

# DIRECTOR COMPENSATION AS AN INDUCEMENT FOR DIRECTOR CAPITAL

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## Abstract

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In the current study, we examine whether the compensation that directors receive to serve on corporate boards has an inducing effect on the market for directors. More specifically, we examine whether director compensation is related to the human and social capital that directors bring to their boards. As part of our examination, we focus on the passage of the Sarbanes-Oxley Act of 2002 (SOX), which serves as a type of natural experiment, to show that boards increasingly use compensation as a way to attract director capital. We, therefore, tested our hypotheses on a cross-sectional panel sample of 1,704 S&P 1500 firms over the period of 1998 to 2006 (8,332 firm-year observations) using generalized least squares (GLS) regression correcting for first-order autoregression. Our findings suggest that inducing effects operate in the market for directors and lend particular support to the importance of the resource provision function of boards.

**Keywords:** Director Compensation, Director Capital, Inducement Effects, Board Heterogeneity

**Authors' individual contribution:** Conceptualization — N.A.B., V.F.M., and M.K.B.; Methodology — N.A.B. and V.F.M.; Formal Analysis — N.A.B.; Writing — N.A.B., V.F.M., and M.K.B.

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## 1. INTRODUCTION

Boards of directors are at the nucleus of corporate governance. Although agency theory prescribes a host of governance mechanisms that operate to constrain managerial decision-making and behaviors (Rediker & Seth, 1995) boards of directors are considered to be “the ultimate center of control” (Mizruchi, 1983, p. 433). In fact, a great deal of prior research, and policy-making particularly in the wake of major corporate malfeasance (e.g., Enron, Worldcom), has focused on how to increase the monitoring capacity of the board (for extensive reviews see Conyon & Peck, 1998; Finkelstein & Hambrick, 1996; Rosenstein & Wyatt, 1990). Monitoring, however, is not the only function of boards. Directors also provide crucial resources such

as strategic advice and serve as key conduits to external stakeholders (Hillman, 2005; Hillman & Dalziel, 2003). It follows then that in order to operate effectively, boards must be able to secure and maintain a breadth and depth of human and social capital across directors (i.e., “board capital”) (Haynes & Hillman, 2010), and understand how they do so is clearly of interest to corporate governance researchers and policymakers (Finkelstein et al., 2009).

The prevailing notion that has guided governance research in this regard is that directors attain their seats on boards through social influence processes such as ingratiation (Westphal & Stern, 2006, 2007) or friendship ties (Allen, 1974; Burt, 1980) and that they may lose their seats through a “settling up” process based upon firm performance. That is, directors may lose their board

seats or may be unable to secure additional directorships when their reputations are tarnished by poor performance or bankruptcy in the firms they oversee (Arthaud-Day et al., 2006; Cowen & Marcel, 2011; Fama, 1980; Fama & Jensen, 1983; Srinivasan, 2005). Interestingly, the conventional account does not consider the possibility that the director labor market may sort and efficiently allocate the desired levels of human or social capital needed by boards. To the extent that past research has examined director compensation, it has instead done so with a focus on its incentive effects (Adams & Ferreira, 2008; Boivie et al., 2015) — i.e., how it affects directors' motivations once they are on the board — and thus has not addressed the question of whether director compensation induces or attracts talented directors to join firms' boards. In other words, the market for corporate directors is presumed to be unlike other labor markets wherein “pay level influences the ability-related characteristics of those who apply for jobs (or leave them)” (Gerhart & Rynes, 2003, p. 70), and thus research to date has yet to explore whether director compensation is used as such an “inducement” (Rynes & Barber, 1990) to secure scarce human resources in the director labor market. Our study is therefore guided by the following research question:

*RQ1: Does director compensation attract or “induce” new directors with desirable human and social capital to join boards?*

In the current study, we, therefore, develop and examine the notion that director compensation serves as an inducing mechanism that attracts talent in the director labor market. To do so, we first review recent evidence that is suggestive that firms have a wide degree of discretion in designing their board compensation packages (Boivie et al., 2015; Brick et al., 2006; Farrell et al., 2008; Linck et al., 2009). Such discretion is a prerequisite to the possibility of inducement effects (Gerhart & Rynes, 2003) and is consistent with the notion that compensation may be used to attract board members with desired human and social capital (i.e., “director capital”; Reeb & Zhao, 2013). We then detail how changes imposed by the passage of the Sarbanes Oxley Act of 2002 (SOX) — that directors are sitting on fewer concurrent board seats (Linck et al., 2009), that fewer firm officers are holding board seats (Borokhovich et al., 1996; Huson et al., 2001), and that boards are now required to have certain levels of specific human capital (i.e., financial expertise to serve as chair of the audit committee) — set the conditions for an inducement effect of director compensation (i.e., to attract directors with desired capital to serve on the board). Furthermore, the theoretical (Hillman & Dalziel, 2003; Hillman et al., 2008) and empirical research (Carpenter & Westphal, 2001; Haynes & Hillman, 2010; Jensen & Zajac, 2004; Kor & Misangyi, 2008) on the resource provision function of directors suggests that boards differ in their stocks of capital (i.e., directors' human and social capital) and that these differences have an impact on board functioning and firm outcomes (Marcel & Cowen, 2014; Sundaramurthy et al., 2014).

Given this spate of evidence, we build upon previous management compensation scholarship (Gerhart & Milkovich, 1990; Gerhart & Rynes, 2003; Rynes & Barber, 1990) to establish whether director

compensation is related to director capital, and further examine the nature of this relationship with respect to human capital (i.e., “individuals' capabilities, knowledge, skill and experience”: Hsieh & Yang, 2014, p. 52) versus social capital (i.e., “directors' ability to access resources through social linkages”; Sundaramurthy et al., 2014, p. 845). Our findings clearly suggest that such a relationship exists, both in terms of the level of capital and its heterogeneity. Furthermore, we consider and find that the passage of the SOX legislation represented a critical juncture in the operation of the inducing effects of director compensation in the director labor market. Our study and its findings thus suggest that although compensation has played little role in the prevailing “settling up” and “social processes” perspectives guiding research on director labor markets (Withers, Hillman, et al., 2012), director compensation appears to serve as an important inducing mechanism that can attract director's human and social capital. Our findings are particularly striking given the fact that director compensation amounts in the United States (US) only vary across boards but not within boards — i.e., on any given board, pay may vary based on the role served (i.e., committee membership or chairmanships) but otherwise is uniform across all directors on the given board. Moreover, a shift by governance scholars toward thinking about director labor markets in a more traditional way — i.e., that the compensation levels offered by boards have an inducing effect on the level of knowledge, skills, and abilities of the directors they attract — is consistent with research that suggests that directors' needs and preferences have been largely overlooked in prior research (Boivie et al., 2012) and provides an avenue through which future research can better understand why directors serve on boards (Hambrick et al., 2008; Withers, Hillman, et al., 2012). By explicating and examining the relationship between director capital and compensation we also contribute to the relatively nascent literature on director compensation (Boivie et al., 2015; Vafeas, 1999; Yermack, 2004). Prior research in this area has focused exclusively on either its structure (Farrell et al., 2008; Yermack, 2004) or its incentive effects (Hambrick & Jackson, 2000; Kosnik, 1987, 1990).

