BOARD SOCIAL CAPITAL AND EXCESS CEO RETURNS

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Excess CEO returns refer to CEO financial returns in excess of shareholder returns. How do boards rein in excess CEO returns? Introducing a social capital view of board monitoring, we suggest that boards face two competing normative pressures—corporate elite norms and monitoring norms. How boards conform to such normative pressures for controlling excess CEO returns is affected by their external and internal social capital. Further, we substantiate our arguments by showing that powerful CEOs and institutional investors may facilitate or constrain the normative pressures existing in the social network and alter the effects of board social capital on excess CEO returns. Data from a sample of U.S. corporations listed on the Standard and Poor's 1,500 index from 1999 to 2010 largely support our framework. Copyright © 2014 John Wiley & Sons, Ltd.

INTRODUCTION

Of many issues associated with CEO compensation (Barkema and Gomez-Mejia, 1998; Devers *et al.*, 2007; Tosi *et al.*, 2000), excess CEO returns are likely to be among the most controversial. Excess CEO returns refer to the financial returns from the CEO's firm-related wealth and compensation that exceed the financial returns of shareholders. Given the importance of shareholders as principals in agency relationships, we advance the argument that CEO returns should be comparable to shareholder returns by focusing on the phenomenon of excess CEO returns. Previous studies have compared the wealth and income of CEOs to that of non-shareholder stakeholders such as executives (Wade, O'Reilly, and Pollock, 2006), CEO peers

(Zhu, 2014), and workers (Connelly *et al.*, 2014), but largely ignored increasingly critical and influential shareholder stakeholders (Goranova and Ryan, 2014).

Boards of directors are responsible for monitoring and controlling CEOs (Fama and Jensen, 1983). According to agency theory, boards can substitute time-consuming monitoring with financial alignment mechanisms such as creating CEO firm-related wealth (e.g., large stock and option holdings) (Rediker and Seth, 1995; Zajac and Westphal, 1994) that make CEO returns comparable to shareholder returns. The prospect of transferring boards' monitoring responsibility to the invisible hand of stock markets has made many CEOs large shareholders in their own companies (Nyberg *et al.*, 2010).

However, questions about the effectiveness of financial alignment persist (Bebchuk and Fried, 2004; Devers *et al.*, 2007). CEOs may manipulate the intended financial alignment in their favor (Morse, Nanda, and Seru, 2011) and decouple firm-related wealth from negative business shocks (Bertrand and Mullainathan, 2001) or failed

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strategies (Harford and Li, 2007). The possibility of this failure in financial alignment is significant because it may waste corporate resources (Fong, Misangyi, and Tosi, 2010; Wade *et al.*, 2006), undermine risk-taking incentives (Palmer and Wiseman, 1999), and trigger shareholder activism (Hillman *et al.*, 2011).[1] It also raises the question of why boards allow CEOs to adjust their financial alignment and tolerate CEOs who use this discretion to extract excess CEO returns.

Our study sheds new light on the willingness of boards to monitor financial alignment, thereby keeping CEOs from extracting excess CEO returns (Nyberg *et al.*, 2010). For two reasons, we suggest that agency theory arguments in favor of financial alignment as an independent governance mechanism may disregard the reality that directors are embedded in social networks that expose directors to normative pressures (Coleman, 1987; Granovetter, 1985). First, directors are embedded in an *external* board interlock network, exposing directors to the normative pressures of the corporate elite (Kang and Kroll, 2014). Second, directors are also embedded in *internal* board networks, placing them under the normative pressures to monitor the CEO (Forbes and Milliken, 1999). Theoretically, we argue that directors are subject to these normative pressures in order to maintain access to the social networks and enjoy the benefits of the resulting board social capital—defined as resources residing in social networks that benefit directors (Haynes and Hillman, 2010; Hillman and Dalziel, 2003).

Adhering to the normative pressures of the social network is important because board social capital, unlike individually owned human capital, is collectively owned by directors in the network. Directors who follow the norms of the social network can maintain access to the social capital, while directors who violate established norms may lose these benefits. For example, external board social capital mobilizes the support of directors on other boards if directors on the focal board adhere to the norms of the corporate elite for less strict monitoring of financial alignment (Davis and Thompson, 1994). Internal board social capital mobilizes shared networking experience among independent directors,

which enables better and more cost-effective monitoring. However, to sustain such internal social capital, directors must follow the normative pressures for active monitoring of excess CEO returns. This leads to our first research question: How do external board social capital and internal board social capital affect excess CEO returns?

We further suggest that powerful CEOs and institutional investors either facilitate or constrain the normative pressures existing in social networks (Coleman, 1987; Kang and Kroll, 2014; Markoczy *et al.*, 2013). This is because powerful CEOs and institutional investors have the appropriate incentives to alter these normative pressures existing in the social network to their advantage. Our second research question thus focuses on: Are powerful CEOs and institutional investors able to magnify or suppress the normative pressures existing in social networks?

We endeavor to make at least three contributions. First, while agency theory assumes that the design of financial incentives helps solve agency problems via *ex ante* financial alignment governance mechanisms (Core and Guay, 2010), we shift attention to the effectiveness of board monitoring and consider the possibility that such *ex ante* design does not necessarily achieve its desired outcome but creates excess CEO returns. Consequently, boards may need to play a significant role in monitoring the *actual* financial alignment between CEOs and shareholders, in addition to being instrumental in designing *ex ante* CEO compensation contracts (Lippert and Moore, 1995).

Second, we add to a growing literature that examines the social influences faced by boards embedded in different social networks (Markoczy *et al.*, 2013). Specifically, we propose that the reliance on board social capital places boards under different and sometimes competing normative pressures upheld by directors who want to maintain the social capital residing in external and internal social networks. While prior research suggests that internalized norms influence director behavior (Kang and Kroll, 2014; Westphal and Khanna, 2003), we suggest that ongoing social relationships have more than just a marginal effect on directors. This is because even independent and reputable directors may comply with normative pressures that are not in the best interests of shareholders. This has become painfully clear in major governance scandals such as the Enron meltdown (Cowen and Marcel, 2011).

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[1] These examples of "failure in financial alignment" refer to outcomes in which CEOs extract excess returns compared to shareholder returns. Our empirical evidence also reveals an overwhelming number of such occurrences. For this study, we use the term "excess CEO returns" to highlight the importance of this phenomenon.

Third, we extend the social control perspective in corporate governance research (Westphal and Khanna, 2003). Specifically, we show that powerful CEOs and institutional investors either facilitate or constrain normative pressures based on their respective interests. On the one hand, given that powerful CEOs influence the director selection process, they may magnify certain norms that support excess CEO returns. On the other hand, powerful institutional investors can enforce monitoring norms due to their increasingly influential role in corporate governance.

FINANCIAL ALIGNMENT AND EXCESS CEO RETURNS

Boards are responsible for ensuring that CEOs act in shareholders' interest (Jensen and Meckling, 1976). Boards can accomplish this function by investing time and energy to monitor CEO behavior *ex post*. Agency theory suggests that board monitoring is more effective when directors are independent (Fama and Jensen, 1983), compensated with stock options (Deutsch, Keil, and Laamanen, 2010), and supervised by blockholders (Thomsen and Pedersen, 2000). While theoretically appealing, empirical evidence so far has not conclusively found such agency theory-based monitoring mechanisms to improve firm performance (Dalton *et al.*, 1998).

As a promising alternative to board monitoring, agency theory suggests that CEO interests can be financially aligned with shareholder interests to shape CEO actions *ex ante* (Jensen and Murphy, 1990; Wowak and Hambrick, 2010). This is primarily achieved by issuing stock and options to CEOs (Nyberg *et al.*, 2010) and annual performance reviews (Sanders, 2001). While founder CEOs such as Oracle's Larry Ellison already hold large equity positions, boards often insist that newly appointed CEOs become large shareholders. For example, Yahoo! CEO Marissa Mayer received a $30 million start-up equity grant (0.25% of total equity) (Davidoff, 2012). This widespread agency theory logic of financial alignment has led to dramatic compensation changes since the mid-1990s, making CEOs major shareholders who on average are holding more than seven times their annual pay in firm-related equity wealth (Core and Guay, 2010).

