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INITIAL COMPENSATION OF NEW CEOs HIRED IN TURNAROUND SITUATIONS

GUOLI CHEN*
Department of Strategy, INSEAD, Singapore, Singapore

Our paper examines the initial compensation of new CEOs hired in turnaround situations. Building on prior literature on executive job demands, we posit that new CEOs hired in turnaround situations will receive higher pay, particularly higher performance-based pay, and that the pay premium will incentivize them to undertake retrenchment and restructuring turnaround initiatives. An interaction between pay premium and CEO credentials is shown to have a stronger effect on the extent to which firms engage in such turnaround initiatives. Our empirical results, based on 98 new CEOs hired in 223 turnaround situations, largely support our arguments. We discuss the contribution of our study to the CEO compensation, executive job demands, and corporate turnaround literature.

INTRODUCTION

Scholars have shown a sustained interest in comprehending CEO compensation over the years (e.g., Beatty and Zajac, 1994; Boyd, 1994; Cho and Shen, 2007; Devers *et al.*, 2007; Sanders and Carpenter, 1998; Tosi and Gomez-Mejia, 1989; Wasserman, 2006; Westphal and Bednar, 2008; Wowak, Hambrick, and Henderson, 2011; Zajac, 1990; Zajac and Westphal, 1995). Among recurrent research themes are the question of why some CEOs are paid more than others and the determinants of pay (e.g., Balkin and Gomez-Mejia, 1990; Hambrick and Finkelstein, 1995; Wade, O'Reilly, and Pollock, 2006; Zajac and Westphal, 1995), in addition to attempts to model how CEO compensation influences firms' strategic choices and performance, and explore the implications of executive pay (e.g., Hoskisson, Hitt, and Hill, 1993; Sanders and Hambrick, 2007). Despite extensive research on this topic, however, studies tend to focus on the antecedents and consequences of *incumbent* (existing) CEOs' compensation, while the initial compensation of *new* CEOs has been neglected.

This study examines the initial compensation design of new CEOs hired in turnaround situations and its implications for strategic choices in the turnaround process. We focus on the CEO's initial compensation because it allows scholars to unveil new insights in compensation research. A central debate in compensation theory is "optimal contracting" vs. "managerial power" (Devers *et al.*, 2007). Whereas human capital and neoclassical theories suggest that pay is driven by unique personal credentials (i.e., skills, capabilities) and effort, managerialist theory see it as a function of organizational entrenchment (Combs and Skill, 2003). Prior research that uses compensation data on the CEO's tenure to study the effect of personal credentials and efforts on the CEO pay level has had difficulty teasing out the effect of organizational entrenchment. For instance, Henderson and Fredrickson (1996) found that CEOs of highly diversified firms are paid more. While it could be argued that executives who manage highly complex, diversified firms demonstrate superior capabilities

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*Correspondence to: Guoli Chen, INSEAD, 1 Ayer Rajah Avenue, Singapore 138676. E-mail: guoli.chen@insead.edu

and efforts and should be rewarded accordingly, diversification may be an endogenous decision; entrenched managers are more likely to increase firm size by acquisition and thereafter receive higher pay. Higher compensation essentially indicates the CEO entrenchment and agency cost issues. Thus, using incumbent CEOs' compensation data to examine the determinants of CEO pay has limitations because the research design cannot separate the effect of CEO entrenchment from other aspects that necessitate fair reward. By focusing on the initial compensation design for new CEOs, our study addresses this weakness since new CEOs are about to take up the job and thus have no serious organizational entrenchment issues. Their initial compensation negotiation is relatively immune from the entrenchment of CEO power.

We have chosen firms in turnaround situations as our empirical context because they provide a unique research context and the potential to illuminate some of the theoretical developments in the executive leadership and compensation literatures. First, prior research on the performance-pay relationship tends to regard performance as indicative of the CEOs' managerial effectiveness such that they should be rewarded with higher compensation if performance is good and punished if it is poor (Jensen and Murphy, 1990). However, for new CEOs, prior firm performance indeed suggests a succession context whereby the "baton" is passed by their predecessors (Vancil, 1987). Thus, the theoretical arguments for the performance-pay relationship for new CEOs' initial compensation should be different from the typical neoclassical and agency theories. We draw from prior research on executive job demands (Hambrick, Finkelstein, and Mooney, 2005; Janssen, 2001; Karasek, 1979) to posit that new CEOs are paid substantially higher when prior firm performance has been poor (e.g., in turnaround situations).

Specifically, we discuss how the turnaround context enhances the quantitative and qualitative dimensions of the demands of the job and the compensation that goes with it. In the quantitative sense, a new CEO managing a turnaround situation will face a heavier workload, the need for quick decisions to be made in a context constrained by limited resources, all of which make the task of reversing the declining trend very demanding (Bibeault, 1982; Slatter, Lovett, and Barlow, 2006). In addition, it has been observed that during the turnaround process, CEOs often experience tension and anxiety when putting their career at risk, all of which intensify the qualitative job demands (Chang, Hayes, and Hillegeist, 2014; Dial and Murphy, 1995). We posit that for both quantitative and qualitative reasons of higher job demands new CEOs will be compensated with higher pay. We further posit that, since troubled firms are subject to financial and political constraints on how much they can afford to pay, the compensation new CEOs receive will have a higher proportion of performance-based pay.

Second, the turnaround context allows us to understand how firms respond to troubled situations by replacing the leadership, as well as how the initial compensation of new CEOs influences the turnaround initiatives subsequently implemented. Prior research has suggested that a change in corporate leadership is needed if a turnaround is to be successful (Hofer, 1980). This wisdom has been adopted by many troubled firms, as evidenced by Bibeault (1982) in his study showing that about three quarters of the sampled firms in turnaround situations involved new CEOs. Any firm hiring a new CEO has to deal with compensation design. More importantly, both academics and practitioners are interested in the question of the potential consequences of initial compensation design on new CEOs' strategic choices in turnaround efforts. We draw from prior turnaround research, which suggests that retrenchment and restructuring (such as downsizing, cost-cutting, and product/market refocusing) help to create value for firms in turnaround situations (Hambrick and Schecter, 1983; Pearce and Robbins, 1993, 1994; Robbins and Pearce, 1992). However, CEOs tend to pursue revenue growth, new investment, and market expansion strategies to increase firm size without proper incentives (Dial and Murphy, 1995). We argue that the pay premium new CEOs receive in turnaround situations can motivate them to initiate strategies oriented to retrenchment and restructuring. We further investigate the interaction effect between CEO credentials and their pay premium, postulating that a combination of CEO talent and motivation should have a stronger effect on the degree to which firms in turnaround situations engage in such strategic initiatives.

We test our hypotheses using a sample of 98 new CEOs hired in 223 turnaround situations. We compare their initial compensation with a group of matching new CEOs hired in non-turnaround situations identified by a propensity score matching process. Results show that new CEOs hired in

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turnaround situations receive higher pay, particularly higher performance-based pay. We also find that pay premium has a positive effect on the extent to which a troubled firm undertakes retrenchment and restructuring turnaround initiatives. In addition, we document partial support for the interaction effect between pay premium and CEO credentials on such turnaround initiatives. Finally, we discuss our study's potential contributions to research on the CEO compensation, executive job demands, and corporate turnaround literature.

THEORY AND HYPOTHESES

Executive job demand and initial compensation of new CEOs in turnaround situations

Firms in turnaround situations strive to turn their performance around (Barker, Patterson, and Mueller, 2001; Hofer, 1980). Troubled firms tend to require new leadership because the incumbent management has failed to make the necessary changes and has lost credibility with key stakeholders (Bibeault, 1982; Chen and Hambrick, 2012). A new CEO is expected to restore leadership legitimacy and bring a fresh perspective, energy, resources, and credibility to the troubled firm (Castanias and Helfat, 1991). A new CEO's arrival will also change the knowledge, skills, and interaction dynamics of the senior management team, thereby improving the organization's ability to recognize and react to changing environmental conditions (Tushman and Rosenkopf, 1996; Zhang and Rajagopalan, 2004). In addition, the replacement of the incumbent CEO may please disgruntled shareholders and placate social arbiters such as analysts and governance watchdogs (Wiesenfeld, Wurthmann, and Hambrick, 2008). Given the substantive and symbolic benefits associated with new corporate leadership, the board of directors of a troubled company will come under pressure to bring in a new CEO (Bibeault, 1982; Hofer, 1980). The question of how much he/she should be paid thus arises. Curiously, although executive compensation is one of the most studied topics in strategic management and related fields (see Finkelstein, Hambrick, and Cannella (2009) for a summary), few studies have examined the initial compensation of new CEOs.

Studying the design of initial compensation for new CEOs is distinctive from that for incumbents in two major respects. First, new CEOs do not have the same organizational entrenchment issues as incumbents because they are about to take up the position, even if promoted from within the company (Finkelstein, 1992; Zajac and Westphal, 1996). Thus, studying initial compensation provides a clearer context in which to separate the effect of entrenched organizational power from other factors such as personal credentials and efforts. By contrast, the central debate of theories in explaining the determinants of the CEO pay level—"optimal contracting" vs. "managerial power"—cannot be well addressed if scholars examine compensation of incumbents over the CEOs' tenure (Devers *et al.*, 2007). Second, almost all studies of the association between firm performance and CEO pay take the empirical design of using performance in a given year, such as $t-1$, to explain pay in t (Wowak *et al.*, 2011). Such a research design implicitly assumes that CEOs are responsible for firm performance, hence their compensation is considered a means of *ex post* settling up (Fama, 1980). In other words, firm performance is an indicator of managerial effectiveness. However, for a new CEO appointed at time t, firm performance at $t-1$ is indeed suggesting a succession context, thus the theoretical argument for the performance-pay relationship for new CEOs' initial compensation should differ from typical neoclassical and agency theories. Below, we draw from research on executive job demands to understand the CEOs' initial compensation in turnaround situations.

