

The influence of CEO risk tolerance on initial pay packages

Scott D. Graffin¹ | Timothy D. Hubbard² | Dane M. Christensen³ |
 Eric Y. Lee¹

¹Terry College of Business, University of Georgia, Athens, Georgia

²Mendoza College of Business, University of Notre Dame, Notre Dame, Indiana

³Lundquist College of Business, University of Oregon, Eugene, Oregon

Correspondence

Scott D. Graffin, Terry College of Business, University of Georgia, 600 S. Lumpkin Street, Athens, GA 30605.

Email: sgraffin@uga.edu

Abstract

Research Summary: Based on agency theory, CEOs with greater risk aversion should be given greater incentive-based compensation to motivate risk taking. We explore whether new CEOs receive initial pay packages that follow this recommendation, or instead receive pay packages that mirror their risk preferences. Rather than finding support for the agency theory perspective, we find that new CEOs are compensated in the way that reinforces their existing risk preferences. Specifically, using a CEO's political orientation to capture relative risk tolerance, we find that conservative-leaning CEOs receive relatively less performance-based pay than their liberal-leaning counterparts. Supplemental analyses suggest this occurs through both a matching and tailoring process, whereby boards offer similar pay packages from CEO-to-CEO, but modify them based on differences in risk tolerances.

Managerial Summary: When designing a new CEO's pay contract, what proportion of the total compensation should be guaranteed versus performance based? To encourage risk taking, most researchers suggest that CEOs with greater risk aversion should have a pay mix that is more heavily weighted toward performance-based pay. We find that the opposite occurs; new CEOs who are more risk averse tend to receive relatively *less* performance-based pay than new CEOs who are more risk tolerant. This appears to occur because CEOs are attracted to firms that offered the prior CEO a pay package that appeals to the new CEO's risk tolerance. Our results also suggest that

risk-seeking CEOs' strategic actions are more strongly influenced by performance-based pay, while more risk-averse CEOs seem relatively unaffected by pay mix.

KEY WORDS

agency theory, CEO pay, compensation, political orientation, risk tolerance

1 | INTRODUCTION

Due to the separation of ownership and control, numerous governance mechanisms are put in place to encourage managers to act in the best interests of owners (Berle & Means, 1932; Fama & Jensen, 1983; Jensen & Meckling, 1976), the most visible of which is a CEO's compensation contract. Prescriptions for how to structure CEO compensation to achieve this end are usually based on the behavioral assumptions of agency theory and focus on designing pay schemes to overcome the CEO's risk aversion (Hölmstrom, 1979). Despite such straight-forward assumptions regarding CEO pay preferences, research finds weak and mixed support regarding the effectiveness of CEO compensation schemes as a corporate governance mechanism (Devers, McNamara, Wiseman, & Arrfelt, 2008; Finkelstein, Hambrick, & Cannella, 2009; Hayes, Lemmon, & Qui, Hayes, Lemmon, & Qiu, 2012).

One reason for these mixed findings may be that CEO's vary in how they respond to compensation schemes. Consistent with upper echelons theory, which suggests that CEO characteristics influence how they respond to their environments (Hambrick, 2007; Hambrick & Mason, 1984), the effectiveness of CEO compensation schemes likely depends on CEOs' characteristics such as their values, experiences, and personality (Wowak & Hambrick, 2010). Given the importance of paying CEOs to motivate them to act in the best interest of shareholders, better understanding how CEO characteristics influence compensation schemes is critical to the strategic management literature. This important topic, however, has not received direct attention in management research and is thus poorly understood. This lack of attention may be driven by the difficulty of finding an accurate *ex ante* indicator of a newly appointed CEO's characteristics, such as their attitude toward risk.

Addressing the match between CEOs' risk preferences and their initial compensation scheme is our focus. To do so, we capture a newly appointed CEO's political orientation, as it "represents an *ex ante* measure of an executive's attitude toward risk" (Christensen, Dhaliwal, Boivie, & Graffin, 2015: p. 1919), which research suggests is an unobtrusive and stable *ex ante* measure of the executive's risk propensity (cf. Christensen et al., 2015; Hutton, Jiang, & Kumar, 2014). A meta-analysis on political orientation concludes that those who are more conservative are more risk averse and more liberal individuals are more risk seeking (Jost, Glaser, Kruglanski, & Sulloway, 2003). This relationship also finds support in the executive suite as firms led by Republican-leaning executives tend to engage in less-risky investments (Hutton et al., 2014) and in less tax avoidance (Christensen et al., 2015). Using this *ex ante* indicator of an individual's risk preferences allows us to examine vital, yet still unanswered questions, regarding a newly appointed CEO's initial compensation structure.

Specifically, do newly appointed CEOs receive pay packages that encourage or discourage their inherent risk taking preferences? Or, in other words: Do risk-averse CEOs receive more incentive-laden plans to overcome their risk aversion, consistent with agency theory-based recommendations? And do risk-seeking CEOs receive less incentive compensation to avoid inducing excessive risk

taking? Alternatively, new CEOs may try to negotiate pay schemes that are consistent with their risk preferences. That is, more risk-averse CEOs may seek more cash-centric pay schemes, as they likely find incentive-laden plans less appealing, while more risk-seeking CEOs may try to receive more performance-based pay. By performance-based pay, we refer to the portion of pay that is not fixed but is linked to some level of firm performance (e.g., stock options or bonuses).¹

To answer these questions, we focus on a CEO's initial pay package, rather than pay later in the CEO's tenure as we believe this is a more direct test of our theoretical arguments. Indeed, throughout a CEO's tenure he/she may accumulate power, such as nominating an increasing number of directors to the board (Westphal & Zajac, 1995) or through accumulating a strong reputation with the media or other stakeholders (Wade, Porac, Pollock, & Graffin, 2006). Measuring pay packages later in a CEO's tenure or changes in the pay package over their tenure is thus increasingly confounded by variables outside the focus of our study.

Questions regarding the incentive alignment of new CEOs are fundamental to agency theory and corporate governance research more broadly, yet remain largely unanswered. Given how little is known about CEOs' initial pay packages in the management literature, we add to our deductive study using data from interviews of corporate directors. While this qualitative data is not intended to provide empirical evidence, it does anecdotally help illuminate our theory of how a CEO's initial pay package is formed.

Our study makes a number of contributions. First, we test one of the most widely held, but weakly tested assumptions in the corporate governance literature: that compensation schemes are designed to overcome agency issues arising from CEO risk aversion. Rather than finding support for the agency theory perspective, which suggests that more risk-averse CEOs should be given greater incentive-based compensation to motivate risk taking, we find that CEOs are compensated in the way that reinforces their existing risk preferences. Specifically, we find that more risk-averse CEOs receive *less* performance-based pay in their initial pay packages, while more risk-seeking CEOs receive pay that is *more* performance based. Supplemental analyses suggest this occurs through a dual process of matching, where firms offer similar pay packages from CEO-to-CEO, and tailoring, where firms adjust pay structures to align with the new CEO's risk preferences. These results are counter to one of the most fundamental recommendations typically made based on agency theory and instead suggest that newly hired CEOs receive compensation consistent with their risk preferences.

Second, our post hoc analyses suggest that CEOs' risk tolerance interacts with their initial pay schemes to lead to different behaviors. Specifically, we find that risk-seeking CEOs appear to change their strategies more when they have more performance-based pay, while conservative CEOs appear to be relatively insensitive to performance-based pay when choosing whether to change a firm's strategy. These results are also counter to agency theory-based recommendations and suggest that what is thought to be the most powerful incentive to induce CEO risk taking seems ineffective for a large number of new CEOs.

2 | AGENCY AND UPPER ECHELONS THEORIES

2.1 | Agency theory and CEO compensation

The vast majority of corporate governance theory, empirical research, and regulatory reforms are based on agency theory (Fama & Jensen, 1983; Jensen & Meckling, 1976). This theory is used to

¹We also test our hypotheses using CEO vega, which captures the change in the value of a CEO's wealth as a function of the firm's stock volatility. Our results are robust to this specification.

better understand how CEOs should be compensated given the separation of ownership and control (Berle & Means, 1932) and it outlines a number of behavioral assumptions about managers. Specifically, agency theory assumes that CEOs are self-interested and risk averse.

These widely held behavioral assumptions drive corporate governance research and policy. For instance, compensation research rooted in agency theory focuses on offering pay schemes that overcome the assumed behavioral tendencies of CEOs so that their actions align with shareholders' desires. Much of this research examines how to overcome executive risk aversion, which is thought to be driven by the fact that the majority of executives' wealth is concentrated in their employers' stock (Devers et al., 2008). This wealth concentration leads them to avoid risky projects with potentially extreme returns (Jensen & Meckling, 1976) and instead focus on projects with a limited downside (O'Connor, Priem, Coombs, & Gilley, 2006).

Given this assumed risk aversion, research suggests performance-based pay, like stock options, aligns the executives' interests with shareholders by encouraging riskier decisions (e.g., Hölstrom, 1979; Sanders & Hambrick, 2007). For instance, Rajgopal and Shevlin (2002) find that stock options appear to incentivize CEOs of oil and gas firms to engage in greater risk taking. Sanders (2001) also finds CEO's performance-based pay is positively related to risk taking, while other studies find that the use of stock options appears to increase the variance in a firm's returns, which is also thought to capture risk (e.g., Sanders & Hambrick, 2007; Wright, Kroll, Krug, & Pettus, 2007).

