Dissertation Advisor: Boris Groysberg J. Yo-Jud Cheng

Decisions and Dynamics in the Upper Echelons:

Implications for Firm Governance, Strategy, and Performance

ABSTRACT

This dissertation examines how individuals in the upper echelons of the organization – namely, the board of directors, CEO, and top management team – shape firm governance, strategy, and performance. This dissertation starts with a broad analysis of board effectiveness and then narrows in focus to one particular board responsibility (CEO succession planning), and then one particular type of CEO transition (leapfrog CEO succession) in the two subsequent chapters. Through this dissertation, I advance our understanding of how board directors and executives influence the organizations around them by developing insights into how boards and top management teams operate internally and integrating these insights into large-sample empirical analyses.

The first chapter of this dissertation uses a large-sample survey to explore drivers of board effectiveness on three primary board responsibilities. This study emphasizes the role that internal board operations play in explaining directors' perceptions of their boards' effectiveness. The second chapter uses a mixed-methodology approach to examine one specific board responsibility: CEO succession planning. This study identifies the basic components of a board-level CEO succession plan and highlights the role of the CEO/board relationship and risk management processes in supporting these processes. The third chapter examines a specific type of CEO transition: leapfrog CEO succession. This study analyzes the environmental antecedents and performance consequences of appointing an internal candidate who is fast-tracked past more senior executives as CEO.

TABLE OF CONTENTS

LIST OF TABLES v
AUTHOR LIST vii
ACKNOWLEDGMENTS viii
INTRODUCTION 1
CHAPTER ONE 5
- Introduction 6
- Prior Literature 11
- Research Method 13
- Director Perceptions of Board Governance Effectiveness 18
- Director Perceptions of Internal Board Operations 23
- Factors Associated with Director Perceptions of Board Governance Effectiveness 32
- Multivariate Analysis and Results 36
- Discussion and Conclusion 47

CHAPTER TWO 51
- Introduction 52
- Prior Literature 54
- Theory Development 58
- Quantitative Methods and Data 69
- Results 77
- Discussion and Conclusion 84

CHAPTER THREE 89
- Introduction 90
- Prior Literature on CEO Succession and CEO Origin 94
- Hypothesis Development 98
- Methods 104
- Results 113
- Discussion and Conclusion 122

APPENDIX A (Chapter One) 126
APPENDIX B (Chapter Two) 129
APPENDIX C (Chapter Two) 130
APPENDIX D (Chapter Two) 135
APPENDIX E (Chapter Three) 136
REFERENCES 139

LIST OF TABLES

CHAPTER ONE
Table 1-1. Comparison of survey sample and BoardEx population 17
Table 1-2. Summary of survey participants' responses on board governance effectiveness .. 23
Table 1-3. Summary of survey participants' responses on internal board operations 31
Table 1-4. Summary of survey participants' responses on external-, board-, director-, and company-level characteristics 35
Table 1-5. Correlations between key variables 37
Table 1-6. Relation between survey participants' perceptions of board effectiveness, external, board, and director characteristics, and internal board operations 40
Table 1-7. Relation between survey participants' perceptions of board effectiveness, external, board, and director characteristics, and internal board operations – factor variables 45
CHAPTER TWO
Table 2-1. Summary statistics on key variables 78
Table 2-2. Correlations between key variables 79
Table 2-3. Relationship between CEO succession planning and board attributes 81
Table 2-4. Relationship between succession patterns and board attributes 82
Table 2-5. Relationship between succession patterns and board succession planning 83
CHAPTER THREE
Table 3-1. Descriptive statistics on CEO transitions in sample 113
Table 3-2. Antecedents to the selection of a leapfrog CEO and CEO succession planning . 115
Table 3-3. Consequences of appointing a leapfrog CEO: Firm financial performance 117
Table 3-4. Consequences of appointing a leapfrog CEO: Corporate strategy 121
APPENDICES
Table A-1. Rotated factor output from principal-components analysis of survey questions on internal board operations 126
Table A-2. Relation between survey participants' perceptions of board effectiveness, external, board, and director characteristics, and internal board operations – private; non-US boards 128
Table C-1. Comparison of survey sample and BoardEx population 130
Table C-2. Comparison of responses to objective survey questions and data from publicly-available sources for identified observations 131
Table C-3. Summary statistics on underlying survey variables used to construct board attributes 131
Table C-4. Comparison of attributes of identified boards with CEO transitions and rest of survey sample 132
Table C-5. Relationship between CEO succession planning and board attributes, using board attributes constructed using naïve average 133

Table C-6. Relationship between CEO succession planning and board attributes, using alternative marker variable 134
Table C-7. Harman's one-factor test of common method bias 134
Table E-1. Consequences of appointing a leapfrog CEO: Firm financial performance with matching on pre-succession characteristics 136
Table E-2. Consequences of appointing a leapfrog CEO: Firm financial performance following an exogenous shock to the external industry environment 136
Table E-3. Consequences of appointing a leapfrog CEO: Firm financial performance – summary of robustness checks 137
Table E-4. Consequences of appointing a leapfrog CEO: Corporate investment decisions . 138
Table E-5. Consequences of appointing a leapfrog CEO: Top management team turnover 138

AUTHOR LIST

Chapter One was co-authored with Boris Groysberg, Paul Healy, and Rajesh Vijayaraghavan

Chapter Two was co-authored with Boris Groysberg and Paul Healy

ACKNOWLEDGMENTS

As I reflect on my time in the doctoral program, my heart is full of gratitude for the many people who have helped me get to this milestone. I would like to express my deepest thanks to my dissertation committee for being extraordinarily generous with their guidance and wisdom. It has been an absolute privilege to learn from such an inspiring set of professors. I am grateful for Boris Groysberg, my dissertation chair, who has helped me become a researcher by teaching me to think broadly and seek out interesting questions. From our very first meeting, Boris created opportunities for me that I could not have even imagined when I started this doctoral program. Paul Healy's creativity, intellectual curiosity, and enthusiasm for research were integral in motivating me throughout the development of this dissertation. Without fail, I left our meetings feeling energized and excited to explore new avenues of inquiry and to advance my research projects. Jan Rivkin's practical and constructive guidance has been a beacon for me in this process. The incredible precision and clarity of Jan's thinking have continuously pushed me to hone my own logic and reasoning. Boris, Paul, and Jan have each been truly inspiring examples of how you can make a difference through this profession.

Many other faculty members invested their time and energy in discussing my research with me and offering advice. I am deeply grateful for the guidance of Andy Wu, Cynthia Montgomery, David Collis, Dennis Yao, Hong Luo, Jordan Siegel, Juan Alcacer, and LT Zhang. I am also thankful for my co-authors, Jeremiah Lee, Jesse Price, Rajesh Vijayaraghavan, and Shelby Gai, for their partnership on various projects.

I am so lucky to have had the support and friendship of my Strategy cohort: Do Yoon Kim and Mike Teodorescu. Their camaraderie was invaluable every step of the way, through coursework, general exams, and our dissertation defenses. I am grateful for my fellow doctoral students – the only other people in the world who truly understand what this program entails –

for being a constant source of advice, feedback, and encouragement over the years. It has been an honor to be a part of this amazing community, and I will always cherish the many memories we have created here, celebrating accomplishments and navigating challenges. I especially want to thank Alicia DeSantola, Cheng Gao, and Jee Eun Shin, who have been incredible friends that I have turned to time and time again throughout this journey.

I am thankful for the wonderful HBS Doctoral Programs Office, especially Jen Mucciarone and Marais Young, for shepherding us through each stage of this process with humor, compassion, and endless patience. I thank Shelby Austin-Manning, for being exceptionally organized and for going above and beyond to help me in so many ways. I also thank Cassandra Frangos and the many other executives, board directors, and practitioners who took the time to share their experiences and help me understand how things work in the real world.

I am so grateful for my friends, who have always believed in me and have been my constant cheerleaders, and my family, for not only supporting me in this pursuit, but for actually understanding why I decided to undertake this path in the first place. I am forever indebted to my parents, the original Dr. Chengs, for being wonderful examples of how to live a fulfilling and balanced life in this profession and for setting me up to succeed in every possible way. My brother, Yo-Shang, for keeping me connected to life outside of academia through news updates and internet miscellany. I am thankful for Katerina, my ever-present dissertation sidekick. And finally, John, for being my sense of perspective. Your enduring support and understanding have pushed me along, lifted me up, and carried me through the past six years of graduate school.

Thank you.

Page intentionally left blank

INTRODUCTION

The upper echelons perspective has advocated for research that examines observable managerial characteristics (such as age, tenure, and education), due to the difficulties associated with measuring the cognitive characteristics, values, and perceptions of upper-level managers (Hambrick & Mason, 1984). In addition, deliberations and decisions within top management teams and boards of directors are typically private and not accessible to outside observers (Khurana & Pick, 2004; Lorsch, 2017). For this reason, many questions remain about how the less readily observable internal operations of top management teams and boards of directors affect organizational outcomes.

This dissertation, entitled "Decisions and Dynamics in the Upper Echelons: Implications for Firm Governance, Strategy, and Performance," examines how the internal operations, decision-making processes, and group dynamics of top management teams and boards of directors shape firm governance, strategy, and performance. Three separate research studies comprise this dissertation, starting with a broad focus in the first chapter and then narrowing in focus in the two subsequent chapters. The first chapter of this dissertation analyzes board effectiveness on a variety of dimensions; the second chapter examines board-level processes for one specific responsibility: CEO succession planning; and the third chapter analyzes one particular type of CEO transition: leapfrog succession.

To gain access to the sensitive and typically confidential deliberations that underlie boardroom decisions and CEO succession processes, I draw upon a diverse array of data sources, including archival databases, a large-sample survey, semi-structured interviews, and company documents and filings. I conduct econometric analyses to address my research questions. Through this dissertation, I advance our understanding of how board directors and executives influence the organizations around them by developing insights into how boards and top

management teams operate internally and integrating these insights into large-sample empirical analyses.

