© *Academy of Management Journal*
2016, Vol. 59, No. 5, 1681–1706.
http://dx.doi.org/10.5465/amj.2014.0840

COME ABOARD! EXPLORING THE EFFECTS OF DIRECTORSHIPS IN THE EXECUTIVE LABOR MARKET

STEVEN BOIVIE
Texas A&M University

SCOTT D. GRAFFIN
ABBIE G. OLIVER
University of Georgia

MICHAEL C. WITHERS
Texas A&M University

In this study, we examine the following question: What do executives gain from serving on boards? We propose that board service benefits non-CEO-level executives in the executive labor market by acting as a certification mechanism and by providing access to unique knowledge, skills, and connections. We argue that non-CEO executives who gain directorships will be more likely to be promoted to CEO both inside and outside their home firm, will be more likely to be promoted internally, and will receive higher pay from their home firms. To test our ideas, we employ propensity score matching to construct a longitudinal sample of 2,104 top executives of large, publicly traded companies in the United States over the period 1996 to 2012. The results provide consistent support for our theory.

What do executives gain from serving on boards? This question has implications for our knowledge and understanding of executive labor markets, as well as theory examining what motivates individuals to serve on boards of directors. Despite the existence of abundant research on the CEO labor market, factors affecting the non-CEO executive labor market have been rarely studied. Similarly, our understanding of director motivation is relatively limited (Hambrick, Werder, & Zajac, 2008). We assert that these seemingly disparate research contexts may each inform the other.

Regarding the CEO labor market, topics such as CEO succession, compensation, monitoring, and evaluation have been widely studied (see Devers, Cannella, Reilly, & Yoder, 2007; Finkelstein, Hambrick, & Cannella, 2009 for reviews). Despite the richness of this research, however, little is known about the factors that influence executive promotion to CEO. Further, a recent survey of large public firms revealed that only 26% of boards review succession planning more than once per year, and of those firms that do discuss succession planning, they spend, on average, one hour annually on this topic (Larcker & Saslow, 2014). Given the fact that managing CEO succession is likely to be the board's most important responsibility (Vancil, 1987), this lack of planning is striking and contributes to the fact that CEO selection tends to occur in a relatively information-poor context, especially when succession comes from outside the firm (Khurana, 2002). The information asymmetry between the parties, in this case a hiring board and potential CEO, is a reflection of the fact that a "match" is an experience good—it is difficult to know a priori the quality of the match between these two parties (Greve & Fujiwara-Greve, 2003).

Similarly, despite an abundance of research on the roles and responsibilities of boards of directors, much remains unknown about directors' motivations for serving (Hambrick et al., 2008). Perhaps owing to the difficulty of directly measuring director motives, most empirical research in this area has not studied this directly and has instead approached the question indirectly by examining board seats exited as a result of a firm's performance. These studies have typically assumed that directors are motivated to do a good job because they want to protect their reputations as "experts in decision control" (Fama & Jensen, 1983: 315) and usually have very little to say about the motivation to serve in the first place (Boivie, Graffin, & Pollock, 2012).

The authors would like to thank Adam Wowak for his help on earlier versions of this paper.

Our study connects these two streams of research in the hope of providing a better understanding of each. Specifically, we examine how board service may benefit a non-CEO executive in terms of increased pay and promotional opportunities in the *executive* labor market. In addition to providing insight into how executives may ascend to the position of CEO, this also suggests a previously unexplored benefit of board service. Thus, our study, rather than asking why individuals serve on boards, asks: What do executives gain from serving on boards?

To explore this question, we develop theory regarding how and why an executive's board service is beneficial in the executive labor market. In doing so, we make two arguments. First, we suggest that board service benefits executives because it represents a third-party certification in the executive labor market. Consistent with prior research, we define certification as a third-party quality signal that is "generated by reputable observers [and] provides evaluations and endorsements or repudiations of actors within a given domain" (Graffin & Ward, 2010: 331). Given the relative uncertainty associated with new CEO selections (e.g., Graffin, Boivie, & Carpenter, 2013; Khurana, 2002), the historically high level of CEO dismissal (Green & Hymowitz, 2013; Larcker & Saslow, 2014), recent evidence of a lack of succession planning by large corporations (Larcker & Saslow, 2014), and the increasing use of executive search firms (Cappelli & Hamori, 2014), understanding factors that affect the executive labor market seems worthwhile. Because of this high degree of uncertainty, boards may focus on those non-CEO executives that are at the forefront of the board's mind due to their board service.

Second, we suggest that board service may benefit executives by enhancing their human and social capital. Board service should improve executives' access to unique information, understanding of board dynamics, and social networks. All of these factors should improve their ability to succeed in the executive labor market.

Understanding the benefits of board service is important because, for executives who already shoulder significant responsibilities in their primary jobs, serving on a board comes with significant drawbacks. Directorships do not pay especially well (relative to an executive's home firm pay), involve a great deal of repetition and ritual, and can require a sizeable time commitment (Hambrick et al., 2008). The fact that executives are eager to join boards (e.g., Useem & Karabel, 1986) despite the workload, scrutiny, and limited known benefits suggests that directorships come with unmapped benefits. We suggest that board service will benefit a non-CEO executive in terms of increased pay and promotional opportunities in the *executive* labor market. In particular, we argue that board service increases the likelihood of promotion to CEO, and leads to faster promotions to CEO and increased compensation at the director's home firm. In addition to providing insight into how executives may ascend to the position of CEO, this suggests a set of previously unstudied benefits of board service.

Our study makes several contributions. First, we contribute to theory by proposing a mechanism that influences an executive's likelihood of promotion to CEO. There has been a great deal of research on CEOs and their effects (Blettner, Chaddad, & Bettis, 2012; Fitza, 2014; Hambrick & Quigley, 2014), and yet, with few exceptions (e.g., Graffin, Porac, & McNamee, 2008a), we know little about what influences the likelihood of an executive becoming a CEO. Our theory and results suggest that serving as a director increases the likelihood of becoming a CEO. This contribution is noteworthy because, although this has never been explored theoretically or empirically, the effect seems to be well understood by individuals who are active parts of this network.[1] Similarly, we develop theory by proposing that, beyond promotion to CEO, board service will also contribute to other promotions, and lead to higher pay for executives.

Second, our study builds and extends the work of prior studies of executive succession that have focused on firms who have selected an "heir apparent" (Shen & Cannella, 2002a, 2002b). We build theory and find evidence that board service improves an executive's chances of promotion within the firm and outside the firm, even after considering characteristics that have been found to indicate grooming by the firm, such as holding the title of COO or president.

Third, we partially answer what Hambrick et al. (2008) deemed one of the great unanswered questions in corporate governance: What motivates directors to serve on boards? We develop theory and find evidence that executive directors enjoy increased pay and promotional opportunities outside of the boardroom. Such benefits provide clear, and previously unexplored, motivation for an executive

[1] During the review process we spoke with current and former directors, all of whom found our central premise to be consistent with their experience, which illustrates a gap between theory and practice on this issue.

to accept a board appointment, despite the costs associated with board appointments, such as an increased workload (for relatively low pay) and scrutiny (Arthaud-Day, Certo, Dalton, & Dalton, 2006; Boivie et al., 2012; Linck, Netter, & Yang, 2009).

Our study is particularly useful in light of recent evidence suggesting that directors vary in their motivations to serve on (and to leave) company boards of directors (Boivie et al., 2012). By exploring the career benefits that executives realize from board service, we aim to advance understanding about what motivates busy executives to take on the additional responsibilities and duties of directorship. This better understanding may help scholars and practitioners to better predict when certain characteristics may be predictive of the relative effectiveness of directors.

THEORY AND HYPOTHESES

The Executive Labor Market

Broadly conceived, there is extensive literature on the executive labor market. Indeed, there are large streams of research on the causes and consequences of CEO succession (for reviews, see Finkelstein et al., 2009; Kesner & Sebora, 1994), the determinants and outcomes of CEO compensation (see Devers et al., 2007 for a review), and the impact CEOs have on the performance of the firm (Fitza, 2014; Hambrick & Quigley, 2014; Meindl, 1990). Research has also explored the extent to which the market for executive labor tends to function like other labor markets (Carter, Franco, & Tuna, 2010; Fulmer, 2009; Rajgopal, Taylor, & Venkatachalam, 2012).

However, the literature on the executive labor market, while extensive, is quite CEO-centric. Indeed, even studies that have claimed to focus on the broader executive labor market have tended to focus on CEOs (Carter et al., 2010; DiPrete, Eirich, & Pittinsky, 2010; Nagel, 2010; Rajgopal et al., 2012). This is striking, given the fact that researchers have long recognized that firm performance is influenced by the entire top management team (TMT) (Hambrick & Mason, 1984). In sum, with few exceptions, research on the executive labor market has tended to focus on the monitoring, compensation, and evaluation of sitting CEOs. This focus means that we know very little about the factors that affect non-CEO-level executive migration, compensation, or promotion.

A few studies have looked more directly at the non-CEO executive labor market, however. For instance, research has suggested that executives who work for star CEOs are likely to benefit in terms of pay and promotion opportunities (Graffin, Wade, Porac, & McNamee, 2008b), and the literature on CEO succession has examined the effect of grooming on executive promotion (Kesner & Sebora, 1994). Research has also suggested that non-CEO-level executives tend to exit firms when there is environmental turmoil (Cho & Shen, 2007) or a high degree of pay dispersion among the TMT (Ridge, Hill, & Aime, 2014). Some of the earliest TMT research also looked at factors affecting overall TMT turnover rates, such as group heterogeneity (Wagner, Pfeffer, & O'Reilly, 1984) and firm characteristics, including mergers and acquisitions (M&A) activity (Walsh, 1988; Walsh & Ellwood, 1991) or firm complexity (Wiersema & Bantel, 1993).

Literature on matching and labor market intermediaries has also focused on various ways in which executives enter the CEO position. Pathways to the CEO position have evolved over time (Bidwell, 2011). CEO positions once held for the "heir apparent" are increasingly being filled by external hires, with firms turning to executive search firms to aid in the hunt for an outsider CEO (Bonet, Cappelli, & Hamori, 2013). Executive search firms are often credited with facilitating executives' initial decisions to execute a job search (Cappelli & Hamori, 2014), and with potential pay increases and mobility (Bonet et al., 2013; Dreher, Lee, & Clerkin, 2011). Empirical research to date, however, has not supported a link between the use of executive search firms and better-quality candidates for firms (Bidwell, 2011; Clark, 1992), or with an increase in an individual's likelihood of promotion or access to a job with a different skillset (Bonet et al., 2013; Hamori, 2010). Despite these studies, the lack of research regarding non-CEO executives, relative to what we know about CEOs, is problematic for boards of directors who are tasked with hiring and evaluating their firms' top executives (e.g., Khurana, 2002).

Hiring a CEO is arguably the board's most important responsibility, as research has suggested that as much as 38% of variance in firm profitability is due to its CEO (e.g., Crossland & Hambrick, 2007; Hambrick & Quigley, 2014). Hiring a CEO involves a difficult decision, however, as there is much uncertainty in assessing a sitting CEO's performance at any given point in time (e.g., Holmstrom, 1982; March, 1984; Wade, O'Reilly, & Pollock, 2006a). Such uncertainty is driven by the fact that it is difficult to tease out the portion of organizational performance that is driven by the acumen of a firm's top managers and the portion driven by environmental factors, such as industry conditions or

regulation, and that are thus not diagnostic of top managers' competence (Bok, 1993; Wade et al., 2006a). Further complicating such assessments is the fact that observed attributions of executive quality can be biased (Meindl, Ehrlich, & Dukerich, 1985) or driven by decision-making heuristics (Graffin et al., 2013) that may not be accurate.

While the above research collectively suggests that even ex post assessments of sitting CEOs are uncertain and difficult, such conditions are amplified for boards of directors that are attempting to assess the potential quality of executives they are considering to appoint as a CEO, due to a number of factors. First, most individuals who are promoted to CEO have not previously served as a CEO (Graffin et al., 2013). Second, as promotion to CEO, especially at a large firm, is qualitatively different from all other executive positions (Hambrick, Finkelstein, & Mooney, 2005; Kesner & Sebora, 1994), the executive experience of individuals may not be diagnostic of their capability to be an effective CEO. Consistent with this contention, research has suggested that board members are so worried about their CEO selections that they often introduce obfuscating information to make evaluating the succession process more difficult (Graffin, Carpenter, & Boivie, 2011). CEO selection can thus be characterized as a high-stakes decision occurring in a relatively information-poor context (Khurana, 2002). Further, a recent survey suggested that boards of directors are not investing a great deal of time and effort into advanced planning for these decisions. As noted above, of those boards that review the succession plan once or more annually, the mean amount of time spent on this task is roughly one hour (Larcker & Saslow, 2014). Indeed, the two broad conclusions offered from this survey are that (1) companies often do not know who is next in line to fill senior executive positions, and (2) companies do not have an actionable process in place to select senior executives. This lack of planning is further evidenced by an observed increase in the involuntary dismissal of CEOs in the academic literature (Wiersema & Zhang, 2011) and in surveys (Larcker & Saslow, 2014). Together, this evidence suggests that CEO succession may cause boards to worry about the outcome precisely because they were not fully prepared for the process.

