Does One Size Fit All? Investigating Pay–Future Performance Relationships Over the "Seasons" of CEO Tenure
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What is This?
Does One Size Fit All? Investigating Pay–Future Performance Relationships Over the “Seasons” of CEO Tenure

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Boards of directors must navigate between adopting standardized “best practices” for their CEOs’ pay plans, on the one hand, and customizing their CEOs’ pay to align their particular CEO’s goals with those of shareholders, on the other. We build theory proposing that the incentive effects of different CEO compensation types vary consistently over CEO tenures and, therefore, that overstandardization of CEO pay plans actually can hurt shareholders. Our analysis of a sample of U.S. Standard & Poor’s 500 firms from 1998 to 2005 shows declining benefits to shareholders from performance-based compensation (i.e., options and bonuses) as CEO tenure increases but an opposite effect for non-performance-based (i.e., salary) pay. These findings can be considered a preliminary warning that normative “best practices” should not become the exclusive approach to determining CEO pay packages; instead, boards should consider more holistic approaches that incorporate the fit between CEO characteristics and organizational goals.

Keywords: CEO tenure; executive compensation; shareholder returns; upper echelons

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Shareholders, advisory services, and regulators have become increasingly influential in matters of executive pay (Anabtawi & Stout, 2008; Ertimur, Ferri, & Muslu, 2011; Ferri & Sandino, 2009; Kaplan, 2013; Perry & Zennor, 2001). The mutual fund company Vanguard, for example, told the Securities and Exchange Commission (SEC) it is pleased with its “ability to influence, in appropriate situations and in an appropriate manner, the structure of compensation programs” (2002: “Memorandum,” para. 3). Many institutional investors like Vanguard now offer proxy-voting guidelines that list the specific pay practices they favor or oppose (Agrawal, 2012; Ashraf, Jayaraman, & Ryan, 2012; Rothberg & Lilien, 2006). Shareholder advisory services like RiskMetrics (formerly ISS), Glass Lewis, and GMI also list “best practices” for companies wanting favorable vote recommendations on their executive pay packages (Brandes, Goranova, & Hall, 2008). The influence of shareholders and their advisors can go even further; a negative recommendation by ISS, for example, contributed to a shareholders’ vote against Citigroup’s pay plan and the departure of CEO Vikram Pandit (Silver-Greenberg & Schwartz, 2012). Citi’s chairman subsequently proclaimed, “When our shareholders spoke last year about Citi’s compensation structure, we listened” (Kapner, 2013). Moreover, regulators have introduced a number of reforms for executive pay, including new accounting treatments and disclosure requirements (SEC, 2005, 2006a, 2006b, 2011a), peer group comparisons (SEC, 2006a, 2006b), shareholders’ “say-on-pay” for equity-based plans (Borges & Silverman, 2003), tax-deductibility restrictions on non-performance-based executive pay (Freudenheim, 1993), and advisory votes on executive compensation with the Dodd-Frank Act (SEC, 2011b).

These influences from institutional shareholders, advisory services, and regulators may have contributed to trends toward standardization in CEO pay, as boards of directors follow the new regulations and the recommended best practices. Indeed, some standardization of CEO pay appears common. Core and Guay, for example, report that boards of Standard & Poor’s 500 firms authorize virtually the same incentive compensation for CEOs with fewer than 2 years on the job and CEOs with more than 10 years on the job (2010: 10). Intrigued by these findings, we examined Standard & Poor’s 500 firms from 1996 to 2005 and found no clear differences in stock option, salary, or bonus compensation levels across early, mid-, or late-tenured CEOs (see Table 1). Such lack of differentiation across CEO tenure is perhaps unsurprising, given the pressures just discussed and the treatment of corporate executives as a homogenous group by agency theory, the leading theoretical framework behind the drive to align managerial interests with the interests of corporate shareholders (Jensen & Meckling, 1976). Yet the relative standardization of CEO pay exposes interesting questions when considered in light of upper echelons theory (Hambrick & Mason, 1984). An extensive body of upper echelons research shows that differences in top executives’ values, beliefs, and experiences affect motivations and, thus, behaviors (Finkelstein & Hambrick, 1988; Finkelstein, Hambrick, & Cannella, 2009). These findings lead to the question: Could CEO pay standardization actually be ineffective—or, at least, less effective than CEO pay otherwise could be—for some of the different CEOs whom executive pay should incentivize?

Recently, a few researchers have begun cautioning against “one-size-fits-all” approaches, for monitoring by boards of directors (Dowell, Shackell, & Stuart, 2011) and for executive compensation, by incorporating the upper echelons research findings that differences among executives produce differing outcomes into work on executive pay (Carpenter, Geletkanycz, & Sanders, 2004; Wowak & Hambrick, 2010). In short, one cannot fully understand CEO pay–firm performance relationships without considering the different experiences
and motivations of the payees. Indeed, the absence of important CEO differences may be one reason why “research examining the ability of pay to influence performance has produced equivocal results and raised questions concerning the efficacy of executive compensation” (Devers, Cannella, Reilly, & Yoder, 2007: 1021). To date, most executive compensation literature has ignored CEO heterogeneity; therefore, we know little about its potential implications for effective compensation designs (Hambrick, 2007).

In this study, we examine the efficacy of different CEO pay types across CEOs at different tenure stages. By CEO pay efficacy, we mean the degree to which a particular pay type—stock options, bonus, or salary—affects future firm performance. This pay-performance causal order is particularly important for several reasons. First, agency theory initially proposed the “CEO pay affects firm performance” causal order, identifying CEO pay as a key lever for boards interested in shaping future shareholder returns (Jensen & Meckling, 1976). Most studies investigating the pay-performance link to date, however, have focused instead on the antecedents of CEO compensation (e.g., Hill & Phan, 1991; Murphy, 1985; Van Essen, Otten, & Carberry, in press; Zheng, 2010) or on the contemporaneous (i.e., cross-sectional) association between pay and performance (for reviews of executive pay, see Devers, McNamara, Wiseman, & Arrfelt, 2008; Finkelstein et al., 2009). Yet, whether the overall relationships found between CEO pay and shareholder wealth are weak (Hambrick & Finkelstein, 1995; Hermelin & Wallace, 2001; Jensen & Murphy, 1990; Lewellen & Huntsman, 1970; Tosi, Werner, Katz, & Gomez-Mejia, 2000) or strong (Gabaix & Landier, 2008; Nyberg, Fulmer, Gerhart, & Carpenter, 2010), cross-sectional studies cannot determine whether shareholder returns are the cause or the outcome of executive pay.

Second, the few studies that examine whether CEO pay affects subsequent firm performance do not yet provide conclusive evidence. For instance, Carpenter and Sanders (2002) report that CEO long-term pay is positively related to subsequent firm performance, while Carpenter and Sanders (2004) find nonsignificant effects for both CEO pay level and CEO pay structure on the subsequent performance of multinational companies. Focusing on total firm-specific CEO wealth and not just pay, Nyberg and colleagues (2010) report a strong

### Table 1

**Average CEO Stock Options, Bonus, and Salary Compensation for Standard & Poor’s 500 Firms: 1996–2005**

<table>
<thead>
<tr>
<th>Compensation Type/CEO Tenure</th>
<th>Compensation (millions)</th>
<th>SD</th>
<th>t Test of Difference (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stock Options</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Tenure</td>
<td>5.45</td>
<td>10.30</td>
<td>.60 early vs. late</td>
</tr>
<tr>
<td>Middle Tenure</td>
<td>6.34</td>
<td>16.00</td>
<td>.21 early vs. middle</td>
</tr>
<tr>
<td>Late Tenure</td>
<td>5.81</td>
<td>9.91</td>
<td>.94 middle vs. late</td>
</tr>
<tr>
<td><strong>Bonus</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Tenure</td>
<td>1.23</td>
<td>1.46</td>
<td>.58 early vs. late</td>
</tr>
<tr>
<td>Middle Tenure</td>
<td>1.49</td>
<td>1.99</td>
<td>.07 early vs. middle</td>
</tr>
<tr>
<td>Late Tenure</td>
<td>1.35</td>
<td>1.44</td>
<td>.20 middle vs. late</td>
</tr>
<tr>
<td><strong>Salary</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Tenure</td>
<td>0.86</td>
<td>0.30</td>
<td>.34 early vs. late</td>
</tr>
<tr>
<td>Middle Tenure</td>
<td>0.88</td>
<td>0.37</td>
<td>.21 early vs. middle</td>
</tr>
<tr>
<td>Late Tenure</td>
<td>0.88</td>
<td>0.44</td>
<td>.94 middle vs. late</td>
</tr>
</tbody>
</table>
impact of alignment between CEO and shareholder returns on subsequent firm performance. By contrast, Hanlon, Rajgopal, and Shevlin (2003) find a negative effect of stock options on future performance. Finally, Sanders and Hambrick (2007) report a positive effect of CEO stock option pay on the extremeness of subsequent firm performance, with stock options leading to big gains but also big losses. Given the importance of pay as an incentive alignment tool in agency theory and the prominence of agency theory in corporate governance research (e.g., Dalton, Hitt, Certo, & Dalton, 2007), it is surprising that the link between pay and future performance is not more widely researched. To help remedy this gap, we examine the importance of CEO pay as a strategic tool for producing improved future firm performance (Barkema & Gomez-Mejia, 1998; Fama & Jensen, 1983; Raviv, 1985) across CEOs’ tenures.

