GROUP POLARIZATION ON CORPORATE BOARDS:
THEORY AND EVIDENCE ON BOARD DECISIONS ABOUT ACQUISITION PREMIUMS, EXECUTIVE COMPENSATION, AND DIVERSIFICATION

By

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A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Business Administration)
in The University of Michigan
2009

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To Yijuan, Sunny, my parents, and my parents-in-law

ACKNOWLEDGEMENTS

Towards the completion of my dissertation, I would like to thank many people who have greatly helped me and supported me in this wonderful journey.

I am very fortunate to have Jim Westphal as my Chair. I thank Jim for spending so much time in reading and commenting on countless summaries, drafts, and slides of my dissertation. I have benefited immensely from his insightful comments, his warm encouragements, and his high standard in each stage of my dissertation development. I never finished a conversation with Jim without a clear idea of what had gone well and what needed to be done next, often with the feeling of being greatly encouraged, challenged, and inspired at the same time. His willingness to offer written feedbacks hours prior to deadlines and to answer weekend cell phone calls certainly went far beyond the call of duty. Jim is a truly amazing thinker. The breadth, depth, and richness of intellectual conversations with him often make me feel like flying above the Grand Canyon, and then immediately entering a delicate Chinese ancient garden. I thank him for such a wonderful learning experience, for helping me find enthusiasm and passion about my research, and for being an inestimable role model in so many ways. I couldn't imagine a better Chair.

Gautam Ahuja has greatly contributed to my academic development in the past years. His seminar on main theoretical development in strategy set the cornerstone of my doctoral education, and significantly influenced my understanding of the field and the meaning of good research. His seminar on internal structures and

processes exposed me to behavioral research in strategy, and had a long-term influence on my subsequent dissertation research. Gautam's vast knowledge of the literature and his amazing ability to direct me towards higher-level of contributions have greatly helped me in various projects, and in different stages of my dissertation development. He has been a remarkable source of support throughout my doctoral study at Michigan.

My connection with Eugene Burnstain began in his seminar on group decision-making processes, and continued as he helped me progress in my dissertation research. Gene's insightful comments have helped me in developing the detailed theoretical mechanisms of group polarization in the context of board decisions. As a leading scholar in the filed of group dynamics, Gene also helped me to relate my research to the ongoing social psychological research on groups. Gene's genuine enthusiasm about my topic and his knowledge in this area made him an invaluable committee member.

I am very grateful for my interactions with Gerald Davis. Jerry introduced me to the wonderful world of organization theory, and taught me the fundamentals of research methodology in his doctoral seminars. He is an outstanding instructor, always being inspiring, challenging, and humorous. Jerry also made important contributions to my dissertation progress throughout the process. His expertise in the area of corporate governance and social networks as well as his amazing ability of relating theoretical mechanisms to key aspects of empirical contexts have greatly helped me in making important progresses. I thank him for making many contributions to my academic development, and for being always supportive and optimistic.

Michael Jensen's doctoral seminar on social networks has significantly

shaped my research interests. My excitement about social networks and my curiosity about behavioral research have later leaded me to studying social psychological mechanisms in my dissertation. Michael's high standard and his confidence in me have more than once empowered me to reach a higher level of intellectual achievement. His valuable feedbacks at different points have been critical in shaping my dissertation. He has also been a constant source of support and friendship.

Beyond my committee, Sendil Ethiraj has contributed to my growth as a researcher in many ways. Sendil gave me a wonderful experience of working through an exciting research project from the stage of idea generation to the final step of journal publication. I learned so much from him about every component of conducting good academic research, ranging from literature review to data analyses and responding to reviewers' comments. Sendil is an ideal advisor, always inspiring me and encouraging me to explore my own areas of interests. He attended numerous presentations based on my dissertation and provided very valuable feedbacks. He has been an invaluable resource to me through my doctoral study at Michigan.

I am also grateful for the feedbacks and support I got from other faculty members. Jim Walsh and Mark Mizruchi read an early draft of my dissertation, attended my practice talks, and offered valuable comments at various points. Other faculty members also tirelessly attended my job talks, and gave valuable feedbacks on my research and presentation. Special thanks to Minyuan and Brian for sharing their job search experience with me, and for being constant sources of friendship.

Many colleagues who already graduated from University of Michigan offered assistance to me at various stages. My special thanks to Francisco, PK, Maggie, Mike, Eric, and Anne for their support and suggestions at different points of my doctoral study. Students in the Strategy program—David B., Vivek, Pranav, Bo Kyung, John,

Sun, Na Eun, and Heeyon—have patiently sit through my practice talks, taking notes for me and sharing their thoughts about my research. I thank John for reading through my job talk paper and making valuable comments on my ideas and my writing. Also, thanks to Olenka, Eun-Hee, and David for sharing this wonderful journey.

I have greatly benefited from my interviews and conversations with a number of directors and consultants, most of whom wanted to remain anonymous. Capital IQ graciously extended my access to the dataset after University of Michigan stopped its subscription, a huge favor that enabled me to complete my data collection. Fellowships and financial supports from Rackham, the Charles Gessner Fundation, the doctorial studies office, and Jim Westphal enabled me to complete this dissertation with the needed resources.

Finally, I wanted to thank my family members whose love and support have made this dissertation possible. My parents are committed to my education ever since I was a toddler. Their nearly unconditional confidence in me has been a crucial motivation for my personal and academic development. Their many sacrifices and love have made my current education possible. My parents-in-law, Mr. Niusheng Yan and Ms. Xiaolan Huang, have loved me as their own son, and have lived together with us through challenging times. Without their selfless love and sacrifices, I would not be able to finish my doctoral education. Thanks to my sisters, nephews, and nieces, for their continuous support and encouragement. My wife, Yijuan, is my best friend and my unconditional supporter. She changed her own career paths a few times to support my pursuit of this career. Thank you, Yijuan, for bringing so much joy and meaning to my life, and for always being a cheerful, loving, and understanding partner. Our daughter, Sunny, is the cutest little girl in this world. Thank you, Sunny, for always giving me the best moment of my day, and making me feel so proud of being a father.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

This dissertation examines how a fundamental group decision-making bias referred to as group polarization may influence boards' major strategic decisions (i.e. acquisition premiums, executive compensation, and diversification) and the diffusion of practices through interlock networks. I begin by explaining how directors' average pre-meeting position tends to reflect the average decision they previously experienced across various boards. The elaborated polarization theory then suggests that board discussions can systematically induce directors to make a collective decision that amplifies their average pre-meeting position. For instance, I suggest that when prior acquisition premiums experienced by directors would lead them to on average support a relatively high (low) premium prior to a board meeting, they tend to approve a focal premium that is even higher (lower). I also examine several key moderators of the group polarization effect. I test the theory with a comprehensive dataset that includes historical records of major strategic decisions experienced by Fortune 500 directors across the population of U.S. public companies (1991-2006). Results provided strong evidence of group polarization in boards' major strategic decisions. In addition, as predicted, group polarization was significantly reduced by the degree of demographic homogeneity among directors, the relative amount of experience (minority vs. majority in terms of opinions) with the type of decision under consideration, and the relative power (minority vs. majority). There is also evidence that board influence over management and the diversity of directors' pre-meeting positions increase the polarization effect. The relative similarity of prior decisions (minority vs. majority)

didn't significantly reduce group polarization though. This dissertation extends corporate governance research from studying economic and sociological factors to examining social psychological processes of groups that can influence board decisions. It explains how group discussions may induce directors to approve a focal decision that is more extreme than the average decision experienced by directors on other boards, thus suggesting how group processes may distort network diffusion effects. Contributions to research on strategic decision-making processes, experience effects, and group polarization are also discussed.

CHAPTER 1

INTRODUCTION AND OVERVIEW

1.1 Introduction

Directors on the boards of public companies play very important roles in modern society. They hire and fire top executives, determine executive compensation, evaluate and approve firm strategies, and generally oversee company businesses (American Law Institute, 1984). They are also boundary spanners who link the organization to key external constituents and convey valuable information residing in a social network created by overlapping board memberships (Davis, 2005; Mizruchi, 1996). There is also rich evidence that board structure, composition, and board decisions on a wide variety of issues can significantly influence firm performance and survival (Certo, 2003; Finkelstein *et al.*, 2008; Hillman & Dalziel, 2003).

Accordingly, theories and research on boards of directors have flourished across multiple disciplines. One important stream of research has focused on the role that directors play in monitoring and controlling management. Agency theory suggests that the monitoring and control by boards of directors are critical to ensuring that managers promote shareholder interests (Fama & Jensen, 1983; Walsh & Seward, 1990). Behavioral scholars have expanded agency theory by examining how power and politics in management-board relationships can affect the tendency for boards to exercise monitoring and control rights (Mizruchi, 2004; Westphal & Zajac, 1995). Although this stream of research has contributed much to our understanding of

corporate boards, the extant literature has been dominated by economic and sociological perspectives and has paid little attention to social psychological factors that can influence board behaviors. Moreover, while much research from economic and sociological approaches has examined structural and demographic characteristics of boards (such as board structure, composition, and demography), limited attention has been given to the group processes that may substantially influence the collective decisions made by directors (Finkelstein *et al.*, 2008; Forbes & Milliken, 1999; Hambrick, 2007). This paper begins to fill these gaps by studying the social psychology of groups in board strategic decision-making processes.

Studying the social psychology of groups on boards also has important implications for another stream of research on boards, which has viewed directors as boundary spanners who reside in a network created by interlocking directorships (see reviews by Davis, 2005; Mizruchi, 1996). The interlock network is an important channel through which directors bring the knowledge and insights that they obtained on other boards to influence focal board decisions (Davis *et al.*, 2003). More specifically, directors have been documented to diffuse a wide range of corporate practices and structures from one board to another, including corporate acquisition activities (Haunschild, 1993), acquisition premiums (Haunschild, 1994), response to take-over threats (Davis, 1991; Davis & Greve, 1997), the multidivisional form of organization (Palmer *et al.*, 1993), and the creation of an investor relations office (Rao & Sivakumar, 1999), among others (also see reviews by Davis *et al.*, 2003). One central argument from this literature is that directors tend to make a focal decision that is *similar* to the average decision experienced by them on other boards, such that practices and policies "spread through shared directors like *a virus*" (Davis *et al.*, 2003: p301). This literature has greatly enhanced our understanding about network

2

diffusion and mechanisms of inter-organizational influences. However, it has largely viewed directors as information carriers and has paid little attention to how directors as groups may exchange and process information in making strategic decisions. The present study addresses this issue by explaining how biases in group information exchange and processing can cause directors to adopt a focal decision that is *more extreme* than the average decision experienced by them on other boards.

More specifically, this paper examines how a central group decision-making bias referred to as *group polarization* may influence the major strategic decisions made by boards of directors and the diffusion of practices through interlock networks. Moreover, it studies how several specific social and psychological factors may attenuate or exacerbate group polarization biases. Group polarization is said to occur when the group members' pre-meeting average position is amplified in their post-meeting collective decision (Isenberg, 1986). For example, when group members are initially inclined to take risks, their post-discussion collective decision tends to become even more risky; but when group members are initially inclined toward a conservative position, their post-discussion collective decision will be even more conservative (Friedkin, 1999). The group polarization phenomenon has been documented in different situations and is emerging as a fundamental group decision–making bias (see reviews by Baron & Kerr, 2003; Isenberg, 1986; Moscovici & Doise, 1994).

In this study, I use and extend social psychological theories on group decisions to explain how and why group polarization can occur in board strategic decision-making processes. More specifically, I begin by drawing upon cognition research and network diffusion studies to suggest that an *individual's pre-meeting position on a given kind of decision tend to reflect his or her overall prior experience*

with that decision. For example, I suggest that a director tends to support a relative high (low) premium prior to a board meeting when he or she on average approved high (low) premiums in prior acquisitions across different boards. Moreover, I develop detailed mechanisms to explain how biases in group information exchange and processing may cause group members to amplify their pre-meeting average position in their post-meeting collective decision. For instance, the elaborated group polarization theory suggests that when directors on average would support a relatively high premium (by virtue of their prior premium experience across different boards) prior to a board meeting, they tend to approve an even higher focal premium following board discussions; but when directors on average would support a relatively low premium prior to a board meeting, they will approve an even lower focal premium after board discussions. In addition, I systematically examine how several key social and psychological factors may influence the extent to which polarization occurs on boards. These factors include 1) demographic homogeneity among directors, 2) the diversity of directors' pre-meeting positions, 3) the power of the minority (i.e., directors that support a minority position) relative to the majority, 4) the amount of experience (minority vs. majority), 5) the similarity of prior decisions (minority vs. majority), and 6) board influence over management.

1.2 Potential Contributions

This dissertation thus contributes to research on corporate governance, social networks, and strategic decision-making processes by introducing the social psychology of groups to the study of boards and social networks. As discussed earlier, existing research on corporate governance has been dominated by economic and sociological perspectives and has paid little attention to social psychological processes

inside boards. The social psychological approach advanced in this study complements existing economic and sociological perspectives and yields novel insights into board behavior. For example, in contrast to prevailing normative perspectives on governance, which generally suggest that board influence over management tends to correct suboptimal decision-making, the theory and findings from this study suggest that greater board influence over management can make certain group-level biases (i.e., group polarization biases) more prominent in strategic decisions. More generally, this study advances a social psychological view on corporate governance and leadership and extends social psychological research on group dynamics to the study of strategic decisions made by corporate leaders.

Moreover, this dissertation explains how group processes may influence social network effects. More specifically, it suggests that board discussions can induce directors to approve a focal decision that is more extreme than the average prior decision experienced by them on other boards, thus suggesting how group processes may distort the diffusion of practices and premises through social networks. More generally, the present study addresses the recent call for more research on behavioral processes underlying network ties (Gulati & Higgins, 2003; Mizruchi *et al.*, 2006) by proposing a group process-oriented approach to studying social network effects.

In addition, this paper contributes to existing research on strategic decision-making processes by extending the focus from individual-level cognitive biases, such as CEO hubris (Hayward & Hambrick, 1997; Hayward *et al.*, 2006; Hiller & Hambrick, 2005; Roll, 1986), myopia of learning (Levinthal & March, 1993), and escalation of commitment (Haunschild *et al.*, 1994; Hayward & Shimizu, 2006; McNamara *et al.*, 2002), to group-level social psychological biases. The social psychological approach differs from the more conventional cognitive approach in that

it focuses more on the interface between cognition and social interaction. For example, existing research on top management teams generally focuses on managerial cognition as reflected in executives' demographic characteristics and backgrounds (Hambrick & Mason, 1984). By contrast, the present study emphasizes more on how *social interactions* among directors can induce biased strategic decisions. In addition, this social psychological approach also generates novel insights on strategic decision-making behaviors. For instance, upper echelon research generally suggests that top management teams with heterogeneous demographics tend to have diverse cognitive resources, and hence tend to make better decisions. In contrast, the theory and findings from the present study suggest that demographic heterogeneity may lead to biased social information processing among directors that inhibits open communication, and hence contribute to group polarization bias.

Finally, this study should have important implications for group polarization research as well. While existing group polarization theory has largely focused on processes underlying group information exchange (Isenberg, 1986), the elaborated group polarization theory in this study develops detailed mechanisms underlying both group information exchange and group *information processing*. In addition, this study examines several moderators of group polarization that are novel to group polarization research. These moderators, such as minority influence, demographic homogeneity, and board power over management, have also long been of interest to organization scholars. Moreover, although a growing body of social psychology research has examined group polarization in various situations, this study is perhaps the first systematic large scale study of this fundamental group decision-making bias in business organizations.

1.3 Overview

This dissertation is organized as follows: Chapter 2 reviews core literatures and develops the main theoretical framework for this dissertation. I describe the group polarization phenomena, review existing informational influence perspective on polarization, and develop an extended perspective to understand group polarization in organization decisions. I explain why and how several unique features of board decisions can make directors especially prone to group polarization biases. I conclude that group polarization theory can help to understand a variety of strategic decisions made by boards and that studying board decision processes offers a great opportunity to enrich polarization theory.

Chapter 3 consists of three studies, examining how group polarization may influence board decisions about acquisition premiums, executive compensation, and diversification respectively. I review and critique each of the three literatures and explain how the group polarization perspective can generate novel understandings for these strategic decisions. Based on the theoretical framework developed in Chapter 2, I hypothesize how group polarization may influence these three decisions made by boards. I further study several specific social and psychological factors that may attenuate or exacerbate group polarization biases.

Chapter 4 describes sample, data, measures, and statistical methods used to test the hypothesized relationships. I generated a list of directors who severed on the boards of Fortune 500 companies (listed in 1995) between 1995 and 2006. I then created a cross-time directorial network data among the population of U.S. publicly traded companies between 1991 and 2006. This network data are utilized to track the strategic decisions experienced by Fortune 500 directors across different companies

during the 16-year period. To examine whether polarization occurs on a given board at a given time for a given decision, I measured the pre-meeting average position of directors by computing the average decision experienced by all involved directors several years prior to a given board meeting and study whether the decision made after the board meeting is more extreme than the pre-meeting average position.

Chapter 5 reports the results of the empirical analyses, discuss to what extent the hypothesized relationships are supported, and describe the substantive meaning of the findings.

Chapter 6 concludes by recapturing the main findings and their implications. I close by discussing future research directions suggested by this research.

CHAPTER 2

GROUP POLARIZATION ON CORPORATE BOARDS

2.1 Group Polarization and the Informational Influence Perspective

A substantial body of research has documented group-induced polarization in different situations (Baron & Kerr, 2003; Isenberg, 1986; Moscovici & Doise, 1994). In his classic study, Stoner (1961) observed that individuals as groups took riskier actions than they were originally inclined to as individuals[1]. This finding that the collective decision following a group discussion was riskier than individuals' initial average position was soon termed the 'risky-shift' phenomenon and motivated a series of investigations of group risk taking (see early reviews by Cartwright, 1971; Pruitt, 1971). Scholars had speculated that group polarization may be explained by the diffusion of responsibility or by the normative value of risk-taking behavior in western culture. However, these interpretations were soon rejected as subsequent studies also found that on certain decisions groups tended to be more cautious than individuals (Burnstein & Vinokur, 1973; Clark & Willems, 1969). Moreover, studies also showed that on issues unrelated to risk-taking (such as opinions towards race, feminism, pacifism, equality, and teenager drinking), group decisions following discussions also amplified groups' initial positions (see reviews by Baron & Kerr, 2003; Isenberg, 1986; Moscovici & Doise, 1994). Accordingly, scholars restated these

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[1] Stoner (1961) and subsequent studies used the Choice Dilemma Questionnaire (CDQ) to measure individuals' risk-taking tendency. In a typical item in CDQ, a fictional character faced two alternative choices in such scenarios as job changes and chess play strategies. Subjects were asked to advise the character regarding the lowest odds of success for the risky choices to be attempted.

findings in more general terms as "group polarization". Group polarization is thus said to occur when the pre-discussion average position of group members is amplified in their post-discussion collective decision[2]. More recent studies on group polarization have examined choices of business projects (Williams & Taormina, 1993) and positions towards given target groups (Brauer *et al.*, 2001). It is worth noting that researchers recognized that the group polarization effect does not occur invariably (Moscovici & Doise, 1994). A set of factors that may influence the strength of polarization effects is discussed in detail in latter sections.

Researchers have explained the group polarization phenomena from the informational influence perspective (Burnstein & Vinokur, 1977; Vinokur *et al.*, 1985). This perspective, represented by the persuasive argumentation theory, suggests that individuals make judgments based on the pro and con arguments that are available to them at the time of making the decision. Prior to the group meeting, different individuals may recall different arguments from a larger culturally available pool and formulate different positions, depending on the number and persuasiveness of the pro and con arguments that were available to them prior to the group meeting. The average pre-discussion inclination of group members thus reflects the preponderance of pro and con arguments that were salient to the group (e.g. an average inclination of favoring risks reflects that risk-taking arguments were more available to group members than risk-avoidance arguments prior to the discussion). According to Burnstein and colleagues, group discussions reveal arguments that became available to individuals prior to the meeting. Since arguments supportive to the group's initially favored position are not evenly distributed among individuals prior to the meeting,

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[2] The concept of polarization has sometimes been distinguished from the notion of extremization (Isenberg, 1986). Whereas polarization refers to shifts towards the group's initially preferred pole, extremization refers to shifts away from the pre-meeting mean, regardless of direction.

group members tend to learn from the discussion about additional arguments that support the group's initially favored position. The theory further suggests that individuals tend to develop enhanced confidence about their initially favored position after being exposed to additional persuasive arguments to support that position. Accordingly, the post-meeting collective decision tends to be more extreme than the pre-meeting average position of group members (Baron & Kerr, 2003).

Although this informational influence perspective has been supported by various studies (Isenberg, 1986; Moscovici & Doise, 1994), it has implicitly assumed that group information exchange and processing are free of biases. In addition, it has not incorporated recent developments in social psychological research on decision-making processes. Moreover, existing polarization theory has been developed primarily based on lab experiments and has focused on temporary and informal groups. Little research has systematically examined characteristics of enduring groups, such as boards or TMTs, that may influence the extent to which polarization occurs. In the following section, I develop an extended polarization theory to address these issues and explain how directors are especially prone to polarization biases in making major strategic decisions.

2.2 Group Polarization Theory: An Extension

The persuasive argumentation theory suggests that individuals freely exchange arguments that are available to them during group discussions. Moreover, group members make their final decisions based on the number and persuasiveness of the revealed pro and con arguments (Baron & Kerr, 2003; Burnstein & Vinokur, 1977; Isenberg, 1986). Group polarization occurs when group discussions expose group members to additional persuasive arguments in favor of the group's initially favored

position. In the extended framework, I build on recent advances in social psychology research to suggest that processes of information exchange and processing can both be biased during group interactions. I also describe the specific mechanisms of group information exchange and processing underlying group polarization.

Group information exchange can be biased for several reasons. For one thing, individuals tend to emphasize position-consistent arguments in group discussions and avoid expressing counterarguments so that they can present the self favorably and confidently before other group members (Leary *et al.*, 1994; Schlenker, 1975; Vohs *et al.*, 2005). Accordingly, when group members on average seek to support a position prior to a discussion, arguments in favor of the initial position tend to be over-emphasized during the discussion. In addition, as group discussions reveal the prevailing position supported by most group members, individuals may tend to avoid expressing concerns about the prevailing position because of social risks of voicing minority opinions (Bassili, 2003; Moscovici & Doise, 1994; Wood *et al.*, 1994). A substantial body of group research suggests that attribution biases often cause individuals to issue more negative evaluations of those who voice minority opinions (see reviews by Moscovici & Doise, 1994; Wood *et al.*, 1994). Therefore, as group members emphasize position-consistent arguments and avoid revealing minority opinions, arguments that are consistent with the group's initially supported position tend to prevail while counterarguments tend to be poorly represented during group discussions.

Groups may also be biased in processing information during decision-making processes. More specifically, group members may develop enhanced confidence about the group's initial position when arguments in favor of the position prevail and become particularly salient and accessible (Echterhoff *et al.*, 2005). By

contrast, counterarguments may appear to be less salient to group members as fewer people tend to raise them. Group members may also become increasingly certain about the position that they initially supported when they observe that most group members seem to share similar views. Social psychology research suggests that individuals tend to become particularly certain about their judgments when they perceive others to share similar opinions (Baron et al., 1996). By contrast, they may become even less confident about questioning the prevailing position when most people seem to have few concerns about that position.

The tendency to develop enhanced confidence about the group's initial position can be further amplified by a general "lay dispositionalism," an attribution bias in interpreting others' public behaviors (Miller & Nelson, 2002; Ross & Nisbett, 1991). Specifically, an individual may tend to overattribute others' support of the prevailing position to their confidence about the position while underattributing such support to other avoidance motivations, such as motivations to avoid voicing minority opinions or motivations to avoid revealing position-inconsistent information. Accordingly, group members can become excessively confident about the prevailing position when they overestimate the confidence of others about that position; conversely they may become particularly hesitant to raise concerns about the prevailing position as they underestimate the extent to which others share such concerns. Consequently, group members tend to reach a final collective decision that amplifies the group's initial position.

This extended informational influence perspective on group polarization shares many common aspects with the persuasive argumentation theory (Baron & Kerr, 2003; Burnstein & Vinokur, 1977; Vinokur et al., 1985). They both emphasize information exchange and influence during group interactions, but the extended

framework considers detailed mechanisms of information exchange and processing. In addition, the extended framework also allows various cognitive biases to influence group information processing and accommodates the role of social influence in causing group polarization.

Group polarization is typically defined as a group-level phenomenon where group interactions induce members to make a decision that amplifies their initial average position (Burnstein & Vinokur, 1977; Friedkin, 1999; Isenberg, 1986). This is in part because the biases of individual group members are interdependent. Biases in information exchange and processing should only persist to the extent that they are shared by others. If other group members are less biased than a focal person in exchanging and processing information, then they will express their concerns about the prevailing position more fully, thus lessening the focal person's bias. In addition, known antecedents of group polarization are group-level factors. For example, in a series of studies, Burnstein and Vinokur (Burnstein & Vinokur, 1977; Burnstein *et al.*, 1973; Vinokur & Burnstein, 1974; Vinokur *et al.*, 1975) have shown that group polarization biases depend on the number and persuasiveness of exchanged arguments in favor of the average position initially supported by group members (i.e., when group information exchange is less biased in favor of the initial position, polarization biases are lessened). As discussed further below, the theoretical arguments in the present study suggest that increased minority influence based on the minority's expertise and open communications resulting from demographic homogeneity among group members may present two important moderators of group polarization biases. Therefore, theory and evidence on group polarization consistently suggest that this phenomenon can be better explained by the collective biases of group members than biases of any one individual.