Prior research in organizational behavior and industrial/organizational psychology has long been interested in the demands of the individual's job (e.g., Janssen, 2001; Karasek, 1979; Xie and Johns, 1995). Recent research has developed this construct to the executive level and discusses the implications of executive job demands on strategic decision making and strategic leadership (Hambrick *et al.*, 2005). This line of research suggests that there are both quantitative and qualitative dimensions to the demands of the job (Janssen, 2000, 2001; Karasek, 1979). The quantitative dimension refers to the workload an individual faces, i.e., how much he/she has to do and how fast, with little time to fulfill his/her job responsibilities (Ganster and Fusilier, 1989; Van Yperen and Snijders, 2000). The qualitative aspect involves the conflicting obligations, anxiety, and tensions the individual faces due to the job he/she performs (e.g., Karasek, 1979; Ng, Ang, and Chan, 2008). Building on prior

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research on turnaround situations, we argue that new CEOs hired in turnaround situations will experience greater job demands both quantitatively and qualitatively.

First, while senior executives generally have heavy workloads, those in troubled situations are even more burdened (Bibeault, 1982; Slatter, 1984). In addition to managing day-to-day operations, they have to convince and negotiate with the key stakeholders to win their support. Turnaround CEOs have to instill an immediate sense of urgency in the distressed companies, to implement tight management and financial controls, and rebuild the organization's effectiveness (Hambrick and Schecter, 1983; Slatter *et al.*, 2006). Managing turnaround situations requires long hours and a total commitment to the job. Multiple information cues have to be filtered, analyzed, and interpreted. Turnaround executives are "breathing, living, and dreaming about the company [in turnaround situations] … in a quest for the best solution" (Slatter *et al.*, 2006: 7). What's more, executives in turnaround situations have to react fast. They need to stabilize crisis situations and develop clear organizational goals and plans in a short time. They must be decisive and implement decisions quickly (Barker *et al.*, 2001; Bibeault, 1982), running the risk of being too aggressive to get successful buy-in and exacerbating the challenge. In addition to time constraints, they have limited resources at their disposal. They need to be extremely careful; a single mistake could potentially wipe out the remaining resources and dampen the firm's chance of survival.

In addition to these quantitative job demands—the greater workload and task challenges with limited time and resources—newly hired turnaround CEOs experience greater tension and anxiety in the process of reversing the declining trend. To stop financial hemorrhaging, CEOs may streamline operations, shut down plants, and lay off people for the benefits of shareholders (Pearce and Robbins, 1993; Robbins and Pearce, 1992; Slatter, 1984). The goal of value creation for shareholders may conflict with other interests such as employment protection and social welfare. The tension between economic and social considerations (e.g., efficiency vs. moral) may cause concern for managers who have to make decisions on downsizing or retrenchment (McKinley, Zhao, and Rust, 2000; Perry, 1986). For instance, despite a six-fold increase in the company's share price, and an increase in shareholder wealth of $3.5 billion from 1991 to 1993, General Dynamics' CEO William Anders was criticized throughout his tenure partly because such value creation was achieved by downsizing, restructuring, and layoffs (Dial and Murphy, 1995; Ellis, 1991; McCartney, 1991). Turnaround executives are often depicted as ruthless, brutal, and autocratic individuals. In managing troubled firms, they will have to face conflicting obligations, criticism in the press, and at times the outrage of employees and other stakeholders.

New CEOs managing turnaround situations are also understandably anxious about their future careers. The probability of a successful turnaround is slim (Bibeault, 1982; Chen and Hambrick, 2012), although those who save their company from disaster tend to be remembered. New CEOs who take up the challenge of putting a troubled company back on track bear a huge risk of damaging their own human capital (Chang *et al.*, 2014). A downward spiral is often found to be persistent, and hard to convert into a healthy recovery (Groysberg, McLean, and Nohria, 2006; Hambrick and D'Aveni, 1988). If the firm eventually fails during the new CEO's tenure, he or she is likely to be dismissed with a tainted reputation, even if the troubles were inherited from a predecessor or stemmed from environmental factors beyond their control (Cannella, Fraser, and Lee, 1995; Semadeni *et al.*, 2008). In the subsequent "settling up," a failed turnaround CEO may be stigmatized and put in an unfavorable position (Fama, 1980; Wiesenfeld *et al.*, 2008). For instance, George Shaheen, who failed to save the (later bankrupt) Internet grocer Webvan, was unable to find another executive position, despite the fact that he had led Andersen Consulting during a period of record annual revenue growth before moving to Webvan. He said he would never bounce back from Webvan's demise. Prior research has shown that only 12 percent of dismissed CEOs land comparable positions with other public companies; even if they do, it is likely to be at a much smaller firm at a greatly reduced salary (Cannella *et al.*, 1995; Chang *et al.*, 2014). Thus, although a successful turnaround can make a CEO's name in the corporate world, they expose themselves to intense anxiety because of the potentially huge risk to their career.

In sum, CEOs hired in turnaround situations face higher job demands—quantitatively and qualitatively—from the workload, task challenges, tensions, and anxiety they have to deal with (Bibeault, 1982; Slatter *et al.*, 2006). We thus posit that, in hiring a new CEO, firms will provide higher

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compensation commensurate with these heightened executive demands. Our argument is consistent with prior research suggesting that CEO compensation should be tied to the amount of information processed by such executives and to their potential influence on organizations (e.g., Finkelstein and Boyd, 1998; Henderson and Fredrickson, 1996). For instance, Finkelstein and Boyd (1998) found that executives in "high-discretion" environments received higher compensation. CEOs with more discretion had greater latitude to make strategic decisions, and thus a greater potential to change the path of the organization, introduce new products, and enter new markets. These actions *ex post* may benefit or hurt the organization and generate performance extremes that deviate from the industry average, but *ex ante* they increase executive job demands. The fact that CEOs in high-discretion environments receive higher pay suggests that firms pay a premium for executives undertaking greater job demands.

Applying the above logic to the remuneration of a CEO hired in a turnaround situation, we would expect the CEO to receive higher pay (than those hired in non-turnaround situations). The pay premium is considered a reward for the higher job demands in managing turnaround situations. However, there are financial and political constraints on the compensation troubled firms can afford (Altman, 1983; Hambrick and D'Aveni, 1988). To start with, such firms are typically short of cash and other resources. Politically, directors who are at risk of being sued for corporate failure if they offer higher compensation may feel constrained to be more parsimonious in paying the new CEOs (Gilson and Vetsuypens, 1993). Performance-based pay components (such as options and bonus) can mitigate these concerns. First, they represent a method for economizing cash and are relatively inexpensive from a short-term perspective because they do not involve an upfront cash outflow (Murphy, 2002). Second, they act as an incentive, providing a direct link between executive pay and company performance (Tzioumis, 2008) by creating a risk-sharing feature that binds the risk and uncertainty to the management. Finally, directors who grant a higher proportion of performance-based pay to managers are also less likely to be criticized by shareholders.

While a new CEO may arguably prefer fixed to variable pay given the unclear future of the troubled firm and the uncertainty of financial returns (Harris and Helfat, 1997), he/she may accept a compensation package with a greater performance-based component because of the opportunity to potentially reap a fortune (Sanders and Hambrick, 2007). For instance, stock options granted in a turnaround situation are typically priced low, so a successful turnaround may bring tremendous monetary rewards, allowing both the firm and the new CEO to benefit from the performance-based compensation design. Thus, we hypothesize:

Hypothesis 1a: New CEOs hired in turnaround situations will receive higher pay compared to those hired in non-turnaround situations.

Hypothesis 1b: New CEOs hired in turnaround situations will receive a higher proportion of performance-based pay compared to those hired in non-turnaround situations.

The above hypotheses are driven by the logic that new CEOs hired in turnaround situations face greater job demands and thus receive higher total pay and performance-based pay. If our proposed theoretical mechanism does indeed operate as argued, we would expect factors that further increase the job demands to strengthen the above relationship. Building on the literature on CEO origin, we argue that outside CEOs (hired externally) will moderate the above hypotheses. Depending on whether a CEO is appointed from within or from outside the firm, prior studies distinguish between "insiders" and "outsiders" in terms of origin (e.g., Beatty and Zajac, 1994; Boeker, 1997; Cannella and Lubatkin, 1993). Compared to inside successors, outsiders have much more to learn to become familiar with the new company—the business model, sources of poor performance, customers, suppliers, and other key stakeholders, thus increasing the quantitative workload. Moreover, they have much more to lose and greater concern for their future career, which heightens the qualitative job demands. The firm-specific human capital they have accumulated over the years with prior employers becomes less relevant in their new position (Becker, 1964; Castanias and Helfat, 1991). Accepting the new jobs in turnaround situations means that they will have to build up a fresh knowledge repertoire in a new environment fairly quickly. Moreover, the new firm-specific skills they acquire may become obsolete, or not be exploitable, in the event of an

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ultimate corporate failure or a forced departure. Thus, an externally appointed successor may demand an additional premium for accepting the new position in turnaround situations because of the greater job demands compared to an internal hire.