Effective governance systems provide a foundation for the preservation and creation of firm value. In the first chapter of this dissertation, "Directors' Perceptions of Board Governance and Operational Effectiveness," co-authored with Boris Groysberg, Paul Healy, and Rajesh Vijayaraghavan, we use a large-sample survey of board members to explore how directors perceive their boards' effectiveness on a variety of board responsibilities and internal board functions. Multivariate findings indicate that director perceptions of board effectiveness are most strongly related to measures of internal board operations. This study furthers our understanding of the inner workings of boards, and highlights the importance of these factors in explaining director perceptions of board effectiveness. More broadly, this paper offers implications for how boards can operate more effectively and thereby better position their firms for long-term success.

The selection of a new CEO can have far-reaching implications for firm performance, and is therefore one of the most critical decisions made by boards of directors. In the second chapter of this dissertation, "Recipe for Succession: An Analysis of Board-Level Drivers of CEO Succession Planning," co-authored with Boris Groysberg and Paul Healy, we use a mixed-methodology approach to identify the basic components of a board-level succession plan and examine the board attributes that facilitate succession planning. We integrate insights derived from in-depth interviews with data from a large-sample survey of board directors to explore how boards' characteristics and internal processes influence CEO succession planning. Our results highlight the role of various board characteristics – particularly those related to the CEO/board relationship and risk management processes – in contributing to succession planning. These findings underscore the importance of considering CEO transitions as the result of a process,

rather than as a discrete event, and suggest that CEO succession planning processes can play a role in shaping both CEO selection decisions and post-succession outcomes. This dissertation chapter provides insights into how boards can improve the processes that underlie one of their most consequential decisions: selecting a new CEO.

In the third chapter, "When to Take the Leap: The Antecedents and Consequences of Leapfrog CEOs," I examine the environmental antecedents and performance consequences of appointing a "leapfrog" CEO: an internal candidate who is fast-tracked past more senior executives to be appointed as CEO. I propose that under certain conditions, leapfrog CEOs may perform more effectively than traditional-track CEOs because they embody both insider and outsider characteristics. I analyze CEO transitions that occurred between 2001–2013 in large, publicly-traded U.S. firms and find that 16% of transitions involve leapfrog CEOs. Among firms with high pre-succession performance, I find that firms are more likely to appoint a leapfrog CEO when their industry environment is declining – but only when the board engages in CEO succession planning; in addition, I find that leapfrog CEOs are associated with an increase in ROA under these conditions and are more likely than other CEO types to shift resources away from legacy businesses. This study offers implications for how firms can use leapfrog CEO successions as a mechanism to adapt to changing environmental conditions and lay the groundwork for strategic and organizational change.

This dissertation brings to light the complexities that underlie corporate governance and CEO successions. Through this dissertation, I contribute to the literature on strategic leadership and the upper echelons perspective by empirically analyzing aspects of directors' and top executives' intrapersonal dynamics, decisions, and attributes that have not been previously studied on a large scale. This dissertation also has practical implications for how boards can

operate more effectively, select the right CEOs to lead their firms, and ultimately position their firms for long-term competitiveness. This dissertation is the start of a broader research program that examines within-firm processes for top executive development, selection, and replacement; the implications of various types of CEO transitions; and the role of board committees in corporate governance and board operations.

CHAPTER ONE

Directors' Perceptions of Board Governance and Operational Effectiveness

J. Yo-Jud Cheng, Boris Groysberg, Paul Healy, and Rajesh Vijayaraghavan

Abstract

Prior research indicates that team performance is related to team member engagement, relationships, communication, and coordination. Yet these factors have not been amenable to study in the context of one important type of team: the corporate board. We address this gap using data from 577 directors of U.S. public firms that responded to a survey we conducted in 2015-2016 and qualitative data from interviews of 75 directors. Our study explores the relation between director perceptions of their boards' internal operations and their ratings of its effectiveness in firm governance. Most respondents perceived that their boards were highly effective in overseeing risk management, somewhat less effective in guiding and appraising strategy, and even less effective in management evaluation and selection. In reviewing board operations, respondents perceived that their boards had highly engaged members, highly functioning personal relationships (both between directors and between directors and management), and effective board meetings, but rated their boards lower on internal governance. Finally, we document a strong positive relation between perceptions of effectiveness on all three board governance constructs and measures of internal board operations.

Introduction

In the wake of recent financial crises and publicity surrounding governance lapses at companies such as General Electric and Theranos (Carreyrou, 2018; Gryta & Mann, 2018; Kosoff, 2017; Weaver, 2017), there has been continued interest from regulators, practitioners, and researchers in improving the effectiveness of corporate boards (Aebi, Sabato, & Schmid, 2012; Board of Governors of the Federal Reserve System, 2017; Erkens, Hung, & Matos, 2012; Kirkpatrick, 2009). Prior research on board effectiveness has focused on how board characteristics, such as size and composition, affect firm profitability or observable board actions (see Adams, Hermalin, & Weisbach, 2010; Hermalin & Weisbach, 2003 for summaries of these studies).

We adopt a different approach, using survey and qualitative interview data to examine directors' perceptions of their boards' effectiveness in various governance responsibilities, and whether their perceptions are related to ratings of their boards' operational performance and internal governance. This approach allows us to make several contributions. First, we explore how boards operate and govern themselves, which has largely been a 'black box' for governance scholars. Given their personal experiences, directors have unique insights into how boards actually operate and the challenges they face in carrying out their governance responsibilities. Many serve on multiple boards and are, therefore, well-placed to observe variation in boards' management, internal operations and governance practices, and to judge how these differences shape their decisions. Consequently, despite potential bias, their perceptions are likely to provide useful information to scholars on how boards function, and to practitioners and regulators in identifying areas of opportunity for governance improvement.

Second, we are able to examine whether internal board operations and governance are associated with board effectiveness in carrying out its governance responsibilities. Findings from

behavioral research indicate that the performance of a team is affected by how its members interact, how they manage their regular activities, how they govern themselves, and their levels of engagement (Edmondson, Roberto, & Watkins, 2003; Hackman, 2002; Hackman & Morris, 1975; Wageman, Hackman, & Lehman, 2005). As a team, a board's performance is, therefore, likely to be influenced by many of the same factors. Yet, because of limitations of archival data, the effect of board internal operations on its governance effectiveness has not been amenable to study (Adams et al., 2010, p. 59). Our study seeks to fill this gap.

Finally, many boards use internal assessments to rate their own performance, but have limited or no benchmark data to gauge their performance across a broad set of peers. By surveying a cross-section of directors on how they rate various aspects of their board's governance performance and internal operations, we provide preliminary data useful for benchmarking.

For a given board, our 2015-16 survey posed questions about director, board, and firm characteristics, as well the respondent's perceptions of the board's governance effectiveness and internal operations. The sample comprises 577 directors from U.S. public companies and covers a wide variety of industries. The average responding director in our sample has considerable boardroom experience, serving on more than three public boards over the course of their careers, with the longest period of service being 8.1 years on average (for each respondent). Given the challenges in interpreting survey responses, we supplemented our survey data by collecting detailed information on director perspectives through semi-structured interviews with more than 75 directors and qualitative data collected through our survey. We used this information to validate and contextualize responses captured in our survey constructs and to support the integrity of the findings.

Based on the board's primary responsibilities, we classify survey questions on governance effectiveness into three parsimonious constructs: oversight of risk management, strategy guidance and appraisal, and management evaluation and selection. Similarly, we use prior research from the academic literature on teams to classify questions on internal board operations into four constructs: director engagement, interpersonal relationships, board meeting management, and internal governance.

Our survey responses offer insights into directors' perceptions of their boards' relativeness effectiveness on its primary responsibilities. Respondents rated their boards as most effective in risk management oversight (69% gave an average rating of 4 or more on a 5-point Likert scale), followed by strategy guidance and appraisal (63%), and management evaluation and selection (55%). However, there was wide variation within these categories. For example, 80% gave ratings of 4 or 5 on stewardship of company assets, working with management to set the right tone for the company, playing a significant role in setting strategy, and being aligned with the CEO and other directors on the company's strategy. In contrast, more than 50% of the respondents gave ratings *below* 4 for oversight of cybersecurity risk; oversight of global expansion, innovation, technology, and strategic planning; and talent management evaluations and CEO succession planning, suggesting that many respondents saw areas where their boards' governance effectiveness could improve.

Survey results also highlight boards' relative strengths and weaknesses on internal board operations. Respondents typically rated their boards highly. Eighty percent or more gave ratings of 4 or 5 on director meeting preparedness, director collegiality, candor of board discussions, meeting agendas reflecting board priorities, clarity around accepted member behavior, appropriate CEO consultation and communication with the board, feeling personally connected

to company mission, feeling that their voice was heard in discussions, the time allocated to strategy discussions, and the effective use of executive sessions, committees, and general meetings. Ratings were lower for questions about board internal governance, including evaluations of individual directors (where 56% gave ratings below 4), effective training for new board members (42%), and addressing problematic directors (41%).

We then use a multivariate analysis to examine the relation between board governance performance and internal board operations. Prior research shows that board governance effectiveness is associated with external stakeholder influence (external activists, investors, and the government), board characteristics (board size, director independence, and gender diversity), and firm characteristics (size and profitability). Our analysis, therefore, includes these factors. In addition, we examine respondents' characteristics (gender, board leadership, independence, and board experience) and perceptions of their boards' internal operations (ratings of director engagement, interpersonal relationships, board meeting management, and internal governance).

One concern is that our survey variables could be affected by halo effects that contaminate ratings for all questions from the same respondent, biasing our findings. To address this problem, we use two marker variables that also contain the halo effect, but which in theory should be unrelated to our governance and board operations constructs: the respondent's enjoyment from serving on the board and whether serving on the board has enhanced the respondent's professional reputation.

We find that the strongest factors associated with our three board governance performance constructs are respondent assessments of their boards' internal operations. Boards that are rated as more engaged, having more effective meeting management, stronger relationships, and stronger internal governance are perceived to do a better job in fulfilling all

three governance responsibilities. The effects are both statistically and economically significant. For example, we find that a one unit increase in ratings for board meeting management (on a 1-5 Likert scale) is associated with a 0.6 unit increase (again on a 1-5 Likert scale) in the average rating for risk management (approximately 1.1 standard deviations); a one unit increase in ratings for interpersonal relationships is associated with a 0.6 unit increase in the average rating for strategy processes (approximately 1.0 standard deviations); and a one unit increase in ratings of internal governance practices is associated with a 0.6 unit increase in the average rating for management evaluation and selection (approximately 0.9 standard deviations).