We selected CEO tenure as the “upper echelons” moderating variable we would examine for two main reasons. First, the prior research of Core and Guay (2010) and our own pilot comparisons in Table 1 show that CEO pay is fairly standard across pay types and across early, mid, and late CEO tenures. This presents a challenging but appropriate context for our examination of one potential upper echelon effect on pay efficacy. Second, CEO tenure is the most commonly examined trait in the upper echelons literature, and it has been found to be related to a spectrum of strategically important outcomes, such as firm performance (Henderson, Miller, & Hambrick, 2006; Luo, Kanuri, & Andrews, in press), commitment to the status quo (Hambrick, Geletkanycz, & Fredrickson, 1993), invention (Wu, Levitas, & Priem, 2005), risk taking (Sanders, 2001; Shen & Cannella, 2002; Simsek, 2007), strategic change (Boeker, 1997), and investment strategies (Barker & Mueller, 2002; Bryan, Hwang, & Lilien, 2000). Although some prior research has examined tenure as an antecedent to executive compensation (Hill & Phan, 1991; Murphy, 1985; Zheng, 2010), CEO tenure has not been examined as a moderator of the CEO pay–future firm performance relationship (i.e., whether pay type effectiveness varies across the “seasons” of CEO tenure; Hambrick & Fukutomi, 1991). In sum, rather than treating CEOs in different stages of their careers as a homogenous group, we build theoretical arguments that the effects of CEO compensation types on subsequent shareholder returns will differ depending on CEO tenure. What CEOs find motivating in their “honeymoon” periods may be very different from what motivates them in their “stale in the saddle” periods (D. Miller, 1991).

Our study makes two contributions to prior research. First, if CEOs’ differences have critical effects on firms’ strategies and performance (e.g., Blettner, Chaddad, & Bettis, 2012), then boards focusing on best practices, comparability to other firms, and shareholder approval when deciding on CEO pay may end up reducing their particular CEO’s responsiveness to his or her compensation plan. The upper echelons perspective suggests that an appropriate compensation plan for one CEO may miss the mark for another CEO due to individual differences (Wowak & Hambrick, 2010). Yet prior research has ignored these findings suggesting that the effect of executive pay on firm performance may vary across CEO characteristics such as tenure. We take a step toward remedying this gap by investigating whether or not a “one-size-fits-all” approach to executive compensation is warranted across the “seasons of a CEO’s tenure” framework developed by Hambrick and Fukutomi (1991).

Second, by investigating whether particular mixes of CEO compensation lead to subsequent, rather than contemporaneous, gains in shareholder wealth, we can make stronger inferences about causality in the pay-performance relationship. Whether or not executive pay
affects future performance is the critical issue for the debate on how to “fix” executive compensation. While some scholars argue for greater managerial accountability to shareholders as a solution to the “pay-without-performance” paradox (Bebchuk, 2005, 2007; Campbell, Campbell, Sirmon, Bierman, & Tuggle, 2012; Dimitrov & Jain, 2011), others warn that shareholders are insufficiently informed to make appropriate decisions (Bainbridge, 2006; Macey, 2010). Such information asymmetries are particularly relevant for the strategic component of executive pay that seeks to incentivize CEOs to pursue improvements in future firm performance. Shareholders can easily judge the fairness and legitimacy of compensation contracts on the basis of the firm’s past and current performance (the “compensatory” approach taken by most pay research; i.e., “Does past performance justify a current raise?”). Information asymmetries render it much harder, however, for external constituencies to assess the strategic value of executive pay for future performance and, in particular, whether a pay package is likely to induce incentive alignment and appropriate strategies by the particular CEO for a particular firm. By explicitly examining the relationships between different compensation types and future shareholder returns over CEOs’ tenures, we endeavor to undertake a more robust test of agency theory’s prescriptions that executive pay should incentivize focal CEOs.

Our research also has practical implications. Although it may be cathartic to see CEOs be fired or have their compensation reduced following poor company performance (Economist, 2009), the most pertinent question for boards is how a specific compensation mix might be designed in order to induce a particular CEO to maximize effort toward future shareholder returns. Well-functioning boards have rich, tacit information and, therefore, better insights than do outside constituencies regarding the aspirations, values, expertise, wealth, and life cycle “seasons” of their CEOs. Granting relatively uniform pay packages across CEOs’ tenures may be problematic if the motivational effects of different pay elements vary across the CEOs’ tenures.

Our results show that the relationships between CEO pay types and the future performance of the CEO’s firm vary across the seasons of CEO tenure. This finding indicates that boards would be well advised to incorporate CEO tenure when evaluating the merits of different compensation components for their particular CEO. Martin, Gomez-Mejia, and Wiseman recently suggested that “directors might consider speeding up the succession plan” (2012: 26) for CEOs later in their tenure who are difficult to incentivize. Our findings indicate that, although the incentive value of stock options indeed declines over a CEO’s tenure, pay-based alternatives less drastic than replacing the CEO may be available to boards of directors.

The remainder of this article is organized as follows. First, in the next section we develop separate hypotheses for each of the main compensation components: stock options, bonus, and salary. Next, we discuss our methods, results, and the study’s limitations. Finally, we conclude with discussion of the study’s implications and directions for future research.

Hypotheses

Long-term, performance-based compensation, like stock options and other equity-based pay, “should motivate an agent to direct his or her attention, preferences, and efforts toward those actions that benefit shareholders,” resulting in a “strong and pervasive alignment of...
CEO returns and shareholder returns” (Nyberg et al., 2010: 1030, 1045; see also Alchian & Demsetz, 1972; Barkema & Gomez-Mejia, 1998; Eisenhardt, 1989; Fama & Jensen, 1983; Jensen & Meckling, 1976; Rajgopal & Shevlin, 2002; Raviv, 1985). Some, however, question the extent to which incentive pay is actually an effective motivator for top executives (e.g., Devers, Cannella, et al., 2007; Finkelstein et al., 2009; Finkelstein & Hambrick, 1988), noting that stock-based compensation can skew executives’ temporal orientation toward the short term (Souder & Bromiley, 2012; Souder & Shaver, 2010) and could reward a CEO for broad stock price movements, luck, or other factors that are not necessarily related to the CEO’s efforts (Bertrand & Mullainathan, 2001; Denrell, 2005). Thus, the fundamental question of whether or not stock options actually play an important role in motivating CEOs toward achieving high future firm performance remains unresolved.

Prior research findings that stock options positively affect risk taking (Hoskisson, Hitt, & Hill, 1993; Larcker, 1983; Rappaport, 1978; Sanders, 2001; Wright, Kroll, Krug, & Pettus, 2007) offer indirect support for a motivating effect, indicating that stock options provide risk-averse managers with incentives to take higher risks (Devers et al., 2008). Sanders and Hambrick’s (2007) results, however, indicate that such risks do not necessarily benefit firm shareholders. They found instead that the higher levels of risk taking are related to extreme performance outcomes that leave firms with more “big losses” than “big gains.” Bear Stearns and Lehman Brothers are two examples. Their top executives profited handsomely from equity-based grants while appearing to create shareholder value. The subsequent collapses of these firms, however, wiped out that shareholder value and cast doubts on whether stock options actually aligned executives’ and shareholders’ interests in the first place (Bebchuk, Cohen, & Spamin, 2010). In sum, it remains unclear whether the benefits of incentive pay exceed its costs given risk-related premiums (Hall & Murphy, 2002; Meulbroek, 2001) and also whether it indeed motivates CEOs to take actions to achieve superior future performance (Devers, Cannella, et al., 2007; Devers et al.).

The “seasons of CEO tenure” framework that originated in Hambrick and Fukutomi’s (1991) seminal article may help shed light on the equivocal results of CEO pay–future firm performance research to date. They argue that long-tenured CEOs often move through five “seasons” during their tenures—response to mandate, experimentation, selection of an enduring theme, convergence, and dysfunction. The relative effectiveness of CEO compensation types over these CEO seasons has yet to be examined. This is troubling, for two reasons. First, the upper echelons literature indicates that CEOs have differential effects on CEOs’ decision making and organizational outcomes and, thus, on firm performance throughout their tenures (e.g., Barker & Mueller, 2002; Henderson et al., 2006; Luo et al., in press; Shen & Cannella, 2002; Simsek, 2007; Wu et al., 2005). This suggests that, as CEOs progress over the seasons of their tenures, changes in wealth, experience, firm-specific human capital, and risk exposure are likely to affect a CEO’s reactions to performance-based pay and, therefore, the pay-performance relationship. For example, Martin, Gomez-Mejia, and Wiseman (2013) find that the effect of stock options on strategic risk taking is reduced by a CEO’s accumulated firm-specific wealth.