2.3 Group Polarization on Corporate Boards

Although group polarization has been observed in a variety of circumstances, it may be particularly likely to occur among directors on corporate boards. Qualitative research on boards suggests that social norms encourage directors to express views in a confident manner, which leads directors to suppress arguments that may convey uncertainties about their supported positions (Lorsch & Maclver, 1989). Accordingly, information in favor of the average position initially supported by directors may be particularly likely to be over-emphasized while counterarguments may tend to be especially poorly represented during board meetings.

Moreover, social risks of voicing minority opinions can be particularly high in the context of board decisions, as voicing minority opinions has been shown to prompt social distancing (Westphal & Khanna, 2003), and a lower likelihood of receiving recommendations for important opportunities and positions (Westphal & Bednar, 2005). Survey evidence even suggests that making favorable impressions on fellow board members and building social capital is a major motivation for directors to join boards (Lorsch & Maclver, 1989). This further implies that concerns about social risks of voicing minority opinions can be especially prominent for directors.

Finally, the tendency for directors to speak confidently and their concerns about voicing minority opinions both suggest great potential for attribution biases during board information processing. As discussed earlier, directors may be particularly likely to overattribute others' support of the prevailing position to their confidence about the position while underattributing such support to other motivations, such as motivations to admitting to uncertainties about the supported position or motivations to avoid voicing minority opinions. These considerations suggest that

biases in information exchange and processing are particularly likely in the context of board meetings, implying that directors are especially prone to group polarization biases.

Examining group polarization in the context of board decisions also provides great opportunities to enrich our understandings about group decision-making processes. First, existing informational influence perspective on group polarization has largely assumed that group decision-making processes are free of biases. Since a substantial body of organization research has evidenced various biases in organization decision-making, studying group polarization in the context of boards allows group process researchers to extend polarization theory by considering different biases that may contribute to group polarization. In this dissertation, I develop an extended polarization framework which describes how pre-existing positions may bias information exchange and processing during group discussions. Perhaps more importantly, several determents of polarization studied in Chapter 3 will not have any impact on group polarization if group discussions are indeed by and large free of biases. For example, this dissertation suggests that demographic homogeneity among directors tends to facilitate open discussions and reduce polarization biases. But such effect is not expected from the traditional informational influence perspective, which suggests that communications among group members are largely open.

Second, extant research on group polarization has been mainly conducted in lab experiments, focusing on informal and temporary groups represented by groups of college students. This approach has restrained researchers from understanding group decision processes in enduring groups where group members' prior experience and long term relationships may significantly influence their behaviors in group decisions. As I will discuss in Chapter 3, several features of group members' prior experience,

such as diversity, similarity, and amount of prior experience, may all attenuate or exacerbate group polarization biases. In addition, the power relations between the minority and majority (in terms of opinions) can also influence the degree of group polarization. Studying these relatively novel determinants of group polarization could significantly enhance our understanding of the processes underlying group polarization and could extend the predictive power of polarization theory to real group decisions, such as strategic decisions made by boards or top management teams.

In sum, the group polarization theory introduces a more social psychological and group process oriented perspective to the study of boars and corporate governance. This approach extends and complements existing economics and sociological perspectives on boards and suggests a promising research direction. In addition, studying group polarization in the context of boards can also enrich group process research by offering unique opportunities to study various potential biases underlying group polarization and by studying novel determinants of this fundamental group decision-making bias.

CHAPTER 3

GROUP POLARIZATION AND BOARD DECISIONS ABOUT ACQUISITION PREMIUMS, EXECUTIVE COMPENSATION, AND DIVERSIFICATION

3.1 Group Polarization and Board Decisions about Acquisition Premiums

An acquisition premium is the percentage difference between the price actually paid to a target firm and the target's stock price before the offer announcement (Hayward & Hambrick, 1997). The premium represents a standardized measure of how much an acquiring firm overpaid for the target, and hence allows comparison across firms. Existing studies have reliably demonstrated that firms on average paid about 40 percent premiums to targets and premiums can range from negative values to over 150 percent (Ayers *et al.*, 2003; Beckman & Haunschild, 2002; Datta *et al.*, 2001; Haunschild, 1994; Hayward & Hambrick, 1997). Studies also find that acquisition premiums can significantly influence both long-term and short-term returns for the acquiring firm's shareholders (Hayward & Hambrick, 1997; Sirower, 1994).

Accordingly, a substantial body of management research has examined acquisition premium decisions from various perspectives. Existing research has suggested that the level of acquisition premium is positively associated with the added value from combining two firms (i.e., synergies) (Gupta & Gerchak, 2002; Slusky & Caves, 1991). Premiums are also positively influenced by the level of competition among potential acquiring firms (Jennings & Mazzeo, 1993). There is also evidence that premiums tend to be higher when the method of payment is cash rather than

equity (Eckbo & Langohr, 1989; Faccio & Masulis, 2005; Martin, 1996). Moreover, behavioral research on premiums found that the premium approved by a board is negatively associated with the heterogeneity of premiums experienced by the directors. It is suggested that the heterogeneity of experience promotes effective sampling and learning on boards (Beckman & Haunschild, 2002). Studies have also suggested that premiums are positively affected by several individual-level psychological biases, such as CEO hubris (Hayward & Hambrick, 1997; Roll, 1986) or overconfidence (Moeller *et al.*, 2004).

3.1.1 Group Polarization in Acquisition Premium Decisions

Although boards of directors as groups often play important roles in determining acquisition premiums, and there has been much controversy about the high premiums paid to acquisition targets, little is known about how group decision-making biases may contribute to board decisions about premiums. The present study fills this gap by explaining how group polarization may influence premium decisions made by boards. I begin by suggesting that the average level of premium that directors seek to support prior to a meeting reflects the average level of premium they approved in previous acquisitions across different boards. Behavioral research on organizations suggests that the limited cognitive abilities of decision-makers often cause them to rely on prior experience to make complex and uncertain decisions such as acquisition decisions (Ahuja & Lampert, 2001; Greve, 2003; Levinthal & March, 1993; March, 1981). Psychology research similarly suggests that previous decisions often serve as reference points or anchoring points in subsequent uncertain decisions (Tversky & Kahneman, 1974). Moreover, studies on interlock network diffusion provide strong evidence that directors tend to carry the

practices and premises that they were exposed to on other boards to subsequent board decisions (Davis, 1991; Davis & Greve, 1997; Haunschild, 1993; Mizruchi, 1989; Rao & Sivakumar, 1999; Westphal *et al.*, 2001). This is also consistent with evidence from the group decision-making literature, which suggests that individuals' subsequent judgments tend to reflect their previously endorsed collective decisions as they develop beliefs to justify their previous behaviors (Baron & Kerr, 2003; Isenberg, 1986). Based on a large-scale survey with directors, Zhu and Westphal (2009b) further found direct evidence that the pre-meeting average position of directors strongly reflected their average prior experience with the type of strategic decision under consideration.

Following the elaborated group polarization theory discussed earlier, I suggest that when previous premiums experienced by directors would lead them to on average support a relatively high premium before a board meeting, arguments that support high premiums tend to prevail while counterarguments may be poorly represented during board discussions as directors try to present themselves favorably and confidently before others (Leary et al., 1994; Vohs et al., 2005). For example, directors may emphasize that high premiums are essential to win the competition of acquiring a valuable target (Jennings & Mazzeo, 1993), that high premiums are justified considering the expected high synergies from combining two firms (Gupta & Gerchak, 2002; Slusky & Caves, 1991), that similarly high premiums are common and legitimate in many previous acquisitions (Haunschild, 1994; Haunschild & Beckman, 1998), and so on. Furthermore, they may avoid expressing concerns about paying high premiums because they want to portray an image of confidence. By contrast, when previous premium experiences would lead directors to support a relatively low premium prior to a board meeting, they may stress in board discussions

that low premiums are critical to ensuring that an acquisition will achieve positive returns (Hayward & Hambrick, 1997; Sirower, 1994), that low premiums help to avoid the threat of lawsuits (Black *et al.*, 2005, 2006; Fich & Shivdasani, 2007), and that low premiums have been common and successful in many other previous acquisitions (Haunschild, 1994; Haunschild & Beckman, 1998). In the latter case, arguments that support high premiums tend to be poorly represented.

Moreover, as group discussions reveal that the board as a whole tends to support a relatively high (or low) premium, those who initially have reservations about such a prevailing position may hesitate to express their reservations due to concerns about voicing minority opinions (Westphal & Bednar, 2005; Wood *et al.*, 1994). For instance, when a majority of directors are expressing their enthusiasm about approving a high premium because of the expected high synergies and the intense competition to win a bid for a valuable target, those who have concerns about high premiums may feel pressured to withhold their concerns to avoid social risks of revealing minority status. As discussed earlier, a major motivation for directors to join boards is to make favorable impressions on fellow board members (Lorsch & MacIver, 1989) and directors who voice minority opinions can receive less positive assessments from peers (Williams & O'Reilly, 1998), experience social distancing (Westphal & Khanna, 2003), and potentially lose important opportunities and positions (Westphal & Bednar, 2005). Accordingly, information exchange during board discussions tends to be biased towards favoring relatively high (low) premiums when the board on average seeks to support a high (low) premium prior to the meeting.

In addition, directors also tend to become increasingly confident about high (low) premiums when arguments supporting high (low) premiums prevail and become particularly salient and accessible (Echterhoff et al., 2005), when they perceive such

arguments to be shared by others (Baron et al., 1996), and when they tend to overattribute fellow directors' support for a high (low) premium to their confidence about paying a high (low) premium and underattribute such support to avoidance motivations (e.g., motivations to avoid revealing minority status or to avoid expressing uncertainties underlying the supported position) (Ross & Nisbett, 1991). By contrast, they may become less confident about questioning high (low) premiums when they recognize the unpopularity of doing so, when poorly represented concerns about high (low) premiums make arguments against high premiums less and less salient, and when they underattribute others' support to high (low) premiums to avoidance motivations. As a result, when prior experience of directors leads them to on average support a relatively high (low) premium prior to a board meeting they will develop enhanced confidence about supporting high (low) premiums following the board meeting. This suggests that they will collectively support an even higher (lower) focal premium than the average premium they approved in prior acquisitions. The group polarization effect is shown in Figure 1. More specifically,

Hypothesis 1-1: When directors on a board on average approved a relatively high (low) premium in previous acquisitions, they tend to approve a focal premium that is even higher (lower) than the average premium approved by them in previous deals.

Group polarization biases on boards may be attenuated or exacerbated by several specific social and psychological factors. These factors include the demographic homogeneity among directors, diversity of pre-meeting positions, the power of the minority (i.e., directors that support a minority position) relative to the

majority, the acquisition experience of the minority relative to the majority, the relative similarity of previous acquisitions to the focal acquisition (minority vs. majority), and board influence over management. I discuss these factors below.

3.1.2 Demographic Homogeneity

The level of demographic homogeneity among directors may also influence the extent to which group polarization is present on corporate boards. A substantial body of research on demography and group decisions suggests that similarity on salient demographic characteristics tends to increase interpersonal trust and promote open communications among group members (Pfeffer, 1983; Smith *et al.*, 1994; Williams & O'Reilly, 1998). Recent research on board decisions also provides evidence that demographic homogeneity among directors similarly increases open communications and interpersonal trust among directors (Westphal & Bednar, 2005). Therefore, although directors generally tend to present arguments to support their positions and suppress counterarguments, they are more likely to acknowledge counterarguments on homogeneous boards where there is a relatively high level of interpersonal trust and relatively open communications. In addition, concerns about voicing minority opinions are also relatively low when directors trust each other and tend to have open discussions (Moscovici & Doise, 1994). These arguments suggest that biases in information exchange tend to be lower on more demographically homogeneous boards. Moreover, although arguments in favor of high (low) premiums may still prevail when directors on average seek to support a high (low) premium, directors may perceive these arguments to be less salient and accessible when they publicly express both pro and con arguments and observe that both pro and con arguments are shared by others. Thus, biases in information processing may also be

less pronounced on more homogeneous boards. Taken together, these arguments suggest that although the average position of directors to support a relatively high (low) premium by virtue of their prior acquisition experience may generally lead to biased information exchange and processing in favor of high (low) premiums, these biases and the resulting group polarization biases may be reduced by the degree of demographic homogeneity among directors. That is,

Hypothesis 1-2: When directors on a board on average approved a relatively high (low) premium in previous acquisitions, the greater the demographic homogeneity among directors the smaller the extent to which the focal premium will exceed (fall below) the average premium approved by directors in previous deals.

3.1.3 Diversity of Pre-meeting Positions

Group polarization bias may be exacerbated by the diversity of pre-meeting positions. Since minorities and majorities are defined in terms of the positions they support prior to a meeting, high pre-meeting position diversity suggests that minorities represent a significant proportion of directors. Accordingly, as group discussions reveal the position supported by the majority, a larger proportion of individuals (i.e., minorities) tend to be influenced by concerns about voicing minority opinions when pre-meeting position diversity is higher, resulting in greater biases in group information exchange and processing. As discussed earlier, concerns about voicing minority opinions are especially high in the context of board meetings. Existing studies based on large scale survey data found that directors who insisted in expressing minority opinions tend to experience social distancing in subsequent interactions with other directors (Westphal & Khanna, 2003) and tend to have reduced

opportunities to obtain important positions (Westphal & Stern, 2007). Findings also suggest that concerns about voicing minority opinions may cause a large proportion of directors to suppress their concerns during board meetings (Westphal & Bednar, 2005). These considerations suggest that increasing the proportion of minorities may not improve the representativeness of minority opinions during board meetings due to social and material risks of revealing and insisting in minority views. By contrast, greater diversity of pre-meeting positions may cause a larger number of minorities to withhold their concerns about the majority's position, leading to greater biases in group information exchange and processing and higher degree of group polarization. This is also consistent with findings from social psychological research on group polarization which suggests that diversity of individuals' pre-meeting opinions tend to increase group polarization biases (Burnstein & Vinokur, 1977; Isenberg, 1986; Vinokur & Burnstein, 1974). Therefore,

Hypothesis 1-3: When directors on a board on average approved a relatively high (low) premium in previous acquisitions, the more diverse the pre-meeting positions the greater the extent to which the focal premium will exceed (fall below) the average premium approved by directors in previous deals.

It may be worth mentioning that diversity of experience has been generally recognized as being helpful to improve group decision quality and organizational performance (Beckman & Haunschild, 2002; Carpenter & Sanders, 2002; Hambrick & Mason, 1984; Kilduff *et al.*, 2000). For example, Beckman and Haunschild (2002) suggest that diversity of interlock partners' prior acquisition experience promotes effective sampling and learning, and hence helps to reduce acquisition premiums. By

contrast, the present study suggests a side-effect of group diversity and proposes that although experience diversity can promote effective sampling and learning it may sometimes compromise group decision quality by increasing group polarization biases.

3.1.4 Relative Power (Minority vs. Majority)

Biases in group information exchange and processing can also be smaller when the relative power of the minority over the majority is higher. Although existing research on minority influence has largely treated minority as being less powerful and influential than the majority, existing research on boards suggests that there are multiple alternative sources of power and influence in the boardroom (Finkelstein, 1992; Ocasio, 1994; Westphal & Fredrickson, 2001). Considering alternative sources of power beyond the status of being minority or majority can be particularly important to understand board decision processes because directors repeatedly interact with each other and concern about the general power and influence of fellow directors beyond what can be inferred from the status of being minority vs. majority in a given decision.

More specifically, as discussions reveal the prevailing position of the board to favor high (low) premiums, directors who initially disfavor high (low) premiums may have less concerns about voicing minority opinions when the relative power of the minority over the majority on other aspects is greater (e.g., in terms of tenure on the focal board, voting rights, etc.). This is because the minority, although less powerful in the focal decision, tends to be less prone to the influence of the majority in general. Accordingly, the minorities may face less material risks from expressing minority opinions when they have higher relative power over the majority. By contrast,

concerns about voicing minority opinions can be especially pronounced when the relative power of the minority over the majority is low because less positive evaluations from the majority can substantially reduce the minority's opportunities to receive valuable positions and resources. These arguments suggest that information inconsistent with the prevailing position tends to be better exchanged when the minority's relative power over the majority is higher.

In addition, biases in information processing also tend to be smaller when minority's power over the majority is greater. For one thing, better represented minority opinions should help to reduce the board's tendency to develop enhanced confidence about the prevailing position thus attenuating polarization bias. In addition, the power of minority may also help to reduce the board's tendency to develop increasing confidence about the prevailing position. This is because the general power of the minority signals potential difficulties for the majority's favored position to be accepted by the board. A series of studies on board decisions have found that the less powerful coalitions' opinions are less likely to be reflected in the final board decision (Ocasio, 1994; Ocasio & Kim, 1999; Westphal & Zajac, 1995; Zajac & Westphal, 1996). By contrast, when the minority is less powerful than the majority in general, directors may be especially likely to develop enhanced confidence about the majority's favored position not only because fellow directors share similar opinions but also because the overall power of the majority increases the chances for the majority's position to be finally accepted. These arguments suggest that biases in information processing may also be reduced by the relative power of the minority over the majority. .

In sum, the general power of the minority relative to the majority reduces concerns about voicing minority views hence facilitates less biased information

exchange. Moreover, the power of the minority relative to the majority also negatively influences the likelihood for the majority's position to be finally accepted, thus helping to attenuate the board's tendency to develop enhanced confidence about the prevailing position. Accordingly, although directors in general tend to be biased in exchanging and processing information regarding paying high (low) premiums, such biases tend to be weaker when the minority is more powerful than the majority. Thus,

Hypothesis 1-4: When directors on a board on average approved a relatively high (low) premium in previous acquisitions, the greater the power of the minority relative to the majority the smaller the extent to which the focal premium will exceed (fall below) the average premium approved by directors in previous deals.

3.1.5 Acquisition Experience (Minority vs. Majority)

As discussed earlier, one important source of group polarization bias is poor representation of minority opinions during group decisions. The minority group in this context can be defined as the subgroup of directors who support a minority position (i.e., the position with relatively small number of supporters on the focal board). For instance, if the number of directors supporting high (low) premiums prior to a meeting is greater than the number of directors who seek to support low (high) premiums then those who seek to support low (high) premiums are minorities. Directors with minority opinions often hesitate to voice their views during group decisions because betraying such minority opinions can lead to less positive professional evaluations, reduced chances of obtaining valuable positions and opportunities, and social distancing (Moscovici & Doise, 1994; Westphal & Khanna, 2003; Williams & O'Reilly, 1998). But such concerns may be reduced to the extent that the majority also

depends on the minority for critical information about the focal decision.

More specifically, when the minority is more experienced with acquisition decisions relative to the majority, the majority is more likely to rely on the minority's expertise in the process of determining acquisition premiums. The relatively rich acquisition experience of the minority can give some of them opportunities to express their views early in the board meeting (e.g. fellow directors may invite experienced directors to share their experience). As a director whom I interviewed put it,

"…we talked about our previous acquisitions and we especially welcome experienced directors to discuss their opinions. The CEO or other directors may invite them [experienced directors] to speak up. It is a very complicated decision and we want to make sure that they [experienced directors] are involved…"

This is also consistent with existing research on group decisions, which suggests that experts often have greater influence in group decisions (Vinokur et al., 1985). Accordingly, although arguments supportive of high (low) premiums may still prevail when directors on average support a high (low) premium prior to a board meeting, information exchange can be less biased towards favoring high (low) premiums when the minority is more experienced than the majority with acquisitions.

Moreover, while arguments supportive of the majority's position may still prevail in board discussions, the minority's arguments that questioned the majority's position should help dampen the board's confidence about the prevailing position. In addition, the experience of minorities with acquisition decisions can grant their arguments more credibility, making arguments that challenge the prevailing position especially salient, and reducing the dominance of arguments that support the majority's position. There is evidence from social psychological studies that the perceived expertise of the messenger tends to increase the salience of the message to the recipient (Fiske & Taylor, 2008). Accordingly, biases in information processing

may also be reduced when the minority is more experienced than the majority. As a director from a Fortune 500 company told me,

"We bring different types of experience and expertise to our board. If a person has a lot of experience with acquisition decisions, he or she certainly has more to say [about acquisition premiums]…their opinions are usually considered carefully by the board."

In sum, although minority opinions are usually poorly represented during board decisions, biases in exchanging and processing information tend to be reduced to the extent that the minority is relatively more experienced with acquisition decisions than the majority. This should reduce the extent to which group polarization occurs in premium decisions. Thus,

Hypothesis 1-5: When directors on a board on average approved a relatively high (low) premium in previous acquisitions, the amount of acquisition experience of the minority relative to the majority negatively influences the extent to which the focal premium will exceed (fall below) the average premium approved by directors in previous deals.

3.1.6 Similarity of Prior Experience (Minority vs. Majority)

The degree to which group polarization occurs on boards may also be smaller when the minority's prior acquisitions are more similar to the focal acquisition than the majority's prior acquisitions. Extant research on acquisitions suggests that similarity of acquisitions can be assessed by considering several important dimensions, including the size of the acquirer, the size of the deal, and the relatedness between the acquirer and the target in terms of industry affiliations (Beckman & Haunschild, 2002; Hayward, 2002). In this section, I discuss how the relative similarity of prior

acquisitions to the focal acquisition (minority vs. majority) may moderate group polarization effects.

More specifically, as board discussions reveal that the board on average tends to support a high (low) premium, minorities who initially have concerns about high (low) premiums may be more likely to voice their concerns when their previous acquisitions are more similar to the focal acquisition. This is because similar prior experience is often considered as having close relevance to the focal decision (Ahuja & Lampert, 2001; Greve, 2003; Levinthal & March, 1993; March, 1981) and social psychology research suggests that sharing such salient information is likely to be interpreted as an effort to be objective rather than an attempt to voice different opinions (Wood *et al.*, 1994). Accordingly, minorities may have lowered concern about voicing different views when fellow directors are likely to interpret their behaviors as revealing related facts rather than as creating conflicts in opinions (Moscovici & Doise, 1994). By contrast, when minorities' prior acquisitions are quite different from the focal acquisition, it can be particularly risky to voice minority opinions because the lack of relevance can easily make fellow directors to interpret the expression of minority views as attempts to create conflicting and different opinions, and hence can lead to particularly negative evaluations about the minority. These arguments suggest that information inconsistent with the prevailing position is more likely to be raised when the minority approved prior acquisitions that are more similar to the focal decision than the majority's prior acquisitions. Such reduced biases in information exchange should attenuate group polarization biases.

In addition, when the minority's prior acquisitions are more similar to the focal acquisition, minorities can legitimately caution the majority that generalizing different prior experience to the focal decision can be dangerous (Haleblian &

Finkelstein, 1999). The widely accepted heuristics of relying on similar prior experience to make uncertain decisions (Ahuja & Lampert, 2001; Greve, 2003; Levinthal & March, 1993; March, 1981) also gives the minority additional legitimacy to share their different views. Such views, although not prevailing, can help reduce fellow directors' tendency to develop enhanced confidence about the majority's position, resulting in weaker polarization biases.

In sum, as directors in general tend to be biased in exchanging and processing information regarding paying high (low) premiums, such biases tend to be weaker when the minority has more similar prior acquisitions to the focal acquisition than the majority does. Therefore,

Hypothesis 1-6: When directors on a board on average approved a relatively high (low) premium in previous acquisitions, the similarity between the focal acquisition and the minority's prior acquisitions relative to the similarity between the focal acquisition and the majority's prior acquisitions negatively influences the extent to which the focal premium will exceed (fall below) the average premium approved by directors in previous deals.

3.1.7 Board Influence over Management

The extent to which group polarization occurs on boards may also depend on the degree to which directors are involved in acquisition premium decisions as a group. Although earlier studies on boards suggest that directors are not much involved in strategic decisions prior to the 1980s (Herman, 1981; Mueller, 1979; Whisler, 1984), there is increasing evidence to suggest that directors are getting more involved in such decisions (Davis & Thompson, 1994; Kaplan & Harrison, 1993; Moeller *et al.*,

2004; Ryan & Schneider, 2002; Sundaramurthy, 1996, cf. reviews by Finkelstein *et al.*, 2008: chapter 9), including acquisition premium decisions (Beckman & Haunschild, 2002; Haunschild & Beckman, 1998).

Such rich evidence ensures that acquisition premium decisions can generally be considered as group decisions, and hence group polarization as a central group decision-making bias may have significant influences. But to the extent that group polarization theory concerns about biases unique to group decision-making, variations in the degree of board influence should affect the extent to which group polarization is manifested on boards. Therefore, I expect that board influence over management is positively associated with the degree of group polarization on boards. More specifically,

Hypothesis 1-7: When directors on a board on average approved a relatively high (low) premium in previous acquisitions, the greater the board influence over management the greater the extent to which the focal premium will exceed (fall below) the average premium approved by directors approved in previous deals.

3.2 Group Polarization and Board Decisions about Executive Compensation

Group polarization may influence other major strategic decisions made by boards. In this section, I discuss how polarization biases may also influence board decisions about CEO compensation.

CEO pay in the United States has increased by about 600% in the past two decades (Gabaix & Landier, 2008). Such a dramatic rise of executive compensation has triggered much public controversy and academic research. Hundreds of academic publications from management, finance, accounting, and economics have intensively

examined the determinants of CEO pay. Normative theories, such as agency theory, suggest that executive compensation based on firm performance should help to align executives' and shareholders' interests. Effective corporate governance practice should further ensure that such performance-based pay is implemented. However, a meta-analysis of this research reveals that firm performance only explains 5% of the variations in CEO pay (Tosi *et al.*, 2000). A recent review of this literature further suggests that traditional indicators of corporate governance quality (such as proportion of outside directors or institutional ownership) only have limited influence on the determinants of executive compensation (Devers *et al.*, 2007, cf. Daily *et al.*, 1998; Deutsch, 2005). Moreover, empirical studies have largely found that the use of performance-based pay leads to managerial manipulations on how their payments are realized and actually causes more misalignment of incentives (Aboody & Lev, 2000; Lie, 2005; O'Connor *et al.*, 2006; Yermack, 1997).