The paper proceeds as follows. Section 2 discusses the past literature on director compensation, develops our hypotheses about how compensation may serve as an inducement for attracting talent to organizations, and examines the potential moderating effect of the SOX. Section 3 details the research design, sample, variables, and analytical technique used in this study. Section 4 provides the results of our empirical testing. Section 5 offers a discussion of our findings. Section 6 provides the conclusion which describes the implications that our study has for future research and its limitations.

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### 2.1. Theoretical background

Given that the board selection process has been extensively reviewed elsewhere (Withers, Hillman, et al., 2012), our focus here is on how director compensation has been treated in the extant

literature. Early scholars of boards provided evidence to suggest that director responsibilities were minimal and that directorships were positions in an “old boys club” that were subservient to the chief executive officer (CEO) (Lorsch & MacIver, 1989; Mace, 1986). Although the business press often bemoaned the fact that directors did not “rock the boat” by challenging management (Patton & Baker, 1987), it appears that this symbolic role of the board was largely accepted and reinforced by directors (Westphal & Khanna, 2003). Consider this quote from a director during the 1980s: “In the early years, being invited to join a board was a sign of respect... people served on a lot of boards because the duties were minimal. We weren’t given much information before a meeting and even attendance wasn’t essential. If you went, it was to listen to management describe its plans” (Lorsch & MacIver, 1989 p. 5).

In short, under this rather “socialized perspective” of boards (Withers, Hillman, et al., 2012, p. 244), directorships were considered to be an opportunity to build contacts, learn from other companies, and acquire status and prestige. Thus, the notion that the market for directors operates like other labor markets — at least with respect to director compensation having an inducing effect — was not part of the early studies and thinking about boards. The selection of new directors hinged upon their nomination to the board by the firm’s CEO, and thus board appointments were a matter of friendship ties (Westphal & Stern, 2006, 2007) and “interlocks” (Allen, 1974; Burt, 1980).

The logic of agency theory and the corresponding rise in “investor capitalism” (Davis & McAdam, 2000; Zajac & Westphal, 2004), however, ushered in the notion that boards actively oversee management and are the “ultimate center of control” (Mizruchi, 1983). Directors’ role as “pawns” of management thus gave way to a role of “decision control” over management (Fama & Jensen, 1983). There is ample evidence to suggest that the board selection process has somewhat evolved along with this director role shift: while powerful CEOs, friendship ties, and interpersonal influence processes may still play a role in board appointments (Westphal & Stern, 2006, 2007), the nominating committee of the board has come to play a central role in the evaluation of possible candidates (Lorsch & MacIver, 1989; Roche, 2009).

Regardless of how directors attained their board seats, agency theory has argued that directors “have incentives to develop reputations as experts in decision control” for as professional referees they “use their directorships to signal” that “they are decision experts” (Fama & Jensen, 1983, p. 315). Consequently, research from this perspective has assumed that firm performance would be the main mechanism through which the sorting of directors takes place (Fama, 1980; Fama & Jensen, 1983). Indeed, a number of studies drawing upon this logic have been published showing that directors leave boards and have fewer future board appointments following negative events (e.g., bankruptcy) at firms they oversee. These studies have been used to support this “settling up” view of the director labor market (Arthaud-Day et al., 2006; Cowen & Marcel, 2011; Gilson, 1990). The agency perspective, consistent with its neoclassical economic roots, was

initially limited in its propositions regarding director selection because it treated directors as a rather homogeneous input and only judged director quality post hoc based on the performance of the firm during their directorship. Moreover, this account was highly skeptical that director compensation could serve as a viable mechanism for attracting directors, as compensation beyond some token amount was seen as threatening the credibility of directorships (Boyd, 1994; Fama & Jensen, 1983). However, more recent research demonstrates that the incidence of settling up may be dramatically overstated (Withers, Hillman, et al., 2012) and that director exit is likely more a function of director motivation than labor market discipline (Boivie et al., 2012).

Despite this early disinterest and skepticism surrounding the compensation of directors, there has been some research that has explored its motivational or “incentive” effects on directors. This work focuses on how director compensation may be used to align the interests of directors with shareholders and thus how it affects directors’ behavior once they are on boards. That is, this stream of research has therefore focused on the incentive effects of director compensation — “how compensation influences attitudes and behaviors of the current workforce” (Gerhart & Milkovich, 1990, p. 119) — of director compensation on director effectiveness (Hambrick & Jackson, 2000; Kosnik, 1987, 1990). Consistent with this view, research in the management literature has suggested that in order for outside directors to be motivated to monitor management, directors must “hold meaningful amounts of equity” (Hambrick & Jackson, 2000, p. 121). Studies by Kosnik (1987, 1990) suggest that director stock ownership works to incent outside directors to more effectively monitor executives by reducing the incidence of anti-shareholder practices (e.g., greenmail).

Along these same lines, recent evidence in the finance and management literature suggests that director compensation is rising, becoming more equity-based, and moving towards increased use of fixed-value equity grants (Boivie et al., 2015; Brick et al., 2006; Farrell et al., 2008; Linck et al., 2009). Linck et al. (2009), for example, provide evidence showing that directors’ equity-based pay grew more than 172% between 1998 and 2005, while cash compensation grew 33% during the same time period. Farrell et al. (2008) also document increases in director equity pay similar to that found by Linck et al. (2009), but their findings further show that there is “a trend towards fixed-value equity compensation” (Farrell et al., 2008, p. 153). That is, although directors’ compensation is becoming more equity-based, firms nevertheless guarantee a certain level of pay and thus if the firm’s share price falls the director is granted more shares. Furthermore, they found that “upward adjustments begin sooner than downward adjustments”; when equity values rise, there was “no immediate offset to director compensation”, but when “equity values fall, fixed-number equity compensation is adjusted in the same period” (Farrell et al., 2008, p. 153).

While this latter research has been interested in director compensation as an incentive device, of interest to us, is that it also points to another interesting trend in board pay: despite the fact that

a board pays all of its directors the same, there is a great deal of discretion across boards over the form (e.g., cash, equity, stock options, fixed-value equity, etc.) and the level of pay they structure for themselves (Boivie et al., 2015). Moreover, this latter research has noted that “adjustments to director compensation are consistent with firms targeting a market level of compensation” (Farrell et al., 2008, p. 153). In short, the latter research has documented activity in director compensation that suggests that even though all directors on any given board receive the same level of pay, the grounds are fertile for compensation serving as an inducement mechanism across boards that helps to secure needed human resources in the director labor market (Rynes & Barber, 1990) — as such across-board discretion is a necessary condition for compensation to serve as an inducing mechanism (Gerhart & Rynes, 2003).