This lack of research and understanding of the non-CEO executive labor market forms the motivation for this study. Our goal is to investigate how one specific factor, first time appointment to a board, affects a number of outcomes in the non-CEO-level executive labor market. Further, exploring how board service may affect executives' labor market outcomes will inform directors' motivation for service.

Director Motivation for Serving

The market for corporate directors has long been recognized as an important labor market for executives (Davis, 1993). A firm enters the market for a director when there is a vacancy on the board. To fill this vacancy, the board may look to executives of the focal firm, current or retired executives from other for-profit firms, community leaders (e.g., nonprofit leaders, professors, politicians), or individuals with specialized expertise (Hillman, Cannella, & Paetzold, 2000). The selection decision reflects the bargaining process that occurs between the CEO and board (Hermalin & Weisbach, 1988, 1998). In turn, this bargaining process creates a bifurcated market "in which both active and passive board members can thrive in a labor market for directors that is segmented by orientation toward management" (Westphal & Zajac, 1995: 509).

Potential directors bring expertise, skills, experience, and relationships that are reflective of their human and social capital. Current executives, in particular, offer unique human capital to a board from their executive experiences in decision making (Fich, 2005; Hillman & Dalziel, 2003; Khanna, Jones, & Boivie, 2013). These individuals also bring with them general knowledge in the strategy development and implementation process (Fama & Jensen, 1983).

Research on the market for corporate directors has recognized a number of benefits that motivate individuals to serve on boards (Withers, Hillman, & Cannella, 2012). Early research on directors' motivations, which was mostly based on interviews, suggested that individuals accepted board appointments because they wanted to learn and gain contacts (Lorsch & MacIver, 1989; Mace, 1986). Research has also broadly posited that economic incentives, prestige, and career objectives motivate individuals to join boards (Mace, 1986; Zajac, 1988). Similarly, research has suggested that directors gain power and influence from their roles in the corporate elite (Davis, Yoo, & Baker, 2003; Useem, 1979). Directors further benefit from the connection to the social elite, in that it may provide opportunities for future board and executive appointments (Useem, 1984), as well as from informational benefits from their experience of serving on boards (Haunschild, 1993; Haunschild & Beckman, 1998). Indeed, board service is apparently attractive enough that directors often make

significant effort to obtain board seats (Westphal & Stern, 2006, 2007).

Other studies have suggested that directors' motivations may be more nuanced. For instance, Westphal and Khanna (2003) found that directors punished other directors for good governance when CEOs had greater bargaining power over their boards. Other research has offered evidence that director exit is primarily voluntary and is based on individual motivations, such as prestige and the ability to contribute to the firm (Boivie et al., 2012). The overall picture that emerges from these studies is that directors serve for a variety of reasons. Here, we are exploring how non-CEO executives may gain value from board service.

Board Service and the Executive Labor Market

In uncertain contexts, actors tend to seek alternative sources of information to reduce uncertainty (Festinger, 1954; Thompson, 1967). We suggest that for top executives the attainment of a directorship can act as a certification to reduce uncertainty in the executive labor market. Prior research has suggested that wins in certification contests increase a CEO's compensation (Wade, Porac, Pollock, & Graffin, 2006b), and TMT members who work with a certified CEO receive higher pay and have an increased likelihood of future promotions (Graffin et al., 2008a).

Certification is a type of social evaluation that is especially valuable in situations where information asymmetry exists between a set of actors or evaluators. Certification theory builds from theory in economics on how markets respond to situations of information asymmetry. One of the broad strains of research in this area is that of signaling (Akerlof, 1970; Spence, 1974). Signals are valuable because they allow individuals or firms to indicate to the market that they are qualitatively different from or better than others. Signals are valuable when the desired information or quality of an actor is difficult to directly observe. For a signal to be effective it needs to be related to the characteristic of interest, visible, and difficult for a low-quality actor to display (Sanders & Boivie, 2004). Signaling theory has often been applied to issues of labor markets and human capital (Gomez-Mejia & Balkin, 1992; Spence, 1974). Education credentials are often seen as a valuable signal because a credible third party has certified that an individual has received appropriate training. Thus, when a signal is perceived as being linked to a given outcome, it is not assumed to be the causal agent, but a proxy for the causal agent (such as individual skill) that is difficult to observe. Board appointments should serve a similar purpose in the executive labor market. We are using the term "certification" because certifications are third-party endorsements, where signals are implied to be under volitional control by the given actor, but the underlying logic is analogous.

We suggest that there are two reasons why a first-time board appointment will act as a certification of quality in the executive labor market. First, it serves as an indicator of private information about the director. Such certifications may be particularly valuable in this context because the external executive labor market is information-poor. Khurana (2002) described how information is particularly difficult to gather on outside CEO candidates with whom board members have had little or no direct interaction. Similarly, there is evidence that more than 50% of executive migration occurs across two-digit standard industrial classification (SIC) codes (Carter et al., 2010), which indicates that boards often hire executives from different industries. Further, the confidential nature of the CEO search process often precludes interviews with an external candidate's coworkers and subordinates, leading to significant information asymmetry between the candidate and the hiring board (Khurana, 2002). Board service will convey to potential employers that a qualified third party considered the executive of sufficient quality to join their board.

Board service is also visible and unambiguous. Board appointments are public knowledge, and the firm usually puts out a prominent press release that announces the appointment of the new executive and highlights the individual and his or her accomplishments. Visibility such as this tends to provide positive benefits (e.g., Rhee & Lee, 2008; Rindova, Petkova, & Kotha, 2007; Rindova, Williamson, Petkova, & Sever, 2005). For many non-CEO executives, the announcement of being appointed to the board of a large firm may be the first time they have had this sort of exposure on a national scale.

Finally, outside observers may view board appointments as certifications because those making selection decisions are motivated to pick talented individuals. Board members have a vested interest in developing reputations as governance experts; to the extent that boards are perceived as ineffective, directors may experience negative outcomes in the director labor market (Fama & Jensen, 1983). Even if the actual negative consequences of poor governance are few (Black, Cheffins, & Klausner, 2005; Klausner, Munger, Munger, Black, & Cheffins, 2005), directors

care about their reputations (Boivie et al., 2012; Klausner et al., 2005; Withers, Corley, & Hillman, 2012), and research has suggested that they are motivated by being able to be involved and contribute (Boivie et al., 2012). Further, directors are fiduciaries charged with overseeing the management on behalf of shareholders. It is thus reasonable to assume that appointment to a board is a reliable signal of the candidate's human capital, as determined by knowledgeable evaluators with a vested personal interest in selecting talented directors.

The second reason why a board appointment may be beneficial to executives is that board service may help directors increase their level of human and social capital, as research has found that experience on a board provides learning benefits that can bolster an executive's human capital over time (McDonald, Westphal, & Graebner, 2008). Serving on a board of directors will also enable an executive to develop relationships with executives from other firms. Such benefits have likely become amplified in recent years, as the percentage of outside directors serving on boards now stands at roughly 80% (Boivie et al., 2012; Graffin et al., 2013). Indeed, corporate governance researchers often consider the number of board seats held by an individual as a direct measure of the individual's social capital (Beckman & Haunschild, 2002; Haunschild, 1994; Haunschild & Beckman, 1998). By providing access to unique and useful knowledge and information, board appointments will make executives more attractive to the rest of the labor market.

The affiliation with other high-status actors on a board will also allow the individual to enjoy associational status transfer (Graffin et al., 2008a). According to Podolny (2005), one's status is influenced by the status of others with whom he or she affiliates. For an executive joining a board, this "status leakage" should serve to elevate his or her own status in the executive labor market. The importance of legitimacy in CEO hiring decisions makes this elevated status particularly beneficial to executives. Describing the CEO hiring process, Khurana (2002: 189) noted that board members tend to "...focus on...how analysts and the business media will react to their choice for a new CEO. This approach exemplifies the purely defensive, legitimacy-seeking mentality that characterizes so many business decisions today." A directorship can thus serve as a ready-made endorsement that an executive is competent and of high quality.

In sum, we suggest that board service can certify an executive's talent or potential, as well as potentially increasing his or her human and social capital, which, in turn, will increase the executive's relative attractiveness to boards hiring CEOs. We thus hypothesize:

Hypothesis 1. For a non-CEO executive, his or her first appointment to a board is associated with an increased probability of subsequent attainment of a CEO position.

While we expect that all first-time board appointments will increase the likelihood of an executive's promotion to CEO, this appointment can take two forms: an inside appointment to the board of the firm where he or she serves as an executive, or an outside appointment to a different firm. Following either type of first-time board appointments, executives may potentially be promoted to CEO at their home firm or an outside firm. For each of these four situations, the mechanism leading to promotion may differ. Consequently, we theorize about the impact of each type of appointment (e.g., inside vs. outside) on each type of promotion (e.g., internal promotion to CEO vs. external promotion to CEO) separately.

Inside directorships and internal promotion. When an executive is chosen to join his or her home company's board, it is likely because the board perceives that he or she will be able to add value to board discussions (Baysinger & Hoskisson, 1990). Further, research has suggested that many firms aim to have a clear succession plan. The appointment of a non-CEO executive to the board may signal that such a plan is in place and the inside appointee is the heir apparent to the incumbent CEO (Cannella & Shen, 2001). It may also provide outside directors with direct evidence of an executive's potential as a CEO (Vancil, 1987).

An inside appointment may also increase the executive's firm-specific human and social capital (Shen & Cannella, 2002a; Vancil, 1987). While an executive brings firm-specific knowledge to the boardroom, the experience on his or her home board may also increase knowledge about the CEO position at his or her home firm. Serving as an inside director, however, may offer the executive critical information about the inner workings of the company's boardroom, the interaction between the board and the CEO, and the duties of the executive in relation to the board (Finkelstein et al., 2009).

Further, an executive's interactions with the board as an inside director may increase the board's support for the executive as a potential CEO. The social ties that form may enable these inside directors to direct the succession process toward themselves (Shen & Cannella, 2002a). For instance, when compared with a similar individual who has been chosen as the heir apparent of the firm, an executive who has

been chosen as the heir apparent and also sits on the board has substantially more time to develop strong social ties with the directors who will make the final decision. Indeed, research has suggested that is it common for an heir apparent to not actually be promoted to CEO (Cannella & Shen, 2001). Given this potential uncertainty, board service would likely even benefit an executive who has already been named an heir apparent. Consequently, we suggest that inside directorship will make an individual more likely to be promoted to CEO at his or her home firm; therefore, we predict:

Hypothesis 2. For a non-CEO executive, an appointment as an inside director is associated with an increased probability of inside promotion to CEO.

Inside Directorships and External Promotion

We also suggest that the value of an appointment to an executive's home board will go beyond a mere grooming effect. An inside board appointment is a highly visible external indicator that a given executive has potentially "won" the fierce competition within that firm's internal tournament and is being groomed to be the next CEO (Connelly, Tihanyi, Crook, & Gangloff, 2014). For those external constituents looking to hire an outside CEO, this information will be valuable as it provides insights into an executive's potential readiness to perform the roles and duties of a CEO. Further, just as an executive's home firm may value the increased skills gained by serving as an inside director, external firms may value that increase in human and social capital as well. In this regard, for external firms, an executive's knowledge and skills gained from an inside appointment may be seen as readily transferable to the board room of the external firm. Consequently we predict:

Hypothesis 3. For a non-CEO executive, an appointment as an inside director is associated with an increased probability of promotion to CEO at outside firms.