2.2 | Upper Echelons theory

While agency theory research helps provide a better understanding of how CEO compensation influences risk taking, it does not directly consider how CEO characteristics may influence the efficacy of pay schemes. Other research on CEOs, however, uses an upper echelons theoretical lens (Hambrick, 2007; Hambrick & Mason, 1984). This research is based on the idea of bounded rationality (Cyert & March, 1963), or "that informationally complex, uncertain situations are not objectively knowable, but rather are merely interpretable" (Hambrick, 2007: p. 334). Due to bounded rationality, executives filter and interpret situations based on their personal characteristics (Hambrick & Mason, 1984). Upper echelons research concludes that variance in executive characteristics drives numerous strategic decisions and organization outcomes (see Carpenter, Geletkanycz, & Sanders, 2004, Finkelstein et al., 2009, and Wang, Holmes, Oh, & Zhu, 2016 for reviews). This research is consistent with studies in behavioral finance, which also suggest that individual differences influence how executives' respond to various incentive schemes and, in turn, affect organizational decision-making (Thaler, 2005).

3 | POLITICAL ORIENTATION AND CEOS' INITIAL COMPENSATION PACKAGES

Given the vast amount of research on CEOs based on agency theory and upper echelons theory, it is surprising that the findings and theoretical assumptions from upper echelons theory have yet to be more fully integrated into the CEO compensation literature. Indeed, a core assumption of upper echelons theory is that a CEO's characteristics influence how he/she perceives situations and, ultimately, impact strategic choices. While this integration has been theorized (e.g., Wowak & Hambrick, 2010) and investigated later in a CEO's tenure using survey data (Graham, Harvey, & Puri, 2015), we leverage insights from both streams of research to develop our hypotheses and empirically test the influence of a CEO's characteristics on his/her initial pay package.

While it is important to adjust a CEO's pay package throughout his/her tenure in order to align, or realign, a CEO's behaviors, understanding how to design a CEO's initial pay scheme is critical. Indeed, researchers recognize its importance and note that "initial compensation of new CEOs has been neglected [in the literature]" (Chen, 2015: p. 1895). Chen (2015) proposes that there are two factors that make designing initial pay packages distinct from altering packages of current CEOs. First, newly appointed CEOs are not as entrenched within the firm because there is no tenure in the position to provide leverage over boards members. New CEOs may thus be in a weaker position to negotiate their compensation scheme, relative to more established CEOs. Second, a linkage between prior firm performance and the new CEO's pay has not been established. As the job of CEO differs from all other organizational positions (Kesner & Sebora, 1994) and recent firm performance will be attributed to the prior CEO (Graffin, Boivie, & Carpenter, 2013), there are not clear metrics to inform the pay scheme offered to a new CEO. These two factors suggest there is not clear guidance regarding what may shape a CEO's initial compensation contract. Agency theory, however, offers clear guidance in terms of how CEO pay should be structured to influence a CEO's willingness to take risks.

3.1 | CEO political orientation

To link executive compensation and upper echelon research to examine how CEOs' characteristics may influence their initial pay packages, we turn to an observable *ex ante* indicator of a newly appointed CEOs' risk tolerance: their personal political orientation. As a reflection of a CEO's underlying tendencies, political orientation serves as a measure of risk propensity because it captures a CEO's conservatism, which refers to an individual's psychological need to reduce uncertainty and ambiguity (Jost et al., 2003). While we recognize CEOs have a higher risk propensity than the general population, research shows that, on average, more conservative CEOs (i.e., Republican-leaning CEOs) exhibit a lower risk propensity compared to less conservative CEOs (i.e., Democratic-leaning CEOs) (Christensen et al., 2015; Hutton et al., 2014). The CEO political orientation construct has at least three characteristics that uniquely allow it to capture a CEO's risk preference on an *ex ante* basis—its correlation with risk aversion, its ability to be measured before becoming a CEO, and its stability over time.

First, research suggests that political orientation can be used as a proxy for a CEO's *ex ante* propensity to take risk (Christensen et al., 2015; Hutton et al., 2014) because it captures individuals' motivated social cognition, or the "defined set of psychological needs, motives, and properties" that influence their decision-making (Jost et al., 2003: p. 339). For example, exploring the relationship between risk and political ideology, Jost et al. (2003: 339) argued that "the core ideology of conservatism stresses resistance to change," and meta-analytic results showed that a number of psychological variables related to risk are highly predictive of political conservatism, including intolerance of ambiguity; the need for order, structure, and closure; reticence to new experience; and uncertainty avoidance. Jost et al.'s (2003) meta-analysis also found that more politically conservative individuals place greater value in financial security and are more loss averse than less conservative individuals. Conservatives are thus more likely to be concerned with minimizing the potential for negative outcomes in decision-making (Jost et al., 2003).

Second, a CEO's personal political orientation, unlike many other proxies employed in upper echelon's research, can be captured before a CEO takes office, which allows it to be an *ex ante* predictor of a CEO's risk propensity. Indeed, this construct can be captured by using a continuous measure that includes an individual's contributions to political parties. We thus theorize in terms of "Democratic-leaning" or "Republican-leaning" as this reflects the continuous nature of the variable based on the relative political donations to each party.

Finally, research suggests that an individual's political orientation is also quite stable over time (Sitkin & Weingart, 1995). Indeed, research in political science suggests that an individual's political party identification is typically formed in early adulthood and remains relatively constant throughout life (Green, Palmquist, & Schickler, 2002). Consistent with this notion, Christensen et al. (2015: p. 10) found that, "when executives' political orientation scores from individual election cycles were compared to their lifetime political orientation score, 92 percent of the time both scores were leaning toward the same political party."² Thus, rather than being a reflection of CEOs simply giving to the party in power, giving is quite stable over time.

3.2 | Political orientation and CEO's initial pay packages

On the one hand, based on agency theory, a board of directors should impose a pay package that aligns the newly appointed CEO's risk appetite with that of the owners of the firm. Based on this logic, agency theory broadly suggests that a new CEO's pay package should be designed to incentivize risk taking through the use of performance-based pay. At the same time, upper echelons theory adds to this to suggest that a CEO's initial pay should be customized based on the extent of a CEOs' risk tolerance. That is, more risk-averse CEOs should receive more performance-based pay in their initial compensation scheme to offset their more conservative nature, while more risk-seeking CEOs should receive comparatively less performance-based pay.

This logic suggests that, when setting a newly appointed CEO's compensation scheme, the board of directors should take into account the CEO's risk aversion. Consistent with this, a director we interviewed noted that a CEO's risk aversion is considered when designing the CEO's pay mix: "... absolutely because we want the plan to be fair and we want it to properly incent the CEO."

This suggests that more conservative CEOs will receive more performance-based pay to offset their natural risk aversion. Because those who identify themselves as Republicans are more than three times as likely as Democrats to identify themselves as conservative (Saad, 2009), and Republican-leaning CEOs tend to be more conservative (Christensen et al., 2015; Hutton et al., 2014), boards should thus offer more performance-based pay to these individuals, who place more value on financial security and reducing negative outcomes (Jost, Nosek, & Gosling, 2008) to induce them to take more risk. Boards need to offer relatively less performance-based pay for newly appointed CEOs with a Democratic leaning, as they tend to be more risk seeking and generally engage in less conservative financing and investment policies (Hutton et al., 2014). Thus, if boards of directors account for a newly appointed CEO's attitude toward risk and compensate them in a manner consistent with agency theory, we hypothesize:

Hypothesis 1a (Agency Theory Prediction): *CEO political orientation will be positively related to initial performance-based pay; such that more conservative CEOs (i.e., Republicans) will have more performance-based pay in their initial compensation scheme, while more liberal CEOs (i.e., Democrats) will have less performance-based pay.*

On the other hand, it may be the case that a newly appointed CEO gets a pay scheme that conforms to the CEO's preferences for a number of reasons. First, CEOs may try to negotiate an initial pay package that aligns with their risk preferences. As more conservative individuals prefer less uncertainty and ambiguity, they likely prefer more certain pay schemes, while less conservative individuals would

²This suggests that personal political contributions made in any given year can be helpful in explaining a CEO's risk tolerance in prior or subsequent years.

likely embrace the potential upside of performance-based pay. Regarding the relationship between pay schemes and risk preferences, Wowak & Hambrick (2010: 805) note that, “experimental studies indicate that individuals vary in their preferences and performance under different types of pay arrangements.” Research suggests that more risk-averse individuals prefer guaranteed pay over performance-based pay schemes. For instance, Cadsby, Song, and Tapon (2007) found, in an experimental setting, that when risk-averse individuals were given the choice, they opted to receive less incentive-based pay. Wowak and Hambrick (2010) go on to note that these preferences persist for conservative individuals even when the potential upside of the contingent pay is much higher than the guaranteed pay. Conversely, we expect that more risk-seeking individuals will want more performance-based pay as such individuals tend to more heavily weigh positive outcomes (March & Shapira, 1987). With that said, it is unknown if the results from laboratory studies, where participants were free to choose their compensation structure, generalize to what actually happens in the executive suite, as executives may not be able to simply ask for and receive pay structures that align with their preferences.