Financial alignment was initially received as an important means to remove tensions from the CEO-board relationship by allowing the stock market to provide efficient self-monitoring of CEO actions (Sanders, 2001). However, such financial alignment is viewed more critically now as it may symbolically appease shareholders without substantially putting CEO pay and wealth at risk (Kolev and Wiseman, 2013; Westphal and Zajac, 1994, 1998). This is because boards may allow CEOs to adjust firm-related wealth through stock sales (Core and Larcker, 2002). More concerning, boards may allow CEOs to decouple their firm-related wealth from shareholder wealth following failed business strategies (Harford and Li, 2007) and unexpected economic downturns (Bertrand and Mullainathan, 2001). This is especially likely after CEOs have learned how to "game" the financial incentive mechanisms (Frank and Obloj, 2014; Morse *et al.*, 2011). In other words, CEOs may *ex ante* create the impression of having "skin in the game" but *ex post* decouple their income from shareholder returns (Devers *et al.*, 2007; Kalyta, 2009). Overall, these findings suggest that financial alignment may not necessarily be a solution to the agency problem but may be part of the agency problem itself (Bebchuk, Fried, and Walker, 2002).

Our study sheds new light on this debate by focusing on the actual financial alignment between CEO and shareholder returns (Nyberg *et al.*, 2010). We argue that an appropriate measure of the agency costs inherent in financial alignment arrangements is CEO returns that are in excess of shareholder returns, an outcome we refer to as *excess CEO returns*. For instance, if a CEO generates returns of 30 percent from changes in annual pay and increases in wealth, yet shareholders only realize returns of 10 percent, excess CEO returns of 20 percent are present.[2]

For three reasons, we argue that excess CEO returns are appropriate for our interest in the agency costs inherent in the potential financial *mis*alignment between CEOs and shareholders. First, given that shareholders are firms' primary residual claimants (Fama and Jensen, 1983) and that CEOs typically receive a risk premium in their compensation packages (Core and Guay, 2010), CEO returns that exceed shareholder returns

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[2] For example, over a decade (2001–2010), the average annual CEO returns from firm-related wealth for John H. Hammergren, CEO of McKesson, amounted to 114 percent, but average annual shareholder returns were only 17 percent. In this case, the average annual excess CEO returns would be 97 percent.

are hardly justifiable (Jensen and Murphy, 1990; Nyberg *et al.*, 2010). Second, since it is already best practice to evaluate absolute CEO pay levels *vis-à-vis* industry peer firms to determine whether CEO pay is justified by CEO labor market standards (Bizjak, Lemmon, and Naveen, 2008; Porac, Wade, and Pollock, 1999; Zhu, 2014), it is imperative that boards evaluate CEO returns relative to stock market returns. Finally, powerful gatekeepers such as proxy advisory firm Institutional Shareholder Services (ISS) monitor the success or failure of CEO financial alignment closely, and organize public shareholder activism if CEO returns are in excess of shareholder returns. Many companies such as General Electric have already responded by issuing supplementary proxy materials explaining their financial alignment to proactively counter such potential challenges (Thurm, 2010).

A BOARD SOCIAL CAPITAL VIEW OF EXCESS CEO RETURNS

Board social capital theory is a promising perspective to gather new insights into the controversial role of financial alignment between CEOs and shareholders (Hillman and Dalziel, 2003). Social capital resides in the social networks that directors create over time (Haynes and Hillman, 2010; Hillman and Dalziel, 2003).[3] Similar to other types of capital such as human capital, social capital benefits directors in the long run if they are willing to make the necessary investments in the short run. Different from human capital, however, social capital is developed through investments in and maintenance of social networks rather than investments in personal attributes such as education.

A useful distinction can be made between public and private forms of social capital. Directors may accumulate private social capital by strategically positioning themselves as brokers in social networks (Burt, 2005; Galunic, Ertug, and Gargiulo, 2012) and creating ties to elite universities (Belliveau, O'Reilly, and Wade, 1996) or elite cultural institutions (Marquis, Davis, and Glynn, 2013). Directors with access to these private forms of social capital benefit from preferred information access and the resulting bargaining advantages

(Fiss, 2006; Geletkanycz, Boyd, and Finkelstein, 2001; Westphal and Zajac, 1995). Directors also benefit from membership in social networks. The primary benefits from these public forms of social capital include improved coordination (Adler and Kwon, 2002), collective goal orientation (Leana and van Buren, 1999), and shared norms and trust (Coleman, 1988, 1990).

Board social capital most closely resembles public forms of social capital, because it requires cooperation among directors to be valuable and is collectively owned (Adler and Kwon, 2002; Coleman, 1990). Kogut suggests that public social capital provides "self-organizing incentives to members to maintain the network structure" (2000: 418). These incentives lead to the enforcement of normative pressures allowing directors to maintain access to the public social capital. Thus, directors will not risk ignoring the normative pressures of fellow directors because this behavior may result in the loss of social capital (Westphal and Khanna, 2003).

Two social networks are instructive for our theoretical inquiry into the effects of board social capital on excess CEO returns. *Externally*, directors form social networks through board interlocks. These social networks—often referred to as elite networks—allow access to external social capital and therefore may motivate directors to adhere to the normative pressures of the corporate elite (Davis and Robbins, 2005; Marquis *et al.*, 2013). *Internally*, independent directors uphold intraboard ties with fellow independent directors. The internal social capital created among independent directors may motivate directors to enforce monitoring norms (Harris and Helfat, 2007). The normative pressures derived from these social networks may determine the extent to which directors monitor actual financial alignment—a perspective we develop next.

External board social capital and excess CEO returns

Boards positioned at the center of the board interlock network offer beneficial external social capital, such as strategic opportunities (Haynes and Hillman, 2010; Markoczy *et al.*, 2013). Shareholders benefit from this external social capital because it provides access to tacit and hard-to-imitate resources that may eventually improve financial performance (Galunic *et al.*, 2012; Leana and van Buren, 1999). Indirectly, directors also

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[3] Examples of board social capital include social factors such as trust and mutual understanding among directors (Westphal, 1999).

benefit because the association with successful firms may lead to additional board seats (Ferris, Jagannathan, and Pritchard, 2003; Yermack, 2004). However, external board social capital may also benefit the corporate elite at the expense of shareholders.

The corporate elite controls the means and ends of large U.S. corporations (Marquis *et al.*, 2013). A core interest of the elite is autonomy from external influences such as shareholder activism (Davis and Thompson, 1994). Shareholders strongly prefer effective financial alignment to ensure that CEOs maximize shareholder value (Jensen and Murphy, 1990). Allowing CEOs more discretion in financial alignment deviates from such agency theory logic and is therefore considered a clear signal to fend off "external threats to managerial autonomy" (Westphal and Stern, 2006: 170). A lack of monitoring of financial alignment is positively received by the elite but negatively received by shareholders. Despite shareholder preferences, boards that are central in the elite system may provide external social capital to directors who adhere to the normative pressures of the elite (Davis, Yoo, and Baker, 2003). These social capital benefits may include (1) social recognition, (2) social support, and (3) social identification.

First, membership in boards that are centrally located in board interlocks results in social recognition and respect for directors, which is an important form of social capital attracting high status directors wanting to maintain their status (Johnson *et al.*, 2011) as well as low status directors aspiring to become part of the elite (Kang and Kroll, 2014). Centrally located boards provide this respect because the number of directorships reflects individual status and elite membership (Finkelstein, 1992; Mace, 1971). Membership on centrally located boards also signals that directors possess greater monitoring abilities (Fama and Jensen, 1983).