Outside Directorships and External Promotion

We expect that outside directorships, which occur when an executive serves on another company's board, will also be influential, but due to different theoretical mechanisms. First, when an executive's first appointment is an outside board appointment, it indicates that, beyond the individuals at his or her own firm, a set of qualified directors has evaluated the executive and deemed him or her of sufficient quality to join the board. The outside board selection, in turn, signals that the individual has joined the ranks of the managerial elite (D'Aveni, 1990). For some high-potential executives, the executive's home firm may encourage the individual to serve on an external board because of the valuable knowledge such service provides. Further, it is likely that the executive's home firm has to at least agree to allow that executive to take on an external directorship (even if it is not encouraged), and will only do so if the firm believes the executive has significant potential for further advancement. Further, one director we spoke with suggested that in many firms, the board of directors actively helps high-potential executives secure external board appointments. Thus, an external appointment will be viewed as an endorsement of an executive's quality by internal and external actors.

The certification a non-CEO executive receives from his or her board seats may be an important signal of quality for firms considering an outside successor. Relative to inside successors, outside successors often arrive with greater risk and uncertainty for the hiring firm (Finkelstein et al., 2009; Vancil, 1987) due to the information-poor environment in which outside successions typically occur (Khurana, 2002). Further, the infrequency with which outside CEO appointments occur means that this is likely an unfamiliar decision to board members. To reduce this risk and uncertainty, hiring firms may seek out third-party evaluations of potential outside successor candidates. In particular, an executive's experience on an outside board may suggest to hiring firms that the individual possesses information processing capacity and capabilities necessary to succeed as an outside CEO (Carpenter & Westphal, 2001). While an inside directorship may suggest to the broader executive labor market that the individual may be uniquely suited to run his or her home firm, an outside directorship suggests that a firm at which the executive is not employed thought enough of him or her to offer a directorship. Research has suggested that such third-party endorsements are particularly valuable in the executive market because they provide clear and visible indicators of an executive's quality (Wade et al., 2006b).

The outside appointment also exposes the executive to a variety of strategic perspectives that may be utilized to reduce the transition and disruption that

follows outside succession (Carroll, 1984). In this regard, the board certification signals to other potential firms the value of the managerial resources an executive may bring to the hiring firm (Castanias & Helfat, 1991, 2001; Spence, 1974). Being able to integrate strategic information in a new environment is critical for a newly hired outside CEO, and outside directorships provide a means by which this skill can be developed. Therefore, we hypothesize:

Hypothesis 4. For a non-CEO executive, an appointment as an outside director is associated with an increased probability of promotion to CEO at outside firms.

Outside Directorships and Internal Promotion

Just as getting an outside board appointment should provide new information to the broader labor market, it may also send a message to an executive's home firm. In particular, an outside appointment may indicate that the executive has gained status and power (Bigley & Wiersema, 2002; Finkelstein, 1992). This contention is consistent with research that has suggested that, even when the quality of an individual is well-known by observers, a third-party certification provides information that the quality of a given actor exceeds an objective standard of desirability (Graffin & Ward, 2010). In turn, this certification will cue the board of directors at an executive's home firm that this person's value in the labor market has increased, and, if they want to retain the executive, a promotion may be necessary.

In addition, external directorships should improve an executive's level of human and social capital potentially even more than an inside directorship. External directorships are required by law to be at firms that are outside the focal firm's industry; thus, they may provide unique opportunities for an executive to gain access to information and network contacts that he or she would not have been exposed to at his or her home firm (Useem, 1984). In addition, as noted above, because an executive's home firm likely has to approve an executive's external board appointment, it is unlikely to do so unless there is a belief that this external board service will be valuable and that the executive has high potential. The executive's home firm may also realize that an external board appointment will give the executive more opportunities in the labor market, and so a promotion may be necessary to retain that individual. Thus, we predict:

Hypothesis 5. For a non-CEO executive, an appointment as an outside director is associated with an increased probability of inside promotion to CEO.

If sitting on a board of directors serves as an indicator of an executive's inherent skill and provides opportunities for additional learning and skill building, then, as well as improving that individual's chances for promotion to CEO, a board appointment should lead to other promotion opportunities as well. Again, although we know little about the labor market for non-CEOs, the information conveyed in a board appointment should be valuable at all levels of promotion. For many non-CEO executives, there are still rungs on the firm hierarchy beyond simply the position of CEO that would represent a promotion. Firms may feel compelled to promote these individuals or lose them. We thus hypothesize:

Hypothesis 6. For a non-CEO executive, appointment to a board is associated with an increased probability of a promotion in title.

Beyond improving an executive's likelihood of promotion, first-time directorships may also convey other, more immediate, benefits for non-CEO executives. Scholars have long recognized the importance of human capital in determining pay (e.g., Becker, 1964; Mincer, 1974), with factors such as general management experience (Finkelstein & Hambrick, 1989), international experience (Carpenter, Sanders, & Gregersen, 2001), and education (Fisher & Govindarajan, 1992) all influencing compensation. We expect that board service will similarly influence how much executives are paid. While an executive's board service is not necessarily part of his or her primary job responsibilities, the executive's home firm may feel obligated to compensate the executive for the human capital that he or she is acquiring via the directorship.

In addition, inside or outside directorships will each influence the executive's overall mobility and value in the executive labor market. As argued above, a board appointment increases the director's human and social capital, thereby increasing the likelihood that the executive will be appointed as a CEO. Similarly, research has found that the accumulation of human capital increases job mobility (Benson, Finegold, & Mohrman, 2004; Jovanovic, 1979). Trevor (2001), for example, found that signals of human capital increase an individual's ease of movement across different employers. Similarly, the

transferable knowledge and experiences executives derive from their board appointments may increase their potential mobility in the executive labor market (Lorsch & MacIver, 1989). The social capital developed from board appointments also may influence executive job mobility (Dess & Shaw, 2001). The increased job mobility in the executive labor market also may lead the firm to increase the executive's compensation to secure his or her continued services (Gomez-Mejia, Tosi, & Hinkin, 1987; Harris & Helfat, 1997). Thus, the increase in social capital, human capital, and job mobility of first-time directors suggests:

Hypothesis 7. For a non-CEO executive, appointment to a board is associated with a higher pay level at his or her employing firm.

RESEARCH METHODS

Sample and Data Sources

We began constructing our sample by identifying all first-time directors. We define first-time directors as individuals with no prior public company board experience listed in the BoardEx database. The in-depth director profiles in this database enabled us to determine the dates of first-time director appointments from 1996 to 2007. Following prior studies examining executive promotion to CEO (e.g., Graffin et al., 2008a), we searched for promotions for five years after initial appointment (certification) (i.e., for directors elected in 2007, we examined labor market outcomes through 2012). We matched this sample to data from Execucomp, which contains executive pay data for a similar population of large, publicly traded firms. We excluded any executives who were already listed as CEOs or who became CEOs within one year of being appointed to a board, as we wanted to ensure temporal precedence between our independent and dependent variables and were not interested in capturing simultaneous promotions to the board and to CEO. We also required that each executive be listed in the Execucomp database in the year prior to becoming director, the year of becoming director, and at least one year after becoming director. This enabled us to construct a matching model (described below) using data prior to board election, while also allowing for tests of our hypotheses in the years subsequent to matching. After these screens, we were left with a sample of 1,052 top executives who had been appointed to boards for the first time.

The nature of our study is such that our phenomenon of interest—first-time appointment to a large public company board of directors—occurs relatively infrequently in the broader top executive population. Indeed, the 1,052 top executives who receive directorships that we identified comprise less than 5% of all executives listed in Execucomp. Because this low base rate renders random sampling infeasible, we followed the example of prior researchers who have dealt with this issue by constructing a matched-sample study design (e.g., Hambrick & D'Aveni, 1988; Harris & Bromiley, 2007). Matched-sample designs involve pairing each observation that experiences the phenomenon of interest in a given year (in our case, executives who receive their first board appointments) with a similar observation that does not experience the phenomenon of interest that year (the "counterfactual"). We should note that we matched on the *independent* variable rather than the *dependent* variable; this is not akin to "matching on the dependent variable," as the labor market outcomes that comprise our hypotheses did not factor into the matching process. In this regard, our study differs from most matched-sample designs in the strategic management literature, and we believe our method allows for a relatively bias-free test of our hypotheses.

We used propensity score matching (the "psmatch2" function in Stata 13) to identify an appropriate counterfactual (i.e., a similar non-CEO executive without a directorship) for each director. This technique involves building a prediction model in which each observation in a larger sample (in our case, the Execucomp population of non-CEO, non-director executives) is assigned a conditional probability of experiencing the treatment (here, election to a board) (Guo & Fraser, 2010; Li, 2013). The conditional probability—or "propensity score"—assigned to each observation represents the predicted value that is given by regressing the treatment indicator on a set of theoretically relevant predictor variables. Each treatment observation is then paired with one (or possibly more) counterfactuals with similar propensity scores to the treated observation.

To generate propensity scores for our sample, we constructed a logit model predicting likelihood of board election in year *t* given the following antecedent conditions in year *t-1,* where all predictor variables refer to the executive's employing firm: company size (measured as the natural logarithm of sales); company S&P 500 membership (measured as a binary variable); company performance (return on assets [ROA], calculated as net income divided by

total assets); executive age and age squared (to account for any curvilinear effects); executive total pay (the natural logarithm of total compensation [TDC1 in Execucomp]); executive pay structure (the sum of the ex ante value of restricted stock and option grants divided by total pay); pay rank (the relative ranking of the executive's pay compared to other top executives in the company); executive position (binary variables indicating whether the executive was listed as the chief executive officer (COO), chief financial officer (CFO), president, or CEO of a subsidiary of the focal firm). We also included relevant information related to the incumbent CEO at the executive's employing firm, including CEO ownership (total shares owned divided by total shares outstanding), CEO age, and executive–CEO age gap (the difference between the focal executive's and incumbent CEO's age). Finally, we controlled for industry membership using Fama and French's (1997) 49-industry classification. All firm-level data were drawn from Compustat, and executive-level data derived from Execucomp.

We ran this matching model separately for each year between 1996 through 2007 in ascending order, in each case using predictors from *t-1* to predict election to a board in *t* for non-CEO, non-director executives listed in Execucomp that year. This was done to ensure that each executive with a board appointment was matched with a counterfactual in the same year, while affording both executives the same time period after matching to achieve pay raises, promotions, etc. We used nearest-neighbor matching without replacement (Guo & Fraser, 2010), which involved matching each executive with a board appointment to the counterfactual (i.e., an individual without a board appointment) executive with the closest propensity score (in terms of absolute value) to the focal executive. Once an executive had been selected as a match, he or she was removed from the pool of potential subsequent matches.

This process resulted in a matched sample consisting of 1,052 executives with directorships and 1,052 counterfactual executives without directorships. As expected, the directorship and counterfactual subgroups did not differ significantly on any of the matching model predictor variables (company size, company S&P 1500 membership, company performance, executive age, pay level, pay structure, pay rank, and industry); moreover, the two subgroups had virtually identical propensity scores (0.226 for executives who are directors and 0.211 for counterfactuals). These very similar propensity scores suggest that the only difference between the executives among variables used in these analyses is whether they received a board appointment. Hypothesis tests were subsequently performed on this matched sample.

Dependent Variables

For Hypotheses 1, our first dependent variable, *promotion to CEO*, reflects whether the executive was promoted to CEO within the five-year window[2] following *t*. For each executive, we tracked executives' careers using the Execucomp database for five years following their initial inclusion in the sample. Following this approach, we were able to examine all CEO promotions at the S&P 1500 firms included in the Execucomp database. We did not include promotions to CEO at firms outside the S&P 1500. We made this choice for two reasons. First, the S&P 1500 covers the largest and most prominent firms in the U.S. economy. As such, promotion to CEO of these firms is the likely goal of most corporate executives employed at firms within this pool, and examining promotion inside the S&P 1500 makes theoretical sense. Second, it was considered empirically cleaner to restrict our promotion pool to the S&P 1500 because that captures the entire Execucomp database. Looking for promotions outside that group would require hand coding and making more discretionary decisions about what counts as a promotion. *Promotion to CEO* was measured using a binary variable that took a value of "1" if promotion occurred that year and "0" otherwise. Analogously, executives can either be promoted to CEO from within the company or from outside the company. For Hypotheses 2 through 5, we examined whether our hypothesized relationships equally applied across the two conditions by creating two binary variables denoting different types of promotion to CEO: *inside promotion* and *outside promotion*. The former took a value of "1" when the executive was promoted to CEO at his or her company, while the latter took a value of "1" when the executive was promoted to CEO at a firm other than his or her employing firm in *t-1*. We identified 303 inside promotions and 49 outside promotions, for a total of 352 promotions to CEO in

[2] In order to examine the career outcomes following board appointments, we constructed our sample to include executives who were in the Execucomp database for the designated five-year window. To ensure that this sampling decision did not affect our results, we reran our propensity matching models without this restriction. Using this sample, our results were unchanged.

our sample. As noted above, we began testing for this outcome in the second year after matching to ensure that we did not include any simultaneous or near-simultaneous promotions to director and CEO among our sample of executives.

