Firm Political Risk and CEO Compensation Incentives

Feng Dong*, John A. Doukas** and Shuhui Wang***

This version: March 30, 2024

*Siena University, NY, USA. fdong@siena.edu
** Strome College of Business, Old Dominion University, Norfolk VA 23529-022, USA; Judge Business School, University of Cambridge, UK. jdoukas@odu.edu; phone: 1-(757) 683-5521.
** Department of Finance and Accounting, Surrey Business School, University of Surrey, Guildford, Surrey, GU2 7XH United Kingdom; shuhui.wang@surrey.ac.uk; phone: +44 1483 683047

Firm Political Risk CEO and CEO Compensation Incentives

We investigate whether and how firm political risk influences CEO incentive compensation. Using firm-level political risk, measured as each firm's sensitivity to a change in government policy, we find that political risk shocks typically prompt corporate boards to alter CEO risk-reducing with risk-taking compensation incentives. Our findings contribute to the existing literature by highlighting that firms recalibrate CEO compensation incentives in response to political risk, with the intention of mitigating its adverse firm effects. That is, firms exposed to high political risk favour convex CEO compensation packages with the aim to enhance their high-risk tolerance incentive, allowing them to navigate and overcome the challenges posed by political risk to firm value and performance. Our results hold in multiple robustness and endogeneity tests, including alternative measures of political risk and CEO compensation incentives, additional control variables, entropy balancing matching, and generalized method of moment dynamic panel estimation method.

JEL classification: M12; G30; G32

Keywords: Risk-reducing and inducing CEO incentive; CEO compensation design; Firm political risk; Firm risk.

1 Introduction

In this study, we explore the influence of firms' political risk on CEO compensation incentives. Political risk, which notably impacts the stability and certainty of firms, distinguishes itself as a distinct type of risk compared to the random disturbances in profitability cantered around zero typically associated with business risk (Huang et al., 2023). Existing literature extensively examines the impact of firms' political risk on corporate policies (see i.e., Julio & Yook, 2012; Gungoraydinoglu, et al., 2017; Nguyen & Phan, 2017; Duong, et al., 2020). However, there is a lack of understanding whether firms adjust/alter CEO compensation incentives to overcome the adverse economic effects of political risk. Using firm-level political risk, measured as each firm's sensitivity to a change in government policy (Hassan et al., 2019; Hassan et al., 2020; Hassan et al., 2023), our research aims to address this knowledge gap.

While we expect firms' political risk to have a significant influence on CEO compensation incentives, the nature of this influence is not obvious. When firms face political risk, their operations are exposed to uncertainty and instability, and investors are becoming more conservative (Panousi & Papanikolaou, 2012; Julio & Yook, 2012). This suggests that firms could experience unfavorable economic outcomes due to political activity and government interference in business operations, thereby resulting in an overall elevation of risk levels. (Kobrin, 1979; Boutchkova, et al., 2012). In such a state, this may lead to two opposite hypotheses. On the one hand, firms exposed to higher political risk might favour less convex CEO compensation packages via stronger CEO risk-reducing compensation incentives in the form of inside debt and weaker risk-taking incentives in the form of convex compensation. This indicates that high inside debt incentive and low convex compensation can incentivize CEOs to pursue low-risk strategies that mitigate the negative effects of political risk. Sundaram and Yermack (2007) postulate that managers holding large inside debt should be expected to

pursue strategies that reduce overall firm risk, however, high convex compensation is a common practice to motivate CEOs risk-taking (Jensen and Meckling, 1976). We refer to this as the "*strong incentive hypothesis*".

On the other hand, CEO inside debt is unsecured and unfunded and its value is sensitive to firms' uncertainty and risk (Edmans & Liu, 2011; Phan, 2014). The sensitivity of CEO inside debt value to firm risk is likely to be trivial at firms with very low risk but quite substantial at firms with very high risk (Wang, et al., 2018). Because CEOs are exposed to higher risk due to political uncertainty, lower risk-reducing CEO incentive, measured by CEO inside debt and higher risk-inducing CEO incentive, captured by the convex compensation are optimal to encourage them to engage in high-growth corporate decisions to overcome the adverse effects of political risk on firm value and performance. Therefore, under a heightened political risk environment, board of directors, who act in the interests of shareholders, are more likely to compensate CEOs with more convex compensation packages through less risk-reducing incentive and more risk-inducing CEO incentive. We call this as "*matched incentive hypothesis*".

Given the above conflicting views, we contribute to this line of the literature by investigating the effect of political risk on CEO compensation incentives. Although practitioners identify CEO- and firm-wide factors as essential determinants of CEO compensation incentives (Anderson & Bizjak, 2003; Ortiz-Molina, 2007; Guthrie, et al., 2012; Humphery-Jenner, et al., 2016), few studies to date have examined how economy-wide factors affect them. In particular, we account for firm-level political risk and test its impact on the CEO compensation structure design (i.e., risk-reducing vs risk-taking incentives), which has been overlooked in previous literature. Because inside debt data are available since 2006, we test our hypotheses from 2006 through 2020, with more than 1500 firm-year observations. Lending support to *matched incentive hypothesis*, we find that firms exposed to high political risk favour

convex CEO compensation packages. Nevertheless, it is possible that after conditioning on a host of observable factors, the estimate of the political risk variable might be affected by uncontrolled unobserved firm heterogeneity and/or simultaneity issues. To alleviate these concerns, we address the potential endogeneity by 1) controlling for fixed firm, industry and time effects, in addition to a wide array of relevant variables, to mitigate latent heterogeneity; 2) we use entropy balance matching; and 3) generalized method of moment (GMM) dynamic panel estimation method. Our results hold in these endogeneity checks, and our models pass the respective specification tests.

Considering that convex CEO compensation is favoured in political risk states, to provide further evidence for this view and gain a deeper understanding of our research questions, we draw from the literature and perform subsample tests to probe under which conditions convex CEO compensation packages are more favourable. We examine the impact of CEO overconfidence on the relation between political risk and CEO compensation packages. Galariotis, et al. (2023) discover that firms award overconfident CEOs with less convex compensation incentives to restrain managerial overconfidence with the aim to alleviate CEO overconfidence-induced overinvestment and risk-seeking behaviour. When we examine whether overconfident CEOs' compensation packages are adjusted in high political risk environment states, the results indicate overconfident CEOs' risk-reducing incentives decrease significantly, however, political risk positively affects risk-inducing incentives, while the coefficient of the interaction term between political risk and CEO overconfidence is not statistically significant. This confirms our prior findings: in high political risk states, risk-reducing CEO incentives represent an ineffective corporate governance practice. Conversely, risk-inducing (i.e., convex compensation) CEO incentives, are more appealing to the board.

Finally, we examine the interactive effect of CEO compensation incentive and political risk on firm risk and firm performance. In terms of firms' riskiness, risk-reducing CEO

incentive significantly increases the firm riskiness in the presence of rising political risk. This is consistent with our arguments that convexity of CEO compensation incentives is designed to enhance CEOs' high-risk tolerance and it is a more favourable strategy when the firm is exposed to high political risk. Regarding firm performance, we find risk-reducing CEO compensation incentive conditional on political risk having a negative effect on firm performance. This finding further strengths our understanding that firms facing significant political risk prefer convex CEO compensation packages to reinforce their high-risk tolerance incentive, enabling them to navigate and overcome the challenges presented by political risk, thereby enhancing firm value and performance.

Our study makes three significant contributions to the literature. Firstly, we provide new evidence that executive compensation is one of the mechanisms that board of directors use as a risk management strategy. Our results demonstrate that political risk is an important factor in influencing CEO compensation decisions beyond firm and CEO characteristics. Miller, Wiseman, and Gomez-Mejia (2002) discover that the appropriateness of CEO pay strategies depends on their fit to each firm's unique needs. Our results add the understanding that strategically utilizing convex (non-linear) CEO compensation can alleviate the negative effects of political risk on a company's value and performance. The board of directors is observed adjusting convex CEO compensation incentives in alignment with the company's political risk, a tactic that ultimately reinforces CEOs' high-risk tolerance. This adjustment empowers them to effectively address and surmount challenges linked to political risk, enabling participation in ventures characterized by both risk and substantial growth potential.

Secondly, we are the first to use a firm-specific measure of political risk to provide causal evidence on the relation between political risk and CEO compensation decisions at the firm level. Our evidence contributes to a growing literature linking political uncertainty to the financial and economic market conditions. For instance, Julio and Yook (2012) apply election

events to proxy political uncertainty and discover that political uncertainty leads firms to reduce investment expenditures until the electoral uncertainty is resolved. Gulen and Ion (2016) measure firm-level political risk by adapting the Baker, Bloom, and Davis (2016) measure of economy-wide policy uncertainty (EPU) and find policy uncertainty can depress corporate investment. Bonaime, Gulen and Ion (2018) and Nguyen and Phan (2017) both analyse firm's merger and acquisition activities sensitivity to EPU. EPU also impacts firms' cash holdings, share repurchase and leverage decisions (see i.e., Gungoraydinoglu, Çolak ,& Öztekin, 2017; Duong, et al., 2020; Anolick, et al., 2021). However, the aggregate political risk exposure measures and firm-level sensitivity to EPU mask the sufficient dispersion in political risk within/across firms over time. This variation that explains the bulk of a firm-level exposure to political risk originates from local, sector-specific, time-specific, and distinctive political factors. We still lack large-scale evidence about the impact of a firm-level measure that reflects this wide range of sources of political risk on CEO compensation incentive.

Furthermore, our paper is related to CEO compensation literature. The extant literature on the impact of firms' risk on executive compensation design primarily evaluates the effectiveness of equity-based compensation and salary. Existing research shows that equity-based compensation may alleviate agency problems by encouraging risk-taking behavior through the undertaking of value-maximizing corporate decisions (Gray & Cannella, 1997). Risky firms pay more, especially cash compensation (Geiler & Renneboog, 2015). Miller, Wiseman, and Gomez-Mejia (2002) demonstrate that agents demand greater pay to bear higher risk. Specifically, they find that CEO pay design is intricately linked to the level of risk exposure faced by firms and that this association between firm risk and CEO pay is stronger for firm-specific (unsystematic) risk than for market-driven (systematic) risk. There is no literature, however, that examines whether and how, CEO compensation incentive practices

(i.e., risk-reducing (inside debt) vs risk-inducing (convex)), firms use in response to the adverse effects of political risk.

The remainder of the paper is organized as follows: Section 2 presents a literature review on political risk and CEO compensation structure and develops a testable hypothesis; Section 3 describes the sample and methodology; Section 4 presents the results; and Section 5 concludes.

2 Literature review and hypothesis development

2.1 Political risk and its impact on firm's operating environment

Political risk represents a distinctive type of risk and does not like the typical business risk, which is a random disturbance in profitability that centres at zero (Huang et al., 2023)[1]. For instance, political risk is the risk that a government will influence the firm's real decisions by altering policies opportunistically to directly or indirectly expropriate a firm's profits or assets (Holburn & Zelner, 2010). Political instability affects aggregate economic outcome and finally influences the executive instabitlity (Alesina & Perotti, 1996). Furthermore, political risk exerts a significant impact on industry regulation, monetary and trade policy, taxation, and, in extreme cases, the potential expropriation or nationalization of private firms.

To be more specific, at the macro level, political risk impedes economic recovery, as observed in Bloom (2014). On the industry level, it influences return volatility, as shown in the study by Boutchkova, Doshi, Durnev, and Molchanov (2012). When we look at the firm level, political risk can exacerbate firms' financial constraints and increase their default risk, leading to a higher cost of external financing (Gungoraydinoglu, et al., 2017 and Nguyen & Phan, 2017), a lower stock prices (Pástor & Veronesi,2012), and a reduced sensitivity of investment costs to capital (Drobetz, et al., 2018). In response to these adverse consequences, economic actors tend to adopt a more cautious approach during periods of heightened uncertainty, firms are becoming more conservative, and are reluctant (or unable) to carry high leverage (Panousi & Papanikolaou, 2012). Duong, et al. (2020) find that in the presence of policy risk, U.S.