Second, directors with a poor track record of prioritizing shareholder interests over elite interests may lose shareholder support in the director labor market (Hillman *et al.*, 2011; Yermack, 2004). However, directors may substitute lost shareholder support through leveraging external social capital for social support from the elite via board interlocks (Seibert, Kraimer, and Liden, 2001). This use of interlocks provides useful information channels within the elite to not only learn about prospective directorships, but also to enhance one's own

accessibility and visibility (Stern and Westphal, 2010; Westphal and Zajac, 1995).

Third, high levels of external social capital are an indicator of social status (Davis and Robbins, 2005; Galunic *et al.*, 2012). Social status may increase the social identification of directors with the corporate elite. This provides directors with the confidence and leverage to deviate from shareholder expectations if they can derive a positive self-image from being closely embedded in the board interlock network (Marquis *et al.*, 2013; Rao, Davis, and Ward, 2000). As a result, directors may follow elite norms in favor of greater excess CEO returns not only because it is personally beneficial for them, but also because the social standing of the corporate elite and respect of fellow elite directors reflect positively on their social identity (Withers, Corley, and Hillman, 2012). Overall, we suggest:

> *Hypothesis 1: A high level of external board social capital will be positively associated with excess CEO returns.*

Internal board social capital and excess CEO returns

Boards with a greater degree of shared networking experience among independent directors on the same board constitutes a type of internal board social capital (Harris and Helfat, 2007; Kim and Cannella, 2008). Internal social capital may allow directors to more effectively monitor CEOs and their financial alignment with shareholders (Morris, Podolny, and Sullivan, 2008). This is important to independent directors because boards increasingly face normative pressures for active monitoring, making it unlikely to "isolate inactive directors from criticism" (Eisenberg, 1999: 1268).

A key source of normative pressures for active board monitoring comes from external gatekeepers such as the media (Core, Guay, and Larcker, 2008) and activist shareholders (Goranova and Ryan, 2014). Directors on the board are likely to have a strong interest in satisfying these normative pressures, because shareholders evaluate the monitoring performance of the board as a whole (Hillman *et al.*, 2011; Marcel, Cowen, and Ballinger, 2014). Internal social capital allows directors to cost effectively mobilize the support of other independent directors, therefore increasing the board's monitoring abilities. Specifically, directors may accomplish this by (1) identifying and sanctioning free riders, and (2)

providing social support to their fellow independent directors (Forbes and Milliken, 1999).

First, given that monitoring is a relatively costly activity—requiring directors to gather, interpret, and discuss governance-related information—some directors may want to free ride on the efforts of other directors (Forbes and Milliken, 1999). Internal social capital in the form of shared networking experience makes it easier to identify free riders by comparing monitoring efforts among directors and imposing group sanctions on directors who are not putting in their fair share (Encinosa, Gaynor, and Rebitzer, 2007). This ability to identify free riders may help to make boards more proactive and allow them to monitor difficult governance issues such as financial alignment and the resulting excess CEO returns.

Second, internal social capital also provides social support for collective actions to reach out to other directors and collectively monitor the CEO. For example, internal social capital enhances the chances to find an appropriate CEO successor (Tian, Haleblian, and Rajagopalan, 2011) and improves the quality of strategic advice to the CEO (Carpenter and Westphal, 2001). Internal social capital also creates effective communication structures, allowing directors to "spend less time searching for necessary decision information and focus more on discussing" (Tian *et al.*, 2011: 735) and to effectively structure interactions and meetings (Stevenson and Radin, 2009). This social support makes it easier for independent directors to share concerns about the CEO's financial alignment, thus providing a cost-effective way to prevent excess CEO returns. The board then can use its social capital to enforce normative expectations for greater monitoring efforts and collectively lower excess CEO returns. Thus:

> *Hypothesis 2: A high level of internal board social capital will be negatively associated with excess CEO returns.*

MODERATING ROLES OF POWERFUL CEOS AND INSTITUTIONAL INVESTORS

While we expect board social capital in its various forms to have direct effects on the decision to monitor financial alignment between CEOs and shareholders, we also expect this decision to be influenced by powerful CEOs and institutional investors. This is because imposing sanctions is a key factor determining the adherence to normative pressures (Coleman, 1987). Yet, enforcement of normative pressures may be too costly for ordinary board members (Westphal and Khanna, 2003; Westphal and Stern, 2006). The enforcement of social norms may be enhanced by powerful CEOs and institutional investors with the appropriate incentives to impose sanctions on directors who violate normative pressures.

Moderating effect of CEO power

Powerful CEOs have the capacity to bring about their preferred outcomes (Pearce and Zahra, 1991), which may alter the normative pressures to follow managerial preferences. This may be the result of social influence tactics that make following CEO preferences more beneficial (Certo *et al.*, 2008; Fiss, 2006). We therefore suggest that CEO power suppresses the board's willingness to monitor financial alignment and to keep excess CEO returns in check.

Interaction between external board social capital and CEO power

While we have argued that external social capital in centrally located boards has a positive effect on excess CEO returns, we add that powerful CEOs may amplify this relationship. An important means allowing powerful CEOs to accomplish this end is by restricting the access to resources that appeal to directors' self-interests (Campbell *et al.*, 2012).

A key motivator for directors is to gain access to the external board social capital embedded within the social network (Johnson *et al.*, 2011; Kim and Cannella, 2008). Johnson *et al.* (2011) find that current board members' social capital attracts directors with high levels of social capital, whereas financial motivators (e.g., director pay) have little effect on attracting directors. Given that directors value external social capital to advance their own careers (Galunic *et al.*, 2012; Seibert *et al.*, 2001), powerful CEOs are in a unique position to selectively magnify the normative pressures for more discretion in financial alignment. This is made possible because powerful CEOs tend to control the director selection process and therefore can remove directors from the focal board (Shivdasani and Yermack, 1999; Zajac and Westphal, 1996) or refuse to recommend them

for board positions in other firms (Stern and West-phal, 2010). Indeed, Pfeffer and Salancik suggest that "it is possible to regulate access to a resource without owning it. Any process that affects the allo-cation of a resource provides some degree of control over it" (1978: 48). Powerful CEOs and their abil-ities to restrict access to the board's social capital through the director selection process may therefore magnify the normative pressures of the corporate elite, leading to less strict monitoring of financial alignment between the CEO and shareholders.

In contrast, less powerful CEOs may not be able to restrict access to the external social capital of boards because the director nomination process is dominated by the preferences of independent directors (Westphal and Stern, 2006; Westphal and Zajac, 1995; Zajac and Westphal, 1996). In this case, directors face lower risks of losing access to the external social capital embedded within the board interlock network when they confront the CEO with concerns about inappropriate or excessive CEO returns. Therefore:

> *Hypothesis 3a: CEO power will increase the pos-itive relationship between external board social capital and excess CEO returns.*

Interaction between internal board social capital and CEO power

While internal board social capital in the form of shared networking experience among indepen-dent directors may have a negative effect on excess CEO returns, this effect may again differ based on CEO power. Specifically, the negative effect will be weakened if CEOs are more powerful (Boyd, 1994). Powerful CEOs may shape the social infras-tructure among independent directors to the bene-fit of CEOs. For instance, powerful CEOs may be able to control the information provided to the board (Stevenson and Radin, 2009) and influence director appointments (Campbell *et al.*, 2012). These pow-erful means may create monitoring norms more in line with CEO interests because "norms are inten-tionally established … and benefits are ordinarily captured by those who are responsible for establish-ing them" (Coleman, 1988: 117).

