CEO Power over the Board, Nontransient Investor Ownership, and Risk Taking

--An Employment Security Perspective

by

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ABSTRACT

Recognizing that CEOs are less capable of diversifying their employment risks than shareholders who could diversify their investment risks through portfolio investments, agency theory assumes that CEOs tend to be risk averse compared with shareholders. Based on this assumption, agency theory scholars suggest that to align the risk preference of CEOs with that of shareholders, CEOs need to be closely monitored and have less power. SEC regulators have been adopting the suggestion and accordingly CEO power has been reduced in the past decades. However, the empirical results are mixed and cannot provide solid support for the suggestion that reducing CEO power could lead the CEO to take more risks.

Considering that managerial risk taking is an important issue in strategic management research and agency theory has been widely adopted in academia and business worlds, it is imperative to clarify the mechanism behind the relationship between CEO power and risk taking. My study aims to fill this research gap. In this study I follow agency theory to take an employment security perspective and fully consider how CEOs' concern about employment security is affected by their power and ownership structure to enrich the understanding of the effects of CEO power and ownership structure on risk taking. I fine-tune the key concept CEO power into the CEO power over board and introduce a key aspect of ownership structure - nontransient investor ownership. I further suggest that CEO power over board and nontransient investor ownership affect CEOs' employment security and the resulting CEO risk taking. In addition, I consider a set of industry and firm characteristics as the boundary conditions

for the effects of CEO power and nontransient investor ownership on CEO risk-taking. This set of industry and firm characteristics include industry complexity, industry dynamism, industry munificence and firm slack.

I test my theory using a large-scale, multi-year sample of U.S. publicly listed S&P 1500 firms between 2001 and 2017. My main hypotheses about the effects of CEO power over board and nontransient investor ownership on CEO risk taking receive strong support.

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CHAPTER 1

INTRODUCTON

Managerial risk taking is a key concept in strategic management research (Pablo, Sitkin, and Jemison, 1996; Sitkin and Pablo, 1992). It influences a broad spectrum of firm strategies, such as R&D spending (Barker and Mueller, 2002), capital investment (Malmendier and Tate, 2005a, 2005b), competitive actions (Connelly, et al., 2010), diversification (Tihanyi, Ellstrand, Daily, and Dalton, 2000), acquisitions and divestitures (Liu, Taffler, and John, 2009; Malmendier and Tate, 2008), etc. The agency theory, a prevailing perspective about governance, suggests that CEOs are risk averse compared with shareholders (Jensen and Meckling, 1976; Hoskisson, et al., 2017). Shareholders of a firm can diversify their risk through investing in a portfolio of companies and hence are assumed to be risk neutral. In contrast, CEOs cannot diversify their employment risk through working for multiple employers and thus are more risk-averse than shareholders are (Wiseman and Gomez-Mejia, 1998). How to increase the levels of risk that CEOs are willing to take is thus an important research question in the strategy field.

Agency theory further incorporates the construct of power to address the issue of CEOs' risk aversion. Power refers to the capacity of social actors to exert their will in a particular relationship (Pfeffer, 1981). Agency scholars have long suggested that CEOs should be closely monitored and regulated and thus have less power to exert their risk-averse preference in firm strategies (e.g., Haynes and Hillman, 2010). As a result, these CEOs will be more likely to adopt strategies that are consistent with shareholders' risk preferences to please shareholders and to secure their CEO positions. Agency scholars thus expect that CEOs with less power are more likely to take risks. However, the

negative relationship between CEO power and risk taking does not receive consistent support in empirical studies. While some research on shareholders has found support for the negative relationship (e.g., Bushee, 1998; Low, 2009; Shi et al., 2017), many studies examining CEO-board relationships have found the opposite (e.g., Baysinger et al., 1991; Lewellyn and Muller-Hahle, 2012). Considering that managerial risk-taking is an important issue in strategic management research (Pablo, Sitkin, and Jemison, 1996; Sitkin and Pablo, 1992) and that agency theory has been widely adopted in the academia and business worlds (Hoskisson et al., 2017), it is imperative to clarify the mechanism behind the relationship between CEO power and risk taking. My study aims to fill this research gap.

I suggest that the agency theory explanation of how CEO power influences risk taking is problematic for two reasons. First, the agency theory logic only considers CEOs' limited ability to diversify employment risk without considering their variant abilities to control their existing employment risk. While it is true that shareholders can better diversify their risks than CEOs, all CEOs face the same limitation in terms of diversifying employment risk. This suggests that it is especially important to consider CEOs' different abilities to control the risk of their existing employment in understanding their different risk tendencies. My theory explains why greater CEO power over the board grants them greater control of existing employment and motivates CEOs to take greater risks. Second, agency theory assumes that shareholders have homogeneous risk preferences and tend to be more risk-seeking than CEOs in general. However, research on shareholders shows that different types of shareholders tend to exhibit different risk preferences. My study explains how non-transient investor ownership may protect CEOs

from the negative consequences of taking risky strategies, increasing CEO risk taking. Specifically, with the employment security granted by nontransient investors' nonselling behaviors, CEOs will take more-risky strategies.

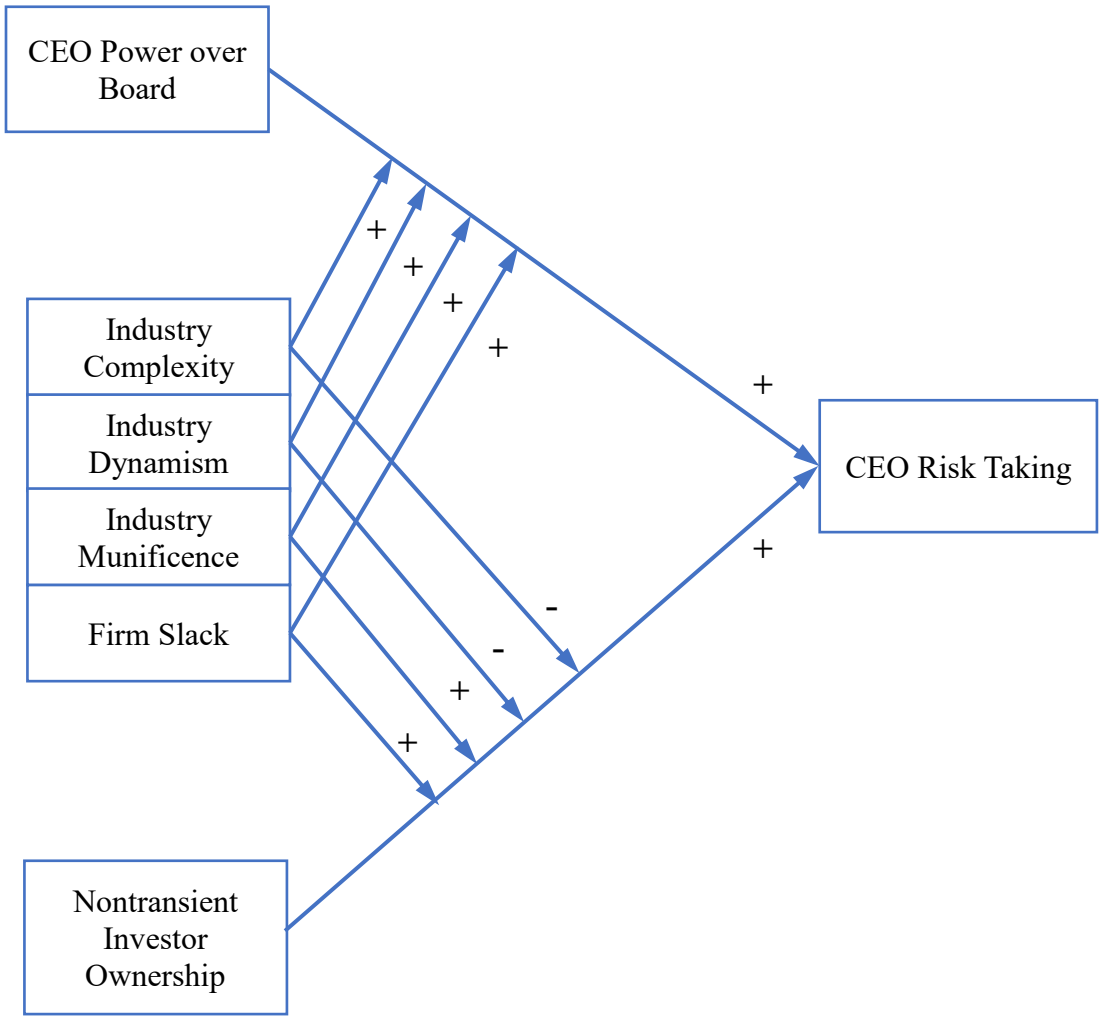
Overall, taking an employment security perspective, my study examines how CEO power over board and nontransisent investor ownership affect CEO risk taking.

I first argue that CEO power over board secures their positions in focal firms, lessening their concern about employment risk. In addition, powerful CEOs can be strongly motivated to adopt risky strategies because they can disproportionally benefit from the success of these strategies (Devers et al., 2007). Studies have long suggested that though risky strategies are tied to high failure hazards that can hurt CEOs' employment security, they are also associated with high expected returns (Hoskisson et al., 2017; Low, 2009). Research shows that powerful CEOs often gain disproportionally from high firm performance, including enhanced personal wealth and status in business circles (Kang, 2016). To the extent that powerful CEOs can secure their positions when risky strategies fail and receive rewards when they succeed, I argue that CEOs' power relative to the board increases CEO risk taking. Moreover, I argue that nontransient investor ownership also enhances CEO risk taking. My theory explains why nontransient investor ownership can protect CEOs from takeover threats and short-term performance pressure exerted by other investors, increasing CEOs' employment security and hence their risk-taking tendency.

In addition, I consider a set of industry and firm characteristics as the boundary conditions for the effects of CEO power over boards and nontransient investors on risk-taking. This set of industry and firm characteristics, including industry complexity,

industry dynamism, industry munificence and firm slack, moderate the effects of CEO power and nontransient investor ownership on CEOs' employment security. The theoretical framework is shown in Figure 1.

Figure 1: Theoretical Model



I examine my theory by using large-scale longitudinal data on SandP 1500 firms from 2001 to 2017. The results provide strong support for my theory. This study makes several important contributions. First, I advance a novel employment security perspective to understand the effects of CEO power and nontransient investor ownership on risk

taking. Extant research on corporate governance has largely assumed that CEOs are generally risk averse compared to shareholders (Jensen and Meckling, 1976; Hoskisson, et al., 2017). My study explains why CEO power and nontransient investor ownership are major factors that influence CEOs' risk-taking tendency through affecting their employment security. This in-depth analysis of CEOs' employment security clarifies the mixed findings of the relationship between CEO power and risk taking in prior research. Second, my study contributes to the risk-taking literature by introducing a new antecedent of CEO risk taking - nontransient investor ownership. Prior research has given little attention to the relationship between ownership structure and CEO risk taking. My study proposes that nontransient investor ownership has a strong influence on CEOs' control of their employment risk and thus affects the CEOs' risk taking.

CHAPTER 2

LITERATURE REVIEW

CEO Power over Board

Power refers to the capacity of social actors to exert their will in a particular relationship (Pfeffer, 1981). Many corporate governance studies that examine how to regulate the behaviors of CEOs to be consistent with the interests of shareholders have focused on the construct of CEO power and explored the outcomes of granting power to CEOs.

In the 20th century, shareholders largely delegate the responsibilities of monitoring CEOs to boards of directors who represent the interests of shareholders. Accordingly, prior research has examined the construct of CEO power over boards of directors (Finkelstein, 1992). Boards of directors are granted the power of hiring and firing CEOs. Thus, once CEOs gain power over boards, CEOs could greatly enhance their levels of control of employment risk. Prior research suggests that CEOs could gain the power over boards through various channels. The seminal work on CEO power over boards indicates that CEO power is derived from structural power, prestige power, expert power and ownership power (Finkelstein, 1992). CEOs' structural power over boards is derived from their firms' formal organizational structures and hierarchical authorities (Finkelstein, 1992; Daily and Johnson, 1997). CEOs have more structural power over boards when they hold the board chair position, when the board is comprised of more independent directors who are appointed after CEO succession, and/or when board size is large (Daily and Johnson, 1997; Zhu and Chen, 2015). Prestige is another key source of CEO power. CEOs possess high prestige power when they graduate from elite

universities (D'Aveni, 1990; Finkelstein, 1992) and/or hold several directorships at other S&P1500 firms (e.g., Hillman and Dalziel, 2003; Zhu and Chen, 2015). CEOs possess expert power when they have served in many functional areas (Finkelstein, 1992), have longer tenure in focal industries, and/or have longer tenure at focal firms (Zhang and Rajagopalan, 2003). That CEOs have expert power suggests that they have rich knowledge about functional areas, have more access to key resources or information outside firms, and/or have more firm-specific information (Finkelstein, 1992; Firstenberg and Malkiel, 1994).

Nontransient Investor Ownership

In recent decades, shareholders, particularly institutional investors, have become active in monitoring CEOs. In the following, I recount the history of institutional investors, three major types of institutional investors and their respective investment characteristics, and their effects on CEOs in portfolio firms.

Institutional investors refers to the equity holders filed in 13-F Securities and Exchange Commission (SEC) reports that manage more than $100 million of firm shares. Institutional investors have grown rapidly in recent decades, owning more than 50 percent of all U.S. equities in 1992 and more than 80 percent in recent years (Gillan and Stark, 2007; Connelly et al., 2010). There are various kinds of institutional investors, including mutual funds, hedge funds, pension funds (public, private, and corporate), banks, insurance companies, foundations, and endowments.

Given the importance of institutional investors, scholars have focused on their investment strategies and behaviors. Researchers have found that various institutional investors have different investment and trading behaviors. Bushee (1998, 2004)

categorizes institutional investors into three groups based on the following two key dimensions: ownership stability and the size of the ownership stake. Transient institutional investors (hereafter, transient investors) are characterized by low ownership stability and small stake. These investors are rather sensitive to firms' short-term performance but have little interest in firms' long-term value. Dedicated institutional investors are investors with high ownership stability and a large stake. Their investment strategy is relationship-based investments, buying and holding large stakes in a small number of companies. Berkshire Hathaway is a good example. Historically (until 2001), this firm held 75% of its portfolio holdings for at least two years (Bushee, 2004). In each quarter of 2001, this firm sold less than 1% of its portfolio market value (Bushee, 2004). Others are quasi-indexer institutional investors. Bushee (2004) explained that these investors, similar to dedicated investors, also adopt buy-and-hold investment strategies. Comparatively, they invest in a broader set of companies than dedicated investors do and occasionally trade when there is a major change in their invested firms.