Nevertheless, some of the other directors we interviewed noted that they allowed CEOs to express their preferences regarding their initial pay. For instance, one director noted that the CEO's pay mix is determined based on “80% what the board says and 20% the CEO preferences. That way the CEO can express his or her preferences to help set their compensation.” Thus, there is some anecdotal evidence consistent with CEOs getting the pay mix they want. This idea is consistent with Khurana's (2002) contention that, during the initial negotiation, newly appointed CEOs may be in a position to negotiate a pay package that matches their preferences.

Second, firms and CEOs may engage in matching. That is, firms may offer certain types of pay schemes to attract a specific kind of individual to become the CEO, and CEOs may be attracted to work for firms that offer pay mixes that align with the CEOs' preferences. This matching would thus lead Democratic-leaning CEOs to be attracted to firms who offer incentive-based contracts and Republican-leaning CEOs to be attracted to firms that emphasize guaranteed pay. Indeed, some firms may consistently offer a similar pay package to CEO after CEO due to using the same peer groups over time. Consistent with this idea, in terms of the CEO pay mix, one director we interviewed noted, “the CEO knows, you know, that this is what the deal is... I've never had any issue with someone saying it is not enough or it's the wrong kind. I mean, this is what it is. And generally, they say, thank you. I've never had a debate over changing it”. Thus, even when negotiation is not an option, CEOs could still get a pay scheme aligned with their preferences if they seek out firms who offer pay packages they prefer.

Despite agency theory arguing the contrary, to the extent that executives can find a pay mix that aligns with their risk preferences, due to matching or negotiating, we should expect that more conservative CEOs would receive less performance-based pay in their initial pay contracts, as their risk aversion makes guaranteed pay more appealing, and more risk-seeking CEOs would receive more performance-based pay. We thus hypothesize:

Hypothesis 1b (CEO Preferences Prediction): *CEO political orientation will be negatively related to their initial performance-based pay, such that more conservative CEO's will have less performance-based pay in their initial compensation scheme, while more liberal CEOs will have more performance-based pay (matching the CEO's preference).*

3.3 | Initial pay package's influence on CEO actions

Once an initial pay package is set, its influence on a CEO's behavior will likely be shaped by the CEO's characteristics. Specifically, in post hoc analyses, we examine if CEOs' risk propensity, which

we capture as their personal political orientation, interacts with their performance-based pay to influence the riskiness of their decisions. This is a central, yet largely untested, tenet of agency theory, which suggests that in order to motivate risk-averse agents (i.e., the CEO), they should be compensated in a manner to increase their risk taking (Jensen & Meckling, 1976).

While the majority of studies suggest that performance-based pay amplifies executive risk taking (e.g., Coles, Daniel, & Naveen, 2006; Rajgopal & Shevlin, 2002; Shue & Townsend, 2017), some studies find opposite results (e.g., Tosun, 2016), or even no relationship (e.g., Hayes et al., 2012; Mehran, 1995; Yermack, 1995). We suggest that partially explaining these somewhat mixed findings is the fact that the effectiveness of performance-based pay in inducing CEO risk taking likely varies depending upon a CEO's attitude toward risk (Wowak & Hambrick, 2010), which is consistent with upper echelon and behavioral finance research.

Experimental research suggests that individuals who are more risk averse are less responsive to incentive plans (Cadsby et al., 2007).³ In fact, Gomez-Mejia and Balkin (1989) found that risk-averse individuals found performance-based pay so unappealing, it increased the likelihood they would leave their job. Thus, more conservative (i.e., Republican-leaning) CEOs may not be as motivated to engage in increased risk taking due to increased performance-based pay because they prefer more certain compensation. Conversely, the relationship between performance-based pay and risk taking is likely amplified for more risk-seeking individuals as they tend to focus on the potential upside in uncertain situations (March & Shapira, 1987) and will thus engage in more risk taking in pursuit of this reward. Consequently, more liberal (i.e., Democrat-leaning) CEOs may be more motivated to engage in increased risk taking due to increased performance-based pay as it aligns better with their risk preferences. We explore these possibilities in post-hoc analyses.

4 | METHODS

4.1 | Sample

Our sample started with all CEOs of firms appearing in the S&P 500 index in any month from 1992 to 2013. We then restricted this down to observations occurring between 1995 and 2011 to account for lagged and future independent and dependent variables. We then limited the sample to only include newly appointed CEOs within that timeframe. We excluded CEOs missing necessary data to calculate independent, dependent, and control variables. We also excluded CEOs of financial firms as the financial and accounting data of financial firms often do not have the same meaning as non-financial firms (Chen, 2015). This resulted in a final sample size of 739 newly appointed CEOs. To identify the political orientation of CEOs, we collected personal political contributions of CEOs from the Federal Election Commission (FEC), as personal political contributions can identify the political orientation of the contributors (Hutton et al., 2014). We obtained financial information from COMPUSTAT; CEO characteristics and compensation measures from ExecuComp; governance measures from Thomson Reuters; CEO dismissal from a media analysis collected from LexisNexis; acquisition data from SDC Platinum; and CEO awards data from Barrons, Business Week, Chief Executive Magazine, Electronic Business, Financial World, Forbes, Fortune, Harvard Business Review, Industry Week, Institutional Investor, MorningStar.com, Time and Time/CNN.

³This study was performed using undergraduate student participants in a laboratory. Thus, it is an empirical question as to whether these results generalize to executives' behavior when running major corporations.

4.2 | Dependent variables

We operationalized CEO initial *Performance-Based Pay* as the ratio of performance pay to initial total pay in the year of the succession, consistent with Chen (2015). Specifically, we calculated performance pay as the sum of options (options_awards), stock and restricted stock (rstkgrnt), and bonuses (bonus). We calculated initial total pay as the sum of options, stock and restricted stock, bonuses, and salary (salary). Specifically, (a) options are the value of option-related awards, including stock appreciation rights; (b) stock is the value of the stocks and restricted stocks granted during the year; (c) bonuses are the value of earned bonuses during the fiscal year; and (d) salary is the value of the base salary during the fiscal year. As alternative measures, we used two other variables: the natural log of the total performance-based pay, and CEO vega, which captures the convexity of the CEO's pay for performance. As greater convexity in compensation makes taking risks more valuable to managers, vega captures the compensation-based incentives CEOs have to take risks (Coles et al., 2006). *CEO vega* is calculated as the change in the dollar value of the CEO's wealth for a 0.01 change in stock-return volatility (for further details, see Core & Guay, 2002). Due to skewness in this measure, we standardized it to have a mean of zero and *SD* of one. Results are consistent if we do not standardize the variable (untabulated).

4.3 | Independent variables

We calculated *CEO Political Orientation* by first taking the CEO's personal contributions to the Republican Party minus contributions to the Democratic Party divided by the total contribution to both parties, consistent with prior studies (Christensen et al., 2015). This resulted in a continuous measure of political orientation where +1 indicated that all contributions were made to the Republican Party and -1 indicated that all contributions were made to the Democratic Party. We gauged values closer to +1 as a CEO's political orientation leaning conservative (i.e., more risk averse) and values closer to -1 as leaning liberal (i.e., less risk averse). We calculated the political orientation measure for each CEO in each two-year election cycle, and then calculated the average of these values for each CEO across all election cycles where the CEO made contributions, to obtain our final measure for political orientation. CEOs who did not make personal political contributions were not included in the analyses, as their true political orientation was unclear; while this removed 305 CEOs from the sample, excluding them provided cleaner tests of our theory. We found substantively similar results if these CEOs were included in the analyses with neutral political orientation scores (scores set to zero).

4.4 | Control variables

We included control variables identified in prior research to capture confounding factors that may influence the results. We controlled for firm characteristics, prior CEO characteristics, and incoming CEO characteristics.

We controlled for a number of firm characteristics measured in the year before the transition. First, we controlled for *Firm Size*, measured as the natural log of total firm assets. Second, we controlled for firm performance using both *Industry-Adjusted Returns*, measured as the firm's annual industry-adjusted stock return using 2-digit SIC codes, and *Return on Assets*, measured as net income scaled by total assets. Similarly, we controlled for *Return Volatility*, measured as the *SD* of the firm's monthly stock returns during the year. Third, to control for the amount of influence the

CEO has over decisions within the firm, we calculated *Discretion*⁴ in the year of the succession, measured as a summation of the standardized values (mean of zero and standard deviation of one) of the following five individual measures: (a) R&D intensity; (b) advertising intensity; (c) capital intensity; (d) firm market growth measured as the percent change in sales over the prior five years; and (e) market growth stability measured as the *SD* of firm market growth (Finkelstein & Boyd, 1998). Fourth, because creditors can influence CEO compensation structures (Balsam, Gu, & Mao, 2018), we controlled for *Leverage*, measured as long-term debt scaled by total assets. Finally, we controlled for the percentage of the firm's shares held by institutional investors (*Institutional Ownership*), to capture external monitoring and serve as a summary measure of good governance (Christensen, 2016).