## 2.2. Hypotheses development

We now turn to developing hypotheses around the notion that the compensation that boards offer has an inducement effect on the human or social capital of the directors they attract.

### 2.2.1. Director compensation as an inducement

In addition to boards having discretion over what they pay their directors, the argument that director compensation serves as an inducement mechanism in the director labor market rests upon two other conditions: 1) that pecuniary benefits are attractive to directors and 2) that the human and social capital that directors possess is attractive enough to boards that they will be willing to compensate for it (Gerhart & Rynes, 2003; Groshen, 1988; Krueger & Summers, 1988).

First, employment inducements are changes in job attributes (e.g., compensation) that serve to increase the attractiveness of the job to potential applicants (Rynes & Barber, 1990). Although inducements can come in the form of pecuniary and non-pecuniary benefits, the extant literature on this issue suggests that “verifiable inducements with calculable pecuniary value are likely to be particularly effective motivators of job application and job acceptance decisions” (Rynes & Barber, 1990, p. 295). To date, the only study that has explored the relationship between director capital and director compensation found that pay increases afforded to more experienced directors were related to additional responsibilities that the directors take on (Fedaseyeu et al., 2018). It therefore remains an open question as to whether director compensation can serve as an inducement that attracts director talent. As reviewed above, while the traditional view has been that directors are induced to join boards by factors (i.e., reputation) other than money, recent work that has explored how director compensation might channel director behaviors once employed (i.e., incentive effects) is suggestive in this regard. For instance, Adams and Ferreira (2008) found that even small fluctuations in compensation have effects on director involvement with governance activities, and Boivie et al. (2015) found that directors actively compare and adjust their compensation amounts when they find themselves below referent firm pay levels.

Furthermore, while it may be that compensation isn’t the primary inducing factor for those directors who are currently also executives at other firms (i.e., CEOs, chief financial officers [CFOs]) — a type of director that has been on the decline (Borokhovich et al., 1996; Huson et al., 2001) — the compensation offered by boards is surely an inducement for professional directors who make their livelihood from serving on boards (i.e., retired executives). As stated by one director, “It is getting to be that if you are a director for a decent-sized company, then the pay is a lot of money, especially in the eyes of people who don’t make a lot. However, this is necessary. You have to pay qualified directors what they are worth. In my situation, if I am offered a directorship that only pays \$25,000 a year, it is very easy to turn that down. That is not very much money for me. Director compensation needs to be at a market rate. Remember, because the process is more like a real job, you are not as often recruiting friends who are doing this as a favor. New directors expect to be compensated for their time” (personal communication, November, 2008).

Second, for a board to employ inducing mechanisms such as compensation assumes that directors possess characteristics that can bring something of value to boards. Extant theory and research clearly suggest that the capital directors bring to boards is valued because it stands to benefit board functioning and a number of firm outcomes (Withers, Hillman, et al., 2012). Director capital is made up of both directors’ human and social capital (Haynes & Hillman, 2010; Hillman & Dalziel, 2003). Human capital is comprised of directors’ knowledge, skills, abilities, and experience whereas social capital is comprised of the network ties that directors have to external stakeholders. Director capital should be valuable to the extent that it enhances the board’s effectiveness in carrying out its primary functions, namely, the monitoring of managerial actions and the provisioning of resources for the focal firm (Hillman & Dalziel, 2003). For example, the ability to analyze financial reports is considered to be a valuable expertise for bolstering boards’ monitoring (e.g., SOX, Linck et al., 2009). Directors also provide advice and counsel to management, enhance the firm’s legitimacy, and provide links to key external stakeholders (for a review, see Hillman & Dalziel, 2003). Studies have found, for example, that directors’ strategically related board ties affect directors’ ability to contribute in board meetings (Carpenter & Westphal, 2001), directors’ international experience affects their firms’ international sales (Carpenter et al., 2003), directors’ industry experience benefits young firms (Kor & Misangyi, 2008), and directors’ acquisition experience improves firms’ acquisition performance (McDonald et al., 2008). Furthermore, Roche’s (2009) recent inquiry into boards and their composition lends support to the notion that boards value such capital: “...there were two questions that gave “acid test” selection criteria for a new board member. Firstly, what would the newcomer bring to the team or firm in the realm of relationships, independent thinking, or technical expertise? Secondly, how would the newcomer fit within the existing team with respect to personality, leadership, and other attributes?” (Roche, 2009, p. 3).

In sum, based upon the foregoing theory and research, we suggest that director compensation may have an inducing effect on the director labor market: varying levels of compensation across boards serve as a mechanism that attracts varying levels of director human and social capital. Past research has used evidence showing a relationship between levels of compensation and human resources as support for an inducement effect (Gerhart & Milkovich, 1990). Thus, observing a relationship between director capital and director compensation would be consistent with such an effect operating in the market for directors; support for the following hypothesis would establish that inducing effects operate in the director labor market:

*H1: Director capital is positively associated with director compensation.*

Although the extant literature on board resource provision does not provide a guide as to the particular types of director capital that will generally warrant a premium in the director labor market, a premium is likely to be required to attract new directors to a given board who are already serving in other board directorships. This is largely because directors with high levels of human and social capital have the most to lose by taking on additional directorships. Although the capital — both human and social — takes time for directors to accumulate, such capital is very quickly degraded or offset by negative experiences and stigmatizing failures (Kang, 2008; Wiesenfeld et al., 2008). Thus, not only do the directors with the greatest human and social capital have the most to lose if a directorship goes badly, but they also have the least to gain from additional appointments. Given that human and social capital do not accrue linearly and without limit, individuals who already possess high levels of these resources are less likely to significantly increase their stocks of human and social capital via additional appointments. Indeed, it appears that as directors accumulate human and social capital, they become increasingly selective about the boards on which they serve. In fact, there is some evidence to suggest that the best directors are likely to receive multiple board offers and tend to decline a higher percentage of board invitations received (Felton & Watson, 2002). Thus, we hypothesize that:

*H2: The hiring of new directors with other existing board directorships is positively related to increases in director compensation.*

Boards are also likely to value the breadth — or heterogeneity — of the board members' capital (Haynes & Hillman, 2010; Hillman & Dalziel, 2003; Lester et al., 2008). The breadth of board capital reflects the cognitive heterogeneity of its members (Haynes & Hillman, 2010), which has been shown to result in better decision-making (Jackson et al., 1995). This enhanced decision-making is largely due to the increased number of strategic options that a board with a high breadth of capital can consider due to directors' wider variety of experience. Boards with a greater breadth of capital are thus likely to be better able to perform their key functions of monitoring management and providing resources. Board capital breadth provides multiple perspectives that may be helpful in challenging management. In this sense, board capital breadth may help to avoid groupthink and acquiescence to top management that can occur when all directors see

things from a similar perspective. Studies have shown that the breadth of board capital helps firms to initiate strategic change and thus overcome the tendency to maintain the status quo (Haynes & Hillman, 2010).