In addition, several factors identified as relevant to board governance in prior studies are related to respondent ratings of board governance. Management evaluation and selection ratings were lower when an activist investor had targeted the firm, suggesting that directors perceived that either activists focus on under-performing boards or that the conflict surrounding activist engagement reduces board effectiveness. Respondents on boards with a higher percentage of independent directors rated their boards lower on strategy guidance and appraisal, perhaps reflecting their more limited knowledge of the firm and its industry. Ratings of management evaluations and selection were stronger when investors exerted a strong influence over the board. And board governance effectiveness ratings were consistently higher for larger firms and firms with stronger financial performance.

Finally, respondent characteristics shaped their perceptions of board governance effectiveness. Respondents who did not know any board members or executives prior to joining the board, and hence were more likely to be independent, rated their boards lower on risk management oversight. Respondents with leadership positions on the board (such as chairman or lead director), and hence who were less likely to be independent, had higher ratings of

management evaluation and selection. Executive directors had lower ratings on strategy guidance and appraisal. And less experienced directors, who were on their first board appointment, had lower ratings of management evaluations and selection, suggesting that these directors are more critical than longer-tenured directors who have been more fully integrated into the board.

We recognize that there are a number of limitations to our study. The correlations do not prove causality. Our survey data is subject to the usual concerns about subjectivity and response biases. The construction of our board governance and internal operations constructs are subjective, and therefore open to question. And finally, our efforts to control for any halo effects that bias survey results may be imperfect. Therefore, we see our cross-sectional findings as exploratory, and indicating opportunities for further investigation.

Prior Literature

Board responsibilities are multi-faceted and incorporate both advisory and monitoring roles with respect to overseeing risk and regulatory compliance; guiding the strategic and operational direction of the company; and hiring and compensating the chief executive (D. Larcker & Tayan, 2011). Prior studies have examined how external forces, board characteristics, and director attributes affect board actions, corporate governance outcomes, and firm performance (Adams et al., 2010; Hermalin & Weisbach, 2003). These studies have examined externally-observable characteristics, such as shareholder activism (Brav, Jiang, Partnoy, & Thomas, 2008; Gillan & Starks, 2007; Karpoff, Malatesta, & Walkling, 1996), investor make-up (Aggarwal, Erel, Ferreira, & Matos, 2011; Bhojraj & Sengupta, 2003; McCahery, Sautner, & Starks, 2016), and board composition (Kor & Misangyi, 2008; Kroll, Walters, & Wright, 2008; Westphal & Fredrickson, 2001a). Research that has taken advantage of less traditional data sources has examined less externally-visible traits such as social ties between directors (Cohen,

Frazzini, & Malloy, 2012; Westphal, 1999), psychological traits (Walker, Machold, & Ahmed, 2015; Zhu & Chen, 2015a, 2015b), and ingratiation behaviors (Stern & Westphal, 2010; Westphal & Stern, 2006, 2007).

To explain variation in board effectiveness, prior studies have examined the relationship between firm financial performance and various board characteristics (e.g., independence or size). An alternative approach has been to examine the relationship between board characteristics and the outcomes of various board's responsibilities (e.g., replacing a poorly performing CEO, appointing a new CEO, compensating the CEO, or approving mergers). However, as Hermalin and Weisbach (2003) argue, these studies are open to alternative interpretations and concerns about spurious correlation, making it difficult to interpret their findings.

In addition, governance scholars argue that there are many open areas of inquiry related to the internal operations of boards, where the absence of public data has limited opportunities for research (Lorsch, 2017). Sonnenfeld (2004, p. 112) argues that "the human side of governance" is the missing ingredient in improving corporate governance and that "the human dynamics of boards as social systems … will truly differentiate a firm's governance." Similarly, Larcker and Tayan (2011, p. 13) advocate for a broad approach toward analyzing corporate governance, given that "focusing an analysis on one or two mechanisms without considering the broader context can be a prescription for failure." In this study, we address this gap by applying insights from the teams literature to the context of corporate boards in order to directly examine the role of boards' internal operations in governance performance.

Prior studies have noted that despite their limitations, surveys provide valuable practitioner insight into questions that are unresolved through theory or large sample archival studies (Dichev, Graham, Harvey, & Rajgopal, 2013; Graham, Harvey, & Rajgopal, 2005).

Survey methodology is particularly well-suited to study questions related to boards' internal operations, and therefore opens an avenue to examine corporate governance outcomes with respect to a wide range of board characteristics and processes.

Although director perceptions are not the typical outcome of interest in most corporate governance studies, examining employee perceptions of their workplaces and managers is a common area of inquiry in human resources (Cooil, Aksoy, Keiningham, & Maryott, 2009; Harter, Schmidt, & Hayes, 2002), and investor and shareholder perceptions of board governance has been an active area of inquiry in finance and other related disciplines (Alexander, Barnhart, & Rosenstein, 2007; Bell, Filatotchev, & Aguilera, 2013; Certo & Hodge, 2007; Paruchuri & Misangyi, 2015). Governance research has largely focused on one facet of team effectiveness: performance as measured by external metrics; however, member satisfaction is also a central component of evaluating team effectiveness (Hackman, 1987; Kozlowski & Ilgen, 2006). Director perceptions of their boards' capabilities and efficacy can shape what boards choose to do and the level of effort directors will exert, and can thereby influence board decisions and actions (Bandura, 1997; Kozlowski & Ilgen, 2006; Watson, Stewart, & BarNir, 2003). Understanding these perceptions can, therefore, inform studies of how boards function, their strengths and limitations, and identify areas for further study. It can also inform policy proposals designed to improve governance.

Research Method

Following Lorsch (2017, p. 46), we seek to "access … actual behavior in the boardroom"[1] by using a large-sample survey and in-depth interviews to collect data on directors'

[1] Adams (2009) also uses survey methodology to study directors' perceptions of their roles and their relationships with management. Her survey of directors of Swedish companies finds that directors that see themselves as focusing

perceptions of their boards' effectiveness in fulfilling its governance responsibilities and in its own operations and internal governance. We then use a multivariate analysis to examine the relation between director perceptions of board governance effectiveness, various board attributes, and perceptions of board operational and internal governance effectiveness.

Survey design and implementation

To develop our survey questions, we drew on practitioner assessments of best board practices, research on internal board dynamics and team effectiveness, and prior archival research on boards. The survey questions included a broad range of themes and requested directors to provide data on external stakeholders; board composition; their personal background, demographic characteristics, and experience; company information; ratings of the board's internal operations and governance; and evaluations of board effectiveness in performing its core governance responsibilities. Qualitative questions were included in the survey to more deeply probe respondents' views; however, most questions were quantitative (many used a Likert scale from 1 to 5, where a 1 signified a rating of "strongly disagree," 2 "disagree," 3 "unsure," 4 "agree," and 5 "strongly agree").

We developed our survey in 2015 in cooperation with a nonprofit board membership organization, an independent researcher, and a leading executive search firm with a network of more than 50 offices that supported public, private, and nonprofit clients around the world.[2] The survey was distributed via e-mail to 73,855 directors from the Capital IQ database and from the search firm and nonprofit board organization's contact databases. Directors were asked to respond based on their experiences for the board they knew the best. Responses were collected

more on monitoring CEOs tend to say less in the boardroom, get asked less by the CEO for their advice, and have a weaker personal relationship with management.

[2] This survey expanded upon a trial survey and survey wave that were conducted in 2011 and 2012, respectively.

from October 2015 through June 2016 from 5,216 directors (an overall response rate of 7.1%[3]). We did not make any sample restrictions to the survey recipients based on their firms' public or private ownership, location, or size; however, to ensure the comparability of responses within our analysis, we focus on directors of publicly-owned firms headquartered in the United States in this study. The usable sample of survey respondents that responded to the survey questions we incorporate into our final multivariate analysis represent 577 public company boards.[4]

Although surveys are one of the few ways to collect data for a large sample of companies on internal board operations and governance,[5] they are also subject to well-known limitations. Ratings are subjective and can therefore be affected by biases that reduce their integrity as measures of actual behavior (Graham & Harvey, 2001; Graham et al., 2005). Biases can arise from many sources, including social norms, theories learned in business school, views popularized in the financial press, and self-interest. In an effort to encourage respondents to provide accurate and candid responses, we make our survey anonymous (unless the respondent voluntarily opted to disclose the name of their company).

In addition, survey respondents represent only a small proportion of the population of board directors, raising questions about generalizability. To examine response bias, we compare the characteristics of sample directors, boards and company industries to data on directors from the BoardEx database, a global database of corporate directors that is widely used in academic

[3] This response rate is similar to other large-sample studies that have surveyed CFOs, where response rates have ranged from 5.4% to 9% (Dichev, Graham, Harvey, & Rajgopal, 2013; Graham & Harvey, 2001; Graham, Harvey, & Rajgopal, 2005).

[4] Because the survey was distributed to individual directors, we could have received multiple responses from directors from the same company. Repeat observations would affect the independence of the survey responses and our statistical inferences. To test for this possibility, we sort the data on industry, board size, and board composition to identify responses that could potentially be from multiple directors for the same company. Using this conservative approach, we identify 126 observations where there is a possibility that more than one director from the same board responded to the survey. The results are not sensitive to eliminating these observations.

[5] Another option is to collect field data on specific companies (e.g., Lorsch & MacIver, 1989; Vancil, 1987), but these studies raise even more questions about generalizability.

research (e.g. Aggarwal et al., 2011; Cohen, Frazzini, & Malloy, 2008, 2010; Erkens et al., 2012). As reported in Table 1-1, the typical sample director is similar in age and boardroom experience to the average BoardEx director. The mean sample (BoardEx) director was 61 (59) years old, received his/her first directorship at age 43 (44), served on 3.4 (3.2) public boards and 7.9 (5.9) private boards, and had spent 8.1 (8.4) years on their longest-serving board. However, relative to the BoardEx database, our sample of respondents included a higher proportion of women directors (28% versus 13%), foreign nationals (15% versus 10%) independent directors (92% versus 71%), board chairs (38% versus 13%) and compensation committee members (49% versus 27%). We therefore control for respondent characteristics in our multivariate analysis.