Research on the relationship between institutional investors and corporate governance suggests that among the three types of institutional investors, nontransient institutional investors, including dedicated and quasi-indexer institutional investors, play the role of monitoring and regulating invested firms (Bushee, 1998; 2001; Connelly et al., 2010; 2016). Transient institutional investors invest in several firms, hold small stakes for each firm, and hold them for a short period (Bushee, 2004). They capitalize on price fluctuations in volatile stock markets. This investment strategy indicates that they do not actively monitor and regulate their invested firms, including these firms' top executives. Some scholars (e.g., Koh, 2007) also point out that these investors do not spend time and

resources on collecting detailed information to deeply understand the strategies and the value of the firms in which they have invested. Given their limited shares, neither are they able to regulate top executives through voting on the key strategies and governance decisions of each firm. Further, these transient investors have less incentive to monitor and regulate top executives because it often takes a rather long period of time for firms to gain value from better governance. However, transient investors are impatient, and thus could hardly benefit from monitoring and regulating top executives (Matsumoto, 2002; Schnatterly, Shaw, and Jennings, 2007).

In contrast, nontransient institutional investors, including dedicated institutional investors and quasi-indexer institutional investors, serve as active and effective external governance of their invested firms (e.g., Bushee, 1998; Connelly et al., 2010). In particular, with the shareholder activism movement since the 1990s (Mizruchi and Marshall, 2016; Smith, 1996), these traditionally passive institutional investors have realized their potential capabilities and become active in closely monitoring their invested firms and the top executives as detailed below (Carleton et al., 1998; Koh, 2007; Smith, 1996).

These investors only invest in a limited number of firms and hold a large number of shares in each firm for a long period of time. To gain greater long-term value from this small number of firms with substantial stakes, they are motivated to develop close relationships with top executives to gain a deeper understanding of these firms' strategies, operations, and real value (Bushee, 2004; David et al., 2010). They are also willing to spend resources on hiring experts to provide an independent and objective judgment of each firm's strategies, operations and value (Schnatterly et al., 2008).

Collectively, they established Institutional Shareholder Services (ISS) and the Council of Institutional Investors to conduct comprehensive research on their portfolio firms (Gillan and Starks, 2007). Further, given the huge number of shares they hold in each firm, they are able to monitor and regulate top executives through their strong voting power. They further strengthen their voting power through collecting the voting rights scattered in their clients (Bogle, 2005). As a result, these patient investors will benefit greatly from tremendous value-adding strategies derived from better corporate governance (Matsumoto, 2002; Schnatterly, Shaw, and Jennings, 2007).

In my study, nontransient investors, an important group of shareholders, refers to both quasi-indexer and dedicated institutional investors that collectively control approximately 70 percent of shares owned by all institutional investors (Shi, 2017). On the basis of prior research, nontransient investors with long-term orientation are less likely to sell their portfolio firm shares. Importantly, in firms with a larger portion of shares owned by these nontransient investors, their CEOs tend to be exposed to lower employment risk associated with takeovers. Accordingly, these CEOs tend to gain a higher level of control over their own employment risk and thus are more likely to undertake high-risk, high-return strategies.

CEO Power and Risk Taking

Regarding the outcomes of CEO power, a consensus is that CEO power helps CEOs to exert their preferences (Zhu and Chen, 2015), which may be at the expense of shareholders (Bebchuk and Fried, 2004; 2005). As mentioned earlier, boards represent the interests of shareholders. Prior research has examined how CEO power affects the

monitoring and control of boards. Westphal and Zajac theorize that powerful CEOs tend to appoint new board members who are demographically similar to them and thus are sympathetic to them (Westphal and Zajac, 1995). Thus, powerful CEOs could weaken the monitoring and control of their boards (Tuggle, Reutzel, and Bierman, 2008). CEOs maintain their power by selecting and retaining board members with experience on passive boards (Zajac and Westphal, 1996). Boeker (1992) also found that powerful CEOs could successfully attribute poor performance to other factors instead of themselves (Boeker, 1992; Shen and Cannella, 2002), and thus neutralize dismissal threats from boards when firms have poor performance. Further, powerful CEOs tend to increase their compensation, which may not be comparable with their input to their firms (Bebchuk and Fried, 2004; 2005; Van Essen, Otten, and Carberry, 2015).

In addition to personal benefits that the CEOs could receive through their gained power, prior research found that the power of CEOs has affected firm strategies. Powerful CEOs could inhibit the influence of boards on adopting strategic changes (Haynes and Hillman, 2010). In particular, scholars of corporate strategy have given much attention to the risks that powerful CEOs are willing to take. For instance, Zhu and Chen (2015) found that the power of CEOs increases risk taking by narcissistic CEOs.

This attention toward CEO risk-taking is rooted in the strong assumption of agency theory that CEOs are risk averse compared to risk neutral shareholders. Compared to shareholders who could diversity their investment risk through portfolio investments (Hoskisson et al., 2017), CEOs are not able to diversify their employment risk through serving multiple firms. However, shareholders expect CEOs take the higher risks that are often associated with higher returns. On the basis of this assumption, agency

scholars have proposed to reduce the power of CEOs so that these CEOs will not be able to pursue low risk strategies but undertake higher risks to satisfy the boards and shareholders (Baysinger, et al., 1991; Shi, et al., 2017). However, empirical studies that examine the relationship between CEO power and risk taking have mixed findings. It is thus inconclusive regarding whether reduced CEO power would make CEOs undertake high-risk, high-return strategies (Baysinger, et al., 1991; Shi, et al., 2017).

I argue that the mixed findings result from the confounded construct of CEO power. In this study, I fine-tune the CEO power into the CEO power over board and introduce the concept of nontransient investor ownership. Agency scholars have suggested that employment security given to CEOs plays an important role in regulating the behaviors of CEOs to be risk taking. I follow this logic to argue that the CEO power over board and nontransient investor ownership affect a CEO's control of employment risk and thus the CEO's risk-taking behavior.

CHAPTER 3

HYPOTHESIS DEVELOPMENT

Risky strategies are typically associated with high uncertainty but high expected returns (Hoskisson et al., 2017; Low, 2009). If fail, they can be attributed to CEOs' lack of competence and thus threaten their employment security. Agency research thus suggests that CEOs who cannot diversify their employment risk through multiple jobs are not willing to take risks.

In the following, I explain how CEO power over board and nontransient investor ownership influence CEOs' employment risk and consequently their risk-taking behavior. Further, I propose four boundary conditions regarding the effects of CEO power and nontransient investor ownership on CEO risk taking.

CEO Power over Board

I argue that when CEOs hold more power over the board, these CEOs could avoid being dismissed by boards and thus better control their employment risk when risky strategies fail but benefit greatly when they succeed. The failures of risky investments often spark the concern of boards about the competencies of the CEOs who are responsible for the investments (Coughlan and Schmidt, 1985; Martin and McConnell, 1991). Subsequently, the boards often decide to dismiss these incompetent CEOs (Bandura and Jourden, 1991; Haleblian and Rajagopalan, 2006). Therefore, CEOs who worry about their employment security are not willing to invest in risky strategies.

In the following, I argue the power that CEOs have over board could help them reduce dismissal risk. On the one hand, CEOs gaining power over board often use their power to successfully attribute failures and poor performance to factors that are external,

unstable, and uncontrollable (Bettman and Weitz, 1983; Clapham and Schwenk, 1991) and/or to other executives (Boeker, 1992) and thus avoid dismissal by their boards (Brady and Helmich, 1984; Boeker, 1992). On the other hand, boards often have greater confidence in powerful CEOs, such as those with prestige and expertise, and become less likely to dismiss these CEOs.

Specifically, the attribution of firm performance is often an "ill-structured, complex problem" for the boards (Walsh, 1988: 873). It is very difficult for boards to identify factors that cause poor performance. Therefore, they attribute poor performance to the incapability of CEOs and dismiss these scapegoats, though they are willing to identify the complex reasons for poor performance (Walsh and Seward, 1990; Kerr and Kren. 1992). Under such circumstances, CEOs who have more power over board could exert their influence on boards and convince boards to attribute the failures of risky strategies to other uncontrollable factors instead of their own lack of capabilities.

For instance, CEOs having structural power, including CEOs holding board chair positions and CEOs who appointed a large percentage of independent directors on their boards, are likely to be more able to convince boards to attribute the failures of risky strategies to other uncontrollable factors. Often, holding board chair positions enables these powerful CEOs to build strong and unambiguous leadership in firms, which inhibits the boards' monitoring roles (Finkelstein and D'Aveni, 1994; Shen and Cannella, 2002; Zhang, 2008). CEOs with chair positions also have strong influence on setting directors' pay packages (O'Reilly and Main, 2010; Ungson and Steer, 1984), which further weakens the motivations of the directors to challenge CEOs. Moreover, when CEOs chair boards meetings, they control setting up the agenda and the communication of

information in meetings to meet their own interests (Bebchuk and Fried, 2004; Pearce and Zahra, 1991). Boards of directors often receive information, documents and voices that support CEOs' opinions and decisions. When these CEOs attribute the failures of risky strategies to other factors instead of to their own leadership (Bettman and Weitz, 1983; Boeker, 1992; Salancik and Meindl, 1984; Shen, 2003; Gangloff, Connelly, and Shook, 2014), boards will be persuaded to be empathetic about these CEOs' challenges in taking risks and accept these CEOs' analyses of the failures as being caused by other uncontrollable factors.

Research shows that CEOs who are at the top of the organizational hierarchy and thus often strong influencers on director nominations have a tendency to nominate directors compliant toward them (Lorsch and Maclver, 1989; Pollock et al., 2002; Westphal and Zajac, 1995). Thus, even when CEOs do not hold board chair positions, CEOs could gain power over their boards when the boards have more independent directors nominated after the CEOs embark on CEO positions (Dalton et al., 1998). It is expected that the directors appointed after CEO successions tend to accept the attributions of the CEOs who grant them directorship. CEOs could further avoid dismissals when the board size is large. Large boards can hardly reach consensus or generate social cohesion. These boards often have serious internal communication and coordination issues (Bebchuk and Fried, 2004). Overall, weak boards often are less able to take actions to penalize these powerful CEOs through dismissals.

Furthermore, in addition to successfully attributing failures to other factors, powerful CEOs, particularly CEOs with prestige and expert power, offer boards strong confidence in their own judgments and capabilities. Powerful CEOs' exclusive expertise

may even make the boards rely on their strong capabilities to enhance firm performance. Thus, the boards are less likely to dismiss these powerful CEOs. CEOs with high prestige are often seen as competent, credible and trustworthy (D'Aveni, 1990; Geis, 1977; Giordano, 1983). Research suggests that directors also believe prestigious CEOs have more "idiosyncrasy credits". These credits can be exchanged for directors' greater tolerances for CEOs' mistakes and failures (Hollander, 1958). Directors believe that the CEOs need to simultaneously deal with many important issues that temporarily cause failures of challenging and risky strategies and that firm performance will eventually increase in the hands of prestigious CEOs.

Prestigious CEOs are generally in the center of social elite networks with which directors are connected. The ties provide directors access to specific, historical and rich information about the CEOs and their strategies. The additional rich information can prevent directors from evaluating CEOs and their strategies purely based on firm financial performance indicators (Wiesenfeld, Wurthmann, and Hambrick, 2008). Directors trust that prestigious CEOs have rich external resources to contribute to enhance firm performance despite failures. Moreover, given fewer alternatives in executive labor markets and strong capabilities of the CEOs with rich resources, strong capabilities and expertise, boards of directors having a fiduciary duty toward shareholders are more likely to retain these powerful CEOs after failures of risky strategies (Fredrickson and Hambrick, 1988).

In the above, I theorize how CEO power helps to reduce dismissal threats through attributing failures to other factors and to build up boards' confidence in them. In the

following, I will illustrate that CEO power could help to retain CEO compensation and status in business circles, which further makes their positions secure.

Failed risky strategies not only threaten CEOs' employment security but also their compensation and status in business circles, which will eventually result in their dismissals. Agency research suggests that many CEOs' compensations are closely aligned with their firm performance (Hoskisson et al., 2017). Therefore, failed risky strategies that result in huge losses to firms will cause significant reductions in CEOs' compensations. However, finance research has suggested and found that when CEOs hold stronger power over their boards, CEO pay-performance sensitivity is weak (cf. Essen, Otten, and Carberry, 2015). As I argue earlier, powerful CEOs often gain support from their boards in attributing failures to other uncontrollable factors instead of their lack of capabilities, or they can build up their boards' confidence in their capabilities. Thus, these CEOs can retain their levels of compensation even when their risky strategies fail. The retained number of compensation packages and powerful CEO social ties to directors can further help the CEOs maintain a reasonable reputation and sustain their status in business circles. As a result, powerful CEOs with fewer dismissal threats from boards and retained compensation and status become less hesitant in adopting risky strategies that may fail.

Until now, I have argued how CEO power over boards could protect CEOs from dismissal threats as a result of failed risky strategies. I will continue to argue that CEO power could also help the CEO to gain tremendously from successful risky strategies. The successes of risky strategies often significantly increase firm performance (Hoskisson et al., 2017; Low, 2009). CEOs gaining power over boards often could more

easily take credit for great successes, attributing the successes to their strong capabilities in board meetings and through social ties with directors, accordingly benefiting extraordinarily from the successes (Bettman and Weitz, 1983; Clapham and Schwenk, 1991). For example, research has shown that CEOs taking board chair positions are able to take credit for successes by providing directors materials and information that completely support their strong capabilities such as their foresight and quality of management (Bettman and Weitz, 1983; Salancik and Meindl, 1984). Directors who owe the CEOs who nominate them tend to agree with the CEOs that the successes are fully attributed to their strong capabilities. Moreover, as directors trust prestigious and expert CEOs' capabilities and rich resources that are the key for firm success, boards are more likely to attribute successful risky investments to the CEOs. Accordingly, boards will award higher compensation to these CEOs who are viewed as shouldering full responsibility for risky strategies (Devers et al., 2007; Wade et al., 2006). Such compensation serves as a strong signal that significantly enhances these CEOs' status in business circles (Kang, 2016).

Overall, given that there are few threats to their employment security and tremendous benefits from successfully risky investments, CEOs who have more power over boards are strongly motivated to invest in risky strategies. Therefore, I hypothesize the following:

H1: The greater a CEO's power over the board, the riskier are the firm's strategies.