Second, boards relying on peer groups and best practices when setting executive compensation should be aware of the potential differences in perceptions of costs and benefits of pay components over a CEO’s tenure. Meulbroek (2001), for instance, finds that managers value stock- or option-based compensation at less than actual market value (i.e., less than the cost
to shareholders). PepsiCo’s board, for example, was surprised to learn that even though stock options were by far the most costly component of Pepsi’s executive compensation plan, its executives reported salary and bonus had the greatest motivational effect (Scherb & Chingos, 2004). We know little about how such valuations differ over CEO tenure, however. Because time is a crucial component for motivated behavior (Steel & Konig, 2006), CEOs in different seasons of their tenures likely apply differing temporal discount rates to future versus immediate rewards (Ainslie, 1992). This in turn could affect a CEO’s preferred strategy when choosing between actions that are beneficial in the long run versus the short run. To the extent that different pay plans affect CEOs differently across their tenures, mimetic pressures to increase CEO accountability to shareholders may come with the unexpected side effect of producing motivational misalignments, as we discuss next. Early in their tenures, CEOs focus on accumulating critical knowledge of their firms (Gabarro, 1987) and on responding to the mandate for which they were hired (Hambrick & Fukutomi, 1991). Although the notion of a CEO “honeymoon” may suggest a more relaxed period in the CEO’s career, new CEOs actually are busy developing firm-specific expertise, learning the job and the organization, building a powerbase, establishing effective routines, and figuring out how to substantively improve firm performance (Hambrick & Fukutomi). At this early stage, long-term performance-based pay is synchronous with the new CEO’s mandate to prove his or her effectiveness. Furthermore, vesting restrictions (Cadman, Rusticus, & Sunder, 2013; Yanadori & Marler, 2006) are often aligned with the new CEO’s goals to learn the job and make an impact on the firm performance. For example, high pressures to prove themselves lead new CEOs to enact more strategic changes than do longer-tenured CEOs (Finkelstein & Hambrick, 1990; D. Miller, 1991; Ndofor, Priem, Rathburn, & Dhir, 2009). Wu and colleagues (2005) also find that early tenure CEOs are more likely to invest in invention and that such investments have a beneficial effect on long-term performance, especially in high-tech industries. Antia, Pantzalis, and Park (2010) go further, arguing that CEOs are more likely to focus on long-term investments and the long-term development of the firm at earlier tenure stages. This suggests that long-term, performance-based compensation, such as stock options and equity grants, are highly motivating for early tenure CEOs as they strive to implement their mandate for strategic change.

Long-tenured, “seasoned” CEOs, on the other hand, likely respond differently to long-term, performance-based pay for several reasons. First, CEOs’ firm-specific investments in their job, professional reputation, compensation, and wealth, (e.g., Hoskisson & Hitt, 1994; Ocasio, 1994; Winograd & Aisenbrey, 2001) are likely to increase as their tenures progress. Therefore, a CEO’s risk exposure increases with tenure, and a higher risk premium is likely to be necessary to effectively align the CEO’s interests with those of shareholders. For instance, longer-tenured CEOs are often viewed as change resistant, strongly preferring the status quo (D. Miller, 1991, 1993; Salancik & Pfeffer, 1978) and unlikely to make risky, long-term investments (Bryan et al., 2000; Naveen, 2006). Barker and Mueller (2002) argue that CEOs with long tenures have only a weak desire to pursue strategies of innovation and, instead, prefer to emphasize stability and efficiency. Martin and colleagues go even further to suggest that long-tenured CEOs “may be so inclined to play it safe” (2012: 26) that boards should replace them with CEOs who have less to lose.

Second, although more experienced CEOs possess deeper knowledge of their organizations and operating environments (Coffee, 1988; Kor, 2003; Simsek, 2007) and, therefore,
could be better able to improve performance, they have also developed set habits, established routines, and information sources, and they tend to rely more on experience (Finkelstein & Hambrick, 1996). This narrower frame of reference in generating and evaluating alternative strategies (S. Miller, Hickson, & Wilson, 2008) may be especially problematic if equity-based compensation encourages CEOs to pursue more of the strategies that have worked for them in the past. D. Miller (1991, 1993) evocatively describes such executives as “stale in the saddle.” And, finally, if equity pay encourages short-term, “gaming the system” behaviors rather than substantive strategic change, incentive pay may be counterproductive. For instance, Sonnenfeld (1988) reports that longer-tenured CEOs focus on managing discretionary accruals instead of making long-term investments, so they can report “improved” firm performance during their final years in office.

To summarize, as CEO tenure progresses, long-term, performance-based pay requires higher risk premiums to be effective in overcoming CEOs’ increasing firm-specific investments. While such incentive pay may effectively align a CEO’s aspirations to the firm’s goals in response to mandate stage, it will become increasingly expensive and ineffective as a CEO’s tenure progresses. Long-term, performance-based compensation could have inadvertent effects by encouraging long-tenured CEOs to undertake the types of risks that have worked in the past but are unlikely to work in the present. As the costs and benefits of stock options shift over CEO tenure, the rising costs and conflicts associated with incentive pay could limit its beneficial effects and even render this type of pay counterproductive in later tenure stages. CEO pay in the form of stock options, therefore, will be positively related to shareholder returns for early tenure CEOs but negatively related to shareholder returns for firms managed by long-tenured CEOs.

Hypothesis 1: CEO tenure will moderate the effect of CEO pay on performance, such that long-term, performance-based pay will affect shareholder returns positively in the earlier stages of CEO tenure, but negatively in the later stages of CEO tenure.

Bonuses also represent an important part of CEO compensation, typically greatly exceeding salaries. Although bonuses are short term and cash based, they are not guaranteed from year to year. Bonuses allow boards of directors to incorporate their evaluations of CEO’s strategic planning, business initiatives, and corporate investments into the CEO pay plan, thereby moving beyond a sole focus on stock returns (Schiehll & Bellavance, 2009; Shaw & Zhang, 2010). Bonuses also provide boards with “settling up” opportunities (Shaw & Zhang; Wowak, Hambrick, & Henderson, 2011) for adjusting CEO compensation on the basis of the board’s overall assessment of the CEO’s past achievements. For newly appointed CEOs who face political and social pressures to prove their efficacy sooner rather than later (Vancil, 1987), bonuses provide objective, near-term feedback on how boards view their efforts.

Beyond feedback and “settling up,” bonuses likely motivate newer CEOs to increase future firm performance so they might receive increased future bonuses. The pressures on new CEOs to prove themselves quickly are subject to a time lag, as a result of the time it takes for strategic changes to become reflected in a firm’s operational performance (Hambrick & Fukutomi, 1991). We expect the motivational effects of bonuses on future performance to increase early in a CEO’s tenure, as the CEO becomes more able to achieve the bonus performance targets, but that these effects likely will dissipate and even reverse as the CEO’s tenure progresses, for several reasons.
First, as CEOs’ tenures progress they are more likely to use past bonuses as reference points to which future rewards are compared. Therefore, even though cash bonuses are not guaranteed from year to year, CEOs are likely to build entitlement expectations over the course of their tenures for future bonuses that are strongly anticipated (Pepper & Gore, in press). These entitlement feelings may be exacerbated if the CEOs believe that their salaries are constrained—and bonuses are inflated—because of tax considerations. Specifically, the Omnibus Budget Reconciliation Act of 1993 limits the tax deductibility of non-performance-based executive compensation (i.e., salary) in excess of $1 million, potentially inducing companies to restrict CEO salaries (Bhagat & Romano, 2009; Tolia, 1997).

Second, information asymmetries between the board and the CEO likely increase as CEOs build firm-specific expertise throughout their tenures. For instance, more seasoned CEOs are likely to have built political acumen and firm-specific social capital (Ocasio, 1994) and are thus better positioned to influence both the performance metrics on which the bonuses are based and the achievement of those goals. Research indicates that bonus contracts typically are written in such a manner that target bonuses are usually achieved (Holthausen, Larcker, & Sloan, 1995; Shaw & Zhang, 2010). Furthermore, while more seasoned executives could find it easier to reach targets by virtue of their firm-specific expertise and leadership, bonuses may provide incentives for managers to manipulate reported earnings in order to increase the likelihood that bonuses will be earned (Healy, 1985; Holthausen et al.; Matsunaga & Park, 2001). Finally, scholars have criticized strong incentives for reaching annual goals as promoting short termism and myopic behavior (e.g., Ittner, Larcker, & Rajan, 1997; Kohn, 1993). Such short-term effects of bonus pay may be exacerbated for longer-tenured CEOs if they place higher emphasis on short-term stability and efficiency (Bryan et al., 2000; Naveen, 2006).