Table 1-1 also reports summary data on the size, composition, and industries of boards in our survey relative to the BoardEx population. The median sample board had 9 directors, comparable to BoardEx, and similar frequencies of women directors, independent directors, and directors who were foreign nationals. The sample firms represent a broad cross-section of industries, 24% from financial and professional services firms, 14% from health care and IT & Telecom firm boards, and 13% from industrial firms, similar to the industry distribution of firms on the BoardEx database.

Table 1-1. Comparison of survey sample and BoardEx population

	Survey Respondents			BoardEx Sample		
	N	**Mean**	**Median**	**N**	**Mean**	**Median**
Director characteristics:						
Age	564	61.4	61.0	174,452	59.4	59.0
Age at first board appointment	575	42.9	43.0	172,697	44.2	44.0
Female	577	0.28	0.0	206,756	0.13	0.0
Foreign national	569	0.15	0.0	31,822	0.10	0.0
Employed	566	0.54	1.0	206,756	0.49	0.0
Independent	577	0.92	1.0	206,756	0.71	1.0
Chairman or lead director	577	0.38	0.0	206,756	0.13	0.0
Audit/finance committee member	573	0.63	1.0	105,622	0.59	1.0
Compensation committee member	573	0.49	0.0	105,622	0.27	0.0
Nomination/governance committee member	573	0.49	0.0	105,622	0.44	0.0
Total public boards: career to-date	577	3.4	3.0	166,878	3.2	2.0
Total private boards: career to-date	575	7.9	6.0	172,160	5.9	3.0
Total public boards: current	573	1.7	1.0	156,794	1.9	1.0
Total private boards: current	572	2.4	2.0	137,951	3.1	2.0
Longest board service: public (years)	571	8.1	7.0	163,112	8.4	6.6
Longest board service: private (years)	434	6.9	5.0	72,778	6.7	5.0
Board characteristics:						
Total directors	577	9.0	9.0	206,756	9.9	9.0
% independent directors	577	0.80	0.86	206,756	0.71	0.78
% female directors	577	0.16	0.14	206,756	0.13	0.11
% foreign national directors	574	0.09	0.00	75,375	0.11	0.00
Industry:						
Consumer Discretionary	577	0.15		206,756	0.13	
Consumer Staples	577	0.04		206,756	0.04	
Energy & Utilities	577	0.11		206,756	0.12	
Financial & Professional Services	577	0.24		206,756	0.32	
Healthcare	577	0.14		206,756	0.09	
IT & Telecom	577	0.14		206,756	0.10	
Industrials	577	0.13		206,756	0.12	
Materials	577	0.06		206,756	0.08	

Qualitative data and interviews

To uncover aspects of board operations and internal governance that have not yet been examined in archival research and to calibrate the integrity of the survey ratings, we also collected qualitative data on director perceptions through two channels. First, the survey allowed respondents to provide qualitative textual information on many questions, which they frequently used to explain their ratings. Second, we interviewed 75 directors in detail to gather additional

information on how they interpreted the questions and how they assessed strong and weak performance for a variety of board responsibilities. In these interviews, we probed directors both on what their boards do well, and the barriers that prevent boards from performing effectively. Where relevant, we report quotes from these sources increase confidence that the ratings capture the underlying constructs represented by the survey questions.

Director Perceptions of Board Governance Effectiveness

While most prior research on board effectiveness has examined external performance outcomes, we instead adopt the lens of team effectiveness to evaluate board performance. Research from this perspective has shown that both external performance measures and team member perceptions of effectiveness are indicators of team performance (Hackman, 1987; Kozlowski & Ilgen, 2006). We therefore classify survey questions of director perceptions into three parsimonious constructs that represent core board governance responsibilities: overseeing risk management, guiding and appraising strategy, and evaluating and selecting management.[6]

Risk management oversight

Qualitative responses from the survey and more detailed interviews provide insight into how boards oversee risk management processes and areas of concern.[7] Two broad concerns on risk management arose from our interviews. First, the time required for regulatory oversight of compliance often dominated the board's attention on risk management, and reduced the time available to deepen directors' understanding of key risk issues:

[6] These three responsibilities closely align with the responsibilities of the board as laid out by the OECD in its principles of corporate governance: "The corporate governance framework should ensure the strategic guidance of the company, the effective monitoring of management by the board, and the board's accountability to the company and the shareholders" (OECD, 2015).

[7] Boards typically delegate the oversight of risks to various committees, including the audit committee, a risk or finance committee, and even the compensation committee (for considering how compensation impacts risk).

> *In the current regulatory environment I worry that compliance requirements are so detailed that compliance review takes on a check-the-box, perfunctory approach, rather than a larger discussion of implications for the business.*

Second, the scale and complexity of risks the board is expected to oversee have increased over time, posing greater reputational risks for directors in the event of a risk failure:

> *Boards do not manage the company. They provide oversight. They cannot be expected to know everything that is going on in a large, complex, global company. I hate it when I read comments or headlines … that ask, "where was the board?" when something goes wrong. I have no idea how you change this.*

Many interviewees recognized that their board had little experience or expertise in overseeing cybersecurity risk. Other respondents, who rated their oversight as more effective in this area, identified different ways that their boards had sought to develop the expertise required. One risk committee chair explained that his committee had created a separate board of advisors, comprising experts in cyber risk, who worked with management and the risk committee to provide advice on the area. Others noted that their boards had appointed a new member with experience in cybersecurity to supplement the board's risk management's capabilities. Still others explained that the audit/risk committee had engaged consultants to work with the committee and management to help inform the board and assure that appropriate actions were being taken to protect against cyber attacks.

Six survey questions focus on the board's effectiveness in overseeing the management of risk. These include questions on the effectiveness of board oversight of compliance, general risk management, cybersecurity, and financial planning, the board's role as a steward of the company's assets for shareholders, and whether the CEO-board relationship sets the right tone for the company. Table 1-2 presents mean ratings, and following prior survey research, the percentage of top ratings (4 or 5 out of 5). The average rating across all six questions related to risk management was 3.9 out of 5. There was wide variation in the distribution of ratings across

the six questions. The frequency of top ratings (4 or 5 out of 5) was 94% for the board's ability to serve as a good steward of the company's assets, 87% for the tone set by the CEO-board relationship, and 78% for oversight of compliance. In contrast, only 31% rated their board as highly effective in overseeing the management of cybersecurity risk.

Strategy guidance and appraisal

Qualitative data indicates that many boards engage in strategy issues through annual or semi-annual strategy sessions that include site visits, factory tours, and meetings and presentations with executives and other managers that allow directors to learn about company strategy. However, several executive directors we interviewed noted that, despite these efforts, it is challenging for directors, many of whom have little experience in the industry, to have a deep understanding of the firm's strategy.

Interviews identified two challenges facing board engagement on strategy. First, it can be difficult for boards to "balance short-term performance and long-term strategy and value creation." And second, it can be difficult for boards to recognize the fine line between the board's role and executives' role in setting strategy:

> *The biggest challenges [for boards] are in guiding management without being overbearing and imposing the board's will on matters that should be left in the hands of the management team, but not being so aloof and at arms-length that you allow management to lose sight of the goals and objectives necessary to serve the interests of the day-to-day operation of the company and the interests of long- and short-term investors, which are often at conflict.*

> *Directors can influence and add insight and judgement, but cannot run the company. Additionally, we are never as knowledgeable about the business as management. We can re-direct strategy and replace management, however.*

Nine survey questions related to the board's effectiveness in strategy guidance and appraisal. These include questions on the effectiveness of board oversight of mergers and acquisitions, global expansion, innovation, technology, monitoring strategic decisions, strategic

planning, whether the board plays a significant role in setting strategy, whether the board and CEO are aligned on strategy, and whether the board's non-executive directors are aligned on strategy. Overall, the average rating for all strategy-related questions was 3.7 out of 5. Table 1-2 shows that respondents rated their boards highly on strategy alignment, with 88% giving a rating of 4 or 5 out of 5 to the question of whether the CEO and board were aligned on vision and strategy and 85% on alignment between the board's non-executive directors. However, in a number of other areas, responses were more mixed. Sixty-seven percent rated their boards highly on processes related to monitoring strategy decisions; 52% on reviewing mergers and acquisitions; 44% on innovation processes; and 40% on oversight of global expansion.

Management evaluation and selection

Qualitative data on CEO compensation and CEO succession processes provided insights on effective and ineffective board practices. Respondents who rated their boards as effective in setting CEO compensation explained that their CEOs were rewarded for meeting specific performance targets. Many observed that their compensation committees used consultants, surveys and/or peer comparisons to develop suitable pay benchmarks. Some also reported that they received assistance from the company's human resources department, but observed that this can raise questions over conflicts of interest. As one director elaborated, the "head of HR is involved; he wears two hats, but with a management t-shirt with bold letters." The recommendations of the compensation committee were then reviewed and discussed by the full board.

Directors who were critical of their boards' role in CEO reviews and compensation described a "highly political" process. Some observed that the CEO was active in setting compensation, either directly or indirectly, causing discomfort among directors. Another

reported that benchmarking to peer firms was used to consistently ratchet up the CEO's pay since "no company thinks that their CEO is under the 50th percentile." A third explained that even though the board set performance targets, "unfortunately, predefined criteria for the variable part [of compensation] are seldomly applied and the decision is more of 'yes, he deserves it.'"

Comments on CEO succession planning also provide insight into variation in boards' processes around CEO transitions. One director who rated his board as effective on succession planning described its multi-faceted succession planning process:

> *We require that the sitting CEO provide an annual review of the top three levels of executives. We then require that there be a development plan for each executive to address any shortcomings to enable each to become a "ready now" candidate. Finally, all succession candidates interact regularly with the board.*

In contrast, a director who rated his board's succession planning as ineffective commented that "we never talk about the subject" and another observed that "a powerful CEO is making it difficult to find a successor."

Four survey questions focused on the board's role in management evaluation and selection: HR and talent management (to identify future generations of leaders), compensation, CEO evaluation, and CEO succession planning. As reported in Table 1-2, the average rating across all these questions was 3.6 out 5. Sixty-seven percent of the respondents rated their boards highly on processes relating to CEO evaluation; 62% on setting compensation; 47% on CEO succession planning; and 43% on HR/talent management.