For Hypothesis 6, the dependent variable, *promotion in title*, captures whether the executive experienced a promotion in title above his or her current position. We use two levels of promotion: (1) promotion to either COO or CFO and (2) promotion to president. For example, for an executive who was not a COO, CFO, or president, promotion to any of these positions in $t+1$ was coded as a "1." Similarly, for an executive who was a COO or CFO in t, promotion to president in $t+1$ was assigned "1." Finally, executives were removed from the risk group when the individual was promoted to CEO. This created a single measure that captures executive title promotions prior to CEO promotion.

Executive pay level, the dependent variable in Hypothesis 7, was measured using the TDC1 variable in Execucomp, which includes the total value of an executive's salary, bonus, long-term incentive payouts, stock grants, option grants, and other income in a given year. Pay was measured following the first year an executive potentially joined a board (i.e., $t+1$). We also log transformed these compensation variables to lessen the influence of extreme observations for this hypothesis (Graffin et al., 2008b).

Independent Variables

To isolate the effects of inside and outside directorships on labor market outcomes, we divided our executives who are also directors into two subgroups. *Inside directors* consisted of executives promoted to the board at their employer, and received a score of "1" for the insider dummy. Outside directors were those promoted to boards at companies other than their employers, and received a "1" for the outsider dummy. The reference category for each of these consisted of the counterfactual executives, who received values of "0" for both binary measures.

Control Variables

Although the matched sample design reduces the need for a comprehensive array of control variables (e.g., Harris & Bromiley, 2007), we included several controls to help rule out alternative explanations. At the firm level (where "firm" refers to the executive's employer), we controlled for *company size* (the natural logarithm of sales in t-1) and *company performance* (ROA in t-1) in all models. We also included incumbent CEO characteristics that may influence an executive's likelihood of promotion at his or her employing firm. In particular, we controlled for *incumbent CEO tenure* measured as the difference between the current year and the year the incumbent CEO was initially appointed to that position, and *incumbent duality* measured as "1" if the incumbent CEO was also the chairperson of the board and "0" otherwise (Boyd, 1995; Krause, Semadeni, & Cannella, 2014). At the focal executive level, we controlled for executives who were the *chief operating officer or president* as these titles may suggest an individual was the heir apparent (Cannella & Shen, 2001) to the sitting CEO and represents an alternative explanation for our findings related to promotion to CEO. We also controlled for executives who were *chief financial officer* or *subsidiary CEO*. In addition, we included *executive compensation* measured as the total current compensation reported for the focal executive. We also included the focal executive's *age* and *age squared* to account for heir apparent situations. Uncertainty within an executive's employing firm or the market in which the firm operates may be a major factor influencing whether the executive receives an executive promotion at his or her employing firm or at another firm. We follow Beckman, Haunschild, and Phillips (2004) by measuring *firm uncertainty* as the standard deviation of the focal firm's monthly stock closing prices, divided by the average of the firm's monthly closing price over the course of the year. *Market uncertainty* was measured as the average monthly volatility across all companies in a given industry.

We also included institutional investor ownership in the form of *dedicated*, *transient*, and *quasi-investor ownership* (see Bushee, 1998), given that these investors may impact governance and firm-level decisions (e.g., Connelly, Tihanyi, Certo, & Hitt, 2010; Hoskisson, Hitt, Johnson, & Grossman, 2002). We used Bushee's (1998) classification of institutional investors to include dedicated, transient, and quasi-indexed institutional investor ownership. We then followed recent work using the institutional data to form our measures of each institutional group (e.g., Cannella, Jones, & Withers, 2015). In particular, we calculated the percentage of the total annual shares of the company owned by both dedicated and transient institutional investors with at least 1% of the equity of the firm. The total shares owned by the institutional investors were collected in the fourth

TABLE 1
Descriptive Statistics and Correlations: Promotion to CEO and Promotion in Title (Hypotheses 1–6)

	Variables	Mean	*SD*	1	2	3	4	5	6	7	8
1.	CEO promotion (Any = 1)	0.03	0.18	1							
2.	CEO promotion (inside = 1; out = 2)	0.04	0.21	0.96	1						
3.	Promotion in title	0.07	0.25	0.67	0.63	1					
4.	Company size	7.84	1.83	0.02	0.02	0.02	1				
5.	Company performance	0.04	0.19	−0.04	−0.04	−0.02	0.14	1			
6.	Incumbent CEO tenure	8.29	8.10	0.01	0.01	−0.01	−0.14	0.01	1		
7.	Incumbent duality	0.63	0.48	0.03	0.03	0.04	0.13	0.02	0.14	1	
8.	President	0.14	0.34	0.26	0.23	0.12	−0.04	0.01	0.04	0.11	1
9.	COO	0.15	0.36	0.22	0.19	0.14	−0.05	0.00	0.02	0.06	0.65
10.	CFO	0.28	0.46	−0.07	−0.07	−0.11	−0.06	0.00	−0.04	−0.05	−0.22
11.	Subsidiary CEO	0.03	0.17	0.00	0.01	0.00	0.07	0.00	0.01	0.01	−0.06
12.	Executive compensation	2552.96	3689.26	0.06	0.05	0.05	0.33	0.03	−0.03	0.10	0.11
13.	Executive age	0.46	6.42	−0.03	−0.03	−0.07	0.11	0.02	0.03	0.02	−0.03
14.	Firm uncertainty	0.16	0.13	0.03	0.03	0.02	−0.14	−0.19	0.01	−0.03	0.05
15.	Market uncertainty	0.30	0.13	0.00	0.01	−0.01	−0.13	−0.04	0.01	−0.04	0.03
16.	Dedicated ownership %	0.05	0.08	0.01	0.02	0.01	0.01	−0.01	0.01	0.05	0.03
17.	Transient ownership %	0.09	0.08	−0.01	−0.01	−0.01	−0.29	0.00	0.00	0.00	0.05
18.	Quasi ownership %	0.26	0.14	−0.03	−0.03	−0.05	−0.05	0.04	−0.03	−0.05	0.00
19.	Inside director count	1.79	0.98	0.04	0.04	0.05	0.00	0.02	0.20	−0.02	0.09
20.	Post Sarbanes-Oxley	0.64	0.48	−0.04	−0.04	−0.08	0.07	0.01	−0.05	−0.13	−0.07
21.	Any board appointment	0.45	0.50	0.09	0.09	0.11	0.03	−0.01	−0.03	0.05	0.19
22.	Inside director	0.20	0.40	0.10	0.09	0.10	−0.10	−0.02	0.08	0.05	0.30
23.	Outside director	0.26	0.44	0.02	0.02	0.03	0.13	0.01	−0.10	0.01	−0.06

quarter for each firm-year observation. These total shares were then divided by the fourth quarter outstanding shares. We examined the normality of these measures using the "extrans" function in Stata, which suggested that the variable distributions were skewed and would benefit from log transformation. However, we also ran the models with the raw ownership measures, and the results for our focal independent variables were unchanged.

We further controlled for the *inside director count* at the executive's focal firm as the number of inside directors currently on a board may limit board opportunities for executives, and there has been a trend toward fewer inside directors in general (Linck et al., 2009). Given that our sampling context spans the pre- and post-Sarbanes Oxley periods, we included a binary variable for post-Sarbanes Oxley. Finally, we controlled for industry fixed effects by including a binary variable for each industry following the Fama–French industry classification.

Estimation Methods

We tested our hypotheses using a variety of analytic techniques. Given that our focus in Hypothesis 1 is a specific event (i.e., CEO promotion), we used event history analysis (Allison, 1984; Tuma & Hannan, 1984). In particular, event history analysis is concerned with the amount of time that passes before a specific change in state occurs (Poole, van de Ven, & Holmes, 2000). This analytic technique models hazard rates, or the risk that an event occurs at time t given it did not occur in the previous time period (Allison, 1984; Yamaguchi, 1991). In particular, we used the Cox proportional hazard approach using the Efron approximation method to account for events with the same survival time. The Cox proportional hazard approach takes the following form:

$$h_i(t) = h_0(t)\exp\left[\sum_k b_k X_{ik}(t)\right]$$

For Hypotheses 2 through 5, which involved up to three distinct outcomes—inside promotion to CEO, outside promotion to CEO, or no promotion at all—we used multinomial logit models (e.g., Ocasio & Kim, 1999; Zhang & Rajagopalan, 2003). Multinomial logit models simultaneously estimate the likelihood that an observation experiences one of multiple outcomes (as opposed to logit models, which estimate the likelihood of a single outcome). We clustered robust standard errors by executive to account for our longitudinal data, and selected the group of executives who did not experience a promotion in a given year as the base category.

TABLE 1
(Continued)

9	10	11	12	13	14	15	16	17	18	19	20	21	22
1													
−0.23	1												
−0.07	−0.11	1											
0.06	−0.07	0.08	1										
−0.03	−0.10	0.05	0.01	1									
0.04	−0.01	−0.03	−0.06	−0.09	1								
0.04	0.03	−0.06	−0.07	−0.08	0.29	1							
0.01	−0.05	0.04	0.03	−0.04	0.03	0.00	1						
0.07	0.01	−0.05	−0.14	−0.06	0.14	0.17	0.11	1					
0.00	0.08	−0.03	−0.08	0.04	−0.13	0.06	−0.28	−0.07	1				
0.04	−0.07	0.01	0.10	−0.01	0.00	−0.03	0.08	0.02	−0.20	1			
−0.05	0.12	0.01	0.01	0.09	−0.15	0.02	−0.30	−0.31	0.53	−0.26	1		
0.15	0.03	0.04	0.03	−0.02	0.00	0.01	0.03	−0.04	−0.02	0.18	−0.04	1	
0.25	−0.10	−0.01	0.03	−0.01	0.01	−0.04	0.05	0.05	−0.09	0.37	−0.14	0.54	1
−0.06	0.13	0.05	0.00	−0.02	−0.01	0.05	−0.01	−0.09	0.05	−0.13	0.09	0.65	−0.29

Notes: n =10,196. Correlations >.02 are statistically significant at p <.05.

For Hypothesis 6, executives may have experienced multiple promotions during their time at risk in our sample, so we used a variant of the Cox proportional hazard approach, multiple failure time event history analysis to adjust for the multi-episodic nature of the event. We used the Anderson-Gill Counting Process model to correct for multiple events across a group of individuals (Ezell, Land, & Cohen, 2003). For this analysis, an executive was removed from the risk group once the individual was promoted to CEO.

Finally, we used ordinary least squares (OLS) regression to test Hypothesis 7. In this analysis, we again included the prior year's total compensation to isolate the effect of board appointments on an executive's total compensation. All analyses were performed in Stata 13.

RESULTS

Descriptive statistics and correlations are shown in Tables 1 and 2. Because the sample sizes varied across the tests of our three main hypotheses, we report two correlation matrixes corresponding to the samples used in each analysis. For illustrative purposes, Table 3 details the number of individuals in each category (executives with board appointments, including both internal and external board appointments, and executives without board appointments) of our matched pair sample and the corresponding outcomes.