Behavioral scholars have expanded agency theory by suggesting how social and political processes may explain how executive compensations are determined and have found relatively consistent results. Westphal & Zajac (1995) suggests that outside directors, who are economically independent of an organization, may not be truly independent. They found that powerful CEOs tend to select outside directors that are more sympathetic to management and that outside directors selected by powerful CEOs tend to approve higher CEO compensation. Subsequent studies have provided consistent evidence that CEO power is positively related to executive compensation (Core *et al.*, 1999; Wright *et al.*, 2002). In addition, a series of studies have found evidence that executive compensation decisions are significantly influenced by social comparison processes (Ezzamel & Watson, 1998, 2002; Oreilly *et al.*, 1988). These findings suggest that the general level of compensation on the executive labor market

served as basis for social comparison in the process of determining CEO pay.

Interestingly, although boards of directors determine CEO compensation as groups, and there has been much controversy about executive compensation decisions, little is known about how group decision-making biases may contribute to board decisions about CEO pay. In the present study, I suggest that group polarization theory offers a different behavioral approach to study how executive compensations are determined. Following the arguments developed in 3.1.1., I similarly begin by suggesting that directors tend to support a relatively high (low) level of CEO compensation prior to a board meeting when they on average approved a relatively high (low) level of CEO compensation previously on other boards. Moreover, I suggest that board discussions may cause directors to approve an even higher CEO compensation when their prior experiences would lead them to on average support a relatively high level of compensation prior to a board meeting; in contrast, board discussions may cause directors to approve an even lower compensation when they initially seek to support a relatively low level of compensation by virtue of their prior experience on other boards. Following existing research (Ezzamel & Watson, 1998; Oreilly *et al.*, 1988), I suggest that directors often use the market level CEO pay or peer groups' CEO pay as the reference point in assessing high vs. low pay. As summarized by Bizjak, Lemmonb, & Naveen (2008: p154),

"…the compensation committee often uses information on pay practices at comparison or peer companies, which are usually similar-size firms from the same industry. In most firms, salary and, either directly or indirectly, target bonuses and option pay are anchored to the peer group. In assessing target pay levels, salary and bonus and total pay below the 50th percentile are usually considered below market."

The elaborated group polarization theory then suggests that when directors on average seek to support a relatively high level of executive compensation prior to a board meeting, arguments that support a relatively high level of compensation tend to

prevail while counter arguments may be suppressed during board discussions due to directors' tendency to speak confidently about their favored position (Leary *et al.*, 1994; Lorsch & MacIver, 1989). For example, directors may stress that a relatively high pay is necessary to reward the CEO for his or her talent and hard work (Davis *et al.*, 1997; Lee & O'Neill, 2003; Wasserman, 2006), that a relatively high compensation is very common in other companies (Ezzamel & Watson, 1998, 2002; Oreilly *et al.*, 1988), and so on. They may also avoid betraying uncertainties about their support to a high pay by withholding concerns about it. By contrast, when directors on average tend to support a relatively low CEO pay, they may emphasize that restricted CEO compensation has been demanded by key stakeholders (such as shareholders, employees, and the public) (Gabaix & Landier, 2008; Ozerturk, 2005; Wade *et al.*, 2006), and that a relatively low level of CEO compensation is also occurring on other boards that they served (Ezzamel & Watson, 1998), etc. Accordingly, arguments supportive to the board's initially favored position tend to prevail during board discussions.

Moreover, as board discussions reveal that the board as a whole tends to support a relatively high (low) level of CEO pay those who initially have reservations about such prevailing views may tend to suppress their private opinions to avoid social risks of voicing minority opinions (Westphal & Bednar, 2005; Westphal & Khanna, 2003; Williams & O'Reilly, 1998; Wood *et al.*, 1994). For example, when most directors are advocating a relatively high level of focal CEO compensation and arguing that the talent and hard work of the CEO should be rewarded, directors who prefer a relatively low compensation may face substantial risks of arguing against the majority. Accordingly, information exchange during board discussions tends to be further biased towards favoring a relatively high (low) level of CEO compensation

when directors initially on average support a high (low) CEO pay.

In addition, directors also tend to become increasingly confident about approving a relatively high (low) level of CEO compensation when arguments supporting a relatively high (low) compensation prevail and become particularly salient and accessible (Echterhoff et al., 2005), when directors perceive such arguments to be shared by others (Baron et al., 1996), and when they tend to overattribute fellow directors' support for a high (low) level of CEO compensation to their confidence about such a high (low) CEO pay and underattribute others support to avoidance motivations (e.g., motivations to avoid revealing minority status or to avoid expressing uncertainties underlying the supported position) (Ross & Nisbett, 1991). By contrast, they may become less confident about questioning a relatively high (low) level of CEO compensation when they recognize the unpopularity of doing so, when poorly represented concerns about a high (low) CEO pay make arguments against a high (low) level of CEO compensation less salient, and when they underattribute others' support to a high (low) CEO pay to avoidance motivations. As a result, when prior experience of directors would lead them to on average support a relatively high level of CEO compensation prior to a board meeting, they will become even more confident and certain about supporting a relatively high CEO pay following the board meeting; but when prior experience of directors would lead them to on average support a relatively low CEO compensation prior to a board meeting, they will develop enhanced confidence about supporting a relatively low CEO pay following the board meeting[3]. This suggests that,

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[3] I have focused on explaining how group polarization may occur in face-to-face board meetings because compensation decisions are finalized in such discussions. But it is worth mentioning that discussions about CEO compensation may occur outside the boardroom, and that face-to-face group discussions are not required for group polarization to occur. A stream of research on group polarization provided consistent evidence that group polarization can occur when group members are merely exposed to each other's favored position (see reviews by

Hypothesis 2-1: When directors on a board on average approved a relatively high (low) level of CEO compensation in previous board decisions, they tend to approve an even higher (lower) focal CEO compensation than the average CEO compensation approved by them in prior board decisions.

Following the theoretical arguments developed earlier, I also expect the factors discussed in 3.1.2-3.1.7 to similarly attenuate or exacerbate group polarization biases in board decisions about CEO compensations. These hypotheses are labeled as Hypothesis 2-2 to Hypothesis 2-7 accordingly.

3.3 Group Polarization and Board Decisions about Changing the Degree of Diversification

Board decisions about changing the degree of diversification also can be influenced by group polarization biases. Deciding the appropriate degree of diversification is a fundamental issue to corporations (Rumelt *et al.*, 1994). A large body of research from strategy, organizational theory, finance, economics, and accounting suggests that diversification strategy may significantly influence firms' performance and survival (Hitt *et al.*, 2006; Hoskisson *et al.*, 2005; Peng *et al.*, 2005). While four decades of research has examined the relationship between the level and/or type of diversification and performance, researchers and practitioners to date are still debating about what level of diversification firms should choose (Bercovitz & Mitchell, 2007; Chakrabarti *et al.*, 2007; Critelli, 2005; Huckman & Zinner, 2008;

Isenberg, 1986). The theoretical mechanisms through which polarization occurs in mere exposure studies are largely the same as in face-to-face studies. Accordingly, discussions outside the boardroom may also contribute to the observed group polarization effect through the theoretical mechanisms discussed above.

Markides, 1997; Rigby, 2001; Santalo & Becerra, 2008). In particular, numerous empirical studies have supported various relationships between the degree of diversification and performance, ranging from positive (Villalonga, 2004), negative (Laeven & Levine, 2007; Lang & Stulz, 1994), to curvilinear (Palich *et al.*, 2000). Many scholars have also concluded that the diversification literature still lacks basic consensus regarding what level of diversification is appropriate (Markides, 1997; Markides & Williamson, 1994; Palich et al., 2000).

The complexity and uncertainty of deciding the appropriate degree of diversification have motivated behavioral scholars to investigate *how* decisions about changing diversification are actually made. Institutional theory suggests that the decline of conglomerates can be explained by changes in prevailing institutional logics from viewing firms as portfolios of businesses to favoring firms as a network model of regularized economic exchange (Davis *et al.*, 1994). Research on power and politics emphasize that reduction in the degree of diversification reflect the increasing control of powerful shareholders over managers who tend to pursue high degree of diversification at the costs of shareholders (Davis & Thompson, 1994; Useem, 1993, 1996). Zuckerman (2000) found that existing division of labor among security analysts may force firms to reduce their degree of diversification in order to maintain a coherent product identity. Wiersema & Bantel (1992) reported that top management teams' demographic characteristics help to predict changes in diversification. Westphal and colleagues (Westphal *et al.*, 2001) further showed that procedures of increasing or decreasing diversification diffused through interlock networks.

Although much research has enhanced our understandings about how macro-factors and demographic characteristics of top management teams may influence changes in diversification, little is know about the group decision-making

processes underlying this critical decision. In particular, although existing research on boards suggests that directors have substantial influences on changing corporate strategy (Johnson *et al.*, 1993; Lorsch & MacIver, 1989), little is known about the processes through which boards decide the level of diversification.

In the present study, I propose that group polarization as a central decision-making bias may help to explain how boards change the degree of diversification. Following the theoretical arguments developed in 3.1.1., I similarly begin by suggesting that the average pre-meeting position of directors regarding changing the level of diversification tends to reflect the average level of diversification changes previously approved by directors on various boards. Following the elaborated group theory discussed earlier, I suggest that when directors on average seek to support an increase in focal diversification level prior to a board meeting, arguments that support increases in diversification tend to prevail while counter arguments may be poorly represented during board meetings due to directors' needs to present themselves favorably and confidently (Leary et al., 1994; Vohs et al., 2005). For example, directors may argue that further expanding to a different business offers new opportunities to exploit a firm's existing resources, and hence help to improve current performance (Barney, 1991; Miller, 2004; Penrose, 1959), that an increase in diversification level will enhance a firm's abilities to respond to multi-market competition (Gimeno & Woo, 1996; Stephan *et al.*, 2003), that many boards served by them have recently increased the level of diversification (Westphal *et al.*, 2001), and so on. They may further tend to present themselves confidently by suppressing counterarguments. By contrast, when directors on average tend to support a decrease in diversification, they may emphasize that focusing on core competency is critical to ensuring superior performance (Chiesa & Manzini, 1997; Prahalad &

Hamel, 1990), that managing different businesses has substantial costs and concentration should improve current performance (Williamson, 1999; Yin & Zajac, 2004), that many firms served by them have decreased the level of diversification recently (Westphal *et al.*, 2001), and so on. Directors who support decreases in diversification may instead tend to under-emphasize the potential benefits of increasing diversification levels so that they can portray a confident image before fellow directors. Accordingly, arguments supportive to the board's initially favored position tend to prevail in board discussions, leading to biased information exchange in board decisions.

Moreover, as group discussions reveal that the board as a whole tends to favor an increase (decrease) in the focal firm's diversification level, those who initially have reservations about increasing (decreasing) diversification may tend to suppress their point of view to avoid social risks of voicing minority opinions (Westphal & Bednar, 2005; Wood *et al.*, 1994). For example, when most directors argue that the firm should exploit existing resources through further diversifying into different businesses, directors with minority opinions can feel pressured to avoid challenging such a prevailing position. By contrast, when most directors recommend that focusing on core competence is the right strategy, the minority may face substantial risks of arguing for diversifying further into different businesses. Accordingly, information exchange during board discussions tends to be biased towards favoring increases (decreases) in the level of diversification when directors on average seek to support an increase (decrease) in diversification prior to a meeting.

In addition, directors also tend to become increasingly confident about an increase (decrease) in diversification level when arguments supporting an increase (decrease) in diversification level prevail and become particularly salient and

accessible (Echterhoff et al., 2005), when directors perceive such arguments to be shared by others (Baron et al., 1996), and when they tend to overattribute fellow directors' support for an increase (decrease) in diversification level to their confidence about such an increase (decrease) and underattribute others support to avoidance motivations (Ross & Nisbett, 1991). By contrast, they may become less confident about questioning an increase (decrease) in diversification level when they recognize the unpopularity of doing so, when poorly represented concerns about an increase (decrease) in diversification level make arguments against an increase (decrease) in diversification level less salient, and when they underattribute others' support to an increase (decrease) in diversification level to avoidance motivations. As a result, when prior experience of directors would lead them to on average support an increase in diversification level prior to a board meeting, they will develop enhanced confidence about supporting such an increase following the board meeting; but when prior experience of directors would lead them to on average support a decrease in diversification level prior to a board meeting, they will develop enhanced confidence about supporting such a decrease following the board meeting. This suggests that,

Hypothesis 3-1: When directors on a board on average approved an increase (decrease) in the level of diversification in previous decisions, they tend to approve an increase (decrease) in the focal firm's diversification that is even greater than the average degree of increase (decrease) in diversification approved by them in prior decisions.

Similarly, I also expect the factors discussed in 3.1.2-3.1.7 to attenuate or exacerbate group polarization biases in board decisions about changing the degree of

diversification in response to poor performance. These hypotheses are labeled as Hypothesis 3-2 to Hypothesis 3-7 accordingly.

CHAPTER 4

DATA AND METHODS

4.1 Sample and Data

The initial sample includes all publicly traded firms on the 1995 Fortune 500 Companies list (457 firms in total)[4]. The 1995 list is selected because earlier Fortune 500 lists only include manufacturing companies. The 1995 Fortune 500 list includes both manufacturing and non-manufacturing firms, and thus allows the researcher to examine the generalizability of the findings from this study. Focusing on publicly traded companies is necessary because it is very difficult to obtain longitudinal data on acquisitions by private companies and to collect necessary information about their directors over time.

I chose to study group polarization in boards' major strategic decisions between 1995 and 2006 for several reasons. First, a large number of existing studies, including interviews and surveys conducted with directors, have consistently reported that directors play critical roles in making decisions about acquisition premiusm, executive compensation, and diversification (Beckman & Haunschild, 2002; Haspeslagh & Jemison, 1991; Haunschild & Beckman, 1998; Lorsch & Maclver, 1989; McDonald & Westphal, 2003; McNulty & Pettigrew, 1999). This suggests that these decisions are collective decisions and should be appropriate settings to study

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[4] Over 40 firms were not publicly traded.

group decision-making processes[5]. Second, the decisions studied in this dissertation have been characterized as complex and uncertain decisions. Existing research suggests that a behavioral approach can be particularly appropriate to understand such decision processes (Hambrick & Mason, 1984; Nelson & Winter, 1982; Simon, 1947). Finally, there is rich evidence suggesting that directors are increasingly involved in strategic decisions after the 1980s (Davis & Thompson, 1994; Kaplan & Harrison, 1993; Moeller *et al.*, 2004; Ryan & Schneider, 2002; Sundaramurthy, 1996). In particular, with the implementation of Sarbanes-Oxley Act in 2002, directors are having more influence on strategic decisions than ever. Therefore, 1995-2006 is also an excellent period to study how directors are shaping strategic decisions and how group polarization may affect important organization decisions. Missing data has reduced the effective sample size. The final sample for the study of acquisition premiums includes 199 companies and 541 acquisitions announced between January 1995 and December 2006. The study on executive compensation includes 326 companies, and 2467 observations. The final sample for the diversification study includes 228 companies and 1241 observations.

The unit of analysis is individual board decisions. It is worth mentioning that group polarization is not a characteristic of certain boards. Rather, the theory suggests that group polarization bias occurs during *a given board meeting*. To what extent and towards which direction this bias may occur depend on who is involved, the average pre-meeting position of the board, and other factors[6].

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[5] As discussed earlier, I also consider the extent of board influence as a factor that may exacerbate group polarization biases.

[6] For example, in 1995 company A's directors may on average approved a relatively high premium prior to a board meeting, implying that they may tend to approve an even higher focal premium after the meeting. But in 2000, the average premium approved by directors may become relatively low (i.e., new directors can bring in low premium experience, and incumbent directors may have experienced low premium acquisitions in this period), suggesting that this board may approve an even lower focal premium after a board meeting that year.

Data are collected from various sources. The 1995 list of Fortune 500 companies is obtained directly from Fortune's website. COMPUSTAT and Hoover's Online are used to further determine which company is public. Information about board membership is collected from Compact D. Monthly issued Compact D disks between January 1991 and July 2006 are combined into a single yearly-based dataset, which keeps such information as company name, CUSIP number, director name, age, and year. This dataset is further cleaned to correct typographical and spelling errors in director names (i.e., any character on the key board that is not expected to show up in human names). Dash, space, prime, comma, and dot are handled with specific procedures as described below.

Names of Fortune 500 directors are matched with names of all directors on the boards of publicly traded U.S. companies over time. Several procedures are adopted to make sure that names are matched correctly across companies and across time. Names of all directors in the population are further cleaned. Last names in Compact D are separated from first names and surnames by a comma. First names are then separated from surnames by another comma[7]. When a last name contains one dash ("-") or space ( ), lastname1 is created to keep characters before the dash or space and lastname2 is created to contain characters after the dash or space. I then create four variations for such a last name. For instance, "Owen-Smith" will correspond to "Owen-Smith", "Smith-Owen", "Owen Smith" and "Smith Owen". This procedure is adopted because many directors use such variants of their last names frequently when reporting their affiliations with the same board over time. Last names containing more than one dash or space are rare and are mostly due to typos.

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[7] Real first names and middle names cannot be distinguished in the data, and hence are together referred to as "first names".

Such cases are cleaned manually. I also take numerous steps to clean first names. My intent is to address systematic errors or inconsistencies as much as possible. For instance, when a first name has only one space or dash, firstname1 and firstname2 are created in correspond to characters before and after the space or dash respectively. Similarly, four variants of such a first name are created (i.e., Susan Marry, Susan-Marry, Marry Susan, and Marry-Susan). When there are two spaces in a first name, I replace one space with prime whenever appropriate (e.g. "O Neal" is changed to "O'Neal"), etc. Among these several million name-year-board records contained in this raw dataset, only about 1 percent of all names cannot be cleaned by systematic programming. Therefore, these special cases are unlikely to influence the overall findings.

Names are first matched by full last names and first name initials. I then dropped matched records where any of the first eight characters of matched first names are inconsistent (e.g., Mike and Miller). I then utilize birth year to further narrow the matching. A given director may report different ages to a given company in a given year perhaps because some individuals relied on their birth dates to determine their ages (i.e., in a given year, a given individual may report an age of 46 prior to the birth date and 47 after the birth date). To address this issue, I generated a median birth year for a given director on a given board across time[8]. I then dropped any matched records that have discrepancies in median birth year for greater than 2 years.

Three datasets are created following three different matching criteria. The first dataset only keeps those records where last name, first name, and birth year all

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[8] In a few cases, father and son serve the same board and have identical names. These cases can be easily detected when the median birth year and the mean birth year for a given name differ for greater than 3 years.

matched. Two last names are considered as matched only if two last names are identical (or variations of the last names are identical). Two first names are considered to match if 1) full first names are available, 2) firstname1 (firstname2) fully matches, and 3) there are no inconsistencies in firstname2 (firstname1). The second dataset includes all records in the first dataset. In addition, it contains those records where only first name initials are available and birth years are matched. The third dataset further expands the second dataset by including those records where birth years are missing. When changing from the strictest to the least strict matching criteria, less than 5% of the matched records are affected. This ensures that matching procedures are unlikely to be a major issue in data construction. I thus report the primary findings based on the second dataset. Separate analyses further confirmed that the results are robust to different name matching criteria.

Data about acquisitions are obtained from SDC. Both completed and non-completed acquisitions announced by sample firms and their board interlock network partners between January 1991 and December 2006 are included in the data. This avoids any sampling bias associated with restricting the sample to only completed acquisitions. Data on executive compensation are collected from COMPUSTAT North America's Executive Compensation Dataset and Thomson Financials. Data on diversification are downloaded from COMPUSTAT's Industrial Annual Dataset. Biographies of directors are obtained from a variety of sources that have been extensively used in prior research, including *Dun and Bradstreet Reference Book of Corporate Management, Capital IQ (the updated version of Standard and Poor's Register), the Social Register, Marquis' Who's Who*, corporate proxy statements, and annual company reports (Domhoff, 2002; Palmer & Barber, 2001; Useem & Karabel, 1986). Two undergraduate research assistants independently coded

these biographies. To assess inter-coder reliability, I correlated the ratings of the two coders for a random sample of 100 biographies. The correlation is 89, suggesting very high inter-coder reliability. Information about firm size, performance, industrial concentrations, and other variables is obtained from various sources, including *COMPUSTAT*, *CRSP, Thomson Financials, and RiskMetrics.*

4.2 Dependent and Independent Variable

4.2.1 Variables in the Study of Acquisition Premiums

Focal Acquisition Premium is measured by the percentage difference between the actual price paid to a target firm and the market price of the target before the acquisition event (Beckman & Haunschild, 2002; Hayward & Hambrick, 1997). The premium paid to the target is calculated by SDC as the percentage difference between the final price per target share paid by the acquiring firm and the target's stock price several weeks before the announcement date (to avoid stock price distortions caused by information leakage surrounding acquisition announcement) (Ayers *et al.*, 2003; Gaspar *et al.*, 2005; Haunschild, 1994; Nathan & Okeefe, 1989). In the primary analysis, I use premiums calculated four weeks prior to the announcement dates. In separate analyses, I also used different time periods to calculate premiums (i.e., one week and one day) and found largely similar results.

Average Prior Premium is calculated as the grand mean of all premiums experienced by directors across all boards during the prior 48-month period (month t-48 to t-1, inclusive). The grand mean is simply the mean of individual-level average prior premiums. Existing research suggests that considering the acquisition experience of all directors is appropriate because both inside and outside directors have substantial influences on acquisition premium decisions (Haunschild, 1994;

Haunschild & Beckman, 1998). I also utilized different lag structures (e.g. month t-36 to t-1, and year t-24 to t-1) and found few differences in the overall results. Findings are thus reported based on measures using a 48-month lag structure.

Directors on a board are considered to have on average approved a relatively high premium in previous acquisitions when over 50%[9] of directors approved relatively high premiums in prior acquisitions. A director is considered to have approved relatively high premiums when the average premium approved by the director is above a reference point. I follow existing behavioral research on reference points to suggest that directors on the boards of Fortune 500 companies tend to refer to acquisition premiums approved by similarly large companies (Westphal & Bednar, 2005). The mean and median premiums paid by Fortune 500 firms during the study period are 38% and 34% respectively. A director's average prior premium is thus considered to be relatively high if it is above 38% or 34%. I also test whether the results are robust to alternative specifications of the reference point, including mean and median premiums paid by Fortune 500 companies over the prior three-year period, and four-year period. Anecdotal evidence based on my face-to-face interviews with directors also suggests that directors generally consider a 50% premium as being relatively high and a 20% premium as being relatively low. Further analyses show that group polarization effect also holds when boards whose mean prior premium falls between 20% and 50% are dropped. This further suggests that the overall finding is not sensitive to the specification of the reference point. Moreover, post-hoc analyses also consistently revealed that boards tend to approve higher (lower) focal premiums when the average prior premium of all directors exceeds (falls below) 35%[10]. The

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[9] In separate analyses, 55% and 60% are used and the findings are very consistent.
[10] Please refer to the 'Analytical Method' section for further discussions about the post-hoc analyses.

primary analyses thus used 35% as the reference point. As expected, additional analyses show that the results are highly consistent across different specifications of the reference point.

Demographic homogeneity is measured according to five demographic characteristics that have been shown to be salient bases for promoting interpersonal trust and open communications. First, functional background homogeneity has been shown by several studies to enhance social integration among directors (Fligstein, 1987; McDonald & Westphal, 2003; Westphal & Bednar, 2005). I follow several existing studies to categorize functional backgrounds into three categories: throughput functions (engineering, operations, or research and development), output functions (marketing or sales), and peripheral functions (finance and law) (Hambrick & Mason, 1984; McDonald & Westphal, 2003; Westphal & Bednar, 2005). Second, several studies have found that industry of employment provides a salient basis for social identification among top executives and directors (McDonald & Westphal, 2003; Porac *et al.*, 1999; Westphal & Bednar, 2005). These studies have suggested that homogeneity in industry of employment usually promotes social integration and facilitates communications. Third, there is evidence that homogeneity in terms of educational affiliation and highest education level promotes interpersonal trusts and communication among corporate leaders (Palmer & Barber, 2001; Westphal & Bednar, 2005; Westphal & Zajac, 1995). An Ivy League education and a common highest level of education (i.e., PhD, Masters, Bachelors, or Associates degree) have been shown to be two salient bases for social identification among directors. Finally, gender homogeneity has been shown by a large number of studies to positively influence social integration in organizations (Pelled *et al.*, 1999; Tsui *et al.*, 1992;

Williams & O'Reilly, 1998). Research on directors in particular has also found that gender is a salient basis for social identification (Westphal & Bednar, 2005).

Following existing studies on demographic homogeneity, I calculate homogeneity on each demographic characteristic by using a variant of Blau's index (Blau, 1977), defined as $\sum(P_i)^2$, where P_i is the proportion of directors in the ith category (i.e., functional background, primary industry of employment, having an Ivy league degree or not, highest degree obtained, and gender). These five measures are then combined into a single index of demographic homogeneity using principal components analysis (Jackson, 1991). Principal components analysis is a data reduction technique and has been shown to be appropriate for combining causal (vs. reflective) indicators of a construct (MacCallum & Browne, 1993). Factor analysis shows that all five variables loaded on a single factor with an eigenvalue greater than one (Sharma, 1996). A scree plot of all eigenvalues further confirmed that a single factor should be retained (Jackson, 1991).