Table 1-2. Summary of survey participants' responses on board governance effectiveness

	Raw Ratings		
	N	Mean	% Rated 4 or 5
Risk management oversight:	***577***	***3.90***	***0.69***
Compliance	569	4.07	0.78
Risk management	572	3.68	0.59
Cybersecurity	574	3.18	0.31
Financial planning	572	3.86	0.69
This board serves as a good steward of the company's assets for shareholders	573	4.41	0.94
This CEO-board relationship sets the right tone for the rest of the company	575	4.22	0.87
Strategy guidance and appraisal:	***577***	***3.73***	***0.63***
M&A	563	3.60	0.52
Global expansion	528	3.31	0.40
Innovation	570	3.38	0.44
Technology	561	3.46	0.47
Monitoring strategic decisions	576	3.79	0.67
Strategic planning (including plan B or worst-case-scenario planning)	574	3.69	0.62
This board plays a significant role in the setting of company's strategy	577	4.02	0.82
This CEO and board are aligned on vision and strategy	575	4.15	0.86
This board's non-executive directors are aligned on vision and strategy	572	4.09	0.85
Management evaluation and selection:	***577***	***3.60***	***0.55***
HR/talent management	576	3.34	0.43
Compensation	576	3.72	0.62
CEO evaluation	576	3.84	0.67
CEO succession planning	577	3.49	0.47

Director Perceptions of Internal Board Operations

Research from the teams literature highlights a myriad of group processes that influence team effectiveness and performance. Applying these findings into our setting of boards of directors, we classify survey questions into four constructs representing internal board operations: director engagement, meeting management, board relationships, and internal governance.

Director engagement

Existing corporate governance research examines proxies for director engagement such as board meeting attendance rates (Adams & Ferreira, 2008); however, these studies do not capture the wide range of activities and behaviors that underlie engagement that were described by survey respondents nor do they capture the effect of team members' motivational tendencies and task commitment on team performance (Goodman, Ravlin, & Schminke, 1987; Hackman, 1976; Kozlowski & Ilgen, 2006).

Several directors we interviewed highlighted the importance of director engagement with respect to preparation for board meetings and holding directors accountable for preparation:

> *To have an effective board you need diligence and active participation by all the directors. It's so important to do the work. It sounds so basic, but what you don't want is a director who shows up who hasn't even read the material or who falls asleep or spends all of the meeting with his iPhone under the table texting. … To be effective, you have to have a fully engaged board.*
>
> *The most effective boards I've been on hold board members accountable to do our homework, to attend the board meetings and to be actively engaged.*

Directors also emphasized the use of email and teleconferences to "keep all members abreast of appropriate developments and issues" between board meetings and to ensure that there are "no surprises" at meetings. On some boards, directors are encouraged to make site visits and meet with executives and managers in between meetings to stay up-to-date on the company and industry.

Four of our survey questions were related to director engagement: whether directors stay current on the industry, whether they are engaged between meetings, whether they are well prepared for meetings, and whether they feel connected to the mission of the company. Summary statistics on the ratings are shown in Table 1-3. Overall, respondents rated their boards' director engagement highly, with an average rating across the four questions of 4.1 out of 5. Nearly all

respondents (95%) reported feeling connected to the mission of their company and rated their board highly on director preparedness for meetings (92%). Ratings of whether directors were current on the industry and engaged between meetings were more mixed (67% and 58%, respectively, with ratings of 4 or 5).

Interpersonal relationships

Like other types of organizational teams, board effectiveness is influenced by the interpersonal relationships between its members (see Edmondson et al., 2003; Hackman & Morris, 1975; Kozlowski & Ilgen, 2006; Wageman et al., 2005). Hackman (2002) argues that a team's effectiveness is in part a function of their willingness to work together in the future.[8] Yet given the high status and power of many board members, egos and competition for status may impede the group's ability to collaborate, and thereby hamper the ability of boards to operate as effective teams (Groysberg, Polzer, & Elfenbein, 2011).

Prior research on boards has been inconclusive on the role of the relationship between the board and the CEO. Some argue that social ties and relationships between C-level executives and directors impair the board's ability to monitor executive performance, whereas others argue that close relations facilitate candor and trust, increasing the CEO's willingness to share information and seek board advice for key actions (Adams & Ferreira, 2007; Argote, McEvily, & Reagans, 2003; Fracassi, 2016; Westphal, 1999).

Interviews with directors indicated that shared camaraderie from being a member of a team was one of their leading reasons for serving. One director reflected, "I like being part of a team (and I am too old for team sports)." They pointed to the importance of maintaining a

[8] This definition has been widely used by in the teams literature (eg., Banker, Field, Schroeder, & Sintia, 1996; Groysberg, Polzer, & Elfenbein, 2011).

collegial board environment where directors enjoy working with each other, increasing their willingness to share knowledge, learn from others, and exchange ideas. In contrast, respondents who did not experience their boards as well-functioning teams lamented that "too often, there is too much 'me' and way too little 'us'" and saw the boardroom as "a challenging environment which is often influenced by big egos, low self-esteem and self-awareness, and politics."

The importance of the board's interactions with the CEO and senior executives was also widely discussed in our interviews. In discussing the CEO's communication with the board, one respondent observed that the CEO lays the groundwork for the relation with the board by providing "transparency about the 'real' situation within the organization," such that the board has "candid and complete information." In contrast, a few directors with low ratings in this area noted that their boards did not have a healthy and open relationship with senior managers, observing that "we have not been effective in dealing with a highly aggressive CEO" and "we put too much trust in [the] CEO and management team."

Our survey includes five questions on interpersonal relationships (those between board members, and those between directors and management or other key stakeholders) on boards: perceptions on board collegiality, the relationship between shareholder and non-shareholder directors, whether the director feels his/her voice is heard on this board, whether there is clarity around acceptable behavior on the board, and whether the CEO communicates and consults with the board in an appropriate and effective manner.

Respondents typically rated their boards very positively on these questions, with an average rating across the questions of 4.2 out of 5, on average (see Table 1-3). Ninety-five percent felt that their voice was heard on the board, 87% that the CEO communicated effectively with the board, 85% that the board was highly collegial, and 81% that there were clear norms

around board behavior. If there was an area of concern, it was that only 55% of respondents reported an effective relationship between shareholder and non-shareholder directors.

Board meeting management

Empirical studies have examined how meeting frequency (see Vafeas, 1999; Xie, Davidson, & DaDalt, 2003) and meeting attendance (Adams & Ferreira, 2008) affect board performance, but are unable to directly examine how board meetings are managed. Research on teams identifies coordination, cooperation, and communication as critical behavioral processes that can influence team performance (Kozlowski & Bell, 2003; Kozlowski & Ilgen, 2006). Applied to the context of board meetings, this suggests that meeting agendas, time management, and the quality of discussions at board meetings can influence board effectiveness.

In our interviews, directors described a variety of effective board meeting practices. Several noted that executive sessions, where independent directors meet without management present, have facilitated open and candid conversations within the board and with the CEO:

> *We have developed a culture of discussing issues with the CEO present in the first part of the executive session, which tends to get concerns out on the table while he is there to respond to them, rather than engaging in protracted discussions in session without him. The CEO then leaves the session, the independent directors meet by themselves, and then we ask the CEO to return to the session so we can give him feedback or additional questions based on the independent directors' private discussions. This means that the board's messages to the CEO get stated with everyone present, rather than relying on the lead director's sole translation to the CEO in private after the session.*

> *[We] consistently start and end each meeting with executive sessions so they raise no red flags and are part of the routine. Sometimes we have major issues to discuss and sometimes we don't, but it sets the right tone and is very important to have discussion time without executives present from the management team.*

The role of the chair was also considered important to meeting effectiveness. For example, one director attributed his board's open and candid conversation to the "conduct of the

chair who encourages participation, and at the end [of each meeting] goes around the table to solicit final comments from each director."

Directors of highly-rated boards also reported that they disseminated agendas well in advance of meetings and circulated "thorough, well-compiled and timely board papers that all directors read thoroughly prior to meetings" so that directors were aware of all agenda items and could address simpler issues and questions via email or phone calls prior to meeting in person. One director described how meeting agendas were planned and structured:

> *The board meetings are well structured. The agenda is 60% fixed (macro review, financial review, audit comm. reports, etc.). The board materials are distributed to the members 3 days prior to the meeting. … At each board meeting 2 to 3 different subjects are discussed.*

Finally, several directors commented on the importance of behavioral norms in discussions, such as listening more than speaking and mutual respect of each other's time. One director recommended a set of clear norms to help manage time at meetings: "During presentations, questions should be exclusively 'clarification questions' and 'challenging questions' should be kept for the end of the presentation. Too often we are carried away by a challenging question which takes us off-track, leading to the impossibility for the presenter to give his full presentation." Directors also expressed frustration with individuals who are "passively aggressively quiet" in discussions and those that "waste time on gossip."

Our survey included nine questions that sought to understand the quality of board meetings: effective time management (e.g., digesting all materials and allowing adequate time for thoughtful discussion and debate), whether the agenda topics and materials accurately reflect board priorities, whether sufficient time is allocated to discuss strategy, whether the general board meetings are productive, the effectiveness of executive sessions, the effectiveness of committees, the board's ability to have open and candid discussions, whether it has a "devil's

advocate" in most debates, and the degree of independent thinking (independent from management as well as from fellow directors).

Overall, respondents rated their boards highly on meeting management, with an average rating across the nine questions of 4.2 out of 5 (see Table 1-3). More than 90% of respondents rated their boards as 4 or 5 on the functioning of board committees, whether agenda topics and materials reflected the board's priorities, the productivity of the board's general meetings, and the board's ability to have open and candid discussions. Ratings were somewhat lower on the board's allocation of time to discuss strategy (82% with ratings of 4 or 5), independent thinking (78%), and having a regular devil's advocate (75%), and markedly more mixed on time management (60%).