Conversely, less powerful CEOs typically find it more difficult to influence their boards. For instance, weaker CEOs are less likely to appoint CEO-friendly directors or control information flows

to shape the internal social capital among inde-pendent directors (Zajac and Westphal, 1996). This may allow directors to use internal social capi-tal to enforce monitoring norms more effectively. Accordingly, boards that are able to use their social capital more independently from the CEO may be able to restrict excess CEO returns. Therefore:

> *Hypothesis 3b: CEO power will decrease the negative relationship between internal board social capital and excess CEO returns.*

Moderating effect of institutional investor monitoring

While CEOs may be able to affect the enforcement of normative pressures from *within* the board, institutional investors are powerful monitors affect-ing norm enforcement from *outside* the board. At least since the 1980s, institutional investors have lobbied to restrain managerial autonomy (Davis and Thompson, 1994) and increased their company ownership to over 70 percent of shares outstanding in the United States (Goranova and Ryan, 2014). One particularly important governance issue for institutional investors is the financial alignment of CEO interests with shareholder interests. This is because institutional investors often have little firm-specific monitoring capabilities to restrain CEOs directly (Goranova and Ryan, 2014). In line with this evidence, survey research consistently shows that institutional investors are concerned with the structure and level of CEO pay (McCahery and Sautner, 2011).

Interaction between external board social capital and institutional investor monitoring

While we have argued that external social capital in the form of board centrality has a positive effect on excess CEO returns, we expect the presence of powerful institutional investors to weaken this rela-tionship. This is because institutional investors have come to play a larger and more important role in sanctioning director actions that violate shareholder interests (Bebchuk, 2005). Institutional investors may reduce the benefits of adhering to corporate elite norms that support weaker monitoring of finan-cial alignment and allow excess CEO returns.

Institutional investors may have direct access to the board in private, behind-the-scenes shareholder-director negotiations (Becht *et al.*, 2009; Goranova

and Ryan, 2014). They can also launch public activism efforts such as media campaigns (Del Guercio, Seery, and Woidtke, 2008) or shareholder dissent (Hillman *et al.*, 2011). These public forms of shareholder activism are one of the preferred activism strategies of institutional investors (Goranova and Ryan, 2014).

Although public activism efforts are almost never binding, directors' reputation may be substantially affected if institutional investors' public activism efforts lead to low levels of voting support for director candidates at the shareholder meeting (Hillman *et al.*, 2011). These reputational damages may affect director careers if directors do not closely monitor financial alignment between shareholders and the CEO (Boivie, Graffin, and Pollock, 2012; Cowen and Marcel, 2011; Marcel and Cowen, 2014). This is because one of the most valuable assets in the director labor market are intangible resources such as reputation (Fama and Jensen, 1983). The threat of reputational damage may reduce the benefits from adhering to corporate elite norms of weaker monitoring of financial alignment and the resulting excess CEO returns. Thus:

> *Hypothesis 4a: Institutional investor monitoring will decrease the positive relationship between external board social capital and excess CEO returns.*

Interaction between internal board social capital and institutional investor monitoring

While internal social capital in the form of shared networking experience may have a constraining effect on excess CEO returns, we expect the presence of powerful institutional investors to strengthen this relationship. This is because institutional investors also play an important role communicating with the board directly if their ownership is sufficiently concentrated (Goranova and Ryan, 2014). This private activism effort may benefit boards with greater levels of shared networking experience among independent directors.

A high level of internal board social capital makes it easier to discuss external information and judge the appropriateness of the financial alignment. Furthermore, institutional investors have powerful external gatekeepers, such as ISS. Such gatekeepers coordinate common institutional investor concerns—such as potential financial

misalignment between the CEO and shareholders (McCahery and Sautner, 2011)—and publicly develop board guidelines to act on these concerns. Boards that are influenced by large institutional investors may be more receptive to information that advocates the monitoring of financial alignment.

Disregard for the influence of institutional investors may lead to direct intervention from institutional investors, replacing individual directors. While these private interventions are much less public than shareholder dissent (Hillman *et al.*, 2011), they may stir up the status quo in boards. Therefore, strong institutional investors may be a credible deterrent to boards with high degrees of internal social capital and thus improve the monitoring of financial alignment just as monitoring norms would require (Sundaramurthy, Rechner, and Wang, 1996). Thus:

> *Hypothesis 4b: Institutional investor monitoring will increase the negative relationship between internal board social capital and excess CEO returns.*

METHODS

Sample

We sampled publicly held U.S. corporations included in the RiskMetrics Directors universe between 1999 and 2010 (inclusive). This database covers large U.S. corporations listed on the Standard & Poor's (S&P) 1,500 index.[4] We chose to cover a broad set of firms and industries. Our data source for the board interlock network was the RiskMetrics Directors database. The interlock network boundaries were therefore based on the S&P 1,500 index membership. Although specifying social network boundaries is generally difficult, we restricted board interlock boundaries to directors from the S&P 1,500 firms. These boundaries were reasonable for two reasons. First, publicly held U.S. corporations not included in the S&P 1,500 index are relatively small and resource constrained. These firms accordingly may not be able to provide

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[4] RiskMetrics includes firms that are added to the S&P 1,500 index over time, but rarely drops firms unless they go bankrupt or merge with others. The total number of firms may thus be larger than 1,500.

elite contacts. Second, RiskMetrics collected a variable with the number of *major* outside board appointments for each director in the dataset. We compared this variable with one of our manually created network measures (i.e., degree centrality) and found a correlation of 0.88, suggesting that our network captures the most important board interlocks. Firms with missing information in one of our core databases reduced our sample size. We have a final sample of 8,197 firm-year observations.

Dependent variable

Excess CEO returns

We operationalized excess CEO returns in a two-step procedure by (1) estimating CEO returns over the fiscal year, and (2) calculating the differences between CEO returns and shareholder returns. First, we followed prior studies and calculated CEO returns as the percentage change in CEO firm-related wealth during the fiscal year (Kolev and Wiseman, 2013; Nyberg *et al.*, 2010). The numerator of CEO returns includes the total realized CEO wealth increase during the fiscal year, including salary adjustments, bonus payments, restricted stock grants, long-term incentive plan (LTIP) payouts, value of exercised stock options, value of stock sold, and changes in the CEO's equity portfolio value. The denominator consists of the beginning of the fiscal year value of all CEO long-term equity holdings, including restricted stock, unrestricted stock, and stock option holdings as well as salary. Since this measure was highly skewed and also included negative values, we transformed CEO returns using the inverse hyperbolic sine function (IHS):

$$\sinh^{-1}(x) = \log\left[x + \left(x^2 + 1\right)^{1/2}\right] \qquad (1)$$

The IHS transformation reduces the influence of extreme values, and the transformed values are interpretable in a manner similar to logarithmic transformations (Burbidge, Magee, and Robb, 1988; Nyberg *et al.*, 2010).

Second, we calculated the differences between CEO returns and shareholder returns for each fiscal year. The resulting difference scores represent the returns extracted by CEOs in excess of shareholder returns and were subsequently used as the dependent variable. We gathered data on total CEO payouts as well as CEO stock and option portfolio from Compustat ExecuComp.[5]

Difference scores may pose discriminate validity problems if they correlate highly with their subcomponents (Bergh and Fairbank, 2002). To ensure validity, we examined the correlation of each subcomponent with the excess CEO returns variable itself. Both correlations were moderate. The correlation with CEO returns was 0.19 and with shareholder returns it was 0.05, indicating that the excess CEO returns construct is distinct from its subcomponents. Moreover, difference scores may be less reliable than their subcomponents (Cronbach and Furby, 1970). Following Williams and Zimmerman (1996), we evaluated the standard deviations of the subcomponents and found that CEO returns had twice the standard deviation of shareholder returns. Unequal standard deviations improve the reliability of difference scores even if the correlation between the subcomponents is high (Allison, 1990; Bergh and Fairbank, 2002). Previous studies have similarly used difference scores after evaluating that the basic conditions for their use are met (Chen, Crossland, and Luo, 2014; Haynes and Hillman, 2010).

Explanatory variables

External board social capital

We operationalized the board's external social capital using eigenvector centrality within the board interlock network (Everett and Borgatti, 1999; Marcel and Cowen, 2014). Eigenvector centrality captures the board's structural network position within the board interlock network as a whole. Specifically, it takes into account the connectedness of the focal board's neighbors. Other degree centrality measures such as a simple count of interlock ties do not necessarily reflect an actor's importance within a network (Bonacich, 1987). We used UCINET 6 to calculate the normalized eigenvector centrality based on yearly symmetrized board interlock matrices (Borgatti, Everett, and Freeman, 2002).