Nontransient Investor Ownership

In addition to boards, shareholders represent another force that affects CEO employment security and risk taking but through a different mechanism. Boards are

endowed with the decision-making power to hire and fire CEOs. Shareholders could threaten CEO employment security through selling their portfolio firm shares and making these firms and CEOs become attractive targets with tumbling share prices in takeover markets (Billett and Xue, 2007). Studies have found that takeovers generally result in the turnover of acquired firms' CEOs (Hartzell, Ofek, and Yermack, 2004; Jensen, 1988).

I argue that, compared with transient investors, nontransient investors - an important group of shareholders - often will not sell their shares in portfolio firms that are experiencing failures of risky strategies. Therefore, share prices of these firms remain stable, which distances these firms and CEOs from being takeover markets and grants CEOs higher levels of employment security.

As discussed earlier, compared to transient investors, nontransient investors often spend a great amount of resources on acquiring deeper understanding of their portfolio firms' strategies, operations, and real values, as well as constantly monitoring and regulating these firms' strategies and behaviors with the ultimate purpose of gaining greater value from these firms in the long term. To create greater value in the long term, these patient investors know deeply that it is imperative for firms to adopt strategies that are often associated with risk. They are thus more likely to tolerate failures of risky strategies as long as these strategies are consistent with firms' long-term value prospects (Koh, 2007). Further, compared to transient investors, these nontransient investors have better access to private firm information and thus will be able to make buy/sell decisions by taking into account other important nonfinancial factors as well, such as long-term strategies and the real value of firms (Schnatterly et al., 2008). As Bushee (2004) points

out, nontransient investors will sell their shares of portfolio firms only when the firms experience dramatic, value-destroying changes.

Moreover, it is very difficult for these investors to sell their large volume of shares quickly without incurring high costs because there is not a sufficient number of buyers with strong purchasing power (Bushee, 1998; Connelly et al., 2010). Even if they may intend to sell a lot of firm shares, they cannot do so in practice (Bushee, 1998; Connelly et al., 2010). As a result, the share prices of firms experiencing failures of risky strategies and controlled by nontransient investors tend to be more stable, which makes the CEOs of these firms feel to be more secure.

Additionally, as a result of their diligence work in regulating and interacting with the CEOs of their portfolio firms, compared to transient investors, nontransient investors are more likely to vote down incapable CEOs and vote strong confidence in the remaining CEOs of their portfolio firms. Compared to transient investors, these nontransient investors are less likely to rate the CEOs they vote for as unqualified and/or incapable based only on short-term firm financial performance and failures of risky strategies. In contrast, they appreciate that these CEOs are willing to take risky strategies that may fail but will add great value to firms in the long term. Compared to the transient investors, these nontransient investors are likely to attribute failures of risky strategies to other factors instead of a lack of capabilities of the CEOs who initiate the risky strategies. Accordingly, nontransient investors could also help the CEOs to reduce their employment risk through convincing the boards that they are capable and that failures are attributable to other factors uncontrollable by the CEOs. Scholars have long recognized that, compared to the transient investors, these nontransient investors have close interactions

with boards in and outside of boardrooms (Bushee, 2004). As a result, these CEOs' reputation and status as capable executives are sustained, which is embodied in their continued compensation packages. Therefore, despite the failures of risky strategies, the CEOs of firms controlled by nontransient investors often have entrenched positions in their firms and sustained wealth and status in business circles; therefore, they will not hesitate to adopt risky strategies.

These powerful, nontransient investors who control firms and monitor CEOs and top executives typically count on capable CEOs to create great value for firms in the long term. Thus, the nontransient investors often greatly appreciate the CEOs' initiatives of risky strategies and attribute the successes of risky strategies to the capabilities of these CEOs. Accordingly, the CEOs of the firms controlled by nontransient investors often receive greater benefits from the successes of their risky strategies than do the CEOs of the firms controlled by transient investors. Nontransient investors are more likely to approve their updated compensation packages to motivate them to create more value, to sustain their positions in shareholder meetings and to appreciate their bold investments and successes officially and socially. Therefore, the CEOs of the firms controlled by powerful nontransient investors are motivated more to take higher risks than are the CEOs of the firms controlled by transient investors. Therefore, I hypothesize the following:

H2: The higher the level of nontransient investor ownership, the riskier the firm's strategies.

One key mechanism that I develop earlier is the role of CEO power in performance attributions and employment security that in turn affect the risk taking of the

CEO. Specifically, CEO power over board and nontransient investor ownership affect whether boards and investors attribute failures of risky strategies to other factors uncontrolled by the CEO instead of to the CEO and attribute the successes of risky strategies to the CEO's capabilities. Subsequently, when a CEO with high levels of control of employment risk can ensure that the failures of risky strategies are attributed to other factors, the CEO becomes less hesitant to take higher risks; when the CEO is considered the key to the successes of risky strategies, the CEO will be further strongly motivated to take higher risks.

Moreover, I propose that there are theoretical boundaries for these baseline hypotheses. On the one hand, I suggest that a set of moderators including industry complexity and industry dynamism could moderate the relationship between CEO power and nontransient investor ownership and risk taking through their effects on performance attributions to CEOs. For example, industry complexity may make it easier for a powerful CEO to attribute good performance to his/her strategy while attributing poor performance to other factors. On the other hand, I posit that another set of moderators including industry munificence, firm slack and the ratio of CEO equity-based pay could moderate the baseline hypotheses through their effects on managerial discretion. Prior research on managerial discretion has long suggested that CEOs do not always have complete "latitude of action" (Lieberson and O'Connor, 1972; Hannan and Freeman, 1977). Hambrick and Finkelstein (1987) further suggest that the preferences of top executives become less important and environmental and organizational factors could be more significant in influencing firms' strategies (Shen and Cho, 2005). For example, low discretion caused by low munificence or lack of slack resources may weaken the positive

effect of CEO power on risk taking because they provide CEOs fewer strategic options to choose from. Overall, I propose four moderators that will strengthen or weaken the relationship between CEO power and nontransient investor ownership and risk taking through their influence on performance attributions to CEOs or managerial discretion. These four moderators include industry complexity, industry dynamism, industry munificence and firm slack.

Moderator – Industry Complexity

Industry complexity refers to the heterogeneity and range of the activities in an industry (Dess and Beard, 1984). Industry complexity suggests that a great number of factors that are interweaved with each other sophisticatedly affect firms in such an industry (Aldrich, 1979; Dess and Beard, 1984; Keats and Hitt, 1988). Industry complexity increases when industry concentration decreases (Keats and Hitt, 1988) and more competitors are involved (Palmer and Wiseman, 1999). When the number of competitors increases, the potential interconnectedness among competitors could increase and become sophisticated (Chen, 1996; Grimm, Lee, and Smith, 2006).

I argue earlier that CEOs' power over their boards increases CEOs' risk-taking tendency by reducing the CEOs' employment risk when risky strategies fail and increasing the CEOs' benefits when risky strategies succeed. I further suggest that while CEOs' power over their boards increases CEOs' risk-taking tendency by reducing the CEOs' employment risk and increasing the benefits that the CEOs could acquire, such effects are stronger when an industry is high in complexity.

In complex industries, there are a great number of competitors, competitive activities, and other elements that are interconnected with each other, and the cause-effect

relationship is ambiguous (Milliken, 1987). In complex industries, competitive rules and norms have not been institutionalized (Hambrick and Finkelstein, 1987). Therefore, it is much more difficult for boards to evaluate whether failures are caused by CEOs' lack of capabilities. Therefore, CEOs with more power over boards could better use their power to attribute failures to the complex competitive landscape in those industries where failures are not unusual (Bettman and Weitz, 1983; Boeker, 1992; Salancik and Meindl, 1984; Shen, 2003; Gangloff, Connelly, and Shook, 2014). The boards in these industries have also developed understanding of the competitive landscape, having empathy with the CEOs regarding the complex factors affecting competitive activities with failures and successes.

Moreover, in complex industries, boards will count more on powerful CEOs with prestige and expertise to turn around the firms after failures. These powerful CEOs, who often have been serving for a long period in these industries, have accumulated valuable intangible experience, expertise and social capital with respect to how to succeed in such complex industries. It is not easy for boards to hire others to replace these powerful CEOs. The effects of CEO power are clearly stronger in these complex industries.

In contrast, in industries with low complexity, CEOs are less able to use their power to attribute their failures to other factors because means-ends relationships of strategies are more evident in these industries (Dess and Beard, 1984; Keats and Hitt, 1988), of which the boards are knowledgeable. Therefore, the effect of CEO power over boards on their ability to attribute failures to others and reduce his/her own dismissal hazards is likely to be weaker when industries are low in complexity.

In a similar logic, CEOs in complex industries where competitive activities are continuous and means-ends relationships of strategies are ambiguous (Hambrick and Finkelstein, 1987; Tang and Li, 2010) can better use their power to attribute successes to themselves and thus be more able to take credit for the successes of risky strategies (Bettman and Weitz, 1983; Boeker, 1992; Salancik and Meindl, 1984; Shen, 2003; Gangloff, Connelly, and Shook, 2014). However, in industries with low complexity, where means-ends relationships of strategies are evident, CEOs are less able to utilize their power to attribute successes to themselves and less able to take extra credit for the successes. Therefore, I argue that the relationship between CEO power over boards and CEO risk taking is stronger in complex industries.

H3a: The higher an industry's complexity, the stronger is the positive effect of the CEO's power over the board on the firm's level of strategic risk.

I argue earlier that when there is a high level of nontransient investor ownership, the CEO is more likely to take risks. The primary mechanism is that nontransient investors controlling a large number of shares often do not sell these firm shares in cases of failures of risky strategies, which stabilizes share price and protects firms and CEOs from that takeover markets that target firms with tumbling share prices.

I further argue that while nontransient investor ownership enhances CEOs' risk-taking tendency by increasing the CEOs' employment security, such an effect is weaker in industries high in complexity.

The ownership of nontransient investors becomes less likely to secure CEOs' employment positions in a complex industry, where these nontransient investors become more likely to sell firm shares after failed risky strategies. Because industry complexity

implies that the means-ends relationships of firm strategies are not evident (Hambrick and Finkelstein, 1987; Li and Tang, 2010), nontransient investors become less able to evaluate whether CEOs are capable of adopting risky strategies to increase firms' long-term benefits in such a complex environment. In such circumstances, failures of strategies will serve a signal to nontransient investors that the CEO may be incapable. As a result, nontransient investors with less confidence in the CEO are more likely to attribute the failures of risky strategies to the CEO's lack of capabilities and sell firm shares to escape from such a firm with an incapable CEO. Furthermore, industry complexity indicates that there are a tremendous number of firms operating in the same industry (Hambrick and Finkelstein, 1987). Firms in the same industry often share industrial similarities and appeals to investors. Therefore, nontransient investors in this industry could quickly sell their firm shares at low cost in this industry with a sufficient number of buyers.

In contrast, in an industry with less complexity, it is much easier for nontransient investors to evaluate whether CEOs are capable of adopting risky strategies to benefit firms in the long term (Hambrick and Finkelstein, 1987; Li and Tang, 2010). In fact, their long-term investments in firms have already voted for the CEOs of the firms. Nontransient investors become less likely to attribute failures of risky strategies to CEOs and to sell firm shares, because they are confident in and rely on these CEOs' capabilities to turn around firms (Connelly et al., 2016). Further, the number of potential buyers in this industry is very limited. It is much more difficult for the nontransient investors to sell their shares quickly and with less cost. As a result, nontransient investor ownership could better secure these CEOs' positions by not selling firm shares in cases of failures of risky strategies in the industry lower in complexity. Therefore, I hypothesize the following:

H3b: The higher an industry's complexity, the weaker is the positive effect of the nontransient investor ownership on the firm's level of strategic risk.

Moderator – Industry Dynamism

Industry dynamism defines the extent to which the industry is unpredictable and unstable (Finkelstein and Boyd, 1998; Hambrick and Abrahamson, 1995). An industry with a high level of dynamism means that either this industry is competitively unstable (Grimm et al., 2006) or the constituents that affect firms operating in this industry are unpredictable (Ferrier, 2001). While industry complexity captures existing complex and ambiguous industry environments, industry dynamism focuses on the unpredictability of the probability and nature of the changes of competitive activities, regulations and other components in an industry (Milliken, 1987; George 2005).

I argue earlier that CEOs' power over their boards increases CEOs' risk-taking tendency by reducing the CEOs' employment risk when risky strategies fail and increasing the CEOs' benefits when risky strategies succeed. I further suggest that such effects are stronger when an industry is more dynamic.

When an industry is more dynamic, noncontrollable factors or luck may explain more about failures and successes, particularly for risky strategies. In such dynamic industries, it becomes more important for CEOs to gain power over boards. Thus, these CEOs, such as CEOs chairing board meetings, could use their power to provide rich information and evidence to attribute failures to noncontrollable unforeseeable factors that exert stronger influences than they themselves do (Bettman and Weitz, 1983; Boeker, 1992; Salancik and Meindl, 1984; Shen, 2003; Gangloff, Connelly, and Shook, 2014). In such dynamic industries, it is indeed very difficult for CEOs to formulate strategies in

advance. Even when CEOs have formulated strategies, the implementation is very challenging due to unpredictable factors that could hamper the implementation of the strategies in such dynamic industries. The explanations of the CEO will be accepted by a weak board not willing or able to challenge the CEO and who will be persuaded by the analyses of a powerful CEO with knowledge of this industry's characteristics. In contrast, when an industry is low in dynamism, competitors' behaviors are more predictable; boards can better evaluate CEO performance. It is very difficult for a powerful CEO to identify other factors to which their failures can be attributed. The blame by the CEO on other factors is less acceptable to the board. Therefore, the effect of a CEO with power over boards to attribute failures to others and to reduce his/her own dismissal hazards could be stronger when an industry is high in dynamism than when an industry is low in dynamism.

In a similar logic, CEOs in a dynamic industry where the probability and nature of changes are less predictable could better use their power to attribute successes to themselves and thus be more able to take credit for the successes of risky strategies. CEOs in these dynamic industries often need to react to unpredicted competitive actions and make constant efforts to adapt to on-going changes (Ferrier, 2001). However, given limited time invested in firms, boards in these industries are often not fully aware of the efforts and contributions of CEOs (Finkelstein et al., 2009; Mace, 1971). Hence, it is more critical for CEOs to gain power over board to fully demonstrate their credit in successful risky strategies. However, in an industry with low dynamism where the nature and timing of changes and the nature and severity of the impact of changes are predictable (Filliken, 1987), CEO are less able to utilize their power to attribute successes

to themselves and less able to take extra credit for successes. Therefore, I argue that the relationship between CEO power over boards and CEO risk taking is stronger in an industry with high dynamism.