Pre-meeting Position Diversity is measured by the Blau's index of heterogeneity, a widely adopted means of measuring variation in categorical data. Specifically, $Position\_diversity = 1 - \sum(P_i)^2$, where P_i is the proportion of directors in the ith category (i.e., minority vs. majority). Boards with the most diverse pre-meeting positions will have a score of .75 in this context and boards with the least diverse positions (i.e., when all directors seek to support the same position) will have a score of zero.

Power of the minority relative to the majority (rpower). This study adopts four different measures of subgroup (i.e., minority and majority group) power. The first measure is the number of board positions held by the minority divided by the total number of board positions held by all directors. A number of studies have suggested that the number of board

appointments held by directors as an indicator of influence and status in the corporate elite (Finkelstein, 1992; Useem, 1984; Westphal & Khanna, 2003). Directors with more board appointments can potentially provide more valuable information and resources to the focal firm, and hence gain power through their contacts with other organizations (Burt, 1992; Finkelstein, 1992). The second is the number of CEO positions held by the minority divided by the total number of CEO positions held by all directors on the board. Since CEO-directors play critical roles in making strategic decisions and control important resources of their home companies, the status of being a CEO has been often regarded as reflecting great power (Westphal & Zajac, 1997). Similar to the second measure, the third measurement of power is the number of executive-director positions held by the minority divided by the total number of executive-director positions held by all directors. Directors that are CEO or non-CEO executives are more directly involved in strategic decisions at their home companies than non-executive directors, and are often considered as having more power in controlling important resources. The fourth measure of subgroup power is simply the size of the subgroup. Research in group decision has provided evidence that size of the group often indicates its influence relative to other groups (Tanford & Penrod, 1984; Wood et al., 1994). I combined these four measures of minority power into a single index (**mipower**) using principle component analysis (Jackson, 1991). Factor analysis shows that all three variables loaded on a single factor with an eigenvalue greater than one (Sharma, 1996). A scree plot of all eigenvalues further confirmed that a single factor should be retained (Jackson, 1991).

Acquisition experience of the minority relative to the majority is calculated as the average number of acquisitions approved by the minority 48 months prior to the focal decision divided by the average number of acquisitions approved by the majority in the same time period. When directors on a board on average approved a

relatively high (low) premium in prior acquisition, a director whose average prior premium is relatively low (high) is considered as a minority. This measure thus reflects the average acquisition experience of the minority group relative to the majority group.

Relative similarity between the focal acquisition and prior acquisitions (minority vs. majority) measures the extent to which the minority's prior acquisitions are more similar to the focal acquisition than the majority's previous acquisitions. Following existing research on acquisitions, I compare acquisitions by considering the size of the acquirer, the size of the target, and the relatedness between the acquirer and the target in terms of industry affiliations (Beckman & Haunschild, 2002; Hayward, 2002; Hayward & Hambrick, 1997). More specifically,

$$SimAsize = abs(\frac{1}{\frac{FocAcqr\_size - Min\_aveAcqr\_size}{sd(acqr\_size)}}) = abs(\frac{FocAcq\_size - Maj\_aveAcqr\_size}{FocAcq\_size - Min\_aveAcqr\_size}),$$

where SimAsize is the relative similarity of prior acquisitions to the focal acquisition in terms of acquirer size (minority vs. majority), FocAcqr_size is the size of the focal acquirer (total assets), Maj_aveAcqr_size is the average size of acquirers served by directors with majority opinions three years prior to the focal acquisition, Min_aveAcqr_size the average size of acquirers served by directors with minority opinions three years prior to the focal decision, and sd(acqr_size) is the standard deviation of acquirer size (among all acquisitions experienced by all directors on the focal board). The denominator measures the relative difference of acquirer size (minority vs majority). This relative difference is created by dividing the difference between the average prior acquirer size (minority) and the focal acquirer size (by number of standard deviations) by the difference between the average prior

acquirer size (majority) and the focal acquirer size. The relative similarity is the absolute value of the inverse of the relative difference.

Similarly, two other measures were created in the same way to capture the relative similarity of target size, and industry relatedness[11]. These three measures of relative similarity (minority vs. majority) are then combined into a single index of overall prior experience similarity (**rsimexp**) using principal components analysis (Jackson, 1991). Principal components analysis is a data reduction technique and has been shown to be appropriate for combining causal (vs. reflective) indicators of a construct (MacCallum & Browne, 1993). Factor analysis shows that all three variables loaded on a single factor with an eigenvalue greater than one (Sharma, 1996). A scree plot of all eigenvalues further confirmed that a single factor should be retained (Jackson, 1991).

Board influence is measured by an index based on four different measures of outside directors' influence over management. The first measure is the average tenure of outside directors on the focal board relative to the average tenure of insiders (i.e., board members that are executives of the focal firm). Long-tenured directors tend to possess expert power through increased familiarity with the focal firms' resources and methods of operations (Singh & Harianto, 1989; Wade *et al.*, 1990). In addition, long-tenured directors that were appointed before the current CEO took office are less likely than low-tenured directors to feel beholden to or sympathetic towards the CEO (Finkelstein & Hambrick, 1989; Westphal & Zajac, 1995). Accordingly, a longer average tenure of outside directors relative to insiders should reflect a greater board influence over management. The second measure is the total number of board appointments held by all outside directors divided by the total number of board

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[11] The relatedness between an acquire and a target was measured based on SIC codes. The measure equals to 4 if the acquirer and the target share the same 4-digit SIC code; 3 if the same 3-digit SIC code is shared; 2 if the same 2-digit SIC is shared; 1 if the same 1-digit SIC is shared; and 0 if the first digit SIC codes for the acquirer and the target are different Beckman CM, Haunschild PR. 2002. Network learning: The effects of partners' heterogeneity of experience on corporate acquisitions. *Administrative Science Quarterly* **47**(1): 92-124.

appointments held by all insiders. Researchers have long viewed the number of board appointments held by directors as an indicator of influence and status in the corporate elite (Finkelstein, 1992; Useem, 1984; Westphal & Khanna, 2003). Directors with more board appointments can gain power through their contacts with organizations that may provide valuable information and resources to the focal firm (Burt, 1992; Finkelstein, 1992). The third measure is the proportion of outside directors on the board. This measure of board influence has been widely used in existing corporate governance research (see reviews by Finkelstein *et al.*, 2008). Since insiders are more likely to accommodate the CEO's preferences, boards that are predominately made up of outsiders tend to have greater control over management. The fourth measure is the structure of the board in terms of whether the board chair position is also occupied by the CEO. A number of studies have found that separation of the CEO and the board-chair positions usually reflects greater control of the board over management (Boyd, 1995; Finkelstein & Daveni, 1994; Sundaramurthy *et al.*, 1997). I combined these four measures of board influence into a single index by using principle component analysis. Factor analysis showed that all five variables loaded on a single factor with an eigenvalue greater than one (Sharma, 1996). A scree plot of all eigenvalues further confirmed that a single factor should be retained (Jackson, 1991).

Controls. A set of variables is included as financial controls. The ***size of the acquirer*** and the ***size of the target*** are measured by the acquirer's and the target's total assets, respectively. Since these two variables are highly skewed, the log of their values is used in the analyses. The model also controls the financial performance of the acquirer and the target by using the ***acquirer's ROE*** and the ***target's ROE*** twelve months prior to the acquisition.

A number of deal-level variables that can influence acquisition premium decisions are further controlled. These variables include the ***size of the deal*** (log of

deal value, in million dollars), the **_number of competing bidders_**, **_status of the_** **_acquisition (completed or not completed)_**, **_type of the acquisition (hostile or_** **_non-hostile)_**, **_product synergies_** (measured by industry-relatedness using SIC codes: equal to i if the target and the acquirer share a common i-digit SIC code, where i=1,2..4.; and zero if the target and the acquirer are in unrelated industries), and **_financial synergies_** (measured as debt/equity ratio of the target minus the same ratio of the acquirer)(Haunschild, 1994; Hayward & Hambrick, 1997; Slusky & Caves, 1991). The **_method of payment_** (primarily cash vs equity) is also controlled for, as a number of studies have suggested that acquisitions financed by cash tend to have higher premiums than acquisitions financed by equity (Eckbo & Langohr, 1989; Faccio & Masulis, 2005; Martin, 1996).

Acquisition premium decisions can also be influenced by third parties, particularly investment bankers (Haunschild, 1994; Haunschild & Beckman, 1998). Accordingly, I follow several existing studies to control the influence of investment bankers by using the average level of premium paid by all involved investment bankers several years (i.e., the same period used to calculate average prior premium of all directors) prior to the focal acquisition. I also controlled for the total number of acquisitions involved by all investment bankers in the same period (Haunschild, 1994; Haunschild & Beckman, 1998). Since this variable is highly skewed, the log of its value is used in the analyses.

Factors that reflect effective corporate governance are also included in the analyses. These factors include **_the proportion of institutional ownership, the_** **_proportion of insider ownership_**, and **_the index of board influence of management_**. I also included a variable to indicate whether any **_take-over defense_** has occurred during the focal acquisition.

Numerous other factors that may affect premium decisions are also controlled for. Specifically, the degree centrality of the acquirer in the interlock network is included. This is because more central acquirers may be able to exercise their power and pay lower premiums (Beckman & Haunschild, 2002). Since existing studies suggest that the average level of premium paid by interlocking network partners may influence a focal firm's premium decisions (Haunschild, 1994), the model further includes *interlock network partner's average level of premium* as a control variable. In addition, *the average acquisition premium in the focal firm's prior acquisitions* and *the total number of prior acquisitions by the focal firm* are also included. Although existing evidence suggests that firms generally do not learn from their own acquisition experiences(Haleblian & Finkelstein, 1999), it is still possible that firms can be influenced by their previous premium decisions. *Diversity of interlock partner's premiums* is also included as it may reduce the focal premium by facilitating effective sampling in board decisions (Beckman & Haunschild, 2002). Moreover, *CEO hubris* is controlled for as it has been shown to affect premium decisions (Hayward & Hambrick, 1997). Following Hayward and Hambrick (1997), I created two measures of CEO hubris. The first measure is the acquirer's recent stock performance, measured as stockholder returns during the twelve months prior to the acquisition event. The second measure is CEO compensation relative to the second-highest-paid executive. These two measures of hubris are then combined into a single index of hubris using principle components analysis. *Board size* is also included because existing research on group dynamics suggest that the size of the group may sometimes influence group decisions (Hogg, 1992; Moscovici & Doise, 1994). Finally, primary industry of the acquirer and year of the acquisition are

controlled for by using **industry dummies** (two-digit SIC code) and **year dummies**, respectively.

4.2.2 Variables in the Study of Executive Compensation

Focal CEO compensation. CEO total compensation is measured as annual total direct compensation, including salary, short-term bonus, and the value of long-term incentive grants made in a given year (Crystal, 1984). Following existing research, stock option grants were valued using the Black-Scholes method (Black & Scholes, 1973), and other long-term grants (e.g. performance shares and restricted stock) were valued at the market price on the date of grant (Crystal, 1984).

The dependent variable, compensation in comparison to peers, was measured as

$$Comp\_peer = \frac{FocalComp_t - PeerMedian\,Com_{t-1}}{PeerMedian\,Com_{t-1}}$$, where FocalComp$_t$ is the total

compensation of the focal CEO in year t, PeerMedianCom$_{t-1}$ is the median level CEO compensation for a peer group of companies. Following the procedures recommended by (Bizjak *et al.*, 2008), and consistent with other studies (Ezzamel & Watson, 1998; Oreilly *et al.*, 1988), I created peer groups in two steps. First, for each year and each industry (based on two-digit SIC codes), I ranked all firms by their total sales. Firms with above-median sales are classified into the large firm group and firms with below-median sales form the small firm group. Second, for each industry-year-firm group, I then calculated the median CEO compensation. This approach is also consistent with research findings that firm size and industry are two most well documented factors that influence CEO compensation decisions (Devers et al., 2007).

Comp_peer thus captures the extent to which the focal CEO's compensation is above or below the market (or peer group median compensation). Existing research on CEO

compensation has documented the widespread use of peer groups in board decisions on CEO compensation. For example, Bizjak et al. (2008) found that 96% of their sampled S&P 500 companies used peer groups in determining CEO compensation (reported in corporate proxy statements). Accordingly, this variable captures the core aspect of board decisions on compensation (i.e., how much CEO compensation should be above or below the market).

Average level of CEO compensation in comparison to peer groups approved by directors in prior decisions (prior compensation). To create this variable, I first calculated the median compensation experience of each director. For example, for a board with n directors, if director j served k boards in the prior year, I calculated Comp_peer for each firm where this director served as a board member and obtained the median experience of director j. I then calculated the average value of this variable among all directors on the focal board.

$$prior\_compensation = Mean[Median_j(\frac{FocalComp_{it} - PeerMedianCom_{it-1}}{PeerMedianCom_{it-1}})],$$

Where i=1, 2, ..k; j=1, 2,…n. In separate analysis, I also used each director's mean prior compensation experience to create this variable and found largely similar results. Results are also essentially unchanged with directors' experience in prior two years are used to create this variable. Existing research suggests that considering the compensation experience of all directors is appropriate because both inside and outside directors have substantial influences on compensation decisions (McDonald & Westphal, 2003; Westphal, 1998).

As discussed earlier, a director is said to support a relatively high (low) compensation prior to a board meeting if this director's median prior compensation is above (below) market. Directors on a given board are said to on average support a relatively high

(low) compensation if over 50%[12] of directors have median prior compensations above (below) market.

   Demographic homogeneity, diversity of pre-meeting positions, power of the minority relative to the majority, *and* ***board influence*** are measured in the same way as they are measured in the study of acquisition premiums. ***Relative experience (minority vs. majority)*** is not examined in the study of executive compensation (or in the study of diversification). This is because variables that capture the number of directors' prior compensation (or diversification) decisions (i.e., number of board appointments) will better reflect their general experience of serving as directors. Since directors' general experience or influence is examined in another hypothesis, H2-4 and H3-4 are not examined. ***Similarity of prior compensation decisions*** are evaluated along several important dimensions, including firm size (total sales), firm performance (ROA), and firms' industry affiliations (measured using the same method to measure industry-relatedness in the acquisition premium study). This approach is consistent with existing research on executive compensation, which suggests that firm size, industry affiliation, and performance are three most widely recognized factors that influence CEO compensation decisions (Gomez-Mejia & Wiseman, 1997; Tosi et al., 2000). An index based on three dimensions of similarity **(rsim)** was then created using Principle Component Analysis.

   Controls. I control *firm size* (log of total sales) and *firm industry* as existing research on CEO compensation often suggests that firm size and industry are two factors that can influence CEO pay (see recent reviews by Finkelstein *et al.*, 2008). I also included two measures of firm performance: *return on assets* and *market-to-book ratio*, as some studies have suggested that CEO pay can be related to firm performance (see reviews by Devers *et al.*, 2007; Gomez-Mejia & Wiseman, 1997). Both measures of performance are

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[12]   In separate analyses, I also used 55% and 60% as the cutting point, and found largely similar results.

adjusted for industry differences (i.e. by subtracting the primary industry median value from the focal firm value). I further included *the lagged value of focal CEO compensation in comparison to peer groups* in all models. In separate analyses, I also specified this variable as an instrumented variable and found very similar results. *Total level of diversification* is also controlled for because existing research suggests that CEOs of more diversified companies have greater information-processing demands, and hence tend to receive higher pay (Gomez-Mejia, 1992; Henderson & Fredrickson, 1996; Li, 2002). I used the entropy measure of product diversification, which has been shown to have good construct validity relative to alternative measures (Hoskisson *et al.*, 1993). I also included *insider ownership* and *institutional ownership*, which have both been shown to be related to CEO compensation (Tosi et al., 2000). The index of *board influence over management* (based on the proportion of outsiders, average tenure of outsider relative to insiders, CEO duality, and the number of board appointments held by outsiders relative to insiders) is also included in all models as greater board influence over management may tend to reduce CEO pay through reducing CEOs' influence on this decision (Westphal & Zajac, 1995). *Year dummies* are also included in all analyses.

4.2.3 Variables in the Study of Changing the Degree of Diversification

Change in the focal firm's diversification level. I used the entropy measure of product diversification, which captures the extent to which a firm operates in multiple industries. It is calculated as $entropy\_div = \sum P_i \ln(\frac{1}{P_i})$, where P_i is the proportion of the firm's sales made in segment i. The entropy measure of diversification has been shown to have good construct validity relative to alternative measures (Hoskisson *et al.*, 1993). In primary analyses, I estimate diversification level change from t-1 to t+1. In separate analyses,

I followed the procedures recommended by (Edwards, 1995) and found largely similar results. In addition, I also followed existing research to estimate change in focal firm's diversification level by estimating diversification level in a subsequent year (e.g., t+1) and controlling for the prior diversification level (i.e., t-1)[13] (McDonald & Westphal, 2003; Westphal, 1998). Results are very consistent across all these analyses.

Average change in the level of diversification previously approved by directors (average level of prior div change). To create this variable, I first calculated the median level of diversification change experienced by each director between year t-2 and year t. For example, for a board with n directors, if director j served k boards in the prior 2 years, I calculated diversification level change of each firm where this director served as a board member and obtained the median level of diversification change. I then calculated the average value of this variable among all directors on the focal board. Accordingly, $prior\_div = Mean[Median_j(div\_change_i)$, i=1, 2, ..k; j=1, 2,…n. In separate analysis, I also used each director's mean prior experience to create this variable and found largely similar results. Results are also largely similar when directors' experiences in prior three years are used to create this variable.

As discussed earlier, a director is said to favor an increase (decrease) in diversification level prior to a meeting if the median level diversification change experienced by this director across various boards in the prior two-year period is positive (negative). In a separate project, Zhu and Westphal (2009b) utilized a large scale survey data and found strong support to this approach of predicting a director's pre-meeting position by using his or her average prior experience. A board is said to on average favor an increase

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[13] I also used Tobit models for robustness check because about 15% companies are non-diversified and hence cannot further reduce their diversification levels. Results from Tobit regressions are highly consistent with results from other models.

(decrease) in the level of diversification prior to a board meeting if over 50%[14] of its directors tend to support an increase (decrease) in diversification.

Demographic homogeneity, diversity of pre-meeting positions, power of the minority relative to the majority, and *board influence* are measured in the same way as they are measured in the studies of acquisition premiums and executive compensation. *Similarity of decisions regarding changing the level of diversification* are evaluated along three important dimensions that have been used in prior research to measure similarity of firms (Greve, 1998; Westphal & Bednar, 2005): firm size (total sales), firm performance (ROA), and firms' industry affiliations.

Controls. The extensive literature on diversification suggests that a number of factors may influence the total diversification level. More specifically, *firm size* (log of total sales) is controlled for because it has been found to be positively related to diversification level (Grant *et al.*, 1988). A number of studies suggest that increased managerial ownership helps to align managerial interests with those of the shareholders. To the extent that managers may try to reduce risks in their own earnings through diversification strategy at the costs of shareholders (Amihud & Lev, 1981), *executive ownership* can be negatively related to diversification level (Amihud & Lev, 1999). A number of studies similarly suggest that *CEO compensation risks*, measured as the proportion of long-term incentive pays in CEO's total compensation, may negatively influence diversification level (Gomez-Mejia, 1994; Sanders & Carpenter, 1998). I further controlled for *variability of firm performance*, measured by the standard deviation of a firm's ROA, as greater variability in performance can increase managers' variability of earnings, and hence might provide incentives for diversification. I also controlled for *Institutional ownership* which is found to be

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[14] I also used 55% and 60% in separate analyses, and found largely similar results.

related to diversification level as powerful institutional owners can influence firms' diversification strategy (Hoskisson *et al.*, 2002; Tihanyi *et al.*, 2003). Prior research also suggests that diversification level is related to firms' debt usage (Chatterjee *et al.*, 2003; Mansi & Reeb, 2002), thus I controlled for *financial leverage* by using debt-to-equity ratio. Studies also suggest that nonperforming firms may choose to diversify (Bergh & Lawless, 1998; Lang & Stulz, 1994), thus *prior firm performance* (ROA) and *industry median ROA* are both controlled for. The *index of board influence over management* (based on the proportion of outsiders, average tenure of outsider relative to insiders, CEO duality, and the number of board appointments held by outsiders relative to insiders) is also included in all models to capture variations in corporate governance structures which can influence diversification strategy (Gibbs, 1993; Walsh & Seward, 1990). *Industry membership and year dummies* are also controlled for.

4.3 Analytical Methods

As suggested by prior group polarization research (e.g., Friedkin, 1999), a straightforward method of detecting group polarization is to regress a board's focal decision (e.g., the focal premium) on the average decision previously made by directors across different boards (e.g. the average level of prior premium approved by directors in prior acquisitions). As illustrated in Figure 2, the 45 degree line suggests where post-meeting final premium would converge to the average premium approved by directors in previous acquisitions. The intersection of the 45 degree line and the regression line reflects the mid-point. Holding everything else constant, a regression line with a slope that is greater than 1 indicates a group polarization effect (e.g., when the average prior premium approved by directors is higher than the mid-point,

directors tend to approve a focal premium that is even higher than the average premium they paid in previous transactions; when the average prior premium approved by directors is lower than the mid-point, directors tend to approve a focal premium that is even lower). To test the hypothesized moderating effects, we can examine the interaction effects between the average prior decision variable (e.g., *Average Prior Premium*) and the proposed moderators.

It is worth noting that a regression line with a greater-than-one slope also indicates a strengthened network diffusion effect. More specifically, the network diffusion effect has been shown by existing research through a positive association between the focal decision and directors' average prior experience on other boards (Davis & Greve, 1997; Haunschild, 1994; Haunschild & Beckman, 1998). For example, the diffusion effect would suggest that a unit increase (decrease) in directors' average prior premium will simply *increase (decrease)* the focal premium, holding other factors constant. In contrast, a greater-than-one regression coefficient suggests that a unit increase (decrease) in directors' average prior premium will cause a more-than-one-unit *increase (decrease)* in the focal premium, holding everything else constant. Accordingly, a greater-than-one regression coefficient also reflects a distortion/strengthening of the network diffusion effect.

Data in all three studies include both cross-sectional and time-series components. The sample is unbalanced (e.g., firms have between 1 to 18 acquisitions) and unevenly spaced (e.g., some firms have multiple acquisitions in a year but zero in other years). Accordingly, I used the random-effects regression models with generalized least squares (GLS) estimators[15]. The random-effects model controls for firm specific variances and is robust to both unbalanced and unevenly spaced data

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[15] Results are essentially identical when maximum likelihood estimators are specified.

(Beckman & Haunschild, 2002). The Hausman specification test further suggests that the coefficients estimated by the fixed-effects and random-effects models are not systematically different in all three studies, demonstrating that the random-effects model is appropriate. As expected, further analyses confirmed that results from fixed-effects models also provide consistent support to the theoretical predictions in all three studies.

I also run linear regression models with the Huber/White/sandwich estimates of standard errors and Feasible GLS models controlling for heteroskedasticity across firms. These two models generate robust estimates of standard errors even when the variance-covariance structure is not as hypothesized in OLS. The results obtained from all three models are highly consistent in all three studies. The only major difference is that, in the study of acquisition premiums, the effect of board influence and minority power relative to the majority are significant under the Feasible GLS specification but not significant in other models. The Hausman model specification test suggests that the coefficients estimated by the Feasible GLS model and the random-effects model are not systematically different, implying that the Feasible GLS model generated more efficient estimators than the random-effects model. Accordingly, it would be appropriate to conclude that hypotheses about board influence and minority power in the study of acquisition premiums are partially supported. The primary results are reported based on the GLS random-effects model because most readers are familiar with this model and it is easy to compare the findings from this study to findings in existing studies. Findings about board influence and minority relative power in the study of acquisition premiums are also discussed with reference to the Feasible GLS model.

CHAPTER 5

RESULTS

5.1 Results for the Study of Acquisition Premiums

Table 1-1 presents descriptive statistics and bivariate correlations for key study variables. The average premium paid by the sampled firms is 38 percent. The premium varies from below the market value to 172 percent over the market value. Other studies have also reported a similarly wide range of premiums (Haunschild, 1994; Hayward & Hambrick, 1997).

Table 1-2 reports findings based on a Paired T-test. The results provide preliminary support to the group polarization hypothesis. As is shown in this table, when the average prior premium experienced by directors is high, the post-meeting premium tends to be significantly higher than the average premium previously experienced by directors; but when the average prior premium experienced by directors is low, the post-meeting premium tends to be significantly lower than the average prior premium. These results are obtained without controlling for other factors that may influence premium decisions, and hence should only be taken as preliminarily evidence.

In Table 1-3, I report results of the GLS random-effects analyses. The dependent variable is the focal premium paid by directors. Model 1 of Table 1-3 is the base model, containing only the control variables. Model 2 adds the average prior premium variable. Model 3 to Model 8 add the interaction terms. Findings are

discussed based on the complete model (i.e., Model 8).