In sum, bonuses likely serve to motivate CEOs early on but can become entitlement reference points for longer-tenured CEOs. Furthermore, seasoned CEOs are likely to have more influence over specifying the goals for their compensation contracts and their bonus rewards, thereby driving up the costs of this compensation over the CEO’s tenure while simultaneously reducing its motivating effect. Consequently, we expect short-term CEO bonus pay to have a positive effect on future shareholder returns early in CEOs’ tenures but that this effect will decline over time and reverse for long-tenured CEOs.

**Hypothesis 2:** CEO tenure will moderate the effect of CEO pay on performance, such that short-term, performance-based pay will affect shareholder returns positively in the early stages of CEO tenure, but negatively in the later stages of CEO tenure.

Salary is viewed as the most assured form of CEO remuneration (Devers et al., 2008; Gomez-Mejia & Wiseman, 1997). Because a CEO’s salary does not fluctuate on the basis of reaching performance goals, some researchers have argued that salaries could encourage CEOs to “act like bureaucrats” (Jensen & Murphy, 1990: 138) and to ignore the pursuit of value-creating strategies (e.g., Bebchuk & Fried, 2004; Jensen & Murphy). Salary, however, could also serve as a buffer to misspecifications and shortcomings of performance-based compensation. Scholars have argued, for example, that specifying goals for complex organizations is difficult (Simon, 1964) and that underspecified goals are an important but seldom-considered problem in agency relationships (Hendry, 2002; Kohn, 1993). Underspecified goals
in turn can lead to paying or penalizing executives for factors outside of their control (Bertrand & Mullainathan, 2001; Denrell, 2005).

Others have argued that paying CEOs like bureaucrats could have some merit. Incentive pay may “crowd out” intrinsic motivation and constrain organizational identification as CEOs focus on their possible extrinsic, monetary rewards (Frey & Osterloh, 2005; Pepper & Gore, in press). This would be problematic, in part, because prior research reports that a CEO’s organizational identification reduces agency costs (Boivie, Lange, McDonald, & Westphal, 2011). Moreover, incentives-laden contracts may motivate CEOs to work on narrower but personally beneficial goals instead of broader goals that could provide more benefit for the firm. And incentives like stock options can encourage excessive risk taking and gaming behavior (Sanders & Hambrick, 2007). So what motivational role might salary be able to fill?

Insights from the upper echelons literature help in addressing this question. New CEOs likely are particularly attuned to the personal benefits they could receive from performance-based pay, in part because they are willing to take risks at early tenure stages to prove themselves, build their reputations, establish legitimacy, and accumulate firm-specific wealth (Child, 1974; Wu et al., 2005). Indeed, too great an emphasis on salary could reduce the motivation of early tenure CEOs. Furthermore, because corporate boards monitor new CEOs more closely (Ocasio, 1994; Zhang, 2008), new CEOs may find it harder to “reach” performance goals through gaming or impression management behaviors. Thus, compensating CEOs more like bureaucrats may be counterproductive in the earlier seasons of their careers because the salary component clashes with new CEOs’ aspirations and is less useful in remedying the limitations of performance-based pay.

Longer-tenured CEOs, on the other hand, are more likely to have accumulated firm-specific investments, including knowledge, expertise, human capital, social connections, reputation, and firm-specific wealth (Amihud & Lev, 1981; Wu et al., 2005). Consequently, long-tenured CEOs are likely to prefer more certain compensation that reduces the volatility of their personal incomes and offsets risks from their overinvestment in the firm (Bebchuk & Fried, 2004; Brandes et al., 2008; Eisenmann, 2002). Moreover, as CEOs’ tenures advance, their accumulated experiences and firm-specific investments could be a double-edged sword. On one hand, although salary is a smaller component of CEO pay, it could still help in retaining talented CEOs (Finkelstein & Hambrick, 1988) who have loyalty to and a sense of identification with their firms and, therefore, focus more on intrinsic rather than extrinsic rewards (Frey & Osterloh, 2005). Further, a CEO’s increasing firm-specific expertise likely increases information asymmetries between the CEO and the board, which in turn could prevent the board from specifying incentives contracts that envision a comprehensive set of contingencies or could make the enforcement of such contracts prohibitively expensive.

In summary, the effect of salary will also vary over CEO tenure. Salary may have little motivating effect for newer CEOs. But as tenure progresses, CEOs’ career risk and firm-specific risk increase. Noncontingent compensation then could effectively counterbalance potential problems related to contingent pay, such as goal misspecification, overly narrow goals, gaming behavior to achieve the awards, and the crowding out of intrinsic motivation.

**Hypothesis 3**: CEO tenure will moderate the effect of CEO pay on performance, such that non-performance-based pay will affect shareholder returns negatively in the early stages of CEO tenure, but positively in the later stages of CEO tenure.
Method

Study Sample

We drew our sample from Standard & Poor’s 500 companies for the period 1998 to 2005. We collected CEO data from Execucomp and financial data from Compustat. Not all firms grant stock options on an annual basis. Therefore, consistent with prior researchers (e.g., Sanders & Hambrick, 2007), we consider the cumulative impact of compensation awards by averaging CEO pay components over a 3-year period, using data from Execucomp for 1996 to 2005. Our initial sample includes 3,271 firm-year observations for 445 firms. Missing and discontinuous data reduced our sample to 1,558 firm-year observations for 299 unique firms. Statistical tests comparing size and performance of the firms in our final sample and firms with insufficient data did not reveal significant differences, indicating that survival bias is not a potential problem.

Measures

Dependent variable. To measure the influence of executive compensation on shareholder wealth, we used total return to shareholders (TRS) as reported by Execucomp. TRS has been used previously in executive compensation and firm performance research (e.g., Nyberg et al., 2010; Wowak et al., 2011). To ensure that our independent variables predate the dependent variable, we use a lagged design, where shareholder returns were measured 1 year following all other variables (i.e., at $t + 1$).

Independent variables. Long-term, performance-based pay was measured as the aggregate Black-Scholes value of stock options granted to the CEO during the year, as reported by Execucomp. Black-Scholes values are commonly used in compensation research (e.g., Boivie et al., 2011; Efendi, Srivastava, & Swanson, 2007). We then calculated the average value of stock options for the 3 years prior to the performance year. As this variable was skewed and kurtotic, we took a natural logarithm transformation.

Short-term, performance-based pay was measured as the average dollar value of the CEO’s annual bonus for the previous 3 years. A natural logarithm transformation of CEO bonus was also used to correct for skewness and kurtosis.

Non-performance-based pay was measured as the average dollar value of the base annual salary earned by the CEO for the previous 3 years, as obtained from Execucomp.

CEO tenure was calculated as the number of years that had passed since the executive was appointed as CEO. The year of appointment was obtained from Execucomp. Prior research has posited a curvilinear relationship between CEO tenure and firm performance (e.g., Hambrick & Fukutomi, 1991; Henderson et al., 2006); therefore, we include tenure squared in our models.

In addition to using continuous measures of CEO tenure, we attempted to capture the seasons of CEO tenure. According to Hambrick and Fukutomi’s (1991) framework, in the first years of their tenures, CEOs are likely in the “response to mandate” and “experimentation” stages of their careers. During those times, CEOs are likely to be trying new approaches to run the enterprise and actively seeking to meet the expectations of the board of directors and shareholders. When CEO tenure is more advanced, however, CEOs are likely in the stage
of “convergence,” where their task interest is decreasing, and they are moving closer to the “dysfunction” stage (Hambrick & Fukutomi). Consequently, we coded early tenure as equal to 1 for CEOs operating in their first 3 years in office (the bottom third of the tenure distribution). Late tenure is set to 1 for CEOs that have been in office for 9 years or longer (top third of tenure distribution). As there are limited theoretical guidelines regarding the appropriate cutoffs for early and late stages of CEO tenure, for robustness purposes, we also used different cutoff times for early (bottom quartile, bottom quintile) and late (top quartile, top quintile) seasons.

Control variables. We included several variables to control for firm, individual CEO, and stock market effects. Previous studies have linked firm size to CEO compensation (Gomez-Mejia, 1994; Lambert, Larcker, & Weigelt, 1991). Firm size was measured as the logarithm of the number of employees. Recent research suggests that stock price volatility influences executives’ valuations of stock options awards (Devers, Wiseman, & Holmes, 2007). Volatility was measured as Black-Scholes volatility based on the variation of a firm’s stock price over the last 60 months.

Although our main focus is on how CEO compensation affects future performance, a substantial body of research has examined how firms’ current or past performance affects CEO compensation (e.g., Finkelstein et al., 2009; Hambrick & Finkelstein, 1995). Therefore, we controlled for past performance by including past TRS. In addition, CEO under- or over-compensation could affect subsequent firm profitability (Fong, Misangy, & Tosi, 2010). Therefore, we controlled for the deviation of CEO compensation from industry norms. Following Sanders and Hambrick (2007), we estimated regression models for each separate CEO compensation type (stock options, bonus, and salary, respectively) on firm size, performance (TRS), managerial ownership, stock price volatility, and capital intensity by industry and year. The industry was defined by the four-digit standard industrial classification (SIC) code. The absolute values of the residuals indicate to what degree the focal firm deviates from the compensation norms in its focal industry; consequently, we added these variables (i.e., CEO stock options, bonus, and salary deviations) to control for the effect of CEO pay deviation on shareholder returns.