[1] We read firms' annual reports to better understand political risk and its implication. Political risk is commonly mentioned in the firm's annual report. The sources of political risk are various, including political election, instability and uncertainties arising from the global geopolitical environment, political disruption, and other reasons, political and regulatory scrutiny, which exposes the company to government investigations, legal actions, and penalties, and international trade disputes. Undesirable consequences of political risk include financial losses, damaged relationships with customers and a negative effect on consumer confidence and spending, which could adversely affect the company's business (see, i.e., Honeywell International Inc., 2016; Apple Inc, 2019; and Dell Technologies Inc., 2019).

corporations hold more cash to alleviate the negative impact of policy risk on capital investment and firm innovation outputs.

Similarly, consumers tend to increase their precautionary savings during times of heightened uncertainty, as explored by Bansal and Yaron (2004), while investors are getting more risk averse and rely more on analysts, and analysts put in more effort, as indicated by Loh and Stulz (2018). Additionally, Pástor and Veronesi (2013) claim that political risk is not fully diversifiable. Non-diversifiable risk generally depresses asset prices by raising discount rates. Therefore, firms become cautious and hold back on investment in the face of uncertainty (Julio & Yook, 2012).

Therefore, using firm-level political risk rather than economy-wide policy uncertainty, we aim to discover whether board of directors alter CEO compensation incentives when firms face uncertainty and instability in high political risk states.

2.2 CEO compensation incentives

The relationship between CEO compensation package and its impact on risk-taking incentives has been discussed extensively. Ross (2004) claims that a convex compensation schedule does not inherently increase an agent's willingness to take risks. Similarly, a linear compensation (i.e. inside debt incentive) does not inherently make an agent more risk-averse. There are certainty and necessary conditions under which compensation incentive arrangements make agents more or less risk averse. We aim to explore whether political risk motivates the adoption convex or linear (inside debt) CEO compensation incenitves.

Convex incentives aim to address managerial risk aversion and to promote optimal risk-taking conduct (Guay, 1999). Consistent with this argument, Low (2009) finds that in reaction to an external rise in takeover protection in Delaware in the mid-1990s, managers decrease firm risk significantly, and this decrease in risk is most notable in companies with lower managerial

convex incentive. On the contrary, inside debt is thought to discourage excessive risk-taking, and as a result, to compel CEOs to manage firm resources prudently and increase the company's distance to default (Sundaram & Yermack, 2007). For instance, inside debt, as a risk reducing incentive, restricts CEOs from leveraging the firm and increasing research and development (R&D) expenditures, but encourages operational hedging (Cassell et al., 2012) and to pay more dividends regardless of investor preferences (Caliskan & Doukas, 2015).

Given the distinguished relationship between CEO compensation component and its impact on risk taking incentives, we expect board of directors will customize CEO compensation incentives in accordance with the company's political risk. Political risk alters the nature of the principal – agent relationship and exacerbates financial constraints, which can substitute for corporate governance in mitigating managerial discretion and overinvestment (Nguyen & Phan, 2017). Gray and Cannella (1997) argue that several compensation arrangements (like inside debt), while not necessarily linking pay to performance, but align the risk preferences of managers and debtholders. This corresponds with the findings of Philip et al. (2023), who posit that CEOs possessing higher ratios of CEO debt-to-equity holdings are viewed as relatively "debtholder-friendly" and may help alleviate the agency costs associated with debt. Galariotis, et al. (2023) discover that firms fine-tune inside debt to restrain CEO overconfidence, aiming to alleviate CEO overconfidence-induced overinvestment and excessive risk-taking.

Due to the conservative investment strategies of firms with high political risk, reducing the need to alleviate CEOs' risk-taking incentives and prioritizing the need to increase investment incentives favour the use of convex compensation incentives. Board of directors, who act in the interests of shareholders, are more likely to be in favour of convex compensation incentives via less risk-reducing compensation incentive and more risk-inducing (risk tolerant) compensation incentive to CEOs. We call this as "*matched incentive hypothesis*".

H1: Based on the matched incentive hypothesis, political risk positively influences CEO convex compensation incentives by decreasing (increasing) risk-reducing (risk-inducing) CEO incentives.

However, at the heart of principal-agent theory, the degree of control that the agent can exercise over performance outcomes is very important to consider when designing the agents' compensation contract. Different compensation components can only be effective in inducing the types of behaviours needed to achieve desired results when an agent can control or influence outcomes (Holmstrom, 1979). The fixed components help protect executives from factors beyond their control (Shavell, 1979). Though inside debt is a kind of cash compensation that represents the fixed sums of cash in the future, Edmans and Liu (2011) claim that inside debt is desirable in companies with a significant risk, where the investment decision affects liquidation value and where effort can improve liquidation value.

Additionally, CEOs will exert greater efforts to mitigate the risk and, therefore, they should be paid a premium for undesirable exposure to risk management (Chen, et al., 2023). Increased pay level is paid to CEOs who are exposed to higher risk, otherwise higher quality executives may seek opportunities elsewhere. This is consistent with findings of Cheng, Hong and Scheinkman (2015) who discover that managers at a riskier firm face more significant wealth uncertainty because their firm's stock price is more volatile. In this sense, the adoption of convex compensation does not automatically result in heightened risk-taking, as it may elevate the manager's portfolio sensitivity to fluctuations in the firm's stock price (Ross, 2004). Awarding more convex compensation incentives is not optimal. Accordingly, riskier firms may offer CEOs higher levels of inside debt incentive and lower levels of convex compensation incentive compared to less risky firms.

Therefore, we anticipate that in situations where firms encounter elevated political risk, decreasing risk-inducing (convex compensation) CEO incentive are likely to create a stronger sense of obligation for CEOs and a corresponding sense of relief for shareholders. (Hossain, et al., 2022). We refer to this as the "*strong incentive hypothesis*".

H2: Based on the strong incentive hypothesis, political risk negatively influences CEO convex compensation incentives by increasing (decreasing) risk-reducing (risk-inducing) CEO incentive.

3 Empirical analysis

3.1 Data and methodology

We obtain CEO compensation and CEO-related data from Execucomp, accounting data from Standard and Poor's Compustat Industrial Annual, and stock data from the Center for Research in Security Prices (CRSP). CEO power data comes from Institutional Shareholder Services (ISS, formerly RiskMetrics), primarily covering S&P 1500 firms. Our sample period starts in 2006, the first year that firms are required by the SEC to disclose their top executives' deferred compensation plans, pension benefits and other post-employment payments. Following Wei and Yermack (2011), Cassell et al. (2012), and Phan (2014), we restrict the sample to those firms that have positive CEO inside debt holdings. We get political risk data from Hassan et al., (2019), Hassan et al., (2020) and Hassan et al., (2023). After meeting the data requirement, our sample consists of 1,386 unique firms or 10,261 firm-year observations from 2006 to 2020.

3.2 Variable measurements

3.2.1 Risk-reducing CEO incentive measure

We construct risk-reducing CEO compensation incentive by employing the CEO's relative debt-to-equity incentive ratio, as established in previous studies (Jensen & Meckling,

1976; Edmans & Liu, 2011; Wei & Yermack, 2011; Cassell et al., 2012; Campbell et al., 2016). This particular measure for risk-reducing CEO incentive is computed by assessing the CEO's pension and deferred compensation as a proportion of their total equity claims, then dividing this by a corresponding ratio of the firm's debt to equity claims. We choose this incentive measure over other proxies such as the CEO's debt-to-equity ratio scaled by the firm's debt-to-equity ratio (the CEO-to-firm debt/equity ratio) or the dummy that equals one if the CEO to firm debt/equity ratio is greater than one (the CEO-to-firm debt/equity dummy) (see, e.g., Cassell et al., 2012; Phan, 2014) because this incentive places a distinct emphasis on the pay incentives stemming from marginal changes in CEO wealth, which are associated with a one-unit alteration in firm value, as outlined by Wei and Yermack (2011).

This approach offers two primary advantages. First, by concentrating on changes of the relative CEO debt-to-equity incentive ratio rather than absolute levels, alleviates concerns regarding potential disparities in the durations and payoff characteristics of the debt and equity securities held by firms and CEOs. Moreover, CEOs' equity incentive, like stock options, has finite expirations and exhibit convex slopes concerning firm value, while a substantial portion of the firm's equity consists of shares with unlimited lifespans and linear slopes in relation to firm value (Wei & Yermack, 2011). Second, level-based measurements prescribe a uniform approach, implying that CEOs should maintain a debt-to-equity ratio identical to their respective firms. In contrast, the incentive construction underscores that the optimal CEO inside debt is contingent on each firm's unique contractual environment. Therefore, the same investment or financial policy decision can have diverse value implications for firms and CEOs, even if the CEOs maintain an identical debt-to-equity ratio as their firms (Cassell et al., 2012; Campbell et al., 2016).

3.2.2 Risk-inducing CEO incentive measure

To measure the risk-inducing CEO incentive, we use the ratio of vega to delta. This measure reflects the trade-off between risk and return that CEOs face when evaluating project decisions (Dittmann, Yu, and Zhang, 2017). For instance, when faced with a high-value risky project, the decision to pursue it is shaped by both delta and vega. High vega compensation may incentivize a CEO to accept a risky negative NPV project, while high delta compensation could offset this tendency by motivating the manager to reject such a project. Consequently, a more accurate representation of convex compensation incentive is achieved by using compensation vega scaled by compensation delta.

We follow previous research to calculate the portfolio vega of a CEO's compensation package as the change in the dollar value of a CEO's wealth resulting from a 1% fluctuation in the annualized standard deviation of the CEO's firm's stock return (Guay, 1999; Core & Guay, 2002). Delta is the change in the dollar value of the CEO's wealth for a 1-percentage-point change in stock price.

3.2.3 Political risk measure

We get political risk relevant data from Hassan et al., (2019), Hassan et al., (2020) and Hassan et al., (2023)[2]. Political risk faced by individual U.S. firms are constructed using simple tools from computational linguistics and measurements based on the share of their quarterly earnings conference calls that they devote to political risks. This is created on a quarterly data basis. We structure our annual political risk as the sum or average value of the quarterly data, which doesn't influence our results.

Following Hassan et al., (2019), political risk is winsorized at the 1% level to reduce reliance on a few bigrams with very high term frequency. To facilitate interpretation of the

[2] We also obtain data for the overall risk, non-political risk and political sentiment.

economic significance of our results, we also standardize with its sample standard deviation. There are two rationales for standardizing data. First, this is to remove overall time trends from the rigging estimates[3]. Second, since the predictions are based on a compensation equation that compares risk measurements drawn from similar distributions, we standardize these risk measures for comparability.

3.2.4 Control variables measure

We construct a set of standard control variables that are known to be determinants of CEO compensation incentives (Sundaram & Yermack, 2007; Liu et al., 2014; Galariotis, et al., 2023). For CEO characteristics, we control for CEO age, CEO tenure (the number of years the CEO in the office), and CEO ownership. For firm characteristics, we include firm size (log of total assets), firm leverage defined as total book value debt divided by total assets, firm age, stock return, and stock volatility (the standard deviation of stock return). We use the difference between cash flows from operating activities and capital expenditure divided by market value to proxy free cash flow. To proxy research and development, we use research and development expenses divided by total sales, missing R&D expenses are set to zero. We construct a tax indicator variable that equals one if the firm has net operating loss carry forwards, and zero otherwise to proxy firm tax status. The liquidity constraint indicator variable is set equal to one if the firm has negative operating income, and zero otherwise). Finally, we use market to book ratio to control firm's growth opportunities. To mitigate outlier concerns, we winsorize all continuous variables, except those normalized using natural logarithm, at the 1% level in both tails. A comprehensive list of variables, definitions, and sources is provided in Appendix A.

[3] For instance, the mean value of political risk is only 122, whereas the mean value of non-political risk is over 876.

3.3 Descriptive statistics

Panel A of Table 1 provides descriptive statistics. The summary statistics for the overall sample are primarily comparable with prior literature (e.g., Phan, 2014). The mean and median values of the raw risk-reducing CEO incentive (i.e., CEO inside debt incentive) are 3.507 and 0.269, respectively, suggesting a highly skewed distribution in the right tail. This distribution shape is consistent with the view that some firms, generally large and mature firms, give top executives a considerable sum of inside debt (Sundaram & Yermack, 2007; Wei & Yermack, 2011) that exceeds the average level. These values are in line with prior studies. For example, Phan (2014) reports the mean and median values of 2.853 and 0.518, respectively. Given the highly skewed distribution of CEO inside debt, we follow the literature and use its natural logarithm in our regression analyses. The mean and median values of natural logarithm risk-reducing CEO incentive are 0.034 and 0.003, respectively. We label it as risk-reducing CEO incentive for the whole paper.