The results provide strong support for the hypotheses. As shown in Table 1-3, hypothesis 1-1 is strongly supported. After controlling for other factors that may influence focal acquisition premium, the coefficient for average prior premium is significantly greater than 1 (significance is shown in Model 2). As discussed earlier, this suggests that directors who on average approved a relatively high premium in prior transactions shifted towards approving an even higher focal premium after board discussions, but directors who on average approved a relatively low premium in prior deals shifted towards paying an even lower focal premium. It is also worth reporting that adding the average prior premium variable increases the R-squared from .308 to .657 (Model 1 and Model 2), indicating the significance of considering social psychological factors in premium decisions. In the complete model (i.e., Model 8), the coefficient for the average prior premium variable suggests that, holding the moderating variables at their means and holding other variables constant, one point increase in directors' average prior premium would cause the focal premium to increase by 1.36 points. This suggests that if prior to a meeting directors on a board tend to support a premium that is 1% higher (lower) than the average premium in the sample, then after board discussions they tend to approve a focal premium that is 1.36% higher (lower) than the average premium. When directors on a board have the mean level of prior premium experience in this sample (i.e, 37.2 percent of premium), in an average-sized acquisition board discussions will cause directors to pay $23 million more than the price they would pay without group discussions!

In a separate analysis, I replaced the average prior premium of directors with the average prior premium of the *majority* directors. The results of this analysis suggest that the majority also experienced polarization after board discussions. In

other words, when the average premium previously experienced by directors is relatively high, the focal premium is significantly higher than the average prior premium of the *majority* (i.e., directors who approved relatively high prior premiums); similarly when the average premium previously experienced by directors is relatively low, the focal premium is significantly lower than the average prior premium of the *majority* (i.e., directors who approved relatively low prior premiums). This suggests that the group polarization effect cannot be fully explained by the majority rule or by the minority's conformance to the majority. It indicates that even the majority's initial position becomes more extreme after board discussions. Further analyses show that group polarization also occurs when the *median* premium previously approved by directors is compared with the focal premium, indicating that the skewness of directors' prior premium experience is not influencing the observed group polarization effect. These results provide further support to the theoretical expectations of this study.

The results also strongly support hypothesis 1-2. As shown in Table 1-3, the interaction of demographic homogeneity and average prior premium is significantly negative. As predicted by theory, this suggests that the degree of demographic homogeneity (based on gender, functional background, education affiliation, highest degree, and industry of employment) reduces the extent to which the focal premium exceeds (falls below) the average prior premium when the average premium previously experienced by directors is relatively high (low). Figure 3 displays how the effect of average prior premium on focal premium changes with the degree of demographic homogeneity, holding other interaction variables at their means. As discussed earlier, group polarization occurs when the coefficient of average prior premium is greater than one. Figure 1-2 shows that this coefficient falls below one

when demographic homogeneity becomes greater than 3.93 or the top 1 percentile of this variable. This suggests that although demographic homogeneity can significantly reduce group polarization it cannot completely eliminate polarization effect in most cases.

Results in Table1-3 further provide strong support to Hypothesis 1-3. The interaction between pre-meeting position diversity and average prior premium is positive and highly significant. Accordingly, pre-meeting position diversity significantly enhances group polarization effects, as predicted by theory. Figure 1-3 shows how group polarization effects change with the level of pre-meeting position diversity, holding other interaction variables at their means. This graph shows that, holding other interaction variables at their means, when pre-meeting position diversity changes from the minimum to the maximum value, the coefficient of average prior premium changes from 1.73 to 2.29.

The interaction between average prior premium and the overall power of the minority relative to the majority is negative (as predicted) but not significant in GLS random-effect models. Similarly, the interaction of average prior premium and board influence is positive (as predicted) but not significant in GLS random-effect models. However, Table 1-4 shows that these two interactions become significant in Feasible GLS models (other effects are largely similar to the results from GLS random-effect models). The Feasible GLS model accounted for firm-wise heteroskedasticity and could be more efficient than the Random-effects model. The Hausman specification test further suggests that the coefficients estimated by the GLS Random-effects models and the Feasible GLS models are not systematically different, indicating that using the Feasible GLS model is also appropriate. Accordingly, I conclude that hypothesis 1-4 (about minority power) and hypothesis 1-7 (about board influence) are

partially supported. Figure 4 illustrates how group polarization effects vary by the minority's relative power (based on results from model 8 in Table 1-4), holding other interaction variables at their means. It suggests that the relative power of the minority significantly reduces group polarization effects but polarization effects will not be eliminated (i.e., when the coefficient of average prior premium falls below 1) even at the maximum value of the relative power index. Figure 5 shows how group polarization effect changes with board influence over management, holding other interaction variables at their means. This figure suggests that the effect of average prior premium on focal premium changes from 1.29 to 1.47 when board influence changes from minimum to maximum values.

Hypothesis 1-5 is also strongly supported. The interaction of average prior premium and the minorities' relative acquisition experience remains significantly negative in all models. The results suggest that when directors on average approved a high premium in prior transactions, the extent to which the focal premium exceeds the average prior premium is reduced when the minority has more acquisition experience relative to the majority. In addition, when directors on average paid a low premium in prior transactions, the extent to which focal premium falls below their average prior premium is also reduced when the minority is relatively more experienced with acquisitions than the majority. Figure 6 shows how minority's relative prior acquisition experience moderates group polarization effects, holding other moderating variables at their means. It suggests that although minority experience significantly reduces group polarization effects, polarization will disappear (i.e., the coefficient of average prior premium falls below 1) only when the minority on average experienced 6.8 times more acquisitions than the majority, a situation that occurs only in less than 1% of the sampled decisions.

The results did not support hypothesis 1-6, which predicts that the relative similarity of prior acquisitions to the focal acquisition (minority vs. majority) reduces group polarization effects. As is shown in all models, this interaction term is mostly negative but insignificant. This finding suggests that the relative similarity of prior acquisitions to the focal acquisition (minority vs. majority) alone does not reduce group polarization significantly. This may be explained by the fact that directors have limited time to discuss their prior experience, and hence may not fully reveal the similarity of their prior experience to the focal decision. Another possibility is that minorities may face even higher level of social risks if they voice a minority opinion with details, such as describing the similarity of their prior experience to the focal decision while arguing against the majority's position.

Since acquisition premiums are observable only when firms announce acquisition decisions, the sample may not be considered as a random sample. Sample selection issues may lead to incorrect inferences and may influence the generalizability of findings to the populations (Heckman & Borjas, 1980). Accordingly, in a separate analysis I further used the Heckman sample selection model with maximum likelihood estimators and robust standard errors to test the hypotheses[16]. The results are highly consistent with findings from other models. The rationale underlying the Heckman model can be illustrated by the two-stage method of estimation. The first stage uses the Probit model to predict the likelihood of a decision (e.g., an acquisition) between the sampled acquirers and any possible public targets. The second stage uses OLS regression to estimate the focal decision (e.g.,

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[16] The selection model includes the following variables: total number of acquisitions conducted by the acquirer (48-month prior), total number of acquisitions by the acquirer's tied-to firms (48-month prior), total number of acquisitions in the acquirer's primary industry (48-month prior), acquirer and potential target size (log of assets), acquirer and potential target ROE, the separation of CEO and board Chair position, percentage of outside directors, percent of institutional ownership, percentage of insider ownership, CEO hubris, operational and financial synergies, and industry and year dummies.

focal acquisition premiums or degree of change in focal diversification level), including the inverse Mills' ratio obtained from the first stage as an additional predictor. The maximum likelihood estimation adopts similar logics of correcting sample selection biases.

In sum, Hypotheses 1-1, 1-2, 1-3, and 1-5 are strongly supported in all models, including GLS random-effect models, the maximum likelihood random-effect models, Heckman sample selection models, OLS models with robust standard errors, and Feasible GLS models. Hypotheses 1-4 and 1-7 are supported in the Feasible GLS models, but not in other models. Hypothesis 1-6 is not supported in any models.

5.2 Results for the Study of Executive Compensation

Table 2-1 reports descriptive statistics and bivariate correlations for key study variables. The average focal CEO compensation (in comparison to peers) in the sample is 0.869, suggesting that boards on average paid CEOs 36.9 percent above peer median compensation. The median of this variable is 0.41, suggesting that the median CEO compensation is about 9% below the market. This variable varies from -0.994 to 28.115, reflecting a large variance in CEO compensation. No large correlations are observed among independent variables, indicating that multicollinearity is unlikely to affect the findings.

Table 2-2 reports findings based on a Paired T-test. The results provide preliminary support to the group polarization hypothesis. As is shown in this table, when directors on average approved above-market CEO compensation previously, the focal CEO compensation approved after board discussions tends to become even higher than the average compensation previously approved by directors; but when

directors on average approved below-market CEO compensation before, the focal CEO compensation tends to be even lower than the average compensation previously experienced by directors. These results are obtained without controlling for other factors that may influence CEO compensation decisions, and hence should only be taken as preliminarily evidence.

Results from GLS random-effects models are reported in Table 2-3. The dependent variable is the focal CEO compensation in comparison to peers (i.e., percentage difference between the focal CEO compensation and the corresponding peer group's median CEO compensation). Model 1 of Table 2-3 is the base model, containing only the control variables. Model 2 adds the average prior compensation variable. Model 3 to Model 7 further include five interaction terms. Findings are discussed based on the complete model (i.e., model 7).

The results provide very strong support for the hypotheses. Hypothesis 2-1 is strongly supported. After controlling for other factors that may influence focal CEO compensation, the coefficient for average prior compensation is significantly greater than 1 (significance is shown in Model 2). As discussed earlier, this suggests that when directors on average approved above-market CEO compensation in prior decisions, board discussions will cause them to approve a focal CEO compensation that is even higher than the average compensation previously experienced by them on various boards; in contrast, when directors on average approved below-market CEO compensation in prior decisions, board discussions will cause them to approve a focal CEO compensation that is even lower than the average compensation previously experienced by them. It is also worth reporting that, similar to the findings in the study of acquisition premiums, adding the average prior compensation variable increases the R-squared from .312 to .774 (Model 1 and Model 2), reflecting the

importance of modeling social psychological factors in CEO compensation decisions. In the complete model (i.e., Model 7), the coefficient for the average prior compensation variable suggests that, holding the moderating variables at their means and holding other variables constant, if directors on average approved a CEO compensation that is 1 percent above (below) the market in previous decisions, the focal CEO compensation will be 1.41 percent above (below) the market. When directors on a board have a mean level of average prior compensation (i.e., 26% above market), board discussions will cause directors to pay an average-paid CEO $0.5 million more than the compensation that would have been approved without board discussions!

In a separate analysis, I replaced the average prior compensation experienced by directors with the average prior compensation experienced by the *majority* directors. The results of this analysis suggest that the majority also experienced group polarization after board discussions. In other words, when the average compensation previously experienced by directors is relatively high, the focal CEO compensation tends to be significantly higher than the average prior compensation experienced by the *majority* (i.e., directors who previously approved relatively high compensation); similarly when the average compensation previously experienced by directors is relatively low, the focal CEO compensation is significantly lower than the average compensation experienced by the *majority* (i.e., directors who previously approved relatively low CEO compensation). Again, this suggests that the group polarization effect cannot be fully explained by the majority rule or by the minority's conformance to the majority. It indicates that even the majority's initial position becomes more extreme after board discussions. Further analyses show that group polarization also occurs when the *median* premium previously approved by directors is compared with

the focal premium, indicating that the skewness of directors' prior premium experience is not influencing the observed group polarization effect. In other analyses, I also used individual directors' average prior compensation to measure board level average prior compensation and found very similar results. This suggests that the results are robust to alternative ways of measuring directors' average prior experience. These results provide further support to the theoretical expectations of this study.

Hypothesis 2-2 is also strongly supported by the results. As shown in Table 2-3, the interaction of demographic homogeneity and average prior compensation is significantly negative in all models. This suggests that increased demographic homogeneity reduces the extent to which the focal CEO compensation exceeds (falls below) the average prior compensation approved by directors when directors on average approved above (below) market compensation previously.

Results in Table1-3 also provide strong support to Hypothesis 2-3. The interaction between pre-meeting position diversity and average prior compensation is positive and highly significant. Accordingly, pre-meeting position diversity significantly enhances group polarization effects, as predicted by theory.

As discussed earlier, Hypothesis 2-4 was not tested in this study due to data limitations. The moderating effect of the amount of prior decisions (minority vs. majority) was tested and supported in the study of acquisition premiums.

Hypothesis 2-5 is also supported by the results. The interaction between average prior compensation and the overall power of the minority relative to the majority is negative and highly significant. This suggests that group polarization effect is reduced when the minority's power relative to the majority is increased, as predicted.

Hypothesis 2-6 is not supported by the results. As shown in Table 2-3, the

interaction between similarity of prior decisions (minority vs. majority) and average prior compensation is negative but not significant in the complete model. The insignificance of this effect is also found in other models, including OLS regression with robust standard errors, fixed-effect models, and Feasible GLS regression with firm-wise heterogeneity. This finding is also consistent with results from the study of acquisition premiums. Accordingly, I conclude that the similarity of prior decisions (minority vs. majority) does not seem to reduce polarization effect.

The interaction of average prior compensation and board influence is positive and significant, providing support to Hypothesis 2-7. This indicates that group polarization is more likely to be manifested when boards have greater level of influence over management, as predicted by the theory.

In separate analyses, I also test the hypotheses in other models, including fixed-effect models, the maximum likelihood random-effect models, OLS models with robust standard errors, and Feasible GLS models, and found highly consistent results. In sum, Hypotheses 2-1, 2-2, 2-3, 2-5, and 2-7 are strongly supported in all models. Demographic homogeneity and minority's relative power significantly reduce polarization effects. In contrast, pre-meeting position diversity and board influence over management significantly increase polarization effects. Hypothesis 6 is not supported in any models, suggesting that similarity of prior decisions (minority vs. majority) does not influence polarization effects significantly. These findings are also very consistent with findings from the study of acquisition premiums.

5.2 Results for the Study of Diversification

Descriptive statistics and bivariate correlations for key variables in the study of diversification are reported in Table 3-1. Table 3-2 reports findings based on a

Paired T-test. As is shown in this table, when directors on average approved an increase in diversification level in prior decisions, board discussions cause them to approve an even larger increase in the focal firm's diversification level; but when directors on average approved a decrease in diversification level previously, board discussions did not cause them to approve an even larger decrease in the focal firm's diversification level. Since these results are obtained without controlling other factors that may influence diversification decision, I discuss the findings based on results from GLS random-effects models (Table 3-3).

The dependent variable is the change of focal firm's diversification level from year t-1 to year t+1. Model 1 in Table 3-3 is the base model which contains only the control variables. Model 2 adds the average prior change in diversification variable. Model 3 to Model 7 further include five interaction terms. I discuss findings based on the complete model (i.e., model 7).

The results provide strong support for Hypothesis 3-1. After controlling for other factors that may influence focal firm's change of diversification level, the coefficient for average prior change in diversification is significantly greater than 1 (significance is shown in Model 2). As discussed earlier, this suggests that when directors on average approved an increase in prior decisions, board discussions will cause them to approve an even larger increase in focal firm's diversification level; when directors on average approved a reduction in diversification level in prior decisions, board discussions will cause them to approve an even larger reduction in focal firm's diversification level. Results from Model 2 also show that the R-squared was increased by 0.21 after including the key variable (i.e., average prior change in diversification level), again indicating the importance of modeling group processes in studying board decisions about changing diversification level. In the complete model

(i.e., Model 7), the marginal effect of "average prior diversification change" on focal diversification level change is 2.35, holding the moderating variables at their means and holding other variables constant. This suggests that one unit increase (decrease) of diversification level in directors' average prior decision will lead to a 2.35 unit increase (decrease) of diversification level at the focal firm.

In separate analyses, I replaced "average prior diversification change" experienced by all directors with the "average prior diversification change" experienced by the *majority* directors, and found largely similar results. Again, this suggests that the group polarization effect cannot be fully explained by the majority rule or by the minority's conformance to the majority. It indicates that even the majority's initial position becomes more extreme after board discussions. Further analyses show that group polarization also occurs when the *median* level of prior diversification change experienced by directors is compared with the focal firm's diversification change, indicating that the skewness of directors' prior experience is not influencing the observed group polarization effect. In other analyses, I also used individual directors' average prior experience to measure board level average prior diversification change and found very similar results. This suggests that the results are robust to alternative ways of measuring directors' average prior experience. These results provide further support to the theoretical expectations of this study.

Hypothesis 3-2 is also strongly supported by the results. As shown in Table 3-3, the interaction of demographic homogeneity and average prior diversification change is significantly negative in all models. This suggests that increased demographic homogeneity reduces the extent to which the focal firm's diversification change exceeds (falls below) the average prior diversification change experienced by directors when directors on average approved an increase (decrease) in diversification

level in prior decisions.

Hypothesis 3-3 is also supported. The interaction between pre-meeting position diversity and average prior diversification change is positive and highly significant. Accordingly, pre-meeting position diversity significantly enhanced group polarization effects in diversification decisions, as predicted by theory.

As discussed earlier, Hypothesis 3-4 was not tested in this study due to data limitations. Results from the study of acquisition premium provided strong support to the theoretical prediction, i.e., the amount of prior decisions (minority vs. majority) was found to reduce group polarization effect significantly.

Hypothesis 3-5 is also supported by the results. The interaction between average prior diversification change and the overall power of the minority relative to the majority is negative and highly significant. This suggests that group polarization effect is reduced when the minority's power relative to the majority is increased, as predicted.

Hypotheses 3-6 and 3-7 are not supported by the results. As shown in Table 3-3, the interaction between similarity of prior decisions (minority vs. majority) and average prior diversification change is not significant. Similarly, the interaction of board influence and average prior diversification change is not significant either.

In separate analyses, I also test the hypotheses in other models, including fixed-effect models, the maximum likelihood random-effect models, OLS models with robust standard errors, and Feasible GLS models, and found highly consistent results. In sum, Hypotheses 3-1, 3-2, and 3-3 are strongly supported by the results. Demographic homogeneity and minority's relative power significantly reduce polarization effects. In contrast, pre-meeting position diversity significantly increases polarization effects. Hypothesis 3-6 and 3-7 are not supported by results form any

models, suggesting that similarity of prior decisions (minority vs. majority) and board influence does not influence polarization effects significantly in diversification decisions.

CHAPTER 6

CONCLUSIONS AND DISCUSSIONS

Overall, the findings based on these three studies provide strong support for the elaborated theory about group polarization on corporate boards. Table 4 provides a summary of the key findings from this dissertation. The results from various models consistently show a tendency towards group polarization in board decisions about acquisition premiums, executive compensation, and diversification. The focal decision made following board discussions is significantly more extreme than the average decision experienced by directors in prior decisions, and towards the direction initially favored by most directors. For example, the focal acquisition premium approved after board discussions exceeds the average premium approved by directors in prior deals when the average prior premium is relatively high. In contrast, the focal premium significantly falls below the average premium previously experienced by directors when the average prior premium is relatively low. Additional results provide strong evidence for specific social and psychological factors that can attenuate or exacerbate group polarization biases on corporate boards. In particular, the findings from all three studies suggest that demographic homogeneity among directors (based on gender, education background, industry of employment, and functional background) significantly reduce group polarization effects. In addition, the results from all three studies also support the hypothesis that pre-meeting position diversity significantly increases group polarization effects. Moreover, the minority's

general power relative to the majority is predicted and found to reduce group polarization effects in all three studies. Findings from the study of acquisition premium further suggest that the number of acquisitions experienced by the minority relative to the majority reduces polarization effects, as predicted by theory. Moreover, consistent with the theoretical prediction, the findings also provide evidence that increased board influence over management is associated with a greater degree of group polarization bias, although board influence does not have a significant effect on polarization in the study of diversification. Finally, the similarity of prior decisions (minority vs. majority) is not found to significantly influence polarization effects in any of these three studies.

More generally, the overall results are highly consistent with the elaborated group polarization theory. Biases in group information exchange and processing seem to systematically cause directors to amplify their average prior experience in the focal board's decision-making processes. In addition, the group discussion effect caused by group polarization also has economic significance. For example, when directors on a board have the mean level of prior premium experience in this sample, in an average-sized acquisition, board discussions will cause directors to pay $23 million more than the price they would pay without group discussions. For another example, when directors on a board have a mean level of average prior compensation, board discussions will cause directors to pay an average-paid CEO $0.5 million more than the compensation that they would have approved without board discussions. Moreover, after controlling for numerous other variables, the group polarization variable (i.e. average prior experience) explained 35%, 46%, and 17% variations in board decisions about acquisition premiums, executive compensation, and diversification, respectively. This suggests that a theoretical model that emphasizes

group-level social psychology is very important for understanding boards' major strategic decisions.

The theory and findings in this study make significant contributions to the literature on corporate governance, social networks, strategic decision-making processes, and group polarization. While a substantial body of research on corporate governance has examined board interlock networks and structural and demographic characteristics of boards (such as board structure, composition, and demography) from economic or sociological perspectives, there is very little systematic research on social psychological processes underlying board decision-making (Bainbridge, 2002; Finkelstein *et al.*, 2008; Hambrick, 2007). The present study fills these gaps by suggesting how a fundamental group decision-making bias may affect an important strategic decision made by boards. The social psychological approach advanced in this study complements existing economic and sociological perspectives on corporate governance and yields novel insights into board behavior. For example, while prevailing normative perspectives on governance suggest that increases in board influence over management may correct certain suboptimal strategic decisions, the theory and findings from this study suggest that greater board influence over management can also add group decision-making biases to strategic decisions, and hence can lead to different types of suboptimal decision-making.

Group polarization theory also has important implications for the literature of social networks, especially for research on the diffusion of practices and premises through board interlock networks. A substantial body of research in organizations suggests that norms, practices, and policies tend to diffuse through interlock network ties (Davis & Greve, 1997; Haunschild & Miner, 1997; Mizruchi, 1989; Palmer *et al.*, 1993; Rao & Sivakumar, 1999). This study extends this literature by suggesting how

the diffusion of norms, policies, and practices through directorial ties may be subject to the influence of group processes. Specifically, group polarization theory would suggest that biases in group information exchange and processing during group decision-making can cause directors to approve a collective decision that is more extreme than the average decision experienced by directors on other boards. Accordingly, this study advances a group-level mechanism through which network diffusion effects can be distorted. More generally, the present study addresses the recent call for more research on behavioral processes underlying network ties (Gulati & Higgins, 2003; Gulati & Westphal, 1999; Mizruchi *et al.*, 2006) by proposing a group process-oriented approach to studying social network effects.

Moreover, this study extends existing research on biases in strategic decision-making processes. While an important stream of organization research has explored how strategic decision-making processes may be influenced by various *individual-level* cognitive biases, such as overconfidence (Hayward *et al.*, 2004), hubris (Hayward & Hambrick, 1997; Hayward *et al.*, 2006; Hiller & Hambrick, 2005; Roll, 1986), narcissism (Brown, 1997; Chatterjee & Hambrick, 2007), myopia of learning (Levinthal & March, 1993), and escalation of commitment (Haunschild *et al.*, 1994; Hayward & Shimizu, 2006; McNamara *et al.*, 2002), the present study examines how *social psychological biases unique to group decisions* may influence strategic decisions. The social psychological approach also differs from the more conventional cognitive approach to studying strategic decisions. While existing research on top management teams generally focuses on managerial cognitions as reflected in executives' demographic characteristics and backgrounds (Hambrick & Mason, 1984), the present study emphasizes how *social interactions* among executives can lead to decision-making biases (i.e., how group discussions can induce

biased strategic decisions). In addition, this social psychological approach also generates novel insights on strategic decision-making behaviors. For instance, existing research on top management teams generally suggests that teams with diverse demographics tend to have diverse cognitive resources, and hence make better decisions (Hambrick & Mason, 1984). By contrast, the present study explains how diversity of demographic characteristics may also inhibit open communication among directors, and hence can exacerbate biases in group information exchange and processing.

The theory and findings of this study may also have implications for organization research on experience effects. More specifically, while existing research on inertia suggests that decision-makers tend to repeat their prior experiences (Amburgey & Miner, 1992; Fredrickson & Iaquinto, 1989; Hambrick *et al.*, 1993; Huff *et al.*, 1992), group polarization theory suggests that biases in group decisions may cause decision-makers to reach a collective decision that is more extreme than what is suggested by their prior experiences. The group polarization perspective also has implications for behavioral learning research (Ahuja & Lampert, 2001; Denrell, 2003; Haleblian & Finkelstein, 1999; Levinthal & March, 1993; March, 1991). More specifically, the literature on acquisition premiums has largely suggested that firms quite often overpay for the target. If directors learn from each other's prior premium experience in board discussions, then the focal premium should be lower than the average premium directors approved in previous transactions. In contrast, the theory and findings from this study suggest that social psychological biases unique to group decisions may prevent decision-makers from fully utilizing available information to learn. In particular, directors that initially tend to support a high premium approved a focal premium that is even higher.

In addition, this study also makes important contributions to group polarization research. While a growing body of social psychology research has examined group polarization in various situations, the present study is perhaps the first systematic large-scale investigation of this fundamental group decision-making bias in business organizations. Several factors examined in this study, such as the experience of the minority relative to the majority, the minority's influence relative to the majority, and demographic homogeneity, are also relatively novel to group polarization research. In addition, this study extends existing group polarization theory through developing detailed mechanisms to explain how biases in both group information exchange and group information processing may lead to group polarization, and hence should have implications for group polarization research as well.

Future research could explore how group polarization may occur under different cultural and political environments as this study has largely focused on polarization on the boards of large U.S. public corporations. It would also be helpful to examine group polarization by adopting a different empirical approach, such as using survey data. Future studies should also explore factors that may substantially reduce group polarization in group decisions, especially organization decisions. More specifically, evidence from extant research on polarization suggests that groups tend to experience different degrees of polarization for different types of discussion-issues. Fore instance, groups tend to polarize less on issues related to religious and political beliefs than on issues related to sports (Myers & Lamm, 1976). Similarly, the extent to which practices or polices have been institutionalized or taken-for-granted might also affect the degree to which polarization occurs.