To the extent that board capital breadth leads to increased board effectiveness by enhancing the ability of the board to monitor and provide resources to the firm, it should be a highly valued characteristic that firms are willing to pay for. Thus:

*H3: The breadth of board capital is positively associated with director compensation.*

### *2.2.2. The effect of the Sarbanes Oxley Act of 2002 on the inducing effect of director compensation*

There are several reasons to believe that the legal and normative changes surrounding the SOX significantly increased the inducing effects operating in the director labor market — in other words, it affords a natural experiment through which to examine our hypothesized effects. First, the SOX legislation, along with the requirements simultaneously instituted by both the New York Stock Exchange (NYSE) and the National Association of Securities Dealers Automated Quotations (NASDAQ), worked to increase the demand for outside directors given that they required boards to have a majority of independent directors (i.e., no material relationship with the listed company) and that boards' standing committees (NASDAQ; NYSE) and audit committees (SOX) now must be comprised entirely of independent directors. Second, these regulative changes also seem to have coincided with broader changes in institutional norms concerning the increased time and effort necessary to effectively fulfill the duties of a director and avoid the risk of lawsuits for not fulfilling the board's fiduciary duty to oversee management. For instance, Linck et al. (2009) found some evidence to suggest that the insurance premiums paid by boards to aid directors in the event of lawsuits (i.e., "director & officer insurance") rose substantially post-SOX. Third, the risk facing directors post-SOX would appear to involve more than simply legal risk: high capital directors are more likely to be held responsible for corporate outcomes due to expectations based on their abilities, whether or not the reasons for negative outcomes are within or beyond their control (Rhee & Haunschild, 2006; Wade et al., 2006). Thus, directors with high levels of human and social capital are the most likely to be highly scrutinized and have the most to lose post-SOX, and thus a premium in compensation should be required to attract them. Moreover, the extent that the work demands on directors are higher post-SOX, and given that "the most pressing issue a director faces in deciding to join a board is whether he or she has the time to serve" (Lorsch & MacIver, 1989, p. 23), directors already serving on other boards should require a premium to be attracted to serve on additional boards.

Finally, the findings of Linck et al. (2009) that increases in director total compensation were due solely to increases in equity pay pre-SOX but were due to increases in both cash and equity pay post-SOX is consistent with the notion that inducing effects would be stronger post-SOX. That is, while the increased director compensation post-SOX is likely due to the inclusion of a "risk premium"

necessary to induce all outside directors given the increased legal risk (Gray & Cannella, 1997), it nevertheless suggests that boards have even more discretion post-SOX over what and how they paid directors than they did pre-SOX.

In sum, this shift in the demand for, and demand on, directors suggests that the value of the human and social capital that directors bring to boards, and the compensation required to secure such capital, should have been greater post-SOX. Thus, we hypothesize that:

*H4: The positive relationship between the level of director capital and director compensation is stronger post-SOX than pre-SOX.*

*H5: The positive relationship between new directors with other board directorships and increases in director compensation is stronger post-SOX than pre-SOX.*

*H6: The positive relationship between the breadth of board capital and director compensation is stronger post-SOX than pre-SOX.*

### 3. RESEARCH METHODOLOGY

#### 3.1. Sample and data

We chose the passage of SOX as a critical moment in time for this study because it offers a unique natural experiment during which time the regulatory environment for boards made board capital salient as a consideration in hiring. We therefore constructed our sample using firms that comprised the S&P 1500 from 1998 to 2006. Individual director data was obtained from the Risk Metrics database, compensation data came from the ExecuComp database, firm data was collected from CompuStat, and all were supplemented by data from firm proxy statements and annual reports where necessary. We used the data on firm

reputation as compiled by Pfarrer et al. (2010) (which was taken from Fortune's "Most Admired Companies" and the Wall Street Journal/Harris Interactive ranking). After accounting for missing data and the lagging variables, our final sample consisted of 1,704 firms in an unbalanced panel covering 8,332 firm years, an average of 4.9 years per firm.

#### 3.2. Dependent variables

*Director compensation* was measured as the natural log of total compensation paid to each director for serving on the firm's board. That is, our measure includes both the fixed (i.e., retainer fee plus fees for meeting attendance) and equity (i.e., stock grants, stock options) components paid to the directors. It notably excludes additional fees that are tied to additional responsibilities assumed (e.g., committee and chairmanship fees). As already noted above, these fixed and equity payments are the same for all directors on each board. We therefore include one observation per firm year in the sample. This provides the compensation package available to directors on the board regardless of the individual role assumed. The equity component was calculated as the sum of the value of options received plus the value of shares received. We used the Black-Scholes method to value the options received and followed the method used by Yermack (2004) to establish the value of the shares received. We also adjusted for inflation using the consumer price index (all to the year 2000). As we further discuss below, our analyses involved an examination of both the level of director compensation and annual changes in the director compensation. *Change in director compensation* was calculated as the percentage change from year to year:

$$\text{Change in director compensation} = \frac{\text{compensation}_t - \text{compensation}_{t-1}}{\text{compensation}_{t-1}} \quad (1)$$

#### 3.3. Independent variables

In measuring director capital we sought to capture both human and social capital following previous studies (Haynes & Hillman, 2010; Hillman et al., 2000). With respect to human capital, the quality of a director's human capital is a function of both innate (i.e., unobservable individual differences) and acquired (i.e., past experiences) characteristics (Groschen, 1988). To measure human capital, we focused on the occupational backgrounds of the outside directors, defined as those directors who are not current officers or executives of the firm (Yermack, 2004). In keeping with prior research on outside directors, we do not discern between those new outsider directors with disclosed conflicts of interest (i.e., "grey" outside directors) and those without (i.e., "independent" outsider directors) (Chen et al., 2020; Duchin et al., 2010; Kor & Misangyi, 2008; Yermack, 2004). We classified outside directors' occupational backgrounds using the taxonomy developed by Hillman et al. (2000) by counting the number of directors in each classification: 1) community influential backgrounds (i.e., politicians, academics, doctors); 2) support specialist backgrounds (i.e., lawyers, bankers, or directors with real estate or

insurance backgrounds); and 3) business expertise (i.e., current or retired executives and directors from other large public firms). We further split this latter category, however, into those outside directors who are CEOs for another firm, those with financial expertise and those with non-CEO/non-financial business expertise. Social capital was measured by taking the number of other directorships on other publicly-traded firms' boards held by outside directors (Haynes & Hillman, 2010).

Consistent with previous research by Haynes and Hillman (2010), we used Blau's (1977) heterogeneity index to calculate the breadth of board capital based on the five occupational categories defined above (i.e., community influential, support specialist, CEOs, financial expertise, non-CEO/non-financial business expertise) plus the number of inside directors.