As for the raw value risk-inducing CEO incentive, the mean and median values are 0.530 and 0.378 respectively. To mitigate potential problems caused by positive skewness, in our regression models, we use the natural logarithm of 1 plus the raw value risk-inducing CEO incentive as the proxy for risk-inducing CEO incentive. It exhibits mean and median values of 0.361 and 0.320, respectively. The mean and median values of standardized political risk are 0.972 and 0.665. These values are larger than those of Hassan et al., (2019). This could be due to the large and complex firms in our sample[4].

Firms with high and low political risk may exhibit fundamental differences. To compare these differences, we split our sample of firms into high and low political risk groups – if a firm's political risk falls into the top tercile of the whole sample in a given year, we assign the

[4] Firms included in the ExecuComp database tend to be larger and more complex (Cadman, Klasa, & Matsunaga, 2010).

firm to the high political risk group, low political risk group, otherwise. The descriptive statistics between high and low political risk groups are reported in Panel B of Table 1. Risk-reducing CEO incentive and risk-inducing CEO incentive are shown to be smaller in the high political risk group. But they are not statistically significant. Considering CEO characteristics, CEOs in firms with high political risk have lower ownership, longer tenure, and are older. Regarding firm characteristics, firms with high political risk are larger, younger, and with lower leverage, stock return, research and development expenses and market-to-book ratios, and with higher free cash flow and liquidity ratio. We are aware that univariate comparisons do not consider any confounding effects, which can be misleading. Consequently, to identify the impact of political risk on CEO compensation incentive, we need to control net of CEO- and firm-specific characteristics through multivariate regression analysis, as presented in the next section.

[Please insert Table 1 here]

3.4 Results

3.4.1 The relation between political risk and corporate investment decisions

To validate the accuracy of political risk measure in our sample, in this section we begin the empirical analysis by investigating the relation between political risk and firm investment decisions. We first follow Hassan et al., (2019) to examine the impact of political risk on corporate investment, net hiring, net sales, implied and realized volatility. We implement the following pooled regression model in our primary analysis:

$$Firm\ investment\ decisions_{it} = \gamma_0 + \gamma_1 PRisk_{it-1} + \lambda \boldsymbol{X_{it-1}} + d_i + d_j + \varepsilon_{it-1} \quad (1)$$

Where $PRisk$ is the standardized political risk; firm investment decisions are measured as corporate investment, net hiring, net sales, implied and realized volatility respectively. γ_1 represents the impact of political risk on these decisions. $\boldsymbol{X}$ is the vector of control variables. d_i

denotes firm fixed effects; d_j denotes industry fixed effects based on the Fama-French 48 industries[5]. ε_{it-1} is the error term. Appendix A provides variable definitions and construction.

Following Julio and Yook (2012) and Gulen and Ion (2016), we control for free cash flow, Tobin's Q, sale growth and GDP growth in the regression. Standard errors are clustered at the firm level. The results are reported in Table 2. Panel A only controls political risk and Panel B also controls non-political risk. In both Panels, Columns (1), (2) and (3) show the results from regressions of Net capital expenditure, Net sales, and Net hiring, respectively. Net capital expenditure, $\Delta cape_{i,t}/cape_{i,t-1} * 100$, is the change in year-to-year capital expenditure over last year's value. Net sales, $\Delta sale_{i,t}/sale_{i,t-1} * 100$, is the change in year-to-year sale over last year's value. Net hiring, $\Delta emp_{i,t}/emp_{i,t-1} * 100$, is the change in year-to-year employment over previous year's value. Columns (4) and (5) show the results from regressions of annual implied and realized volatility, respectively. Annual implied volatility is the 365-day average of firms' daily option-implied volatility from OptionMetrics, where the daily observations are the simple average of 365-day-horizon at-the-money (ATM) call and put options (Alfaro, Nicholas, and Lin, 2021). Annual realized stock return volatility is the 12-month standard deviation of firms' cum-dividend daily stock returns from CRSP and annualized by multiplying by $\sqrt{252}$ [6]. We standardize these two variables.

Consistent with prior literature (e.g., Pastor & Veronesi, 2012; Julio & Yook, 2012; Gulen & Ion, 2016; Hassan et al., 2019 and Leippold & Matthys, 2022), Table 2 shows that increases in our firm-level measure of political risk are associated with significant decreases in firm planned capital expenditures, sales, and employment growth. In addition, we find that political risk increases in firm-specific stock return volatility. However, we don't find

[5] Because of GDP growth, we couldn't control the year fixed effects. If removing GDP growth and controlling firm, industry and year fixed effects, we can obtain qualitatively similar results.

[6] We thank Alfaro, Bloom, and Lin (2024) for sharing their dataset. This data is from 1992 to 2019, which causes the smaller observations of Columns (4) and (5) of Table 2.

consistent results with respect to the effects of non-political risk. This indicates that political risk and non-political risk capture different risk aspects. It is reasonable to expect the influence of political risk on CEO compensation to be distinct.

[Please insert Table 2 here]

3.4.2 Is political risk related to the adjustment of CEO compensation incentive?

We use multivariate analysis to study the impact of a firm's political risk on the CEO compensation incentive and provide further evidence of a change in risk-reducing CEO incentive and risk-inducing CEO incentive related to firm's political risk. We use model (2) to perform the multivariate analysis:

$$\begin{aligned} CEO\ compensation\ incentive_{it} = {} & \gamma_0 + \gamma_1 PRisk_{it-1} + \gamma_2 Firm\ size_{it-1} + \gamma_3 Firm\ leverage_{it-1} + \gamma_4 Log(Company\ age)_{it-1} \\ & + \gamma_5 Stock\ return_{it-1} + \gamma_6 Stock\ volatility_{it-1} + \gamma_7 Research\ and\ development_{it-1} + \gamma_8 Tax\ status_{it-1} + \\ & \gamma_9 Liquidity\ constraint_{it-1} + \gamma_{10} MarktToBook_{it-1} + \gamma_{11} CEO\ ownership_{it-1} + \gamma_{12} Log(CEOage)_{it-1} + \\ & \gamma_{13} CEO\ tenure_{it-1} + d_i + d_j * d_t + \varepsilon_{it-1} \qquad \ldots (2) \end{aligned}$$

where *CEO compensation incentive* is measured either as *risk-reducing CEO incentive* (Jensen & Meckling, 1976; Edmans & Liu, 2011; Wei & Yermack, 2011; Cassell et al., 2012) or *risk-inducing CEO incentive* (Islam, et al., 2021). d_i denotes firm fixed effects; d_j denotes industry fixed effects based on the Fama-French 48 industries; d_t denotes year fixed effects. ε_{it-1} is the error term. γ_1 represents the impact of political risk on CEO compensation incentive. Standard errors are clustered at the firm level. Appendix A provides variable definitions and construction.

Table 3 presents regression results of political risk and CEO compensation incentive. Column (1) examines the impact of political risk on risk-reducing CEO compensation incentive and Column (2) analyses risk-inducing CEO compensation incentive. CEO and firm characteristics control variables aim to reduce the likelihood of finding a spurious relation between CEO compensation incentive and political risk. Variable definitions are reported in Appendix A. To avoid confounding effects with firm characteristics, we employ a firm fixed

effect estimation strategy (e.g., Graham, Harvey, & Puri, 2013). Boutchkova, et al., (2012) indicate that some industries are more sensitive to political events than others. Year fixed effects aim to control for economy-wide shocks and differences in the employment period. Since political risk changes overtime, and likely clusters across industries, we control industry * year fixed effects. Finally, following Petersen (2009), we estimate heteroscedasticity-robust standard errors clustered at the firm level to control for residuals that may be correlated over time.

Table 3 reveals a significant negative relation between political risk and risk-reducing CEO incentive, which suggests that political risk strongly predicts the next year's CEO inside debt. Take Column (1) as the example, the coefficient estimate on political risk is -0.004, which is significant at the 10% level. This indicates that a one standard deviation increase in political risk is associated with a 0.40% lower inside debt incentive in the next year. These results are economically significant because the decrease is 11.76% of the average inside debt in our sample (=3.4%). On the contrary, risk-inducing CEO incentive is positively affected by political risk. In Column (2), the coefficient estimate for political risk is 0.007, reaching significance at the 5% level. This implies that a one standard deviation increase in political risk is associated with a 0.70% higher risk-inducing CEO incentive in the following year. The results in Table 3 are consistent with H1 *matched incentive hypothesis* - political risk exerts a negative impact on risk-reducing CEO incentive while positively influences risk-inducing CEO incentive. This pattern suggests that firm political risk increases prompt corporate boards to recalibrate CEO compensation incentives to increase risk-taking incentives.

[Please insert Table 3 here]

3.4.3 Robustness Tests

Table 4 reports the results of a battery of robustness checks. The dependent variables are risk-reducing CEO incentive and risk-inducing CEO incentive in Columns (1) to (5) of Panel A and Panel B, respectively. First, to rule out the possibility that the impact of political risk on CEO compensation incentives is contaminated by distinct influence from CEO vega and delta, we control for the CEO vega and delta in Columns (1) in both Panels. Previous studies document that CEO risk-taking incentives (i.e., vega) and incentive compensation associated with stock performance (i.e., delta) significantly influence CEOs' overall risk package, and these factors have a significant impact on the design of CEO-compensation contracts (Kini & Williams, 2012; Islam, et al., 2021). Even after accounting for the impact of CEO vega and delta, the inverse relationship between political risk and risk-reducing CEO incentive, as well as the positive relationship between political risk and risk-inducing CEO incentive persists. These results are consistent with our previous evidence pointing out that increases in firm political risk prompt corporate boards to decrease CEOs' risk-reducing incentives and increase their risk-inducing incentives.

Next, to examine the joint impact of vega, delta and political risk on CEO compensation incentive structure, we add delta (vega) and its interaction term with political risk in Column (2) of Panel A (B). Based on Column (2) of Panel A, there is no significant impact among risk-reducing incentives, political risk and CEO delta. However, Panel B shows the significant positive relation between risk-inducing CEO incentive and the interaction term of CEO vega and political risk. This suggests that CEO vega has an incentive to reduce the adverse effects of firm political risk by prompting CEO risk-taking incentives and, thus, to reduce the probability of being fired in order to protect their human capital in a competitive executive labour market. This trend indicates that firm's heightened political risk prompts corporate

boards to enhance CEO convex incentives, thereby augmenting incentives for risk-taking behavior.

Thirdly, we exclude the utilities and financial firms (SIC codes 4900-4999 and 6000-6999) and report these results in Columns (3) of Panel A and B respectively. There are two reasons to do so. First, the policies and decisions of these firms are highly influenced by regulations. Secondly, the compensation levels and structures of top executives of financial services firms have been widely perceived as excessive. This is one of the main reasons for the 2008 financial crisis. After the financial crisis, the Emergency Economic Stabilization Act of 2008 was formed, which aimed to restrict executive compensation in any financial firm (Kini & Williams, 2012). We may expect that CEO compensation incentive should have been influenced by this Act. Earlier we investigated whether political risk affects CEO compensation incentive overall. In this test, we empirically investigate this issue for non-financial and non-utilities firms and find that political risk still has a significant negative impact on risk-reducing CEO compensation incentive and the economic size of political risk has increased by 75%.[7] However, the impact on risk-inducing CEO incentive has been mitigated. This may be due to the smaller sample size.

Furthermore, we also control the non-political risk[8], which is based on the non-political bigrams instead of political bigrams. We are interested in whether the non-political risk will confound the significant relation between firm's political risk and CEO compensation incentive. The results report in Columns (4) of Panel A and B and the coefficients of political risk remain statistically significant in both columns. However, non-political risk positively influences risk-reducing CEO incentive and has no significant impact on risk-inducing CEO

[7] The coefficient of Political risk in Column (1) of Table 3 is -0.004. Compared with coefficient -0.007, the economic size has increased by 25% (-0.007-(-0.004)/(-0.004) = 75%).

[8] We also control the overall risk that counts only the number of synonyms for risk, without conditioning on political bigrams. The results remain qualitatively and quantitively similar.

incentive. This indicates the different impacts of political risk and non-political risk on CEO compensation. This test further justifies the importance of exploring political risk as well as its impact on CEO compensation incentive.