Group polarization as a fundamental group decision-making bias

significantly influence a wide range of strategic decisions made by boards, including decisions on executive compensation, changes in the degree of diversification, and risk-taking decisions. Other strategic decision-making groups in organizations such as top management teams and various formal or informal decision groups can also be influenced by this group decision-making bias. Future research should also explore how other group level processes such as pluralistic ignorance (Zhu & Westphal, 2009a), groupthink (Janis, 1972; Peterson *et al.*, 1998), and out-group homogeneity (Linville *et al.*, 1996) may influence strategic decision-making processes in business organizations. More generally, social psychology as one of the mostly well developed disciplines has been incorporated into various social science domains, including organizational behavior and marketing, but has just started to proliferate in strategy and macro-organization research. Building and extending social psychological theories to study strategic decisions and corporate leadership seems to be an exciting future research direction.

Figure 1. Group Polarization Effects

The Average Premium Approved by Directors in Prior Acquisitions

Focal Premium Approved after the Board Meeting

Even Higher

Relatively High

Relatively Low

Even Lower

Polarization Effects
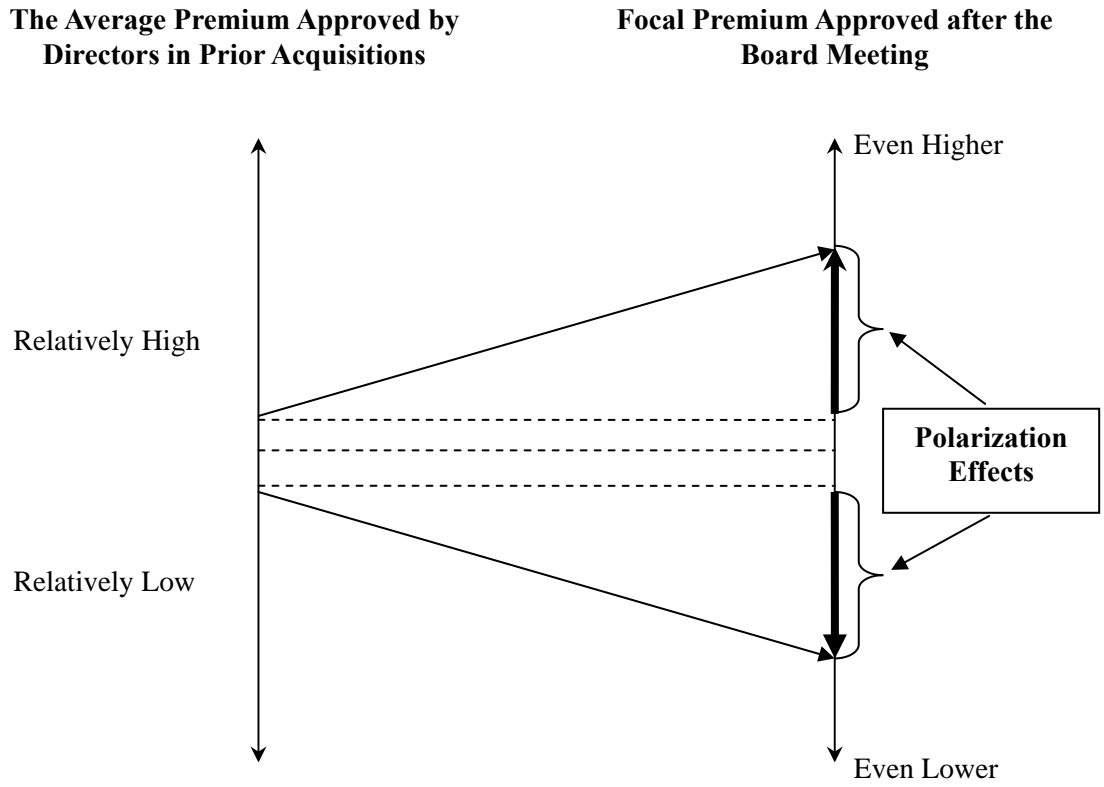
Figure 2. Group Polarization Effects in Regressions

The Focal Premium

The Midpoint

The Average Premium Approved
by Directors in Prior Acquisitions
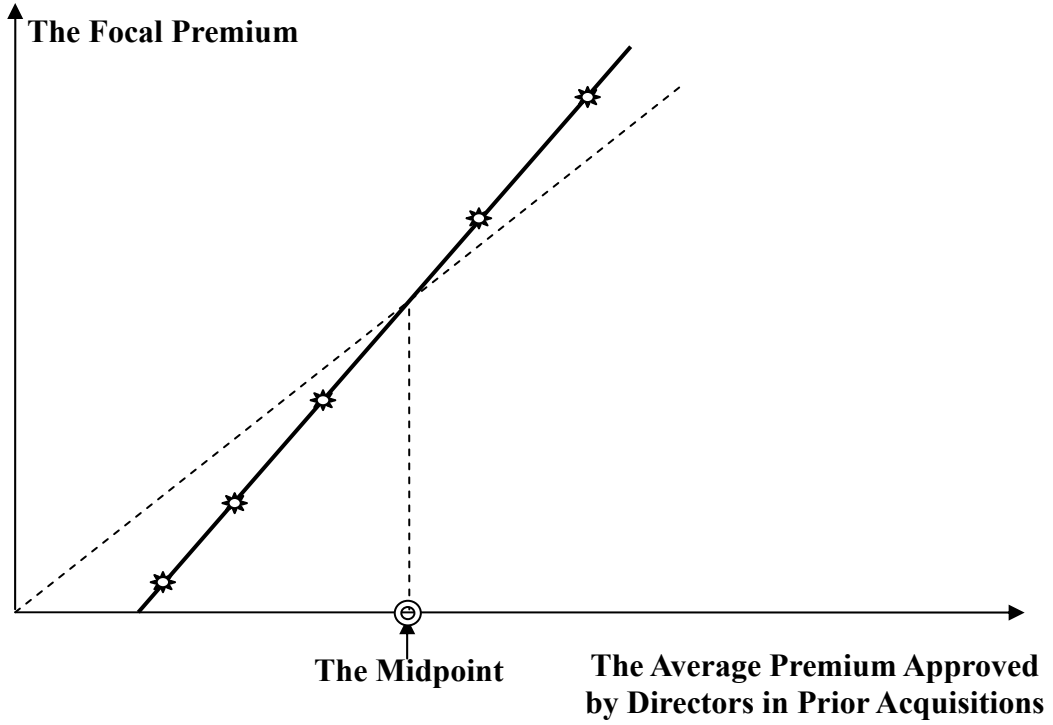
Figure 3. Demographic Homogeneity and Group Polarization
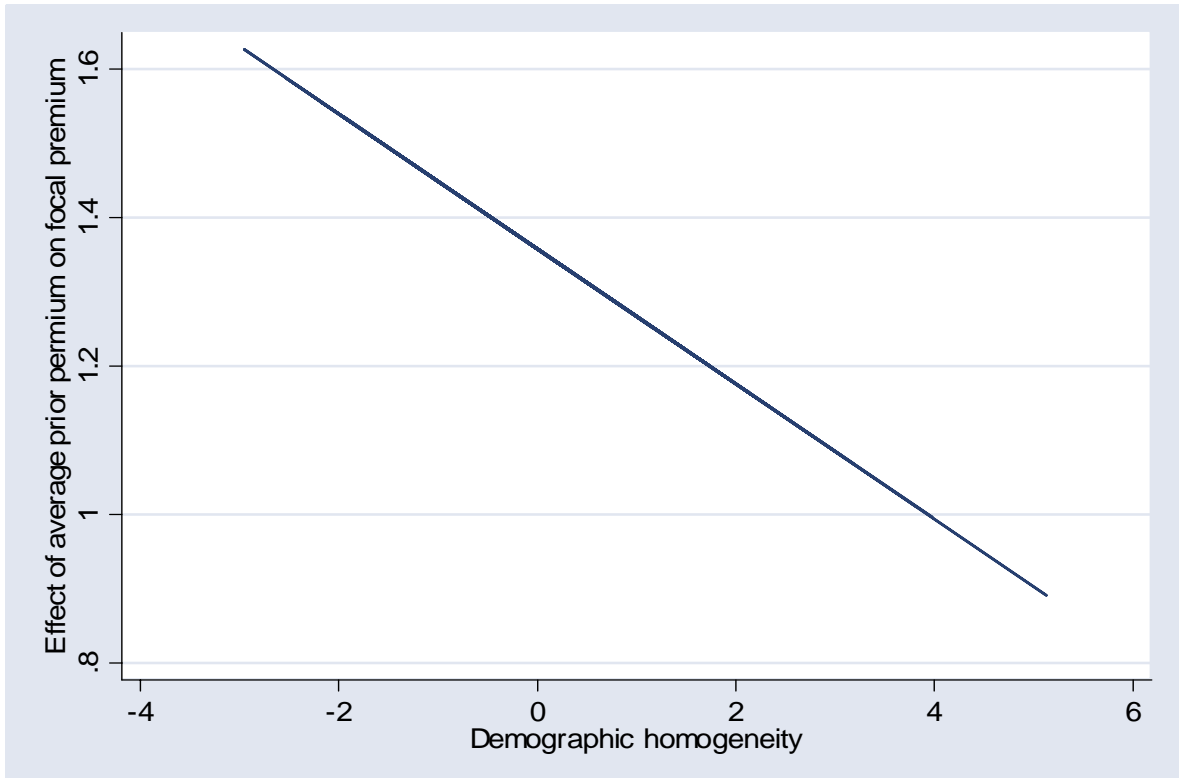
Figure 4. Pre-meeting Position Diversity and Group Polarization
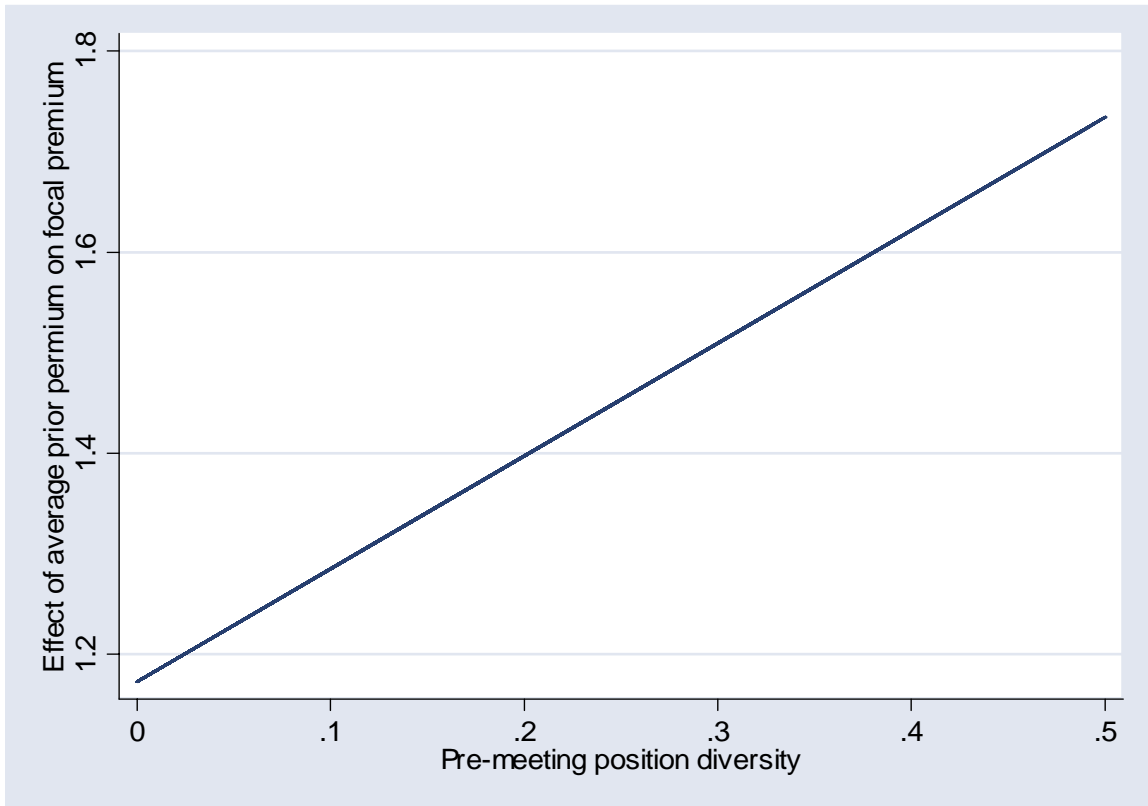
Figure 5. Relative Power (Minority vs. Majority) and Group Polarization
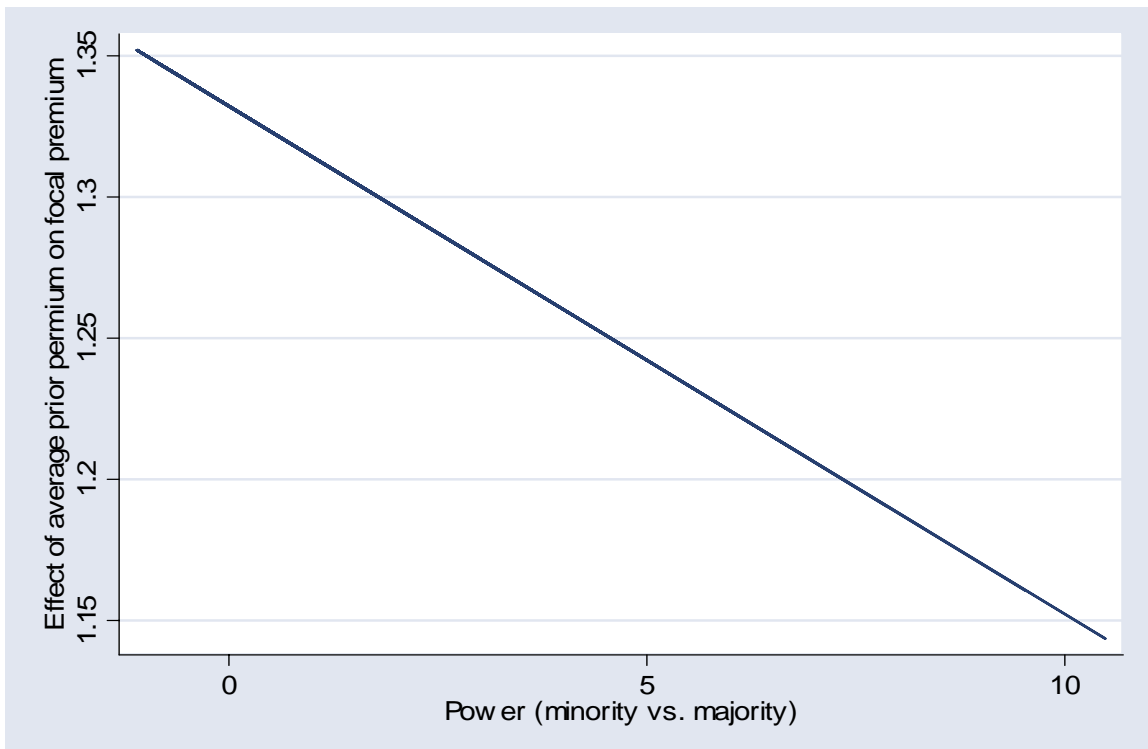
Figure 6. Prior Acquisition Experience (Minority vs. Majority) and Group Polarization
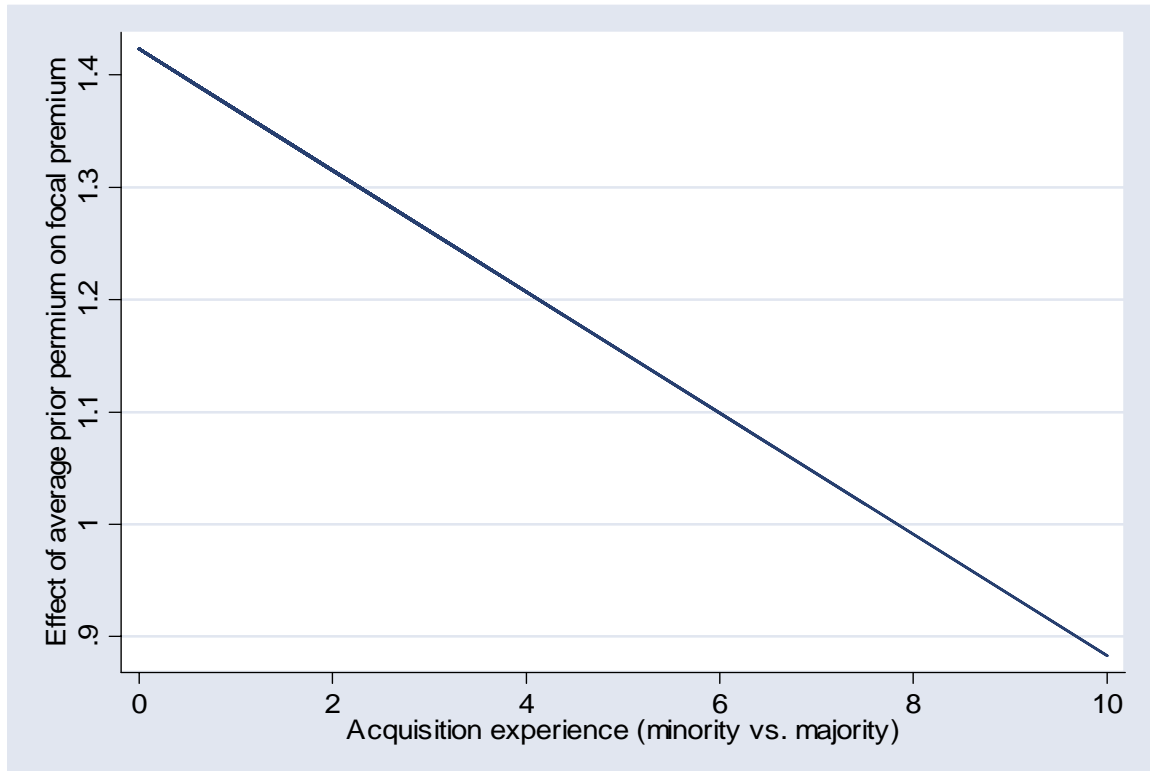
Figure 7. Board Influence over Management and Group Polarization
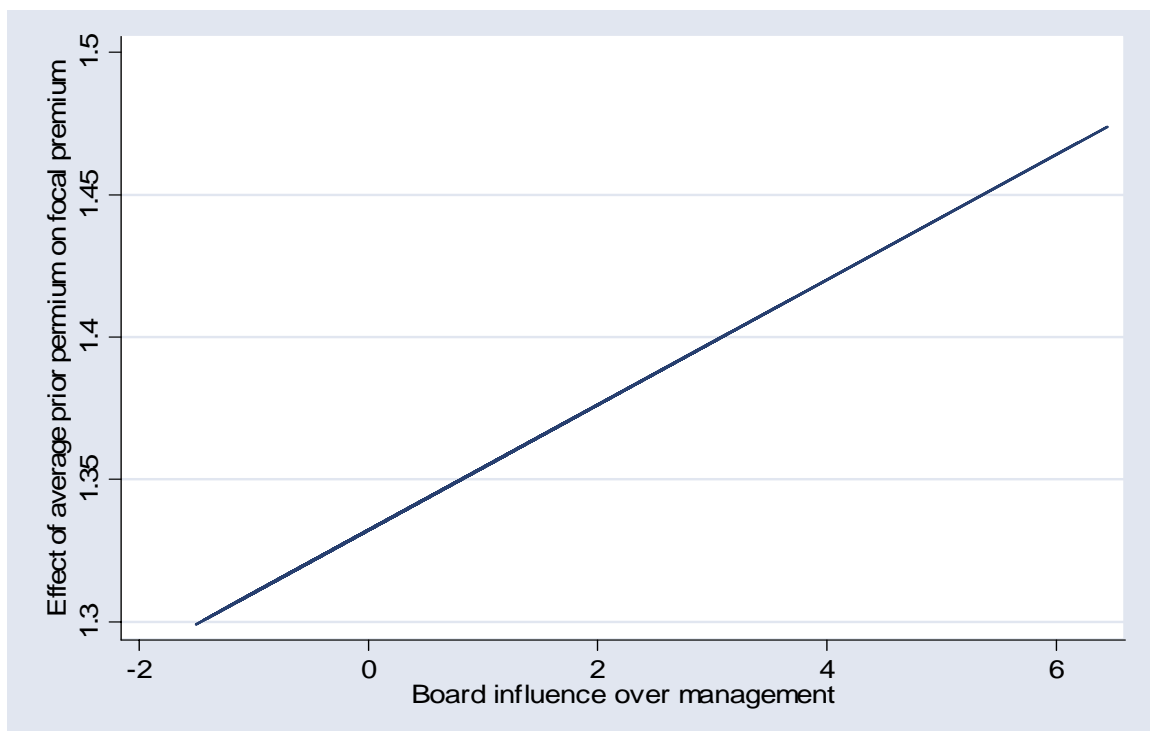
Table 1-1.
Descriptive Statistics and Pearson Correlation Coefficients (* p<.05)

Variables	N	Mean	S.D.	Min	Max	1	2	3	4	5	6	7
1. Focal aq. premium	541	37.538	33.150	-98.670	172.000							
2. Average prior premium	541	37.157	20.447	-41.475	124.850	0.752*						
3. Pre-meeting position diversity	541	0.165	0.165	0.000	0.500	-0.104*	-0.117*					
4. Demographic homogeneity	541	0.000	1.205	-2.950	5.128	0.050	0.043	-0.132*				
5. Board influence over management	541	0.000	1.079	-1.504	6.443	0.032	0.074	0.081	-0.075			
6. Similarity of prior acq. (min vs. maj)	541	0.000	1.877	-2.167	4.157	-0.080	-0.069	0.734*	-0.114*	0.096*		
7. Power (min vs. maj)	541	0.000	1.668	-1.092	10.476	-0.068	-0.073	0.813*	-0.015	0.034	0.460*	
8. Acquisition experience (min vs. maj)	541	1.198	1.277	0.010	10.000	-0.087*	-0.054	0.596*	-0.074	0.076	0.700*	0.398*
9. Log of acquirer's assets	541	9.934	1.443	6.076	14.217	-0.152*	-0.148*	0.174*	-0.304*	0.051	0.169*	0.123*
10. Log of target's assets	541	6.411	2.089	0.091	13.558	-0.161*	-0.069	0.121*	-0.100*	-0.058	0.119*	0.058
11. Acquirer's ROE one year prior	541	0.187	0.168	-1.020	1.695	0.042	0.063	-0.025	-0.081	0.004	-0.028	0.006
12. Target's ROE one year prior	541	2.320	88.978	-1336.000	952.940	-0.003	-0.019	0.060	0.074	-0.043	0.086*	0.025
13. Log of deal value	541	6.245	2.093	0.001	11.398	0.093*	0.129*	0.180*	-0.078	-0.076	0.173*	0.108*
14. Product market synergy	541	2.018	1.623	0.000	4.000	-0.031	-0.026	0.020	0.038	-0.002	0.074	-0.015
15. Financial synergy	541	39.556	278.690	-2318.100	4677.740	-0.046	-0.067	0.028	-0.113*	-0.033	0.015	0.023
16. Number of bidders	541	1.096	0.382	1.000	4.000	0.118*	0.127*	0.029	-0.021	-0.004	0.027	0.010
17. Completed acquisition	541	0.898	0.302	0.000	1.000	0.065	0.073	-0.043	0.001	0.036	0.012	-0.016
18. Financed mainly by cash	541	0.518	0.500	0.000	1.000	0.115*	0.090*	-0.044	0.003	0.009	-0.035	0.004
19. Non-hostile acquisition	541	0.874	0.332	0.000	1.000	0.092*	0.098*	-0.001	-0.017	-0.039	-0.018	-0.008
20. Takeover defense	541	0.006	0.074	0.000	1.000	0.055	0.011	0.071	0.084	0.042	0.056	0.043
21. Insider ownership	541	0.017	0.059	0.000	0.777	-0.081	-0.092*	0.049	-0.012	-0.025	0.014	0.041
22. Institutional ownership	541	59.400	18.280	0.000	98.900	0.086*	0.089*	-0.006	0.014	0.013	-0.030	-0.008
23. Tied-to firms' premium diversity	541	0.872	2.562	-24.011	14.959	0.013	-0.016	0.047	0.046	-0.046	0.011	0.021
24. Tied-to firms' mean prior premium	541	19.691	12.390	-40.285	116.890	0.034	0.095*	0.238*	-0.191*	0.146*	0.150*	0.225*
25. Focal firm's mean prior premium	541	19.413	26.491	-42.510	128.570	0.096*	0.330*	-0.069	0.005	0.018	-0.043	0.017
26. # focal firm's prior acquisitions	541	6.470	5.905	0.000	45.000	-0.041	-0.107*	0.053	-0.138*	-0.007	0.004	0.067
27. Focal firm's degree centrality	541	22.055	9.750	2.000	69.000	0.139*	0.146*	0.143*	-0.248*	0.112*	0.207*	0.045
28. Inv. bankers' mean prior premium	541	27.622	20.781	0.000	123.673	0.154*	0.169*	0.138*	0.004	0.025	0.184*	0.056
29. # inv. bankers' prior acquisitions	541	5.137	1.172	0.000	7.024	-0.101*	-0.102*	-0.014	-0.011	-0.013	0.026	-0.019
30. CEO hubris	541	-0.015	1.009	-4.513	4.623	-0.086*	-0.108*	0.105*	0.016	-0.048	0.099*	0.064
31. Board size	541	12.677	4.500	3.000	39.000	-0.019	-0.024	-0.140*	-0.168*	0.085*	0.078	-0.183*