#### 3.4. Control variables

Our analyses also included a number of control variables. *Board size* was measured as the number of directors on each board. The *board outsider ratio* was calculated as the number of outside directors divided by the total number of directors. *Board*

*ownership* was calculated as the value of the shares held by the board. *CEO pay* was the natural log of the total compensation of the CEO. *CEO duality* is a binary variable where 1 indicates that the CEO is also the chairman of the board and 0 otherwise. *Firm reputation* is a binary variable where 1 indicates that the firm was recognized as one of the top 25 most reputable companies in a given year (Pfarrer et al., 2010), and 0 otherwise. The *firm's total diversification* was assessed using the entropy measure of diversification (Palepu, 1985). *Firm size* was measured as the natural log of employees and *firm performance* was measured using firm return on assets. Finally, we controlled for the industry by including industry fixed effects (based on the Global Industry Classification Standards [GICS] sector).

### 3.5. Analytical technique

As discussed above, inducing effects are inherently a cross-firm phenomenon as their presence implies that firms have at least some discretion in the level of pay that they offer and that these differences in pay are related to the attraction and retention of desired human and social capital (Gerhart & Rynes, 2003). Thus, finding that a set of director capital characteristics explains variance in director compensation would serve to support the notion that compensation has an inducing effect in the market for directors. We test this by using the following step-wise estimation (Gerhart & Milkovich, 1990):

$$Y_{tij} = \alpha + \beta_1 Z_{t-1ij} + \delta_j + \varepsilon_{tij} \quad (2)$$

$$Y_{tij} = \alpha + \beta_1 Z_{t-1ij} + \delta_j + \varepsilon_{tij} \quad (3)$$

$$Y_{tij} = \alpha + \beta_1 Z_{t-1ij} + \beta_2 X_{1t-1ij} + \beta_3 X_{2t-1ij} + \delta_j + \varepsilon_{tij} \quad (4)$$

where, Eq. (2) estimates the effects ( $\beta_1$ ) of the set of control variables ( $Z_{t-1ij}$ ) of each board/firm  $i$  in industry  $j$  in time  $t-1$  on the compensation on board  $i$  in industry  $j$  in time  $t$  ( $Y_{tij}$ ), controlling for industry effects ( $\delta_j$ ), Eq. (3) and (4) then introduce the effects ( $\beta_2$ ) of the set of directors' human and social capital variables ( $X_{1t-1ij}$ ) and the effect ( $\beta_3$ ) of the breadth of directors' capital ( $X_{2t-1ij}$ ) of board  $i$  in industry  $j$  in time  $t-1$ , respectively, on the compensation on board  $i$  in industry  $j$  in time  $t$  ( $Y_{tij}$ ) above and beyond the control variables, controlling for industry effects. In all equations,  $\alpha$  represents the grand mean of director compensation and  $\varepsilon_{tij}$  is the error term. To analyze this cross-sectional panel data, we used generalized least squares (GLS) regression models correcting for first-order auto-regression ("xtregar" command in Stata).

In testing  $H1$  and  $H3$ , Eq. (2) through Eq. (4) were estimated as described above using the full study period (1998–2006). That is,  $H1$  and  $H3$  pertain to the relationship between the level and breadth of director capital and the level of director compensation  $Y_{tij}$  in this modeling was measured as the level of compensation (on board  $i$  in industry  $j$  in time  $t$ ). The directors' human and social capital variables ( $X_{1t-1ij}$ ) represent the stock of director capital (e.g., the number of directors on the board that have support specialist backgrounds, etc.), and  $X_{2t-1ij}$  represents the breadth of the human capital on the board.

$H2$ , however, calls for the examination of the relationship between the change in the number of outside board memberships that new directors bring to the board and the change in director compensation. Thus, in testing this hypothesis,  $Y_{tij}$  was measured (as described above in the methods section) as the change in compensation (of board  $i$  in industry  $j$ ) from time  $t-1$  to time  $t$ , and the independent variables here now represent the human and social capital that any new directors in year  $t$  bring to the board ( $X_{1t-1ij}$ ). Furthermore, in this modeling approach, the breadth of board capital ( $X_{2t-1ij}$ ) serves as a control variable, along with the rest of the control variables ( $Z_{t-1ij}$ ) and includes controls for industry,  $\delta_j$ . Again, while this was noted previously above, it is worth emphasizing that

although each board pays all of its directors the same compensation, the fact that there is discretion across boards in the amount that they pay (and whether or not they raise the pay they offer their directors) suggests that if we observe a relationship between the capital that a new board member brings to the board (i.e., connections to other boards) and increases in director pay (albeit that all directors will have their pay increased) this would provide evidence of an inducing effect in the market for directors (Gerhart & Rynes, 2003).

To assess the effects of SOX on these relationships ( $H4$ – $H6$ ), we estimated Eq. (4) (i.e., the full modeling) as just described above but with separate estimations on the pre- (1998–2001) and post-SOX (2002–2006) periods and formally tested for differences in the particular relationships examined using Chow tests (Greene, 2000).

## 4. RESEARCH RESULTS

Table A.1 (Appendix) provides the descriptive statistics and correlations for all of the variables.

Table 1 reports the results with respect to the tests of  $H1$  and  $H3$ , which involve the examination of the relationship between the level and breadth of director capital and the level of director compensation. Models 1, 2, and 3 report the results for the full study period following the stepwise estimation technique described above; they show the effects for the control variables (Model 1), the director capital variables (Model 2), and board breadth (Model 3). As Model 2 of Table 1 shows,  $H1$  is supported: the addition of the director capital variables explains a significant amount of variance in director compensation ( $p < 0.01$ ; likelihood ratio test) (Greene, 2000). In particular, two types of capital are positively related to compensation: business expertise (non-CEO/Association of Certified Fraud Examiners [ACFE] backgrounds ( $p < 0.01$ ) and support specialist backgrounds ( $p < 0.01$ ).

As the results in Model 3 of Table 1 show,  $H3$  is also supported. The breadth of board capital is positively related to director compensation ( $p < 0.001$ ).