Internal governance

Research on board governance has focused on measures such as age or term limits (see Lipton & Lorsch, 1992; Sharma & Iselin, 2012; Vafeas, 2003), skills and expertise (Defond, Hann, & Hu, 2005; Güner, Malmendier, & Tate, 2008; Krishnan & Visvanathan, 2008), diversity (Ahern & Dittmar, 2012; Matsa & Miller, 2013), and independence (Adams & Ferreira, 2007). The teams literature suggests that internal processes for director training, alignment, and conflict alleviation can also influence board effectiveness (Kozlowski & Ilgen, 2006).

Interview data provided additional clarity on the role of internal governance processes such as director evaluations. Although many directors reported that their boards conducted director evaluations, their opinions on its effectiveness were mixed, as reflected in the following comment:

> *[I'm] not really big on individual assessment by each person. [We] have this on one board, and the range of differences is too small to make it valuable. [It] only works if there is a clear outlier who is not effective.*

While many directors reported that their boards struggle with how to respond to problematic board members, several explained how they had managed these difficult situations:

> *If I was uncomfortable with a director's performance, I would go to the lead director and tell him what's going on – for example, this director is missing meetings or doesn't seem to be doing his homework. The lead director would then talk to the person and find out what's going on. Because we have directors who have a history of being extremely reliable, we make the assumption that something else must be going on, and we need to understand what that is.*

> *When I was chairman of a board, we had a couple of directors who just weren't performing. I went to them and said: "Here are the problems we're seeing, and if you can't correct these things, then we really think you should resign from the board." In both instances, they became very upset and resigned. But it was a very straightforward conversation. … In some cases, people respond to that, and in some cases, they just get mad and quit. I've seen both happen.*

Seven questions of our survey asked respondents to report on internal governance practices at their boards. These covered board composition (e.g., appointing directors with skills and experience board needs), use of evaluations of individual directors, alignment on the role of independent directors, the creation of effective board structure (leadership roles, committees), addressing problematic directors (e.g., domineering, disruptive, asserting personal agenda, silent), integration of new members, and effective training for new directors.

Overall, respondents were more mixed on their ratings of their board's internal governance processes. The average rating across all seven questions was 3.8 out of 5 (see Table 1-3). Eighty percent rated their boards as 4 or 5 on alignment on the role of independent directors; 73% on board composition; 71% on integrating new members; and 69% on creating effective board structures. But only 44% rated their boards highly for evaluating individual directors, 58% for providing training for new board members, and 59% for addressing problematic directors.

Table 1-3. Summary of survey participants' responses on internal board operations

	Raw Ratings		
	N	Mean	% Rated 4 or 5
Director engagement:	***577***	***4.07***	***0.78***
Staying current on industry	573	3.84	0.67
Staying engaged between meetings	569	3.68	0.58
Overall, all directors are well prepared for meetings on this board	573	4.30	0.92
I feel connected to the mission of this company	576	4.47	0.95
Interpersonal relationships:	***577***	***4.17***	***0.82***
Collegiality	572	4.32	0.85
Relationship between shareholder and non-shareholder directors	500	3.74	0.55
It is clear what is--and what is not--acceptable member behavior on this board	572	4.02	0.81
The CEO communicates and consults with this board in an appropriate and effective manner	576	4.20	0.87
I feel my voice is heard on this board	576	4.48	0.95
Board meeting management:	***577***	***4.15***	***0.85***
Time management (e.g., digesting all materials; allowing adequate time for thoughtful discussion and debate)	561	3.70	0.60
Independent thinking (independent from management as well as from fellow directors)	574	4.06	0.78
We are able to have open and candid discussions on this board	576	4.39	0.93
This board has a "devil's advocate" in most debates	575	3.85	0.75
Agenda topics and materials accurately reflect priorities of board	577	4.37	0.96
Sufficient time is allocated during board meetings to discuss strategy	573	3.98	0.82
This board's overall effectiveness would be lessened without executive sessions	571	4.28	0.86
Overall, the committees on this board work well	573	4.39	0.96
Overall, the general meetings of this board are productive	573	4.32	0.94
Internal governance:	***577***	***3.79***	***0.65***
Board composition (e.g., appointing directors with skills and experience board needs)	576	3.97	0.73
Evaluation of individual directors	576	3.33	0.44
Alignment on role of independent directors	572	4.15	0.80
Creating effective board structure (leadership roles, committees)	575	3.90	0.69
Integrating new members	569	3.96	0.71
Addressing problematic directors (e.g., domineering, disruptive, asserting personal agenda, silent)	567	3.68	0.59
This board provides effective training for new directors	573	3.51	0.58
Aggregated internal rating	***577***	***4.04***	***0.77***

Factors Associated with Director Perceptions of Board Governance Effectiveness

We next examine factors that are associated with director perceptions of board governance effectiveness. Our multivariate tests include four aggregate ratings of internal board operations (director engagement, interpersonal relationships, board meeting management, and internal governance), as well as respondent characteristics, and variables identified in prior research and discussed below, such as the influence of external stakeholders, board composition, and firm performance.

External stakeholders

Pressure from activists, investors, regulators, and other external stakeholders can influence board governance (Fama & Jensen, 1983; Shleifer & Vishny, 1997; Wu, 2004). Activist investors identify companies with poor performance where they see opportunities to improve governance, management, and performance (Chhaochharia, Grinstein, Grullon, & Michaely, 2017; Fama & Jensen, 1983; M. C. Jensen & Meckling, 1976; Shleifer & Vishny, 1997). In addition, pressure imposed by activists on board decisions and oversight can increase conflicts on the board. Both factors imply that companies with activist investors will have lower director perceptions of board governance. As reported in Table 1-4, 14% of the sample boards report the presence of an influential activist investor.

In contrast, it is less clear how respondent perceptions are related to the influence of investors or the government. Their influence could improve board alignment with investor interests or government objectives, increasing director perceptions of board governance effectiveness. But it could also increase pressures to focus on short-term performance or government objectives at the expense of other stakeholders. Table 1-4 shows that 90% of

respondents perceive that investors have a significant influence on the board versus 23% for the government.

Board composition

Hermalin and Weisbach (2003) argue that optimal board size is unlikely to be constant across firms. Consistent with this hypothesis, one interviewee recommended setting board size "through a judicious … selection of the right profile of directors based on the needs of the organization. This is a moving target and doesn't necessarily remain static." However, very large and very small boards are unlikely to be effective. Large boards can suffer from free-rider problems and become symbolic rather than central to management oversight (M. C. Jensen, 1993; Lipton & Lorsch, 1992), whereas particularly small boards lack the breadth of skills required to perform their functions. To test this prediction, we create a dummy variable for whether the board is particularly large (more than 12 directors; around the 95th percentile in our sample) or particularly small (fewer than 6 directors; around the 5th percentile in our sample). Eleven percent of our sample boards fall into this range.

Director independence has long been viewed as critical to effective board governance (Hermalin & Weisbach, 2003; Nguyen, 2012). The Sarbanes-Oxley Act requires boards to have a majority of independent directors and there has also been a trend among publicly-owned firms to have a single executive director on the board (Zorn, Shropshire, Martin, Combs, & Ketchen, 2017). We therefore examine the proportion of directors that are classified as independent directors. As reported in Table 1-4, the average sample board has 80% of its members who are identified as independent.

Gender diversity on boards has also been examined extensively in prior research (Hillman, Shropshire, & Cannella, 2007; McDonald & Westphal, 2013). Some studies suggest

that boards with more female directors are stronger monitors and provide greater oversight (Abbott, Parker, & Presley, 2012; Adams & Ferreira, 2009; Srinidhi, Gul, & Tsui, 2011). To the extent that female directors have different experiences than male directors, greater gender diversity on boards will lead to greater heterogeneity in knowledge and points of view that can shape board decision-making (Daily, Certo, & Dalton, 1999; Wiersema & Bantel, 1992). However, the directors we interviewed recognized the importance of diversity in backgrounds, experiences, and perspectives, rather than just in gender, for board governance effectiveness:

> *Diversity of ideas, backgrounds and experience is more important than gender or ethnic diversity – although gender and ethnic diversity do contribute to diversity of backgrounds and experience.*

Respondent characteristics

Respondent perceptions are also likely to depend on their role on the board, their own independence, and backgrounds. Respondents who are lead directors or board chairman are more likely to be more positive about the board's effectiveness, either because they do not differentiate board performance from their assessment of their own leadership, or because they are selected to take on a leadership role because of their positive views on the board. Respondents who are independent are likely to be less biased but also less informed than insiders (Nicholson & Newton, 2010), which could influence their responses. We use two measure of independence: whether the director is a company executive (8% of the sample), and whether the director previously knew any of the board members or executives prior to their board appointment (38%) (Cohen et al., 2012). In addition, respondents who are less experienced (first-time directors) have less information to benchmark the board's performance, which could affect their responses. Finally, women, who are typically seen as outsiders in male-dominated social networks (Blair-Loy, 2001; Brass, 1985; Kanter, 1977) such as boards, may perceive their boards differently than their male counterparts.

Table 1-4. Summary of survey participants' responses on external-, board-, director-, and company-level characteristics

	N	Mean	Min.	Max.
Independent variables:				
External: high activist influence	577	0.14	0.00	1.00
External: high investor influence	577	0.90	0.00	1.00
External: high government influence	577	0.23	0.00	1.00
Board: extreme size (<6 or >12)	577	0.11	0.00	1.00
Board: % independence	577	0.80	0.00	1.00
Board: % female	577	0.16	0.00	0.63
Director: lead director or chairman	577	0.38	0.00	1.00
Director: executive	577	0.08	0.00	1.00
Director: not previously known to board/execs.	577	0.38	0.00	1.00
Director: first board appointment	577	0.01	0.00	1.00
Director: female	577	0.28	0.00	1.00
Control variables:				
Company: family-owned	577	0.03	0.00	1.00
Company: annual revenues (ln)	577	7.38	3.22	13.12
Company: performance (prior 12 mos.)	577	0.50	-2.00	2.00
Industry variables:				
FE 1: Consumer Discretionary	577	0.15	0.00	1.00
FE 2: Consumer Staples	577	0.04	0.00	1.00
FE 3: Energy & Utilities	577	0.11	0.00	1.00
FE 4: Financial & Professional Services	577	0.24	0.00	1.00
FE 5: Healthcare	577	0.14	0.00	1.00
FE 6: IT & Telecom	577	0.14	0.00	1.00
FE 7: Industrials	577	0.13	0.00	1.00
FE 8: Materials	577	0.06	0.00	1.00

Firm characteristics

We control for several firm-level characteristics that we expect to be associated with director perceptions of board effectiveness. These include whether the firm is family-owned, lagged performance over the prior 12 months (as reported by the respondent), and annual revenues (log transformed to reduce skewness). We also include fixed effects for industry to account for time-invariant industry-level characteristics that might influence board effectiveness.