Variables	8	9	10	11	12	13	14	15	16	17	18	19
9. Log of acquirer's assets	0.000											
10. Log of target's assets	0.078	0.371*										
11. Acquirer's ROE one year prior	-0.066	0.043	-0.058									
12. Target's ROE one year prior	0.080	-0.027	0.185*	-0.027								
13. Log of deal value	0.132*	0.127*	0.672*	-0.018	0.117*							
14. Product market synergy	0.019	0.014	0.244*	0.058	0.029	0.202*						
15. Financial synergy	-0.013	0.229*	0.214*	0.002	0.008	-0.025	-0.002					
16. Number of bidders	0.007	-0.050	0.183*	-0.064	0.037	0.185*	0.146*	0.009				
17. Completed acquisition	-0.012	0.038	-0.117*	0.005	-0.042	-0.052	-0.060	-0.009	-0.236*			
18. Financed mainly by cash	-0.105*	0.052	-0.182*	0.029	-0.051	-0.179*	-0.121*	0.023	0.049	0.018		
19. Non-hostile acquisition	0.032	-0.042	-0.164*	-0.013	-0.044	0.118*	-0.051	-0.184*	-0.197*	0.186*	-0.121*	
20. Takeover defense	0.060	-0.003	0.045	-0.029	0.001	0.048	0.076	0.093*	0.112*	-0.140*	-0.028	-0.197*
21. Insider ownership	0.019	0.025	0.019	0.021	0.019	-0.079	-0.034	0.104*	-0.030	0.036	-0.036	0.069
22. Institutional ownership	0.029	-0.365*	-0.119*	-0.017	0.020	0.010	-0.022	-0.092*	0.052	0.040	-0.061	-0.027
23. Tied-to firms' premium diversity	0.032	0.005	0.054	-0.011	0.006	0.151*	0.027	-0.062	0.013	0.016	-0.064	0.167*
24. Tied-to firms' mean prior premium	0.134*	0.189*	-0.006	0.089*	-0.026	0.060	-0.059	0.021	0.054	-0.071	0.073	0.100*
25. Focal firm's mean prior premium	-0.170*	0.118*	-0.035	0.101*	-0.059	0.047	-0.017	0.002	-0.025	0.072	0.086*	0.066
26. # focal firm's prior acquisitions	-0.150*	0.321*	-0.059	0.098*	-0.078	-0.085*	-0.038	0.110*	-0.057	0.056	0.085*	-0.053
27. Focal firm's degree centrality	0.091*	0.297*	0.139*	0.118*	0.039	0.070	0.036	0.082	0.002	0.009	0.000	-0.044
28. Inv. bankers' mean prior premium	0.194*	-0.057	0.229*	-0.007	0.077	0.476*	0.055	-0.052	0.104*	0.062	-0.124*	0.119*
29. # inv. bankers' prior acquisitions	-0.045	0.067	0.047	0.052	-0.006	0.076	0.037	-0.036	-0.034	0.029	-0.067	0.034
30. CEO hubris	0.061	0.065	-0.017	-0.063	-0.030	-0.043	-0.016	0.018	-0.102*	0.044	-0.052	-0.073
31. Board size	0.026	0.298*	0.116*	0.017	0.004	-0.104*	0.023	0.162*	-0.015	0.014	-0.004	-0.220*

Variables	20	21	22	23	24	25	26	27	28	29	30	31
21. Insider ownership	-0.021											
22. Institutional ownership	-0.087*	-0.112*										
23. Tied-to firms' premium diversity	0.096*	0.024	-0.040									
24. Tied-to firms' mean prior premium	-0.028	0.070	-0.019	0.035								
25. Focal firm's mean prior premium	0.068	-0.005	-0.014	-0.002	0.111*							
26. # focal firm's prior acquisitions	-0.019	0.176*	-0.143*	-0.041	0.139*	0.229*						
27. Focal firm's degree centrality	-0.018	-0.081	0.007	-0.044	0.024	0.045	-0.022					
28. Inv. bankers' mean prior premium	0.060	-0.056	0.082	0.070	0.023	0.026	-0.122*	0.084				
29. # inv. bankers' prior acquisitions	-0.069	-0.070	-0.061	-0.029	-0.038	0.035	0.028	-0.030	0.110*			
30. CEO hubris	0.028	-0.004	-0.162*	-0.037	-0.123*	-0.083	0.048	-0.007	-0.112*	0.057		
31. Board size	-0.039	-0.101*	-0.062	-0.233*	-0.125*	-0.041	0.013	0.437*	0.010	0.002	0.043	

Table 1-2.

Results from Paired T Test (N=541)				
	Pre-meeting Average premium	Post-meeting premium paid	Difference	p-value
				(one-tail)
Boards where directors on average approved a high premium (N=267)	52.615	56.337	3.722***	0.006
Boards where directors on average approved a low premium (N=274)	22.095	19.219	-2.876***	0.009
* p< 10%; ** p< 5%; *** p< 1%				

Table 1-3

Results from GLS Random-effects Regression of Focal Premiums Paid (541 observations, 199 firms)*								
Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Average prior premium		1.282•••	1.267***	1.233***	1.244***	1.238***	1.238***	1.238***
		(0.059)	(0.059)	(0.065)	(0.065)	(0.074)	(0.100)	(0.100)
Average prior premium X Demographic homogeneity			-0.101***	-0.108***	-0.091**	-0.092**	-0.092**	-0.091**
			(0.044)	(0.044)	(0.044)	(0.045)	(0.045)	(0.045)
Average prior premium X Pre-meeting position diversity				0.615*	1.089**	1.128**	1.132**	1.122**
				(0.485)	(0.537)	(0.593)	(0.680)	(0.681)
Average prior premium X Acquisition experience (min vs. maj)					-0.055**	-0.055**	-0.055**	-0.054**
					(0.027)	(0.027)	(0.030)	(0.030)
Average prior premium X Power (min vs. maj)						-0.005	-0.005	-0.005
						(0.030)	(0.032)	(0.032)
Average prior premium X Similarity of prior acquisitions (min vs. maj)							0.000	-0.001
							(0.023)	(0.023)
Average prior premium X Board influence over management								0.014
								(0.045)
Pre-meeting position diversity	-33.686***	-4.552	-4.503	-26.406	-33.683*	-33.557*	-33.596*	-33.072*
	(9.489)	(6.821)	(6.788)	(18.573)	(18.851)	(18.888)	(19.144)	(19.243)
Demographic homogeneity	-0.709	0.488	4.146**	4.215**	3.744**	3.777**	3.781**	3.744*
	(1.471)	(1.038)	(1.882)	(1.881)	(1.889)	(1.903)	(1.926)	(1.932)
Board influence over management	0.501	-0.588	-0.68	-0.669	-0.594	-0.601	-0.601	-1.14
	(1.356)	(0.957)	(0.954)	(0.953)	(0.950)	(0.952)	(0.953)	(2.032)
Log of acquirer's assets	-2.912*	0.839	0.655	0.428	0.305	0.31	0.309	0.285
	(1.740)	(1.238)	(1.235)	(1.247)	(1.244)	(1.246)	(1.248)	(1.252)
Log of target's assets	-5.680***	-4.149***	-4.339***	-4.240***	-4.233***	-4.233***	-4.233***	-4.234***
	(1.232)	(0.871)	(0.870)	(0.873)	(0.870)	(0.871)	(0.873)	(0.874)
Acquirer's ROE one year prior	3.292	-1.31	-2.3	-2.106	-2.267	-2.224	-2.224	-2.131
	(8.564)	(6.039)	(6.026)	(6.024)	(6.004)	(6.016)	(6.023)	(6.037)
Target's ROE one year prior	0.013	0.011	0.011	0.011	0.011	0.011	0.011	0.011
	(0.016)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log of deal value	5.540***	2.789***	2.968***	2.877***	2.822***	2.818***	2.818***	2.813***
	(1.167)	(0.832)	(0.832)	(0.835)	(0.832)	(0.833)	(0.835)	(0.836)
Product market synergy	-0.564	0.291	0.305	0.342	0.315	0.312	0.312	0.325
	(0.908)	(0.641)	(0.638)	(0.638)	(0.636)	(0.637)	(0.638)	(0.640)
Financial synergy	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Number of bidders	9.325**	2.311	2.258	2.15	1.768	1.776	1.776	1.736
	(4.544)	(3.219)	(3.204)	(3.203)	(3.197)	(3.201)	(3.205)	(3.211)
Completed acquisition	8.358*	1.009	0.933	0.609	0.758	0.786	0.788	0.816
	(4.758)	(3.370)	(3.354)	(3.362)	(3.351)	(3.359)	(3.368)	(3.373)
Financed mainly by cash	8.382***	3.12	3.539*	3.292	2.928	2.928	2.929	2.939
	(2.957)	(2.098)	(2.096)	(2.104)	(2.104)	(2.106)	(2.111)	(2.113)
Non-hostile acquisition	4.092	-0.092	0.07	0.179	0.332	0.343	0.341	0.263
	(4.932)	(3.481)	(3.465)	(3.464)	(3.453)	(3.458)	(3.466)	(3.480)
Takeover defense	27.397	23.322*	24.831*	25.206*	26.582**	26.521**	26.522**	26.398**
	(19.126)	(13.480)	(13.432)	(13.426)	(13.397)	(13.418)	(13.432)	(13.452)
Insider ownership	-33.776	-6.267	4.577	5.506	2.767	2.792	2.806	3.423
	(27.029)	(19.091)	(19.564)	(19.564)	(19.544)	(19.565)	(19.616)	(19.743)
Institutional ownership	-0.029	0.016	0.015	0.015	0.002	0.001	0.001	0.002
	(0.098)	(0.069)	(0.069)	(0.069)	(0.069)	(0.069)	(0.069)	(0.069)
Tied-to firms' premium diversity	-0.125	0.277	0.214	0.181	0.169	0.165	0.165	0.159
	(0.607)	(0.428)	(0.427)	(0.428)	(0.426)	(0.427)	(0.428)	(0.429)
Tied-to firms' mean prior premium	0.175	-0.103	-0.056	-0.043	-0.041	-0.04	-0.04	-0.037
	(0.146)	(0.104)	(0.105)	(0.106)	(0.105)	(0.106)	(0.106)	(0.106)
Focal firm's mean prior premium	0.038	-0.248***	-0.247***	-0.246***	-0.262***	-0.262***	-0.262***	-0.260***
	(0.059)	(0.044)	(0.044)	(0.044)	(0.044)	(0.044)	(0.045)	(0.045)
# focal firm's prior acquisitions	-0.039	0.548**	0.529**	0.549**	0.517**	0.516**	0.516**	0.517**
	(0.306)	(0.217)	(0.216)	(0.217)	(0.217)	(0.217)	(0.217)	(0.217)
Focal firm's degree centrality	0.476**	0.129	0.127	0.138	0.119	0.118	0.118	0.117
	(0.190)	(0.135)	(0.134)	(0.134)	(0.134)	(0.135)	(0.135)	(0.135)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Inv. bankers' mean prior premium	0.081	-0.004	0	0.005	0.016	0.016	0.016	0.016
	(0.081)	(0.057)	(0.057)	(0.057)	(0.057)	(0.057)	(0.057)	(0.058)
# Inv. bankers' prior acquisitions	-2.767**	-0.426	-0.498	-0.559	-0.633	-0.633	-0.633	-0.626
	(1.193)	(0.847)	(0.844)	(0.845)	(0.843)	(0.844)	(0.845)	(0.846)
CEO hubris	-2.028	-1.053	-1.209	-1.157	-1.031	-1.037	-1.036	-1.05
	(1.540)	(1.086)	(1.083)	(1.083)	(1.081)	(1.083)	(1.087)	(1.089)
Board size	-0.115	0.18	0.235	0.208	0.297	0.296	0.297	0.303
	(0.421)	(0.297)	(0.296)	(0.297)	(0.299)	(0.300)	(0.303)	(0.305)
asic2 10	34.094	10.856	9.501	7.875	8.968	8.892	8.866	8.175
	(29.927)	(21.118)	(21.026)	(21.051)	(20.986)	(21.015)	(21.128)	(21.273)
asic2 13	34.719	11.934	11.912	11.82	11.339	11.371	11.364	10.683
	(24.186)	(17.077)	(16.996)	(16.985)	(16.929)	(16.948)	(16.975)	(17.141)
asic2 15	31.389	3.242	1.975	2.126	-0.649	-0.584	-0.59	-1.12
	(37.725)	(26.618)	(26.497)	(26.480)	(26.425)	(26.456)	(26.489)	(26.574)
asic2 20	22.532	8.538	8.743	8.064	6.133	6.166	6.16	5.359
	(23.402)	(16.505)	(16.427)	(16.425)	(16.396)	(16.415)	(16.441)	(16.671)
asic2 23	0.563	22.232	27.151	25.945	22.533	22.584	22.587	21.597
	(26.327)	(18.580)	(18.613)	(18.625)	(18.636)	(18.659)	(18.681)	(18.987)
asic2 24	51.477**	9.83	8.596	8.529	5.587	5.763	5.759	4.868
	(26.142)	(18.523)	(18.443)	(18.431)	(18.425)	(18.479)	(18.501)	(18.755)
asic2 26	20.068	14.659	13.972	13.815	12.294	12.317	12.305	11.745
	(23.737)	(16.730)	(16.653)	(16.643)	(16.603)	(16.621)	(16.662)	(16.782)
asic2 27	11.63	12.937	13.648	14.385	12.986	13.028	13.024	12.312
	(26.355)	(18.573)	(18.488)	(18.485)	(18.435)	(18.456)	(18.480)	(18.649)
asic2 28	27.301	10.187	10.087	10.208	8.662	8.716	8.708	8.11
	(22.718)	(16.029)	(15.953)	(15.943)	(15.907)	(15.928)	(15.957)	(16.096)
asic2 29	35.711	8.821	2.999	3.115	1.181	1.137	1.126	0.33
	(27.131)	(19.160)	(19.233)	(19.221)	(19.178)	(19.201)	(19.241)	(19.441)
asic2 30	9.256	0.772	0.138	0.956	-0.826	-0.854	-0.86	-1.006
	(31.249)	(22.026)	(21.923)	(21.918)	(21.861)	(21.885)	(21.914)	(21.941)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
asic2 33	47.692*	5.242	3.503	3.922	2.229	2.394	2.379	1.66
	(24.716)	(17.528)	(17.460)	(17.452)	(17.412)	(17.463)	(17.518)	(17.697)
asic2 34	47.148	9.204	9.77	7.832	7.373	7.432	7.452	7.152
	(31.351)	(22.163)	(22.060)	(22.098)	(22.024)	(22.051)	(22.132)	(22.176)
asic2 35	31.233	7.348	8.653	8.806	6.787	6.857	6.851	6.219
	(22.860)	(16.148)	(16.081)	(16.071)	(16.047)	(16.070)	(16.095)	(16.247)
asic2 36	34.014	11.255	9.417	9.554	8.011	8.023	8.014	7.449
	(23.078)	(16.298)	(16.240)	(16.230)	(16.192)	(16.209)	(16.242)	(16.366)
asic2 37	34.703	11.122	10.123	10.595	8.815	8.848	8.841	8.171
	(23.424)	(16.543)	(16.470)	(16.464)	(16.431)	(16.450)	(16.476)	(16.641)
asic2 38	27.305	4.829	4.85	4.959	3.355	3.345	3.338	2.705
	(23.179)	(16.367)	(16.290)	(16.279)	(16.243)	(16.260)	(16.285)	(16.437)
asic2 39	42.223*	2.59	0.836	0.965	-1.574	-1.542	-1.55	-2.082
	(25.532)	(18.085)	(18.015)	(18.004)	(17.986)	(18.006)	(18.038)	(18.142)
asic2 40	32.657	6.427	5.309	4.894	5.145	5.195	5.2	4.735
	(28.547)	(20.154)	(20.065)	(20.054)	(19.986)	(20.010)	(20.036)	(20.116)
asic2 42	32.319	12.236	10.548	10.226	7.151	7.083	7.076	6.418
	(28.723)	(20.263)	(20.180)	(20.169)	(20.156)	(20.183)	(20.211)	(20.349)
asic2 45	34.782	5.497	3.521	4.655	3.128	3.06	3.054	2.738
	(27.174)	(19.198)	(19.126)	(19.134)	(19.084)	(19.109)	(19.137)	(19.184)
asic2 48	31.085	8.832	9.488	9.695	7.935	8.025	8.023	7.366
	(23.984)	(16.933)	(16.855)	(16.845)	(16.810)	(16.838)	(16.857)	(17.014)
asic2 49	33.193	8.897	9.191	9.632	8.09	8.07	8.062	7.502
	(23.622)	(16.685)	(16.606)	(16.599)	(16.560)	(16.578)	(16.606)	(16.726)
asic2 50	32.01	2.592	3.719	3.131	4.479	4.53	4.522	3.783
	(26.893)	(19.001)	(18.917)	(18.910)	(18.857)	(18.880)	(18.911)	(19.088)
asic2 51	15.514	16.204	13.037	13.141	10.769	10.786	10.778	10.135
	(25.238)	(17.786)	(17.754)	(17.743)	(17.720)	(17.740)	(17.771)	(17.917)
asic2 52	23.367	12.454	10.47	11.251	10.378	10.333	10.329	9.594
	(31.243)	(22.023)	(21.935)	(21.930)	(21.859)	(21.884)	(21.910)	(22.068)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
asic2 53	38.265	18.905	16.579	17.169	16.017	16.033	16.027	15.23
	(24.596)	(17.356)	(17.303)	(17.298)	(17.248)	(17.267)	(17.293)	(17.512)
asic2 54	32.467	11.703	11.642	12.328	11.932	11.928	11.927	11.257
	(25.763)	(18.181)	(18.095)	(18.091)	(18.030)	(18.049)	(18.069)	(18.224)
asic2 56	39.655	18.442	17.319	16.39	19.804	19.866	19.851	19.167
	(31.014)	(21.878)	(21.780)	(21.778)	(21.768)	(21.795)	(21.848)	(21.988)
asic2 57	31.147	7.428	8.452	8.656	4.724	4.781	4.77	4.321
	(31.096)	(21.942)	(21.842)	(21.828)	(21.839)	(21.866)	(21.906)	(21.979)
asic2 59	20.089	14.218	13.396	15.034	14.279	14.275	14.275	13.638
	(25.635)	(18.068)	(17.986)	(18.020)	(17.963)	(17.982)	(18.001)	(18.143)
asic2 60	36.766	10.989	12.416	13.082	10.549	10.582	10.579	10.066
	(23.662)	(16.717)	(16.649)	(16.647)	(16.637)	(16.656)	(16.676)	(16.780)
asic2 61	141.156***	35.352	37.897	35.664	44.599	44.624	44.63	44.286
	(38.389)	(27.491)	(27.382)	(27.421)	(27.677)	(27.707)	(27.741)	(27.792)
asic2 62	40.412*	4.445	4.162	4.66	2.106	2.079	2.071	1.674
	(24.360)	(17.247)	(17.166)	(17.159)	(17.146)	(17.166)	(17.196)	(17.264)
asic2 63	30.372	12.534	13.349	13.949	11.846	11.853	11.849	11.311
	(23.315)	(16.452)	(16.377)	(16.373)	(16.350)	(16.368)	(16.389)	(16.502)
asic2 64	29.624	10.413	9.773	8.88	14.236	14.257	14.25	13.511
	(31.459)	(22.188)	(22.084)	(22.081)	(22.162)	(22.186)	(22.218)	(22.375)
asic2 73	32.064	13.092	13.373	13.196	10.902	10.911	10.903	10.28
	(23.392)	(16.508)	(16.430)	(16.420)	(16.403)	(16.420)	(16.450)	(16.596)
asic2 78	49.15	17.582	22.36	23.956	19.513	19.552	19.538	19.136
	(38.186)	(26.950)	(26.901)	(26.912)	(26.909)	(26.939)	(26.990)	(27.050)
asic2 79	17.077	7.554	8.363	9.826	7.98	7.875	7.87	6.938
	(38.133)	(26.877)	(26.752)	(26.759)	(26.683)	(26.720)	(26.752)	(26.957)
asic2 80	22.542	9.128	6.352	6.404	4.578	4.686	4.675	4.048
	(38.940)	(27.449)	(27.345)	(27.327)	(27.248)	(27.286)	(27.327)	(27.434)
years 1995	11.579	7.483	6.738	6.014	5.661	5.657	5.653	5.453
	(8.415)	(5.934)	(5.914)	(5.938)	(5.920)	(5.926)	(5.944)	(5.987)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
years 1996	6.817	6.188	7.101	6.723	5.965	5.958	5.954	5.825
	(9.094)	(6.409)	(6.390)	(6.393)	(6.382)	(6.389)	(6.402)	(6.423)
years 1997	12.563*	10.157*	10.155*	9.454*	9.452*	9.425*	9.422*	9.314*
	(7.549)	(5.321)	(5.296)	(5.321)	(5.303)	(5.311)	(5.323)	(5.341)
years 1998	5.935	3.842	4.248	3.737	3.498	3.492	3.49	3.375
	(7.786)	(5.488)	(5.465)	(5.476)	(5.459)	(5.465)	(5.473)	(5.492)
years 1999	20.432***	10.325*	10.599**	10.213*	9.662*	9.632*	9.631*	9.489*
	(7.565)	(5.352)	(5.328)	(5.333)	(5.322)	(5.331)	(5.337)	(5.363)
years 2000	13.468*	7.337	6.522	6.15	7.128	7.173	7.174	7.015
	(7.667)	(5.411)	(5.396)	(5.401)	(5.404)	(5.417)	(5.424)	(5.455)
years 2001	17.862**	6.974	5.993	5.474	5.305	5.348	5.348	5.189
	(8.283)	(5.859)	(5.847)	(5.857)	(5.838)	(5.850)	(5.857)	(5.887)
years 2002	-4.266	-0.892	-1.546	-1.402	-0.805	-0.837	-0.838	-1.117
	(9.434)	(6.650)	(6.624)	(6.621)	(6.605)	(6.615)	(6.623)	(6.694)
years 2003	12.18	6.856	5.046	4.458	4.926	4.881	4.877	4.66
	(8.262)	(5.828)	(5.852)	(5.867)	(5.851)	(5.864)	(5.880)	(5.930)
years 2004	4.088	6.387	5.009	4.797	5.195	5.202	5.199	5.05
	(8.203)	(5.782)	(5.785)	(5.784)	(5.767)	(5.774)	(5.784)	(5.811)
years 2005	-2.136	7.44	6.534	6.223	5.755	5.742	5.74	5.698
	(7.801)	(5.516)	(5.503)	(5.505)	(5.491)	(5.498)	(5.505)	(5.512)
Constant	8.743	-31.534	-29.904	-25.896	-21.071	-21.115	-21.109	-20.389
	(31.672)	(22.397)	(22.302)	(22.511)	(22.559)	(22.585)	(22.614)	(22.763)
R-squared	0.308	0.657	0.661	0.662	0.665	0.665	0.665	0.665
Chi-squared	206.22	885.49	899.35	902.14	912.48	910.56	908.58	906.86

* p< 10%; ** p< 5%; *** p< 1%; one-tailed tests for hypothesized variables, two-tailed tests for controls

••• coefficients for 'Average Prior Premium' are significantly greater than 1 at p<1%

* Standard errors in parentheses

Table 1-4

Results from Feasible GLS Regression of Focal Premiums Paid (541 observations, 199 firms)*