H4a: The higher an industry's dynamism, the stronger is the positive effect of the CEO's power over the board on the firm's level of strategic risk.

I argue earlier that when firms are largely owned by nontransient investors who are less likely to sell firm shares and offer CEOs employment security, these CEOs are more likely to take risks. I further suggest that such effects are weaker in an industry high in dynamism.

Nontransient investor ownership becomes less able to secure CEOs' employment positions in a dynamic industry where these nontransient investors become more likely to sell firm shares after failed risky strategies. To survive and sustain a competitive advantage in a dynamic industry, nontransient investors often expect that firms need to have dynamic capabilities to continuously surf and succeed in industry dynamism in the long term. Hence, once firms fail in risky strategies, long-term oriented nontransient investors will start to have doubts in these firms' dynamic capabilities to survive and gain profits in this industry. Firms' sustained competitive advantage in this industry heavily depends on firms' series of temporary competitive advantages resulted from a variety of continuously successful risky strategies (Hambrick and Finkelstein, 1987; Li and Tang, 2010). With shaken confidence in these firms and their CEOs, nontransient investors are more likely to attribute failures of strategies to CEOs and sell firm shares after failed strategies. Furthermore, industry dynamism suggests that there are many competitors in

the industry (Hoskisson et al., 2017). Therefore, nontransient investors in this industry with several potential buyers could quickly sell their firm shares at low cost.

In contrast, in an industry with less dynamism, it is much easier for nontransient investors to evaluate whether CEOs are capable of succeeding in risky strategies that will benefit firms in the long term. Nontransient investors' investments in firms have already voted for the CEOs of these firms (Bushee, 1998; Connelly et al., 2010). Therefore, with strong confidence in these CEOs, nontransient investors become less likely to attribute failures of risky strategies to CEOs and to sell firm shares after these CEOs' failures in risky strategies. Further, the number of potential buyers in this industry is stabilized and very limited. It is much more difficult for the nontransient investors to sell their shares quickly and at less cost (Bushee, 1998; Connelly et al., 2010). As a result, nontransient investor ownership could better secure these CEOs' positions by not selling firm shares in cases of failures of risky strategies. Therefore, I hypothesize the following:

H4b: The higher an industry's dynamism, the weaker is the positive effect of nontransient investor ownership on the firm's level of strategic risk.

Moderator - Industry Munificence

Industry munificence captures an industry's ability to support sustained growth (Dess and Beard, 1984; Keats and Hitt, 1988). Firms in a munificent industry could access more opportunities and resources (Hambrick and Finkelstein, 1987).

I argue earlier that CEOs' power over their boards increases CEOs' risk-taking tendency by reducing the CEOs' employment risk when risky strategies fail and increasing the CEOs' benefits when risky strategies succeed. Here, I argue that this relationship can be strengthened when firms operate in a munificent industry. CEOs in an

industry high in munificence have a greater number of opportunities to explore in the market (Hambrick and Finkelstein, 1987; Finkelstein and Hambrick, 1990). Thus, powerful CEOs have more discretion to explore risky strategies.

Further, given the number of investment opportunities and discretion, failures of investments in munificent industries are less consequential to CEOs. CEOs in less munificent industries with limited investment opportunities and discretion often have fewer chances to turn around from failures. Thus, these CEOs are likely to encounter threats of being taken over, though the CEOs gaining power over board will not be laid off by their boards after failures. Comparatively, CEOs in munificent industries could continue exploring other rich investments to enhance firm investment returns. Therefore, compared to CEOs operating in less munificent industries, powerful CEOs operating in munificent industries are likely to utilize their power to take more risks.

Moreover, powerful CEOs with the incentives of greater benefits from successful risky strategies are motivated to utilize their expanded discretion to take risks and explore richer opportunities in such a munificent environment. However, CEOs operating in a less munificent industry with very limited opportunities tend to have less discretion and thus are likely to adopt fewer risky strategies. Therefore, I hypothesize the following:

H5a: The higher an industry's munificence, the stronger is the positive effect of the CEO's power over the board on the firm's level of strategic risk.

As I argue earlier, when there is a high level of nontransient investor ownership, the CEO is more likely to take risks. The key mechanism is that powerful nontransient investors often do not sell their large number of firm shares in cases of failures of risky

strategies, which stabilizes firm share price and protects firms and CEOs from being targets in takeover markets.

I further argue that nontransient ownership enhances CEOs' risk-taking tendency by increasing the CEOs' employment risk, and such effects are stronger in a munificent industry.

As argued earlier, CEOs with the employment security granted by nontransient investors are motivated to take risks. As munificent industries offer CEOs richer opportunities and broader discretion to explore, the CEOs are likely to adopt more-risky strategies in these industries (Finkelstein and Hambrick, 1990; George, 2005; Nohria and Gulati, 1996). The CEOs do not worry about the failure of risky strategies because nontransient investors often will be less likely to sell their shares after failures, given the richer opportunities provided by munificent industries. However, the CEOs have greater chances of success in munificent industries that offer tremendous opportunities, and they could benefit greatly from successful risky strategies, as nontransient investors who rely on them for better performance tend to reward their good performance. However, while CEOs with firms owned by nontransient investors are motivated to take risks as I argue earlier, these CEOs may however have less discretion in a low-munificence industry that offers fewer opportunities and thus are likely to adopt fewer risky strategies. Therefore, I hypothesize the following:

H5b: The higher an industry's munificence, the stronger is the positive effect of nontransient investor ownership on the firm's level of strategic risk.

Moderator - Firm Slack

Firm slack refers to extra resources that firms are not utilizing and could access. Prior research suggests there are three key slacks: available slack, recoverable slack, and potential slack (Chen, 2007; 2008). Available slack consists of resources that are not yet assimilated into the technical design of the organization. Recoverable slack consists of resources that have already been absorbed into the system design but may be recovered in adverse times. Potential slack consists of the capacity of the organization to generate extra resources from the environment, as by raising additional debt or equity capital.

I argue earlier that CEOs' power over their boards increases CEOs' risk-taking tendency by reducing the CEOs' employment risk when risky strategies fail and increasing the CEOs' benefits when risky strategies succeed. I further suggest that such effects are stronger when a firm has more slack resources.

Compared with CEOs constrained by firm resources, slack resources give powerful CEOs more discretion to invest in risky strategies (Shen and Cho, 2005). Further, on the one hand, powerful CEOs could still hold their positions after failures of risky strategies. On the other hand, powerful CEOs have more chances to succeed given the expanded discretion and richer investment opportunities provided by slack resources and thus could gain greatly from these successes (Finkelstein and Hambrick, 1990; George, 2005; Nohria and Gulati, 1996). Thus, compared with CEOs constrained by resources, powerful CEOs with slack resources are motivated to utilize such slack resources and have the discretion to invest in more-risky strategies. The effects of CEO power on risk taking are strengthened in firms with richer slack resources. However, while powerful CEOs are motivated to take risks as I argue earlier, constrained resources limit CEOs' discretion in exploring risky strategies. The effects of CEO power on risk

taking are weakened in firms with fewer slack resources. Therefore, I hypothesize the following:

H6a: The richer a firm's slack resources, the stronger is the positive effect of the CEO's power over the board on the firm's level of strategic risk.

As I argue earlier, nontransient investors often do not sell their large number of firm shares in cases of failures of risky strategies, which stabilizes firm share price and protects firms and CEOs from being targets in takeover markets. Thus, when the level of nontransient investor ownership is higher, the CEO is more likely to take risks.

I further argue that while nontransient investor ownership enhances CEOs' risk-taking tendency by increasing the CEOs' employment risk, such effects are stronger in a firm with more slack resources. In firms with rich slack resources and nontransient investors, less powerful CEOs not only have more discretion to take risky strategies but also have stronger motivations to do so. Exploiting their expanded discretion through more-risky investments, these CEOs could still hold their positions despite the failures of risky strategies, as nontransient investors often do not sell shares after failures but count on them to effectively utilize slack resources and discretion to enhance firm performance. Given the expanded discretion and a greater number of investment opportunities offered due to slack, the CEOs will have more chances to succeed and enjoy greatly the successes that will be rewarded by the nontransient investors. However, while CEOs affiliated with firms owned by nontransient investors are motivated to take risks as I argue earlier, these CEOs have less discretion in firms with limited slack resources and thus are likely to adopt fewer risky strategies. Therefore, I hypothesize the following:

H6b: The richer a firm's slack resources, the stronger is the positive effect of nontransient investor ownership on the firm's level of strategic risk.

CHAPTER 4

METHODS

Sampling

My initial sample includes all the CEOs of S&P1500 firms. The S&P1500 Index includes the Large-Cap 500 Index (covering firms with a market capitalization of at least $4 billion), the Mid-Cap 400 Index (covering firms with a market capitalization between $1 billion and $4 billion), and the Small-Cap 600 Index (covering firms with a market capitalization between $300 million and $1 billion). Thus, the S&P 1500 Index covers approximately 85% to 90% of the U.S. equity market capitalization, being a broad market portfolio (Standard and Poor's, 2010). The sample starts from the year 2001, when the BoardEx Database began to provide the information on the top management teams of S&P1500 firms, and ends in the year 2017 (inclusive). Compared with prior research related to CEO power that focused primarily on large firms (e.g., Haynes and Hillman, 2010), my study has a more representative sample of U.S. firms by including firms with medium and small market capitalizations.

I gathered my data from multiple sources. The primary source for CEO and director data is the BoardEx Database. BoardEx provides key information about CEOs, directors, and other top managers, such as their compensation and employment records, etc. I further summarized directors' information into the board level and developed my measurements about boards. Further, I collected the information about firms' institutional investors from the Thomason-Reuters database. I retrieved firm and industry financial information from the COMPUSTAT North America Dataset and COMPUSTAT Historical Segments Dataset. I collected firms' merger and acquisition information from

SDC platinum. Finally, I obtained patent information from USPTO and combined patent information with other databases using the matching table provided by Kogan et al. (2016).

Dependent Variable

Consistent with prior research, I captured *CEO risk taking* by aggregating four major measurements which were typically associated with uncertain returns: capital expenditure, R&D spending, long-term debt, and acquisition expenditure of firms (Campbell et al., 2019; Chatterjee and Hambrick, 2011; Devers, McMara, Wiseman, and Arrfelt, 2008; Martin, Gomz-Mejia, and Wiseman, 2013; Sanders and Hambrick, 2007). I collected capital expenditures, R&D spending, and long-term debt from the Compustat database. I further captured acquisitions as the total transaction value of all acquisitions completed by a firm and reported in SDC platinum. I aggregated these risk-taking indicators rather than treating them as separate dependent variables because these spending categories often substitute for each other. For example, a firm may expand its product portfolio through an acquisition instead of through R&D investments (Campbell et al., 2019). I formed a risk-taking index by logging the sum of the four different types of risky spending to create an aggregate indicator (Campbell et al., 2019; Chatterjee and Hambrick, 2011).

Independent Variables

CEO power over board is measured as the sum of the standard score of the three dimensions of power: structural power, prestige power, and expert power (Finkelstein, 1992). First, following prior studies, I added the standard scores of the three indicators of CEO structural power into a single index of CEO *structural power* (e.g., Zhu and Chen,

2015). The three indicators include CEO duality, board size, and the ratio of directors appointed after CEO succession. I coded CEO duality as one when CEOs serve as board chairmen, otherwise zero. I measured board size as the number of directors on boards. The ratio of directors appointed after CEO succession refers to the percentage of outside directors appointed during the CEOs' tenure (e.g., Pollock, Fischer, and Wade, 2002).

Second, I standardized and added the three indicators of CEO prestige to measure CEOs' *prestige power*. These three indicators include a CEO's highest degree obtained, whether a CEO received education from an elite school, and CEOs' total number of directorships. I used a categorical variable to measure CEOs' education degree. I divided the education degree into four categories; less than a bachelor's degree, a bachelor's degree, a master's degree, and a doctoral degree (Westphal and Zajac, 1995). Education degree took the value of 0 for less than bachelor degree, 1 for bachelor degree, 2 for master's degree, etc. Next, I identified whether CEOs have attended the elite educational institutions listed by Finkelstein (1992). This variable was coded as 1 when CEOs are in the group, and 0 otherwise. I measured CEOs' total number of directorships as the number of directorships that CEOs hold at other S&P1500 firms.

Third, I capture CEOs' *expert power* by using the sum of the standard score of the three indicators including the number of functional areas CEOs served previously (Finkelstein, 1992), CEOs' industry tenure, and CEOs' focal firm tenure (Zhang and Rajagopalan, 2003). Following prior studies (e.g., Chaganti and Sambharya, 1987; Hambrick and Mason, 1984; Miles and Snow, 1978; Istphal and Zajac, 1995), I counted the number of functional areas that CEOs served previously. The three key areas include output functions (marketing and sales), throughput functions (operations, R&D, and

engineering) and peripheral functions (law, finance, and accounting). I measured CEOs' industry tenure as the number of years that the CEOs have served in the industries (Zhang and Rajagopalan, 2004). I captured CEOs' tenure at focal firms using the number of years that the CEOs have served at the focal firms.

Nontransient investor ownership is captured as the percentage of shares owned by nontransient institutional investors. I followed Bushee (1998; 2001) to identify dedicated institutional investors among all the institutional investors reported in Thomson Reuter Institutional Holdings (13F). This approach classifies institutional investors into different types based on three factors: portfolio turnover, momentum trading strategies, and portfolio diversification strategies (Bushee, 2001). Institutions are then classified into groups using k means cluster analysis on the basis of their factor scores (Bushee, 2001; Bushee and Noe, 2000). Nontransient investors are low on all three factors as a result of factor analysis. Once recognizing the nontransient investors in each sample firm, I further calculated the average of these nontransient investors' holdings across four quarters for each year.

Some studies measured CEO power by using CEO ownership (Haynes and Hillman, 2010). However, I argue that CEO ownership could simultaneously represent CEO power over board and nontransient investor ownership. Thus, I did not include CEO ownership into either the measure of CEO power over board or nontransient investor ownership. However, I included it as a control variable, as shown below.

Moderators

I included five variables as moderators: industry munificence, industry complexity, industry dynamism, firm slack, and CEO equity-based pay.