Internal board social capital

We operationalized internal board social capital as the independent directors' history of networking

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[5] Over 80 percent of our observations show the occurrences of excess CEO returns, with median (mean) values at 24 percent (42 percent). This empirical evidence further supports the view that financial misalignment occurs mostly in favor of CEOs and that there is a need to focus on excess CEO returns.

experience within the focal board. Director networking experience captured the amount of interpersonal interactions among independent directors. Following Tian *et al.* (2011), this variable was calculated as the overlap in the board tenure of independent directors:

$$\text{Independent director shared networking experience} = \frac{1}{n} \sum_{i \neq j} \min \left(u_i u_j \right) \qquad (2)$$

where u_i is the board tenure of the *i*th director and u_j is the board tenure of the *j*th director. The sum of the shared or overlapping board tenure is divided by the number of pairwise comparisons. We chose not to include inside directors in this measure since inside directors already have networking experience from their daily interactions as employees. This measure is more fine grained than the average of outside director board tenure used in earlier research (Fischer and Pollock, 2004; Kor and Sundaramurthy, 2009).

Moderating variables

CEO power

CEO power is a multidimensional construct (Daily and Johnson, 1997; Finkelstein, 1992), leading researchers to increasingly rely on composite measures (Coles, Daniel, and Naveen, 2008; Haynes and Hillman, 2010; Zhang and Rajagopalan, 2003). We used three widely used proxies for CEO power: (1) directors appointed by the current CEO, (2) CEO tenure, and (3) CEO duality (Zhang and Rajagopalan, 2003). First, directors appointed by the current CEO is measured as the total number of directors who joined the board under the leadership of the current CEO. Second, CEO tenure refers to the number of years since the CEO took office. Finally, CEO duality is a dummy variable equal to 1 if the CEO is simultaneously chairman of the board, and 0 otherwise. The variables were gathered from the RiskMetrics Directors database. These three complementary power dimensions were standardized and summed to form a composite measure of CEO power. Composite measures are a promising strategy for increasing measurement precision in strategy research (Boyd, Gove, and Hitt, 2005). Composite measures are appropriate when the underlying latent concept has multiple dimensions that complement each other (Larraza-Kintana *et al.*,

2007). Moreover, we weighted each component equally because no theoretical reason suggested that any individual component is more important than another (Schmidt and Kaplan, 1971).

Institutional investor monitoring

Institutional investor monitoring is measured as the percentage of total year-end shares owned by the top five institutional investors (Hartzell and Starks, 2003). The data came from the Thomson Reuters Institutional Holdings (13F) Database. We first identified the five largest institutional investors in any given firm year and divided their absolute ownership by the total shares outstanding as reported by the Center for Research in Security Prices (CRSP) database. We then summed the five percentage values to a measure of institutional investor monitoring.

Control variables

For accounting performance, we included *return on assets* (*ROA*) defined as net income divided by total assets. The data came from Compustat Financials. For stock market performance, we included *shareholders returns* calculated as compounded monthly returns over the financial year. The data source was CRSP.

Financial leverage

Financial leverage is defined as long-term debt divided by total assets. Typically, financial leverage constrains insiders by requiring them to return a portion of free cash flow to debt holders, thus reducing potential agency conflicts (Jensen, 1986).

Firm size

Firm size was measured as total assets in any given year. It was included because firm size is one of the strongest predictors of CEO pay (Tosi *et al.*, 2000). We log transformed this variable since it was highly skewed.

Firm risk

Firm risk is also an important determinant of CEO pay, because CEOs typically require a risk premium if the firm's operating environment is difficult to predict (Core and Guay, 2010). Following

Core *et al.* (1999), firm risk was measured as the standard deviation of shareholder returns over the past five years.

CEO pay mix

CEO pay mix is measures as the ratio of fixed (salary and bonus) CEO pay to total CEO compensation in any given year. A lower value on this variable increases the compensation risk of the CEO, which often leads to higher demands for total compensation (Core *et al.*, 1999).

Tobin's Q

Growth options were proxied by Tobin's *Q* and calculated based on the method described in Chung and Pruitt (1994). High-growth firms have a higher demand for CEO talent since the marginal contribution of the CEO is more important and thus increases CEO pay.

Board independence

Independent boards are assumed to be better monitors of the CEO and therefore more likely to challenge CEO decisions (Peng, 2004). We measured this ratio as the number of independent directors divided by the total number of directors. We excluded linked directors such as suppliers or customers since these directors may be beholden to the CEO due to preexisting business relationships. Data came from RiskMetrics Directors.

Board size

Board size was measured as the total number of directors. Prior research has found that larger boards may face more free riding problems than smaller boards (Dalton *et al.*, 1998). The database for this variable was RiskMetrics Directors. We log transformed the variable since it was skewed.

CEO age

CEO age was obtained from Compustat Execu-Comp. CEOs who are closer to the retirement age may have insufficient career concerns. This may affect the compensation and financial incentives provided to older CEOs (Gibbons and Murphy, 1992).

Independent director ownership

Independent director ownership can provide a financial motivation for board monitoring (Fiss, 2006; Hambrick and Jackson, 2000). We calculated this measure for each year by dividing the number of shares held by independent directors by the number of total shares outstanding. Data were collected from RiskMetrics Directors.

CEO ownership

CEOs with large stock holdings may be able to exert influence over directors. We divided the number of shares held by the CEO by the number of total shares outstanding in any given year. Data came from RiskMetrics Directors.

Busy board

While centrally located boards have access to external social capital, network maintenance is time consuming and may create busy boards that are ineffective monitors. Following Fich and Shivdasani (2006), we included a dummy variable that takes the value 1 if at least 50 percent of independent directors sit on three or more external boards, and 0 otherwise.

CEO external network

CEOs may be rewarded with higher pay for their external director networks (Geletkanycz *et al.*, 2001). We accordingly included the number of external boards on which the CEO served during the year.

CEO directors

CEOs are highly sought after directors (Fahlenbrach, Low, and Stulz, 2010). This is because CEO directors typically are socialized into elite norms, allowing the focal CEO more discretion in pay decisions (Westphal and Stern, 2006). We identified CEO directors as the number of directors who are also CEOs in other firms according to RiskMetrics Directors.

Analytical strategy

Our database consists of multiple unbalanced panels and confronts several challenges. First, given that our sample includes multiple observations for

the same firm over time, the basic ordinary least squares (OLS) assumption of independence among observations would be violated and biased standard errors created. Second, fixed panel data models are the preferred analytical tool for analyzing this data structure (Fiss, 2006). However, fixed panel data models would struggle with time constant or slowly changing variables that we use in the form of governance and network variables (Plümper and Troeger, 2007). We accommodated these challenges by using generalized estimating equations (GEEs) with robust standard errors and autoregressive structures (Liang and Zeger, 1986). Prior studies used similar analytical approaches (Hambrick and Quigley, 2014). Additionally, we standardized the moderating variables to avoid multicollinearity problems (Aiken and West, 1991). We lagged all independent and control variables by one year.

RESULTS

Table 1 presents descriptive statistics and correlation coefficients. A visual inspection of the correlation coefficients does not indicate concerns for multicollinearity. Separate tests for variance inflation factors (VIFs) are generally well below the rule-of-thumb value of 10.

Table 2 shows the models regressing excess CEO returns on various predictors. Model 1 represents our baseline model with only control and moderating variables. Model 2 includes our two main explanatory variables: external board social capital (i.e., board eigenvector centrality) and internal board social capital (i.e., director networking experience). Models 3 and 4 include the interaction terms testing our CEO power and institutional investor monitoring interaction terms. Model 5 shows the full model with all interaction terms.

Hypothesis 1 argues that firms with greater external board social capital—high board eigenvector centrality—will experience higher excess CEO returns. Consistent with this prediction, we find a positive and significant ($p < 0.05$) coefficient for external board social capital in Model 2. Hypothesis 1 is therefore supported.