Hypothesis 2: The associations predicted in Hypotheses 1a and 1b will be stronger in cases of externally appointed new CEOs than internally appointed CEOs.

New CEOs' initial compensation and turnaround initiatives

If firms in turnaround situations tend to award pay premiums to their new CEOs, a question that arises is whether higher pay leads to certain strategic behaviors in their subsequent turnaround efforts. Compensation has long been regarded as an incentive mechanism, with the potential to affect managerial behavior and strategic choices (Dial and Murphy, 1995). For instance, Sanders and Hambrick (2007) found that option-loaded CEOs were more likely to take extremely risky decisions, such as engaging heavy capital investments and more M&A activity. We build on the turnaround literature to discuss the implications of CEO compensation for turnaround initiatives.

Prior studies of corporate turnaround suggest that firms adopt retrenchment and restructuring strategies such as downsizing (i.e., disposal of fixed assets or reducing head count), cost cutting (e.g., cutbacks in administrative, R&D, and other discretionary expenses), and product/market refocusing (e.g., reducing the scope of business lines and geographical markets, and shifting the emphasis to more defensible and lucrative segments) (Hambrick and Schecter, 1983; Pearce and Robbins, 1994; Slatter *et al.*, 2006). Such strategic initiatives are also described as "efficiency-" or "operating-oriented" turnaround efforts (Hambrick and Schecter, 1983; Hofer, 1980; Schendel *et al.*, 1976). It has long been established that retrenchment and restructuring are the foundations of business turnarounds (Pearce and Robbins, 1994; Robbins and Pearce, 1992). Hambrick and Schecter (1983) found that efficiency-oriented moves (such as assets reduction, selective product/market pruning) were associated with successful turnarounds. It therefore stands to reason that strategic initiatives oriented to retrenchment and restructuring (which include downsizing, cost-cutting, and refocusing in this paper) are essential for corporate turnarounds, at least as a first step to stop financial bleeding, and stabilize the situation (Pearce and Robbins, 1993, 1994; Slatter *et al.*, 2006).

Moreover, the degree and causes of performance problems may suggest a greater need of retrenchment and restructuring initiatives. For instance, prior research suggests that firms with more severe performance declines particularly need such strategies (Chen and Hambrick, 2012; Hofer, 1980), the underlying logic being that if a firm is in deep trouble and far below breakeven point, it will be difficult, if not impossible, to boost revenue enough to get back to profit. The troubled firm has to cut costs, reduce assets, and refocus its product and market. In contrast, firms in less severe situations, or slightly below breakeven point, have more flexibility in choosing either retrenchment/restructuring strategies or revenue-generating strategies to achieve their turnaround (Hambrick, 1985; Hofer, 1980). In addition, the causes of performance deterioration have implications as well. Turnaround scholars have long drawn a distinction between troubled firms that are in relatively healthy industries vs. those that are in struggling, low-growth industries (Arogyaswamy *et al.*, 1995). If the industry is healthy, growing, and the cause of the problem is not industry environment, troubled firms have a greater chance to leverage revenue growth and market expansion strategies. These firms are less likely to adopt retrenchment and restructuring initiatives.

While other strategic initiatives such as revenue growth, new investment, and market expansion may be viable in turnaround situations (Hofer, 1980), theoretically it is more interesting to study the effect of executive compensation on entrenchment and restructuring. Executives tend to expand markets, grow the company, and increase firm size—for a number of reasons. First, an enlarged firm can increase the executive's future compensation because firm size is consistently a primary determinant of pay levels (Baker *et al.*, 1988; Ciscel and Carroll, 1980). Second, firm size is also typically tied to nonmonetary rewards, such as prestige, power, and higher status in the corporate community (Finkelstein *et al.*, 2009). Executives intrinsically enjoy opening new plants, entering new markets, hiring new people, and announcing growth and expansion plans, whereas few enjoy downsizing, retrenchment, or laying off staff, since these are painful (Dial and Murphy, 1995; McKinley *et al.*,

2000), albeit viable strategies for creating value in a turnaround context.

Whether firms in troubled situations identify turnaround opportunities and implement the above strategies will depend on the CEO's credentials. Arguably, less talented executives are less likely to be capable in turnaround situations, due to both their substantive weaknesses (i.e., less likely to identify critical problems and thus take the wrong direction) or symbolic liability (i.e., they lack the credibility to convince key stakeholders). By contrast, highly talented CEOs (e.g., with established credentials or rich industry experience) are more likely to understand industry trends and relevant formulas to succeed in tough situations, for example, by connecting with knowledgeable parties, accessing valuable networks in evaluating viabilities of different initiatives, and securing critical resources for the turnaround effort (Davis and Useem, 2002; Florin, Lubatkin, and Schulze, 2003; Geletkanycz and Hambrick, 1997).

Although we expect the CEO's credentials to be positively related to the implementation of the turnaround strategies discussed, it is not clear whether he/she has an incentive to do so since they are naturally more likely to expand and grow the business (Ciscel and Carroll, 1980; Dial and Murphy, 1995). For instance, in the post-Cold War era after 1991, although it was obvious that the change of environment would inevitably result in a reduction in defense spending, few defense contractors reduced firm size or took substantial resources out of the industry. Instead, they pursed a growth strategy by making defense-related acquisitions or diversifying into non-defense business areas. Dial and Murphy (1995) found that resistance to downsizing could be mitigated by the incentive of tying a manager's remuneration to shareholder value creation.

Although implementing turnaround initiatives oriented to retrenchment and restructuring represents a challenge for executives (e.g., dealing with people who are negatively affected in the turnaround effort while maintaining company morale), properly compensated CEOs are more likely to do so if initiatives to increase firm value are tied to their pay. By contrast, those who are not well paid are more likely to pursue growth and market expansion because such strategies are more exciting and less stressful (Ciscel and Carroll, 1980; Slatter *et al.*, 2006) and have the potential to increase their future compensation as a result of increased firm size (Baker *et al.*, 1988). Thus, we would expect higher compensation to motivate executives to undertake strategic initiatives oriented toward retrenchment and restructuring. A combination of incentives and CEO credentials should have stronger effects on such turnaround initiatives because the degree to which a firm engages in retrenchment and restructuring will be mutually influenced by CEO talent and motivation.

Since higher compensation helps a company sign on executives with better credentials, and talented executives are more likely to implement the turnaround strategies discussed, to capture the motivational effect of compensation we examine the effect of pay premium, i.e., the amount paid over and above what a CEO would expect in normal market conditions (i.e., taking into account firm, industry, and individual characteristics). Investigating the pay premium is also consistent with our earlier arguments that higher pay in turnaround situations is due to the greater job demands in managing such situations. In sum, we propose a main effect and another interaction effect:

Hypothesis 3a: The pay premium (total pay and performance-based pay) received by new CEOs hired in turnaround situations is positively related to the extent to which a firm engages in retrenchment and restructuring turnaround initiatives.

Hypothesis 3b: The pay premium (total pay and performance-based pay) received by new CEOs hired in turnaround situations positively interacts with CEO credentials to influence the extent to which a firm engages in retrenchment and restructuring turnaround initiatives.

Our study examines both the determinants and implications of the new CEO's initial compensation in turnaround situations. Testing these hypotheses involves different model specifications, sampling strategies, and estimation methods. In the interest of clarity, we have divided our empirical analyses into two sections below. In the first section, we present the methods and results for testing our hypotheses related to the determinants of CEOs' initial pay (i.e., Hypotheses 1a, 1b, and 2). In the second section, we present the methods and results for testing our hypotheses related to the implications of pay premium on subsequent strategic initiatives (i.e., Hypotheses 3a and 3b).

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EMPIRICAL ANALYSIS I

Executive job demands and initial compensation of new CEOs hired in turnaround situations: methods and results

Sample

Since our aim was to study established firms that had encountered turnaround situations, we drew our sample from Standard and Poor's 1500 Index companies in the years from 1990 to 2003. We excluded financial firms, and to allow for meaningful industry-level control we limited our sample to companies that derived at least 70 percent of their revenues from their primary three-digit SIC industry (Zhang and Rajagopalan, 2004). From this set, we identified companies in turnaround situations: those that had operating returns on equity before extraordinary items greater than their cost of equity for at least two consecutive years in the sample period (to confirm that they had been somewhat reliably high performing), immediately followed by a year of operating loss (again, before extraordinary items).[1] These companies had abruptly swung from satisfactory performance to very poor performance. All financial data were collected from Compustat.

Consistent with prior research, we drew our sample from listings of established companies, excluding small and young firms (Bibeault, 1982), and we stipulated two years of satisfactory performance as a way to confirm that the companies had been performing somewhat reliably (e.g., Robbins and Pearce, 1992). Our requirement that satisfactory performance needed to be followed by absolutely poor performance (an operating loss) is a criterion on which a number of prior studies have differed. Some stipulate that declining performance, regardless of absolute level, constitutes a turnaround situation (e.g., Schendel *et al.*, 1976), while others argue that performance needs to be below an absolute threshold (e.g., Barker and Mone, 1994; Hambrick and Schecter, 1983). We adopted the latter approach to ensure that we were sampling genuinely troubled firms rather than simply stagnant or slowly deteriorating firms. Specifically, we used the negative income as the threshold because it is an unequivocal signal of poor firm performance (Kaplan, 1994a, 1994b).