Following prior studies (Dess, Ireland, and Hitt, 1990; McNamara, Haleblian, Dykes, 2008; Sutcliffe, 1994), *industry munificence* is measured as the coefficient of regression of log-transformed industry sales on a categorical year variable using data over the prior five years. *Industry complexity* captures the sales concentration and was calculated using Herfindahl's index of homogeneity, measured as one minus the sum of the squared market shares of publicly traded firms in an industry (George, 2005). *Industry dynamism* is calculated as the standard deviation of sales growth at the industry level over the previous five years.

Following prior research (Bourgeois 1981; Bromiley 1991; Marino and Lange 1983; Palmer and Wiseman 1999; Singh 1986), I measured firm slack using accounting data. Firm slack is composed of three components: available slack, recoverable slack, and potential slack (Bourgeois and Sigh, 1983; Chen, 2008; Singh, 1983). To measure available slack, I divided current assets by current liabilities (Chen, 2008). The result is current ratio, which measures the liquid resources uncommitted to liabilities and represents available slack. Recovery slack is represented by working capital-to-sales ratio, which captures absorption of slack related to capital utilization (Chen, 2008). I further measured potential slack using equity-to-debt ratio, which reflects the ability to borrow further (Chen, 2008). I standardized these three measurements and summed them to obtain a general slack index to measure firm slack (Chen, 2008).

Control Variables

I included a set of variables in my models to control for industry-, firm-, board-, and CEO-level characteristics that could affect the extent to which a CEO adopts risky strategies.

(1) I added several firm-level controls in my empirical models. First, I included *firm size*, measured as the log-transformed number of employees (Campbell et al., 2019) and *diversification*, measured as the entropy index (Hoskisson, Hitt, Johnson, and Moesel, 1993). Prior research (Eisenmann, 2002; Li and Tang, 2010; Kang, Kang, Kim, 2017) found that large, old, and/or highly diversified firms have strong inertia, which reduces managerial discretion and prevent CEOs from adopting risky strategies. Second, I controlled for two different forms of firm performance: *return on assets* (net income over total assets) and *Tobin's Q* (the ratio of market to book value) because prior performance may influence a CEO's perception of the gain/loss situation, which in turn will influence CEOs' risk taking (Kahneman and Tversky, 1979; Wiseman and Gomez-Mejia, 1998).

Third, I included *financial leverage* (measured as a ratio of total liabilities to total sales) since a higher level of debt lowers a firm's borrowing capacity to take risks (Bourgeois, 1981; Singh, 1986). Fourth, I included *stock market beta* (e.g., Bromiley, Rau, and Zhang, 2017), which captured the turbulence of a firm's share price related to the whole stock market (Compbell et al., 2019). CEOs tend to adopt less risky strategies when their firms' share price experiences huge turbulence, reducing the possibility of being acquired. Fifth, I included a lagged value of the dependent variable (*CEO risk taking*$_t$), as firms' strategies could be influenced by the previous year's strategies (Campbell et al., 2019; Kish-Gephard and Campbell, 2015).

Sixth, I included *transient owners*, which captured the percentage of shares owned by transient owners over total shares outstanding (Shi et al., 2017). Prior research suggested that transient owners are more likely to sell off firm shares when firms experience poor performance (Bushee, 1998; 2001). Thus, CEOs are less likely to adopt

risky strategies when more shares are owned by transient owners. Similar to the processes of identifying dedicated institutional investors, the transient owners are the investors that are high on portfolio turnover, momentum trading strategies, and portfolio diversification strategies (Bushee, 2001). I do not control for non-institutional investors because this value is highly correlated with the independent variable CEO power over nontransient institutional investors.

(2) My empirical models also included a few board- and CEO-level variables. First, I controlled for *presence of female director* (binary indicator that takes the value of 1 if at least one woman sits on the board) because firms with female directors are likely to take more-risky strategies (e.g., Campbell et al., 2019; Post and Byron, 2015).

Second, studies found that young CEOs (Devers et al., 2008; Hambrick and Mason, 1984; Serfling, 2014) and founder CEOs (Begley, 1995) are associated with more-risky strategies. I thus included the variables including CEO age and founder CEO. Third, *CEO age* was measured as subtracting from the current year the CEOs' birth year. Fourth, *founder CEOs* were labeled as 1 if CEOs are the founder CEOs, and 0 otherwise.

Fifth, I controlled for CEO ownership. I capture this construct using the ratio of shares owned by CEOs over net number of firms' total shares (Finkelstein, 1992).

Sixth, I controlled for CEO *equity-based pay.* I calculated CEOs' total compensation as the sum of salary, bonuses, (the Black-Scholes value of) stock option award compensation, and the value of focal firms' shares owned by CEOs (CEO ownership) (Kish-Gephard and Campbell, 2015). Next, I calculated CEOs' *equity-based pay* by dividing (the Black-Scholes value of) stock options and the value of focal firms' shares owned by CEOs (CEO ownership) by CEOs' total compensation.

(4) Finally, I included year dummy and industry dummy variables to remove the issue of contemporaneous correlation in panel data (Certo and Semadeni, 2006) and to control for general macroeconomic fluctuations. These two sets of dummy variables (the firm's industry and year) are included in all models but are not reported due to space constraints.

Robustness Checks

First, as many studies captured spending by using the ratio of total revenue (e.g., Bromiley et al., 2017), I developed an alternative measurement of CEO risk taking. After I collected capital expenditures, RandD spending, and long-term debt from the Compustat database and acquisition expenditure from SDC, I divided them by firms' total revenue. I further standardized the four ratios across the whole sample to make the four measurements comparable with each other. Finally, I formed a risk-taking index by adding the four standardized values together.

Second, I used another alternative measurement, the extent to which a firm *focuses on exploration over exploitation*, to capture CEO risk taking as a robustness check. Prior research has found that risk-averse decision makers prefer exploitation because the benefits from exploitation are more proximate, certain, and immediate (Lavie, Stettner, and Tushman, 2010; Lewin, Long, and Carroll, 1999; March, 1991). Therefore, CEOs who tend to take higher risks tend to drive firms to focus more on exploration rather than on exploitation. Drawing upon prior research (Kang et al., 2017; Ahuja and Lampert, 2001; Rosenkopf and Nerkar, 2001), I first identified whether a firm's patent is explorative or exploitive. A patent is an explorative patent when it was applied in classes for which focal firms have not historically explored (Ahuja and

Lampert, 2001; Rosenkopf and Nerkar, 2001); however, it is an exploitive one when applied in existing classes. When a firm filed more explorative patents than exploitative patents at year t, I indicated that the firm has a focus on exploration over exploitation at that year (Kang et al., 2017; Mudambi and Swift, 2014; Swift, 2016). Following prior studies (Kang, 2017; Mudambi and Swift, 2014; Swift, 2016), to calculate a firm's focus, I first subtracted the number of applied exploration patents from the number of applied exploitation patents. I then divided the results by firms' total applied patents at that year, consistent with Kang (2017).

Third, prior studies on the focus of exploration and exploitation vary in the time windows when they calculated the exploration/exploitation variables. For instance, Kang (2017) identified a patent as explorative if it was not in the classes that firms' patents belonged to in the last year. Swift (2016) identified a patent as explorative if it was not in the classes that firms' patents belonged to in the last three years. In my study, I not only followed Kang (2017) by using a 1-year time window but also created a measurement using 3-year time windows.

Fourth, in the robustness checks of CEO risk taking measured by the extent to which a CEO focuses on exploration over exploitation, I included two more control variables. One is *knowledge pool*. Knowledge pool captures how many patents a firm applied for in a given year (Kang et al., 2017). I controlled for firms' knowledge pool because firms with a small knowledge pool could experience huge turbulence regarding their focus on exploration over exploitation. The other control variable is *patent-based diversification*, measured as the entropy score based on each firm's patent class. Highly

diversified firms have strong inertia (Eisenmann, 2002), which prevents inventors from exploring technologies in new classes.

Fifth, following prior studies (Hagedoorn and Duysters, 2002; Zaheer, Hernandez, and Banerjee, 2010), I included high-tech firms in examining the role of CEO power in firms' focus on exploration vs. exploitation. These high-tech firms are primarily affiliated with the following SIC codes: (i) in the manufacturing sector: drugs and medicines (SIC 2833–2836), computers and office equipment (3571–3579), electrical equipment (3612–3652), communications equipment (3661–3699), aerospace and aircraft (3721, 3724, 3728, 3761, 3764, 3769), and measuring, photo equipment, and clocks (3821–3899); and (ii) in the services sector: computer programming, data processing, etc. (737X), engineering services (8711), and RandD and testing services (873X).

Sixth, in the robustness checks, in which I examined the influence of CEO power on firms' focus on exploration vs. exploitation, I restricted my sample to all S&P1500 firms that were granted patents between 2001 to 2016. I restricted my sample to S&P1500 firms because I cannot access the CEO and board information of non-S&P1500 firms. I limited my sample to firms with patent records because the focus on exploration vs. exploitation is measured using patent data. My sample ends in 2016 because the patent-firm information provided by Kogan et al. (2016) ends in 2016.

Seventh, I used an alternative measure of industry complexity to do the robustness checks. Keats and Hitt (1988) refer to industry complexity as an index of a trend toward dominance by large firms in an industry over the five-year period of interest. Therefore, industry complexity is measured as a regression of terminal-year market shares of all

firms in a given industry (Y_i's) upon their shares in the initial year (X_i' s). The resulting regression coefficient suggests increasing or decreasing monopoly power in the industry.

Analytical Methods

I examined the effect of CEO power on CEO risk taking using a multiyear panel data analysis. The use of panel data has important advantages, though it may be prone to potential problems that however could be solved, such as autocorrelation, heteroskedasticity, and contemporaneous correlation (Greene, 2003). Before I tested my theory, I used the Breusch-Pagan test and identified the heteroskedasticity issue in my panel data (p<0.001). To solve the issue, I used Huber/White correction to correct for the heteroskedasticity issue when testing the theory (Huber, 1967; White, 1980; 1982). Further, I checked whether there is an issue of first-order autocorrelation using the Woodridge test (Drucker, 2003; Wooldridge, 2002), and results show there is not such an issue. Analyses of variance inflation factors revealed that multicollinearity is not a problem for any models. The average of VIFs is smaller than 1.73 across models, which is below the typical threshold of 10 (Cohen, Cohen, West, and Aiken, 2013). The highest VIF is 4.06, which is also below the threshold of 10. So, there is no evidence of multicollinearity.

Further, fixed-effects models and random-effects models are the two sets of models frequently adopted for analyzing firm-year panel data. The advantage of a fixed-effects model over a random-effects model is that the former controls for all firm-level characteristics, measured or unmeasured, and segregates the estimated coefficients from contamination from all the between-firm effects of each variable (Allison 2009; Halaby 2004; Wooldridge 2010). However, a fixed-effects model is not able to estimate the

coefficients representing the between-firm effects of any variable. Further, while random-effects models take into account both within-firm and between-firm effects, the models do not differentiate their respective effects.

Compared with the fixed effects and random effects model, hybrid models have three major advantages (Allison, 2005; Certo et al., 2017; Schunck et al., 2013). First, the hybrid model tests within-firm and between-firm effects simultaneously. Second, the hybrid model differentiates each of the effects by displaying within-firm and between-firm effects respectively and simultaneously. Third, a hybrid model provides the test to compare the within-firm and between-firm effects.

Moreover, I theorize both the within-firm and between-firm effects of independent variables and moderators, and my data show that these variables have large portions of between-firm variances. Therefore, to correctly test my theory, it is necessary and important to adopt a methodology that could simultaneously test how the changes within firms (within-firm effects) and the changes across firms (between-firm effects) of independent variables and moderators influence CEO risk taking. Adopting the fixed-effect model will waste all of the between-firm variances, leading to results with less statistical power (Certo et al., 2017) and preventing me from investigating how the changes across firms influence CEO risk taking.

Therefore, to investigate the influence of the changes within the firms and the changes across the firms on CEO risk taking simultaneously, I used a hybrid model (Allison, 2005; Certo et al., 2017; Schunck et al., 2013). Specifically, the hybrid model approach first splits all variables into two parts: group-centered variables and variables representing group means. Next, this approach uses a random-effects model to estimate

coefficients that represent both the within- and between-firm effects of each variable (Certo et al., 2017). In this approach, the group-centered variables capture only within-group information; the group means of the variables incorporate the between-firm effects of the variables.

Accordingly, I separated my independent variables, moderators, and control variables into two parts: group means and group-centered variables. For the interaction terms composed of independent variables and moderators, I followed Schunck et al.'s (2013) guidance, first composing the interaction terms and then separating the interaction terms into group means and group-centered variables. I then used random-effects models and included all these means and group-centered variables into the models.

CHAPTER 5

RESULTS

The descriptive statistics and correlations of the key variables are reported in Appendix A. I further report the descriptive statistics and correlations of all group-centered variables and group means in Appendix B.

Appendix C reports the hybrid models that examine the impact of CEO power and nontransient investor ownership on CEO risk taking. Given approximately 70% percent of the variables of independent variables and moderators are from between-firm effects, I decide to take the most conservative approach and examine how the changes of CEO power and nontransient investor ownership within their firms (within-firm effects) influence CEO risk taking. I will compare my results derived from within-firm effects (the most conservative test) and between-firm effects in the discussion section. Here, I only report the results based on the within-firm effects, as shown in the first twenty rows of Table 2.

In Hypothesis 1, I predicted that CEO power over board positively affects risk taking. According to Model 2 of Appendix C, CEO power over board has a positive and statistically significant effect on strategic risk-taking ($b = .059$; $p < .05$); this effect also holds for Model 4, which does not includes the CEO power-related interaction terms but does include nontransient investor ownership-related interaction terms. Because my dependent variable (CEO risk taking) is log-transformed, the magnitude of effects can be better understood by exponentiating the regression coefficients to obtain values that can be used to infer a percentage change in the outcome. I calculated that as each standard

deviation increases in CEO power over board, expenses on risky strategies increase by 12.74%. Hypothesis 1 is thus supported.

Hypothesis 2 theorized that nontransient investor ownership positively affects CEO risk taking. According to Model 2 of Appendix C, nontransient investor ownership has a positive and statistically significant effect on strategic risk-taking (b = 1.763; p < .001), and this effect holds across Models 2-4, which include the interaction terms related to nontransient investor ownership, and Model 5, which includes all interaction terms.

Note that the dependent variable (CEO risk taking) is log-transformed; the magnitude of effects can best be understood by exponentiating the regression coefficients to obtain values that can be used to infer a percentage change in the outcome. I calculated that as each standard deviation increases in CEO power over nontransient investors, expenses on risky strategies increase by 30.61%. Hypothesis 2 is thus supported.