Respondents from family-owned boards are likely to have lower perceptions of governance effectiveness, particularly in assessing and selecting the CEO, since these responsibilities typically reside with the family. Firm performance is expected to be associated

with director perceptions because directors correctly or incorrectly assume that effective performance is partially attributable to strong board oversight. Expectations for the board are also likely to be higher for larger companies, potentially affecting director perceptions.

Multivariate Analysis and Results

Methodology and econometric concerns

We explore the relationship between director perceptions of board governance effectiveness, stakeholder, board, and respondent characteristics, and ratings of the board's internal operations using the following ordinary least squares model:

$$Board\ Effectiveness_{icn} = \beta_0 + \beta_1 External\ Stakeholders_{cn} + \beta_2 Board\ Composition_{cn} + \beta_3 Respondent\ Characteristics_{icn} + \beta_4 Internal\ Board\ Operations_{icn} + X'\beta_{cn} + \delta_n + \varepsilon_{icn}$$

for respondent *i* in company *c* within industry *n*, where X' is a vector of control variables. To account for heteroskedasticity, we calculate robust standard errors.

Table 1-5 reports correlations among the variables. Correlations between the ratings of board governance effectiveness (risk management oversight, strategy guidance and appraisal, and management evaluation and selection) range from 0.66 to 0.75, suggesting that respondents perceived that their boards' performance was consistent across different dimensions of governance. Correlations were also relatively high between the four measures of internal board operations (ranging from 0.60 to 0.73), and between these variables and the three measures of governance effectiveness (ranging from 0.73 to 0.78). In contrast, the correlations between external stakeholder, board composition, and respondent characteristics, and our other dependent and independent variables are relatively low.

Table 1-5. Correlations between key variables

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]
[1] Effectiveness: risk management	1.00																							
[2] Effectiveness: strategy	0.75	1.00																						
[3] Effectiveness: management	0.66	0.69	1.00																					
[4] Internal: director engagement	0.70	0.72	0.60	1.00																				
[5] Internal: interpersonal relationships	0.73	0.73	0.66	0.73	1.00																			
[6] Internal: board meeting management	0.73	0.75	0.64	0.76	0.80	1.00																		
[7] Internal: internal governance	0.72	0.70	0.68	0.75	0.78	0.76	1.00																	
[8] Internal: aggregated rating	0.79	0.80	0.71	0.87	0.90	0.93	0.92	1.00																
[9] External: high activist influence	-0.06	-0.06	-0.08	-0.07	-0.07	-0.02	-0.02	-0.04	1.00															
[10] External: high investor influence	0.01	0.02	0.09	0.02	0.04	0.05	-0.02	0.02	0.01	1.00														
[11] External: high government influence	0.06	0.00	0.07	0.01	0.03	0.00	0.03	0.02	-0.01	0.07	1.00													
[12] Board: extreme size (<6 or >12)	0.03	-0.01	-0.05	-0.05	0.00	-0.04	-0.04	-0.04	-0.01	-0.08	0.07	1.00												
[13] Board: % independence	0.17	0.06	0.16	0.12	0.11	0.18	0.19	0.17	0.06	0.07	0.10	-0.06	1.00											
[14] Board: % female	0.12	0.03	0.15	0.08	0.09	0.07	0.15	0.11	0.02	-0.01	0.17	-0.06	0.13	1.00										
[15] Director: lead director or chairman	0.09	0.08	0.13	0.06	0.10	0.09	0.10	0.10	-0.01	0.01	-0.07	0.07	0.00	-0.06	1.00									
[16] Director: executive	-0.13	-0.15	-0.12	-0.12	-0.12	-0.16	-0.20	-0.18	-0.03	0.01	-0.05	0.13	-0.26	-0.02	0.00	1.00								
[17] Director: not previously known to board/execs.	0.00	0.02	0.05	0.05	0.03	0.05	0.09	0.07	-0.04	0.02	0.03	-0.11	0.12	0.05	-0.04	-0.24	1.00							
[18] Director: first board appointment	-0.04	-0.08	-0.09	-0.10	-0.05	-0.03	-0.03	-0.05	0.05	-0.07	-0.02	-0.04	0.01	0.03	-0.02	0.08	0.01	1.00						
[19] Director: female	-0.01	-0.07	-0.06	-0.01	-0.09	-0.06	-0.01	-0.05	0.01	0.05	0.12	-0.01	0.02	0.32	-0.08	-0.11	0.01	0.00	1.00					
[20] Marker: enjoy serving on board	0.56	0.56	0.44	0.60	0.69	0.67	0.55	0.69	-0.04	-0.01	0.01	-0.04	0.12	0.08	0.05	-0.11	0.06	-0.02	-0.04	1.00				
[21] Marker: board enhanced prof. rep.	0.49	0.49	0.43	0.50	0.53	0.52	0.49	0.56	-0.05	0.05	0.02	0.01	0.07	0.11	0.09	-0.04	0.03	-0.03	0.01	0.63	1.00			
[22] Company: family-owned	-0.08	-0.10	-0.10	-0.05	-0.05	-0.09	-0.08	-0.08	-0.02	-0.04	0.06	0.03	-0.16	-0.02	-0.01	0.01	-0.06	0.07	-0.01	-0.03	-0.06	1.00		
[23] Company: annual revenues (ln)	0.25	0.16	0.25	0.16	0.17	0.16	0.24	0.21	0.16	0.02	0.23	-0.04	0.21	0.30	-0.10	-0.14	0.10	-0.01	0.04	0.13	0.12	0.03	1.00	
[24] Company: performance (prior 12 mos.)	0.39	0.38	0.35	0.31	0.29	0.30	0.35	0.35	-0.05	-0.04	0.05	-0.02	0.00	0.08	0.00	0.00	0.02	-0.08	-0.05	0.27	0.25	-0.09	0.16	1.00

The high reported univariate correlations raise a concern about whether consistent biases (either positive or negative) create a halo effect for all governance and operational ratings from the same respondent. A halo effect creates two econometric problems: it induces a spurious relation between our dependent and independent variables, and it creates a standard error-in-variables problem.

Guiso et al. (2015) argue that survey researchers can control for any halo effect on independent variables by identifying an independent variable that is affected by the halo effect, but uncorrelated with true measures of the independent variables. Similarly, to address the halo effect on the dependent variable, the researcher requires an independent variable that is affected by the halo effect but whose true value is uncorrelated with the measured dependent variable. A similar approach has been used in univariate analyses (Lindell & Brandt, 2000; Lindell & Whitney, 2001; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Two of the questions included in our survey arguably serve as "markers" of these halo effects: the respondent's enjoyment from serving on the board, and whether serving on the board has enhanced the respondents' professional reputation. Both variables are likely to be affected by a halo effect, but neither should be correlated with the respondent's true perceptions of board governance effectiveness. Further, the true enhancement to respondents' reputations from board membership should be uncorrelated with responses on internal board operations.[9] We therefore include both variables separately in our multivariate model as marker variables.

[9] In contrast, the true enjoyment respondents receive from serving on the board could be corelated with components of responses on board operations, notably their ratings of board relationships and meeting management.

Results

Table 1-6 reports the results of our multivariate analysis. We present results in two tables: Panel A reports estimates using a marker variable for the respondent's enjoyment derived from serving on the board, and Panel B reports estimates using a marker variable for the respondent's reputational benefits derived from the board membership. Given the high correlations between the four constructed internal board operations variables, we report estimates using each variable separately, a model with all four constructs included together, and then a model that includes the aggregated average of all four internal board operations variables.

For each of the three constructs representing the effectiveness of board governance (risk management oversight, strategy appraisal and guidance, and management evaluation and selection), we find a strong positive relationship with each of the four variables for internal board operations included in the model individually or jointly, and for the aggregated average of all four variables.

The model estimates are economically as well as statistically significant. For example, in model 3 we find that a one unit increase in ratings for board meeting management (on a 1-5 Likert scale) is associated with a 0.6 unit increase (again on a 1-5 Likert scale) in the average rating for risk management effectiveness (approximately 1.1 standard deviations). Similarly, for model 8, a one unit increase in ratings for interpersonal relationships is associated with a 0.6 unit increase in average rating for effectiveness in strategy guidance and appraisal (1.0 standard deviations). Finally, for model 16, a one unit increase in ratings of internal governance practices is associated with a 0.6 unit increase in the average rating for effectiveness in management evaluation and selection (0.9 standard deviations).