**Table 1.** The relationship between director capital and director compensation

Variables	Model				
	(1)	(2)	(3)	(4)	(5)
	Full sample			Split sample	
				pre-SOX	post-SOX
<i>Dependent variable: Director compensation</i>					
Constant	2.27*** (0.22)	2.61*** (0.27)	1.88*** (0.32)	1.62** (0.51)	2.26*** (0.39)
<i>Outside directors occupational background</i>					
<i>Business expertise</i>					
CEOs		0.01 (0.02)	-0.01 (0.02)	-0.02 (0.04)	-0.01 (0.03)
Financial experts		0.06 (0.04)	0.01 (0.04)	-0.03 (0.08)	0.05 (0.04)
Non-CEO/non-financial experts		0.05** (0.02)	0.06*** (0.02)	0.03 (0.03)	0.05* (0.02)
Support specialists		0.04** (0.01)	0.02+ (0.01)	-0.04 (0.03)	0.03* (0.02)
Community influentials		0.03 (0.02)	-0.01 (0.02)	0.00 (0.04)	-0.02 (0.03)
Outside directors other directorships		0.00 (0.00)	0.00 (0.00)	0.01 (0.01)	0.00 (0.01)
Breadth of board capital			0.90*** (0.21)	0.65+ (0.36)	0.84** (0.26)
Board size	0.00 (0.01)	-0.03* (0.02)	-0.03* (0.02)	0.02 (0.03)	-0.04* (0.02)
Board outside ratio	0.83*** (0.17)	0.41+ (0.23)	0.48* (0.23)	0.74+ (0.38)	0.36 (0.27)
Board ownership	-0.02* (0.01)	-0.03** (0.01)	-0.03** (0.01)	-0.01 (0.02)	-0.04*** (0.01)
CEO duality	-0.03 (0.04)	-0.03 (0.04)	-0.02 (0.04)	-0.06 (0.06)	0.04 (0.04)
CEO pay	0.07*** (0.01)	0.07*** (0.01)	0.07*** (0.01)	0.08*** (0.02)	0.08*** (0.02)
Firm reputation	0.02 (0.15)	0.01 (0.15)	0.01 (0.15)	0.19 (0.25)	0.03 (0.17)
Firm's total diversification	-0.04 (0.06)	-0.03 (0.06)	-0.03 (0.06)	-0.02 (0.09)	-0.02 (0.06)
Firm size	0.16*** (0.02)	0.16*** (0.02)	0.16*** (0.02)	0.12*** (0.04)	0.15*** (0.02)
Firm performance	0.10 (0.07)	0.11 (0.07)	0.11 (0.07)	-0.17 (0.19)	0.13+ (0.08)
Observations	7,910	7,910	7,910	3,167	4,743
Number of panels	1,680	1,680	1,680	1,355	1,471
Chi <sup>2</sup>	338.70***	361.10***	380.20***	170.40***	342.20***

Note: Standard errors in parentheses; included industry fixed effects not reported in the table. \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , +  $p < 0.10$ .

Models 4 and 5 of Table 1 report the fully specified modeling for the pre- and post-SOX time periods, respectively, and thus serve to test  $H4$  and  $H6$ .  $H4$  — which predicted that the relationship between the level of director capital and the level of director compensation would be stronger post-SOX — is partially supported. The relationship between support specialist backgrounds and director compensation is significantly different across the two time periods based on a Chow test ( $p < 0.01$ ). Indeed, the results suggest that this positive relationship is only significant post-SOX. While the relationship between non-CEO/non-financial expertise and director compensation also appears to be positively related only during the post-SOX period, this relationship is not significantly different across the time periods (Chow test,  $p < 0.37$ ).

$H6$ , which predicted that the relationship between the breadth of board capital and director compensation would be stronger post-SOX, is not supported as this relationship is not significantly

different across the two periods (Chow test,  $p < 0.45$ ). Instead, breadth of capital is evidently always valued by boards as this positive relationship is significant both pre- ( $p < 0.10$ ) and post- ( $p < 0.01$ ) SOX.

Table 2 reports the results for  $H2$ , which predicted a positive relationship between new directors' outside board memberships and changes in director compensation. Models 1 and 2 report the results for the control variables and the director capital variables, respectively, as estimated on the full study period. As Model 2 shows,  $H2$  is strongly supported. The addition of new directors with other public board directorships is positively related to changes in director compensation ( $p < 0.001$ ). The results in Model 2 also provide additional support for  $H1$ . In particular, the addition of new outside directors with support specialist backgrounds is positively related ( $p < 0.05$ ), and the addition of new outside directors who are CEOs is negatively related ( $p < 0.05$ ), to changes in director compensation.

**Table 2.** The relationship between change in new director capital and change in director compensation

Variables	Model			
	(1)	(2)	(3)	(4)
	Full sample		Split sample	
			pre-SOX	post-SOX
<i>Dependent variable: Change in director compensation</i>				
Constant	0.34 (0.21)	0.35 (0.21)	0.00 (0.33)	0.68** (0.26)
<i>New outside directors occupational background</i>				
<i>Business expertise</i>				
CEOs		-0.09* (0.04)	-0.01 (0.07)	-0.14* (0.06)
Financial experts		-0.03 (0.08)	-0.06 (0.16)	-0.03 (0.09)
Non-CEO/non-financial experts		-0.03 (0.03)	0.00 (0.06)	-0.05 (0.04)
Support specialists		0.10* (0.04)	0.04 (0.08)	0.12* (0.05)
Community influentials		0.02 (0.07)	0.05 (0.11)	-0.01 (0.08)
<i>New outside directors other directorships</i>		0.08*** (0.02)	0.04 (0.03)	0.11*** (0.03)
<i>Breadth of board capital</i>	-0.05 (0.15)	-0.05 (0.16)	0.26 (0.25)	-0.25 (0.18)
Board size	0.00 (0.01)	0.00 (0.01)	0.01 (0.01)	-0.01 (0.01)
Board outside ratio	-0.19 (0.14)	-0.17 (0.14)	-0.06 (0.21)	-0.32+ (0.17)
Board ownership	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
CEO duality	-0.02 (0.03)	-0.01 (0.03)	-0.03 (0.06)	0.00 (0.04)
CEO pay	-0.02 (0.01)	-0.02 (0.01)	0.00 (0.02)	-0.04** (0.02)
Firm reputation	-0.04 (0.12)	-0.03 (0.12)	0.08 (0.22)	-0.11 (0.13)
Firm's total diversification	0.03 (0.04)	0.03 (0.04)	-0.03 (0.07)	0.08+ (0.05)
Firm size	0.01 (0.02)	0.00 (0.02)	-0.01 (0.03)	0.02 (0.02)
Firm performance	0.07 (0.10)	0.08 (0.10)	-0.24 (0.18)	0.18+ (0.11)
Observations	7,385	7,385	3,013	4,372
Number of panels	1,623	1,623	1,300	1,337
Chi <sup>2</sup>	14.95	37.46	21.49	60.49**

Note: standard errors in parentheses; included industry fixed effects not reported in the table. \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , +  $p < 0.10$ .

Models 3 and 4 of Table 2 report the fully specified modeling of the relationship between changes in new director capital and director compensation as estimated on the pre- and post-SOX periods. As Model 4 shows, there is strong support for  $H5$ , which predicted that SOX would strengthen the relationship between new directors' outside directorships and changes in board pay. This relationship is significantly different across the pre- and post-SOX periods (Chow test,  $p < 0.001$ ). Indeed, this positive relationship only appears post-SOX. Furthermore, the results provide additional support for  $H4$ , as the positive relationship between new directors with support specialist backgrounds and changes in director compensation and the negative relationship between new director CEOs and changes in director compensation both only occur post-SOX (Chow tests,  $p < 0.001$  and  $p < 0.001$ , respectively).

To ensure our results were not an artifact of our estimation choices, we ran additional tests to validate our findings. Our estimation models assumed a first-order autoregressive disturbance term. We additionally ran GLS models where we instead clustered the error terms at the firm level. The significance of our results was unchanged with respect to the estimation technique.