Focusing first on the models predicting any promotion to CEO, Table 4 reports the event history analysis model results for Hypothesis 1. The coefficients in Table 4 are hazard ratios. Hazard ratios represent the increase in likelihood of an event's occurrence with a one-unit increase in the independent variable. From this interpretation, a hazard ratio of 1 indicates no effect. Hazard ratios greater than 1 indicate a positive relationship (every unit increase in the independent variables increases the likelihood that the exit will occur) and hazard ratios less than 1 indicate negative relationships (every unit increase in the independent variables decreases the likelihood that the exit will occur). Model 1 contains controls only, Model 2 adds any certification, while Model 3 adds the specific certification variables. As can be seen in Model 2, Hypothesis 1 received statistical support ($p < .01$); more specifically, as seen in Model 3, being appointed as either an inside director ($p < .10$) or an outside director ($p < .01$) was positive and statistically significantly related to being promoted to CEO. In particular, we find the coefficient

TABLE 2
Descriptive Statistics and Correlations: Increase in Logged Compensation (Hypothesis 7)

	Variables	Mean	*SD*	1	2	3	4	5	6	7	8
1.	Executive pay level t+1	7.46	0.96	1							
2.	Executive pay level	7.24	0.95	0.70	1						
3.	Company Size	7.69	1.62	0.51	0.50	1					
4.	Company performance	0.04	0.13	0.09	0.09	0.17	1				
5.	Incumbent CEO tenure	8.01	8.05	−0.16	−0.15	−0.14	0.02	1			
6.	Incumbent duality	0.65	0.47	0.10	0.09	0.17	0.02	0.11	1		
7.	President	0.13	0.34	0.13	0.14	−0.06	0.01	0.04	0.09	1	
8.	COO	0.15	0.36	0.09	0.12	−0.08	−0.02	0.01	0.06	0.65	1
9.	CFO	0.26	0.44	−0.08	−0.06	−0.08	0.00	−0.04	−0.08	−0.21	−0.22
10.	Subsidiary CEO	0.03	0.17	0.04	0.05	0.06	0.00	0.00	−0.02	−0.04	−0.07
11.	Executive age	49.11	6.23	−0.03	0.04	0.15	0.03	0.02	0.04	−0.01	0.00
12.	Promotion in title	0.11	0.31	0.08	0.02	0.01	0.01	−0.02	0.02	0.02	0.05
13.	Inside director count	1.93	1.06	0.03	0.00	0.00	0.03	0.20	−0.03	0.03	0.01
14.	Firm uncertainty	0.18	0.13	0.00	0.01	−0.16	−0.17	0.02	−0.02	0.04	0.05
15.	Market uncertainty	0.29	0.12	0.05	0.07	−0.14	−0.04	−0.02	−0.07	0.00	0.04
16.	Dedicated ownership %	0.07	0.08	0.01	0.00	0.00	−0.03	−0.02	0.04	0.02	0.00
17.	Transient ownership %	0.09	0.09	−0.14	−0.13	−0.32	−0.03	0.01	−0.02	0.04	0.05
18.	Quasi ownership %	0.22	0.13	0.01	0.04	0.00	0.07	−0.01	−0.05	0.02	0.01
19.	Post Sarbanes-Oxley	0.44	0.50	0.06	0.09	0.09	0.01	−0.08	−0.17	−0.05	−0.04
20.	Any board appointment	0.50	0.50	0.15	0.15	0.03	0.00	−0.04	0.04	0.15	0.12
21.	Inside director	0.23	0.42	0.02	0.03	−0.12	−0.01	0.08	0.04	0.27	0.24
22.	Outside director	0.27	0.45	0.15	0.14	0.15	0.02	−0.12	0.01	−0.09	−0.09

for any board appointment is greater than 1 and significant (HR = 1.44; $p < .01$). In this case, executives who receive any board appointment are 44% more likely to be appointed to CEO (1.40–1.00 = 0.40). We similarly find that executives appointed to the board of their home firms or external firms are 35% and 53% more likely to be appointed to CEO, respectively, than those executives with no board appointments. In general, our results suggest that certification influences executives' future promotions to CEO. Hypothesis 1 is thus supported.

We also tested the relative effects of inside and outside directorships on internal and external promotion to CEO. Table 5 reports the multinomial logit model results for Hypotheses 2 through and 5. Model 1 includes controls only and Model 2 adds separate binary indicators for inside promotion and outside promotion. In Model 2, the comparison, or omitted group, is *no appointment*. The coefficients in these models, which predict distinct types of promotion (inside and outside), are interpreted as effects relative to the baseline omitted category (executives without board seats). Hypothesis 2 predicted that an appointment as an inside director is associated with an increased probability of inside promotion to CEO. As can be seen in the left-hand column of Model 2, being appointed to an inside directorship has a positive and marginally significant effect on the likelihood of promotion to CEO within the firm ($p < .10$). Thus, we find marginal support for Hypothesis 2.

Hypothesis 3 predicted that an appointment as an inside director is associated with an increased probability of promotion to CEO at outside firms. As reported in the right-hand column of Model 2, the coefficient for being appointed to an inside directorship is also marginally significant and related to the likelihood of promotion to CEO at an outside firm ($p < .1$). Hypothesis 3 is therefore marginally supported.

For Hypothesis 4, we posited that an appointment as an outside director is associated with an increased probability of promotion to CEO at outside firms. Tests for this hypothesis are reported in the right-hand column of Model 2. As can be seen here, being appointed to an outside directorship has a positive and statistically significant effect on the likelihood of outside promotion to CEO ($p < .05$). As such, Hypothesis 4 is supported.

Hypothesis 5 considered the influence of an appointment as an outside director on the likelihood of inside promotion to CEO. The outside director variable is also a statistically significant predictor of inside promotion in Model 2 ($p < .05$). Thus, Hypothesis 5 is supported. Collectively, our results suggest that inside and outside directorships have a statistically and practically significant impact on executive promotions to CEO—both within and between firms.

TABLE 2
(Continued)

9	10	11	12	13	14	15	16	17	18	19	20	21
1												
−0.10	1											
−0.07	0.04	1										
−0.15	−0.04	−0.07	1									
−0.09	0.01	−0.01	0.05	1								
−0.01	−0.04	−0.09	0.04	0.01	1							
0.04	−0.07	−0.10	−0.01	−0.03	0.30	1						
−0.04	0.02	−0.03	0.00	0.03	0.01	−0.04	1					
−0.01	−0.06	−0.07	−0.01	−0.02	0.13	0.20	0.09	1				
0.08	0.00	0.02	−0.04	−0.16	−0.16	0.07	−0.26	−0.07	1			
0.16	0.03	0.05	−0.07	−0.23	−0.16	0.04	−0.24	−0.24	0.50	1		
0.02	0.01	0.01	0.08	0.11	0.01	0.03	0.02	−0.05	0.00	0.00	1	
−0.12	−0.01	0.00	0.14	0.29	0.03	−0.05	0.02	0.03	−0.06	−0.16	0.54	1
0.14	0.02	0.01	−0.05	−0.14	−0.01	0.08	0.00	−0.08	0.06	0.15	0.61	−0.33

Notes: n = 2,104. Correlations > .05 are statistically significant at p <.05.

Table 6 reports tests of Hypothesis 6, which predicted that certifications will increase the likelihood of promotion in title. The coefficients in Table 6 are also hazard ratios. As reported in Model 2, Hypothesis 6 received statistical support ($p < .001$). In addition, in Model 3, separately considering inside and outside board appointments also supports Hypothesis 6. Being appointed as either an inside director ($p < .001$) or an outside director ($p < .001$) was positive and statistically significantly related to receiving a promotion in title. Interpreting the hazard ratios, we find the coefficient for any board appointment is greater than 1 and significant (HR = 2.06; $p < .001$). In this case, executives who receive any board appointment are 106% more likely to be appointed to CEO (2.06–1.00 = 1.06). We similarly find that executives appointed to their home firms or external firms are 126% and 94% more likely to receive a promotion in title, respectively. In general, our results suggest that certification influences executives' future promotions in title. Thus, Hypothesis 6 receives support.

Table 7 reports the OLS model results for tests of Hypothesis 7, which predicted that certification would lead to higher pay at the executive's home firm. Once again, Model 1 contains controls only with the addition of *promotion in title* as a potential influence on CEO pay, Model 2 adds any certification, while Model 3 adds the specific certification variables. As can be seen in Model 2, the coefficient for any board appointment is positively and statistically significantly ($b = .09$, $p < .01$) related to total pay level. As can be seen in Model 3, the coefficient for outside director appointment is also positively and statistically significantly ($b = .11$, $p < .01$) related to total pay level. The coefficient for inside director appointments is positive and marginally significant ($b = .07$, $p < .1$), indicating that executives may receive some compensation benefits from inside board appointments. Taken together, these results suggest that the short-term economic returns that follow from appointment to a board extend beyond just the addition of director fee income; Hypothesis 7 is thus supported.

DISCUSSION

Our aim in this study was to try and partially answer the central question in corporate governance research of what benefits executives gain from serving on boards. The central premise of this study is that answering this question will help scholars and practitioners better understand the non-CEO executive labor market, as well as why executives elect to serve on boards. Indeed, despite the extensive study of the CEO labor market, we know relatively little about the non-CEO director labor market. At the

TABLE 3
Summary of Executive Promotions to CEO

		Number	Promoted to CEO	Inside Promotion	Outside Promotion
Certified executives (directors)	**Internal board appt.**	475	146	131	15
	External board appt.	577	100	79	21
Non-certified executives		1052	106	93	13

same time, despite an abundance of literature focused on board structure, composition, and vigilance, little is known about why busy executives accept—and sometimes seek out—seats on boards of directors. Our results suggest that board service provides a number of benefits that help address both of these deficiencies in these seemingly disparate research streams.

First, our results inform research on the executive labor market. As noted above, the majority of prior research on the executive labor market has focused on the evaluation and compensation of sitting CEOs. Our theory and results help provide a better understanding of the non-CEO executive labor market. We developed theory regarding the fact that board service should act as a form of certification that signals to the executive labor market that the non-CEO executives are of high quality. The CEO selection process is inherently information-poor and involves a great deal of uncertainty (Henderson, Miller, & Hambrick, 2006; Khurana, 2002), which is precisely the set of conditions that scholars have argued will lead actors to rely more heavily on third-party quality signals (Podolny, 2005). In addition, we developed arguments that suggest board service may also improve an executives' human and social capital, which should lead to greater likelihood of promotion. Our results are consistent with the idea that board service may help improve the matching process between executives and boards by providing another critical source of information regarding executive quality.

Beyond just statistical significance, our results carry practical significance in terms of better understanding the non-CEO executive labor market. In terms of overall promotion to CEO, we found that board certification increased the likelihood of being promoted to CEO by 44% when compared to executives without board appointments. This result provides new evidence regarding how CEOs are selected. Indeed, despite the CEO-centric nature of research on the evaluation of executives, we know very little about how CEOs are selected. Given that the majority of newly appointed CEOs have not previously served in this position (Graffin et al., 2013), better understanding of how CEOs are selected is an important consideration for research exploring the role and effectiveness of CEOs. We similarly find that non-CEO executives with first-time board appointments are 106% more likely to receive promotions in title compared to non-CEO executives without board appointments. These findings have practical importance, as we know that boards are often unprepared for succession and investigations to date have been equivocal in recommendations for how boards should gauge potential CEOs' credentials (Finkelstein et al., 2009). Our theory and findings also highlight an apparent disconnect between practitioners and theory, given that the directors with whom we spoke were well aware of the fact that board service would be viewed as a positive characteristic for executives, yet, to our knowledge, no prior research has tested this idea.

We found that a first-time board appointment boosts an executive's subsequent annual pay. Consistent with our findings regarding executive promotion, this provides additional support for the idea that the executive labor market recognizes and rewards a non-CEO executive's board service. We acknowledge that directorships have financial benefits in the form of board fees; indeed, recent research on director compensation has shown that at large firms director compensation now averages over $200,000 (Boivie, Bednar, & Barker, 2015). By focusing primarily on the fees paid to directors as a result of board service, prior research may have inadvertently understated the economic benefits of board service. As our findings suggest, because an executive's primary employer increases the annual monetary returns associated with directorships by giving an executive raises for board service, it appears that the economic benefits of board service are even more substantial than prior research indicates.