We also controlled for two variables related to the prior CEO. First, we controlled for the type of CEO transition. Specifically, we considered *Prior CEO Dismissal*, which took a value of 1 if the prior CEO was dismissed from his/her position as CEO, and 0 otherwise (Hubbard, Christensen, & Graffin, 2017). Dismissals were identified using the methodology in Shen and Cannella (2002) and Hubbard et al. (2017). Second, we also controlled for *Prior CEO Celebrity* because celebrity certification can affect CEO pay and performance (Wade et al., 2006). We gathered an extensive database of executive awards that spanned our sample period, plus the five years prior to our sample beginning. We collected awards from the following sources: Barrons, Business Week, Chief Executive Magazine, Electronic Business, Financial World, Forbes, Fortune, Harvard Business Review, Industry Week, Institutional Investor, MorningStar.com, Time and Time/CNN. We then created a variable equal to the total awards the prior CEO won in the five years leading up to the transition.

Finally, we controlled characteristics of the incoming CEO. First, we controlled for whether the CEO was an insider, that is, an employee of the firm before becoming CEO. We coded an incoming CEO as an *Insider* (insider = 1) if they were listed as an executive of the firm in ExecuComp in any of the three years before the succession event and an outsider (insider = 0) otherwise. Next, we coded *Duality* as a value of 1 if the CEO chairs the board and 0 otherwise (Shen & Cannella, 2002). We also controlled for *Age*, as the age of a new CEO could affect pay packages. We controlled for the gender of the CEO using an indicator set to 1 if the CEO was female, zero otherwise (*Female-CEO*). Finally, we included year fixed effects in all models.

4.5 | Analysis

We used a multilevel linear regression model to test our hypotheses. We used a multilevel model with three levels of data because CEO observations are nested within firms, which are nested within industries.⁵ Failing to account for this clustering may lead to spuriously precise regression coefficients and, therefore, incorrect inferences (Raudenbush & Bryk, 2002; Snijders & Bosker, 2012). We ran the multilevel model in Stata 15.1 using the *mixed* command with maximum likelihood estimation. All results were calculated using robust SEs.

⁴We controlled for discretion in the year of the succession to capture the CEO's level of discretion closest to when the initial pay package was implemented. Our results are also substantively similar when running controlling for discretion's five components individually in their unstandardized forms or excluding discretion altogether.

⁵While our multilevel model takes into account differences in industries, we find similar results if we also include industry-fixed effects in the models (untabulated).

5 | RESULTS

Table 1 provides summary and descriptive statistics for the variables used in the regression analyses. We tested our models for multicollinearity; variance inflation factors for the variables in all of the models were below 2, indicating that multicollinearity was not a problem in our analyses (Kennedy, 2008).

5.1 | Tests of hypotheses

Table 2 provides the multivariate results using multilevel mixed effects regression. Model 1 contains all control variables predicting the ratio of performance pay to total pay in CEO initial pay packages. Model 2 adds CEO political orientation as a predictor to that model. Models 3 and 4 present alternative dependent variables to further corroborate our tests of Hypothesis 1a and 1b. Model 3 predicts performance-based initial pay packages—this time measured as the natural log of the dollar amount of performance-based pay. Model 4 predicts CEO vega.

In Hypothesis 1a (i.e., the agency theory prediction), we hypothesize a positive relationship between conservative CEOs and performance-based initial pay packages. While in Hypothesis 1b (i.e., the CEO preferences prediction), we hypothesize a negative relationship between conservative CEOs and performance-based initial pay packages. The results in Model 2 reveal a negative association between CEO political orientation and the ratio of performance-based pay to total initial pay ($\beta = -.028, p = .013$). This suggests that more conservative CEOs receive a lower proportion of performance-based pay in their initial pay packages and more liberal CEOs receive a higher proportion of performance-based pay in their initial pay packages, consistent with Hypothesis 1b. Practically, these results suggest that the change from a liberal CEO (-1 on our political ideology scale) to a conservative CEO ($+1$ on our political ideology scale) is associated with a 5.60% decrease in the performance-based pay as a proportion of total initial pay (a drop from 0.60 to 0.55, $p = .013$).

An analysis of the Impact Threshold for Omitted Variable⁶ (Frank, 2000) showed that to invalidate the inference of this result in Model 2, 25.7%, or 190 CEO observations, would have to be replaced with cases for which there was no effect. Further, an omitted variable would have to be correlated with the dependent variable at 0.166 and at -0.166 with CEO political orientation. This indicates that the impact of the omitted variable must be -0.0276 to invalidate the inference; this is greater than the highest impact of our observed covariates, firm size, based on partial correlations, suggesting that our results are not likely biased by omitted variables.

We also tested two alternative measures of performance-based pay—the natural log of total dollars of performance-based pay, shown in Model 3, and CEO vega, shown in Model 4. The results in Model 3 indicate that CEO political orientation is negatively associated with the level of performance-based pay ($\beta = -.106, p = .002$), which is also consistent with Hypothesis 1b. The effect sizes suggest that relative to a liberal CEO (-1 on our political ideology scale), a conservative CEO ($+1$ on our political ideology scale) receives \$780,000 less in performance-based pay (from \$4.09 million to \$3.31 million). The results in Model 4, which examine the association between CEO political orientation and CEO vega also indicate a negative relationship ($\beta = -.109, p = .001$). Overall, across all three measures of performance-based pay, we find evidence that is consistent with Hypothesis 1b.

To assess the degree to which matching may be occurring in our sample, which we suggest is a means by which CEOs can seek pay packages consistent with their preferences, we considered

⁶To perform these calculations, we used a linear regression model with industry fixed-effects and robust SEs. The coefficient on the CEO political orientation variable in the model was negative ($\beta = -.031, p = .008$).

TABLE 1 Descriptive statistics and correlations

Variable		Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1.	Performance-based pay (ratio)	0.57	0.24																								
2.	Performance-based pay (logged \$)	1.30	0.78	0.89																							
3.	CEO vega (standardized)	0.00	1.00	0.25	0.35																						
4.	Prior CEO performance-Based Pay (ratio)	0.56	0.23	0.72	0.71	0.24																					
5.	Strategic change	-0.06	0.35	0.08	0.07	0.07	0.11																				
6.	Mergers & acquisitions Activity	0.01	0.03	-0.01	-0.06	0.01	0.01	0.02																			
7.	Change in R&D	0.00	0.03	0.03	0.01	0.11	0.03	0.14	0.04																		
8.	Change in capital expenditures	0.00	0.07	0.00	0.00	-0.06	-0.02	0.00	-0.04	0.01																	
9.	CEO political orientation	0.33	0.71	-0.09	-0.14	-0.12	-0.12	-0.15	-0.04	0.00	0.02																
10.	Prior CEO political orientation	0.37	0.68	-0.10	-0.15	-0.13	-0.05	-0.05	-0.02	0.00	0.01	0.30															
11.	Change in political orientation	-0.04	0.82	0.00	0.00	0.00	-0.06	-0.09	-0.02	0.01	0.01	0.61	-0.57														
12.	Firm size (log assets)	8.74	1.31	0.19	0.39	0.26	0.26	-0.07	-0.07	-0.04	0.01	-0.05	-0.09	0.03													
13.	Industry-adjusted returns	-0.03	0.39	-0.09	-0.08	-0.02	-0.05	-0.08	0.02	0.05	0.00	-0.08	-0.03	-0.04	-0.09												
14.	Return on assets	0.05	0.09	-0.01	-0.05	0.10	-0.01	0.00	0.03	0.10	0.03	0.01	0.02	-0.01	-0.13	0.15											
15.	Return volatility	0.09	0.05	0.03	0.02	0.00	-0.01	0.14	0.00	0.05	-0.03	-0.03	-0.04	0.01	-0.15	0.01	-0.23										
16.	Discretion	-0.07	2.57	0.10	0.14	0.23	0.10	0.28	0.03	0.00	-0.09	-0.14	-0.20	0.05	-0.05	-0.01	0.10	0.21									
17.	Leverage	0.25	0.16	-0.04	-0.04	-0.05	-0.07	-0.07	-0.03	-0.01	-0.02	0.08	0.01	0.06	0.22	-0.13	-0.27	0.03	-0.19								
18.	Institutional ownership	0.67	0.18	0.09	0.10	-0.03	0.12	0.08	0.05	-0.04	0.04	-0.12	-0.07	-0.04	-0.02	-0.02	0.02	-0.01	-0.03	-0.03							
19.	Prior-CEO dismissed	0.17	0.38	0.08	0.13	-0.01	0.05	0.06	-0.05	0.02	-0.03	-0.02	-0.02	0.00	0.09	-0.12	-0.21	0.13	0.06	0.07	0.00						
20.	Prior-CEO awards	0.53	1.19	0.06	0.11	0.15	0.15	-0.06	-0.03	0.03	-0.02	-0.09	-0.06	-0.03	0.28	0.04	0.09	-0.14	0.10	-0.11	-0.03	-0.03					
21.	Insider	0.72	0.45	-0.10	-0.14	-0.03	-0.11	-0.11	-0.07	-0.02	-0.11	0.01	0.04	-0.02	0.03	0.06	0.17	-0.16	-0.02	-0.04	-0.01	-0.22	0.11				
22.	Duality	0.46	0.50	0.00	0.02	0.03	-0.02	0.00	-0.07	0.03	0.08	0.11	0.04	0.06	0.17	-0.01	-0.03	-0.04	-0.10	0.10	-0.11	0.03	0.04	-0.09			
23.	Age	52.49	5.97	-0.05	0.02	-0.06	-0.02	-0.09	-0.01	0.00	0.06	0.10	0.04	0.05	0.16	-0.01	-0.05	-0.09	-0.14	0.11	-0.07	0.04	0.02	-0.10	0.18		
24.	Female-CEO	0.02	0.15	-0.06	-0.02	0.05	-0.02	0.03	-0.04	-0.02	-0.01	-0.09	-0.10	0.01	0.02	-0.02	-0.11	0.07	0.00	0.02	-0.08	-0.04	0.03	-0.03	0.02	-0.05	

Note: $n = 739$ observations; Correlations with an absolute value greater than 0.08 are statistically significant at $p < .05$ for two-tailed tests.