## 5. DISCUSSION OF THE RESULTS

Extant research in the management and organizational literature has clearly demonstrated that the capital directors bring to boards — both human and social — contribute to board effectiveness. Furthermore, it appears that boards have a great deal of latitude over the compensation that they pay their directors as there is ample evidence to suggest that director compensation has been increasing both in its level and variety. Yet, whether the compensation boards offer their directors works to secure stocks of director capital — that is, that compensation serves as an inducing mechanism in the director labor market as it does in other labor markets — has gone virtually unexamined. This is because the prevailing notions about this particular labor market have been that directors are sorted based on their network ties and on their reputations built upon the performance of the firms they oversee. To the extent that director compensation has been considered by previous research, it has been seen as an incentive that enhances the motivation of directors to monitor and act in accordance with the preferences of shareholders once on the board, rather than an inducing device

that attracts talented individuals to sit on the board in the first place. In the current study, we develop and test hypotheses about the inducing effects of compensation in the market for directors. To accomplish this, we target a specific period in time, the passage of the SOX, during which director human capital is salient for hiring boards to consider.

Our findings clearly suggest that director compensation serves as an inducing mechanism in the director labor market. We found that director capital is related to director compensation, both in terms of the stocks of capital possessed by boards as well as the securing of new directors' capital. While observing these relationships is consistent with the sorting effects as proposed by efficiency wage theory and human capital theories — which suggests that firms will pay more than the market-clearing rate for desirable talent (Becker, 1962; Gerhart & Rynes, 2003; Weiss, 1995) — it is incongruent with neoclassical economic notions of efficient labor markets wherein there is one market-clearing pay rate and thus no relationship between board pay and director capital would be observed (i.e., both boards and directors would be “wage-takers”) (Gerhart & Milkovich, 1990). Moreover, that compensation is serving as an inducing mechanism provides an explanation for the rise in both the levels and variety of director pay that has recently been documented in the finance literature (Farrell et al., 2008; Linck et al., 2009); a rise which defies the presumption in agency theory that credibility in the market for directors is maintained “when the direct payments to outside directors are small” (Fama & Jensen, 1983, p. 315).

Our findings with respect to particular director human and social capital are highly suggestive that the resource provision function of directors is valued and compensated for. We followed previous research in examining the three main categories of directors' occupational experience (Hillman et al., 2000): 1) support specialists (e.g., lawyers, bankers, etc.), 2) community influentials (academics, politicians, etc.), and 3) business experts (e.g., top managers of other large publicly traded firms). We also, however, purposefully captured the financial expertise (i.e., monitoring abilities) and CEO (i.e., managerial sympathies) backgrounds of directors separately from that of general business expertise that doesn't include such experiences (e.g., non-CEO/non-financial). We found that boards with higher stocks of general business expertise and support specialist backgrounds have higher compensation. Our analysis of the addition of new directors and changes in compensation also found that the addition of new directors with support specialist backgrounds is associated with an increase in director compensation. We also predicted and found that adding new directors who already sit on other boards leads to a raise in the director's compensation. That this form of social capital is valued by boards provides additional support for the importance of the board's resource provision as other directorships serve as a conduit to external stakeholders and as a way to manage external resource dependencies (Hillman et al., 2000; Pfeffer & Salancik, 1978). Although it may seem somewhat surprising that resource provision rather than board monitoring ability is what commands an extra value among boards given the emphasis placed on the latter in recent years

(i.e., financial expertise is considered to be a form of capital critical for such monitoring, Linck et al., 2009), it directly coincides with recent qualitative evidence that suggests that director capital aimed at resource provision is the “acid test” selection criteria among those actually selecting board members (Roche, 2009).

Having a breadth of board capital, in terms of occupational background, is also highly valued: our findings suggest that boards recognize the benefits of such heterogeneity and pay more in order to achieve it as we found board breadth to be positively related to the compensation that boards pay their directors. Such heterogeneity stands to enhance the boards' effectiveness with respect to both monitoring and advice giving as it promotes rigorous discussions and thus better collective decision-making (Carpenter & Westphal, 2001; Hambrick et al., 1996; Kosnik, 1990). Furthermore, our results suggest that the premium in director compensation related to board breadth is an enduring one as it was in place throughout the entire study period: the SOX did not enhance or diminish the positive relationship between board breadth and director compensation.

Nevertheless, our results do suggest that the passage of SOX demarcates a major turning point in the workings of board compensation as an inducing mechanism in the market for directors. While our findings suggest that board breadth and general (i.e., non-CEO/non-financial) business expertise were valued by boards throughout the study period, they also clearly show that the value placed upon certain types of director capital — namely, support specialist and CEO occupational backgrounds and director social capital (i.e., seats on other public companies' boards) — changed in the post-SOX period from the pre-SOX period. First, the results with respect to directors' occupational background suggest that, since the passage of SOX, boards place a great value on “support specialist” directors who can play an advisory role (e.g., lawyers). This is particularly interesting given that we found no similar evidence with respect to financial expertise backgrounds: our results clearly suggest that boards are willing to pay a premium to gain the former but not the latter though extant evidence suggests that the number of directors on boards with law and financial backgrounds have both increased since SOX (Linck et al., 2009). Second, our findings suggest that the addition of new directors who serve elsewhere as CEOs is related to a decrease in director compensation. That boards have come to devalue the benefits derived from directors who are currently CEOs of other firms seems to signify a shift away from the more managerialist notion that “CEOs are the most desired board members” (Lorsch & MacIver, 1989, p. 19) which previously seemed to guide the market for directors.

Finally, our results clearly show that boards place a great value on securing new directors with seats on other publicly traded firms' boards. This finding is particularly consistent with the workings of an inducing effect of compensation in the director labor market. Directors may incur real costs in taking on more directorships — there may be a diminishing return to the human and social capital that comes with sitting on additional board seats, and moreover, doing so may overload directors not

only in terms of time but also in terms of the information processing demands it imposes (Carpenter & Westphal, 2001). Thus, to the extent that the new milieu surrounding the market for directors has discouraged directors from seeking too many board appointments, thereby tightening the supply of directors with such social capital, the value of directors with this type of capital increases, and thus boards would have to pay a premium to secure it.

## 6. CONCLUSION

In this paper, we examine the relationship between director compensation and new outside director human capital. Our central research question sought to understand whether and how director compensation induces directors with specific desired human and social capital to join the board. We found that firms are willing to pay more for certain types of director capital, particularly after the passage of the SOX legislation. These findings suggest that the market for directors is at least in part guided by an inducing process wherein compensation works to attract directors and their capital to firms. Moreover, our results provide insight into the types of capital that are valued in the marketplace for directors: it appears that it is resource- and not monitoring-oriented capital that is valued by boards. Indeed, even though SOX was aimed at increasing board monitoring, we found no evidence to suggest that the form of capital most touted to be geared toward monitoring (i.e. financial expertise), is valued by boards. Instead, capital that potentially strengthens the advice and counsel that boards offer to management and that provides the firm with connections to external constituencies appears to be what is most valued. Overall, the major impact that SOX appears to have had, at least with respect to the market for directors, is that it has pushed the market to operate more like other labor markets — wherein director compensation operates as a mechanism that sorts desired knowledge, skills, and ability.