Our operationalization also differs from prior studies in that we did not stipulate that sampled firms had to experience multiple years of poor or declining performance (Barker and Duhaime, 1997; Pearce and Robbins, 1993) to qualify as being in a turnaround situation. We adopted this approach to address a number of important issues relevant to our specific research question. Most notably, it acknowledges that the incidence of CEO replacement increases sharply from the onset of poor performance. In our sample, for instance, the rate of CEO replacement in the first year of operating losses was about double the typical rate of CEO turnover, probably reflecting a combination of well-considered dismissals, scapegoating, and hastened voluntary exits. Our operationalization thus allows us to address how quick responses to replace the CEO may affect the compensation design. Moreover, our approach allows us to consider how new CEOs respond to early indicators of performance problems, which presents an opportunity to pursue the question of how a company plummeting into losses might design its compensation to attract new CEOs, and what implications such compensation might have for subsequent strategic initiatives.

We further emphasize that our operationalization of a turnaround situation—requiring a one-year swing from healthy profits to operating losses—does not mean that the problems confronting these companies were minor or necessarily short lived. In fact, our criterion is more stringent than that of the operationalization used by Bibeault (1982) in his often-cited book on turnarounds: a profit decline of 80 percent or more in a single year. About 73 percent of the 223 turnaround situations in our sample had an Altman's *Z*-score below 3.00 in the year of initial losses (Altman, 1983) and thus faced considerable threat of bankruptcy, as the *Z*-score is often used to identify firms in turnaround situations (Barker and Duhaime, 1997). Moreover, the seriousness of our companies' situations was evidenced by their performance profiles four years after the first onset of losses that we documented: only a third had reattained profit levels above their cost of equity, another third were making marginal profits, and a third were still incurring losses.

In sum, we examined a specific type of turnaround situation: established companies that

[1] Cost of equity was calculated as follows: $COE_{it} = Risk_{ft} + \beta_{it} \times Risk_p$, where $Risk_{ft}$ is the risk-free rate for 1-year U.S. government treasury bills in $year_t$; β_{it} is the beta for $firm_i$ in $year_t$ estimated with its prior five-year monthly return data provided by the CRSP database; and $Risk_p$ is the market risk premium, estimated at seven percent (i.e., Brealey and Myers, 2002; Stewart, 1991).

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abruptly swung from satisfactory profits to losses. Applying the above criteria, we identified 223 firms in turnaround situations, and coded their leadership change during the year they had losses or one year after the losses (in the period of 1992–2004). We found that 98 firms hired new CEOs in the year or one year after they entered turnaround situations (we excluded interim CEOs). This 44 percent replacement rate represents an annual rate of 22 percent, which is double the incidence of CEO succession in major U.S. firms (Lucier, Schuyt, and Tse, 2005), confirming that the condition of these firms was alarming for their respective boards.

Hypotheses 1a, 1b, and 2 focused on new CEOs' initial pay package, and specifically compared the level and mix of compensation for new CEOs hired in turnaround situations and those hired in non-turnaround situations. Thus, in addition to the 98 new CEOs hired in turnaround situations, we needed to identify comparison targets—new CEOs hired in non-turnaround situations. To do so, we first collected all new CEOs in ExecuComp who were hired by other firms in the same period (from 1992 to 2004) and in the same industry sectors (1 of 24 industry sectors) as those firms in turnaround situations. There were a total of 452 new CEOs. Next, we used a propensity score-matching process to identify a subset of new CEOs similar to the "treatment" group (i.e., 98 new CEOs hired in turnaround situations). We started with 550 new CEOs (including 452 hired in non-turnaround situations and 98 hired in turnaround situations), and then employed Stata code "PSMATCH 2" (Leuven and Sianesi, 2003) to adjust for pretreatment observable differences and performed a one-to-one match to construct 98 "counterfactual" new CEOs hired in non-turnaround situations. Specifically, in our first-stage probit model, we included firm size, firm performance, sales growth, capital expenditure, leverage ratio, quick ratio, industry and year dummies to calculate the propensity score for each firm in the initial sample. The detailed results for the propensity score-matching are in Appendix Table 1. The model has a log-likelihood of -213.94 ($p < 0.01$) and a McFadden's pseudo R-squared of 0.33. These statistics indicate the appropriateness of the choice of independent variables and the overall fit of our model. According to the calculated propensity score, we identified the closest one-to-one match for each of the 98 new CEOs hired in turnaround situations. Our final sample size in testing Hypotheses 1a to 2 was 196 firm-CEOs (i.e., 98 new CEOs hired in turnaround situations and a matching 98 hired in non-turnaround situations).[2]

Dependent variables

New CEO's initial pay (total pay and performance-based pay). The new CEO's initial total pay is defined as the first year's total remuneration, including all forms of compensation received in the succession year, which is defined as Year 0. Initial total pay includes fixed salary, performance bonus, life insurance, options, and restricted stocks.[3] In addition, we checked ExecuComp's database and the new CEO's initial employment agreement disclosed in proxy statements to correct any discrepancies.[4]

The performance-based pay is the value of options, restricted stocks, and bonuses. It is important to note that the value of options, based on Black and Scholes' (1973) option-pricing model, is an *ex ante* valuation measure calculated in the

[2] In our main analysis, we used the matching 98 new CEOs hired in non-turnaround situations as the comparison group. In addition, we conducted two robustness tests by using two other comparison groups: (1) a smaller group of 68 new CEOs hired by the *same* turnaround firms (which were identified as being in turnaround situations as we discussed earlier) from 1992 to 2004, but these new CEOs were *not* hired in turnaround situations (i.e., in the year or one year after the firm entered a turnaround situation); and (2) a larger group consisting of all 452 new CEOs who were hired by *other* firms in non-turnaround situations in the same period (from 1992 to 2004) and in the same industry sectors (1 of 24 industry sectors) as those firms in turnaround situations. We found consistent results supporting our Hypotheses 1a to 2. Results are available upon request.

[3] There are some special items for externally appointed new CEOs such as relocation subsidies, options, or deferrable restricted stocks granted to compensate any forfeited benefits in their prior post. For instance, Mattel granted its new CEO Robert Eckert a total of 468,685 deferrable restricted stocks (with an evaluation of approximately US$7.7 million) to compensate him for a grant of restricted stocks he forfeited by leaving Kraft Foods, Inc. We checked the details of new CEOs' compensation contracts and found that only about nine percent of our sample firms said the initial compensation included these special items, and six percent of our sample firms indeed disclosed the details of such special items (such as the number of restricted stocks and its valuation). On average, the valuation of such disclosed special items only account for 14 percent of these new CEOs' compensation package. We excluded the value of these special items in our main analyses because it represents a more conservative test, and we thought these special items were not directly related to our theoretical arguments—executive job demands. In our supplementary analyses where we included these special items into new CEOs' total compensation, we found similar results.

[4] For instance, Allegheny Energy agreed to issue 1,500,000 options to its new CEO, Paul J. Evanson, in an employment agreement in June 2003. Although the options were actually granted in February 2004, the valuation of these options was treated as part of Evanson's initial pay in 2003.

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succession year when the options are granted to the new CEOs. The proportion of performance-based pay is the ratio of its value to the total pay.

Independent and moderating variables

New CEOs hired in turnaround situations. We created a dummy variable that equaled 1 if new CEOs were hired in turnaround situations (98 cases of treatment group), and 0 if they were hired in non-turnaround situations (a matching 98 cases of "comparison" group).

Outsider CEO. This is a dummy variable, coded 1 if the new CEO had 0 tenure before he/she was hired by the focal firm.[5] The interaction term between outsider CEOs and firms in turnaround situations was mean-centered and used to test Hypothesis 2.

Control variables

Predecessor's last annual pay (total pay and performance-based pay). We expected firms to have a compensation policy and that the predecessor's pay would be highly correlated with the new CEO's pay. Therefore, we included the predecessor's last annual pay in the models predicting the new CEO's initial pay. We used the same method of measuring the new CEO's initial pay to measure the predecessor's last annual pay.

Firm characteristics. A number of firm characteristics in the succession year affect the magnitude and structure of the new CEO's initial pay (e.g., Ciscel and Carroll, 1980; Core, Guay, and Larcker, 2008; Finkelstein and Boyd, 1998). We included *firm size* (measured by the logarithm-transformed total assets), and *firm performance* (measured by the net return on assets [ROA]), *sales growth* (measured by the sales growth rate), *market-to-book ratio* (measured by the market value of equity plus the book value of liabilities divided by total assets), and Altman's *Z*-score.

Agency factors. Prior research has also stressed the influence of corporate governance in setting CEO compensation (e.g., Core *et al.*, 2008; Hambrick and Finkelstein, 1995). In this vein, we included *CEO duality* (the dummy variable equaled 1 if the newly appointed CEO also held the position of chair of the board at Year 0), *outside director ratio* (the percentage of independent directors on the board at Year −1), *independent directors' ownership* (the cumulative percentage of shares held by independent directors at Year −1), *institutional shareholder's ownership* (the cumulative percentage of shares held by institutional shareholders at Year −1), and *CEO ownership* (percentage of shares, excluding options, held by the newly appointed CEO at Year 0). The variables on agency factors were drawn from IRRC (Investor Responsibility Research Center), Compact Disclosure (CD) database (for observations before 1996), or proxy statements.