Our results also inform the literature on directors' motivation for serving by finding that being appointed to a board of directors increased the likelihood that an executive was promoted to CEO at an S&P 1500 firm. In answer to our research question (What do executives gain from serving on boards?), we conclude that executives benefit by having increased opportunities for promotion to CEO. Our general pattern of results help to provide important insights into why

TABLE 4
Event History Analysis Predicting Promotion to CEO

	(1)	(2)	(3)
Variables	**Any Promotion**	**Any Promotion**	**Any Promotion**
Company size	1.09†	1.08†	1.07
	(0.05)	(0.05)	(0.05)
Company performance	0.75***	0.77***	0.77***
	(0.03)	(0.03)	(0.03)
Incumbent CEO tenure	1.01†	1.01*	1.01*
	(0.01)	(0.01)	(0.01)
Incumbent duality	0.95	0.95	0.96
	(0.13)	(0.13)	(0.13)
President	5.75***	5.21***	5.30***
	(1.32)	(1.23)	(1.26)
COO	2.22***	2.20***	2.21***
	(0.50)	(0.49)	(0.50)
CFO	0.76	0.73	0.72
	(0.37)	(0.36)	(0.36)
Subsidiary CEO	1.93†	1.83†	1.81†
	(0.65)	(0.62)	(0.61)
Executive compensation	1.00***	1.00***	1.00**
	(0.00)	(0.00)	(0.00)
Executive age	0.98*	0.98*	0.98*
	(0.01)	(0.01)	(0.01)
Executive age2	1.00	1.00	1.00
	(0.00)	(0.00)	(0.00)
Firm uncertainty	2.01	2.01	1.99
	(0.94)	(0.93)	(0.93)
Market uncertainty	0.25*	0.23*	0.23*
	(0.15)	(0.14)	(0.14)
Dedicated ownership %	0.88	0.83	0.83
	(0.7)	(0.67)	(0.67)
Transient ownership %	0.14*	0.15*	0.15*
	(0.13)	(0.14)	(0.13)
Quasi ownership %	0.46	0.46	0.45
	(0.23)	(0.24)	(0.23)
Inside director count	1.08	1.04	1.06
	(0.06)	(0.06)	(0.06)
Post Sarbanes-Oxley	0.97	0.96	0.96
	(0.15)	(0.14)	(0.14)
Fama–French industries	Included	Included	Included
Any board appointment		1.44**	
		(0.20)	
Inside director			1.35†
			(0.21)
Outside director			1.53**
			(0.24)
Wald χ^2	984.83***	1009.49***	1008.45***

Notes: Coefficients represent hazard ratios and robust standard errors in parentheses.
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$; two-tailed tests.

executives are willing to serve on boards, despite it offering generally low pay in comparison to their primary jobs. Further, our study also builds upon recent research demonstrating that individuals are motivated by a variety of factors to either retain or leave board appointments (Boivie et al., 2012). Our study is limited to looking at the effects of first-time board appointments on CEO promotion, but future

TABLE 5
Multinomial Logit Models Predicting Promotion to CEO

	(1)		(2)	
Variables	**Inside Promotion**	**Outside Promotion**	**Inside Promotion**	**Outside Promotion**
Company size	0.06	0.36**	0.04	0.32**
	(0.05)	(0.12)	(0.05)	(0.12)
Company performance	−0.63	−0.61	−0.57	−0.52
	(0.55)	(0.55)	(0.46)	(0.46)
Incumbent CEO tenure	0.01*	−0.02	0.02*	−0.02
	(0.01)	(0.03)	(0.01)	(0.03)
Incumbent duality	−0.03	−0.25	−0.03	−0.29
	(0.16)	(0.32)	(0.15)	(0.32)
President	1.89***	1.70**	1.80***	1.47*
	(0.25)	(0.58)	(0.26)	(0.57)
COO	1.06***	−0.26	1.05***	−0.25
	(0.26)	(0.58)	(0.26)	(0.58)
CFO	−0.05	−1.46*	−0.10	−1.59*
	(0.54)	(0.64)	(0.56)	(0.65)
Subsidiary CEO	0.74†	0.27	0.67†	0.05
	(0.40)	(0.67)	(0.40)	(0.67)
Executive compensation	0.00**	0.00*	0.00**	0.00*
	(0.00)	(0.00)	(0.00)	(0.00)
Executive age	−0.02*	−0.06*	−0.02*	−0.06*
	(0.01)	(0.03)	(0.01)	(0.03)
Executive age2	0.00	−0.01*	0.00	−0.01*
	(0.00)	(0.00)	(0.00)	(0.00)
Firm uncertainty	0.65	1.64†	0.66	1.73†
	(0.57)	(0.9)	(0.57)	(0.92)
Market uncertainty	−1.50*	−1.37	−1.57*	−1.72
	(0.74)	(1.39)	(0.74)	(1.35)
Dedicated ownership %	−1.42	4.43**	−1.47	4.47**
	(0.94)	(1.39)	(0.94)	(1.40)
Transient ownership %	−1.87†	−1.89	−1.83†	−1.64
	(1.08)	(2.14)	(1.07)	(2.08)
Quasi ownership %	−0.80	−0.56	−0.80	−0.58
	(0.62)	(1.21)	(0.62)	(1.25)
Inside director count	0.11	0.06	0.08	0.00
	(0.07)	(0.13)	(0.07)	(0.16)
Post Sarbanes-Oxley	−0.18	0.07	−0.18	0.11
	(0.18)	(0.35)	(0.18)	(0.35)
Fama–French industries	Included	Included	Included	Included
Inside director			0.34†	0.87†
			(0.18)	(0.52)
Outside director			0.43*	1.06*
			(0.18)	(0.44)
Intercept	−5.63***	−25.35***	−5.60***	−25.52***
	(0.70)	(2.6)	(0.70)	(2.79)
Log pseudo-likelihood	−1284.31		−1276.43	

Notes: Robust standard errors in parentheses.
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$; two-tailed tests.

research could also explore the effect of multiple board appointments—including whether these board seats give an executive centrality in the corporate director network—on the effect of subsequent promotion.

We also contribute to theory on certifications by developing and testing predictions relative to the effect of inside versus outside board appointments. We found that inside board appointments were more

TABLE 6
Multiple Failure Event History Analysis Predicting TMT Promotion

	(1)	(2)	(3)
	TMT Promotion	**TMT Promotion**	**TMT Promotion**
Company size	1.05	1.03	1.04
	(0.04)	(0.03)	(0.03)
Company performance	1.27	1.33	1.33
	(0.48)	(0.51)	(0.51)
Incumbent CEO tenure	0.98*	0.99†	0.99†
	(0.00)	(0.00)	(0.00)
Incumbent duality	1.06	1.02	1.02
	(0.12)	(0.11)	(0.11)
COO	0.47***	0.40***	0.39***
	(0.07)	(0.06)	(0.06)
CFO	0.18***	0.17***	0.17***
	(0.03)	(0.03)	(0.03)
Subsidiary CEO	0.63	0.56†	0.57†
	(0.20)	(0.18)	(0.18)
Executive compensation	1.00	1.00	1.00
	(0.00)	(0.00)	(0.00)
Executive age	0.95***	0.95***	0.95***
	(0.00)	(0.00)	(0.00)
Executive age2	1.00†	1.00†	1.00†
	(0.00)	(0.00)	(0.00)
Firm uncertainty	0.36†	0.36†	0.36†
	(0.19)	(0.19)	(0.19)
Market uncertainty	0.99	0.85	0.87
	(0.56)	(0.49)	(0.49)
Dedicated ownership %	0.20†	0.22†	0.22†
	(0.17)	(0.18)	(0.18)
Transient ownership %	0.31	0.38	0.38
	(0.22)	(0.27)	(0.27)
Quasi ownership %	0.57	0.58	0.58
	(0.30)	(0.31)	(0.31)
Inside director count	1.04	0.97	0.96
	(0.06)	(0.06)	(0.06)
Post Sarbanes-Oxley	0.65**	0.64**	0.65**
	(0.09)	(0.09)	(0.09)
Fama–French industries	Included	Included	Included
Any board appointment		2.06***	
		(0.23)	
Inside director			2.26***
			(0.33)
Outside director			1.94***
			(0.26)
Log pseudo-likelihood	−2622.13	−2600.96	−2600.48

Notes: Coefficients represent hazard ratios and robust standard errors in parentheses.
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$; two-tailed tests.

likely to lead to promotion to CEO at other firms. Although the idea that internal appointments are more likely to lead to internal promotions to CEO may seem somewhat intuitive, the fact that internal appointments also predict external promotions (albeit at a lesser rate) is more surprising. Our theorizing suggests that outside firms looking for CEOs view these internal board appointments as signals of executive quality. Such internal board appointments may be particularly influential for

TABLE 7
Regression Analysis for Log-Transformed Total Compensation

	(1)	(2)	(3)
Independent Variables	**Pay Level**	**Pay Level**	**Pay Level**
Executive compensation	0.49 ***	0.48 ***	0.48 ***
	(0.02)	(0.02)	(0.02)
Company size	0.20 ***	0.20 ***	0.20 ***
	(0.01)	(0.01)	(0.01)
Company performance	0.10	0.11	0.11
	(0.13)	(0.13)	(0.13)
Incumbent CEO tenure	−0.01 ***	−0.01 ***	−0.01 ***
	(0.00)	(0.00)	(0.00)
Incumbent duality	0.05	0.05	0.05
	(0.03)	(0.03)	(0.03)
President	0.23 ***	0.21 **	0.22 ***
	(0.06)	(0.06)	(0.06)
COO	0.04	0.03	0.04
	(0.06)	(0.06)	(0.06)
CFO	0.02	0.01	0.01
	(0.03)	(0.03)	(0.03)
Subsidiary CEO	0.13	0.12	0.12
	(0.08)	(0.08)	(0.08)
Executive age	−0.01 **	−0.01 **	−0.01 **
	(0.00)	(0.00)	(0.00)
Executive age2	0.00 †	0.00 †	0.00 †
	(0.00)	(0.00)	(0.00)
Promotion in title	0.21 ***	0.20 ***	0.20 ***
	(0.05)	(0.05)	(0.05)
Firm uncertainty	0.20	0.20	0.20
	(0.14)	(0.14)	(0.14)
Market uncertainty	−0.10	−0.13	−0.13
	(0.16)	(0.16)	(0.16)
Dedicated ownership %	0.15	0.13	0.13
	(0.17)	(0.17)	(0.17)
Transient ownership %	0.34	0.37 †	0.37 †
	(0.20)	(0.20)	(0.20)
Quasi ownership %	−0.02	−0.02	−0.02
	(0.12)	(0.12)	(0.12)
Inside director count	0.03 *	0.03	0.03
	(0.01)	(0.01)	(0.01)
Post Sarbanes-Oxley	0.05	0.05	0.05
	(0.04)	(0.04)	(0.04)
Fama–French industries	Included	Included	Included
Any board appointment		0.09 **	
		(0.03)	
Inside director			0.07 †
			(0.04)
Outside director			0.11 **
			(0.04)
Intercept	2.16 ***	2.20 ***	2.20 ***
	(0.34)	(0.35)	(0.35)
f-test	46.61 ***	45.42 ***	44.63 ***

Notes: Robust standard errors in parentheses.
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$; two-tailed tests.

other firms, as the executive's current employer is the one most familiar with his or her performance. Thus, other firms may value such internal appointments as a stronger signal of executive capability. We also found that executives whose first appointments were as outside directors were more likely to be promoted to CEO at outside firms. Here again, our results provide evidence that board appointments serve as important certification signals to the managerial labor market. These findings on the likelihood of promotion to CEO, and also to other promotions within the firm, extend theory on the certification of executives. Prior research in this area has focused almost exclusively on certification of the CEO. Our theory and supportive findings provide initial evidence that there are multiple sources of certification for top executives, and that these certifications have significant effects in the executive labor market. In addition, our theory and findings contribute to theory on the determinants of promotion to CEO. Despite a vast body of literature on CEOs and the effects of CEO succession, very little research has attempted to predict an individual executive's probability of climbing to the highest ranks of the executive career ladder. Together, these previously unexplored economic benefits in the executive labor market that accompany a non-CEO executive's first board appointment suggest that these individuals may have very different economic incentives compared to other members of the board of directors. Indeed, the increased pay and promotion opportunities that come with this third-party endorsement suggest that these individuals may have a greater incentive to accrue and retain board seats than they may have to effectively monitor a CEO and fulfill their fiduciary duty to shareholders to safeguard their assets. Future research may examine the impact of this unique class of directors on board effectiveness.

Finally, future research may explore whether having served as a director prior to becoming a CEO influences the types and quality of decisions these individuals make upon becoming CEO. Research has suggested that only a small minority, less than 15%, of newly appointed CEOs have previously served as a CEO (Graffin et al., 2013). As such, experience as a director for a newly appointed CEO may be an influential source of information regarding the CEO's role for this individual. Exploring when and how this experience in the boardroom may impact an executive during his or her tenure as CEO seems worthy of exploration.

Limitations and Opportunities for Future Research

As with many studies in strategic management, we were concerned with the issue of endogeneity (Hamilton & Nickerson, 2003). Although endogeneity can never be ruled out completely, our use of propensity score matching serves as an effective guard against this threat. This technique allowed us to isolate the impact of the treatment condition (board appointment) on subsequent career outcomes for executives. More generally, propensity score matching is a method that is well suited to the types of research questions investigated in the strategic management domain, and we encourage other scholars to explore its use. Furthermore, our theory explicitly argued that the executive's true potential or skill is difficult to observe and should be the underlying cause of both the individual's appointment to a board and his or her subsequent promotion. Certification theory is overtly designed to examine cases in which information asymmetry is high, because the fundamental characteristic is inherently difficult to see. This makes the threat of endogeneity biasing our coefficients much lower, because the unobserved causal factor is an essential component of the empirical prediction and finding.