I predicted in Hypothesis 3a that the effects of CEO power over board on CEO risk-taking is positively moderated by industry complexity. Model 3 of Appendix C shows that industry complexity is not a statistically significant moderator (b = .323; p = .156), and this nonsignificance is shown in Model 5. Thus, the results do not support Hypothesis 3a.

Hypothesis 3b theorized that the effects of nontransient investor ownership on CEO risk-taking are positively moderated by industry complexity. The results are reported in Model 4 of Appendix C, which indicates that the moderating effects of

industry complexity are not statistically significant (b = -0.523; p = .447), and this nonsignificance is shown in Model 5. Thus, the results do not support Hypothesis 3b.

In Hypothesis 4a, I predicted that the effects of CEO power over board on CEO risk-taking are positively moderated by industry dynamism. To test that idea, I included the relevant interaction terms in Model 3 of Appendix C. The results of this model show that industry munificence is not a statistically significant moderator (b = -.314; p = .181), and this nonsignificance is shown in Model 5. Thus, the results do not support Hypothesis 4a.

Hypothesis 4b theorized that the effects of nontransient investor ownership are positively moderated by industry dynamism. To test this idea, I included the relevant interaction terms in Model 4 of Appendix C. The results of this model show that industry munificence is not a statistically significant moderator (b = -5.698; p = .125), and this nonsignificance is shown in Model 5. Thus, the results do not support Hypothesis 4b.

Hypothesis 5a theorized that the effects of CEO power over board on CEO risk-taking are positively moderated by industry munificence. The results of this test are reported in Model 3 of Appendix C, which indicates that the moderating effects of industry munificence are not statistically significant (b = .046; p = .384), and this nonsignificance is shown in Model 5. Thus, the results do not support Hypothesis 5a.

Hypothesis 5b theorized that the effects of nontransient investor ownership on CEO risk-taking are negatively moderated by industry munificence. The results of this test are reported in Model 4 of Appendix C, which indicates that the moderating effects

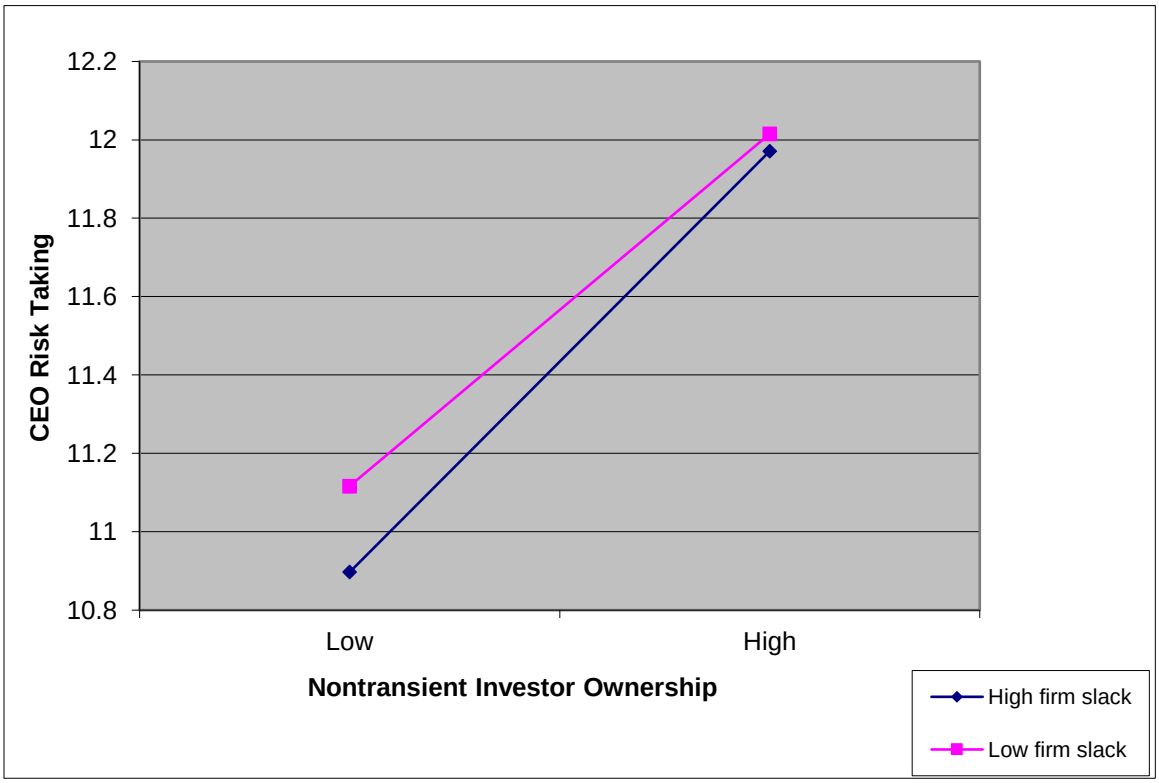
of industry munificence are not statistically significant (b = . 894; p = .321), and this nonsignificance is shown in Model 5. Thus, the results do not support Hypothesis 5b.

Hypothesis 6a theorized that the effects of CEO power over board on CEO risk-taking are positively moderated by firm slack. The results of this test are reported in Model 3 of Appendix C, which indicates that the moderating effects of firm slack are not significant (b = -.030; p =.489), and this nonsignificance is shown in Model 5. Thus, the results do not support Hypothesis 6a.

Hypothesis 6b theorized that the effects of nontransient investor ownership on CEO risk-taking are negatively moderated by firm slack. The results of this test are reported in Model 4 of Appendix C, which indicates that the moderating effects of firm slack are statistically significant (b = 19.845; p < .1), and this significance is repeated in Model 5.

A graph of this moderating effect is shown in Figure 2, allowing further investigation of this finding. Note that the Y-axis, CEO risk-taking, is depicted on a logarithmic scale and needs to be exponentiated for the proper inference of magnitude of effects. Specifically, one standard deviation increase in nontransient investor ownership is associated with a 27.33% increase in CEO risk-taking when firm slack is low (one standard deviation below the mean), whereas the increase is 112.01% when firm slack is high (one standard deviation above the mean). Hypothesis 6b is thus supported.

Figure 2: Moderation Effect of Firm Slack on the Relationship between Non-transient Investor Ownership and CEO Risk Taking



Furthermore, Appendix D provides the robustness checks based on the fixed effects model and Appendix E provides the results based on random-effects model. As seen in Appendix D and E, results are consistent with my main findings.

CHAPTER 6

DISCUSSION

I theorize that CEOs with more power over boards and with high levels of nontransient investor ownership tend to conduct more-risky strategies. I further suggest that there are several boundary conditions of these baseline models, including industry complexity, industry dynamism, industry munificence and firm slack. My empirical analyses provide strong support for my two main hypotheses regarding CEO power and nontransient investor ownership and for CEO risk taking and on one moderation effect. My theory and findings further imply that employment security, the key perspective of my study, is an important mechanism through which CEO power and nontransient investor ownership affect risk taking. Given different levels of CEO power over board and nontransient investor ownership, CEOs differ in their levels of control of employment risk and thus in their risk taking.

Theoretical Implications

Agency theory has long assumed that CEOs are risk averse and shareholders are risk neutral (Hoskisson et al., 2017). Adopting agency theory, corporate governance studies have further suggested that powerful CEOs tend to exert their preferences and adopt less risky strategies (Baysinger et al., 1991; Shi et al., 2017). However, empirical studies provide the opposite findings regarding the relationship between CEO power and CEO risk taking. The mixed findings challenge the validity of the theoretical mechanism underlying the relationship.

First, my theory and findings complement agency theory in explaining the effects of CEO power on risk taking. The agency theory logic only considers CEOs' limited ability to

diversify employment risk without considering their variant abilities to control their existing employment risk. While all CEOs face the same limitation in terms of diversifying employment risk, my study suggests that it is especially important to consider CEOs' different abilities to control the risk of their existing employment in understanding their different risk tendencies. Specifically, my theory explains why greater CEO power over the board grants the CEO greater control of existing employment and motivates the CEO to take greater risk.

Second, this study further advances agency theory by explaining that shareholders differ in their risk preferences and influences over CEO risk taking. Agency theory assumes that shareholders have homogeneous risk preferences and tend to be more risk-seeking than CEOs in general. However, research on shareholders shows that different types of shareholders tend to exhibit different risk preferences. My study theorizes how nontransient investor ownership may protect CEOs from the negative consequences of using risky strategies, increasing CEO risk taking. Specifically, with the employment security granted by nontransient investors, CEOs will take more-risky strategies.

Finally, using a hybrid model to test theory provides further theoretical implications of within-firm and between-firm effects (Certo et al., 2017). As mentioned in the beginning of the results section, I chose to report the most conservative results based only on within-firm effects. The hybrid model not only displays within-firm effects but also provides between-firm effects as shown between the twenty-first and fortieth row of Table 2. In addition, the hybrid model compares the effects of within-firm and between-firm effects. This powerful statistical tool allows providing a richer understanding of my theory as detailed below.

Regarding the effects of CEO power over board on CEO risk taking (H1), Model 2 of Table 2 shows that the coefficient based on between-firm effects is positive and statistically significant (b = .281; p < .001), and this effect holds for Model 2-5. In terms of the effects of nontransient investor ownership on CEO risk taking (H2), the coefficient is positive and statistically significant (b = 2.101; p < .001), and this significance holds for Model 2-5. These results provide strong empirical support for Hypotheses 1 and 2. These results further suggest that the effects of CEO power and nontransient investor ownership on CEO risk taking could explain not only within-firm changes but also between-firm differences.

In addition, I tested whether the within- and between-firm effects are significantly different from each other. One of the advantages of hybrid model is that it allows me to test the equivalence of within and between estimates (Schunck, 2013). This test is referred to as an augmented regression test (Jones et al. 2007, 217).The results show that the between-firm effects of CEO power over board are significantly stronger (p<.001) than are the within-firm effects, suggesting that hypothesis 1 could explain the between-firm differences better than could within-firm variances. However, there is no significant difference between the between- and within-firm effects of nontransient investor ownership on CEO risk taking.

Further, Hypothesis 4b theorized that the effects of nontransient investor ownership are positively moderated by industry dynamism. The coefficient representing the between-firm effects reported in Model 4 in Table 2 indicates that the moderating effects of industry dynamism are statistically significant (b = -24.390; p < .01), and this significance is repeated in Model 5. Overall, while Hypothesis 4b is not supported by the

results of the within-firm effects, it is supported by the results of the between-firm effects. In addition, the between- and the within-firm effects of many control variables are different from each other. For instance, the between-firm effects of return on revenue (p<.001), presence of female director (p<.05), CEO age (p<.1), CEO ownership (p<.001), firm size (p<.001) and firm diversity (p<.001) are all statistically significantly stronger than their within-firm effects. It is interesting to note that the within-firm effects of Tobin's q (p<.05) is significantly stronger than the between-firm effects.

Overall, all of these findings confirmed that we can hardly assume that within-firm effects could be certainly extended to between-firm effects. As Bliese (2000) and Certo et al. (2017) suggested, the differences between within-firm and between-firm effects indicate that "scholars cannot generalize an estimate of the within-firm effect to the between-firm effect and vice versa". It is worth theorizing in future research why between- and within-firm effects are different from one another. In summary, the hybrid model provides richer understanding and further implications of my theory.

Practical Implications

My study offers important implications for corporate governance practices in the business world. Many studies suggest that constraining CEO power could prevent CEOs from hurting shareholder benefits (Hoskisson et al., 2017). Consequently, CEO power in American corporations has been consistently reduced in recent decades (Mizruchi and Marshall, 2016). However, this study suggests that the reduction of one standard deviation of CEO power over board reduces investments into risky projects by 53.1% and that an increase of one standard deviation of nontransient investor ownership increases the CEO's investments in risky projects by 16.7%. Risky projects are one of the keys for

firms to gain long-term value. Therefore, this study calls for industry experts to take into account my findings when contemplating the level of power granted to CEOs and nontransient investor ownership to benefit firms in the long term.

Limitations and Future Studies

First, one limitation of this study is that some moderation effects do not receive support. I suggest that the positive effect of CEO power over board on risk taking could be stronger when firms are in industries with high complexity and dynamism because powerful CEOs could better attribute failures to other factors and take credit for successes. I explain that, given the challenges of running firms in these industries, powerful CEOs probably need more input from their boards, which often consist of experienced top executives. As boards are more involved in strategies in these industries, it may not be easier for powerful CEOs in these industries to attribute failures to other factors. The moderation effects of industry complexity and dynamism thus do not work. Further, the results do not support the moderation effects of industry munificence or firm slack on the positive effects of CEO power over board on CEO risk taking. I argue that industry munificence and firm slack offer more discretion to CEOs, who will utilize this discretion to take more risks. I explain that, given the greater discretion power CEOs possess, it will become more difficult for them to convince their boards that failures result from other factors out of their control.

Moreover, the results do not support the moderation effects of industry complexity and dynamism on the positive effects of nontransient investor ownership on CEO risk taking. It is very likely that nontransient investors need to rely on the CEOs to turn around the firms and thus will not sell firm shares, which may dampen the expected

moderation effect. The results do not support the moderation effects of industry munificence on the positive effects of nontransient investor ownership on CEO risk taking. I argue that industry munificence offers more discretion to CEOs, who will utilize such discretion to take more risks because of the assumption that nontransient investors will not sell firm shares after failures of risky strategies. I explain that nontransient investors may sell firm shares after CEOs fail in munificent industries because nontransient investors have many alternative investment opportunities. Thus, CEOs may not have more discretion in munificent industries to take more risks.

Second, CEO power research has been quiet for a long period. The few studies related to CEO power in recent years have followed the classic perspective of CEO power that powerful CEOs could exert their will over others (Haynes and Hillman, 2010; Zhu and Chen, 2015). This study adopts the perspective of employment security to advance our understanding of CEO power and its outcomes. I propose and found that the employment security is the key mechanism through which CEO power could affect CEO risk taking. Future research could adopt the employment security perspective to examine how CEO power affects firm strategies, particularly strategies associated with risks such as M&As, and exploration vs. exploitation, etc. My theory suggests that CEOs with employment security are more likely to adopt unrelated acquisitions that are often riskier than related ones. Unrelated acquisitions are often risker than related ones because acquirers that often lack the knowledge of unrelated industries are more likely to pay higher premiums and the integration with firms operating in unrelated industries is much more challenging (Klein, 2001; Rumelt, 1982). Hence, the employment security perspective can help to explain how CEOs make M&A decisions.