Finally, we control for political sentiment. As Hassan et al. (2019) suggest, measuring political risk presents a significant challenge due to the potential correlation between information on shock variability and unquantified data regarding their conditional average. This variation in the conditional average can complicate our ability to estimate the connection between political risk and CEO compensation structure. Additionally, there might be a concern that conference call participants including corporate and market participants could be overly promoting themselves during calls, and thus, political risk measures may not entirely capture the firm's political risk level. To address this issue, we incorporate political sentiment as a control variable. This metric captures the sentiment expressed by participants during discussions related to political matters. Specifically, political sentiment not only considers the same political bigrams used in assessing political risk but also considers their use in conjunction with positive and negative tone words, as opposed to using synonyms for risk or uncertainty. The results in Columns (5) of Panels A and B, show the coefficients of political risk are at -0.004 with significance at the 5% level and at 0.006 with significance at the 5% level [9]. Overall, the results in Panels A and B are highly consistent with the *H1 matched incentive hypothesis*.

In Panel C of Table 4, we use alternative risk-reducing and risk-inducing CEO incentives, and political risk measures. For our first alternative measure of risk-reducing CEO incentive, we follow Sundaram and Yermack (2007) and construct an indicator variable, relative CEO debt-to-equity incentive ratio > 1, set equal to one if relative CEO debt-to-equity

[9] We also control the interaction effect between political risk and political sentiment. The results don't change.

incentive ratio exceeds one, and zero otherwise, since Jensen and Meckling (1976) theorize that the incentive effects of CEO inside debt holdings are likely to be particularly acute when the CEO's debt-to-equity incentive ratio exceeds that of the firm. Additionally, we also use raw value of CEO debt-to-equity incentive ratio. These results, reported in Columns (1) and (2) of Panel C, respectively, demonstrate that our previous results remain consistent. In Column (3), we replace the standardized political risk variable with the political risk dummy and examine its impact on CEO risk-reducing incentives. If a firm's political risk falls into the top tercile of the whole sample in a given year, we assign the firm to the high political risk group, low political risk group, otherwise. This indicates that firms falling in the high political risk group will decrease CEO risk-reducing by more than 20%10. In Column (4), we examine the impact of political risk dummy on CEO risk-inducing incentive. The coefficient of political risk dummy still stays positive, but its significance level has been reduced. This confirms our base line point that firms subject to high political risk are more likely to adopt convex (risk-inducing) CEO compensation. In Column (5) of Panel C, risk-inducing CEO incentive is measured as the ratio of CEO vega to delta, the positive coefficient of political risk remains statistically significant.

To sum up, when a firm is exposed to high political risk, it is more likely to experience high economic uncertainty. Therefore, linear CEO compensations are unlikely to help firms hedge against political risk, let alone, expand their growth prospects. As a result, corporate boards notice the nature of the principal–agent relationship changing and, to maintain CEOs' risk-taking incentives, board utilities resort to a cost-efficient way to significantly decrease (increase) risk-reducing (risk-inducing) CEO incentives to match the investors' needs. This

[10] Given the average inside debt incentive is 0.034, high political risk dummy will decrease the sensitivity by 0.009, which is 26.47%.

means that board of directors embrace convex CEO compensation packages to boost their high-risk tolerance incentive to overcome the adversity of political risk on the firm's development.

[Please insert Table 4 here]

3.5 Endogenous tests

3.5.1 Results from entropy balancing sample

We are aware that a firm's political risk could be endogenous. It is important to note that if firms with high political risk are different relative to firms with low political risk, then the control variables in the regression which capture linear relations, may be inadequate. To alleviate concerns over potential non-linear effects of the control variables on CEO compensation incentive, we can use matching or weighting techniques or simply discarding observations to improve the covariate balance between the treatment and the control groups. We employ an entropy balancing (EB) technique, as introduced by Hainmueller (2012) and Hainmueller and Xu (2013). This method re-weights control group observations to align the mean, standard deviation, and skewness of all covariates from the control group with those of the treatment group. Compared to propensity score matching (PSM), EB offers more efficient covariate balancing by utilizing continuous weights for the control group. This approach minimizes the discrepancies in weights, keeping them as close as possible to equally-weighted, instead of assigning binary weights of one (matched) or zero (excluded) based on the propensity score.

Moreover, EB avoids the design choices that can significantly impact sample composition and estimates in PSM treatment effects. EB effectively addresses concerns raised by Shipman, Swanquist, and Whited (2017). EB has notable advantages: 1) it provides less discretion than PSM, addressing Shipman et al.'s (2017) concerns by primarily focusing on setting a tolerance for the algorithm's convergence; 2) the use of continuous weights by EB

ensures the similarity of higher-order moments (e.g., variance and skewness) in covariate distributions between treated and control samples, achieving near-perfect covariate balance, unlike PSM; 3) EB preserves statistical power and generalizability by including all control firms in the sample, not just a subset; 4) EB reduces idiosyncratic noise by assigning continuous weights to all control observations rather than integer weights applied in PSM matching.

Since our political risk is a continuous variable, be consistent with the split methods used in Panel B of Table 1, we partition the sample into high political risk group if the firm's political risk falls into the top tercile of the whole sample and low political risk group for the remaining sample in a given year[11]. Table 5 displays the results of entropy balancing. We conduct weighted OLS regressions, akin to regressions (1) and (2) in Table 3. As illustrated in Column (1) of Table 5, we consistently observe a significant negative relationship between political risk and risk-reducing CEO incentive. In economic terms, coefficient of -0.01 suggests that firms faced with high political risk are associated with 1 % lower risk-reducing CEO incentive than those faced with low political risk. These results are economically significant because the decrease is 29.41% of the average inside debt in our sample (=3.4%). The positive relationship between political risk and risk-inducing CEO incentive is statistically significant at the conventional level and its magnitude of coefficient has increased from 0.007 to 0.009.

[Please insert Table 5 here]

3.5.2 Results from GMM

Previous CEO compensation structure may influence the current political risk level. CEOs with prior low risk-reducing CEO incentive and high risk-inducing CEO incentive tend to be more risk seeking and could adopt aggressive investment strategies, in turn, leading to a higher political risk. In this case, reverse causality via prior levels of low risk-reducing CEO

[11] We can obtain similar results if using median value of political risk to split the sample.

incentive and high risk-inducing CEO incentive would endogenously drive our main result that political risk affects compensation. Additionally, political risk may be endogenous due to unobserved firm heterogeneity that is associated with both compensation structure and political risk, or as a result of simultaneity between the two variables. We attempt to address these issues by GMM dynamic panel estimation method, which is robust to endogeneity problems due to reverse causality, simultaneity, and unobserved heterogeneity (Wintoki et al., 2012).

Table 6 shows that our results remain qualitatively similar in this endogeneity check for risk-reducing CEO incentive but not for risk-inducing CEO incentive. As dynamic GMM accounts for time-invariant firm heterogeneities, we control for year- and industry-fixed effects in the regressions. We also report the results of specification tests for the validity of the GMM estimation procedure. If the assumptions of the specification are valid, then the residuals in the first differences (AR(1)) should be correlated, but uncorrelated in the second differences (AR(2)). The results of these tests confirm that these conditions indeed hold. The Hansen test for over-identifying restrictions (*J*-statistic) shows that under the null hypothesis of instrument validity, we cannot reject the null that our GMM instruments are valid.

[Please insert Table 6 here]

3.6 Discussion

In accordance with the company's political risk, the board of directors is in favour of more convex CEO compensation incentive via decreased risk-reducing incentive (i.e., inside debt) and increased risk-inducing incentive (i.e., vega). This is highly consistent with CEO compensation literature, where CEO inside debt is viewed as a risk averse-inducing compensation and vega aims to enhance managers' risk-taking incentives. When the firm is exposed to high political risk, the risk-reducing CEO incentive is not an effective corporate

governance practice, while the resort to risk-inducing CEO incentives strategy, via convex compensation, appears to be far more appealing to board of directors.

3.7 Does BOD adjust convex CEO compensation incentive in ways consistent with matched incentive hypothesis

3.7.1 The impact of CEO overconfidence

So far, our results show a robust positive relation between political risk and convex CEO compensation incentive, providing strong evidence that CEOs become more risk-averse in a high political risk situation (i.e., uncertainty and instability) and board of directors rationally enhances CEOs' risk-taking incentives to overcome the adversity of political risk through the adoption of risk-tolerant policy decisions.

We are interested in whether CEO characteristics that inherently influence CEOs' risk-taking incentives impact the relation between political risk and convex CEO compensation incentive. Galariotis, et al., (2023) discover that firms award overconfident CEOs with more risk-reducing incentives (i.e., less convex) in order to alleviate their overconfidence-induced overinvestment and risk-seeking behavior. This, in general, implies the adoption of risk-averse compensation (i.e., high inside debt) to reduce the undertaking of risky investment and other risky corporate policies. However, when the firm is faced with high political risk, it is more likely to reduce investments and becomes more conservative (Panousi & Papanikolaou, 2012) Thus, in this situation, there is a low priority to use risk-reducing CEO incentive to restrain CEO overconfidence. Accordingly, we expect that board of directors will award less risk-reducing incentives to overconfident CEOs when the firm is exposed to high political risk. However, there is no clear prediction on how risk-taking incentives of overconfident CEOs will be influenced in states of rising political risk. On the one hand, Board of directors might compensate overconfident CEOs with more risk-inducing incentives to take advantage of their excess risk-taking incentives (Humphery-Jenner, et al., 2016). On the other hand,

overconfident CEOs might be awarded with less risk-inducing incentives because they overestimate the probability of success and the firm's future prospects (Otto, 2014).

Accordingly, we construct Holder 67 to measure CEO overconfidence and examine the cross-sectional difference of CEO overconfidence on the relation between political risk and convex CEO compensation incentive. The results, reported in Table 7, show that overconfident CEOs have higher risk-reducing incentives and lower risk-inducing incentives in normal times. Consistent with Galariotis, et al., (2023), the significant negative coefficient of the interaction variable of political risk and CEO overconfidence suggests that overconfident CEOs' risk-reducing incentives will decrease significantly in the presence of rising political risk. However, political risk has a positive influence on risk-inducing incentives and the coefficient of interaction term of political risk and CEO overconfidence is not significant. This further justifies our previous findings that in states of high-firm political risk, the use of risk-reducing CEO incentives proves ineffective as a corporate governance practice. Conversely, the adoption of risk-inducing CEO incentive strategies, particularly through convex compensation, seems considerably more attractive to the board of directors.

[Please insert Table 7 results here]

3.8 The risk and firm value implication of firm's political risk and CEO compensation structure

As previous results demonstrate, firms' political risk exerts a significant positive impact on convex CEO compensation incentives via decreased risk-reducing and increased risk-inducing incentives. This strategy aims to boost CEOs' high-risk tolerance incentives, which enables them to effectively address and surmount the challenges posed by political risk, thereby safeguarding firm value and performance. To directly examine the impact of convex CEO

compensation incentives conditional on political risk on firms' total risk and performance, we propose the following models:

$$Firm\ Risk_{it+1} = \gamma_0 + \gamma_1\ CEO\ Compensation\ incentive_{it} + \gamma_2 PRisk_{it} + \gamma_3\ CEO\ compensation\ incentive_{it} * PRisk_{it} + \lambda \boldsymbol{X}_{it} + d_j + d_t + \varepsilon_{it} \quad \ldots (3)$$

$$Firm\ Performance_{it+1} = \gamma_0 + \gamma_1\ CEO\ Compensation\ incentive_{it} + \gamma_2 PRisk_{it} + \gamma_3\ CEO\ compensation\ incentive_{it} * PRisk_{it} + \lambda \boldsymbol{X}_{it} + d_j + d_t + \varepsilon_{it} \quad \ldots (4)$$

where *Firm Risk* is measured as the natural logarithm of the variance of daily returns in fiscal year t+1; *Firm Performance* is measured as the natural logarithm of Tobin's Q or as the natural logarithm of return on assets (ROA) in fiscal year t+1. *PRisk* is the standardized political risk in fiscal year t; *CEO compensation incentive* is measured either as *risk-reducing CEO incentive* in fiscal year t (Jensen & Meckling, 1976; Edmans & Liu, 2011; Wei & Yermack, 2011; Cassell et al., 2012) or *risk-inducing CEO incentive* in fiscal year t. $\boldsymbol{X}$ is the vector of control variables measured in fiscal year t. d_j denotes industry fixed effects based on the Fama-French 48 industries; d_t denotes year fixed effects. ε_{it-1} is the error term. Standard errors are clustered at the firm level. Appendix A provides variable definitions and construction.