We also controlled for potential endowment effects (Devers, Wiseman, & Holmes, 2007) by following the work of Nyberg and his colleagues (2010) and adding CEO firm-specific wealth to our models. CEOs with higher levels of firm-specific wealth may care more about the TRS than would CEOs with less wealth in the focal firm, which may influence future returns to shareholders (Nyberg et al.). Alternatively, such CEOs may have stronger preferences to play it safe (Martin et al., 2013). CEO firm-specific wealth was measured by the aggregated value of the executive’s in-the-money options, restricted stock holdings, and the earnings from the exercises and sales of their equity portfolios (Nyberg et al.). As CEO firm-specific wealth is highly skewed, this variable was logarithmically transformed. For robustness purposes, we also used CEO ownership instead of firm-specific wealth in our models. Executive ownership has been shown to affect risk taking, firm strategy, CEO compensation, and firm performance (Berger, Ofek, & Yermack, 1997; Finkelstein & Hambrick, 1989; Morck, Shleifer, & Vishny, 1988). The dollar value of CEO ownership was measured as the shares owned by the CEO (excluding exercisable options and those that will become exercisable within 60 days) multiplied by the stock price at the close of the calendar year. Using CEO ownership instead of CEO firm-specific wealth yielded substantially similar results.
Following upper echelons theory (Hambrick & Mason, 1984) and previous research, we added several CEO-level variables to control for the effects of CEO differences on organizational outcomes. Insider CEOs may have more organizational-specific knowledge than outsiders (Zhang & Rajagopalan, 2003, 2004) and, thus, may affect firm performance differently (Zhang & Rajagopalan, 2010). Therefore, we controlled for insider CEOs. This measure was set to 1 when a CEO had been with the company for at least 2 years before he or she was promoted to CEO and to 0 otherwise (Ocasio, 1999; Zhang & Rajagopalan, 2003). CEOs may become more rigid (Child, 1974; Wiersema & Bantel, 1992) and, thus, less responsive to incentive compensation as their age progresses. Therefore, we controlled for CEO age. CEO gender could also have effects on shareholder reactions (Lee & James, 2007). CEO gender was coded as 1 for male and 0 for female. CEO duality could affect both organizational performance and managerial entrenchment (Boyd, 1995). As directors may have fewer opportunities to challenge the CEOs in duality-governed firms (Zahra, Neubaum, & Huse, 2000), we included an indicator variable equal to 1 if the CEO also serves as chairman of the board and to 0 otherwise. CEO duality was determined from the annual title of the chief executive, obtained from Execucomp. Finally, because our sample spans both economic expansion and recession periods, we included year dummies.

**Analyses**

The Hausman test ($\chi^2 = 80.95, df = 19, p < .001$) indicated that fixed-effects models are more appropriate than random-effects models for our sample (e.g., Greene, 2003; Hausman, 1978). Fixed-effects models are widely used in management research (Cannella, Park, & Lee, 2008; Crossland & Hambrick, 2011; Nyberg et al., 2010) because they control for firm-specific and time-specific heterogeneity and produce unbiased regression coefficients (Greene). We use STATA function xtreg with the *fe robust* option, which estimates fixed-effects models with robust estimates (Hoechle, 2007). For robustness purposes, we also used a generalized method of moments model (e.g., Roodman, 2006; Sanders & Hambrick, 2007). The results from the generalized method of moments analyses are consistent with the results reported here.

**Results**

Descriptive statistics, including means, standard deviations, and correlations, are provided in Table 2. The average firm in our sample has 48.9 thousand employees ($SD = 98.7$). The average total shareholder return was 14.7% ($SD = 38.5$), comparable to that reported by Nyberg et al. (2010). CEOs were awarded, on average, $5.74 million in stock options compensation ($SD = 12.07$), $1.38 million of bonus ($SD = 1.69$), and earned an average annual salary of $870 thousand ($SD = 370$). Salary is negatively correlated with subsequent TRS ($r = -.06, p < .01$) and positively correlated with firm size ($r = .30, p < .001$). The average CEO tenure is 6.4 years ($SD = 6.7$), 76% of the CEOs also served as chairmen of the board, and average CEO age was 56 years ($SD = 6.8$).

Fixed-effects regression results are presented in Table 3. Model 1 shows the control variables and Model 2 adds the main effects. The interaction terms for each CEO compensation type and CEO tenure are included in Model 3. We applied a lagged design in all models so that explanatory and control variables temporally precede TRS. Before forming the
### Table 2
**Descriptive Statistics and Correlations Matrix**

| Variables                              | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | 11      | 12      | 13      | 14      | 15      | 16      | M       | SD       |
|----------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. Shareholder Returns                 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | 14.65   | 38.49   |
| 2. Firm Sizea                          | -.08*** |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | 48.96   | 98.65   |
| 3. Volatility (%)                     | .11***  | -.14**  |         |         |         |         |         |         |         |         |         |         |         |         |         |         | 38.87   | 16.12   |
| 4. Prior Performance                  | -.11**  | -.04    | .09***  |         |         |         |         |         |         |         |         |         |         |         |         |         | 16.07   | 43.12   |
| 5. CEO Firm-Specific Wealtbh          | -.14*** | .12***  | .00     | .32***  |         |         |         |         |         |         |         |         |         |         |         |         | 44.94   | 192.69  |
| 6. Insider CEO                         | -.04†   | .06*    | -.10*** | -.04†   | .01     |         |         |         |         |         |         |         |         |         |         |         | 0.85    | 0.36    |
| 7. CEO Age                             | .01     | .03     | -.16*** | -.05*   | .08**   | .02     |         |         |         |         |         |         |         |         |         |         | 56.14   | 6.76    |
| 8. CEO Gender                          | -.02    | .00     | -.11*** | -.06*   | -.01    | .08***  | .11***  |         |         |         |         |         |         |         |         |         | 0.99    | 0.09    |
| 9. CEO Duality                         | -.04†   | -.01    | -.21*** | -.06**  | .05†    | .01     | .27***  | .01     |         |         |         |         |         |         |         |         | 0.76    | 0.42    |
| 10. CEO Tenure                         | .03     | -.04    | .02     | .02     | .15***  | -.14*** | .46***  | -.09*** | .29***  |         |         |         |         |         |         |         | 6.36    | 6.69    |
| 11. CEO Stock Optionsbh                | -.02    | .07***  | .04*    | .01     | .17***  | .01     | -.09*** | -.05†   | .02     | -.14*** |         |         |         |         |         |         | 5.74    | 12.07   |
| 12. CEO Bonus Paybh                    | .04     | .07**   | -.09*** | .01     | .04     | .02     | -.03    | -.01    | .06*    | -.01    | .01     |         |         |         |         |         | 1.38    | 1.69    |
| 13. CEO Salarybh                       | -.06**  | .30***  | -.26*** | -.06**  | .16***  | .04†    | .17***  | .02     | .18     | .01     | .07***  | .20***  |         |         |         |         | 0.87    | 0.37    |
| 14. CEO Stock Options Deviationbh      | -.00    | -.04†   | .07**   | -.01    | -.03    | -.02    | -.01    | -.05*   | -.05†   | .01     | -.59*** | .04     | .01     |         |         |         | 3.37    | 15.06   |
| 15. CEO Bonus Pay Deviationbh          | -.10*** | -.03    | .07**   | .04     | .05*    | .01     | -.02    | .01     | -.04    | -.03    | .08**   | -.64*** | -.07**  | .02     |         |         | 0.62    | 1.33    |
| 16. CEO Salary Deviationbh             | -.01    | .01     | .08**   | -.02    | .06**   | .05*    | .06*    | -.02    | -.03    | .04     | .03     | -.15*** | .15***  | .16***  | .37***  | 0.14    | 0.19    |

**Note:** $N = 1,558.$

- $^a$Employees (thousands).
- $^b$Dollars (millions).
- $^† p < .10.$
- $^* p < .05.$
- $^{**} p < .01.$
- $^{***} p < .001.$
interactions, we mean centered the respective variables (Aiken & West, 1991). The highest variance inflation factor value for our models was 2.94, well below critical levels (Neter, Wasserman, & Kutner, 1985). This indicates that multicollinearity is not a concern. Consistent with the conclusions of Devers and her colleagues’ (2008) review article, our results did not show main effects of compensation types on subsequent shareholder returns. Model fit improves, however, when the interactions between pay and tenure are added. Comparisons of the standardized coefficients of the hypothesized variables indicate that the interaction of stock options and CEO tenure has the highest effect on firm performance and that the effect of the bonus-tenure interaction is slightly less than that of the salary-tenure interaction.