Third, relatedly, this study casts a new light on risk-taking research. I theorize that CEOs' concern about employment security and control of employment risk could affect their risk taking. Future research could explore the factors that influence CEO employment security. The factors could be the new antecedents of CEO risk taking. For example, a board that consists of a larger portion of directors with the experience of dismissing CEOs or reducing CEO compensation may make the CEO of the firm feel threatened with being dismissed or reduced wealth (Westphal and Zajac, 1997); thus, the CEO is less likely to take risks.

Conclusion

On the basis of agency theory, corporate governance research has long proposed to reduce CEO power to regulate CEOs in their adoption of risky strategies (Jensen and Meckling, 1976). However, the findings are mixed, which challenges the theory underlying the relationship. To move the theory forward, this study is built upon the refined key construct CEO power over board and nontransient investor ownership, and it takes an employment security perspective to thoroughly theorize the relationship between CEO power and nontransient investor ownership and CEO risk taking. In addition, this study provides a few theoretical boundaries of the baseline relationships between CEO power and nontransient investor ownership and risk taking. This research offers a solid theoretical foundation for future research on CEO power and nontransient investor ownership and CEO risk taking.

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APPENDIX A

VARIABLE MEANS, STANDARD DEVIATIONS, AND CORRELATIONS

Appendix A. Variable Means, Standard Deviations, and Correlations

	Variables	Mean	S.D.	1	2	3	4	5	6	7
1	CEO risk taking t+1	9.51	8.48							
2	CEO power over board	0.05	3.74	0.25						
3	Nontransient investor ownership	-0.50	0.28	0.09	0.02					
4	Industry complexity	0.06	0.08	0.01	0.02	0.00				
5	Industry dynamism	0.11	0.10	-0.01	0.04	-0.07	0.03			
6	Industry munificence	0.04	0.05	0.03	0.02	-0.06	-0.06	-0.05		
7	Firm slack	-0.06	0.03	-0.14	-0.11	0.04	0.10	0.01	-0.03	
8	Equity-based pay	0.69	0.33	0.11	0.10	0.15	0.04	-0.14	-0.04	-0.02
9	Firm size	2.32	1.28	0.35	0.30	0.01	0.12	-0.11	0.02	-0.33
10	Diversification	1.09	0.86	0.23	0.06	0.09	-0.28	-0.05	-0.05	-0.04
11	Return on assets	1.00	0.76	-0.18	-0.14	0.01	-0.06	-0.12	0.01	-0.23
12	Tobin's Q	3.97	92.09	0.00	0.00	-0.01	0.00	-0.01	0.00	-0.01
13	Financial leverage	0.99	31.39	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01
14	Stock market beta	1.07	0.58	-0.02	-0.08	0.02	-0.09	0.04	-0.01	0.11
15	Transient owners	0.16	0.09	-0.04	-0.10	0.02	-0.05	-0.07	0.00	0.01
16	Presence of female director	0.03	0.17	-0.03	0.00	-0.04	0.01	-0.06	-0.03	-0.01
17	CEO age	57.62	7.20	0.00	0.15	0.02	0.03	-0.02	-0.05	0.03
18	Founder CEO	0.01	0.12	-0.07	0.02	0.00	-0.02	-0.01	-0.01	0.09
19	CEO ownership	0.00	0.00	-0.03	0.02	-0.02	0.03	-0.03	0.01	0.00

	Variables	8	9	10	11	12	13	14
9	Firm size	0.12						
10	Diversification	0.06	0.13					
11	Return on assets	-0.07	-0.06	-0.08				
12	Tobin's Q	-0.01	0.00	0.00	-0.01			
13	Financial leverage	-0.01	0.00	0.02	0.00	0.71		
14	Stock market beta	0.02	-0.16	0.22	-0.04	0.00	0.01	
15	Transient owners	0.12	-0.17	0.00	0.09	-0.01	0.01	0.18
16	Presence of female director	0.02	0.06	-0.02	0.02	0.00	0.01	-0.03
17	CEO age	0.10	0.13	0.00	-0.05	-0.01	-0.01	-0.06
18	Founder CEO	-0.02	-0.10	-0.05	0.02	0.00	0.00	0.04
19	CEO ownership	0.08	0.00	0.01	0.00	0.00	0.00	-0.03

	Variables	15	16	17	18
16	Presence of female director	-0.04			
17	CEO age	-0.04	-0.04		
18	Founder CEO	0.01	-0.02	0.07	
19	CEO ownership	-0.02	-0.01	0.06	0.01

N=11945. Correlations are significant at $p<.05$ if greater than .02 or less than -.02.

APPENDIX B

MEANS, STANDARD DEVIATIONS, AND CORRELATIONS FOR WITHIN AND BETWEEN FIRM VARIABLES

Appendix B. Means, Standard Deviations, and Correlations for within- and between-Firm Variables

	Variables	Mean	S.D.	1	2	3	4	5	6
1	CEO risk taking t+1	9.51	8.48						
2	CEO power over boards (within)	0.00	2.04	0.02					
3	Nontransient investor ownership (within)	0.00	0.15	0.04	-0.02				
4	CEO power over board (between)	0.05	3.13	0.29	0.00	0.00			
5	Nontransient investor ownership (between)	0.50	0.23	0.08	0.00	0.00	0.04		
6	Industry complexity (within)	0.00	0.03	0.00	0.00	0.08	0.00	0.00	
7	Industry dynamism (within)	0.00	0.08	-0.01	-0.01	-0.13	0.00	0.00	-0.03
8	Industry munificent (within)	0.00	0.05	0.02	0.01	-0.05	0.00	0.00	-0.17
9	Firm slack (within)	0.00	0.01	0.00	-0.01	-0.03	0.00	0.00	-0.03
10	Equity-based pay (within)	0.00	0.29	0.02	0.06	0.18	0.00	0.00	0.16
11	Firm size (within)	0.00	0.25	0.03	0.13	0.09	0.00	0.00	0.01
12	Diversification (within)	0.00	0.32	0.02	0.01	0.05	0.00	0.00	-0.01
13	Return on assets (within)	0.00	0.22	0.00	-0.03	-0.08	0.00	0.00	-0.04
14	Tobin's Q (within)	0.00	74.32	0.00	0.01	0.00	0.00	0.00	0.00
15	Financial leverage (within)	0.00	29.86	0.00	0.01	0.00	0.00	0.00	0.00
16	Stock market beta (within)	0.00	0.38	-0.01	0.00	-0.03	0.00	0.00	0.00
17	Transient owners (within)	0.00	0.07	0.00	0.00	-0.18	0.00	0.00	0.06
18	Presence of female director (within)	0.00	0.11	0.00	-0.02	0.07	0.00	0.00	0.05
19	CEO age (within)	0.00	4.45	0.01	0.21	0.08	0.00	0.00	0.07
20	Founder CEO (within)	0.00	0.06	-0.01	0.11	-0.02	0.00	0.00	-0.03
21	CEO ownership (within)	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.03
22	Industry complexity (between)	0.06	0.07	0.01	0.00	0.00	0.03	-0.02	0.00
23	Industry dynamism (between)	0.11	0.05	0.01	0.00	0.00	0.11	-0.03	0.00
24	Industry munificence (between)	0.04	0.03	0.03	0.00	0.00	0.03	-0.07	0.00
25	Firm slack (between)	-0.06	0.03	-0.16	0.00	0.00	-0.14	0.06	0.00
26	Equity-based pay (between)	0.69	0.16	0.19	0.00	0.00	0.19	0.17	0.00
27	Firm size (between)	2.32	1.26	0.35	0.00	0.00	0.35	-0.01	0.00
28	Diversification (between)	1.09	0.80	0.23	0.00	0.00	0.08	0.11	0.00
29	Return on assets (between)	1.00	0.73	-0.19	0.00	0.00	-0.17	0.03	0.00
30	Tobin's Q (between)	3.97	54.39	-0.01	0.00	0.00	0.00	-0.02	0.00
31	Financial leverage (between)	0.99	9.67	0.00	0.00	0.00	0.00	-0.01	0.00
32	Stock market beta (between)	1.07	0.44	-0.02	0.00	0.00	-0.12	0.05	0.00
33	Transient owners (between)	0.16	0.06	-0.06	0.00	0.00	-0.17	0.16	0.00
34	Presence of female director	0.03	0.13	-0.04	0.00	0.00	0.01	-0.11	0.00
35	CEO age (between)	57.62	5.66	-0.01	0.00	0.00	0.11	-0.01	0.00
36	Founder CEO (between)	0.01	0.10	-0.08	0.00	0.00	-0.01	0.01	0.00
37	CEO ownership (between)	0.00	0.00	-0.04	0.00	0.00	0.02	-0.06	0.00

	Variables	7	8	9	10	11	12	13	14	15	16
8	Industry munificence (within)	-0.06									
9	Firm slack (within)	0.03	-0.02								
10	Equity-based pay (within)	-0.14	-0.04	-0.04							
11	Firm size (within)	-0.10	0.05	-0.09	0.15						
12	Diversification (within)	0.02	-0.02	-0.06	0.04	0.20					
13	Return on assets (within)	0.03	0.16	-0.15	-0.05	-0.05	-0.02				
14	Tobin's Q (within)	0.00	0.00	-0.04	-0.01	0.00	0.01	0.01			
15	Financial leverage (within)	-0.01	-0.01	-0.03	-0.01	0.02	0.01	0.01	0.77		
16	stock market beta (within)	0.03	0.01	0.00	0.02	-0.05	0.00	-0.01	0.00	0.00	
17	Transient owners (within)	-0.08	0.00	0.02	0.14	-0.03	-0.04	0.00	0.00	0.00	0.04
18	Presence of female director (within)	-0.04	-0.03	0.01	0.06	0.00	0.00	-0.01	0.00	0.00	0.00
19	CEO age (within)	-0.07	-0.07	-0.05	0.18	0.10	0.04	-0.03	0.00	0.00	0.00
20	Founder CEO (within)	0.01	0.00	0.03	-0.06	-0.02	-0.03	0.01	0.00	0.00	0.02
21	CEO ownership (within)	-0.03	-0.01	0.00	0.12	0.03	0.00	0.00	0.00	0.00	0.00
22	Industry complexity (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	Industry dynamism (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	Industry munificent (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	Firm slack (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Equity-based pay (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	Firm size (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Diversification (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	Return on assets (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Tobin's Q (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	Financial leverage (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Stock market beta (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	Transient owners (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Presence of female director	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	CEO age (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	Founder CEO (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	CEO ownership (between)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	Variables	17	18	19	20	21	22	23	24	25	26
18	Presence of female director (within)	0.01									
19	CEO age (within)	0.04	-0.07								
20	Founder CEO (within)	-0.01	-0.01	0.03							
21	CEO ownership (within)	0.02	0.00	0.05	0.01						
22	Industry complexity (between)	0.00	0.00	0.00	0.00	0.00					
23	Industry dynamism (between)	0.00	0.00	0.00	0.00	0.00	0.08				
24	Industry munificent (between)	0.00	0.00	0.00	0.00	0.00	0.00	-0.02			
25	Firm slack (between)	0.00	0.00	0.00	0.00	0.00	0.13	0.00	-0.04		
26	Equity based pay (between)	0.00	0.00	0.00	0.00	0.00	-0.04	-0.14	-0.04	0.00	
27	Firm size (between)	0.00	0.00	0.00	0.00	0.00	0.13	-0.17	0.03	-0.37	0.21
28	Diversification (between)	0.00	0.00	0.00	0.00	0.00	-0.33	-0.11	-0.09	-0.03	0.11
29	Return on assets (between)	0.00	0.00	0.00	0.00	0.00	-0.06	-0.25	-0.06	-0.25	-0.12
30	Tobin's Q (between)	0.00	0.00	0.00	0.00	0.00	-0.01	-0.02	0.00	0.02	-0.01
31	Financial leverage (between)	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.02	0.01	-0.01
32	stock market beta (between)	0.00	0.00	0.00	0.00	0.00	-0.13	0.05	-0.05	0.17	0.03
33	Transient owners (between)	0.00	0.00	0.00	0.00	0.00	-0.11	-0.08	0.01	0.01	0.09
34	Presence of female director	0.00	0.00	0.00	0.00	0.00	0.00	-0.09	-0.02	-0.01	-0.04
35	CEO age (between)	0.00	0.00	0.00	0.00	0.00	0.01	0.04	-0.03	0.06	-0.01
36	Founder CEO (between)	0.00	0.00	0.00	0.00	0.00	-0.02	-0.03	-0.02	0.11	0.02
37	CEO ownership (between)	0.00	0.00	0.00	0.00	0.00	0.03	-0.03	0.05	0.00	0.02

	Variable	27	28	29	30	31	32	33	34
28	Diversification (between)	0.11							
29	Return on assets (between)	0.23	-0.09						
30	Tobin's Q (between)	-0.02	0.00	-0.01					
31	Financial leverage (between)	-0.01	0.05	-0.01	0.67				
32	stock market beta (between)	-0.11	0.31	-0.05	0.00	0.04			
33	Transient owners (between)	-0.13	0.02	0.13	-0.02	0.03	0.30		
34	Presence of female director	0.04	-0.02	0.03	-0.01	0.03	-0.05	-0.07	
35	CEO age (between)	0.04	-0.01	-0.06	-0.02	-0.04	-0.11	-0.10	-0.02
36	Founder CEO (between)	-0.05	-0.06	0.02	0.00	-0.01	0.06	0.02	-0.03
37	CEO ownership (between)	0.01	0.02	0.01	0.00	-0.01	-0.06	-0.07	-0.01

	Variables	35	36
36	Founder CEO (between)	0.09	
37	CEO ownership (between)	0.06	0.02

N=11945. Correlations are significant at p<.05 if greater than .02 or less than -.02.