Following existing literature (Cassell et al., 2012), we have controlled firm characteristics, like firm size, firm age, leverage, stock return and free cash flows that are associated with firms' risk and performance. If the board of directors adjusts convex CEO compensation incentives with the aim to enhance CEOs' high-risk tolerance incentive and overcome the challenges posed by political risk, we expect that coefficients of γ_3 in model (3) are not positively significant and in model (4) are positively significant, especially when the CEO compensation incentive is measured as the risk-inducing CEO incentives.

The results present in Table 8. Panel A of Table 8 reports the results for model (3); Panel B of Table 8 presents the results for model (4) when the dependent variable is the natural logarithm of Tobin's Q. Panel C of Table 8 presents the results for model (4) when the dependent variable is the natural logarithm of ROA. In Columns (1) and (3) of Panel A,

consistent with inside debt literature, risk-reducing incentives in normal times appear to reduce firms' total risk. The significant positive coefficient of the interaction variable of risk-reducing CEO incentives and political risk suggests that risk-reducing CEO compensation policy raises significantly firm riskiness in the presence of rising political risk. This is consistent with our premise that the adoption of risk-reducing CEO incentives strategy does not appear to be an effective strategy, which is capable of reducing the positive effects of political risk on firm's total riskiness. On the other hand, our results that show in Columns (2) and (3) of Panel demonstrate that CEO risk-inducing incentives (convex CEO compensation) have no harmful impact on firms' total risk.

These patterns also hold when firms operate under the helm of low- or high-power CEOs. When managers enjoy excessive power and become entrenched, they can exert more influence over how they are compensated. In this sense, whether powerful CEOs' compensation incentives align with shareholders' interests and act as an effective corporate governance mechanism are worth exploring. Therefore, we are interested in how CEO power will influence CEO compensation incentives as well as their joint impact of political risk on firms' total risk. In Columns (4) to (6), we add *CEO power* that is measured as *Top25*, an indicator that equals one if the CEO's total compensation is in the top 25% of the sample in a given year (Humphery-Jenner, et al., 2016) and its interaction term with CEO compensation incentives and political risk. The positive coefficients of risk-reducing incentive conditional on political risk remain unchanged. There are no differences between high and low CEO power groups. Overall, the results in Panel A point out that risk-reducing CEO incentives exacerbate firm total risk while convex (risk-tolerant) CEO incentives have no detrimental effect on firms' total risk when they are exposed to high political risk.

Next, we aim to directly explore the impact of CEO compensation incentives on firm's performance conditional on rising states of political risk. Specifically, in Columns (1) to (3) of

Panel B, we observe risk-reducing CEO compensation incentives having a significant and positive influence on firm performance in normal times. However, in the presence of rising political risk, risk-reducing CEO compensation incentives have a negative and more pronounced effect, especially when the Tonin's Q measure is used, and when we control for CEO power in Columns (4) to (6). A similar pattern emerges when the ROA measure is used in Panel C.

If CEOs have large power, they can exert considerable influence on firms' decisions and finally their performance. Accordingly, following Panel A, we examine the impact of CEO power in Columns (4) to (6). The negative coefficients of the interaction term of risk-reducing CEO incentive and political risk indicate that the risk-reducing CEO compensation incentives have a negative effect on firm performance. There is no difference between high and low CEO power groups. However, the positive impact of risk-inducing CEO compensation incentives and political risk is statistically significant especially for low CEO power group. The effect of high-power CEOs on firm performance in response to rising political risk appears to be mitigated. This seems to suggest that powerful CEOs get entrenched and extract personal benefits at the expense of shareholders' interests in designing their compensation incentive contracts.

Overall, Table 8 demonstrates that the board of directors will tailor convex CEO compensation incentive based on the company's political risk and this can finally bolster CEOs' high-risk tolerance incentive, empowering them to navigate and surmount the challenges posed by political risk, thereby participating in ventures characterized by both risky and high-growth potential.

[Please insert Table 8 results here]

3.9 Additional validity tests

To further understand whether firms' exposure to increasing of political risk leads to modification of risk-inducing CEO incentive in the future, we directly examine if a firm's political risk increase prompts CEO compensation structure changes from linear to convex compensation. The results report in Table 9. In Columns (1) and (2), CEO convex compensation incentive is captured as the ratio of CEO vega to delta in year t+2 and natural logarithm of the ratio of CEO vega to delta in year t+2 respectively. The significant positive coefficients of political risk in all Columns are consistent with our previous findings. The increases of the CEO vega to delta ratio in response to political risk suggests that firms resort to the adoption of convex CEO compensation. A higher vega to delta ratio in relation to rising political risk indicates that CEOs are motivated to undertake riskier projects since increased stock return volatility increases the value of their compensation consisting of options.

Furthermore, the significant negative coefficients of CEO ownership further demonstrate that higher CEO ownership is associated with lower CEO vega due to alignment of interests and risk considerations. When CEOs have substantial ownership in a company, there might be less need for additional convex compensation to align their interests with shareholders, as they already have a significant personal stake in the firm's success. Additionally, CEOs with a substantial ownership stake may be more risk-averse when it comes to their compensation structure. They may prefer a more stable and predictable income rather than convex compensation, aligning with the long-term interests of shareholders. Therefore, results in Table 9 indicate that firms in response to the rising political risk and anticipated firm economic uncertainty proceed the year after (t+1, t+2) and reduce risk-reducing CEO incentive in favor of CEO's convex compensation to hedge against the adverse economic effects of political risk through the undertaking of high growth potential riskier corporate decisions.

[Please insert Table 9 results here]

4 Conclusion

Despite the vast literature on CEO compensation structure and corporate decisions influenced by political risk, whether and how political risk affects CEO compensation incentives has not been thoroughly addressed in the literature. We employ political risk data from Hassan et al. (2019), Hassan et al. (2020) and Hassan et al. (2023) to explore the impact of firm political risk on risk-reducing and risk-inducing CEO incentives.

Our research yields compelling evidence that firm's political risk is positively related to convex CEO compensation incentives characterized by decreased risk-reducing CEO incentive and increased risk-inducing incentive. Board of directors appears to adjust the convex CEO compensation incentive in states of rising political risk. This strategy ultimately strengthens the CEOs' high-risk tolerance, enabling them to tackle and overcome the challenges associated with political risk. Consequently, they are able to engage in ventures that, while risky, offer high growth potential.

In summary, our findings underscore the CEO compensation decisions associated with the firm's political risk. While we control for various managerial characteristics and firm level variables in our analysis, it's impossible to account for all potentially relevant intermediate effects. Thus, we cautiously interpret the observed link between firm political risk and CEO compensation structure as reflective of both the direct impact of political risk and any indirect effects stemming from earlier, unobserved factors, like CEO's political orientation. Nevertheless, our analysis represents a significant step in comprehending whether and how firm's political risk is linked to CEO compensation decisions. In companies facing elevated political risk, characterized by uncertainty and instability, the board of directors motivates CEOs by decreasing risk-reducing CEO incentives and in favour of risk-tolerant (convex) CEO compensation incentives. The objective is to amplify CEOs' high-risk tolerance incentive,

enabling them to effectively navigate and surmount challenges arising from political risk, thereby safeguarding firm value and performance.

Appendix A: Variable definitions

This table provides definitions for all the variables used in our analysis.

Variable	Variable Description
Dependent variables	
Relative inside debt incentive ratio	The relative inside debt incentive ratio developed by Wei and Yermack (2011) and Cassell et al. (2012): CEO relative incentive ratio = (*ΔCEO IDH*/*ΔCEO EH*)/(*ΔFD*/*ΔFE*) where *ΔCEO IDH* is set to equal CEO inside debt holdings (*CEO IDH*), which is the present value of accumulated pension benefits and deferred compensation; the change in CEO equity holdings (*ΔCEO EH*) is set to equal to the number of shares held by the CEO plus the number of options held by the CEO times the option delta (the option delta is calculated for each option tranche using the Black-Scholes option valuation formula); the change in the firm's external debt (*ΔFD*) is set to equal to total debt (*DLC+DLTT*); and the change in the firm's external equity (*ΔFE*) is constructed using an approach similarly to that used for *ΔCEO EH* except that complete data are not available for all of the outstanding option tranches issued by the firm and hence the inputs to the valuation formula are the total number of employee stock options outstanding (*OPTOSEY*), the average exercise price of outstanding options (*OPTPRCBY*), and an assumed remaining life of four years for all options.
Risk-reducing CEO incentive	It is the natural logarithm of relative inside debt incentive ratio.
Risk-reducing CEO incentive dummy	It is a dummy variable, which takes a value of 1 if the relative inside debt incentive ratio developed by Wei and Yermack (2011) and Cassell et al. (2012) exceeds 1, and 0 otherwise.
CEO vega	Vega is the change in the dollar value of the CEO wealth for a one percentage change in the annualized standard deviation of stock returns at the end of the fiscal year. The variable is created using data from ExecuComp.
CEO delta	Delta is the change in the dollar value of the CEO wealth for a one percentage point change in stock price at the end of the fiscal year. The variable is created using data from ExecuComp.
Risk-inducing CEO incentive	It is the natural logarithm of the ratio of CEO vega to delta.
Log of total risk	The natural logarithm of the variance of daily returns in fiscal year t+1.
Other dependent variables	
Net capital expenditure	It is constructed as $\Delta cape_{i,t}/cape_{i,t-1} * 100$, which is the change in year-to-year capital expenditure over last year's value.
Net sales	It is constructed as $\Delta sale_{i,t}/sale_{i,t-1} * 100$, which is the change in year-to-year sale over last year's value.
Net hiring	It is constructed as $\Delta emp_{i,t}/emp_{i,t-1} * 100$, which is the change in year-to-year employment over last year's value.
Annualized implied volatility	It is the 365-day average of firms' daily option-implied volatility from OptionMetrics, where the daily observations are the simple average of 365-day-horizon at-the-money (ATM) call and put options. This data is from Alfaro, Nicholas, and Lin (2021).

Annualized realized volatility	Annual realized stock return volatility is the 12- month standard deviation of firms' cum-dividend daily stock returns from CRSP and annualized by multiplying by $\sqrt{252}$. This data is from Alfaro, Nicholas, and Lin (2021).
Main independent variables of interest	
Political Risk	It is from Hassan et al., (2019), Hassan et al., (2020) and Hassan et al., (2021). Political risk faced by individual U.S. firms are constructed using simple tools from computational linguistics and measurements are based on the share of their quarterly earnings conference calls that they devote to political risks. This is constructed as the quarterly data. We construct annual political risk as the sum value of the quarterly data and then standardize with its sample standard deviation.
High PRisk	It is a dummy variable, if firm's political risk falls into the top tercile of the whole sample in a given year, we assign the firm to the high political risk group, low political risk group, otherwise.
Firm characteristics variables	
Firm size	The natural logarithm of a firm's total assets
Firm leverage	Total debt divided by total assets. The variable is created using data from Compustat.
Company age	The log transformation of the time between year *t* and the year in which the firm is first recorded in the CRSP stock database.
Stock return	The firm's stock return over the prior year. The variable is created using data from CRSP.
Stock volatility	The firm's standard deviation of daily abnormal stock returns over the prior year. The variable is created using data from CRSP.
Free cash flows	it is constructed as the difference between cash flows from operating activities and capital expenditure divided by its market value. The variable is created using data from Compustat.
R&D / Sales	Research and development expenditure scaled by the total sales, missing R&D expenses are set to zero.
Tax status	An indicator variable that equals one if the firm has net operating loss carryforwards, and zero otherwise.
Liquidity	An indicator variable that equals one if the firm has negative operating income, and zero otherwise.
Market to Book	The market to book ratio is the firm's total market value divided by firm's total book equity value. The variable is created using data from Compustat.
Tobin's Q	The ratio of market value of assets to book value of assets. Market value of assets is measured as the sum of book value of assets and share outstanding minus total common equity.
ROA	Net income scaled by the total assets.
Non-Political Risk	It is from Hassan et al., (2019), Hassan et al., (2020) and Hassan et al., (2021). We construct annual non-political risk as the sum value of the quarterly data and then standardize with its sample standard deviation.
Political sentiment	It is from Hassan et al., (2019), Hassan et al., (2020) and Hassan et al., (2021). We construct annual political sentiment as the sum value of the quarterly data and then standardize with its sample standard deviation.
CEO characteristics variables	

CEO age	CEO age is the log transformation of the CEO age reported at ExecuComp.
CEO tenure	The number of years the CEO in the office. The variable is created using data from ExecuComp.
CEO ownership	The CEO's percentage stock ownership in the firm. This is calculated as the log transformation of the CEO's stock ownership divided by the number of shares outstanding. The variable is created using data from ExecuComp.
Overconfidence	An indicator variable that equals one when the CEOs fail to exercise vested options that are at least 67% in-the-money at least twice during their tenure as the CEO, and zero otherwise. CEOs are classified as overconfident from the first instance that they fail to exercise because overconfidence is a permanent, rather than transitory, trait. We construct the variable using year-by-year aggregate data on CEO vested option holdings and calculate a continuous confidence measure as follows: $Confidence = \frac{Average\ value\ per\ vested\ option}{Average\ strike\ price}$ where *Average value per vested option* is the value of vested unexercised options scaled by the number of vested unexercised options; and *Average strike price* is the stock price at the end of the fiscal year minus the average value per vested option (Hirshleifer et al., 2012).
CEO power	An indicator that equals one if the CEO's total compensation is in the top 25% of the sample in a given year (Humphery-Jenner et al., 2016).

