.1 (two tailed), and \$p<0.1 (one tailed).

Table 9: Political Risk Revelations - Options Pay Sensitivity & Cross Section of Risk-taking Outcomes

| | Total Volatility | | | | | |
|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | High | | Low | | CAPEX_PPE | |
| | High | Low | High | Low | High | Low |
| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) |
| | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> |
| <i>OptPay</i> | 0.0600 | 0.1327** | 0.1192* | -0.0259 | 0.0844 | 0.1650** |
| | (1.359) | (2.534) | (1.907) | (-0.411) | (1.196) | (1.972) |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 14,194 | 13,205 | 8,260 | 5,934 | 6,454 | 6,751 |
| Adj R2 | 0.043 | 0.029 | 0.061 | 0.041 | 0.018 | 0.038 |
| R2-Between | 0.420 | 0.154 | 0.399 | 0.0426 | 0.0629 | 0.0370 |
| R2-Overall | 0.159 | 0.0939 | 0.199 | 0.0440 | 0.0595 | 0.0425 |
| Year/Firm Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| | Idiosyncratic Volatility | | | | | |
| | High | | Low | | CAPEX_PPE | |
| | High | Low | High | Low | High | Low |
| VARIABLES | (7) | (8) | (9) | (10) | (11) | (12) |
| | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> | <i>PRR_{T+1}</i> |
| <i>OptPay</i> | 0.0500 | 0.1312** | 0.0929 | -0.0281 | 0.0880 | 0.1655** |
| | (1.168) | (2.467) | (1.552) | (-0.450) | (1.202) | (2.030) |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 14,237 | 13,162 | 8,371 | 5,866 | 6,343 | 6,819 |
| Adj R2 | 0.038 | 0.032 | 0.045 | 0.039 | 0.024 | 0.037 |
| R2-Between | 0.447 | 0.153 | 0.357 | 0.0504 | 0.0913 | 0.0308 |
| R2-Overall | 0.155 | 0.0897 | 0.167 | 0.0484 | 0.0863 | 0.0392 |
| Year/Firm Effects | Yes | Yes | Yes | Yes | Yes | Yes |

This tables presents panel test of the sensitivity of political risk revelations to the convexity of pay structure in the cross sections of risk outcomes. The sample includes firms represented in ExecuCom database for which Hassan et al. (2019) measure of firm-level political risk is available in the years 2002 to 2021. All variables are estimated as described in Appendix A. PRR is 'annualized firm-level political risk revelations as per Hassan et al. (2019), based on the textual analysis of corporate earnings conference calls', standardized by dividing sample firms' annual standard deviation of PRR. The higher occurrences of bigrams signifying political risk in conference calls give higher value to PRR. Subscripts representing number of years prior (negative) and after (positive) CEO-Year. Cluster-robust t-Statistics are in brackets. Stars indicate significance levels as follows: *** p < 0.01, ** p < 0.05, and * p < 0.1 (two tailed), and \$p<0.1 (one tailed).

Table 10: Cross-sectional analysis

| | SIZE | | ROA | | LEVERAGE | |
|---------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| | Large | Small | High | Low | High | Low |
| VARIABLES | (1) <i>PRR</i> _{T+1} | (2) <i>PRR</i> _{T+1} | (3) <i>PRR</i> _{T+1} | (4) <i>PRR</i> _{T+1} | (5) <i>PRR</i> _{T+1} | (6) <i>PRR</i> _{T+1} |
| <i>OptPay</i> | 0.0678 (1.465) | 0.0967** (2.173) | 0.1041** (2.237) | 0.0717 (1.621) | 0.0883* (1.851) | 0.0688 (1.598) |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 13,355 | 14,362 | 13,990 | 13,727 | 13,448 | 14,269 |
| Adj R2 | 0.044 | 0.028 | 0.027 | 0.042 | 0.032 | 0.032 |
| R2-Between | 0.272 | 0.449 | 0.285 | 0.378 | 0.103 | 0.469 |
| R2-Overall | 0.163 | 0.123 | 0.097 | 0.168 | 0.0589 | 0.201 |
| Year/Firm Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| | Cash | | Q | | CEOOWN | |
| | High | Low | High | Low | High | Low |
| VARIABLES | (7) <i>PRR</i> _{T+1} | (8) <i>PRR</i> _{T+1} | (9) <i>PRR</i> _{T+1} | (10) <i>PRR</i> _{T+1} | (11) <i>PRR</i> _{T+1} | (12) <i>PRR</i> _{T+1} |
| <i>OptPay</i> | 0.0613 (1.521) | 0.1267** (2.519) | 0.0693* (1.671) | 0.1122** (2.251) | 0.0708 (1.644) | 0.0969** (2.064) |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 14,361 | 13,356 | 14,149 | 13,568 | 13,956 | 13,761 |
| Adj R2 | 0.033 | 0.038 | 0.035 | 0.031 | 0.033 | 0.037 |
| R2-Between | 0.399 | 0.232 | 0.307 | 0.215 | 0.493 | 0.149 |
| R2-Overall | 0.171 | 0.100 | 0.121 | 0.100 | 0.184 | 0.074 |
| Year/Firm Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| | Herfindahl | | InstOwn% | | Blockholders 5% | |
| | High | Low | High | Low | Yes | No |
| VARIABLES | (13) <i>PRR</i> _{T+1} | (14) <i>PRR</i> _{T+1} | (15) <i>PRR</i> _{T+1} | (16) <i>PRR</i> _{T+1} | (17) <i>PRR</i> _{T+1} | (18) <i>PRR</i> _{T+1} |
| <i>OptPay</i> | 0.1207** (2.423) | 0.0421 (1.004) | 0.1307*** (2.617) | 0.0421 (1.044) | 0.1222*** (2.771) | 0.0211 (0.441) |
| <i>Controls/Intercept</i> | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 14,699 | 13,018 | 13,920 | 13,797 | 18,629 | 9,088 |
| Adj R2 | 0.042 | 0.035 | 0.040 | 0.022 | 0.040 | 0.021 |
| R2-Between | 0.335 | 0.359 | 0.492 | 0.110 | 0.541 | 0.011 |
| R2-Overall | 0.119 | 0.161 | 0.209 | 0.054 | 0.198 | 0.013 |
| Year/Firm Effects | Yes | Yes | Yes | Yes | Yes | Yes |

This tables presents panel test of the effect of pay structure on political risk revelations for the cross section various firm specific attributes. The sample includes firms represented in ExecuCom database for which Hassan et al. (2019) measure of firm-level political risk is available in the years 2002 to 2021. All variables are estimated as described in Appendix A. *PRR* is ‘annualized firm-level political risk revelations as per Hassan et al. (2019), based on the textual analysis of corporate earnings conference calls’, standardized by dividing sample firms’ annual standard deviation of *PRR*. The higher occurrences of bigrams signifying political risk in conference calls give higher value to *PRR*. Subscripts representing number of years prior (negative) and after (positive) CEO-Year. Cluster-robust t-Statistics are in brackets. Stars indicate significance levels as follows: *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$ (two tailed), and \$ $p < 0.1$ (one tailed).