CEO credentials. CEO credentials influence the pay level an executive will receive, thus we controlled for their effect on the level of compensation obtained by new CEOs. Various CEO credentials could be considered. Consistent with prior research, we used two observable qualities to capture an executive's credentials: *CEO prestige* and *industry experience* (Chen, Hambrick, and Pollock, 2008; D'Aveni, 1990; Geletkanycz and Hambrick, 1997). To measure CEO prestige, we investigated a new CEO's work experience and educational background (D'Aveni, 1990; Palia, 2001). A new CEO was regarded as possessing *prestigious working credentials* if he or she had been employed by a prominent firm at the level of vice president or higher, or had sat or was currently sitting on the most prominent firm's board (D'Aveni, 1990; Pollock *et al.*, 2010). Their prior work experience in leading firms provided them with an understanding of major industry trends (Geletkanycz and Hambrick, 1997), relevant formulas for success (Florin *et al.*, 2003), and connections with knowledgeable parties (Davis and Useem, 2002). We considered a firm to be prominent if it was a member of the S&P 100 Index (as it represents the most visible and stable companies in the U.S. economy). A new CEO was coded as possessing *prestigious educational credentials* if he or she had received a degree (undergraduate or graduate) from an elite institution. An outstanding educational background offers an indication of the new CEO's ability (via the selectivity and educational offerings of elite schools) and of the valuable alumni networks that could help secure critical resources (D'Aveni and Kesner, 1993). The

[5] We also regarded a new CEO as an outsider if he or she had less than one year's tenure in the focal firm. The results were qualitatively the same as what is reported here, but with a slightly smaller prediction power (*R*-squared).

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list provided by Finkelstein (1992) was used to identify the elite institutions. Finally, the variable *CEO prestige* was coded 1 if the new CEO had either prestigious working credentials or prestigious educational credentials, and 0 otherwise.

Industry experience was measured by the sum of company tenure and industry tenure beyond the focal firm. Company tenure was the number of years that a new CEO had been employed in the focal company before he or she was promoted to the chief executive position, (company tenure equaled 0 if the new CEO was appointed externally). Industry tenure beyond the focal firm was the number of years that a new CEO was employed outside the company but within the same industry as the focal firm. Data on CEO credentials were drawn from proxy statements, Dun and Bradstreet's Reference Book of Corporate Management, Capital IQ, and Standard and Poor's Register of Corporations, Directors, and Executives.

Finally, we also controlled for *industry dummies, year dummies*, and *the interaction of industry-year dummies* in our empirical models.

Estimation methods

To predict the new CEO's initial pay, we used an ordinary least squares (OLS) regression. Our empirical setup only allowed us to observe cases where CEO succession did occur. To control for possible sample selection bias, we followed a procedure used in prior research (Zajac and Westphal, 1996) and used Heckman's two-stage model (Heckman, 1979). First, we drew a total of 572 firm years from the ExecuComp database. These firms belong to 1 of the 24 industry sectors and had *not* replaced their CEO in a specific year from 1992 to 2004. Second, we used firm characteristics (including firm size measured by total assets, firm performance measured by ROA, and performance change from Year −1 to Year 0), departing CEO characteristics (including departing CEO age and CEO tenure in the focal firm), and agency factors (including outside director ratio) to predict whether the firms would change their CEOs. To successfully control for the selection bias, at least one independent variable needs to be identified that is associated with the dependent variable in the first-stage model, but is not related to the dependent variable in the second-stage model (Larcker and Rusticus, 2010). This variable is CEO age. Previous studies have documented that this variable is positively related to CEO turnover (Huson, Parrino, and Starks, 2001; Wagner, Pfeffer, and O'Reilly, 1984), but is not significantly associated with executive compensation (Core *et al.*, 2003; Deckop, 1988). The detailed results of this first-stage model are presented in Appendix Table 2. An inversed Mill's ratio was generated in the first-stage model, and then included in the second-stage analysis as an instrumental variable, named *prone to CEO succession*, to correct for any selection bias (Heckman, 1979).

Results

Table 1 report descriptive statistics and correlations for variables used in testing Hypotheses 1a, 1b, and 2. Table 2 reports the results of regressions that predicted a newly hired CEO's total pay (Models 1–3) and performance-based pay (Models 1′–3′). Models 1 and 1′ include control variables. Models 2 and 2′ add the dummy variable indicating whether or not the new CEOs are hired in turnaround situations to test Hypothesis 1a and 1b. The variable is positively significant ($\beta = 0.385$ and $p < 0.05$ in Model 2; $\beta = 0.121$ and $p < 0.05$ in Model 2′). Model 3 and 3′ include the interaction between new CEOs hired in turnaround situations and outsider CEO, and it is also positively significant ($\beta = 1.179$ and $p < 0.01$ in Model 3; $\beta = 0.328$ and $p < 0.05$ in Model 3′). Thus, our Hypotheses 1a, 1b, and 2 are all supported.

In our robustness check, we also used the value of performance-based pay (instead of a ratio figure) as our dependent variable. Regression results were highly consistent with those we reported here. In addition, we ran regressions with new CEO's *fixed salary* as the dependent variable; we did not find that new CEOs hired in turnaround situations received a higher fixed salary, however.

EMPIRICAL ANALYSIS II

Implications of new CEOs' initial compensation on turnaround initiatives: methods and results

Sample

Hypotheses 3a focused on the implications of a CEO's pay premium on the subsequent retrenchment and restructuring initiatives, and Hypothesis 3b specifically addressed the interaction effect between CEO pay premium and CEO credentials on the extent to which firms undertake such

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Table 1. Descriptive analysis and correlations (predicting new CEOs' initial compensation)[a]

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Firm size (log)	7.68	1.56																		
2. Sales growth	0.06	0.41	−0.02																	
3. Market-to-book ratio	1.31	0.81	0.10	0.06																
4. Altman *Z*-score	3.43	3.09	−0.28	0.11	0.25															
5. Firm performance (ROA)	−0.01	0.12	0.20	0.11	0.21	−0.14														
6. Independent directors' ownership	0.43	2.05	−0.14	0.07	0.07	0.09	0.04													
7. Institutional shareholders' ownership	55.55	20.19	0.15	−0.03	0.13	−0.04	0.12	−0.09												
8. CEO duality	0.52	0.50	0.03	0.01	0.00	−0.03	0.14	−0.04	0.13											
9. Outside director ratio	0.65	0.17	0.18	0.00	−0.07	−0.18	0.13	−0.03	0.08	0.26										
10. CEO ownership	0.30	0.48	−0.29	−0.06	−0.03	0.11	−0.11	0.14	−0.02	0.12	−0.21									
11. Outsider CEO	0.27	0.44	−0.13	0.04	−0.06	−0.01	−0.15	0.00	0.06	0.15	0.04	−0.06								
12. CEO prestige	0.41	0.49	0.14	0.00	0.10	−0.06	0.05	−0.10	0.08	0.06	0.11	−0.16	0.24							
13. Industry experience	15.73	12.43	0.35	−0.03	0.07	−0.08	0.16	−0.03	0.10	0.01	0.01	0.05	−0.45	−0.08						
14. Prone to CEO succession	0.63	0.34	−0.05	0.26	0.26	0.13	0.31	0.19	−0.03	0.01	0.01	0.07	−0.07	−0.03	−0.05					
15. New CEOs hired in turnaround situations	0.50	0.50	−0.03	−0.17	−0.20	−0.02	−0.17	−0.11	0.00	0.03	−0.11	0.19	0.22	0.05	−0.13	−0.46				
16. Predecessor's total pay (log)	7.57	1.28	0.55	−0.21	0.23	−0.03	0.08	−0.06	0.18	−0.06	0.17	−0.25	0.00	0.13	0.16	−0.03	0.05			
17. Predecessor's performance-based pay (ratio)	0.45	0.29	0.28	−0.08	0.16	0.00	−0.06	−0.05	0.19	−0.06	0.05	−0.05	0.02	0.08	0.07	0.06	0.06	0.71		
18. New CEO's initial total pay (log)	7.94	1.24	0.38	−0.01	0.28	0.07	0.08	−0.19	0.27	−0.03	0.07	−0.33	0.25	0.38	0.01	−0.08	0.11	0.49	0.27	
19. New CEO's initial performance-based pay (ratio)	0.59	0.28	0.21	0.07	0.25	0.15	−0.04	−0.14	0.28	−0.04	0.01	−0.10	0.18	0.22	0.03	−0.11	0.14	0.28	0.15	0.70

Correlations above |0.15| are significant at the 0.05 level.

[a] $N = 196$, including 98 new CEOs hired in turnaround situations, and a matching 98 new CEOs hired in non-turnaround situations.