Hypothesis 1 predicts that long-term, performance-based pay will affect positively shareholder returns during the early stages of CEO tenure but will have a negative effect in the later tenure stages. As hypothesized, results indicate that CEO tenure negatively moderates

### Table 3
Fixed-Effects Regression Analysis of CEO Compensation Types on Shareholder Returns Over CEO Tenure

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>40.33 (36.02)</td>
<td>47.54 (35.24)</td>
<td>40.33 (36.02)</td>
</tr>
<tr>
<td>Firm Size</td>
<td>–0.14* (0.06)</td>
<td>–0.14* (0.06)</td>
<td>–0.14* (0.06)</td>
</tr>
<tr>
<td>Volatility</td>
<td>–0.71* (0.28)</td>
<td>–0.74** (0.28)</td>
<td>–0.71* (0.28)</td>
</tr>
<tr>
<td>Prior Performance</td>
<td>–0.18*** (0.03)</td>
<td>–0.18*** (0.03)</td>
<td>–0.18*** (0.03)</td>
</tr>
<tr>
<td>Firm-Specific Wealth</td>
<td>–2.56** (0.83)</td>
<td>–2.49** (0.82)</td>
<td>–2.56** (0.83)</td>
</tr>
<tr>
<td>Insider CEO</td>
<td>4.16 (7.07)</td>
<td>1.32 (6.90)</td>
<td>4.16 (7.07)</td>
</tr>
<tr>
<td>CEO Age</td>
<td>–0.28 (0.36)</td>
<td>–0.34 (0.36)</td>
<td>–0.28 (0.36)</td>
</tr>
<tr>
<td>CEO Gender</td>
<td>10.47 (26.59)</td>
<td>8.73 (25.56)</td>
<td>10.47 (26.59)</td>
</tr>
<tr>
<td>CEO Duality</td>
<td>–5.24 (4.42)</td>
<td>–6.31 (4.41)</td>
<td>–5.24 (4.42)</td>
</tr>
<tr>
<td>Tenure</td>
<td>0.44 (0.50)</td>
<td>0.56 (0.49)</td>
<td>0.44 (0.50)</td>
</tr>
<tr>
<td>Tenure × Tenure</td>
<td>–0.02 (0.02)</td>
<td>–0.02 (0.02)</td>
<td>–0.02 (0.02)</td>
</tr>
<tr>
<td>CEO Stock Options Deviation</td>
<td>–0.30 (0.73)</td>
<td>–1.40 (0.97)</td>
<td>–1.46 (0.92)</td>
</tr>
<tr>
<td>CEO Bonus Pay Deviation</td>
<td>–1.53† (0.80)</td>
<td>–0.45 (0.92)</td>
<td>–0.43 (0.91)</td>
</tr>
<tr>
<td>CEO Salary Deviation</td>
<td>–0.01 (0.01)</td>
<td>–0.01 (0.01)</td>
<td>–0.01 (0.01)</td>
</tr>
<tr>
<td>CEO Stock Options</td>
<td>–1.22† (0.74)</td>
<td>–0.85 (0.74)</td>
<td>–0.85 (0.74)</td>
</tr>
<tr>
<td>CEO Bonus Pay</td>
<td>1.20† (0.73)</td>
<td>1.16† (0.70)</td>
<td>1.16† (0.70)</td>
</tr>
<tr>
<td>CEO Salary</td>
<td>–0.01 (0.01)</td>
<td>–0.01 (0.01)</td>
<td>–0.01 (0.01)</td>
</tr>
<tr>
<td>CEO Stock Options × Tenure</td>
<td>–0.18** (0.07)</td>
<td>–0.18** (0.07)</td>
<td>–0.18** (0.07)</td>
</tr>
<tr>
<td>CEO Bonus Pay × Tenure</td>
<td>–0.10*** (0.02)</td>
<td>0.00** (0.00)</td>
<td>0.00** (0.00)</td>
</tr>
<tr>
<td>CEO Salary × Tenure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F value</td>
<td>14.78***</td>
<td>12.97***</td>
<td>12.35***</td>
</tr>
<tr>
<td>R² (%, within)</td>
<td>17.74</td>
<td>18.35</td>
<td>19.38</td>
</tr>
<tr>
<td>Change in R²</td>
<td>0.61†</td>
<td>1.01***</td>
<td></td>
</tr>
</tbody>
</table>

Note: N = 1,558. Robust standard errors are in parentheses. Seven-year dummies are not reported here for brevity. Two-tailed tests are reported for all variables.

† p < .10.
* p < .05.
** p < .01.
*** p < .001.
the effect of stock options on shareholder returns. Figure 1a depicts the relationship between CEO stock options and shareholder returns over CEO tenure. CEO stock options have a
positive effect on shareholder returns in our sample for short-tenured CEOs, but this effect is largely reversed for long-tenured CEOs. As indicated in Figure 1a, stock options are most likely to have positive effect on shareholder returns during the first 3 years of a CEO’s appointment but are likely to have negative effect on shareholder returns when CEOs are in their 6th year or later (see Figure 1a).

Hypothesis 2 predicts that short-term performance-based pay will affect positively shareholder returns in the early stages of CEO tenure but negatively in the later tenure stages. As hypothesized, the positive effect of bonus on shareholder returns decreases in our sample as CEO tenure increases. Figure 1b depicts the interactive effect of bonus and CEO tenure on shareholder returns. Hypothesis 2, however, is only partially supported because CEOs in the high-bonus group outperform those receiving low bonuses up until the 12th year of executive tenure; the effect of bonus on performance also does not reverse to negative when CEO tenure is high (i.e., more than 1 SD from the mean).

Hypothesis 3 predicts that salary will affect negatively shareholder returns early in a CEO’s tenure but positively later on. Model 3 shows that the interactive effect of non-performance-based pay and CEO tenure positively affects shareholder returns in our sample, which indicates that the effect of salary on shareholder returns increases as CEO tenure increases. Figure 1c illustrates the effect of salary on returns for low and high CEO tenures. When CEO tenure is 8 years or shorter, there is a negative association between salary and shareholder returns, but the negative effect of salary on shareholder returns declines as CEO tenure increases. When CEO tenure is 12 years or longer, salary has a positive effect on shareholder returns. Thus, Hypothesis 3 is supported.

To test whether the impact of pay on future performance differs during the early and late seasons of CEO tenure, we interacted pay components with early and late season variables (i.e., tenure of 3 or fewer years and tenure of 9 or more years, respectively). The results in Table 4 indicate that the pay–future performance relationships vary for CEOs operating in early versus late seasons of tenure. For Models 1 and 2, the interaction of long-term performance-based pay and early tenure is marginally significant, while the interaction term between stock options and late tenure is not significant. Thus, there is a marginally positive effect of stock options pay on shareholder returns in the first 3 years of CEOs in their office. The interaction term between bonus and late tenure is negative; thus, bonus has negative effect on shareholder returns when CEOs have served 9 years or longer. The interaction term between salary and early tenure is negative and the interaction term between salary and late tenure is positive, which indicates that salary has a negative effect on shareholder returns in the first 3 years of CEOs’ service and a positive effect when CEOs have been in their office for 9 years or longer. These findings show that bonus and salary have different effects on shareholder returns for recently appointed CEOs (in the first 3 years of their mandate) and for seasoned executives (with 9 years or more under their belts). For robustness purposes, we used alternative measures of early and late seasons of CEO tenure based on quartiles (Table 4, Models 3 and 4) and quintiles (Table 4, Models 5 and 6) of CEO tenure distribution. The interaction terms between early/late tenure and different CEO compensation types are quantitatively similar to the results discussed above.

Robustness Tests

We conducted a number of different analyses for robustness purposes. First, prior research has hypothesized curvilinear effects of executive tenure on firm performance (Hambrick &
## Table 4
The Early and Late Seasons of CEO Tenure: CEO Compensation Plan and Future Performance