APPENDIX C

REGRESSION RESULTS BASED ON HYBRID MODEL

Appendix C: Regression Results Based on Hybrid Model

Variables	(1)	(2)	(3)	(4)	(5)
CEO power over board (within)		0.059**	0.054	0.058**	0.047
		(0.042)	(0.263)	(0.043)	(0.293)
Nontransient investor ownership		1.763***	1.743***	3.277***	3.273***
(within)		(0.000)	(0.000)	(0.002)	(0.002)
CEO power over board			0.323		0.334
X Industry complexity (within)			(0.156)		(0.150)
CEO power over board			-0.314		-0.313
X Industry dynamism (within)			(0.181)		(0.183)
CEO power over board			0.046		0.033
X Industry munificence (within)			(0.384)		(0.415)
CEO power over board			-0.030		-0.145
X Firm slack (within)			(0.489)		(0.455)
Nontransient investor ownership				-0.523	-0.885
X Industry complexity (within)				(0.447)	(0.410)
Nontransient investor ownership				-5.698	-6.000
X Industry dynamism (within)				(0.125)	(0.110)
Nontransient investor ownership				0.894	0.952
X Industry munificence (within)				(0.321)	(0.310)
Nontransient investor ownership				19.845*	19.659*
X Firm slack (within)				(0.075)	(0.076)
CEO power over board (between)		0.286***	0.399**	0.277***	0.364**
		(0.000)	(0.010)	(0.000)	(0.016)
Nontransient investor ownership		2.090***	2.054***	2.543*	2.644*
(between)		(0.000)	(0.000)	(0.032)	(0.030)
CEO power over board			1.539*		1.344
X Industry complexity (between)			(0.072)		(0.106)
CEO power over board			0.047		0.070
X Industry dynamism (between)			(0.471)		(0.455)
CEO power over board			-0.676		-0.589
X Industry munificence (between)			(0.160)		(0.193)
CEO power over board			1.716		1.337
X Firm slack (between)			(0.179)		(0.233)
Nontransient investor ownership				38.655***	34.802***
X Industry complexity (between)				(0.003)	(0.008)
Nontransient investor ownership				-24.239**	-24.255**
X Industry dynamism (between)				(0.010)	(0.010)
Nontransient investor ownership				-17.594**	-17.377**
X Industry munificence (between)				(0.013)	(0.014)
Nontransient investor ownership				-12.583	-13.138
X Firm slack (between)				(0.170)	(0.165)
Industry munificence (within)	4.508***	4.536***	4.459***	4.783**	4.879**
	(0.001)	(0.001)	(0.001)	(0.037)	(0.033)
Industry complexity (within)	-1.050	-1.357	-1.331	1.510	1.688
	(0.604)	(0.499)	(0.505)	(0.650)	(0.607)
Industry dynamism (within)	-0.792	-0.690	-0.723	-1.061	-1.111
	(0.286)	(0.350)	(0.321)	(0.269)	(0.245)
Firm slack (within)	4.367	4.400	4.480	-4.528	-4.491
	(0.368)	(0.364)	(0.379)	(0.539)	(0.551)
Equity based pay (within)	0.487*	0.403	0.399	0.412	0.410
	(0.082)	(0.147)	(0.151)	(0.137)	(0.140)
Firm size (within)	0.602**	0.538*	0.547*	0.545*	0.553*
	(0.050)	(0.072)	(0.067)	(0.067)	(0.063)
Diversification (within)	0.418**	0.404**	0.405**	0.393**	0.394**
	(0.037)	(0.041)	(0.040)	(0.046)	(0.046)
Return on assets (within)	0.032	0.125	0.122	0.116	0.114
	(0.907)	(0.649)	(0.657)	(0.671)	(0.677)
Tobin's Q (within)	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.002)	(0.002)	(0.002)	(0.007)	(0.007)

Financial leverage (within)	-0.003**	-0.003**	-0.003**	-0.002**	-0.002**
	(0.028)	(0.025)	(0.026)	(0.038)	(0.038)
stock market beta (within)	-0.254	-0.240	-0.231	-0.231	-0.222
	(0.123)	(0.145)	(0.159)	(0.158)	(0.174)
Transient owners (within)	0.184	1.094	1.082	1.182	1.167
	(0.840)	(0.243)	(0.249)	(0.210)	(0.217)
Presence of female director (within)	-0.394	-0.478	-0.458	-0.440	-0.419
	(0.364)	(0.270)	(0.293)	(0.311)	(0.337)
CEO age (within)	0.005	-0.001	-0.001	-0.002	-0.001
	(0.769)	(0.932)	(0.955)	(0.913)	(0.934)
Founder CEO (within)	-0.776	-1.005	-1.007	-0.986	-0.987
	(0.449)	(0.321)	(0.319)	(0.328)	(0.326)
CEO ownership (within)	-3.475	-3.996	-3.611	-3.680	-3.272
	(0.314)	(0.240)	(0.286)	(0.278)	(0.333)
Industry munificent (between)	2.932	4.881	6.206	-16.199**	-13.109
	(0.522)	(0.271)	(0.185)	(0.044)	(0.129)
Industry complexity (between)	2.139	2.362	1.848	14.267***	13.796**
	(0.327)	(0.268)	(0.378)	(0.009)	(0.011)
Industry dynamism (between)	1.360	-0.711	-0.445	9.014*	9.104*
	(0.656)	(0.816)	(0.883)	(0.064)	(0.060)
Firm slack (between)	-24.017***	-23.729***	-22.537***	-19.107***	-17.925***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.003)
Equity based pay (between)	4.848***	3.702***	3.718***	3.780***	3.792***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm size (between)	2.265***	2.023***	2.021***	2.039***	2.038***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Diversification (between)	1.884***	1.791***	1.784***	1.789***	1.781***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Return on assets (between)	-3.033***	-2.815***	-2.803***	-2.806***	-2.795***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tobin's Q (between)	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.244)	(0.273)	(0.276)	(0.438)	(0.435)
Financial leverage (between)	0.006	0.005	0.006	0.006	0.006
	(0.537)	(0.532)	(0.516)	(0.506)	(0.498)
stock market beta (between)	-0.946***	-0.770**	-0.773**	-0.748**	-0.748**
	(0.004)	(0.016)	(0.016)	(0.020)	(0.020)
Transient owners (between)	2.964	2.980	2.791	3.150	2.978
	(0.184)	(0.173)	(0.200)	(0.150)	(0.172)
Presence of female director (between)	-2.362***	-2.169***	-2.165***	-2.080***	-2.061***
	(0.004)	(0.006)	(0.006)	(0.006)	(0.007)
CEO age (between)	-0.041*	-0.056**	-0.055**	-0.057**	-0.056**
	(0.078)	(0.015)	(0.016)	(0.012)	(0.013)
Founder CEO (between)	-2.301	-2.332	-2.357	-2.211	-2.235
	(0.122)	(0.113)	(0.107)	(0.133)	(0.127)
CEO ownership (between)	-122.795***	-120.357***	-123.742***	-106.914***	-111.032***
	(0.001)	(0.001)	(0.001)	(0.003)	(0.002)
Constant	4.714**	5.509***	5.388***	4.944**	4.758**
	(0.020)	(0.006)	(0.008)	(0.017)	(0.023)
Chi2	1008.42	1203.98	1218.78	1282.09	1297.35

N=11945. The z-tests are one-tailed for hypothesized effects and two-tailed for control variables. Year dummies are included but not reported for space concern.
*p<.10; ** p<.05; *** p<.01

APPENDIX D

REGRESSION RESULTS BASED ON FIXED-EFFECT MODEL

Appendix D: Regression Results Based on Fixed-effect Model

Variables	(1)	(2)	(3)	(4)	(5)
CEO power over board		0.059*	0.054	0.058**	0.047
		(0.041)	(0.263)	(0.043)	(0.293)
Nontransient investor ownership		1.763***	1.743***	3.277***	3.273***
		(0.000)	(0.000)	(0.002)	(0.002)
CEO power over board			-0.314		-0.313
X Industry complexity			(0.181)		(0.183)
CEO power over board			0.046		0.033
X Industry dynamism			(0.384)		(0.415)
CEO power over board			0.323		0.334
X Industry munificence			(0.155)		(0.150)
CEO power over board			-0.030		-0.145
X Firm slack			(0.489)		(0.499)
Nontransient investor ownership				-5.698	-6.000
X Industry complexity				(0.125)	(0.109)
Nontransient investor ownership				0.894	0.952
X Industry dynamism				(0.321)	(0.309)
Nontransient investor ownership				-0.523	-0.885
X Industry munificence				(0.447)	(0.410)
Nontransient investor ownership				19.845*	19.659*
X Firm slack				(0.075)	(0.076)
Industry complexity	-1.050	-1.357	-1.331	1.510	1.688
	(0.603)	(0.498)	(0.504)	(0.650)	(0.607)
Industry dynamism	-0.792	-0.690	-0.723	-1.061	-1.111
	(0.285)	(0.350)	(0.320)	(0.268)	(0.245)
Industry munificence	4.508***	4.536***	4.459***	4.783**	4.879**
	(0.001)	(0.001)	(0.001)	(0.037)	(0.033)
Firm slack	4.367	4.400	4.480	-4.528	-4.491
	(0.367)	(0.363)	(0.378)	(0.538)	(0.550)
Equity-based pay	0.487*	0.403	0.399	0.412	0.410
	(0.082)	(0.146)	(0.150)	(0.137)	(0.139)
Firm size	0.602**	0.538*	0.547*	0.545*	0.553*
	(0.050)	(0.072)	(0.067)	(0.067)	(0.062)
Diversification	0.418**	0.404**	0.405**	0.393**	0.394**
	(0.037)	(0.041)	(0.040)	(0.046)	(0.045)
Return on assets	0.032	0.125	0.122	0.116	0.114
	(0.907)	(0.649)	(0.657)	(0.671)	(0.677)
Tobin's Q	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.002)	(0.002)	(0.002)	(0.007)	(0.007)
Financial leverage	-0.003**	-0.003**	-0.003**	-0.002**	-0.002**
	(0.028)	(0.025)	(0.026)	(0.038)	(0.038)
Stock market beta	-0.254	-0.240	-0.231	-0.231	-0.222
	(0.123)	(0.145)	(0.158)	(0.158)	(0.174)
Transient owners	0.184	1.094	1.082	1.182	1.167
	(0.840)	(0.243)	(0.248)	(0.210)	(0.217)
Presence of female director	-0.394	-0.478	-0.458	-0.440	-0.419
	(0.363)	(0.270)	(0.293)	(0.310)	(0.336)
CEO age	0.005	-0.001	-0.001	-0.002	-0.001
	(0.768)	(0.932)	(0.955)	(0.912)	(0.934)
Founder CEO	-0.776	-1.005	-1.007	-0.986	-0.987
	(0.449)	(0.321)	(0.319)	(0.328)	(0.325)
CEO ownership	-3.475	-3.996	-3.611	-3.680	-3.272
	(0.313)	(0.239)	(0.286)	(0.278)	(0.333)

Constant	6.980***	6.533***	6.505***	5.827***	5.780***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
F	5.17	5.26	4.69	4.74	4.30

N=11945. The z-tests are one-tailed for hypothesized effects and two-tailed for control variables. Year dummies are included but not reported for space concern.
*p<.10; ** p<.05; *** p<.01

APPENDIX E

REGRESSION RESULTS BASED ON RANDOM-EFFECT MODEL

Appendix E: Regression Results Based on Random-effect Model

Variables	(1)	(2)	(3)	(4)	(5)
CEO power over board		0.145***	0.157**	0.145***	0.152**
		(0.000)	(0.023)	(0.000)	(0.028)
Nontransient investor ownership		1.937***	1.929***	3.200***	3.207***
		(0.000)	(0.000)	(0.001)	(0.001)
CEO power over board			-0.129		-0.133
X Industry complexity			(0.269)		(0.335)
CEO power over board			-0.078		-0.086
X Industry dynamism			(0.305)		(0.289)
CEO power over board			0.511*		0.516*
X Industry munificence			(0.050)		(0.055)
CEO power over board			0.298		0.205
X Firm slack			(0.382)		(0.419)
Nontransient investor ownership				-6.684	-6.948
X Industry complexity				(0.071)	(0.062)
Nontransient investor ownership				0.305	0.471
X Industry dynamism				(0.437)	(0.403)
Nontransient investor ownership				1.345	0.749
X Industry munificent				(0.362)	(0.422)
Nontransient investor ownership				15.678*	15.559*
X Firm slack				(0.088)	(0.091)
Industry complexity	-0.550	-0.599	-0.612	2.721	2.843
	(0.719)	(0.693)	(0.692)	(0.293)	(0.271)
Industry dynamism	-0.116	-0.067	-0.006	-0.155	-0.165
	(0.869)	(0.924)	(0.993)	(0.872)	(0.863)
Industry munificence	5.330***	5.431***	5.366***	4.742**	4.966**
	(0.000)	(0.000)	(0.000)	(0.036)	(0.028)
Firm slack	-8.062**	-8.188**	-7.840**	-15.281**	-14.957**
	(0.021)	(0.018)	(0.034)	(0.012)	(0.015)
Equity based pay	0.791***	0.600**	0.599**	0.607**	0.607**
	(0.003)	(0.022)	(0.022)	(0.020)	(0.020)
Firm size	2.055***	1.942***	1.946***	1.956***	1.960***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Diversification	1.057***	1.027***	1.027***	1.022***	1.022***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Return on assets	-1.977***	-1.894***	-1.896***	-1.894***	-1.895***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tobin's Q	0.000	0.001	0.001	0.001	0.001
	(0.219)	(0.152)	(0.151)	(0.164)	(0.164)
Financial leverage	-0.002	-0.002	-0.002	-0.002	-0.002
	(0.145)	(0.112)	(0.112)	(0.116)	(0.117)
Stock market beta	-0.269*	-0.252*	-0.246*	-0.254*	-0.246*
	(0.065)	(0.080)	(0.088)	(0.079)	(0.087)
Transient owners	0.946	1.699**	1.705**	1.774**	1.774**
	(0.273)	(0.049)	(0.048)	(0.040)	(0.040)
Presence of female director	-0.793**	-0.824**	-0.819**	-0.797**	-0.790**
	(0.037)	(0.034)	(0.036)	(0.040)	(0.042)
CEO age	-0.013	-0.026**	-0.026*	-0.026**	-0.026**
	(0.308)	(0.049)	(0.050)	(0.045)	(0.046)
Founder CEO	-1.370	-1.771**	-1.793**	-1.782**	-1.803**
	(0.122)	(0.041)	(0.038)	(0.039)	(0.037)
CEO ownership	-18.044***	-18.421**	-18.191**	-18.354***	-18.117***
	(0.008)	(0.010)	(0.011)	(0.009)	(0.010)

Constant	4.916***	4.983***	4.979***	4.379***	4.357***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
chi2	545.47	634.04	636.50	648.35	652.33

N=11945. The z-tests are one-tailed for hypothesized effects and two-tailed for control variables. Year dummies are included but not reported for space concern.
*p<.10; ** p<.05; *** p<.01