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Table 2. Predicting new CEOs' initial compensation

	Total pay			Performance-based pay		
	1	2	3	1′	2′	3′
Predecessor's total pay in Models 1–3 (performance-based pay in Models 1′–3′)	0.210*	0.210*	0.250**	0.025*	0.028*	0.019^{+}
	(0.090)	(0.089)	(0.086)	(0.011)	(0.012)	(0.011)
Firm size	0.161*	0.158*	0.118	0.044*	0.043*	0.028
	(0.074)	(0.073)	(0.071)	(0.021)	(0.021)	(0.021)
Sales growth	0.001	0.001	0.002	0.001^{+}	0.001^{+}	0.001*
	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Market-to-book ratio	0.305	0.295	0.394	0.195*	0.201*	0.237*
	(0.277)	(0.273)	(0.263)	(0.098)	(0.097)	(0.095)
Altman *Z*-score	0.053**	0.051**	0.044**	0.012^{+}	0.010	0.008
	(0.015)	(0.015)	(0.015)	(0.006)	(0.006)	(0.006)
Firm performance	0.176	0.057	−0.147	−0.365	−0.381	−0.436^{+}
	(0.784)	(0.775)	(0.746)	(0.273)	(0.269)	(0.262)
Independent directors' ownership	−0.061^{+}	−0.057^{+}	−0.059^{+}	−0.016	−0.016	−0.019
	(0.035)	(0.034)	(0.033)	(0.012)	(0.012)	(0.012)
Institutional shareholders' ownership	0.009^{+}	0.008^{+}	0.010*	0.002	0.002	0.002
	(0.004)	(0.004)	(0.004)	(0.001)	(0.001)	(0.001)
CEO duality (CEO is also the board chair)	0.026	0.038	0.106	−0.025	−0.018	0.008
	(0.165)	(0.163)	(0.158)	(0.055)	(0.054)	(0.054)
Outside director ratio	0.106	0.180	−0.316	0.151	0.166	0.056
	(0.511)	(0.505)	(0.506)	(0.167)	(0.165)	(0.166)
CEO ownership	−0.297^{+}	−0.422*	−0.421*	0.046	0.007	0.008
	(0.169)	(0.177)	(0.170)	(0.059)	(0.062)	(0.060)
Outsider CEO	0.455*	0.366^{+}	−0.082	0.031	−0.002	−0.134
	(0.206)	(0.208)	(0.240)	(0.070)	(0.071)	(0.085)
CEO prestige	0.644**	0.627**	0.566**	0.088*	0.086^{+}	0.061
	(0.159)	(0.157)	(0.152)	(0.043)	(0.050)	(0.052)
Industry experience	0.009	0.010	0.007	0.001	0.001	0.001
	(0.008)	(0.008)	(0.008)	(0.003)	(0.003)	(0.003)
Prone to CEO succession	−0.450	−0.219	−0.238	−0.182^{+}	−0.110	−0.124
	(0.294)	(0.311)	(0.299)	(0.097)	(0.103)	(0.100)
New CEO hired in turnaround situations		0.385*	0.384*		0.121*	0.124*
		(0.188)	(0.180)		(0.059)	(0.061)
New CEO hired in turnaround situations × outsider CEO			1.179**			0.328*
			(0.351)			(0.125)
Constant	6.828*	5.159^{+}	5.975*	0.385	−0.364	1.029
	(2.749)	(2.618)	(2.521)	(0.783)	(0.748)	(0.776)
N	196	196	196	196	196	196
Adjusted *R*-squared	0.52	0.54	0.58	0.23	0.25	0.28

Year and industry dummies and their interactions were included in the model. Standard errors appear in parentheses.
$^{+}p < 0.10$; $^{*}p < 0.05$; $^{**}p < 0.01$

turnaround strategies. Here we used 98 CEOs hired in turnaround situations in the hypothesis testing, as our focus is on the effect of their compensation on the subsequent turnaround initiatives.

Dependent variable

Turnaround initiatives. We focus on retrenchment and restructuring turnaround initiatives. In the turnaround situations literature, these initiatives include downsizing, cost-cutting, and product/market refocusing (Hambrick and Schecter, 1983; Hofer, 1980; Slatter *et al.*, 2006). The downsizing indicator includes both fixed assets and employment size reduction (Hofer, 1980; Robbins and Pearce, 1992). We examined the change of fixed assets and number of employees from CEO succession year (Year 0) and three years after the succession year (Year +3), and reverse coded the value to ensure that a greater value suggests a

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greater extent of downsizing. These two items are highly correlated ($r = 0.58$, $p < 0.01$), and we created a variable by adding the standardized score of fixed asset and employment size reduction. Second, a firm's cost-cutting initiative typically involves cutbacks in seemingly discretionary expenses, such as research and development, advertising, nonproduction overhead (e.g., Hambrick and Schecter, 1983). We collected a firm's R&D intensity (R&D/sales), advertising intensity (advertising expenses/sales), and SGA expenses (selling, general and administrative expenses/sales) from Compustat, and then reversely coded the difference between these items at Year +3 and Year 0. Similar to downsizing, we created an indicator of cost-cutting initiatives by adding the standardized scores of the three items (the average correlation is 0.38, $p < 0.01$). Finally, to measure product/market refocusing initiatives, we first collected each firm's diversification posture in product (i.e., business lines) and market (i.e., geographical markets) dimensions from the Compustat Segment database at Year 0 and Year +3. Then, we followed prior research (Matusik and Fitza, 2012; Palepu, 1985) and used an entropy method to capture the degree of diversification in product and geographic markets, respectively. The difference between a firm's diversification posture at Year +3 and Year 0 was reversely recorded, and therefore a higher value suggests a greater extent of refocusing. The measure of product refocusing is highly correlated with market refocusing ($r = 0.42$, $p < 0.01$); we then created the indicator of product/market refocusing by adding their standardized scores. Finally, since three indicators of turnaround initiatives—downsizing, cost cutting, and product/market refocusing—are highly correlated (the average correlation is 0.29, $p < 0.01$), and we combined these into a single index of "retrenchment and restructuring turnaround initiatives" using the sum of their standard scores.[6]

Independent and moderating variables

Pay premium received by new CEOs (total pay and performance-based pay). As argued earlier, since we aim to examine the incentive effect of CEOs' initial pay on the subsequent turnaround initiatives, we use pay premium, or the extra pay in addition to the amount a CEO would expect to receive after considering firm characteristics (e.g., size, profitability), industry conditions, and personal characteristics. Applying CEO pay premium instead of raw pay helps us to separate the effect of compensation from other related factors, such as CEO credentials, and is consistent with our earlier argument that the higher pay in turnaround situations is offered to compensate the increased demands of the job. To measure pay premium, we first used our empirical results in Empirical Analysis I above (Model 1 and 1′ of Table 2) to estimate the total pay and the proportion of performance-based pay that a new CEO would expect to receive based on market standards (i.e., industry affiliation, firm size, performance, CEO characteristics, etc.). The difference between the new CEO's actual pay (total pay and performance-based pay) and the estimated pay is the pay premium measure. These variables are named *PP-residuals of total pay* and *PP-residuals of performance-based pay*.[7]

CEO credentials. As discussed in Empirical Analysis I, CEO credentials in our analysis here included *CEO Prestige* and *Industry Experience*.

Control variables

We first controlled for the effects of firm size, firm age, firm performance in the succession year, prone to CEO succession, industry and year dummies, and their interactions as we did in Empirical Analysis I. In addition, we controlled for the *degree of performance decline*, measured by the difference of ROA at the year when the firm entered its turnaround situation and one year before (Chen and Hambrick, 2012), because prior research suggests that firm performance severity influences the degree of retrenchment and restructuring a firm should adopt (Arogyaswamy *et al.*, 1995; Burton, Ahlstrom, and

[6] To further examine the coherence of these measures, we conducted exploratory factor analysis. With a principal axis factoring procedure, all three indicators are loaded on a single factor (with average loadings above 0.58) with an eigenvalue of 1.48.

[7] We should note that the variances explained in our estimation models (Model 1 and 1' of Table 2) are in line with prior research using a similar methodology to measure an executive's over(under)pay (Core *et al.*, 2008; Wowak *et al.*, 2011). For instance, Core, Guay, and Larcker (2008) reported an *R*-squared of approximately 0.43 in predicting CEO's total compensation. Our *R*-squared (0.52) is slightly higher because we have included CEO credential variables, which involved more data collection and were not typically used in prior studies.

Wan, 2003; Robbins and Pearce, 1992). To control for sources of performance decline—whether the turnaround situation is firm specific or an overall industry problems, we further controlled for *industry growth* to capture the industrial environment. It was measured by the median ROA growth in the troubled firm's primary industry at the year when the firm entered its turnaround situation.[8]

Finally, we included a control variable "*prone to continue service*" in testing the implications of the new CEO's initial pay. This is because a notable proportion of newly hired CEOs does not survive the early years and are replaced within three years of their appointment (Finkelstein *et al.*, 2009). Since our turnaround initiatives were measured three years after the succession year, we also needed to correct this "survival" bias. Similarly we used the Heckman two-stage model (Heckman, 1979). In the first stage, we used firm performance (measured by average ROA at Years +1 and +2), new CEO characteristics (including CEO age and a dummy indicating whether the new CEO was externally or internally appointed), agency factors (including outside director ratio and CEO ownership at Year +2) to predict whether the newly appointed CEO was still in that position three years after the succession.[9] Results are presented in Table 3. Again, an inversed Mill's ratio was generated in the first-stage model, and was included in the second-stage analysis as an instrumental variable (Heckman, 1979).

Results

Table 3 reports descriptive statistics and correlations for variables used in testing Hypotheses 3a and 3b. Table 4 presents the results of models predicting turnaround initiatives. Model 1 includes control variables. Model 2 includes the pay premium of total compensation (PP-residuals of total pay). Results show that PP-residuals of total pay is significant in predicting the retrenchment and restructuring turnaround initiatives ($\beta = 0.484$, $p < 0.05$). Model 3 includes the interactions between pay premium of total compensation and two indicators of CEO credentials. Results show that the interaction between pay premium of total compensation and industry experience is positively significant ($\beta = 2.940$, $p < 0.05$), but the interaction between pay premium of total compensation and CEO prestige is not ($\beta = -0.209$, n.s.).