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Average prior premium		1.257•••	1.251***	1.216***	1.212***	1.187***	1.178***	1.184***
		(0.028)	(0.026)	(0.028)	(0.031)	(0.035)	(0.042)	(0.043)
Average prior premium X			-0.098***	-0.103***	-0.062***	-0.061***	-0.062***	-0.061***
Demographic homogeneity			(0.023)	(0.021)	(0.022)	(0.022)	(0.022)	(0.022)
Average prior premium X				0.770***	1.172***	1.297***	1.345***	1.305***
Pre-meeting position diversity				(0.224)	(0.248)	(0.256)	(0.288)	(0.290)
Average prior premium X					-0.056***	-0.058***	-0.057***	-0.056***
Acquisition experience (min vs. maj)					(0.010)	(0.010)	(0.011)	(0.011)
Average prior premium X						-0.020*	-0.022*	-0.018*
Power (min vs. maj)						(0.013)	(0.014)	(0.014)
Average prior premium X							-0.003	-0.003
Similarity of prior acquisitions (min vs. maj)							(0.009)	(0.009)
Average prior premium X								0.022*
Board influence over management								(0.017)
Pre-meeting position diversity	-25.238***	-7.176**	-7.808**	-35.359***	-40.179***	-38.584***	-39.319***	-38.857***
	(5.193)	(3.241)	(3.082)	(8.512)	(8.708)	(8.816)	(9.065)	(9.038)
Demographic homogeneity	-1.277*	-0.49	2.989***	3.184***	1.529*	1.572*	1.597*	1.587*
	(0.713)	(0.496)	(0.929)	(0.835)	(0.890)	(0.893)	(0.897)	(0.888)
Board influence over management	0.479	-0.139	-0.264	-0.34	0.094	0.051	0.028	-0.682
	(0.802)	(0.347)	(0.361)	(0.353)	(0.392)	(0.393)	(0.399)	(0.724)
Log of acquirer's assets	-3.185***	0.962*	0.789	0.482	0.341	0.387	0.384	0.263
	(0.995)	(0.546)	(0.523)	(0.525)	(0.550)	(0.551)	(0.551)	(0.556)
Log of target's assets	-5.586***	-3.618***	-4.140***	-3.847***	-3.690***	-3.723***	-3.733***	-3.720***
	(0.690)	(0.420)	(0.407)	(0.417)	(0.423)	(0.423)	(0.424)	(0.422)
Acquirer's ROE one year prior	0.059	-0.181	-2.191	-1.534	-1.057	-0.761	-0.827	-0.664
	(3.995)	(2.166)	(2.166)	(2.215)	(2.324)	(2.328)	(2.335)	(2.299)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Target's ROE one year prior	0.008	0.008*	0.011***	0.011***	0.010**	0.010**	0.010**	0.010**
	(0.006)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Log of deal value	5.968***	2.285***	2.925***	2.702***	2.468***	2.434***	2.424***	2.417***
	(0.635)	(0.391)	(0.380)	(0.380)	(0.393)	(0.394)	(0.395)	(0.395)
Product market synergy	-0.906**	-0.065	-0.092	0.014	0.14	0.138	0.159	0.173
	(0.438)	(0.289)	(0.278)	(0.280)	(0.278)	(0.277)	(0.283)	(0.283)
Financial synergy	0.008**	0	0.001	0.001	0.002	0.002	0.002	0.002
	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Number of bidders	7.550***	2.720**	2.424**	2.269*	2.348*	2.615**	2.646**	2.614**
	(2.240)	(1.251)	(1.196)	(1.254)	(1.269)	(1.286)	(1.289)	(1.286)
Completed acquisition	7.053***	0.258	0.001	-0.708	0.212	0.364	0.415	0.513
	(1.888)	(1.244)	(1.159)	(1.084)	(1.219)	(1.220)	(1.226)	(1.213)
Financed mainly by cash	9.142***	2.465***	2.840***	2.323***	2.023**	2.142***	2.129***	2.300***
	(1.390)	(0.825)	(0.721)	(0.708)	(0.817)	(0.821)	(0.822)	(0.826)
Non-hostile acquisition	5.680**	-0.134	-0.252	-0.018	0.386	0.586	0.52	0.605
	(2.294)	(1.444)	(1.429)	(1.384)	(1.338)	(1.350)	(1.363)	(1.356)
Takeover defense	31.263***	14.634	17.06	17.27	17.881	17.759	17.784	17.464
	(9.866)	(14.761)	(14.770)	(14.657)	(14.632)	(14.622)	(14.620)	(14.613)
Insider ownership	-28.268**	-4.658	9.174	6.809	-2.558	-2.503	-2.291	-1.041
	(13.959)	(9.484)	(9.292)	(9.456)	(10.070)	(10.078)	(10.097)	(10.206)
Institutional ownership	0.013	0.015	0.021	0.014	0.008	0.006	0.007	0.011
	(0.042)	(0.025)	(0.023)	(0.022)	(0.025)	(0.025)	(0.025)	(0.025)
Tied-to firms' premium diversity	-0.33	0.297	0.15	0.144	0.298	0.29	0.297	0.305
	(0.210)	(0.187)	(0.172)	(0.175)	(0.195)	(0.195)	(0.197)	(0.197)
Tied-to firms' mean prior premium	0.108	-0.062	-0.029	-0.005	-0.04	-0.041	-0.04	-0.025
	(0.073)	(0.038)	(0.040)	(0.040)	(0.041)	(0.041)	(0.041)	(0.042)
Focal firm's mean prior premium	0.03	-0.223***	-0.215***	-0.221***	-0.238***	-0.235***	-0.234***	-0.232***
	(0.033)	(0.025)	(0.024)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
# focal firm's prior acquisitions	-0.167	0.479***	0.437***	0.471***	0.490***	0.483***	0.483***	0.495***
	(0.198)	(0.133)	(0.129)	(0.126)	(0.125)	(0.126)	(0.126)	(0.126)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Focal firm's degree centrality	0.318***	0.04	0.059	0.09	0.03	0.019	0.024	0.014
	(0.103)	(0.062)	(0.058)	(0.058)	(0.062)	(0.062)	(0.064)	(0.064)
Inv. bankers' mean prior premium	0.063	0.011	-0.003	0.007	0.027	0.026	0.027	0.029
	(0.043)	(0.023)	(0.021)	(0.022)	(0.024)	(0.024)	(0.024)	(0.024)
# inv. bankers' prior acquisitions	-2.604***	-0.238	-0.171	-0.236	-0.313	-0.39	-0.356	-0.393
	(0.655)	(0.385)	(0.377)	(0.375)	(0.376)	(0.380)	(0.391)	(0.394)
CEO hubris	-1.925**	-0.237	-0.585	-0.54	-0.198	-0.146	-0.164	-0.135
	(0.791)	(0.512)	(0.469)	(0.467)	(0.468)	(0.470)	(0.473)	(0.474)
Board size	-0.177	0.372**	0.358**	0.328**	0.397**	0.382**	0.384**	0.399**
	(0.229)	(0.159)	(0.159)	(0.160)	(0.159)	(0.160)	(0.160)	(0.160)
Industry dummies	included	included	included	included	included	included	included	included
Year dummies	included	included	included	included	included	included	included	included
Constant	10.451	-32.534***	-32.214***	-26.547***	-23.684***	-23.277***	-23.492***	-22.140***
	(23.203)	(8.769)	(7.802)	(7.295)	(7.903)	(7.895)	(7.920)	(7.738)

* p< 10%; ** p< 5%; *** p< 1%; one-tailed tests for hypothesized variables, two-tailed tests for controls

··· coefficients for 'Average Prior Premium' are significantly greater than 1 at p<1%

* Standard errors in parentheses

Table 2-1.

Descriptive Statistics and Pearson Correlation Coefficients (* p<.05)

Variables	N	Mean	S.D.	Min	Max	1	2	3	4
1. Focal compensation in comparison to peers	2467	0.869	1.670	-0.994	28.115				
2. Average prior compensation in comparison to peers	2467	0.757	1.034	-0.895	7.729	0.869*			
3. Power (minority vs. majority)	2467	-0.050	1.760	-1.379	6.961	-0.347*	-0.369*		
4. Similarity of prior decisions (minority vs. majority)	2467	0.007	1.141	-0.311	32.448	-0.040*	-0.051*	0.145*	
5. Demographic homogeneity	2467	-0.020	1.183	-1.701	5.436	-0.059*	-0.091*	-0.091*	-0.032
6. Board influence over management	2467	0.048	1.384	-9.685	2.539	0.060*	0.061*	0.056*	0.017
7. Pre-meeting position diversity	2467	0.152	0.168	0.000	0.500	-0.383*	-0.418*	0.908*	0.191*
8. Compensation in comparison to peers(one year prior)	2467	0.851	1.689	-1.000	28.115	0.424*	0.380*	-0.172*	0.111*
9. Log of sales	2467	9.160	0.907	5.977	12.295	0.255*	0.250*	-0.083*	0.010
10. Adjusted ROA	2467	0.036	0.084	-0.576	0.363	0.114*	0.111*	-0.069*	0.029
11. Adjusted market-to-book ratio	2467	1.661	8.617	-149.536	229.483	0.061*	0.067*	-0.050*	0.043*
12. Entropy measure of diversification level	2467	1.741	0.579	1.000	3.588	0.057*	0.064*	-0.030	0.033
13. Institutional ownership	2467	61.834	21.190	0.000	98.900	0.023	0.045*	-0.034	-0.006
14. Insider ownership	2467	0.026	0.261	0.000	12.288	0.005	0.015	-0.022	-0.007

Variable	5	6	7	8	9	10	11	12	13
6. Board influence over management	-0.173*								
7. Pre-meeting position diversity	-0.094*	0.072*							
8. Compensation in comparison to peers(one year prior)	-0.069*	0.055*	-0.183*						
9. Log of sales	-0.298*	0.094*	-0.090*	0.257*					
10. Adjusted ROA	-0.158*	-0.003	-0.056*	0.104*	0.095*				
11. Adjusted market-to-book ratio	-0.063*	0.036	-0.044*	0.041*	0.029	0.113*			
12. Entropy measure of diversification level	-0.106*	0.104*	-0.021	0.075*	0.116*	0.116*	-0.020		
13. Institutional ownership	-0.076*	0.040*	-0.022	0.029	-0.052*	0.003	-0.020	0.013	
14. Insider ownership	0.009	-0.004	-0.023	0.014	-0.023	-0.003	0.021	-0.023	-0.057*

Table 2-2.

Results from Paired T Test (N=2467)

	Average prior compensation (in comparison to peers)	Focal CEO compensation (in comparison to peers)	Difference	p-value (one-tail)
Boards where directors on average approved an above-market compensation (N=1780)	1.091	1.337	0.246***	0.000
Boards where directors on average approved a below-market compensation (N=687)	-0.106	-0.344	-0.238***	0.000

* p< 10%; ** p< 5%; *** p< 1%

Table 2-3

Results from GLS Random-effects Regression of Focal CEO Compensation (2467 observations, 326 firms)*

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Average prior compensation (in comparison to peers)		1.330***	1.336***	1.305***	1.196***	1.188***	1.200***
		(0.019)	(0.019)	(0.020)	(0.056)	(0.056)	(0.056)
Average prior compensation X			-0.039***	-0.036***	-0.036***	-0.036***	-0.031**
Demographic homogeneity			(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Average prior compensation X				0.699***	1.348***	1.415***	1.340***
Pre-meeting position diversity				(0.171)	(0.351)	(0.355)	(0.352)
Average prior compensation X					-0.080**	-0.083**	-0.081**
Power (minority vs. majority)					(0.038)	(0.038)	(0.037)
Average prior compensation X						-0.010*	-0.009
Similarity of prior decisions (minority vs. majority)						(0.007)	(0.007)
Average prior compensation X							0.066***
Board influence							(0.011)
Demographic homogeneity	-0.016	0.049***	0.073***	0.070***	0.069***	0.070***	0.064***
	(0.026)	(0.015)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
Board influence	0.059***	0.015	0.015	0.013	0.012	0.012	-0.033**
	(0.021)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.014)
Pre-meeting position diversity	-3.100***	-0.214**	-0.180*	-0.382***	-0.368***	-0.368***	-0.310***
	(0.176)	(0.109)	(0.109)	(0.120)	(0.120)	(0.120)	(0.119)
Focal CEO compensation in comparison to peers_t-1	0.305***	0.098***	0.097***	0.094***	0.094***	0.097***	0.099***
	(0.018)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Log of sales	0.282***	0.064***	0.062***	0.056***	0.055***	0.054**	0.051**
	(0.037)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Industry-adjusted ROA	0.985**	0.172	0.173	0.154	0.149	0.153	0.112
	(0.384)	(0.220)	(0.220)	(0.219)	(0.219)	(0.219)	(0.218)
Industry-adjusted market-to-book ratio	0.004	0.001	0.001	0.001	0.001	0.001	0.001
	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Entropy measures of diversification	-0.018	0.021	0.021	0.023	0.02	0.022	0.022
	(0.056)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)
Institutional ownership	0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Insider ownership	0.001	-0.05	-0.051	-0.048	-0.047	-0.047	-0.056
	(0.109)	(0.063)	(0.062)	(0.062)	(0.062)	(0.062)	(0.062)
sic1 0	-0.274	0.337	0.283	0.324	0.356	0.368	0.357
	(0.513)	(0.294)	(0.294)	(0.293)	(0.293)	(0.293)	(0.291)
sic1 1	0.659*	0.024	0.058	0.069	0.085	0.09	0.116
	(0.399)	(0.229)	(0.229)	(0.228)	(0.228)	(0.228)	(0.226)
sic1 2	0.055	0.149	0.165	0.151	0.17	0.178	0.204
	(0.355)	(0.203)	(0.203)	(0.203)	(0.203)	(0.203)	(0.201)
sic1 3	0.254	0.116	0.13	0.114	0.13	0.137	0.152
	(0.357)	(0.205)	(0.204)	(0.204)	(0.204)	(0.204)	(0.202)
sic1 4	0.144	0.226	0.243	0.222	0.242	0.249	0.275
	(0.364)	(0.209)	(0.208)	(0.208)	(0.208)	(0.208)	(0.206)
sic1 5	0.02	0.16	0.179	0.17	0.19	0.197	0.225
	(0.364)	(0.208)	(0.208)	(0.207)	(0.208)	(0.208)	(0.206)
sic1 6	-0.01	0.083	0.103	0.091	0.113	0.122	0.164
	(0.365)	(0.209)	(0.209)	(0.208)	(0.208)	(0.208)	(0.207)
sic1 7	0.56	0.681***	0.704***	0.698***	0.709***	0.721***	0.735***
	(0.379)	(0.217)	(0.217)	(0.216)	(0.216)	(0.216)	(0.215)
sic1 8	0.128	0.015	0.018	0.023	0.044	0.052	0.061
	(0.527)	(0.302)	(0.301)	(0.300)	(0.300)	(0.300)	(0.298)
years 1995	0.14	0.160*	0.150*	0.145*	0.140*	0.140*	0.164*
	(0.148)	(0.085)	(0.085)	(0.084)	(0.084)	(0.084)	(0.084)
years 1996	0.273*	0.098	0.098	0.089	0.089	0.089	0.121
	(0.147)	(0.084)	(0.084)	(0.084)	(0.084)	(0.084)	(0.083)
years 1997	0.329**	0.189**	0.186**	0.173**	0.175**	0.174**	0.176**
	(0.148)	(0.085)	(0.085)	(0.085)	(0.084)	(0.084)	(0.084)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
years 1998	0.122	0.127	0.118	0.116	0.114	0.114	0.131
	(0.147)	(0.084)	(0.084)	(0.084)	(0.084)	(0.084)	(0.083)
years 1999	0.186	-0.019	-0.025	-0.03	-0.033	-0.034	-0.022
	(0.145)	(0.083)	(0.083)	(0.083)	(0.083)	(0.083)	(0.082)
years 2000	0.312**	-0.043	-0.047	-0.064	-0.065	-0.066	-0.059
	(0.147)	(0.085)	(0.085)	(0.084)	(0.084)	(0.084)	(0.084)
years 2001	0.053	-0.055	-0.058	-0.068	-0.069	-0.066	-0.062
	(0.148)	(0.085)	(0.085)	(0.084)	(0.084)	(0.084)	(0.084)
years 2002	0.091	0.163*	0.164*	0.153*	0.152*	0.155*	0.158*
	(0.151)	(0.087)	(0.086)	(0.086)	(0.086)	(0.086)	(0.085)
years 2003	0.076	0.102	0.099	0.096	0.094	0.094	0.121
	(0.152)	(0.087)	(0.087)	(0.087)	(0.086)	(0.086)	(0.086)
years 2004	0.199	0.076	0.074	0.07	0.071	0.071	0.076
	(0.150)	(0.086)	(0.086)	(0.086)	(0.086)	(0.086)	(0.085)
years 2005	0.121	0.142	0.138	0.139	0.137	0.137	0.156*
	(0.152)	(0.087)	(0.087)	(0.087)	(0.087)	(0.087)	(0.086)
Constant	-1.890***	-1.021***	-1.024***	-0.918***	-0.917***	-0.924***	-0.954***
	(0.572)	(0.328)	(0.328)	(0.328)	(0.327)	(0.327)	(0.325)
Observations	2467	2467	2467	2467	2467	2467	2467
Number of firmid	326	326	326	326	326	326	326
R-squared	0.312	0.774	0.775	0.777	0.777	0.777	0.780
Chi-squared	1106.01	8341.49	8382.97	8453.91	8470.44	8475.21	8637.52

* $p < 10\%$; ** $p < 5\%$; *** $p < 1\%$; one-tailed tests for hypothesized variables, two-tailed tests for controls

••• coefficients for 'Average prior compensation' are significantly greater than 1 at $p<1\%$

* Standard errors in parentheses

Table 3-1.

Descriptive Statistics and Pearson Correlation Coefficients (* p<.05)

Variable	N	Mean	SD.	Min	Max	1	2	3	4	5
1. Change in diversification (t-1 to t+1)	1241	0.057	0.357	-1.048	2.012					
2. Average prior change in diversification	1241	0.011	0.077	-0.243	0.678	0.434*				
3. Power (minority vs. majority)	1241	-0.005	1.737	-1.699	5.663	-0.036	-0.075*			
4. Similarity of prior decisions (minority vs. majority)	1241	-0.033	0.845	-1.566	9.894	-0.068*	-0.076*	0.479*		
5. Pre-meeting position diversity	1241	0.219	0.186	0.000	0.500	-0.031	-0.087*	0.895*	0.540*	
6.Board influence	1241	0.094	1.302	-6.994	2.539	0.032	-0.008	0.059*	0.038	0.101*
7. Demographic homogeneity	1241	-0.173	1.063	-1.701	5.085	0.024	0.003	-0.072*	-0.016	-0.061*
8. Log of sales	1241	9.123	0.889	6.612	12.044	-0.015	0.001	0.104*	0.028	0.121*
9. Executive ownership	1241	0.018	0.058	0.000	0.858	0.047	0.045	0.005	-0.009	0.000
10. CEO compensation risk	1241	0.072	0.129	-0.370	0.682	0.013	-0.020	0.003	0.050	0.007
11. Variability of firm performance	1241	0.034	0.035	0.000	0.423	0.033	0.036	-0.039	-0.022	-0.013
12. Institutional ownership	1241	64.993	17.272	0.000	98.900	0.035	-0.008	-0.013	-0.037	0.000
13. Debt-to-equity ratio	1241	3.675	7.705	-40.577	133.042	0.008	0.019	0.001	0.038	0.017
14. ROA	1241	0.040	0.078	-0.372	0.363	-0.014	-0.078*	0.032	-0.007	0.037
15. Industry median ROA	1241	-0.007	0.075	-0.566	0.099	-0.006	0.050	-0.055	-0.046	-0.062*

Variable	6	7	8	9	10	11	12	13	14
7. Demographic homogeneity	-0.134*								
8. Log of sales	0.047	-0.280*							
9. Executive ownership	-0.099*	0.077*	-0.063*						
10. CEO compensation risk	-0.066*	-0.084*	0.044	-0.111*					
11. Variability of firm performance	0.024	0.224*	-0.213*	-0.053	-0.056*				
12. Institutional ownership	0.042	0.064*	-0.141*	-0.082*	0.021	0.134*			
13. Debt-to-equity ratio	0.006	-0.052	0.082*	-0.017	0.031	-0.106*	-0.005		
14. ROA	-0.034	-0.101*	0.138*	-0.064*	-0.016	0.050	-0.100*	-0.121*	
15. Industry median ROA	0.001	0.072*	-0.134*	0.049	0.035	-0.109*	0.069*	-0.016	-0.658*

Table 3-2.

Results from Paired T Test (N=1241)

	Average prior change in diversification level	Change in focal firm's diversification level	Difference	p-value (one-tail)
Boards where directors previously on average approved an increase in diversification level (N=511)	0.570	0.150	0.420***	0.000
Boards where directors previously on average approved a decrease in diversification level (N=730)	-0.021	-0.009	0.012	0.857

* p< 10%; ** p< 5%; *** p< 1%

Table 3-3

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Results from GLS Random-effects Regression of Focal Firm's Diversification Level Change (N=1241, 228 firms)*							
Average prior change in diversification		2.041***	2.022***	1.820***	0.817**	0.805**	0.809**
		(0.125)	(0.124)	(0.144)	(0.468)	(0.490)	(0.490)
Average prior change in diversification X			-0.336***	-0.315***	-0.339***	-0.339***	-0.347***
Demographic homogeneity			(0.112)	(0.112)	(0.112)	(0.113)	(0.113)
Average prior change in diversification X				2.292***	6.673***	6.736***	6.756***
Pre-meeting position diversity				(0.825)	(2.112)	(2.235)	(2.236)
Average prior change in diversification X					-0.580**	-0.579**	-0.572**
Power (minority vs. majority)					(0.258)	(0.258)	(0.258)
Average prior change in diversification X						-0.019	-0.02
Similarity of prior decisions (minority vs. majority)						(0.226)	(0.226)
Average prior change in diversification X							-0.044
Board influence							(0.071)
Pre-meeting position diversity	-0.055	0.023	0.023	0.002	0.009	0.009	0.008
	(0.055)	(0.050)	(0.049)	(0.050)	(0.050)	(0.050)	(0.050)
Board influence	0.004	0.01	0.009	0.009	0.01	0.009	0.01
	(0.008)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Demographic homogeneity	0.012	0.009	0.011	0.012	0.013	0.013	0.013
	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Log of sales	0.008	0.003	0.005	0.005	0.006	0.006	0.007
	(0.013)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Executive ownership	0.193	0.258	0.291*	0.307*	0.318*	0.318*	0.319*
	(0.194)	(0.175)	(0.175)	(0.175)	(0.174)	(0.174)	(0.174)
CEO compensation risk	0.07	0.069	0.073	0.074	0.074	0.074	0.072
	(0.080)	(0.073)	(0.073)	(0.072)	(0.072)	(0.072)	(0.072)
Variability of firm performance	0.266	0.064	0.212	0.137	0.05	0.05	0.052
	(0.326)	(0.294)	(0.298)	(0.298)	(0.300)	(0.300)	(0.300)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Institutional ownership	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Debt-to-equity ratio	0	0	0	0	0	0	0
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
ROA	-0.214	-0.002	0.006	0.012	0.021	0.02	0.02
	(0.182)	(0.165)	(0.165)	(0.164)	(0.164)	(0.165)	(0.165)
Industry median ROA	-0.205	-0.255	-0.236	-0.222	-0.227	-0.228	-0.231
	(0.209)	(0.189)	(0.188)	(0.188)	(0.187)	(0.188)	(0.188)
year 1995	-0.230***	-0.203***	-0.201***	-0.200***	-0.202***	-0.202***	-0.202***
	(0.047)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
year 1996	-0.156***	-0.141***	-0.137***	-0.136***	-0.137***	-0.137***	-0.136***
	(0.046)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)
year 1998	0.054	-0.023	-0.02	-0.02	-0.019	-0.02	-0.019
	(0.048)	(0.044)	(0.044)	(0.044)	(0.044)	(0.044)	(0.044)
year 1999	-0.051	-0.168***	-0.172***	-0.173***	-0.178***	-0.178***	-0.178***
	(0.047)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)
year 2000	-0.119**	-0.233***	-0.237***	-0.238***	-0.237***	-0.237***	-0.237***
	(0.047)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)
year 2001	-0.133***	-0.170***	-0.170***	-0.168***	-0.172***	-0.172***	-0.171***
	(0.048)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)
year 2002	-0.176***	-0.196***	-0.192***	-0.187***	-0.189***	-0.189***	-0.189***
	(0.047)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)
year 2003	-0.198***	-0.189***	-0.183***	-0.181***	-0.186***	-0.186***	-0.186***
	(0.047)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
year 2004	-0.162***	-0.151***	-0.151***	-0.151***	-0.154***	-0.154***	-0.154***
	(0.046)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
sic1 0	0.029	0.113	0.106	0.099	0.101	0.102	0.103
	(0.170)	(0.153)	(0.153)	(0.152)	(0.152)	(0.152)	(0.152)
sic1 1	0.052	0.106	0.101	0.111	0.108	0.109	0.109
	(0.124)	(0.112)	(0.111)	(0.111)	(0.111)	(0.112)	(0.112)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
sic1 2	0.094	0.095	0.09	0.1	0.099	0.1	0.101
	(0.104)	(0.094)	(0.093)	(0.093)	(0.093)	(0.093)	(0.093)
sic1 3	0.078	0.097	0.094	0.103	0.103	0.104	0.105
	(0.108)	(0.097)	(0.097)	(0.097)	(0.097)	(0.097)	(0.097)
sic1 4	0.112	0.111	0.108	0.122	0.117	0.118	0.12
	(0.109)	(0.098)	(0.098)	(0.098)	(0.098)	(0.098)	(0.098)
sic1 5	0.065	0.086	0.082	0.092	0.087	0.088	0.088
	(0.110)	(0.099)	(0.099)	(0.099)	(0.098)	(0.099)	(0.099)
sic1 6	0.104	0.105	0.106	0.115	0.107	0.108	0.11
	(0.110)	(0.099)	(0.099)	(0.098)	(0.098)	(0.099)	(0.099)
sic1 7	0.233**	0.240**	0.234**	0.249**	0.246**	0.246**	0.247**
	(0.114)	(0.103)	(0.102)	(0.102)	(0.102)	(0.103)	(0.103)
sic1 8	0.024	0.046	0.027	0.041	0.042	0.042	0.042
	(0.235)	(0.212)	(0.212)	(0.211)	(0.211)	(0.211)	(0.211)
Constant	-0.032	-0.018	-0.034	-0.036	-0.046	-0.047	-0.052
	(0.174)	(0.157)	(0.157)	(0.157)	(0.156)	(0.157)	(0.157)
R-squared	0.069	0.238	0.243	0.248	0.251	0.251	0.252
Chi-squared	89.71	377.28	388.78	398.67	405.09	404.76	404.95

* $p < 10\%$; ** $p < 5\%$; *** $p < 1\%$; one-tailed tests for hypothesized variables, two-tailed tests for controls

••• coefficients for 'Average prior diversification change' are significantly greater than 1 at $p<1\%$

* Standard errors in parentheses

Table 4. Summary of Findings*

Predictions \ Studies	Acquisition Premium	CEO Compensation	Change of Diversification
Main Effect: Mean prior experience of all directors	√	√	√
Interaction1: Demographic Homogeneity	√	√	√
Interaction2: Pre-meeting position diversity	√	√	√
Interaction3: Relative power (min vs. maj)	<u>√</u>	√	√
Interaction4: Relative experience (min vs maj)	√	N/A	N/A
Interaction5: Relative similarity of experience (min vs maj)	✕	✕	✕
Interaction6: Board influence	<u>√</u>	√	✕

* √: supported in all models; <u>√</u>: supported in some models; ✕: not supported in any models

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