Hypothesis 2 argues that firms with greater internal board social capital—high director networking experience—will experience lower excess CEO returns. We indeed find a negative and significant ($p < 0.01$) coefficient for internal board social capital in Model 2. Hypothesis 2 accordingly receives support.

Hypotheses 3a and 3b refer to the interaction terms between CEO power and our social capital measures. Hypothesis 3a argues that firms with high external board social capital will have greater excess CEO returns when the CEO has more power. Consistent with this prediction, we find a positive and significant ($p < 0.01$) coefficient for the interaction term in Model 3. Hypothesis 3a therefore is supported.

Hypothesis 3b argues that powerful CEOs are able to weaken the negative effects of internal board social capital on excess CEO returns. We find a positive and significant ($p < 0.01$) coefficient for the interaction term in Model 3, reflecting a double negative effect. Therefore, Hypothesis 3b is supported.

Hypotheses 4a and 4b refer to the interaction terms between institutional investor monitoring and our social capital measures. Hypothesis 4a argues that firms with high external board social capital will experience lower excess CEO returns when institutional investor monitoring is strong. Consistent with this prediction, we find a negative and significant ($p < 0.05$) coefficient for the interaction term in Model 4. Hypothesis 4a thus receives support.

We also find support for Hypothesis 4b, which argues that high degrees of institutional investor monitoring will enhance the negative effects of internal board social capital on excess CEO returns. Specifically, Model 4 has a negative and significant ($p < 0.01$) coefficient for the interaction term.

Model 5 represents the full model with all explanatory and moderating variables included. The direction and patterns of significance remain unchanged in this model. Moreover, Figure 1 graphically shows the interaction effects, which support our results.

Robustness checks and post hoc tests

We performed four robustness checks. First, we initially measured external board social capital at the board level, ignoring redundant director ties between firms. This assumes that redundant ties between firms provide little additional value to directors. We reestimated our main regression models with redundant interfirm ties following Renneboog and Zhao (2011), but this did not change our results in their patterns of significance or direction.

Table 1. Descriptive statistics and correlations

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Excess CEO returns[a]	1.23	2.92	1.00																			
2. Financial leverage	0.23	0.18	0.05	1.00																		
3. Firm size[a]	7.74	1.67	−0.01	0.24	1.00																	
4. Firm risk	0.37	0.24	−0.08	−0.07	−0.18	1.00																
5. Shareholder returns[b]	14.84	55.44	−0.22	−0.05	−0.00	0.22	1.00															
6. Tobin's Q	1.54	1.65	−0.13	−0.20	−0.23	0.15	0.22	1.00														
7. Return on assets	0.04	0.14	−0.08	−0.19	0.04	−0.11	0.13	0.33	1.00													
8. CEO pay mix	0.56	0.28	−0.03	−0.00	−0.19	−0.11	0.02	−0.13	−0.00	1.00												
9. Board independence	0.69	0.17	0.12	0.04	0.18	−0.06	−0.01	−0.10	−0.01	−0.16	1.00											
10. Board size[a]	2.32	0.26	0.04	0.16	0.60	−0.23	−0.02	−0.22	0.03	−0.04	0.10	1.00										
11. CEO ownership[b]	3.52	9.38	−0.13	−0.09	−0.20	0.03	0.00	0.04	−0.00	0.18	−0.27	−0.18	1.00									
12. Independent directors ownership[b]	0.90	4.38	0.00	0.01	−0.05	−0.04	−0.00	0.01	0.02	0.02	0.02	0.04	0.05	1.00								
13. Busy board	0.03	0.18	−0.02	0.05	0.09	0.00	−0.01	0.02	0.00	−0.02	−0.07	0.02	0.02	−0.02	1.00							
14. CEO age	55.85	7.29	−0.07	0.02	0.08	−0.11	0.00	−0.07	0.04	0.15	−0.06	0.10	0.19	0.01	−0.02	1.00						
15. CEO external network	0.44	0.78	0.01	0.06	0.25	−0.11	−0.00	−0.02	0.03	−0.05	0.06	0.25	−0.09	0.01	0.08	0.12	1.00					
16. CEO directors	0.72	1.24	0.01	0.08	0.59	−0.12	−0.02	0.03	0.08	−0.17	0.18	0.41	−0.16	−0.01	0.17	0.03	0.36	1.00				
17. CEO power	0.00	1.00	−0.18	−0.05	−0.07	0.04	0.00	0.03	0.01	0.10	−0.02	−0.14	0.58	−0.00	−0.03	0.39	0.00	−0.10	1.00			
18. Institutional investor monitoring	0.00	1.00	−0.02	0.00	0.44	0.04	0.00	0.12	0.07	−0.14	0.06	0.21	−0.08	−0.04	0.08	−0.00	0.09	0.38	−0.04	1.00		
19. External social capital	0.02	0.03	0.03	0.11	0.53	−0.16	−0.02	−0.02	0.07	−0.15	0.22	0.42	−0.14	−0.00	0.27	0.04	0.40	0.70	−0.09	0.37	1.00	
20. Internal social capital	7.54	3.56	−0.06	−0.02	0.01	−0.13	−0.01	0.00	0.05	0.08	−0.10	0.04	0.12	0.07	−0.02	0.17	0.02	0.03	0.03	−0.02	−0.04	1.00

$N = 8{,}197$
Correlations with an absolute value larger than 0.03 are significant at the $p < 0.05$ level.
[a] Log or IHS transformed
[b] Percentage terms

Table 2. GEE regressions: the impact of board social capital on excess CEO returns

	Model 1	Model 2	Model 3	Model 4	Model 5
Excess CEO returns ($t-1$)	−0.04*	−0.05**	−0.05**	−0.04**	−0.04**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Financial leverage	0.31[+]	0.27	0.34[+]	0.39*	0.40*
	(0.18)	(0.19)	(0.19)	(0.19)	(0.19)
Firm size	−0.25***	−0.26***	−0.28***	−0.34***	−0.34***
	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
Firm risk	−0.53***	−0.68***	−0.49**	−0.57***	−0.57***
	(0.14)	(0.15)	(0.15)	(0.15)	(0.15)
Shareholder returns	0.00*	0.00**	0.00*	0.00*	0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Tobin's Q	−0.35***	−0.33***	−0.36***	−0.38***	−0.39***
	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)
Return on assets	−1.19**	−1.17**	−1.38***	−1.40***	−1.37***
	(0.41)	(0.41)	(0.40)	(0.40)	(0.40)
CEO pay mix	−0.08	−0.03	−0.00	0.03	0.04
	(0.12)	(0.13)	(0.13)	(0.13)	(0.13)
Board independence	2.38***	1.99***	1.83***	1.82***	1.85***
	(0.37)	(0.37)	(0.37)	(0.37)	(0.37)
Board size	0.17	0.21	0.24	0.29	0.27
	(0.17)	(0.18)	(0.18)	(0.18)	(0.18)
CEO ownership	−0.01	−0.01	−0.01	−0.00	−0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Independent directors ownership	−0.00	−0.01	−0.03*	−0.00	−0.02*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Busy board	0.06	−0.12	−0.10	−0.12	−0.11
	(0.16)	(0.17)	(0.16)	(0.16)	(0.16)
CEO age	−0.00	−0.00	−0.00	−0.00	−0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
CEO external network	0.05	0.07	0.07	0.05	0.06
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
CEO directors	0.02	−0.02	0.02	0.02	0.02
	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
CEO power	−0.39***	−0.45***	−0.62***	−0.44***	−0.62***
	(0.04)	(0.04)	(0.08)	(0.04)	(0.08)
Institutional investors monitoring	0.16**	0.13**	0.18**	0.21*	0.21*
	(0.05)	(0.05)	(0.05)	(0.09)	(0.09)
Hypothesis testing					
External board social capital (H1, [+])		3.28*	2.74[+]	3.08*	3.04*
		(1.46)	(1.46)	(1.49)	(1.49)
Internal board social capital (H2, -)		−0.03**	−0.03***	−0.02*	−0.03**
		(0.01)	(0.01)	(0.01)	(0.01)
External board social capital × CEO power (H3a, [+])			3.59**		3.36**
			(1.23)		(1.25)
Internal board social capital × CEO power (H3b, [+])			0.02**		0.02**
			(0.01)		(0.01)
External board social capital × institutional investor monitoring (H4a, -)				−1.27*	−1.18*
				(0.59)	(0.58)
Internal board social capital × institutional investor monitoring (H4b, -)				−0.05**	−0.05**
				(0.02)	(0.02)
Constant	1.85***	2.28***	2.53***	2.84***	2.91***
	(0.53)	(0.56)	(0.56)	(0.56)	(0.56)
Wald χ^2	502***	523***	543***	538***	555***
N	8,197	8,197	8,197	8,197	8,197