TABLE 2 Linear multilevel model predicting performance-based pay of newly appointed CEOs

Independent variable	Main models		Alternative pay measures			Matching and tailoring analyses			
	Model 1		Model 2		Model 3	Model 4		Model 5 prior CEO performance-based Pay (ratio)	Model 6 performance-based pay (ratio)
	performance-Based pay (ratio)	pay (ratio)	performance-based pay (ratio)	pay (ratio)	performance-based pay (natural log of \$)	CEO vega	CEO vega (ratio)		
Firm size	0.049	(0.000)	0.047	(0.000)	0.269	(0.000)	0.215	0.057	0.044
Industry-adjusted returns	-0.022	(0.269)	-0.026	(0.198)	-0.021	(0.735)	0.109	0.010	(0.000)
Return on assets	0.062	(0.368)	0.061	(0.371)	0.123	(0.588)	0.709	0.113	-0.053
Return volatility	-0.067	(0.731)	-0.079	(0.682)	0.077	(0.882)	(0.129)	(0.112)	(0.065)
Discretion	0.003	(0.286)	0.002	(0.503)	0.012	(0.227)	-2.365	0.125	0.052
Leverage	-0.066	(0.174)	-0.064	(0.189)	-0.348	(0.011)	(0.000)	(0.351)	(0.449)
Institutional ownership	0.153	(0.017)	0.143	(0.031)	0.398	(0.010)	(0.562)	(0.101)	(0.449)
Prior CEO dismissed	0.026	(0.297)	0.026	(0.302)	0.092	(0.203)	-0.050	-0.003	0.013
Prior CEO awards	0.001	(0.001)	0.001	(0.001)	-0.006	(0.901)	(0.440)	(0.000)	(0.482)
Insider	-0.071	(0.001)	-0.069	(0.825)	-0.069	(0.777)	(0.555)	(0.797)	(0.674)
Duality	0.004	(0.762)	0.008	(0.541)	0.038	(0.318)	-0.264	-0.143	-0.056
							(0.000)	(0.007)	(0.026)
							0.040	-0.009	-0.000
							(0.769)	(0.307)	(0.989)

TABLE 2 (Continued)

Independent variable	Main models		Alternative pay measures		Matching and tailoring analyses	
	Model 1		Model 3		Model 5 prior CEO performance-based Pay (ratio)	
	performance-Based pay (ratio)	performance-based pay (ratio)	performance-based pay (natural log of \$)	CEO vega (ratio)	Model 4 performance-based Pay (ratio)	Model 6 performance-based pay (ratio)
Age	-0.004 (0.001)	-0.004 (0.002)	-0.007 (0.124)	-0.006 (0.264)	-0.003 (0.043)	-0.003 (0.066)
Female-CEO	-0.029 (0.531)	-0.042 (0.384)	0.001 (0.994)	0.216 (0.646)	0.012 (0.768)	-0.082 (0.170)
CEO political orientation (H1)	-0.028 (0.013)	-0.106 (0.002)	-0.109 (0.001)	-0.025 (0.006)		
Prior CEO political orientation					-0.052 (0.000)	-0.025 (0.000)
Change in CEO political orientation						
Constant	0.151 (0.280)	0.157 (0.259)	-1.130 (0.002)	-1.874 (0.000)	0.223 (0.028)	0.094 (0.632)
Year fixed-effects	Included	Included	Included	Included	Included	Included
Observations	739	739	739	706	739	610
Firms	485	485	485	471	485	398
Industries	16	16	16	16	16	16

Note: Two-tailed *p*-values are shown in parentheses, calculated using robust SEs. Multilevel model includes CEO observations nested within firms which are nested within Fama–French 17 industries (excluding financial services).

Independent variable for Hypothesis 1 is in bold font.

whether pay packages that firms have offered in the past influence the types of CEOs they subsequently hire. If matching is occurring, we expect that potential CEOs will be attracted to firms that offer compensation packages that align with the individual's risk preferences. To test this, we examined the relationship between the new CEO's political orientation and the *prior* CEO's pay mix. If matching were occurring, we should see that a new CEO's political orientation is negatively associated with the prior CEO's pay mix. Conversely, if matching were not occurring, we would expect there to be no relationship—the pay of the new CEO would be independent of the firm's pay to the prior CEO. To assess this possibility, we conducted an analysis similar to our main analysis in Model 2 of Table 2, except we used the prior CEO's pay mix as the dependent variable. The results of this analysis are shown in Model 5 of Table 2 and show that the new CEO's political orientation is negatively related to the pay mix of the prior CEO ($\beta = -.025, p = .006$). Given that firms tend to hire executives with similar political orientation over time (Christensen et al., 2015), this finding suggests that new CEOs seem to be attracted to firms that offered the prior CEO a pay package that is consistent with the new CEO's risk preferences.

To examine if the degree to which CEOs' initial pay packages are associated with tailoring to a CEO's preferences and/or matching at the same time, we next considered the role of the prior CEO's political orientation and the change in political orientation from the prior CEO to the current CEO. This test allows us to examine if the firm tailors the package they offer to the new CEO, or if they instead just offer a default pay package that is consistent with the risk tolerance of the prior CEO. To assess this, we re-ran our main model (i.e., Table 2 Model 2) but included the prior CEO's political orientation and the change in political orientation from the prior CEO to the new CEO to predict the new CEO's performance-based pay. The results are shown in Model 6 of Table 2. In addition to finding that the prior CEO's political orientation helped explain the new CEO's performance pay mix ($\beta = -.052, p = .000$), the results show that the change in political orientation helps explain the ratio of the new CEO's performance-based pay to total pay ($\beta = -.025, p = .022$). This negative relationship suggests that, even though matching seems to be occurring in our context, the pay of a newly appointed CEO also seems to be tailored to the extent that their personal political orientation differs from that of the prior CEO. In other words, if a new CEO is more conservative than the prior CEO, the new CEO's performance-based pay appears to be lower. In sum, these supplemental analyses suggest that CEOs get initial pay contracts that align with their risk preferences due to both (a) CEO-firm matching and (b) firms tailoring the pay mix of a newly appointed CEO to more closely match his/her risk preferences.

5.2 | Additional supplemental analyses

We performed several additional untabulated tests to further explore our primary results. The first supplemental test pertained to a CEO's initial total pay. While agency theory suggests that providing performance-based pay helps encourage risk-averse individuals to take more risks, imposing such a pay structure on a risk-averse CEO may require the firm to pay that CEO a premium (i.e., more total pay) to compensate the CEO for bearing that extra risk that is inconsistent with his/her risk preferences. From that perspective, firms would need to pay a Republican CEO more in total pay than a Democrat CEO to take risks to overcome the CEO's risk aversion. To assess whether this occurs on average, we examined the influence of CEO political orientation on the natural log of their total compensation. The results indicate no meaningful relationship between CEO political orientation and the total pay of the incoming CEO ($\beta = -.061, p = .168$). This suggests that, on average, conservative CEOs are paid the same as liberal CEOs. When this finding is viewed in light of our primary finding

that Republican CEOs tend to have less performance-based pay, our results suggest that when firms want a more risk-seeking CEO, they tend to hire a Democrat CEO and provide him/her with more performance-based pay, and thereby avoid paying a risk-averse CEO an additional premium to overcome risk aversion.

Second, to assess the robustness of our findings, we tested whether the political leaning of the state where the firm is headquartered influences our primary results. There is a possibility that firms in liberal states generally provide more performance-based incentives. For example, it is possible that firms in liberal states, such as California or New York, could frequently offer more incentive-laden pay packages. Thus, we included an additional control for the political leaning of the firm's state, measured as the states' political leaning in the most recent election.⁷ The results show that the political leaning of the state does not appear to influence CEO pay mix ($\beta = .023, p = .243$); however, even in the presence of this control, CEO political orientation still helps explain the CEO's pay mix ($\beta = -.028, p = .009$).

Third, because political orientation may capture not only variation in risk tolerance, but also variation in other attributes (e.g., tolerance of inequality), it is possible that our CEO political orientation measure is picking up some other CEO attributes. While it is not clear what specific other attribute related to political orientation would be relevant in our setting of examining CEO pay mix, we tried to control for other possible variables that would be correlated with these other attributes. Specifically, we controlled for the corporate social responsibility (CSR) performance of the firm, measured as in Hubbard et al. (2017), and found similar results ($\beta = -.021, p = .029$). This, in combination with the Impact Threshold for Omitted Variable analysis, indicates that unmeasured attributes are not likely biasing our findings.