Another limitation of our study is that our results may not be exclusively driven by the quality-signaling aspect of certification, but rather the fact that board appointments and subsequent promotion to CEO may simply reflect two stages of one promotion process. We attempted to rule out this explanation by requiring a minimum two-year lag between appointment to a board and promotion to CEO, and also by controlling for the position of COO and president, but we cannot be certain that we eliminated all "simultaneous" promotions. However, we note that these two control variables have a large effect in our promotion models. Despite this effect, we still see an additional effect of board appointments, which appears to indicate that directorships have an effect that goes beyond that of characteristics that have been used previously in the CEO succession literature. While this is particularly relevant to our finding that inside board appointments lead to internal promotions to CEO, our overall pattern of results is consistent with the idea that director appointments are interpreted as third-party endorsements of quality within the executive labor market.

Another avenue for future research would be to explore how the use of executive search firms influences promotion to CEO. We were unable to examine the use of executive search firms in our analysis because large-scale data are not readily available. Research on the effects of executive search firms on individuals' career outcomes has been limited to proprietary datasets specific to individual search firms or companies (Cappelli & Hamori, 2014; Hamori, 2010). As the influence of such labor market intermediaries continue to grow, we will need access to large-scale longitudinal data to truly understand the implications of executive search firms and whether they have a long-term impact on individuals' career trajectory (Bonet et al., 2013).

CONCLUSION

We began this study with a straightforward question: What do executives gain from serving on boards? We developed a theoretical framework that sheds new light on the non-CEO executive labor market, as well as what motivates executives to serve on boards of directors. Our theory and findings inform both of these seemingly disparate streams of literature by suggesting that executives enjoy positive returns in the executive labor market for their board service. Specifically, by conceptualizing board service as a third-party certification of quality, we showed that executives who serve on boards realize benefits in their careers outside of the boardroom.

REFERENCES

Akerlof, G. A. 1970. The market for "lemons": Quality uncertainty and the market mechanism. ***The Quarterly Journal of Economics***, 84: 488–500.

Allison, P. D. 1984. ***Event history analysis: Regression for longitudinal event data***. Beverly Hills, CA: Sage Publications.

Arthaud-Day, M. L., Certo, S. T., Dalton, C. M., & Dalton, D. R. 2006. A changing of the guard: Executive and director turnover following corporate financial restatements. ***Academy of Management Journal***, 49: 1119–1136.

Baysinger, B., & Hoskisson, R. E. 1990. The compositions of boards of directors and strategic control: Effects on corporate strategy. ***Academy of Management Review***, 15: 72–87.

Becker, G. 1964. ***Human capital***. New York, NY: Columbia University Press.

Beckman, C. M., & Haunschild, P. R. 2002. Network learning: The effects of partners' heterogeneity of experience on corporate acquisitions. ***Administrative Science Quarterly***, 47: 92–124.

Beckman, C. M., Haunschild, P. R., & Phillips, D. J. 2004. Friends or strangers? Firm-specific uncertainty, market uncertainty, and network partner selection. ***Organization Science***, 15: 259–275.

Benson, G. S., Finegold, D., & Mohrman, S. A. 2004. You paid for the skills, now keep them: Tuition reimbursement and voluntary turnover. ***Academy of Management Journal***, 47: 315–331.

Bidwell, M. 2011. Paying more to get less: The effects of external hiring versus internal mobility. ***Administrative Science Quarterly***, 56: 369–407.

Bigley, G. A., & Wiersema, M. F. 2002. New CEOs and corporate strategic refocusing: How experience as heir apparent influences the use of power. ***Administrative Science Quarterly***, 47: 707–727.

Black, B., Cheffins, B., & Klausner, M. 2005. Liability risk for outside directors: A cross-border analysis. ***European Financial Management***, 11: 153–171.

Blettner, D. P., Chaddad, F. R., & Bettis, R. A. 2012. The CEO performance effect: Statistical issues and a complex fit perspective. ***Strategic Management Journal***, 33: 986–999.

Boivie, S., Bednar, M. K., & Barker, S. B. 2015. Social comparison and reciprocity in director compensation. ***Journal of Management***, 41: 1578–1603.

Boivie, S., Graffin, S. D., & Pollock, T. G. 2012. Time for me to fly: Predicting director exit at large firms. ***Academy of Management Journal***, 55: 1334–1359.

Bok, D. 1993. ***The cost of talent: How executives and professionals are paid and how it affects America***. New York, NY: Free Press.

Bonet, R., Cappelli, P., & Hamori, M. 2013. Labor market intermediaries and the new paradigm for human resources. ***The Academy of Management Annals***, 7: 341–392.

Boyd, B. K. 1995. CEO duality and firm performance: A contingency model. ***Strategic Management Journal***, 16: 301–312.

Bushee, B. J. 1998. The influence of institutional investors in myopic R&D investment behavior. ***The Accounting Review***, 73: 305–333.

Cannella, A. A., Jr., & Shen, W. 2001. So close and yet so far: Promotion versus exit for CEO heirs apparent. ***Academy of Management Journal***, 44: 252–270.

Cannella, A. A., Jones, C. D., & Withers, M. C. 2015. Family-versus lone-founder-controlled public corporations: Social identity theory and boards of directors. ***Academy of Management Journal***, 58: 436–459.

Cappelli, P., & Hamori, M. 2014. Understanding executive job search. ***Organization Science***, 25: 1511–1529.

Carpenter, M. A., Sanders, W. G., & Gregersen, H. B. 2001. Bundling human capital with organizational context: The impact of international assignment experience on multinational firm performance and CEO pay. ***Academy of Management Journal***, 44: 493–511.

Carpenter, M. A., & Westphal, J. D. 2001. The strategic context of external network ties: Examining the impact of director appointments on board involvement in strategic decision making. ***Academy of Management Journal***, 4: 639–660.

Carroll, G. R. 1984. Dynamics of publisher succession in newspaper organizations. ***Administrative Science Quarterly***, 29: 93–113.

Carter, M. E., Franco, F., & Tuna, A. I. 2010. Premium pay for executive talent: An empirical analysis, ***AAA 2011 management account section meeting***. Available at http://ssrn.com/abstract=1658903.

Castanias, R. P., & Helfat, C. E. 1991. Managerial resources and rents. ***Journal of Management***, 17: 155–171.

Castanias, R. P., & Helfat, C. E. 2001. The managerial rents model: Theory and empirical analysis. ***Journal of Management***, 27: 661–678.

Cho, T. S., & Shen, W. 2007. Changes in executive compensation following an environmental shift: The role of top management team turnover. ***Strategic Management Journal***, 28: 747–754.

Clark, T. 1992. Management selection by executive recruitment consultancies: A survey and explanation of selection methods. ***Journal of Managerial Psychology***, 7: 3–10.

Connelly, B. L., Tihanyi, L., Certo, S. T., & Hitt, M. A. 2010. Marching to the beat of different drummers: The influence of institutional owners on competitive actions. ***Academy of Management Journal***, 53: 723–742.

Connelly, B. L., Tihanyi, L., Crook, T. R., & Gangloff, K. A. 2014. Tournament theory: Thirty years of contests and competitions. ***Journal of Management***, 40: 16–47.

Crossland, C., & Hambrick, D. C. 2007. How national systems differ in their constraints on corporate executives: A study of CEO effects in three countries. ***Strategic Management Journal***, 28: 767–789.

D'Aveni, R. A. 1990. Top managerial prestige and organizational bankruptcy. ***Organization Science***, 1: 121–142.

Davis, G. F. 1993. ***Who gets ahead in the market for corporate directors: The political economy of multiple board memberships.*** Paper presented at the Academy of Management, Atlanta, GA.

Davis, G. F., Yoo, M., & Baker, W. E. 2003. The small world of the American corporate elite, 1982–2001. ***Strategic Organization***, 1: 301–326.

Dess, G. G., & Shaw, J. D. 2001. Voluntary turnover, social capital, and organizational performance. ***Academy of Management Review***, 26: 446–456.

Devers, C. E., Cannella, A. A., Jr., Reilly, G. P., & Yoder, M. E. 2007. Executive compensation: A multidisciplinary review of recent developments. ***Journal of Management***, 33: 1016–1072.

DiPrete, T. A., Eirich, G. M., & Pittinsky, M. 2010. Compensation benchmarking, leapfrogs, and the surge in

executive pay. ***American Journal of Sociology***, 115: 1671–1712.

Dreher, G. F., Lee, J.-Y., & Clerkin, T. A. 2011. Mobility and cash compensation the moderating effects of gender, race, and executive search firms. ***Journal of Management***, 37: 651–681.

Ezell, M. E., Land, K. C., & Cohen, L. E. 2003. Modeling multiple failure time data: A survey of variance–corrected proportional hazards models with empirical applications to arrest data. ***Sociological Methodology***, 33: 111–167.

Fama, E. F., & French, K. R. 1997. Industry costs of equity. ***Journal of Financial Economics***, 43: 153–193.

Fama, E. F., & Jensen, M. C. 1983. Separation of ownership and control. ***The Journal of Law & Economics***, 26: 301–325.

Festinger, L. 1954. A theory of social comparison processes. ***Human Relations***, 7: 117–140.

Fich, E. M. 2005. Are some outside directors better than others? Evidence from director appointments by Fortune 1000 firms. ***The Journal of Business***, 78: 1943–1971.

Finkelstein, S. 1992. Power in top management teams—Dimensions, measurement, and validation. ***Academy of Management Journal***, 35: 505–538.

Finkelstein, S., & Hambrick, D. C. 1989. Chief executive compensation: A study of the intersection of markets and political processes. ***Strategic Management Journal***, 10: 121–134.

Finkelstein, S., Hambrick, D. C., & Cannella, A. A. 2009. ***Strategic leadership: Theory and research on executives, top management teams and boards***. New York, NY: Oxford University Press.

Fisher, J., & Govindarajan, V. 1992. Profit center manager compensation: An examination of market, political and human capital factors. ***Strategic Management Journal***, 13: 205–217.

Fitza, M. A. 2014. The use of variance decomposition in the investigation of CEO effects: How large must the CEO effect be to rule out chance? ***Strategic Management Journal***, 35: 1839–1852.

Fulmer, I. S. 2009. The elephant in the room: Labor market influences on CEO compensation. ***Personnel Psychology***, 62: 659–695.

Gomez-Mejia, L. R., & Balkin, D. B. 1992. Determinants of faculty pay: An agency theory perspective. ***Academy of Management Journal***, 35: 921–955.

Gomez-Mejia, L. R., Tosi, H., & Hinkin, T. 1987. Managerial control, performance, and executive compensation. ***Academy of Management Journal***, 30: 51–70.

Graffin, S., Porac, J. F., & McNamee, R. 2008a. Status "leakage" in the executive suite: The impact of CEO status attainment on the economic outcomes of other senior managers. ***Organization Science***, 19: 457–474.

Graffin, S. D., Boivie, S., & Carpenter, M. A. 2013. Examining CEO succession and the role of heuristics in early-stage CEO evaluation. ***Strategic Management Journal***, 34: 383–403.

Graffin, S. D., Carpenter, M. A., & Boivie, S. 2011. What's all that (strategic) noise? Anticipatory impression management in CEO succession. ***Strategic Management Journal***, 32: 748–770.

Graffin, S. D., Wade, J. B., Porac, J. F., & McNamee, R. C. 2008b. The impact of CEO status diffusion on the economic outcomes of other senior managers. ***Organization Science***, 19: 457–474.

Graffin, S. D., & Ward, A. J. 2010. Certifications and reputation: Determining the standard of desirability amidst uncertainty. ***Organization Science***, 21: 331–346.

Green, J., & Hymowitz, C. 2013. U.S. CEO turnover reaches highest level since 2008, ***Bloomberg***. Available at http://www.bloomberg.com/news/articles/2013-11-26/wal-mart-to-microsoft-shifts-show-ceo-change-fastest-since-08.

Greve, H. R., & Fujiwara-Greve, T. 2003. Job search with organizational size as a signal. ***Social Forces***, 82: 643–669.

Guo, S., & Fraser, M. W. 2010. ***Propensity score analysis: Statistical methods and applications***. Thousand Oaks, CA: Sage.

Hambrick, D. C., & D'Aveni, R. A. 1988. Large corporate failures as downward spirals. ***Administrative Science Quarterly***, 33: 1–23.

Hambrick, D. C., Finkelstein, S., & Mooney, A. C. 2005. Executive job demands: New insights for explaining strategic decisions and leader behaviors. ***Academy of Management Review***, 30: 472–491.

Hambrick, D. C., & Mason, P. A. 1984. Upper echelons: The organization as a reflection of its top managers. ***Academy of Management Review***, 9: 193–206.