Robust standard errors are in parentheses. Year and industry effects are included.
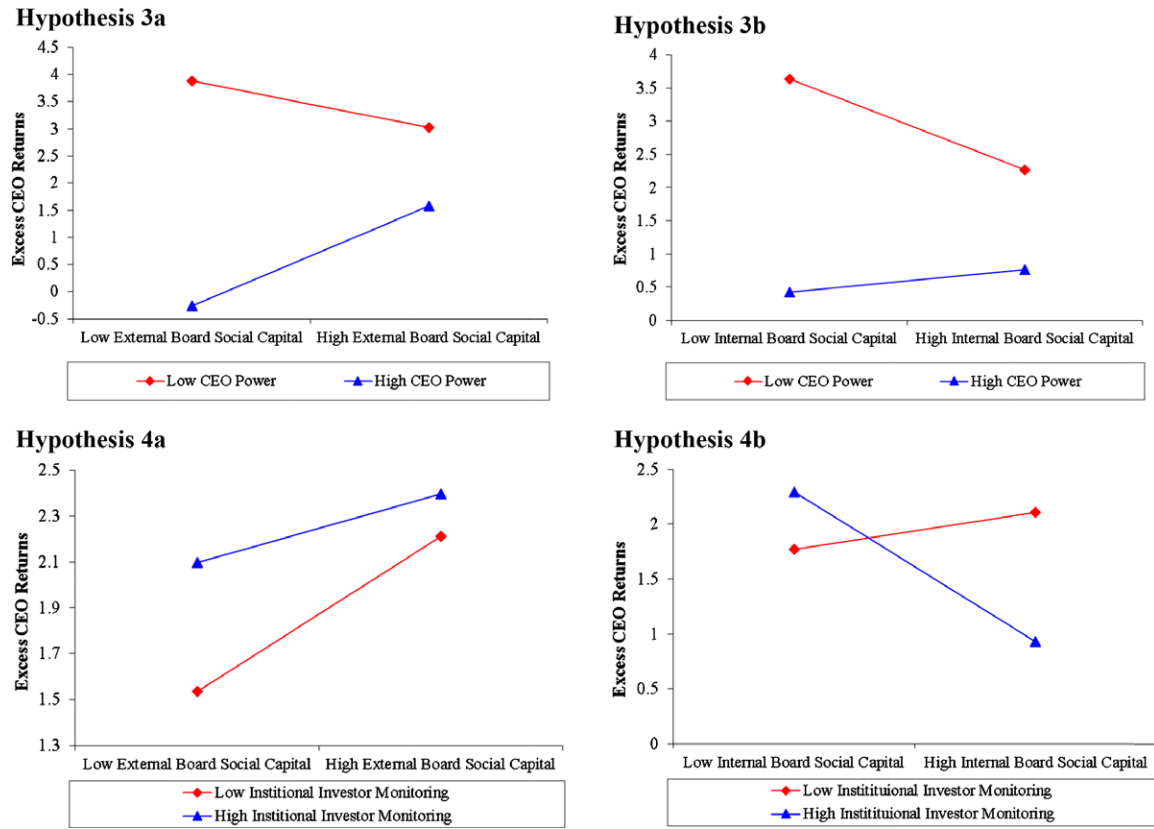[+] $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Figure 1.   (a–d) Interaction plots

Second, we also replaced one of our key independent variables with alternative measures for network centrality (Borgatti and Everett, 1992). Specifically, we replaced eigenvector centrality with closure in the main network component and simple degree centrality. In both cases, the results are similar in direction, but the levels of significance are lower.

Third, some researchers have suggested measuring multidimensional construct such as excess CEO returns via a residualizing procedure (Wiseman, 2009). Residualizing replaces the difference score variable with the residuals produced by a first-stage regression of CEO returns on shareholder returns. This procedure removes from CEO returns the portion that could be explained by shareholder returns, singling out CEOs who gained more than expected (Cronbach and Furby, 1970). Our results are essentially the same using the residual approach.

Finally, our dependent variable *excess CEO returns* may be sensitive to CEOs holding very small firm-related equity wealth (5% of our observations hold less than $1 million in firm-related equity wealth). Our results are robust if we exclude

these cases and focus only on CEOs holding at least $1 million in stock and options.

We also conducted a *post hoc* analysis to test whether normative pressures influence the board to set CEO pay.[6] As seen in Table 3, the directions of the hypothesized results remain consistent while the levels of significance are somewhat lower. This finding suggests that while excess CEO returns and CEO pay are related concepts, some differences exist. In particular, while board decisions to set CEO pay are primarily oriented at the prevailing market rates for CEOs (Zhu, 2014), restricting actual excess CEO returns reflects the *ex post* influence of the board to monitor CEOs (Dittmann, Maug, and Zhang, 2011). The finding that normative pressures upheld by directors who try to sustain the social capital of social networks also influence

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[6] CEO pay is the *ex ante* granted CEO pay, which includes salary, bonus, total value of restricted stock granted, total value of stock options granted (using Black-Scholes), long-term incentive payouts, and all other compensation prospectively granted.

Table 3. GEE regressions: robustness checks with CEO compensation

	Model 6	Model 7	Model 8
Financial leverage	−0.06	−0.06	−0.06
	(0.07)	(0.07)	(0.07)
Firm size	0.33***	0.33***	0.32***
	(0.01)	(0.01)	(0.01)
Firm risk	0.05	0.05	0.05
	(0.05)	(0.05)	(0.05)
Shareholder returns	0.00***	0.00***	0.00***
	(0.00)	(0.00)	(0.00)
Tobin's Q	0.12***	0.12***	0.12***
	(0.01)	(0.01)	(0.01)
Return on assets	0.62***	0.61***	0.62***
	(0.10)	(0.10)	(0.10)
CEO pay mix	−0.23***	−0.23***	−0.23***
	(0.04)	(0.04)	(0.04)
Board independence	0.14[+]	0.14[+]	0.15[+]
	(0.08)	(0.08)	(0.08)
Board size	−0.11[+]	−0.12[+]	−0.11[+]
	(0.06)	(0.06)	(0.06)
CEO ownership	−0.01***	−0.01***	−0.01***
	(0.00)	(0.00)	(0.00)
Independent directors ownership	−0.01*	−0.01*	−0.01*
	(0.00)	(0.00)	(0.00)
Busy board	0.07	0.08	0.08
	(0.05)	(0.05)	(0.05)
CEO age	0.01*	0.01*	0.01*
	(0.00)	(0.00)	(0.00)
CEO external network	0.05**	0.05**	0.06***
	(0.02)	(0.02)	(0.02)
CEO directors	0.04***	0.05***	0.05***
	(0.01)	(0.01)	(0.01)
CEO power	0.13***	0.15***	0.13***
	(0.02)	(0.03)	(0.02)
Institutional investors monitoring	−0.01	−0.01	0.04
	(0.01)	(0.01)	(0.03)
External board social capital	1.45**	1.51**	1.34*
	(0.55)	(0.55)	(0.55)
Internal board social capital	−0.01*	−0.01*	−0.01*
	(0.00)	(0.00)	(0.00)
External board social capital × CEO power		1.06*	
		(0.46)	
Internal board social capital × CEO power		0.00	
		(0.00)	
External board social capital × institutional investor monitoring			−0.64[+]
			(0.41)
Internal board social capital × institutional investor monitoring			−0.01[+]
			(0.00)
Wald χ^2	3,638***	3,648***	3,644***
N	10,010	10,010	10,010

Robust standard errors are in parentheses. Year and industry effects are included.
[+] $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$
Robust standard errors are in parentheses. Year and industry effects are included.