Next, to further address endogeneity concerns, we employed two-stage least squares (2SLS), where we instrumented for the CEO's political orientation using the CFO's political orientation. As prior research finds that CEOs are attracted to firms where there are other key executives with similar traits (Westphal & Zajac, 1996), such as political orientation (Christensen et al., 2015), it seems likely that the CFO's political orientation is likely correlated with the CEO's political orientation. However, it is not clear why the CFO's political orientation would necessarily be related to the CEO's pay mix. Consistent with these expectations, using 2SLS we found that the CFO's political orientation is, indeed, positively associated with the CEO's political orientation ($\beta = .349, p = .000$), and the predicted CEO political orientation continues to explain pay mix ($\beta = -.104, p = .014$) (untabulated). This holds even if we control for the political orientation of the state where the firm is headquartered and the level of CSR within the firm ($\beta = -.099, p = .031$) (untabulated).

5.3 | Does CEO risk tolerance influence how CEOs respond to their compensation incentives?

As a post-hoc analysis, we also examined whether a CEO's political orientation moderates the relationship between performance-based initial pay packages and strategic change. Indeed, better understanding how CEO characteristics, in this case risk propensity, influences CEO reactions to compensation schemes are fundamental to strategic management research. These analyses allow us to gain insights into whether a CEO's risk tolerance influences the extent to which compensation-based risk taking incentives translate into strategic change. Our variable of interest in this analysis is *Strategic Change*, which is defined as a change in the pattern of present and planned resource

⁷State voting history was obtained from the U.S. National Archives and Records Administration. Based on this data, we employed a Blue State (i.e., Democratic) indicator variable.

deployments (Carpenter, 2000; Haynes & Hillman, 2010; Hofer & Schendel, 1978; Zhang, 2006). We calculated strategic change as the change in a firm's financial resource allocation patterns from the second to third year after the succession. We specifically chose a three-year cutoff because research contends that attributing firm outcomes to a new CEO is difficult in the first two years of the CEO's tenure (Graffin et al., 2013), and the implementation and effects of the CEO's actions can typically take two or more years to transpire (Hambrick & Quigley, 2014). As such, a three-year cutoff allows us to capture strategic change that can be attributed to the new CEO. Following Wowak, Mannor, Arrfelt, and McNamara (2016), we captured strategic change using a composite measure based on six items that can be influenced by the CEO: (a) advertising intensity; (b) R&D intensity; (c) plant and equipment newness; (d) nonproduction overhead; (e) inventory levels; and (f) financial leverage. We calculated the absolute value of the differences in these values between subsequent years, as a change in these ratios across firm-years indicates a change in the firm's allocation of these resources, thus suggesting strategic change. We then took the absolute value and standardized each item by year for each firm and calculated the average across the six values to calculate the composite measure. For more details on how this measure is calculated, see Wowak et al. (2016).

Again, we used multilevel mixed effects regression. In Table 3, we provide our results for this analysis. Model 1 contains all control variables along with the main effects and interaction between performance-based pay and CEO political orientation predicting our dependent variable—strategic change. The results of Model 1 indicate a negative effect for the interaction of CEO political orientation and performance-based initial pay ($\beta = -.097, p = .024$). This suggests that the positive relationship between performance-based pay and strategic change is more positive for liberal CEOs and less positive for conservative CEOs.⁸

Figure 1 provides a plot of the interaction effect, illustrating the influence of performance-based pay on strategic change as a function of the incoming CEO's political orientation. The results show a positive slope (*simple slope* = 0.181, $p = .011$) for liberal-leaning CEOs (those who only gave to the Democratic Party). The results further show that the relationship is still positive (*simple slope* = 0.084, $p = .040$) for neutral CEOs (those who gave equally to the Democratic and Republican parties). Finally, the plot shows that there is no relationship between performance-based pay and strategic change (*simple slope* = -0.012, $p = .782$) for conservative CEOs (those who only gave to the Republican Party). This suggests that more conservative CEOs do not appear to be influenced by performance-based pay when considering strategic change.

In addition to the aggregated strategic change measure, we conducted similar analyses using three other dependent variables that could indicate a risky shift in a firm's strategy. First, we looked at a firm's merger and acquisitions activity. Given the variance in potential outcomes linked with acquisitions (e.g., Halebian, Devers, McNamara, Carpenter, & Davison, 2009), greater merger activity suggests increased risk taking by the newly appointed CEO. We measured *Mergers & Acquisitions* as the amount spent on completed, material acquisitions in the new CEO's third year in the position, scaled by the prior fiscal year's market capitalization. Consistent with prior research, material acquisitions were defined as those that were larger than 1% of the acquirer's market capitalization (e.g., Chen, Collins, Kravet, & Mergenthaler, 2018; Moeller, Schlingemann, & Stulz, 2005). To

⁸The lack of a relation between the main effects of CEO Political Orientation and Performance-Based Pay (ratio) with Strategic Change in models 2 and 3 of Table 3 suggests that the interaction term in Model 4 is a meaningful predictor that cannot be omitted from the model (see Edwards, 2009 for a discussion of interpreting product terms and their related main effects). Also note the main effect of CEO Political Orientation reflects its influence on the dependent variable when the moderator takes a value of zero. In untabulated analyses, we find that the main effect of CEO Political Orientation is negative and statistically meaningful (i.e., the p -value is below .10) when performance-based pay (ratio) is between 0.62 and 1.00. For comparison, the average CEO's performance-based pay (ratio) in our sample is 0.57.

TABLE 3 Linear multilevel model predicting strategic change of newly appointed CEOs

Independent variable	Model 1 strategic change	Model 2 mergers & acquisitions	Model 3 change in R&D	Model 4 change in capital expenditures
Firm size	-0.022 (0.049)	0.001 (0.470)	0.000 (0.488)	-0.005 (0.048)
Industry-adjusted returns	-0.083 (0.016)	0.003 (0.152)	0.006 (0.209)	-0.002 (0.712)
Return on assets	0.192 (0.184)	0.003 (0.781)	0.033 (0.005)	0.031 (0.081)
Return volatility	0.976 (0.000)	-0.028 (0.145)	0.090 (0.028)	0.001 (0.969)
Discretion	0.035 (0.000)	0.001 (0.188)	-0.001 (0.033)	0.000 (0.845)
Leverage	-0.020 (0.870)	-0.002 (0.760)	-0.002 (0.365)	0.011 (0.436)
Institutional ownership	0.005 (0.936)	0.026 (0.000)	0.004 (0.281)	-0.000 (0.954)
Prior CEO dismissed	0.007 (0.817)	-0.001 (0.627)	0.000 (0.756)	-0.001 (0.577)
Prior CEO awards	-0.024 (0.051)	-0.001 (0.523)	0.000 (0.688)	0.001 (0.241)
Insider	-0.050 (0.009)	-0.006 (0.005)	0.000 (0.922)	-0.012 (0.028)
Duality	0.051 (0.081)	-0.005 (0.004)	0.000 (0.938)	0.012 (0.169)
Age	-0.001 (0.398)	0.000 (0.677)	-0.000 (0.677)	0.001 (0.027)
Female-CEO	-0.012 (0.842)	-0.002 (0.490)	-0.002 (0.696)	-0.010 (0.290)
CEO political orientation	0.019 (0.612)	0.004 (0.115)	0.004 (0.129)	-0.007 (0.171)
Performance-based pay (ratio)	0.085 (0.040)	-0.002 (0.734)	0.002 (0.628)	0.007 (0.017)
CEO political orientation × performance-based pay	-0.097 (0.024)	-0.008 (0.044)	-0.005 (0.058)	0.011 (0.381)
Constant	-0.025 (0.853)	-0.012 (0.630)	-0.007 (0.368)	-0.006 (0.691)
Year fixed-effects	Included	Included	Included	Included
Observations	739	739	739	739

TABLE 3 (Continued)

Independent variable	Model 1 strategic change	Model 2 mergers & acquisitions	Model 3 change in R&D	Model 4 change in capital expenditures
Firms	485	485	485	485
Industries	16	16	16	16

Note: Two-tailed p -values are shown in parentheses, calculated using robust SEs. Multilevel model includes CEO observations nested within firms, which are nested within Fama–French 17 industries (excluding financial services).

Proposed post-hoc interaction variable is in bold font.