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>33.44 (33.84)</td>
<td>34.46 (37.43)</td>
<td>35.10 (34.49)</td>
<td>36.11 (37.30)</td>
<td>44.17 (36.23)</td>
<td>43.13 (37.28)</td>
</tr>
<tr>
<td>Firm Size</td>
<td>–0.14* (0.06)</td>
<td>–0.14* (0.06)</td>
<td>–0.14* (0.06)</td>
<td>–0.14* (0.06)</td>
<td>–0.14* (0.06)</td>
<td>–0.14* (0.06)</td>
</tr>
<tr>
<td>Volatility</td>
<td>–0.74** (0.28)</td>
<td>0.73** (0.28)</td>
<td>–0.76** (0.28)</td>
<td>0.75** (0.28)</td>
<td>–0.75* (0.29)</td>
<td>0.76** (0.28)</td>
</tr>
<tr>
<td>Prior Performance</td>
<td>–0.19*** (0.03)</td>
<td>–0.19*** (0.03)</td>
<td>–0.19*** (0.03)</td>
<td>–0.19*** (0.03)</td>
<td>–0.19*** (0.03)</td>
<td>–0.19*** (0.03)</td>
</tr>
<tr>
<td>Firm-Specific Wealth</td>
<td>–2.40** (0.83)</td>
<td>–2.32** (0.82)</td>
<td>–2.40** (0.83)</td>
<td>–2.36** (0.81)</td>
<td>–2.33** (0.81)</td>
<td>–2.38** (0.81)</td>
</tr>
<tr>
<td>Insider CEO</td>
<td>2.68 (7.05)</td>
<td>2.55 (6.81)</td>
<td>3.23 (7.05)</td>
<td>2.52 (6.86)</td>
<td>3.22 (6.81)</td>
<td>2.36 (6.84)</td>
</tr>
<tr>
<td>CEO Age</td>
<td>–0.18 (0.34)</td>
<td>–0.20 (0.34)</td>
<td>–0.25 (0.33)</td>
<td>–0.25 (0.34)</td>
<td>–0.29 (0.32)</td>
<td>–0.30 (0.32)</td>
</tr>
<tr>
<td>CEO Gender</td>
<td>6.07 (25.09)</td>
<td>8.62 (28.35)</td>
<td>7.13 (25.85)</td>
<td>8.17 (27.82)</td>
<td>7.16 (26.10)</td>
<td>8.65 (27.48)</td>
</tr>
<tr>
<td>Early Tenure</td>
<td>0.20 (2.95)</td>
<td>1.54 (3.03)</td>
<td>11.74 (11.78)</td>
<td>1.46 (3.03)</td>
<td>–2.82 (14.00)</td>
<td>0.28 (3.30)</td>
</tr>
<tr>
<td>Late Tenure</td>
<td>1.64 (4.29)</td>
<td>2.09 (4.30)</td>
<td>3.75 (4.10)</td>
<td>8.10 (12.06)</td>
<td>4.77 (4.10)</td>
<td>–3.04 (12.86)</td>
</tr>
<tr>
<td>CEO Stock Options</td>
<td>–1.56† (0.80)</td>
<td>–1.02 (0.97)</td>
<td>–1.55† (0.81)</td>
<td>–1.00 (0.97)</td>
<td>–1.35† (0.76)</td>
<td>–1.17 (0.97)</td>
</tr>
<tr>
<td>CEO Bonus Pay</td>
<td>1.31† (0.79)</td>
<td>1.62* (0.78)</td>
<td>1.30† (0.79)</td>
<td>1.44† (0.79)</td>
<td>1.02 (0.74)</td>
<td>0.06 (0.58)</td>
</tr>
<tr>
<td>CEO Salary</td>
<td>0.00 (0.01)</td>
<td>–0.01 (0.01)</td>
<td>0.00 (0.01)</td>
<td>–0.01 (0.01)</td>
<td>0.00 (0.01)</td>
<td>0.00 (0.01)</td>
</tr>
<tr>
<td>CEO Stock Options Deviation</td>
<td>–1.20 (0.94)</td>
<td>–1.47 (0.92)</td>
<td>–1.19 (0.94)</td>
<td>–1.51 (0.92)</td>
<td>–1.34 (0.96)</td>
<td>–1.39 (0.93)</td>
</tr>
<tr>
<td>CEO Bonus Pay Deviation</td>
<td>–0.47 (0.91)</td>
<td>–0.54 (0.92)</td>
<td>–0.48 (0.91)</td>
<td>–0.52 (0.93)</td>
<td>–0.37 (0.92)</td>
<td>–0.48 (0.93)</td>
</tr>
<tr>
<td>CEO Salary Deviation</td>
<td>–0.01 (0.01)</td>
<td>–0.01 (0.01)</td>
<td>–0.01 (0.01)</td>
<td>–0.01 (0.01)</td>
<td>–0.01 (0.01)</td>
<td>–0.01 (0.01)</td>
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<tr>
<td>CEO Stock Options × Early Tenure</td>
<td>1.97† (1.20)</td>
<td>2.07† (1.26)</td>
<td>1.93† (1.19)</td>
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<tr>
<td>CEO Bonus Pay × Early Tenure</td>
<td>–0.14 (0.66)</td>
<td>–0.15 (0.65)</td>
<td>–1.23* (0.53)</td>
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<tr>
<td>CEO Salary × Early Tenure</td>
<td>–0.03*** (0.01)</td>
<td>–0.03*** (0.01)</td>
<td>–0.02* (0.01)</td>
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<tr>
<td>CEO Stock Options × Late Tenure</td>
<td>–0.40 (1.08)</td>
<td>–0.44 (1.10)</td>
<td>–0.06 (1.16)</td>
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<tr>
<td>CEO Bonus Pay × Late Tenure</td>
<td>–1.98*** (0.49)</td>
<td>–1.40** (0.54)</td>
<td>–1.39* (0.61)</td>
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<tr>
<td>CEO Salary × Late Tenure</td>
<td>0.02* (0.01)</td>
<td>0.01† (0.01)</td>
<td>0.01† (0.01)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>F value</td>
<td>11.98***</td>
<td>12.29***</td>
<td>12.06***</td>
<td>11.99***</td>
<td>12.60***</td>
<td>12.10***</td>
</tr>
<tr>
<td>R² (% within)</td>
<td>19.27</td>
<td>18.80</td>
<td>19.40</td>
<td>18.54</td>
<td>18.83</td>
<td>18.53</td>
</tr>
</tbody>
</table>

Note: N = 1,558. Robust standard errors are in parentheses. Seven-year dummies are not reported here for brevity. Two-tailed tests are reported for all variables.

†p < .10.
*p < .05.
**p < .01.
***p < .001.
Fukutomi, 1991; Henderson et al., 2006). Consequently, we reran all analyses testing for curvilinear interactions. We did not find significant effects of CEO tenure squared and compensation type interactions on shareholder returns, and our main results remained consistent. The absence of significant curvilinear effect may be due to recent trends towards shorter CEO tenures (e.g., Kaplan, 2008). Vancil (1987), for example, reported CEO tenures in the 1980s averaging above 14 years, while the average tenure for CEOs in our sample is just 6 years. Second, we reran our analyses to investigate further how excessive pay and deviance from industry compensation norms might interact with executive tenure. Both sets of analyses showed that CEO tenure is indeed a factor affecting the relationship between pay and future performance (see the appendix). Finally, for robustness purposes, we reran all analyses controlling for restricted stock. These results do not differ substantively from those reported here. Our sample period precedes the growing popularity of restricted stock; the average percentage of CEO restricted stock in our sample is only 8% of total CEO compensation compared to 39% for stock options, 22% for salary, and 20% for bonus. As the use of restricted stock grants by U.S. firms has recently increased (Bryan et al., 2000; Hall & Murphy, 2002), future research should examine how any restricted stock effect compares to the effect of stock options.

**Discussion**

Our study finds that the effects of CEO pay types on future performance differ over the “seasons” of CEO tenure, thereby adding to prior research showing that CEO tenure is an important upper echelons trait. We expected CEO tenure to be relevant for the pay–future performance relationship for several reasons. First, the seminal work of Hambrick and Fukutomi (1991) provides a strong theoretical foundation that has held up to extensive testing. Second, from among many possible proxies for CEOs’ cognitive bases and filters, CEO tenure has received the most conceptual and empirical attention to date (Sanders, 2001; Shen, 2003; Simsek, 2007; Wu et al., 2005; Zajac & Westphal, 1996). And third, although tenure has been shown to be an important factor in CEOs’ risk-taking behaviors (Sanders), its effect on a critical executive pay issue—pay plan effectiveness—has not previously been examined. We therefore attempted to shed some light on the inconclusive results in the pay-performance literature (i.e., Devers et al., 2008; Finkelstein et al., 2009) by examining how the effects of pay types on subsequent shareholder returns differ across the seasons of CEO tenure.

Our results indicate that CEOs with different tenures view incentive pay differently. This suggests that the increasing standardization of CEO pay plans may instead produce a strategic misfit between a firm’s shareholders and its CEO’s interests, depending on a CEO’s tenure on the job. While our study is only an initial and partial test, the findings suggest that future research should incorporate tenure and other CEO characteristics when evaluating the effectiveness of incentive pay and other corporate governance mechanisms. Moreover, our findings that compensation types have different effects on shareholder returns in the early years versus the later years of a CEO’s tenure have important practical implications. Publicly traded companies face both legislative and shareholder pressures to adopt CEO compensation plans with high legitimacy in the eyes of shareholders and shareholder advisory groups (Bizjak, Lemmon, & Naveen, 2008; Bizjak, Lemmon, & Nguyen, 2011; Brandes et al.,
2008). Such pressures may discourage boards from incorporating the rich, tacit information they hold about their firms’ CEOs when designing the CEO’s compensation. While stock option awards offer a technical approach to connecting CEOs’ interests and shareholders’ wealth, boards must ask whether such awards are the most likely way to motivate their particular CEO to improve future shareholder returns. Future research should therefore examine more closely how boards of directors balance legitimacy concerns with the strategic use of executive pay and how directors’ abilities, resources, and independence affect their propensity to adapt standardized compensation practices for the strategic circumstances of their firm.