CEO pay suggests that normative pressures exist at several stages in the CEO compensation process.

DISCUSSION

We set out to study the effects of board social capital on the board's willingness to rein in excess CEO returns. Following suggestions to "integrate agency theory with other paradigms" (Barkema and Gomez-Mejia, 1998: 136), this study reconsiders financial alignment—a core agency theory solution to agency problems (Nyberg *et al.*, 2010)—under the additional but realistic condition that boards of directors are embedded in external and internal social networks. Our study shows that boards are exposed to different—and in our case opposing—normative pressures that may facilitate or restrict excess CEO returns. We have also shown that powerful CEOs and institutional investors can alter the effect of normative pressures in their favor.

Contributions

At least three contributions emerge. First, while a vast number of studies seek to understand the determinants of CEO pay levels (Finkelstein, Hambrick, and Cannella, 2009), we advocate and examine a novel measure of excess CEO returns. Given that CEOs since at least the mid-1990s are confronted with outrage over their pay levels, an emerging literature suggests that CEOs try to camouflage their personal financial returns by decoupling firm-related wealth from shareholder returns, thereby creating agency problems (Bebchuk and Fried, 2004). Agency theory, however, suggests that financial alignment reduces agency problems and substitutes for board monitoring (Core and Guay, 2010; Lippert and Moore, 1995; Rediker and Seth, 1995). Focusing on social capital as a form of informal institution (Sauerwald and Peng, 2013), our social capital view provides a more critical view of this substitution effect. Directors have control over the *actual* financial alignment between CEOs and shareholders but may face normative pressures to monitor it or not. We find that directors comply with the normative pressures of the elite to permit excess CEO returns if they anticipate social support from fellow elite directors—a form of external social capital. However, we also find that directors follow monitoring norms if they can utilize shared networking experience between independent directors—a form of internal social capital. In other words, there may not be a clear substitution effect between financial alignment and monitoring. Instead, board monitoring may have a complementary relationship with financial alignment when the role of board social capital is considered.

Second, this study suggests that directors are exposed to normative pressures embedded in socially important board networks (Kang and Kroll, 2014). This is because directors cannot own board social capital and therefore must comply with the normative pressures of those participating in the social network to ensure continued access to the benefits of board social capital. This insight makes important contributions to studies examining the social explanations of CEO compensation and board monitoring effectiveness. Previous studies, for example, found a strong industry effect on CEO pay (Rajagopalan and Prescott, 1990), suggesting that boards follow "pay norms" embedded in the task environment (Zhu, 2014). We show that it is also important to consider the *social* environment in the form of board interlocks and intraboard director ties. Our findings also relate to the symbolic management literature on CEO compensation (Markoczy *et al.*, 2013; Zajac and Westphal, 1997). Boards must justify both the level and structure of CEO compensation to secure legitimacy (Zajac and Westphal, 1995). Our arguments suggest that board social capital provides directors who follow normative pressures with social support, thus decreasing the need for symbolic co-optation of shareholders to gain formal shareholder approval in the director labor market.

Moreover, we suggest that directors' beliefs and motivations may be affected by the social networks in which directors are embedded. Agency theory takes a markedly individualistic approach, suggesting that board effectiveness may be improved through equity pay (Deutsch *et al.*, 2010). Relatedly, sociopsychological studies suggest that socialized beliefs influence monitoring behavior (Westphal and Khanna, 2003; Westphal and Stern, 2006). Our research complements these studies, suggesting that normative pressures vary with the degree of structural embeddedness, thus potentially modifying individualized incentives and socialized beliefs (Kang and Kroll, 2014). This argument may also explain why some perfectly capable and motivated individuals on boards engage in questionable governance practices (Cowen and Marcel, 2011). Therefore, it may be fruitful to

address the problem at its root and reform board processes by carefully balancing the benefits of social networks with the potential costs caused by normative pressures (Forbes and Milliken, 1999).

Third, we explore important boundary conditions of the effects of board social capital on excess CEO returns, suggesting that powerful CEOs and institutional investors can alter the effects of normative pressures on director behavior. This finding complements studies examining CEO power in dyadic CEO-board relationships (Westphal and Zajac, 1997), by theorizing about the underlying social processes through which CEOs exert influence. While scholars have long criticized the undue influence of powerful CEOs in the director selection process (Westphal and Zajac, 1995), we add the embedded nature of the board to this debate. We also complement studies that suggest directors can be co-opted with financial perks (Bebchuk and Fried, 2004: 205) by showing that CEOs' influence over social capital plays an important role.

In contrast, firms with strong institutional investor monitoring promote shareholder values (Goranova and Ryan, 2014). This may shift the cost-benefit calculations of directors to promote more shareholder-friendly financial alignment because institutional investors can exert public activism efforts at shareholder meetings (Hillman *et al.*, 2011). Moreover, the increasingly important role of institutional investors may also give them private insights into the firms they own (Becht *et al.*, 2009). This private activism is typically considered more effective than publicly opposing management (Goranova and Ryan, 2014), and therefore may allow institutional investors to support strong internal board networks, which have shared networking experience among independent directors.

Practical implications

Boards composed of directors who are not in the center of interlocking directorships may be less constrained by the norms of the corporate elite and more influenced by atomistic incentives such as stock options as agency theory would suggest (Deutsch *et al.*, 2010). Our results further indicate that internal social capital in the form of director networking experience has the potential to lower excess CEO returns. Boards with extensive shared networking experience may be able to overcome collective action problems, which reduces the costs

of monitoring CEOs' financial alignment. While shared networking experience may negatively affect nonroutine board activities such as strategic change initiatives because of a lack of diversity of opinion (Haynes and Hillman, 2010; Withers *et al.*, 2012), it is viewed more positively in routine contexts such as annual CEO remuneration discussions and performance reviews (Zhu, 2014).

Limitations and future research

Limitations of our study provide several opportunities for future research. We will highlight the two most promising directions. First, our measure of external board social capital allows us to understand the opportunities that directors perceive to advance their interests. Although we believe that this approach is more fruitful than using board size or firm size as proxies for directors' opportunities (Coles *et al.*, 2008; Masulis and Mobbs, 2014), we realize that the actual resources available at social network nodes are important (Adler and Kwon, 2002). Future studies may therefore incorporate the actual resources available within the interlock network.

Second, we suggest that boards with relatively low levels of external social capital are better able to control excess CEO returns. This finding deserves more attention because it illustrates a trade-off between the resource provision function of the board that may benefit firm performance (Haynes and Hillman, 2010) and the opportunistic abuse of these social capital resources by directors that may lower firm performance (Bebchuk *et al.*, 2002). We posit that there may be a "sweet spot" that companies can achieve by limiting the agency costs embedded in director networks and opportunities found in accessing director networks (Geletkanycz and Boyd, 2011). The exact nature of the sweet spot deserves to be explored in future work.

CONCLUSION

How does board social capital affect excess CEO returns? We have taken a first step to answer this multifaceted question from a board social capital perspective. We find that social capital has a more complex effect on excess CEO returns than previously thought. Moreover, integrating research on the behavior of powerful CEOs and institutional investors into our social capital view provides

a more insightful theoretical framework for the social influences on excess CEO returns. This new approach may help extend existing CEO compensation research with a refined and promising angle. We hope that our social capital view of boards of directors and its effects on a key governance outcome—excess CEO returns—will stimulate additional research and advance our understanding of the normative pressures boards face in network settings.

ACKNOWLEDGEMENTS

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