References:

Alesina, A., & Perotti, R. (1996). Income distribution, political instability, and investment. *European Economic Review*, 40, 1203-1228.

Alfaro, I., Bloom, N., & Lin, X. (2024). The Finance Uncertainty Multiplier. *Journal of Political Economy*

Anderson, R.C. & Bizjak, J.M., 2003. An empirical examination of the role of the CEO and the compensation committee in structuring executive pay. *Journal of Banking & Finance*, 27, 1323-1348.

Anolick, N., Batten, J.A., Kinateder, H. and Wagner, N., 2021. Time for gift giving: Abnormal share repurchase returns and uncertainty. *Journal of Corporate Finance*, 66, 101787.

Apple Inc. (2019). *Annual Report 2019.* Apple Inc. https://www.annualreports.com/Company/apple-inc

Baker, S.R., Bloom, N., & Davis, S.J. (2016). Measuring economic policy uncertainty. *The Quarterly Journal of Economics*, 131, 1593-1636.

Bansal, R., & Yaron, A. (2004). Risks for the long run: A potential resolution of asset pricing puzzles. *The Journal of Finance*, 59, 1481-1509.

Bloom, N. (2014). Fluctuations in uncertainty. *Journal of Economic Perspectives*, 28, 153-176.

Bonaime, A., Gulen, H., & Ion, M. (2018). Does policy uncertainty affect mergers and acquisitions? *Journal of Financial Economics*, 129, 531-558.

Boutchkova, M., Doshi, H., Durnev, A., & Molchanov, A. (2012). Precarious politics and return volatility. *The Review of Financial Studies*, 25, 1111-1154.

Bryan, S., Hwang, L., & Lilien, S. (2000). CEO stock-based compensation: An empirical analysis of incentive-intensity, relative mix, and economic determinants. *The Journal of Business*, 73, 661-693.

Cadman, B., Klasa, S., & Matsunaga, S. (2010). Determinants of CEO pay: A comparison of ExecuComp and non-ExecuComp firms. *The Accounting Review*, 85, 1511-1543.

Caliskan, D. & Doukas, J.A., (2015). CEO risk preferences and dividend policy decisions. *Journal of Corporate Finance*, 35,18-42.

Campbell, T.C., Galpin, N., & Johnson, S.A. (2016). Optimal inside debt compensation and the value of equity and debt. *Journal of Financial Economics*, 119, 336-352.

Cassell, C.A., Huang, S.X., Sanchez, J.M., & Stuart, M.D. (2012). Seeking safety: The relation between CEO inside debt holdings and the riskiness of firm investment and financial policies. *Journal of Financial Economics*, 103, 588-610.

Chen, S.S., Shen, C.H.H., & Wang, Y. (2023). The price of reputation: Executive compensation of sin companies. *Journal of Business Finance & Accounting*, 50, 2021-2050.

Chen, W., Jung, S., Peng, X., & Zhang, I.X. (2022). Outside opportunities, managerial risk taking, and CEO compensation. *The Accounting Review*, 97, 135-160.

Cheng, I.H., Hong, H., & Scheinkman, J.A. (2015). Yesterday's heroes: Compensation and risk at financial firms. *The Journal of Finance*, 70, 839-879.

Core, J. & Guay, W. (2002). Estimating the value of employee stock option portfolios and their sensitivities to price and volatility. *Journal of Accounting research*, 40, 613-630.

Dell Technologies Inc. (2019). *Annual Report 2019.* Dell Technologies Inc. https://www.annualreports.com/Company/dell-technologies-inc

Dittmann, I., Yu, K.C. & Zhang, D., 2017. How important are risk-taking incentives in executive compensation?. *Review of Finance*, 21, 1805-1846.

Drobetz, W., El Ghoul, S., Guedhami, O., & Janzen, M. (2018). Policy uncertainty, investment, and the cost of capital. *Journal of Financial Stability*, 39, 28-45.

Duong, H.N., Nguyen, J.H., Nguyen, M., & Rhee, S.G. (2020). Navigating through economic policy uncertainty: The role of corporate cash holdings. *Journal of Corporate Finance*, 62, 101607.

Edmans, A., & Liu, Q. (2011). Inside debt. *Review of Finance*, 15, 75–102.

Galariotis, E., Louca, C., Petmezas, D., & Wang, S. (2023). Agency cost of debt and inside debt: the role of CEO overconfidence. *British Journal of Management*, 34, 1606-1631.

Geiler, P., & Renneboog, L. (2015). Are female top managers really paid less?. *Journal of Corporate Finance*, 35, 345-369.

Graham, J.R., Harvey, C.R., & Puri, M. (2013). Managerial attitudes and corporate actions. *Journal of Financial Economics*, 109, 103-121.

Gray, S.R., & Cannella Jr, A.A. (1997). The role of risk in executive compensation. *Journal of Management*, 23, 517-540.

Grinstein, Y., & Hribar, P. (2004). CEO compensation and incentives: Evidence from M&A bonuses. *Journal of Financial Economics*, 73, 119-143.

Guay, W.R., 1999. The sensitivity of CEO wealth to equity risk: an analysis of the magnitude and determinants. *Journal of Financial Economics*, 53, 43-71.

Gulen, H., & Ion, M. (2016). Policy uncertainty and corporate investment. *The Review of Financial Studies*, 29, 523-564.

Gungoraydinoglu, A., Çolak, G., & Öztekin, Ö. (2017). Political environment, financial intermediation costs, and financing patterns. *Journal of Corporate Finance*, 44, 167-192.

Guthrie, K., Sokolowsky, J. and Wan, K.M. (2012). CEO compensation and board structure revisited. *The Journal of Finance*, 67,1149-1168.

Hainmueller, J. (2012). Entropy Balancing for Causal Effects: A Multivariate Reweighting Method to Produce Balanced Samples in Observational Studies. *Political Analysis*, 20, 25-46.

Hainmueller, J. & Xu, Y. (2013). Ebalance: A Stata Package for Entropy Balancing. *Journal of Statistical Software* ,54, 1-18.

Harvey, C.R., Lins, K.V., & Roper, A.H. (2004). The effect of capital structure when expected agency costs are extreme. *Journal of Financial Economics*, 74, 3-30.

Hassan, T.A., Hollander, S., Van Lent, L., & Tahoun, A. (2019). Firm-level political risk: Measurement and effects. *The Quarterly Journal of Economics*, 134, 2135-2202.

Hassan, T.A., Hollander, S., Van Lent, L., & Tahoun, A. (2020). The global impact of Brexit uncertainty. *National Bureau of Economic Research, Working Paper No. 26609.*

Hassan, T.A., Hollander, S., Van Lent, L., Schwedeler, M., & Tahoun, A. (2023). Firm-Level Exposure to Epidemic Diseases: COVID-19, SARS, and H1N1. *Review of Financial Studies*, 36, 4919-4964.

Holburn, G.L., & Zelner, B.A. (2010). Political capabilities, policy risk, and international investment strategy: Evidence from the global electric power generation industry. *Strategic Management Journal,* 31, 1290-1315.

Holmström, B. (1979). Moral hazard and observability. *The Bell Journal of Economics*, 74-91.

Honeywell International Inc. (2016). *Annual Report 2016.* Honeywell International Inc. https://honeywell.gcs-web.com/financial-information/annual-reports

Hossain, A., Masum, A.A., Saadi, S., Benkraiem, R., & Das, N. (2023). Firm-level climate change risk and CEO equity incentives. *British Journal of Management,* 34, 1387-1419.

Huang, G.Y., Shen, C.H.H., & Wu, Z.X. (2023). Firm-level political risk and debt choice. *Journal of Corporate Finance,* 78, 102332.

Humphery-Jenner, M., Lisic, L.L., Nanda, V., & Silveri, S.D. (2016). Executive overconfidence and compensation structure. *Journal of Financial Economics,* 119, 533-558.

Ingersoll Jr, J.E., & Ross, S.A. (1992). Waiting to invest: Investment and uncertainty. *Journal of Business*, 1-29.

Islam, E., Rahman, L., Sen, R., & Zein, J. (2022). Eyes on the prize: Do industry tournament incentives shape the structure of executive compensation? *Journal of Financial and Quantitative Analysis,* 57, 1929-1959.

Jensen, M.C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review,* 76, 323-329.

Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3, 305–360.

Julio, B., & Yook, Y. (2012). Political uncertainty and corporate investment cycles. *The Journal of Finance*, 67, 45-83.

Kini, O., & Williams, R. (2012). Tournament incentives, firm risk, and corporate policies. *Journal of Financial Economics,* 103, 350-376.

Kobrin, S.J. (1979). Political risk: A review and reconsideration. *Journal of International Business Studies*, 10, 67-80.

Leippold, M., & Matthys, F. (2022). Economic policy uncertainty and the yield curve. *Review of Finance*, 26, 751-797.

Loh, R.K., & Stulz, R.M. (2018). Is sell-side research more valuable in bad times?. *The Journal of Finance*, 73, 959-1013.

Low, A. (2009). Managerial risk-taking behavior and equity-based compensation. *Journal of financial economics*, 92, 470-490.

Miller, J.S., Wiseman, R.M., & Gomez-Mejia, L.R. (2002). The fit between CEO compensation design and firm risk. *Academy of Management Journal*, 45, 745-756.

Nguyen, N.H., & Phan, H.V. (2017). Policy uncertainty and mergers and acquisitions. *Journal of Financial and Quantitative Analysis*, 52, 613-644.

Ortiz-Molina, H. (2007). Executive compensation and capital structure: The effects of convertible debt and straight debt on CEO pay. *Journal of Accounting and Economics*, 43, 69-93.

Otto, C.A. (2014). CEO optimism and incentive compensation. *Journal of Financial Economics*, 114, 366-404.

Panousi, V., & Papanikolaou, D. (2012). Investment, idiosyncratic risk, and ownership. *The Journal of Finance*, 67, 1113-1148.

Pástor, Ľ., & Veronesi, P. (2013). Political uncertainty and risk premia. *Journal of Financial Economics*, 110, 520-545.

Petersen, M.A. (2009). Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies*, 22, 435–480.

Phan, H.V. (2014). Inside debt and mergers and acquisitions. *Journal of Financial and Quantitative Analysis*, 49, 1365–1401.

Philip, T.R., Sanchez, D., & Sanchez, J.M. (2023). CEO performance-based grants' vesting provisions and debt contracts: Evidence from GAAP, Non-GAAP and KPI metrics. *Journal of Business Finance & Accounting*, 50, 973-1028.

Ross, S.A. (2004). Compensation, incentives, and the duality of risk aversion and riskiness. *The Journal of Finance*, 59, 207-225.

Shavell, S. (1979). On moral hazard and insurance. In Foundations of insurance economics (pp. 280-301). Springer, Dordrecht.

Shipman, J. E., Swanquist, Q. T., Whited, R. L., 2017. Propensity Score Matching in Accounting Research (Report). Accounting Review 92, 213-244.