Hambrick, D. C., & Quigley, T. J. 2014. Toward more accurate contextualization of the CEO effect on firm performance. ***Strategic Management Journal***, 35: 473–491.

Hambrick, D. C., Werder, A. V., & Zajac, E. J. 2008. New directions in corporate governance research. ***Organization Science***, 19: 381–385.

Hamilton, B. H., & Nickerson, J. A. 2003. Correcting for endogeneity in strategic management research. ***Strategic Organization***, 1: 51–78.

Hamori, M. 2010. Who gets headhunted—and who gets ahead? The impact of search firms on executive careers. ***The Academy of Management Perspectives***, 24: 46–59.

Harris, D., & Helfat, C. 1997. Specificity of CEO human capital and compensation. ***Strategic Management Journal***, 18: 895–920.

Harris, J., & Bromiley, P. 2007. Incentives to cheat: The influence of executive compensation and firm performance on financial misrepresentation. ***Organization Science***, 18: 350–367.

Haunschild, P. R. 1993. Interorganizational imitiation: The impact of interlocks on corporate acquisition activity. ***Administrative Science Quarterly***, 38: 564–592.

Haunschild, P. R. 1994. How much is that company worth? Interorganizational relationships, uncertainty and acquisition premiums. ***Administrative Science Quarterly***, 39: 391–411.

Haunschild, P. R., & Beckman, C. M. 1998. When do interlocks matter?: Alternate sources of information and interlock influence. ***Administrative Science Quarterly***, 43: 815–844.

Henderson, A. D., Miller, D., & Hambrick, D. C. 2006. How quickly do CEOs become obsolete? Industry dynamism, CEO tenure, and company performance. ***Strategic Management Journal***, 27: 447–460.

Hermalin, B. E., & Weisbach, M. S. 1988. The determinants of board composition. ***The Rand Journal of Economics***, 19: 589–606.

Hermalin, B. E., & Weisbach, M. S. 1998. Endogenously chosen boards of directors and their monitoring of the CEO. ***The American Economic Review***, 88: 96–118.

Hillman, A. J., Cannella, A. A., Jr., & Paetzold, R. L. 2000. The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change. ***Journal of Management Studies***, 37: 235–255.

Hillman, A. J., & Dalziel, T. 2003. Boards of directors and firm performance: Integrating agency and resource dependence perspectives. ***Academy of Management Review***, 28: 383–396.

Holmstrom, B. 1982. Moral hazard in teams. ***The Bell Journal of Economics***, 13: 324–340.

Hoskisson, R. E., Hitt, M. A., Johnson, R. A., & Grossman, W. 2002. Conflicting voices: The effects of institutional ownership heterogeneity and internal governance on corporate innovation strategies. ***Academy of Management Journal***, 45: 697–716.

Jovanovic, B. 1979. Job matching and the theory of turnover. ***Journal of Political Economy***, 87: 972–990.

Kesner, I. F., & Sebora, T. C. 1994. Executive succession: Past, present & future. ***Journal of Management***, 20: 327–372.

Khanna, P., Jones, C. D., & Boivie, S. 2013. Director human capital, information processing demands, and board effectiveness. ***Journal of Management***, 40: 557–585.

Khurana, R. 2002. ***Searching for a corporate savior: The irrational quest for charismatic CEOs***. Princeton, NJ: Princeton University Press.

Klausner, M., Munger, N., Munger, C., Black, B. S., & Cheffins, B. 2005. Outside directors' liability: Have Worldcom and Enron changed the rules? ***Stanford Lawyer***, 71: 36–39.

Krause, R., Semadeni, M., & Cannella, J. A. A. 2014. CEO duality: A review and research agenda. ***Journal of Management***, 40: 256–286.

Larcker, D., & Saslow, S. 2014. Report on senior executive succession planning and talent development survey, ***Institute of executive development and Stanford University***. Available at http://www.gsb.stanford.edu/faculty-research/publications/2014-report-senior-executive-succession-planning-talent-development.

Li, M. 2013. Using the propensity score method to estimate causal effects: A review and practical guide. ***Organizational Research Methods***, 16: 188–226.

Linck, J. S., Netter, J. M., & Yang, T. 2009. The effects and unintended consequences of the Sarbanes-Oxley Act on the supply and demand for directors. ***Review of Financial Studies***, 22: 3287–3328.

Lorsch, J. W., & MacIver, E. 1989. ***Pawns or potentates: The reality of America's corporate boards***. Boston, MA: Harvard Business School Press.

Mace, M. L. 1986. ***Directors: Myth and reality*** (2nd ed.). Boston, MA: Harvard Business School Press.

March, J. G. 1984. Notes on ambiguity and executive compensation. ***Scandinavian Journal of Management Studies***, 1: 53–64.

McDonald, M. L., Westphal, J. D., & Graebner, M. E. 2008. What do they know? The effects of outside director acquisition experience on firm acquisition performance. ***Strategic Management Journal***, 29: 1155–1177.

Meindl, J. R. 1990. On leadership: An alternative to the conventional wisdom. In B. M. Staw & L. L. Cummings (Eds.), ***Research in organizational behavior***, vol. 12: 159–203. Greenwich, CT: JAI Press.

Meindl, J. R., Ehrlich, S. B., & Dukerich, J. M. 1985. The romance of leadership. ***Administrative Science Quarterly***, 30: 78–102.

Mincer, J. 1974. ***Schooling, experience, and earnings***. New York, NY: National Bureau of Economic Research.

Nagel, G. L. 2010. The effect of labor market demand on U.S. CEO pay since 1980. ***Financial Review***, 45: 931–950.

Ocasio, W., & Kim, H. 1999. The circulation of corporate control: Selection of functional backgrounds of new CEOs in large U.S. manufacturing firms, 1981–1992. ***Administrative Science Quarterly***, 44: 532–562.

Podolny, J. M. 2005. ***Status signals: A sociological study of market competition***. Princeton, NJ: Princeton University Press.

Poole, M. S., van de Ven, A. H., & Holmes, M. E. 2000. ***Organizational change and innovation processes***. Oxford, U.K.: Oxford University Press.

Rajgopal, S., Taylor, D., & Venkatachalam, M. 2012. Frictions in the CEO labor market: The role of talent agents in CEO compensation. ***Contemporary Accounting Research***, 29: 119–151.

Rhee, M., & Lee, J.-H. 2008. The signals outside directors send to foreign investors: Evidence from Korea. ***Corporate Governance***, 16: 41–51.

Ridge, J. W., Hill, A. D., & Aime, F. 2014. Implications of multiple concurrent pay comparisons for top-team turnover. ***Journal of Management***.

Rindova, V. P., Petkova, A. P., & Kotha, S. 2007. Standing out: How new firms in emerging markets build reputation in the media. ***Strategic Organization***, 5: 31–70.

Rindova, V. P., Williamson, I. O., Petkova, A. P., & Sever, J. M. 2005. Being good or being known: An empirical examination of the dimensions, antecedents, and consequences of organizational reputation. ***Academy of Management Journal***, 48: 1033–1049.

Sanders, W. G., & Boivie, S. 2004. Sorting things out: Valuation of new firms in uncertain markets. ***Strategic Management Journal***, 25: 167–186.

Shen, W., & Cannella, A. A., Jr. 2002a. Power dynamics within top management and their impacts on CEO dismissal followed by inside succession. ***Academy of Management Journal***, 45: 1195–1206.

Shen, W., & Cannella, A. A., Jr. 2002b. Revisiting the performance consequences of CEO succession: The impacts of successor type, postsuccession senior executive turnover, and departing CEO tenure. ***Academy of Management Journal***, 45: 717–733.

Spence, A. M. 1974. ***Market signaling: Information transfer in hiring and related screening processes***. Cambridge, MA: Harvard University Press.

Thompson, J. D. 1967. ***Organizations and action***. New York, NY: McGraw-Hill.

Trevor, C. O. 2001. Interactions among actual ease-of-movement determinants and job satisfaction in the prediction of voluntary turnover. ***Academy of Management Journal***, 44: 621–638.

Tuma, N. B., & Hannan, M. T. 1984. ***Social dynamics: Models and methods***. New York, NY: Academic Press.

Useem, M. 1979. The social organization of the American business elite and participation of corporation directors in the governance of American institutions. ***American Sociological Review***, 44: 553–572.

Useem, M. 1984. ***The inner circle: Large corporations and the rise of business political activity in the U.S. and U.K.*** New York, NY: Oxford University Press.

Useem, M., & Karabel, J. 1986. Pathways to top corporate management. ***American Sociological Review***, 51: 184–200.

Vancil, R. E. 1987. A look at CEO succession. ***Harvard Business Review***, 65: 107–117.

Wade, J. B., O'Reilly, C. A., III, & Pollock, T. G. 2006a. Overpaid CEOs and underpaid managers: Fairness and executive compensation. ***Organization Science***, 17: 527–544.

Wade, J. B., Porac, J. F., Pollock, T. G., & Graffin, S. D. 2006b. The burden of celebrity: The impact of CEO certification contests on CEO pay and performance. ***Academy of Management Journal***, 49: 643–660.

Wagner, W. G., Pfeffer, J., & O'Reilly, C. A., III. 1984. Organizational demography and turnover in top-management groups. ***Administrative Science Quarterly***, 29: 74–92.

Walsh, J. P. 1988. Top management turnover following mergers and acquisitions. ***Strategic Management Journal***, 9: 173–183.

Walsh, J. P., & Ellwood, J. W. 1991. Mergers, acquisitions, and the pruning of managerial deadwood. ***Strategic Management Journal***, 12: 201–217.

Westphal, J. D., & Khanna, P. 2003. Keeping directors in line: Social distancing as a control mechanism in the corporate elite. ***Administrative Science Quarterly***, 48: 361–398.

Westphal, J. D., & Stern, I. 2006. The other pathway to the boardroom: Interpersonal influence behavior as a substitute for elite credentials and majority status in obtaining board appointments. ***Administrative Science Quarterly***, 51: 169–204.

Westphal, J. D., & Stern, I. 2007. Flattery will get you everywhere (especially if you are a male Caucasian): How ingratiation, boardroom behavior, and demographic minority status affect additional board appointments at U.S. companies. ***Academy of Management Journal***, 50: 267–288.

Westphal, J. D., & Zajac, E. J. 1995. Who shall govern? CEO/board power, demographic similarity, and new director selection. ***Administrative Science Quarterly***, 40: 60–84.

Wiersema, M. F., & Bantel, K. A. 1993. Top management team turnover as an adaptation mechanism: The role of the environment. ***Strategic Management Journal***, 14: 485–504.

Wiersema, M. F., & Zhang, Y. 2011. CEO dismissal: The role of investment analysts. ***Strategic Management Journal***, 32: 1161–1182.

Withers, M. C., Corley, K. G., & Hillman, A. J. 2012. Stay or leave: Director identities and voluntary exit from the board during organizational crisis. ***Organization Science***, 23: 835–850.

Withers, M. C., Hillman, A. J., & Cannella, A. A., Jr. 2012. A multidisciplinary review of the director selection literature. ***Journal of Management***, 38: 243–277.

Yamaguchi, K. 1991. ***Event history analysis***. Newbury Park, CA: Sage Publications.

Zajac, E. J. 1988. Interlocking directorates as an interorganizational strategy: A test of critical assumptions. ***Academy of Management Journal***, 31: 428–438.

Zhang, Y., & Rajagopalan, N. 2003. Explaining new CEO origin: Firm versus industry antecedents. ***Academy of Management Journal***, 46: 327–338.

Steven Boivie (sboivie@mays.tamu.edu) is an associate professor in the Mays Business School at Texas A&M University. He received his PhD in strategic management from the University of Texas at Austin. He is primarily interested in how behavioral and social forces affect human actors at the top of the organization.

Scott D. Graffin (sgraffin@uga.edu) is an associate professor at the University of Georgia's Terry College of Business. He received his PhD in organizational theory and strategic management from the University of Wisconsin, Madison. His research interests include corporate governance, as well as the impact of reputation, status, and organizational impression management activities on organization outcomes.

Abbie G. Oliver (agoliver@uga.edu) is a doctoral candidate in strategic management at the University of Georgia's Terry College of Business. Her research interests include stakeholder management, social evaluations of firms, and corporate governance. She expects to complete her PhD in 2018.

Michael C. Withers (mwithers@mays.tamu.edu) is an assistant professor of management at Mays Business School, Texas A&M University. He received his PhD from Arizona State University. His research interests include the management of resource dependencies, corporate governance, and director selection and mobility.