Models 4 and 5 have a similar layout as Models 2 and 3, except that Models 4 and 5 replace pay premium of total compensation with pay premium of performance-based compensation (PP-residuals of performance-based pay). Results are consistent with those of Models 2 and 3: the main effect of pay premium of performance-based pay is positively significant ($\beta = 1.731$, $p < 0.05$); the interaction between pay premium of performance-based pay and industry experience is positively significant ($\beta = 6.366$, $p < 0.05$), but the interaction between pay premium of performance-based pay and CEO prestige is not ($\beta = -0.043$, n.s.). These results suggest that the pay premium received by new CEOs in turnaround situations is positively related to the extent to which a firm engages in retrenchment and restructuring turnaround initiatives. Hypothesis 3a is thus supported. However, we only found partial support for our Hypothesis 3b where we posit that pay premium will interact with CEO credentials to influence the extent to which a firm engages in such turnaround initiatives.

Robustness check

First, we used a time frame of Year +2 (where Year 0 was the succession year) as a robustness test, and our results were very similar. Second, we checked whether the pay premium of fixed salary (PP-residuals of fixed salary) had a similar effect. We first built an estimation model as we did in Model 1 of Table 2 with the dependent variable being the new CEO's fixed salary, and measured the variable PP-residuals of fixed salary as the difference between the new CEO's actual fixed salary and the estimated salary. We then regressed turnaround initiatives on PP-residuals of fixed salary and other control variables as we did in Table 4. Neither the main effect of PP-residuals of fixed salary nor its interactive terms with CEO prestige/industry experience was significant. These findings suggest that the effects of pay premium on turnaround initiatives were mainly driven by performance-based pay.

Finally, one may argue that CEOs with higher pay will in general adopt retrenchment and

[8] We also used another alternative variable—*analyst optimism*—to capture the whole industry environment. It was measured by the average optimistic forecast of all analysts covering the troubled firm's primary industry. Analyst forecast data were collected from I/B/E/S. We found similar results by using *analyst optimism* as an alternative control for the industry environment.

[9] About 85 percent of the new CEOs remained in the office three years after the succession.

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Table 3. Descriptive analysis and correlations (predicting implications of new CEOs' initial compensation on turnaround initiatives)[a]

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11
1. Firm size (log)	7.42	1.28											
2. Firm performance (ROA)	−0.02	0.09	0.17										
3. Degree of performance decline	0.14	0.07	−0.06	0.41									
4. Industry growth	0.05	0.03	−0.04	0.08	0.12								
5. Firm age (log)	3.19	0.72	0.45	0.04	0.03	0.35							
6. Prone to CEO succession	0.39	0.24	−0.01	0.19	0.17	−0.04	−0.30						
7. Prone to continue service	1.14	0.55	0.15	−0.17	−0.32	0.48	−0.01	0.12					
8. CEO prestige	0.46	0.50	0.24	0.04	−0.17	0.18	−0.01	−0.01	0.26				
9. Industry experience (log)	3.97	0.16	0.12	0.06	0.05	0.11	0.03	−0.33	−0.13	−0.08			
10. PP-residuals of total pay	0.12	0.76	0.28	−0.06	−0.38	−0.06	−0.02	−0.03	0.31	0.25	−0.07		
11. PP-residuals of performance-based pay	0.05	0.25	0.14	−0.03	−0.28	−0.20	0.13	0.15	0.18	0.11	−0.13	0.76	
12. Retrenchment and restructuring turnaround initiatives	0.04	1.12	−0.08	−0.19	0.10	−0.08	0.15	−0.25	0.15	0.07	−0.05	0.16	0.18

[a] $N = 98$ new CEOs hired in turnaround situations.

restructuring strategies, thus the effect documented may not necessarily be related to the initial pay in turnaround situations. To address this concern, we used the matching group of 98 new CEO hired in *non*-turnaround situation in our Empirical Analysis I as a comparison group. Then, we ran similar regressions as those in Table 4. We did not find any significant effects of the pay premium received by these matched new CEOs on those strategic initiatives, nor did we observe the interaction effects between pay premium and CEO credentials. A comparison of these nonsignificant results with those reported in Table 4 suggests that the influence of pay premium on retrenchment and restructuring strategies is not a general effect for all firms, but is only applicable to firms in turnaround situations.

DISCUSSION

Few topics in organization studies have received as much attention from a wide array of scholars in different fields as CEO compensation (see Finkelstein *et al.,* 2009, for a summary). However, despite the extensive studies on this topic, they tend to focus on the incumbent CEOs' compensation. Far less attention has been paid to the initial compensation of new CEOs (Devers *et al.*, 2007). Focusing on the initial compensation allows us to unveil new insights in compensation research. For instance, it helps to separate the CEO's organizational power and entrenchment from other determinants of compensation level. In addition, the theoretical arguments for the performance-pay relationship for initial compensation should be different from the typical neoclassical and agency theories, because firm performance at $t-1$ suggests a succession context for the new CEO, instead of suggesting the CEO's managerial effectiveness. We aimed to fill this research gap by studying the initial compensation of new CEOs hired in turnaround situations and its implications on subsequent turnaround initiatives. We therefore address two related issues—determinants and consequences of new CEOs' initial compensation design. We think it worthwhile to consider these two issues concurrently for a more complete picture of CEO compensation. Our study also responds to the recent call by Devers and colleagues (2007) in their review paper for studies to examine antecedents and consequences simultaneously if we wish to more further understand executive compensation.

Table 4. Predicting implications of new CEOs' initial compensation on turnaround initiatives

	(1)	(2)	(3)	(4)	(5)
Firm size	0.134	0.040	−0.159	0.070	−0.050
	(0.113)	(0.118)	(0.156)	(0.112)	(0.124)
Firm performance	−4.448	−3.771	−9.545*	−2.364	−5.479
	(2.771)	(2.740)	(3.618)	(2.804)	(3.349)
Degree of performance decline	8.861**	8.484**	7.461	6.143^{+}	4.826
	(3.058)	(3.009)	(5.329)	(3.143)	(5.017)
Industry growth	−0.487**	−0.427**	−0.549**	−0.355*	−0.440**
	(0.140)	(0.140)	(0.148)	(0.145)	(0.149)
Firm age	−0.003	−0.037	−0.080*	−0.064^{+}	−0.132**
	(0.028)	(0.031)	(0.036)	(0.036)	(0.048)
Prone to CEO succession	-2.359*	-2.469*	-2.520*	-1.990^{+}	−0.076
	(1.032)	(1.015)	(1.211)	(1.010)	(1.398)
Prone to continue service	1.917**	1.778**	2.558**	1.571*	1.814*
	(0.679)	(0.670)	(0.836)	(0.672)	(0.804)
CEO prestige	0.672**	0.606*	0.988**	0.703**	1.399**
	(0.235)	(0.233)	(0.335)	(0.228)	(0.388)
Industry experience	−0.605	−0.631	−0.222	−0.501	0.464
	(0.374)	(0.399)	(0.407)	(0.297)	(0.531)
PP-residuals of total pay		0.484*	1.951**		
		(0.218)	(0.666)		
CEO prestige × PP-residuals of total pay			−0.209		
			(0.415)		
Industry experience × PP-residuals of total pay			2.940*		
			(1.318)		
PP-residuals of performance-based pay				1.731*	4.604**
				(0.663)	(1.470)
CEO prestige × PP-residuals of performance-based pay					−0.043
					(0.903)
Industry experience × PP-residuals of performance-based pay					6.366*
					(2.904)
Constant	4.393	−2.748	−6.499*	−1.907	−2.897
	(3.107)	(2.444)	(3.035)	(2.493)	(2.625)
Observations	98	98	98	98	98
R-squared	0.55	0.57	0.60	0.58	0.60

Year and industry dummies and their interactions were included in the model. Standard errors appear in parentheses.
$^{+}p < 0.10$; $*p < 0.05$; $**p < 0.01$

Executive job demands and compensation of new CEOs hired in turnaround situations

We first posited that managing firms in a turnaround situation is a challenging task for new CEOs, who face greater job demands, both quantitatively and qualitatively. New CEOs have to work long hours and with total commitment, in a context of resource and time constraints. In addition, they are under intense pressure from conflicting obligations, higher tensions, and anxiety due to potential career risk and human capital damage, all of which suggest that the demands of the job are greater in turnaround situations. We argued that firms have to compensate such executives with higher pay. Given that the job demands are particularly high if the successor is an outsider, we expected externally hired new CEOs to receive even higher pay. We compared 98 new CEOs hired in turnaround situations with a matching group of 98 new CEOs hired in non-turnaround situations and found strong evidence for our hypotheses.

This study contributes to both the executive job demands and compensation literatures. First, while prior research on executive job demands has typically focused on the quantitative dimension (Hambrick *et al.*, 2005; Janssen, 2000, 2001; Karasek, 1979), here we leverage the context of turnaround situations to discuss the qualitative dimension, such as the conflicting obligations CEOs face and particularly the career risk and potential human capital damage for new CEOs who accept the task to turn the troubled firms around (Janssen, 2001; Karasek,

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1979). We also extend prior work that has focused on the implications of job demands for executive behavior and strategic decisions (Hambrick *et al.*, 2005), to executive compensation. We argue that unless the level of pay is commensurate with the demands of the job, it will be difficult for firms to convince executives to sign on. Our paper is among the first to demonstrate empirically that job demands are an important determinant of executive compensation.