Our study is not without limitations. First, we addressed only one aspect of upper echelons’ traits. CEO tenure is useful, but by itself, it cannot capture the full essence of CEOs’ differing paradigms, values, and beliefs. Plus, other factors like different temporal horizons and aspirations may affect the pay–future performance relationship. Future studies should investigate how these and other perceptual factors may affect CEOs’ costs-benefits calculations for different compensation components. Similarly, the efficacy of compensation plans could be influenced by psychological factors, and if not considered a priori, such factors could lead to unintended consequences for the firm (e.g., Larkin, Pierce, & Gino, 2012). Second, while we theorized that executives would value pay components differently over tenure, we did not directly measure the motivating effect of CEO pay elements over the seasons of CEO tenure. Future research could address this limitation by surveying managers or conducting experiments that examine the motivating and endowment effect of different pay types on both intrinsic and extrinsic motivation. Finally, shrinking CEO tenures may provide different theoretical and practical challenges. While agency theorists have traditionally treated executives as risk averse (e.g., Amihud & Lev, 1981; Fama & Jensen, 1983), CEOs witnessing high turnover levels among their peers may perceive their job security as fleeting (Bodolica & Spraggon, 2009). CEOs who feel that their jobs are increasingly in jeopardy, however, may be more inclined to undertake bigger risks because they are more likely to frame their situation as one of “little to lose in case of failure, but everything to gain in case of success.” Future research should consider, therefore, how other factors, such as job and career risk, temporal orientation, and fit with the firm, could constrain or promote the effectiveness of CEO compensation types.

Conclusion

Wowak and Hambrick (2010) recently argued that the compensation literature could benefit from taking into consideration executives’ characteristics. We agree. The upper echelons literature has shown that CEOs’ demographic characteristics, as proxies for their attitudes, values, and beliefs, affect strategic preferences and, in turn, the performance of their organizations (Geletkanycz & Hambrick, 1997; Hambrick & Mason, 1984; Jensen & Zajac, 2004; Wiersema & Bantel, 1992; Zajac & Bazerman, 1991). The corporate governance literature has focused instead on monitoring or incentivizing these same CEOs without much attention to their differences (e.g., Jensen, 1993). Our study links differences in the CEO pay–future performance relationship, a central aspect of incentive alignment, with CEO tenure, which is a key construct in the upper echelons tradition. Our study is but a first step towards the articulation of theoretical models that incorporate executive traits into the strategic alignment
effect of CEO compensation. We have focused on CEO tenure, the most widely researched aspect of upper echelons literature, and executive pay, the most controversial aspect of corporate governance. We hope that our study will motivate future researchers to investigate further whether the usefulness of one-size-fits-all compensation plans is affected by CEO characteristics other than tenure and whether differences in tenure and other CEO characteristics might similarly affect the usefulness of other governance mechanisms.

Although a single study cannot provide conclusive evidence on the overall importance of CEO characteristics for compensation design, our findings suggest that caution is warranted when applying standardized recommendations for CEO compensation. We find that CEO compensation types have different effects on future shareholder returns over the seasons of a CEO’s tenure, indicating that continued efforts to bring upper echelons literature into CEO compensation research may help resolve current controversies and equivocal results in the field of executive compensation. Clearly, there are many opportunities for improving our understanding of company performance by combining other aspects of the corporate governance and upper echelons literatures. Although our study provides some new and important insights, much work remains to be done in understanding contingent reward systems and in identifying how governance mechanisms’ fit or misfit with CEO and firm characteristics influences decision making and shareholder returns.

### Appendix

**Fixed-Effects Regression Analysis of CEO Compensation Deviation and Excessive Pay on Shareholder Returns Over CEO Tenure**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>34.39 (36.43)</td>
<td>45.09 (35.16)</td>
<td>43.35 (35.46)</td>
<td>30.45 (34.94)</td>
<td>27.37 (36.60)</td>
</tr>
<tr>
<td>Firm Size</td>
<td>–0.14* (0.06)</td>
<td>–0.14* (0.06)</td>
<td>–0.14* (0.06)</td>
<td>–0.14* (0.07)</td>
<td>–0.15* (0.07)</td>
</tr>
<tr>
<td>Volatility</td>
<td>–0.75* (0.29)</td>
<td>–0.76** (0.29)</td>
<td>0.78** (0.28)</td>
<td>0.76** (0.28)</td>
<td>0.75** (0.28)</td>
</tr>
<tr>
<td>Prior Performance</td>
<td>–0.18*** (0.03)</td>
<td>–0.18*** (0.03)</td>
<td>–0.18*** (0.03)</td>
<td>–0.18*** (0.03)</td>
<td>–0.18*** (0.03)</td>
</tr>
<tr>
<td>Firm-Specific Wealth</td>
<td>–2.54** (0.82)</td>
<td>–2.50** (0.82)</td>
<td>–2.51** (0.81)</td>
<td>–2.50** (0.82)</td>
<td>–2.61** (0.83)</td>
</tr>
<tr>
<td>Insider CEO</td>
<td>1.77 (7.04)</td>
<td>1.10 (6.91)</td>
<td>2.13 (6.82)</td>
<td>1.83 (7.05)</td>
<td>2.72 (7.00)</td>
</tr>
<tr>
<td>CEO Age</td>
<td>–0.30 (0.36)</td>
<td>–0.33 (0.37)</td>
<td>–0.34 (0.37)</td>
<td>–0.29 (0.37)</td>
<td>–0.16 (0.36)</td>
</tr>
<tr>
<td>CEO Gender</td>
<td>8.14 (26.55)</td>
<td>7.75 (25.46)</td>
<td>6.68 (26.07)</td>
<td>6.31 (25.84)</td>
<td>3.89 (28.24)</td>
</tr>
<tr>
<td>Tenure</td>
<td>–6.63 (4.41)</td>
<td>–6.90 (4.42)</td>
<td>–6.69 (4.43)</td>
<td>–6.52 (4.38)</td>
<td>–7.58† (4.42)</td>
</tr>
<tr>
<td>Tenure × Tenure</td>
<td>0.44 (0.49)</td>
<td>0.48 (0.48)</td>
<td>0.52 (0.48)</td>
<td>0.45 (0.49)</td>
<td>0.26 (0.51)</td>
</tr>
<tr>
<td>CEO Stock Options</td>
<td>–0.02 (0.02)</td>
<td>–0.02 (0.02)</td>
<td>–0.02 (0.02)</td>
<td>–0.03 (0.02)</td>
<td>–0.03 (0.02)</td>
</tr>
<tr>
<td>CEO Bonus Pay</td>
<td>1.47* (0.62)</td>
<td>1.20† (0.73)</td>
<td>1.13 (0.73)</td>
<td>1.65* (0.75)</td>
<td>1.60* (0.75)</td>
</tr>
<tr>
<td>CEO Salary</td>
<td>–0.01 (0.01)</td>
<td>–0.01 (0.01)</td>
<td>–0.00 (0.01)</td>
<td>–0.00 (0.01)</td>
<td>–0.00 (0.01)</td>
</tr>
<tr>
<td>CEO Stock Options Deviation</td>
<td>–1.48 (0.96)</td>
<td>–1.78† (0.96)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>CEO Bonus Pay Deviation</td>
<td>–0.52 (0.93)</td>
<td>–0.58 (0.93)</td>
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<tr>
<td>CEO Salary Deviation</td>
<td>–0.01 (0.01)</td>
<td>–0.01 (0.01)</td>
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</tr>
<tr>
<td>CEO Excess Stock Options</td>
<td>0.48 (0.76)</td>
<td>0.62 (0.75)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEO Excess Bonus Pay</td>
<td>–0.29 (0.80)</td>
<td>–0.42 (0.77)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEO Excess Salary</td>
<td>–0.01† (0.01)</td>
<td>–0.01† (0.01)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>CEO Stock Options Deviation × Tenure</td>
<td>0.23* (0.09)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEO Bonus Pay Deviation × Tenure</td>
<td>0.08 (0.09)</td>
<td></td>
<td></td>
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</table>

(continued)
Appendix (continued)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO Salary Deviation × Tenure</td>
<td>–0.00* (0.00)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEO Excess Stock Options × Tenure</td>
<td>–0.14* (0.07)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CEO Excess Bonus Pay × Tenure</td>
<td>–0.17* (0.08)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>CEO Excess Salary × Tenure</td>
<td>–0.00** (0.00)</td>
<td></td>
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</tr>
</tbody>
</table>

|          |       |       |       |       |       |
| F value  | 15.51*** | 13.52*** | 12.36*** | 13.84*** | 13.12*** |
| R² (%, within) | 17.92 | 18.21 | 18.91 | 18.13 | 18.92 |
| Change in R² | 0.29 | 0.70* | 0.21 | 0.79** |         |

Note: N = 1,558. Robust standard errors are in parentheses. Seven-year dummies are not reported here for brevity. Two-tailed tests are reported for all variables.

† p < .10.
* p < .05.
** p < .01.
*** p < .001.

References