Sundaram, R.K., & Yermack, D.L. (2007). Pay me later: Inside debt and its role in managerial compensation. *The Journal of Finance*, 62, 1551-1588.

Wang, C., Xie, F., & Xin, X. (2018). CEO Inside Debt and Accounting Conservatism. *Contemporary Accounting Research*, 35, 2131–2159.

Wei, C., & Yermack, D. (2011). Investor Reactions to CEOs' Inside Debt Incentives. *Review of Financial Studies*, 24, 3813–3840.

Wintoki, M.B., Linck, J.S., & Netter, J.M. (2012). Endogeneity and the Dynamics of Internal Corporate Governance. *Journal of Financial Economics*, 105, 581–606.

Yang, T., & Zhao, S. (2014). CEO duality and firm performance: Evidence from an exogenous shock to the competitive environment. *Journal of Banking & Finance*, 49, 534–552.

Table 1: Summary statistics

Panel A presents detailed summary statistics for key variables used in our analyses. Panel B presents summary statistics of mean and median for all the sample and then by whether firms are faced with high political risk or with low political risk. T-tests (Wilcoxon-Mann-Whitney tests) are conducted to test for differences between means (medians) for firms faced with high political risk versus with low political risk. If firm's political risk falls into the top tercile of the whole sample in a given year, we assign the firm to the high political risk group, low political risk group, otherwise. The sample consists of 10,261 firm-year observations from 2006 to 2020. All continuous variables, except for those normalized using natural logarithm, are winsorized at the 1% level at both tails. All variable definitions are provided in Appendix A.

Panel A	No.	Mean	Median	SD	Min	Max
Compensation Structure Variable						
Raw risk-reducing CEO incentive	10261	3.507	0.269	22.407	0.000	519.817
Risk-reducing CEO incentive	10261	0.034	0.003	0.217	0.000	8.031
Raw risk-inducing CEO incentive	10261	0.530	0.378	2.719	0.000	167.599
Risk-inducing CEO incentive	10261	0.361	0.320	0.296	0.000	5.128
Political risk Variable						
PRisk -standardized	10261	0.972	0.665	0.991	0.000	7.082
CEO Characteristics						
CEO ownership	10261	0.009	0.002	0.022	0.000	0.194
CEO age (years)	10261	56.376	56.000	6.009	41.000	77.000
CEO tenure (years)	10261	6.624	5.000	6.093	0.000	33.000
Firm Characteristics						
Firm size (millions)	10261	21.835	4.937	62.934	0.205	766.655
Financial leverage	10261	0.268	0.247	0.177	0.000	1.011
Company age(years)	10261	34.063	31.000	18.078	5.000	69.000
Stock return	10261	0.096	0.068	0.424	-0.888	5.752
Stock volatility	10261	0.018	0.016	0.011	0.006	0.097
Free cash flows	10261	0.055	0.054	0.115	-1.158	1.129
Research and development	10261	0.018	0.000	0.043	0.000	0.318
Tax status	10261	0.518	1.000	0.500	0.000	1.000
Liquidity	10261	0.046	0.000	0.208	0.000	1.000
Market to book	10261	1.717	1.440	0.895	0.648	7.874

Panel B	Mean				Median			
	All Sample	High PRisk	Low PRisk	Difference	All Sample	High PRisk	Low PRisk	Difference
	(1)	(2)	(3)	(2)-(3)	(4)	(5)	(6)	(5)-(6)
Inside Debt Variables								
Risk-reducing CEO incentive	0.034	0.030	0.036	-0.006	0.003	0.002	0.003	-0.001**
Risk-inducing CEO incentive	0.361	0.353	0.365	-0.012	0.320	0.307	0.327	-0.020**
CEO Characteristics								
CEO ownership	0.009	0.008	0.009	-0.001**	0.002	0.002	0.002	0.000***
CEO age (years)	56.376	56.603	56.264	0.318**	56.000	57.000	56.000	1.000***
CEO tenure (years)	6.624	6.842	6.516	0.309**	5.000	5.000	5.000	0.000***
Firm Characteristics								
Firm size(millions)	21.835	36.616	14.472	21.951***	4.937	7.340	4.133	3.095***
Financial leverage	0.268	0.252	0.276	-0.024***	0.247	0.232	0.255	-0.023***
Company age(years)	34.063	33.246	34.469	-1.284***	31.000	28.000	32.000	-4.000***
Stock return	0.096	0.085	0.101	-0.016*	0.068	0.059	0.072	-0.014
Stock volatility	0.018	0.018	0.019	-0.001***	0.016	0.015	0.016	-0.001***
Free cash flows	0.055	0.063	0.051	0.013***	0.054	0.057	0.053	0.004***
Research and development	0.018	0.018	0.019	-0.001	0.000	0.000	0.000	0.000***
Tax status	0.518	0.456	0.549	-0.092***	1.000	0.000	1.000	-1.000***
Liquidity	0.046	0.047	0.045	0.003	0.000	0.000	0.000	0.000
Market to book	1.717	1.631	1.760	-0.128***	1.440	1.317	1.491	-0.174***

Table 2: Validation: Firm political risk and firm investment and firm volatility

This table reports the estimation results between firm political risk and firm investment and firm volatility. In Panel A and B, the dependent variables are Net capital expenditure, Net sales, Net hiring, Annualized implied volatility, and Annualized realized volatility in Columns (1) to (5) respectively. Panel B also controls non-political risk. Political Risk and Non-Political Risk are our measures for firm-level political and non-political risk. Firm and industry fixed effects are controlled in both panels. In parentheses are *p-values* computed based on heteroskedasticity-consistent standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions.

Panel A	(1)	(2)	(3)	(4)	(5)
	Net capital expenditure	Net sales	Net hiring	Annualized implied volatility	Annualized realized volatility
Political Risk	-2.201***	-1.011***	-0.505***	0.094***	0.071***
	(0.004)	(0.000)	(0.004)	(0.000)	(0.000)
Free cash flows	-69.428***	-13.285***	-10.534***	1.104***	1.217***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tobin's Q	8.006***	4.096***	0.729**	-0.306***	-0.319***
	(0.000)	(0.000)	(0.044)	(0.000)	(0.000)
Sales growth	8.446*	5.748***	24.193***	0.168**	-0.044
	(0.057)	(0.001)	(0.000)	(0.020)	(0.581)
GDP growth	-0.358	-0.132	-0.359***	-0.043***	-0.097***
	(0.162)	(0.140)	(0.000)	(0.000)	(0.000)
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	9844	10313	10265	8857	9489
Adjusted R-squared	0.004	0.083	0.147	0.483	0.358

Panel B	(1)	(2)	(3)	(4)	(5)
	Net capital expenditure	Net sales	Net hiring	Annualized implied volatility	Annualized realized volatility
Political Risk	-1.897**	-0.792***	-0.468***	0.068***	0.042***
	(0.017)	(0.000)	(0.008)	(0.000)	(0.004)
Non-Political Risk	-1.236	-0.884***	-0.151	0.102***	0.114***
	(0.119)	(0.000)	(0.441)	(0.000)	(0.000)
Free cash flows	-68.981***	-13.001***	-10.486***	1.069***	1.177***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tobin's Q	7.884***	4.008***	0.714**	-0.296***	-0.308***
	(0.000)	(0.000)	(0.048)	(0.000)	(0.000)
Sales growth	8.593*	5.860***	24.214***	0.158**	-0.058
	(0.052)	(0.001)	(0.000)	(0.028)	(0.469)
GDP growth	-0.369	-0.141	-0.360***	-0.042***	-0.096***
	(0.149)	(0.113)	(0.000)	(0.000)	(0.000)
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	9844	10313	10265	8857	9489
Adjusted R-squared	0.004	0.085	0.147	0.488	0.365

Table 3: Firm political risk and CEO compensation incentive

This table reports the estimation results between firm political risk and CEO compensation incentive. The dependent variables are risk-reducing CEO incentive and risk-inducing CEO incentive in Columns (1) and (2) respectively. The main independent variable of interest is Political Risk, which is the measure for firm-level political risk. Firm, and industry * year fixed effects are controlled. In parentheses are *p-values* computed based on heteroskedasticity-consistent standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions.

	(1)	(2)
	Risk-reducing CEO incentive	Risk-inducing CEO incentive
Political Risk	-0.004*	0.007**
	(0.056)	(0.032)
CEO ownership	-0.264**	-1.715***
	(0.039)	(0.000)
Log (CEO age)	0.060*	-0.171**
	(0.059)	(0.018)
CEO tenure	0.001**	-0.003**
	(0.045)	(0.013)
Log (Total asset)	-0.010	-0.017
	(0.121)	(0.225)
Firm leverage	-0.198***	0.034
	(0.000)	(0.464)
Company age	0.024	0.016
	(0.286)	(0.704)
Stock return	0.001	-0.049***
	(0.845)	(0.000)
Stock volatility	0.319	-0.121
	(0.426)	(0.828)
Free cash flows	-0.013*	0.018
	(0.069)	(0.630)
R&D/Sales	-0.033	1.255***
	(0.925)	(0.005)
Tax status	-0.005	0.005
	(0.498)	(0.608)
Liquidity	-0.010	0.021
	(0.359)	(0.241)
Market to Book	0.009	-0.070***
	(0.124)	(0.000)
Firm fixed effects	Yes	Yes
Industry * year fixed effects	Yes	Yes
Observations	10261	10261
Adjusted R-squared	0.516	0.526

Table 4: Robustness Tests: Firm political risk and CEO compensation incentive

This table reports various robustness tests between firm political risk and CEO compensation incentive. In Panel A, the dependent variable is Risk-reducing CEO incentive. In Panel B, the dependent variable is Risk-inducing CEO incentive. In both Panels, Column (1) adds CEO vega and delta as additional controls. Column (3) excludes financial and utilities industries; Column (4) adds firm level non-political risk; Column (5) adds political sentiment as the additional control. The main independent variable of interest is Political Risk, which is the measure for firm-level political risk. In Panel A, Column (2) adds CEO delta and its interaction term with political risk. In Panel B, Column (2) adds CEO vega and its interaction term with political risk. Panel C applies alternative measurements of inside debt, equity-based incentive, and political risk. In Column (1), CEO inside debt is measured as Risk-reducing CEO incentive dummy. In Column (2), CEO inside debt is measured as relative inside debt incentive ratio. In Column (3), the dependent variable is Risk-reducing CEO incentive and political risk is measured High Prisk, which is the dummy variable. In Column (4), Risk-inducing CEO incentive is measured as the ratio of CEO vega to delta. In Column (5), the dependent variable is Risk-inducing CEO incentive and political risk is measured High Prisk, which is the dummy variable. Firm and industry * year fixed effects are controlled. In parentheses are *p-values* computed based on heteroskedasticity-consistent standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions.

Panel A	(1)	(2)	(3)	(4)	(5)
	Risk-reducing CEO incentive				
Political Risk	-0.005*	-0.001	-0.007*	-0.005**	-0.004*
	(0.053)	(0.785)	(0.099)	(0.030)	(0.061)
CEO vega	0.006***				
	(0.009)				
CEO delta	-0.006***	-0.000			
	(0.003)	(0.865)			
Political Risk * CEO delta		-0.001			
		(0.499)			
Non-Political Risk				0.004*	
				(0.069)	
Political sentiment					0.003
					(0.281)
Control variables as in Table 3	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Industry * year fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	10145	10165	7392	10261	10261
Adjusted R-squared	0.516	0.516	0.511	0.516	0.516
Panel B	(1)	(2)	(3)	(4)	(5)
	Risk-inducing CEO incentive				
Political Risk	0.005*	-0.009	0.005	0.006**	0.006**
	(0.085)	(0.113)	(0.207)	(0.047)	(0.049)
CEO vega	0.081***	0.042***			
	(0.000)	(0.000)			
CEO delta	-0.090***				
	(0.000)				
Political Risk * CEO vega		0.004***			
		(0.002)			
Non-Political Risk				0.002	
				(0.501)	
Political sentiment					-0.008**
					(0.047)

Control variables as in Table 3	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Industry * year fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	10145	10145	7392	10261	10261
Adjusted R-squared	0.589	0.555	0.505	0.526	0.527

Panel C	(1)	(2)	(3)	(4)	(5)
	Risk-reducing CEO incentive dummy	**Relative inside debt incentive ratio**	**Risk-reducing CEO incentive**	**Risk-inducing CEO incentive**	**CEO vega/delta**
Political Risk	-0.002*	-0.003			0.013**
	(0.098)	(0.165)			(0.011)
High PRisk			-0.009**	0.008	
			(0.047)	(0.147)	
Control variables as in Table 3	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Industry * year fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	10261	10261	10261	10261	10261
Adjusted R-squared	0.383	0.359	0.516	0.526	0.524

Table 5: Firm political risk and CEO compensation incentive [Entropy balancing (EB) sample]
This table presents the estimation results between firm political risk and CEO compensation incentive using EB sample. The dependent variables are Risk-reducing CEO incentive and Risk-inducing CEO incentive in Columns (1) and (2) respectively. The main independent variable of interest is Political Risk, which is the measure for firm-level political risk. Firm, and industry * year fixed effects are controlled. In parentheses are p-values computed based on heteroskedasticity-consistent standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions.