This sorting effect in the director labor market is an important finding and suggests a number of avenues for future research. Our findings suggest that SOX may have pushed boards to act more professionally in general. What this suggests is that directors may now view board seats as more of

an actual job (and consequently expect it to function like more traditional labor markets) and less like a service opportunity or club. Future research could explore whether this shift is causing boards to act more professionally in other ways. For instance, meta-analyses show that the outsider ratio appears to be a poor indicator of board effectiveness (Dalton et al., 1998; Wagner et al., 1998). However, if serving on a board is now considered a more rigorous position then future research may want to explore if the relationship between board characteristics and various outcomes is changing over time.

Our study also has certain limitations that further suggest the need for future research. First, while our study provides an important first step in understanding how board capital operates in the market for directors, future research that further examines how other types of capital are valued by boards is clearly warranted. That is, we focused upon the most prominent aspects of board capital in accord with previous studies — and included both elements of human (e.g., occupational experience) and social (board ties) capital — but our showing that inducing effects operate in the market for directors opens up a whole new avenue of research. Indeed, our aim in this study was to establish whether director compensation has a general inducing effect, and how the SOX legislation impacted this effect, based upon the presumption that director capital is beneficial to boards and their firms. However, the previous research also suggests that the type of capital valued may differ based on the type of outcome desired. For instance, future research could examine whether highly diversified firms place more value on types of capital that may prove beneficial to diversification strategies. Furthermore, future research could also determine whether the inducing effects of director compensation found here are affected by context, i.e., it could examine whether and how capital is valued in different industry environments. Finally, rethinking the market for directors in terms of inducing effects allows the possibility to more fully delve into both why firms select particular directors (i.e., what capital they value) as well as into why directors serve on boards thereby, both areas in which recent scholars have called for more research (Boivie et al., 2012; Hambrick et al., 2008; Withers, Corley, et al., 2012; Withers, Hillman, et al., 2012).

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## APPENDIX

Table A.1. Sample descriptive statistics and pairwise correlations

Variables	N	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
(1) Total compensation	7627	4.243	1.324	1.000																						
(2) Outside directors business expertise (non-CEO/ non-financial)	7391	4.386	2.099	0.070	1.000																					
(3) Outside directors that are CEOs	7391	1.510	1.418	0.038	-0.007	1.000																				
(4) Outside directors with financial expertise	7391	0.267	0.509	0.042	-0.048	-0.009	1.000																			
(5) Outside directors from support specialists	7391	2.255	1.553	0.043	0.117	-0.127	-0.040	1.000																		
(6) Outside directors from community influentials	7391	0.829	0.973	0.086	0.163	0.057	-0.049	-0.014	1.000																	
(7) Outside directors other directorships	7391	5.043	5.292	0.125	0.405	0.456	-0.016	0.019	0.187	1.000																
(8) New outside directors business experts (non-CEO/non-financial)	7627	0.164	0.450	0.013	0.175	-0.001	0.009	0.022	0.051	0.061	1.000															
(9) New outside directors who are CEOs	7627	0.092	0.325	0.019	0.004	0.264	0.022	-0.028	0.026	0.125	0.091	1.000														
(10) New outside directors with financial expertise	7627	0.026	0.162	0.031	-0.007	0.002	0.300	-0.002	-0.023	-0.002	0.043	0.105	1.000													
(11) New outside directors from support services	7627	0.092	0.324	0.004	-0.002	-0.017	0.005	0.227	0.012	-0.008	0.277	0.129	0.075	1.000												
(12) New outside directors from community influentials	7627	0.041	0.211	0.016	0.015	0.011	-0.018	0.001	0.230	0.023	0.207	0.112	0.026	0.100	1.000											
(13) New outside directors other directorships	7627	0.196	0.737	0.032	0.095	0.120	0.002	0.034	0.061	0.235	0.436	0.386	0.114	0.263	0.218	1.000										
(14) Breadth of board capital	7391	0.736	0.152	0.063	-0.202	0.389	0.287	0.224	0.381	0.128	-0.028	0.116	0.088	0.052	0.093	0.052	1.000									
(15) Board size	7391	9.344	2.484	0.065	0.653	0.421	0.051	0.272	0.312	0.543	0.144	0.123	0.020	0.088	0.078	0.159	0.190	1.000								
(16) Board outside ratio	7391	0.801	0.109	0.117	0.420	0.295	0.111	0.160	0.155	0.302	0.068	0.077	0.048	0.020	0.015	0.055	0.181	0.208	1.000							
(17) Board ownership	7625	8.198	3.592	-0.110	-0.028	-0.175	0.014	0.137	-0.118	-0.277	-0.028	-0.046	0.007	0.015	-0.026	-0.059	-0.042	-0.111	0.032	1.000						
(18) CEO duality	7627	0.696	0.460	0.049	0.062	0.120	-0.037	-0.041	0.050	0.165	-0.014	0.033	-0.005	-0.010	0.004	0.022	-0.004	0.062	0.093	-0.207	1.000					
(19) CEO pay	7583	8.000	1.347	0.287	0.206	0.186	0.010	0.074	0.144	0.349	0.024	0.045	0.008	0.005	0.013	0.087	0.097	0.266	0.182	-0.250	0.023; 0.125	1.000				
(20) Firm reputation	7391	0.017	0.131	0.066	0.083	0.126	-0.003	0.043	0.051	0.207	0.008	0.047	0.017	-0.007	0.003	0.047	0.058	0.155	0.036	-0.074	0.000	0.125	1.000			
(21) Firm's total diversification	7615	0.346	0.421	-0.014	0.242	0.194	-0.007	0.007	0.075	0.264	-0.003	0.038	-0.026	-0.015	-0.016	0.036	0.035	0.297	0.165	-0.107	0.143	0.104	0.062	1.000		
(22) Firm size	7624	7.402	1.527	0.172	0.422	0.344	-0.015	0.087	0.202	0.577	0.064	0.094	-0.006	0.006	0.030	0.145	0.131	0.566	0.195	-0.370	0.161	0.477	0.247	0.303	1.000	
(23) Firm performance	7626	0.003	0.167	0.025	0.012	0.018	-0.043	0.006	0.007	0.016	-0.013	-0.015	-0.002	-0.011	0.000	0.000	0.006	0.035	-0.040	-0.032	0.003	0.039	0.041	-0.012	0.118	1.000

Note: SD — standard deviation.  $p > 0.05$  for all  $r > 0.023$ ;  $p > 0.01$  for all  $r > 0.030$ .