From a broader perspective, our results suggest that context matters (in this case, turnaround situations) and will influence a new CEO's compensation. Prior studies on the determinants of CEO pay have provided explanations from economic (e.g., Lazear and Rosen, 1981), social (e.g., Staw and Epstein, 2000), and political (e.g., Shen and Cannella, 2002; Zajac and Westphal, 1995) perspectives. Empirically, they investigate the effects of industry conditions, firm and CEO characteristics, and agency factors on the magnitude and structure of the pay a CEO receives. However, these studies rarely consider the logic behind the CEO's pay from a contextual perspective. We show that a recent decline in performance, such as the turnaround situations, will increase the new CEO's pay.

Finally, the "golden hello" (much higher pay) for new CEOs hired in turnaround situations, especially for externally appointed executives, may have a spillover effect and lead to an overall increase in CEO compensation throughout the sector. Due to the mandatory requirement of the Stock Exchange Commission (SEC) to disclose executive compensation, these sensitive data are publicly available. Conceivably, a process of social comparison might unfold, leading other boards/CEOs to use the higher pay of turnaround CEOs as a benchmark to set compensation for their top executives (O'Reilly *et al.*, 1988), ignoring the fact that the premium pay received by turnaround CEOs is due to the heightened executive job demands.

Implications of CEOs' initial pay on turnaround initiatives

Our paper has also investigated the potential influence of new CEO's initial pay on post-succession turnaround strategies. Drawing from prior research on turnaround situations (Hambrick and Schecter, 1983; Slatter *et al.*, 2006), we have focused our discussion on turnaround initiatives oriented to downsizing, cost cutting, and refocusing. These retrenchment and restructuring strategies have been widely found to be essential to turnaround efforts, especially in the initial stages when the priority is to stop financial hemorrhaging and stabilize a troubled situation. We have argued that CEOs need motivation to implement strategies focusing on restructuring and retrenchment, because they are intrinsically more interested in growth and expansion initiatives and stand to benefit from increased firm size thereafter (Dial and Murphy, 1995; Finkelstein *et al.*, 2009). Executive compensation, particularly performance-based pay, ties CEO remuneration to the share performance of troubled firms and incentivizes the CEO to adopt retrenchment and restructuring strategies. In addition, we have argued that the interaction between motivation and CEO credentials will have a stronger effect. Our results show that the main effect of pay premium is positively related to the degree to which a firm adopts such strategies; in addition, the hypothesized interaction effects also receive partial support.

Although our main focus is on different types of turnaround initiatives, we also seek to understand whether these turnaround initiatives led to better firm performance and a greater likelihood of successful turnaround. We ran regression models with the dependent variable ROA at Year +4. Then, we regressed these variables on firm size, firm performance at Year +0, the degree of performance decline, industry growth, firm age, year and industry dummies, and turnaround initiatives. Results show that retrenchment and restructuring strategies is positively related to better performance ($\beta = 0.007$ and $p < 0.05$). We thus documented some evidence consistent with prior research that retrenchment and restructuring turnaround strategies are helpful for troubled firms.

Our study on the implications of CEO pay contributes, first, to the literature on corporate turnarounds. Prior research in this domain has mainly focused on CEO succession, or whether the incumbent CEO should be replaced, and the performance consequences of such a replacement (Barker *et al.*, 2001; Schwartz and Menon, 1985). The current study brings executive compensation into the research landscape and investigates the effect of CEO compensation (together with CEO credentials) on turnaround initiatives. While compensation is a primary motivation and has been documented to influence strategic choices and organizational outcomes (e.g., Sanders and Hambrick, 2007), existing work has paid little attention to the initial

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compensation of new CEOs and its implications for firms' turnaround strategies. The implications of pay—the extent to which compensation design can influence managers' behavior—is also practically important especially for firms' turnaround situations. As firms in turnaround situation tend to have the "downward spiral," our paper helps to address the question of how to design compensation to attract managerial talents in saving a deteriorating firm (Hambrick and D'Aveni, 1988).

Limitations and future research

This paper has several limitations. First, although we have carefully controlled for potential selection bias, we have only been able to observe specific individuals who were appointed as CEOs. Since we cannot study the recruiting process in the firm's search for a new CEO based on archival data, we do not know the size of candidate pool that a troubled firm can access, or how many potential candidates that a firm has approached before it finalizes its successor. Future research can conduct qualitative studies to understand how troubled firms search potential candidates, how eager they are to find a successor, and how aggressively they approach and convince candidates to accept the new position.

Second, in models predicting the new CEO's initial compensation, we have not controlled for the successors' prior pay because of data availability issues. For insider successors, 95 percent of them had data on their prior pay based on archival sources. This variable is highly correlated with the predecessor CEO's compensation ($r = 0.75$) and causes multicollinearity concerns. For outsider successors, only 44 percent of them had data available for their prior pay; for instance, if the newly hired CEO was the president of a big division of a large multibusiness company, his/her pay might not be reported by the prior employer. If we included the variable of the successor's prior pay in the regression predicting the new CEO's initial pay, on average we lost 19 percent of the observations across different models. Nevertheless, we ran a regression with a reduced sample size by including this variable (and dropping the predecessor pay). We found that Hypotheses 1a, 1b, and 2 were still supported. In addition, we used another way to address this issue. Based on 160 firms/CEOs with full data, we first regressed the new CEO's prior pay on the predecessor CEO's pay, firm size, firm performance, sales growth, industry and year dummies. Next, we used the coefficients obtained from this regression model to estimate the initial pay of remaining CEOs who did not disclose their initial pay originally. With the added estimation of new CEO's initial pay, we ran the regression models similar to Table 2 (except that we dropped the predecessor's pay because of the multicollinearity issue) and found consistent results supporting our hypotheses.

Third, firms fall into troubled situations for various reasons. The causes of performance decline may suggest that firms need different turnaround initiatives (Schendel *et al.*, 1976). In our paper we have included a control variable—industry growth, which helps to capture whether the cause of performance deterioration is industry wide or firm specific. However, there are other potential sources of performance decline that have not been considered in the current paper and thus suggest direction for further research.

Finally, we did not find strong support for our Hypothesis 3b. It is also interesting to note the different patterns of the effects of CEO prestige and industry experience on turnaround initiatives. While CEO prestige had a positive main effect on the degree to which a firm implemented restructuring and retrenchment, its interaction with pay premium did not. By contrast, while industry experience did not have a strong main effect, its interaction with pay premium did. Assuming that restructuring and retrenchment are appropriate strategies for troubled firms and also harder to implement (assumptions which have received some support in this paper and earlier studies such as Hambrick and Schecter, 1983; Pearce and Robbins, 1993), one interpretation of these results is that prestigious CEOs care more about their reputation and thus do not require additional monetary incentives to adopt such strategies. However, CEOs with extensive industry experience may know that it is imperative to implement such strategies, but without *additional* incentives they are less likely to do so. Thus, prestige could be an effective mechanism to mitigate agency problems. Future research may find it interesting to explore the effect of prestige on governance along these lines.

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APPENDIX

Table 1. Propensity score matching: first-stage probit model

	Dummy: Firms in turnaround situations (treatment group)
Firm size (log of total assets)	0.13*
	(0.06)
Firm performance (ROA)	−0.24*
	(0.10)
Sales growth	−0.25
	(0.14)
Capital expenditure	0.13†
	(0.07)
Leverage ratio	0.66*
	(0.26)
Quick ratio	−0.12†
	(0.07)
Log-likelihood	−213.94
Chi-square	125.78**
McFadden's pseudo *R*-squared	0.33

$N = 550$
Year and industry dummies were included in the model. Standard errors appear in parentheses.
†$p < 0.10$; *$p < 0.05$; **$p < 0.01$

Table 2. Predicting the likelihood of CEO turnover

	Dummy: CEO turnover at Year 1
Firm size (log of total assets)	0.100**
	(0.031)
Firm performance (ROA at Year 0)	−0.011**
	(0.003)
Performance change (from Year −1 to Year 0)	0.005†
	(0.003)
Departing CEO age	0.070**
	(0.007)
Departing CEO tenure	−0.118**
	(0.021)
Outsider ratio	0.226**
	(0.063)
Log likelihood	−567.26**
Pseudo *R*-squared	0.27

$N = 1{,}122$
Year and industry dummies were included in the model. Standard errors appear in parentheses
†$p < 0.10$; *$p < 0.05$; **$p < 0.01$

Table 3. Predicting the likelihood of new CEO's early survival

	Dummy: CEO survival
Firm performance (average ROA at Years +1 and +2)	3.506*
	(1.518)
New CEO age	−0.148*
	(0.069)
New CEO origin (outsider CEO)	−0.190*
	(0.084)
Outside director ratio	−0.518†
	(0.350)
New CEO ownership	−0.361
	(0.282)
Log likelihood	−18.11**
Pseudo *R*-squared	0.48

$N = 98$
Year and industry dummies were included in the model. Standard errors appear in parentheses.
†$p < 0.10$; *$p < 0.05$; **$p < 0.01$