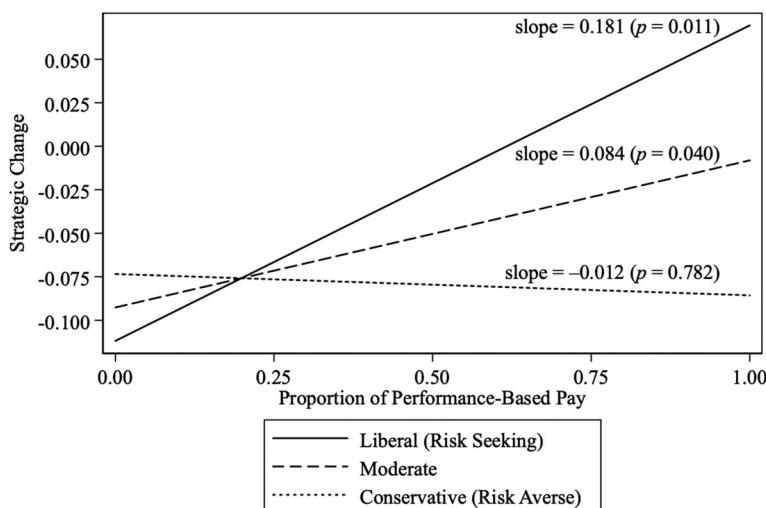


FIGURE 1 Plot of the interaction of performance-based pay and CEO political orientation on strategic change. Note: Simple slopes calculated at performance-based pay = 0.50, using two-tailed tests calculated with delta-method SEs

mitigate the influence of outliers, we winsorized this variable at the top and bottom 1%. We present the results of our analyses for mergers and acquisitions in Model 2 of Table 3. The results reveal a meaningful negative interaction term ($\beta = -.008, p = .044$); the direction and significance of the interaction term mirrors our primary results with the overall strategic change measure.⁹ Second, we looked at the change in research and development (R&D) intensity, measured as the change in R&D as a proportion of sales, from the second to third year of their tenure, consistent with our tests for strategic change. These results are provided in Model 3 of Table 3. Again, the results reveal a negative interaction term ($\beta = -.005, p = .058$), albeit not as strong. Finally, we considered the change in capital expenditures (i.e., capex) of the firm, measured as the change in capex as a proportion of total assets—from the second to third year of their tenure. The results are provided in Model 4 of Table 3. They do not demonstrate a meaningful effect ($\beta = .011, p = .381$).¹⁰

⁹We also ran tests where we required acquisitions to be at least 5% of the acquirer's prior market capitalization. Similarly, we ran tests where we imposed no requirement on the size of the acquisitions. Results were consistent across these specifications (unpublished).

¹⁰In untabulated analyses, if we instead use the change in leverage as a proxy for risk taking, the coefficient on the interaction of performance-based pay and CEO Political Orientation is not different from zero ($\beta = -.001, p = .937$).

6 | DISCUSSION

Our overarching goal was to examine how individual characteristics, such as a CEO's risk tolerance, may shape a CEO's initial pay package. Specifically, we looked at how a CEO's personal political orientation, which we conceptualized as an *ex ante* indicator of a CEO's personal risk preference, is related to the pay mix in the CEO's initial compensation contract. Our results suggest that more risk-averse CEOs receive less performance-based pay in their initial pay packages, while more risk-seeking CEOs receive more performance-based pay. These findings are contrary to common recommendations based on agency theory, which suggest the opposite: that risk-averse individuals should receive relatively more incentive pay to motivate them to engage in more risk taking, while risk-seeking individuals should be given relatively less incentive pay to align their risk preferences with those of principles.

We theorized this finding is driven by newly appointed CEOs (a) finding firms that offer pay packages that match their risk preferences, and/or (b) negotiating for initial pay packages that align with their risk preferences. To explore these mechanisms empirically, we first examined whether new CEOs were attracted to firms that offered the previous CEO a compensation package that fit the new CEO's risk tolerance. Specifically, we tested to see if Democrat-leaning CEOs joined firms that offered the prior CEO more incentive-based pay, and Republican-leaning CEOs joined firms that offered the prior CEO more guaranteed pay. Our results were consistent with this expectation, providing support for the notion that CEOs select into firms that offer pay packages that match their risk preferences.

Next, to see if the firm adjusted the new CEO's pay package for any differences in the new CEO's risk tolerance, we examined the new CEO's performance-based pay and specified a model that included the prior CEO's political orientation and also a variable that captured the change in political orientation of the newly appointed CEO relative to the prior CEO. Interestingly, both variables were predictive of a new CEO's pay mix. This again suggests that matching does occur in the CEO labor market, as the prior CEO's political orientation was predictive of the newly appointed CEO's performance-based pay. In other words, this result suggests stability in the personal political orientation across different CEOs. At the same time, however, the newly appointed CEOs political orientation was still predictive of their performance-based pay, which suggests that firms also tailor newly appointed CEOs' initial pay schemes to more closely align with the CEOs' preferences. Thus, negotiation may also play a role in how CEOs are able to get pay mixes that align with their preferences.

Overall, these "matching" and "tailoring" findings are theoretically consistent with the CEO "preferences" argument that we offered in our Hypothesis 1b. Indeed, if executives are more likely to seek and take positions with firms that typically provide compensation schemes consistent with the executives' preferences, this is simply one means by which executives receive compensation schemes that are aligned with their risk preferences. Similarly, if CEOs actively negotiate with firms to get compensation schemes that are tailored to their risk tolerance, this is another means by which CEOs get a compensation mix that fits their preferences.

Second, in post hoc analyses we found evidence that suggests a CEO's risk preferences interact with their initial pay scheme to influence subsequent risk taking. Specifically, our results suggest that when more risk-seeking individuals, as indicated by a Democratic-leaning political orientation, receive more performance-based pay, they engage in more strategic change. We also found this same pattern of results, albeit with a weaker effect for individuals who have a moderate political orientation, as evidenced by giving relatively equal amounts to each political party. While we expected this

relationship to be weaker for CEOs with a conservative political orientation, we found that, on average, performance-based pay did not appear to influence risk taking for risk-averse CEOs.

This final finding regarding the lack of an effect of performance-based pay for conservative CEOs runs counter to typical agency theory-based recommendations, which suggest offering risk-averse CEOs incentive-laden plans to encourage them to act in the best interests of owners by being more risk seeking. Our results suggest this tactic may be ineffective in that conservative CEOs do not appear to respond to risk-inducing pay schemes. This finding that incentive pay does not appear to influence risk taking for conservative CEOs has significant implications for corporate governance research as 68.6% of CEOs in our sample are conservative. This implies that the primary means by which agency theory recommends aligning their risk preferences with owners, incentive compensation, does not appear to be effective for the majority of new CEOs, on average. In sum, this finding suggests that more nuanced corporate governance mechanisms are needed in light of individual differences across CEOs.

While we offer a new perspective regarding the role of CEO characteristics on CEO compensation, our study does have limitations. First, we do not directly measure a CEO's risk preferences. We instead use an unobtrusive indicator of a CEO's relative risk tolerance, his/her personal political orientation. While many studies and meta-analyses suggest this proxy captures an individual's attitude toward risk, we do not directly measure this construct. As CEO political orientation also captures other attributes (e.g., tolerance of inequality), it is an imperfect proxy. While it is not clear how these other attributes may influence the pay mix of a CEO, they may influence our results despite our extensive robustness tests. Further, this is only a first step in furthering our understanding of the relationship between CEO risk preferences, incentive pay, and risk taking. Other research, such as behavioral agency theory (Wiseman & Gomez-Mejia, 1998) note CEOs' risk preferences are contextual and evolve. Future research may explore how such contextual factors interact with a CEO's personal political orientation across their tenure.

Further, our findings do not suggest that a CEO's political orientation indicates the structure of an optimal pay package. While we look at how CEOs are compensated with respect to their political orientation, future research can explore under which circumstances specific combinations of a CEO's risk preferences and various pay packages lead to the best outcomes. Doing so could also uncover why CEOs receive initial pay packages that align with their wishes as opposed to what would intuitively be better for shareholders. Stated differently, it may be the case that compensating CEOs in alignment with their risk tolerance can somehow be more beneficial to stakeholders as compared to a misalignment. This may lead to interesting research.

In addition, our study does not consider the political orientation fit between a CEO and the firm, as this does not lie within the boundaries of our study. While the fit between a CEO's political orientation and the overall firm's orientation may have important implications, we only focus on the relationship between the CEO's orientation and initial pay structures. Examining the role of fit between CEO and the firm can be an interesting area for future studies.

ACKNOWLEDGEMENTS

We are grateful to J. P. Eggers and two anonymous reviewers for their valuable insights throughout the review process. We would like to thank Steve Matsunaga, Adam Wowak, and seminar participants at the University of Illinois at Urbana/Champaign and the University of Oregon for their helpful comments and suggestions.