	(1)	(2)
	Risk-reducing CEO incentive	Risk-inducing CEO incentive
High PRisk	-0.010**	0.009
	(0.029)	(0.101)
Control variables as in Table 3	Yes	Yes
Firm fixed effects	Yes	Yes
Industry * year fixed effects	Yes	Yes
Observations	10261	10261
Adjusted R-squared	0.514	0.533

Table 6: Firm political risk and CEO compensation incentive - GMM

This table reports the dynamic GMM estimation results. The dependent variables are Risk-reducing CEO incentive and Risk-inducing CEO incentive in Columns (1) and (2) respectively. The main independent variable of interest is High PRisk. Industry and year fixed effects are controlled. The AR (1) and AR (2) represent tests for first-order and second-order serial correlation in the first-differenced residuals when assuming the null hypothesis of no serial correlation. The Hansen test of over-identification assumes the null hypothesis that all instruments are valid. In parentheses are p-values computed based on heteroskedasticity-consistent standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions.

	(1)	(2)
	Risk-reducing CEO incentive	Risk-inducing CEO incentive
High PRisk	-0.038*	-0.007
	(0.057)	(0.722)
Lag Risk-reducing CEO incentive	0.396***	
	(0.002)	
Lag Risk-inducing CEO incentive		0.714***
		(0.000)
Control variables as in Table 3	Yes	Yes
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Observations	8198	8198
AR(1) test (*p*-value)	0.099	0.000
AR(2) test (*p*-value)	0.770	0.846
Hansen test of over-identification (p-value)	0.647	0.763

Table 7: Channels - Firm political risk and convex CEO compensation incentive – CEO overconfidence. This table reports the estimation results between firm political risk and convex CEO compensation incentive conditional on CEO overconfidence. In Columns (1) and (2), the dependent variable is Risk-reducing CEO incentive and Risk-inducing CEO incentive respectively. The main independent variable of interest is the interaction term of Political Risk and CEO overconfidence, which is the measure for the impact of political risk on CEO convex incentives conditional on CEO overconfidence. Firm, and industry * year fixed effects are controlled. In parentheses are *p-values* computed based on heteroskedasticity-consistent standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions.

	(1)	(2)
	Risk-reducing CEO incentive	Risk-inducing CEO incentive
Political Risk	-0.001	0.010*
	(0.606)	(0.054)
CEO overconfidence	0.018**	-0.063***
	(0.013)	(0.000)
Political risk * CEO overconfidence	-0.006*	-0.004
	(0.081)	(0.487)
Control variables as in Table 3	Yes	Yes
Firm fixed effects	Yes	Yes
Industry * year fixed effects	Yes	Yes
Observations	10261	10261
Adjusted R-squared	0.516	0.531

Table 8: Risk and stock performance implication.

This table reports the estimation results of the impact of firm political risk and CEO compensation incentive on firms' total risk and performance. In Panel A, the dependent variable is the firms' total risk. In Panel B, the dependent variable is the firms' performance. In Panel C, the dependent variable is the firms' return on assets. In all panels, CEO power and its interaction term with CEO risk incentive and political risk are not controlled in Columns (1) to (3); and they are involved in Columns (4) to (6). Industry and year fixed effects are controlled. In parentheses are *p-values* computed based on heteroskedasticity-consistent standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions.

Panel A	(1)	(2)	(3)	(4)	(5)	(6)
	Log of total risk					
	Without controlling CEO power			Controlling CEO power		
Risk-reducing CEO incentive	-0.191**		-0.190**	-0.197**		-0.196**
	(0.037)		(0.038)	(0.030)		(0.030)
Risk-reducing CEO incentive * Political Risk	0.101*		0.099*	0.114*		0.112*
	(0.068)		(0.070)	(0.067)		(0.070)
Risk-inducing CEO incentive		-0.012	-0.009		-0.010	-0.007
		(0.830)	(0.874)		(0.856)	(0.902)
Risk-inducing CEO incentive * Political Risk		0.043	0.041		0.039	0.038
		(0.182)	(0.193)		(0.226)	(0.242)
CEO power * Political risk * Risk-reducing CEO incentive				-0.014		-0.013
				(0.788)		(0.812)
CEO power * Political risk * Risk-inducing CEO incentive					0.005	0.005
					(0.864)	(0.844)
Political Risk	-0.005	-0.033	-0.034	-0.005	-0.031	-0.033
	(0.684)	(0.193)	(0.178)	(0.672)	(0.210)	(0.193)
CEO power				-0.088***	-0.091**	-0.091**
				(0.003)	(0.011)	(0.011)
Log(Total asset)	-0.146***	-0.147***	-0.147***	-0.131***	-0.132***	-0.133***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Company age	-0.100***	-0.100***	-0.099***	-0.100***	-0.099***	-0.099***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Stock return	-0.071***	-0.070***	-0.069***	-0.065***	-0.064***	-0.063***
	(0.002)	(0.003)	(0.003)	(0.005)	(0.005)	(0.006)
Firm leverage	0.397***	0.419***	0.396***	0.389***	0.411***	0.389***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Free cash flows	-0.174	-0.180	-0.182	-0.178	-0.183*	-0.185*
	(0.116)	(0.104)	(0.100)	(0.106)	(0.095)	(0.092)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9014	9014	9014	9014	9014	9014
Adjusted R-squared	0.467	0.467	0.468	0.468	0.468	0.468

Panel B	(1)	(2)	(3)	(4)	(5)	(6)
	Log(Tobin's Q)					
	Without controlling CEO power			Controlling CEO power		
Risk-reducing CEO incentive	0.132***		0.134***	0.150***		0.154***
	(0.002)		(0.002)	(0.000)		(0.000)
Risk-reducing CEO incentive * Political Risk	-0.020		-0.022	-0.060*		-0.064*
	(0.581)		(0.549)	(0.092)		(0.065)
Risk-inducing CEO incentive		-0.032**	-0.034**		-0.035**	-0.037**
		(0.046)	(0.031)		(0.028)	(0.019)
Risk-inducing CEO incentive * Political Risk		0.006	0.006		0.014*	0.015*
		(0.477)	(0.424)		(0.084)	(0.058)
CEO power * Political risk * Risk-reducing CEO incentive				0.071		0.075
				(0.151)		(0.136)
CEO power* Political risk * Risk-inducing CEO incentive					-0.021***	-0.022***
					(0.001)	(0.001)
Political Risk	-0.000	-0.005	-0.005	0.000	-0.007	-0.006
	(0.908)	(0.434)	(0.449)	(0.987)	(0.282)	(0.308)
CEO power				0.072***	0.090***	0.089***
				(0.000)	(0.000)	(0.000)
Log(Total asset)	-0.016***	-0.016***	-0.015***	-0.029***	-0.028***	-0.027***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Company age	0.002	0.002	0.002	0.002	0.002	0.002
	(0.819)	(0.772)	(0.805)	(0.811)	(0.790)	(0.812)
ROA	1.692***	1.714***	1.689***	1.664***	1.684***	1.659***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm leverage	0.209***	0.188***	0.211***	0.214***	0.192***	0.215***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Free cash flows	-0.070**	-0.072**	-0.069**	-0.066**	-0.068**	-0.065**
	(0.021)	(0.019)	(0.024)	(0.028)	(0.026)	(0.032)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9014	9014	9014	9014	9014	9014
Adjusted R-squared	0.440	0.435	0.440	0.448	0.444	0.450

Panel C	(1)	(2)	(3)	(4)	(5)	(6)
	Log (ROA)					
	Without controlling CEO power			Controlling CEO power		
Risk-reducing CEO incentive	0.029***		0.030***	0.031***		0.032***
	(0.001)		(0.001)	(0.000)		(0.000)
Risk-reducing CEO incentive * Political Risk	-0.002		-0.003	-0.007		-0.008
	(0.640)		(0.576)	(0.386)		(0.299)
Risk-inducing CEO incentive		-0.009	-0.009		-0.010*	-0.010*
		(0.135)	(0.113)		(0.097)	(0.079)
Risk-inducing CEO incentive * Political Risk		0.002	0.003		0.004*	0.005*
		(0.321)	(0.291)		(0.072)	(0.059)
CEO power * Political risk * Risk-reducing CEO incentive				0.006		0.007
				(0.593)		(0.540)
CEO power * Political risk * Risk-inducing CEO incentive					-0.005**	-0.005**
					(0.021)	(0.017)
Political Risk	0.000	-0.001	-0.001	0.000	-0.002	-0.002
	(0.718)	(0.446)	(0.449)	(0.675)	(0.301)	(0.312)
CEO power				0.020***	0.025***	0.024***
				(0.000)	(0.000)	(0.000)
Log(Total asset)	0.001	0.001	0.001	-0.002*	-0.002*	-0.002
	(0.324)	(0.336)	(0.249)	(0.067)	(0.075)	(0.111)
Company age	0.004	0.004	0.004	0.004	0.004	0.004
	(0.112)	(0.103)	(0.110)	(0.113)	(0.109)	(0.115)
Stock return	0.037***	0.037***	0.036***	0.035***	0.035***	0.035***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm leverage	-0.016	-0.022**	-0.016	-0.014	-0.020**	-0.014
	(0.119)	(0.037)	(0.130)	(0.156)	(0.050)	(0.163)
Free cash flows	0.031**	0.031**	0.031**	0.032**	0.032**	0.032**
	(0.026)	(0.028)	(0.026)	(0.021)	(0.023)	(0.021)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9014	9014	9014	9014	9014	9014
Adjusted R-squared	0.106	0.103	0.106	0.112	0.110	0.112

Table 9: Future CEO convex compensation.

This table reports the estimation results of the impact of firm political risk on modification of CEO compensation contracts. The dependent variable is the future CEO convex compensation. In Columns (1) and (2), CEO convex compensation is captured as the ratio of CEO vega to delta in year t+2 and as the natural logarithm of the ratio of CEO vega to delta in year t+2 respectively. The main independent variable of interest is Political Risk. Firm, and industry * year fixed effects are controlled. In parentheses are *p-values* computed based on heteroskedasticity-consistent standard errors clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions.

	(1)	(2)
	CEO vega/delta t+2	Risk-inducing CEO incentive t+2
Political Risk	0.013**	0.009***
	(0.012)	(0.007)
CEO ownership	-1.365**	-1.025***
	(0.010)	(0.001)
Log(CEO age)	-0.272*	-0.196**
	(0.060)	(0.023)
CEO tenure	-0.006**	-0.003**
	(0.043)	(0.041)
Log(Total asset)	-0.010	0.014
	(0.723)	(0.401)
Firm leverage	0.016	0.002
	(0.870)	(0.969)
Company age	0.083	0.026
	(0.340)	(0.595)
Stock return	-0.062***	-0.042***
	(0.000)	(0.000)
Stock volatility	0.832	0.654
	(0.384)	(0.350)
Free cash flows	-0.002	-0.039
	(0.975)	(0.417)
R&D/Sales	0.423	0.117
	(0.546)	(0.811)
Tax status	0.037*	0.021
	(0.083)	(0.100)
Liquidity	0.032	0.019
	(0.348)	(0.340)
Market to Book	-0.075***	-0.031***
	(0.000)	(0.001)
Firm fixed effects	Yes	Yes
Industry * year fixed effects	Yes	Yes
Observations	8404	8404
Adjusted R-squared	0.522	0.526