REFERENCES

- Balsam, S., Gu, Y., & Mao, C. X. (2018). Creditor influence and CEO compensation: Evidence from debt covenant violations. *The Accounting Review*, 93(5), 23–50.
- Berle, A., & Means, G. (1932). *The modern corporation and private property*. McMillian: New York, NY.
- Cadsby, C. B., Song, F., & Tapon, F. (2007). Sorting and incentive effects of pay for performance: An experimental investigation. *Academy of Management Journal*, 50(2), 387–405.
- Carpenter, J. (2000). Does option compensation increase managerial risk appetite? *Journal of Finance*, 55, 2311–2331.
- Carpenter, M. A., Geletkanycz, M. A., & Sanders, W. G. (2004). Upper echelons research revisited: Antecedents, elements, and consequences of top management team composition. *Journal of Management*, 30(6), 749–778.
- Chen, C., Collins, D., Kravet, T., & Mergenthaler, R. (2018). Financial statement comparability and the efficiency of acquisition decisions. *Contemporary Accounting Research*, 35(1), 164–202.
- Chen, G. L. (2015). Initial compensation of new CEOs hired in turnaround situations. *Strategic Management Journal*, 36(12), 1895–1917.
- Christensen, D. M. (2016). Corporate accountability reporting and high-profile misconduct. *The Accounting Review*, 91(2), 377–399.
- Christensen, D. M., Dhaliwal, D. S., Boivie, S., & Graffin, S. D. (2015). Top management conservatism and corporate risk strategies: Evidence from managers' personal political orientation and corporate tax avoidance. *Strategic Management Journal*, 36(12), 1918–1938.
- Coles, J., Daniel, N., & Naveen, L. (2006). Managerial incentives and risk-taking. *Journal of Financial Economics*, 79 (2), 431–468.
- 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(3), 613–630.
- Cyert, R. M., & March, J. G. (1963). *A behavioral theory of the firm*. Englewood Cliffs, NJ: Wiley-Blackwell.
- Devers, C. E., McNamara, G., Wiseman, R., & Arrfelt, M. (2008). Moving closer to the action: Examining compensation design effects on firm risk. *Organization Science*, 19(4), 548–566.
- Edwards, J. (2009). Seven deadly myths of testing moderation in organizational research. In R. Vandenberg & C. Lance (Eds.), *Statistical and methodological myths and urban legends: Doctrine, verity and fable in the organizational and social sciences*, New York, NY: Routledge. (pp. 143–164).
- Fama, E., & Jensen, M. (1983). Separation of ownership and control. *Journal of Law and Economics*, 26(2), 301–325.
- Finkelstein, S., & Boyd, B. K. (1998). How much does the CEO matter? The role of managerial discretion in the setting of CEO compensation. *Academy of Management Journal*, 41(2), 179–199.
- Finkelstein, S., Hambrick, D., & Cannella, A. (2009). *Strategic leadership: Theory and research on executives, top management teams, and boards*. Oxford, New York: Oxford University Press.
- Frank, K. A. (2000). Impact of a confounding variable on a regression coefficient. *Sociological Methods and Research*, 29(2), 147–194.
- Gomez-Mejia, L. R., & Balkin, D. B. (1989). Effectiveness of individual and aggregate compensation strategies. *Industrial Relations: A Journal of Economy and Society*, 28(3), 431–445.
- Graffin, S. D., Boivie, S., & Carpenter, M. A. (2013). Examining CEO succession and the role of heuristics in early-stage CEO evaluation. *Strategic Management Journal*, 34(4), 383–403.
- Graham, J. R., Harvey, C. R., & Puri, M. (2015). Capital allocation and delegation of decision-making authority within firms. *Journal of Financial Economics*, 115(3), 449–470.
- Green, D., Palmquist, B., & Schickler, E. (2002). *Partisan hearts and minds*. New Haven, CT: Yale University Press.
- Halebian, J., Devers, C., McNamara, G., Carpenter, M., & Davison, R. (2009). Taking stock of what we know about mergers and acquisitions: A review and research agenda. *Journal of Management*, 35(3), 469–502.
- Hambrick, D. (2007). Upper echelons theory: An update. *Academy of Management Review*, 32(2), 334–343.
- Hambrick, D., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2), 193–206.
- Hambrick, D., & Quigley, T. (2014). Toward more accurate contextualization of the CEO effect on firm performance. *Strategic Management Journal*, 35(4), 473–491.
- Hayes, R., Lemmon, M., & Qiu, M. (2012). Stock options and managerial incentives for risk taking: Evidence from FAS 123R. *Journal of Financial Economics*, 105, 174–190.

- Haynes, K. T., & Hillman, A. (2010). The effect of board capital and CEO power on strategic change. *Strategic Management Journal*, 31(11), 1145–1163.
- Hofer, C. W., & Schendel, D. (1978). *Strategy formulation: Analytical concepts*. Saint Paul, CT: West Publ.
- Hölmstrom, B. (1979). Moral hazard and observability. *Bell Journal of Economics*, 10(1), 74–91.
- Hubbard, T. D., Christensen, D. M., & Graffin, S. D. (2017). Higher highs and lower lows: The role of corporate social responsibility in CEO dismissal. *Strategic Management Journal*, 38(11), 2255–2265.
- Hutton, I., Jiang, D. L., & Kumar, A. (2014). Corporate policies of republican managers. *Journal of Financial and Quantitative Analysis*, 49(5–6), 1279–1310.
- Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin*, 129(3), 339–375.
- Jost, J. T., Nosek, B. A., & Gosling, S. D. (2008). Ideology: Its resurgence in social, personality, and political psychology. *Perspectives on Psychological Science*, 3(2), 126–136.
- Kennedy, P. (2008). *A guide to econometrics* (6th ed.). Malden, MA: Blackwell Publishing.
- Kesner, I. F., & Sebora, T. C. (1994). Executive succession: Past, present and future. *Journal of Management*, 20(2), 327–372.
- Khurana, R. (2002). *Searching for a corporate savior: The irrational quest for charismatic CEOs*. Princeton, NJ: Princeton University Press.
- March, J. G., & Shapira, Z. (1987). Managerial perspectives on risk and risk taking. *Management Science*, 33(11), 1404–1418.
- Mehrban, H. (1995). Executive compensation structure, ownership, and firm performance. *Journal of Financial Economics*, 38, 163–184.
- Moeller, S., Schlingemann, F., & Stulz, R. (2005). Wealth destruction on a massive scale? A study of acquiring-firm returns in the recent merger wave. *Journal of Finance*, 60(2), 757–782.
- O'Connor, J. P., Priem, R. L., Coombs, J. E., & Gilley, K. (2006). Do CEO stock options prevent or promote fraudulent financial reporting? *Academy of Management Journal*, 49(3), 483–500.
- Rajgopal, S., & Shevlin, T. (2002). Empirical evidence on the relation between stock option compensation and risk taking. *Journal of Accounting and Economics*, 33(2), 145–171.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. London, England: Sage.
- Saad, L. (2009). 'Conservatives' are single-largest ideological group. Gallup. June 15.
- Sanders, W. G. (2001). Incentive alignment, CEO pay level, and firm performance: A case of "heads I win, tails you lose"? *Human Resource Management*, 40(2), 159–170.
- Sanders, W. G., & Hambrick, D. (2007). Swinging for the fences: The effects of CEO stock options on company risk taking and performance. *Academy of Management Journal*, 50(5), 1055–1078.
- Shen, W., & Cannella, A. (2002). Power dynamics within top management and their impacts on CEO dismissal followed by inside succession. *Academy of Management Journal*, 45(6), 1195–1206.
- Shue, K., & Townsend, R. (2017). How do quasi-random option grants affect CEO risk-taking? *Journal of Finance*, 72(6), 2551–2588.
- Sitkin, S. B., & Weingart, L. R. (1995). Determinants of risky decision-making behavior: A test of the mediating role of risk perceptions and propensity. *Academy of Management Journal*, 38(6), 1573–1592.
- Snijders, T., & Bosker, R. (2012). Discrete dependent variables. In *Multilevel analysis: An introduction to basic and advanced multilevel modeling*, Thousand Oaks, CA: Sage. (pp. 304–307).
- Thaler, R. H. (2005). *Advances in Behavioral Finance* (Vol. II). Princeton, NJ: Princeton University Press.
- Tosun, O. (2016). The effect of CEO option compensation on the capital structure: A natural experiment. *Financial Management*, 45(4), 953–979.
- Wade, J. B., Porac, J. F., Pollock, T. G., & Graffin, S. D. (2006). The burden of celebrity: The impact of CEO certification contests on CEO pay and performance. *Academy of Management Journal*, 49(4), 643–660.
- Wang, G., Holmes, R. M., Oh, I. S., & Zhu, W. C. (2016). Do CEOs matter to firm strategic actions and firm performance? A meta-analytic investigation based on upper echelons theory. *Personnel Psychology*, 69(4), 775–862.

- Westphal, J., & Zajac, E. (1995). Who shall govern? CEO/board power, demographic similarity, and new director selection. *Administrative Science Quarterly*, 40(1), 60–83.
- Westphal, J., & Zajac, E. (1996). Who shall rule after a CEO succession? Predicting the likelihood and direction of changes in CEO characteristics. *Academy of Management Journal*, 39, 64–90.
- Wiseman, R. M., & Gomez-Mejia, L. R. (1998). A behavioral agency model of managerial risk taking. *Academy of Management Review*, 23(1), 133–153.
- Wowak, A., & Hambrick, D. (2010). A model of person-pay interaction: How executives vary their responses to compensation arrangements. *Strategic Management Journal*, 31(8), 803–821.
- Wowak, A., Mannor, M., Arrfelt, M., & McNamara, G. (2016). Earthquake or glacier? How CEO charisma manifests in firm strategy over time. *Strategic Management Journal*, 37, 586–603.
- Wright, P., Kroll, M., Krug, J. A., & Pettus, M. (2007). Influences of top management team incentives on firm risk taking. *Strategic Management Journal*, 28(1), 81–89.
- Yermack, D. (1995). Do corporations award CEO Stock options effectively? *Journal of Financial Economics*, 39, 237–269.
- Zhang, Y. (2006). The presence of a separate COO/president and its impact on strategic change and CEO dismissal. *Strategic Management Journal*, 27(3), 283–300.

How to cite this article: Graffin SD, Hubbard TD, Christensen DM, Lee EY. The influence of CEO risk tolerance on initial pay packages. *Strat Mgmt J*. 2020;41:788–811. <https://doi.org/10.1002/smj.3112>