Table 1-6. Relation between survey participants' perceptions of board effectiveness, external, board, and director characteristics, and internal board operations

Panel A: Marker variable – enjoys serving on board

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Risk Management Oversight					Strategy Guidance and Appraisal								Management Evaluation and Selection				
External: high activist influence	-0.0569	-0.0589	-0.0868*	-0.0854*	-0.0601	-0.0667	-0.0301	-0.0369	-0.0648	-0.0646	-0.0340	-0.0437	-0.115	-0.111	-0.146**	-0.142**	-0.118*	-0.122*
	(0.0476)	(0.0455)	(0.0446)	(0.0447)	(0.0415)	(0.0414)	(0.0500)	(0.0509)	(0.0484)	(0.0495)	(0.0452)	(0.0448)	(0.0704)	(0.0686)	(0.0689)	(0.0663)	(0.0658)	(0.0656)
External: high investor influence	0.000982	-0.0376	-0.0376	0.0357	-0.0287	-0.0199	0.0566	0.0191	0.0144	0.0951	0.0203	0.0360	0.192***	0.142**	0.149**	0.231***	0.165**	0.166**
	(0.0536)	(0.0534)	(0.0552)	(0.0517)	(0.0504)	(0.0503)	(0.0568)	(0.0582)	(0.0519)	(0.0585)	(0.0520)	(0.0532)	(0.0692)	(0.0694)	(0.0705)	(0.0657)	(0.0649)	(0.0642)
External: high government influence	0.0120	-0.0128	0.00663	0.00941	0.00980	0.0116	0.00952	-0.0189	0.00272	0.00375	0.00751	0.00729	0.0345	0.00815	0.0296	0.0356	0.0316	0.0364
	(0.0370)	(0.0384)	(0.0370)	(0.0381)	(0.0341)	(0.0343)	(0.0413)	(0.0407)	(0.0391)	(0.0408)	(0.0363)	(0.0366)	(0.0527)	(0.0499)	(0.0516)	(0.0507)	(0.0476)	(0.0477)
Board: extreme size (<6 or >12)	0.111**	0.0630	0.0874*	0.0814*	0.0810*	0.0815*	0.0870*	0.0354	0.0603	0.0547	0.0596	0.0542	-0.0335	-0.0888	-0.0588	-0.0669	-0.0744	-0.0659
	(0.0524)	(0.0497)	(0.0471)	(0.0490)	(0.0463)	(0.0463)	(0.0491)	(0.0491)	(0.0487)	(0.0493)	(0.0433)	(0.0434)	(0.0677)	(0.0718)	(0.0690)	(0.0688)	(0.0658)	(0.0643)
Board: % independence	0.169	0.255**	0.0800	0.0933	0.117	0.0965	-0.276***	-0.179	-0.373***	-0.345***	-0.331***	-0.349***	0.160	0.255*	0.0597	0.0558	0.0980	0.0704
	(0.110)	(0.116)	(0.106)	(0.108)	(0.0982)	(0.0961)	(0.105)	(0.115)	(0.125)	(0.0979)	(0.0981)	(0.0937)	(0.159)	(0.154)	(0.157)	(0.155)	(0.145)	(0.143)
Board: % female	0.0723	-0.0594	0.0599	-0.0855	-0.0449	-0.0458	-0.0606	-0.194	-0.0735	-0.218	-0.155	-0.186	0.459**	0.297	0.445**	0.259	0.279	0.320*
	(0.154)	(0.149)	(0.150)	(0.140)	(0.133)	(0.130)	(0.148)	(0.150)	(0.146)	(0.141)	(0.130)	(0.127)	(0.207)	(0.191)	(0.203)	(0.192)	(0.185)	(0.186)
Director: lead director or chairman	0.0642**	0.0435	0.0413	0.0265	0.0259	0.0225	0.0469	0.0278	0.0221	0.0112	0.0117	0.00372	0.144***	0.116***	0.118***	0.0933**	0.0910**	0.0934**
	(0.0327)	(0.0319)	(0.0319)	(0.0324)	(0.0297)	(0.0297)	(0.0318)	(0.0331)	(0.0316)	(0.0331)	(0.0291)	(0.0290)	(0.0447)	(0.0439)	(0.0439)	(0.0435)	(0.0411)	(0.0412)
Director: executive	-0.0913	-0.0688	-0.0302	-0.00152	-0.0132	-0.000600	-0.208***	-0.189***	-0.142**	-0.122**	-0.136***	-0.114**	-0.0862	-0.0533	-0.0170	0.0319	0.0204	0.0228
	(0.0640)	(0.0641)	(0.0584)	(0.0591)	(0.0573)	(0.0570)	(0.0583)	(0.0546)	(0.0625)	(0.0515)	(0.0495)	(0.0474)	(0.0889)	(0.0859)	(0.0881)	(0.0845)	(0.0791)	(0.0798)
Director: not prev. known to board/execs.	-0.0639*	-0.0500	-0.0549*	-0.0757**	-0.0569*	-0.0606**	-0.0460	-0.0320	-0.0361	-0.0585	-0.0371	-0.0427	-0.0231	-0.00570	-0.0130	-0.0369	-0.0170	-0.0189
	(0.0332)	(0.0323)	(0.0328)	(0.0332)	(0.0296)	(0.0297)	(0.0343)	(0.0346)	(0.0326)	(0.0358)	(0.0301)	(0.0309)	(0.0468)	(0.0437)	(0.0451)	(0.0431)	(0.0413)	(0.0416)
Director: first board appointment	0.193	0.0298	0.00517	-0.00521	0.0744	0.0533	0.0865	-0.104	-0.129	-0.140	-0.0269	-0.0776	-0.106	-0.275***	-0.306***	-0.318***	-0.263**	-0.250**
	(0.208)	(0.109)	(0.150)	(0.168)	(0.160)	(0.163)	(0.182)	(0.123)	(0.126)	(0.141)	(0.133)	(0.133)	(0.145)	(0.102)	(0.0928)	(0.119)	(0.116)	(0.111)
Director: female	-0.00329	0.0612*	0.0271	0.00722	0.0341	0.0291	-0.0404	0.0273	-0.00630	-0.0288	-0.00326	-0.00510	-0.105**	-0.0283	-0.0717	-0.0933*	-0.0582	-0.0682
	(0.0385)	(0.0356)	(0.0371)	(0.0364)	(0.0336)	(0.0334)	(0.0393)	(0.0401)	(0.0379)	(0.0414)	(0.0360)	(0.0366)	(0.0529)	(0.0492)	(0.0501)	(0.0500)	(0.0470)	(0.0472)
Internal: director engagement	0.512***				0.166***		0.586***				0.254***		0.543***				0.0882	
	(0.0366)				(0.0469)		(0.0354)				(0.0437)		(0.0521)				(0.0631)	
Internal: interpersonal rel.		0.576***			0.226***			0.598***			0.203***			0.694***			0.310***	
		(0.0396)			(0.0512)			(0.0397)			(0.0527)			(0.0515)			(0.0671)	
Internal: board meeting mgt.			0.638***		0.251***				0.711***		0.323***				0.705***		0.215***	
			(0.0393)		(0.0556)				(0.0435)		(0.0579)				(0.0596)		(0.0799)	
Internal: internal governance				0.482***	0.150***					0.492***	0.0922*					0.595***	0.274***	
				(0.0322)	(0.0410)					(0.0349)	(0.0497)					(0.0449)	(0.0638)	
Internal: aggregated rating						0.775***						0.832***						0.897***
						(0.0406)						(0.0400)						(0.0554)
Marker: enjoy serving on board	0.157***	0.0609*	0.0882***	0.179***	0.00605	0.0237	0.144***	0.0685**	0.0749**	0.195***	-0.00928	0.0171	0.0908**	-0.0563	0.00598	0.0803**	-0.0940**	-0.0845*
	(0.0300)	(0.0328)	(0.0296)	(0.0288)	(0.0298)	(0.0283)	(0.0337)	(0.0344)	(0.0354)	(0.0304)	(0.0328)	(0.0313)	(0.0428)	(0.0473)	(0.0424)	(0.0374)	(0.0460)	(0.0435)
Company: family-owned	-0.106	-0.0750	-0.0329	-0.0687	-0.0525	-0.0473	-0.204*	-0.172*	-0.123	-0.166	-0.148*	-0.141	-0.180*	-0.142	-0.0990	-0.133	-0.116	-0.112
	(0.103)	(0.0896)	(0.0803)	(0.0895)	(0.0809)	(0.0808)	(0.116)	(0.103)	(0.0839)	(0.106)	(0.0872)	(0.0885)	(0.101)	(0.0962)	(0.0802)	(0.103)	(0.0932)	(0.0901)
Company: annual revenues (ln)	0.0286***	0.0264***	0.0302***	0.0219***	0.0224***	0.0220***	0.0198**	0.0185**	0.0219***	0.0141	0.0148*	0.0134*	0.0354***	0.0314***	0.0368***	0.0254**	0.0258**	0.0269**
	(0.00853)	(0.00777)	(0.00812)	(0.00818)	(0.00721)	(0.00723)	(0.00858)	(0.00851)	(0.00809)	(0.00874)	(0.00766)	(0.00775)	(0.0114)	(0.0111)	(0.0117)	(0.0114)	(0.0107)	(0.0107)
Company: performance (prior 12 mos.)	0.0831***	0.0911***	0.0819***	0.0636***	0.0633***	0.0600***	0.0816***	0.0941***	0.0815***	0.0666***	0.0644***	0.0596***	0.0943***	0.0984***	0.0913***	0.0635***	0.0656***	0.0638***
	(0.0170)	(0.0153)	(0.0163)	(0.0163)	(0.0147)	(0.0147)	(0.0159)	(0.0152)	(0.0150)	(0.0164)	(0.0142)	(0.0139)	(0.0231)	(0.0211)	(0.0224)	(0.0216)	(0.0206)	(0.0209)
Constant	0.799***	0.900***	0.678***	1.107***	0.504***	0.540***	0.631***	0.834***	0.525***	1.059***	0.297*	0.418***	0.285	0.276	0.112	0.506**	-0.0331	-0.103
	(0.171)	(0.167)	(0.173)	(0.161)	(0.160)	(0.156)	(0.166)	(0.165)	(0.172)	(0.158)	(0.158)	(0.152)	(0.220)	(0.216)	(0.228)	(0.196)	(0.214)	(0.207)
Observations	577	577	577	577	577	577	577	577	577	577	577	577	577	577	577	577	577	577
R-squared	0.591	0.616	0.614	0.610	0.682	0.679	0.612	0.602	0.628	0.591	0.691	0.682	0.457	0.516	0.486	0.520	0.567	0.561

Robust standard errors in parentheses, industry fixed effects included in all specifications.

*** p<0.01, ** p<0.05, * p<0.1

Table 1-6 (continued)

Panel B: Marker variable – serving enhanced professional reputation

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Risk Management Oversight							**Strategy Guidance and Appraisal**						**Management Evaluation and Selection**				
External: high activist influence	-0.0506	-0.0535	-0.0820*	-0.0829*	-0.0585	-0.0648	-0.0233	-0.0300	-0.0585	-0.0602	-0.0318	-0.0407	-0.108	-0.107	-0.138**	-0.138**	-0.118*	-0.119*
	(0.0481)	(0.0454)	(0.0445)	(0.0447)	(0.0413)	(0.0412)	(0.0492)	(0.0502)	(0.0474)	(0.0480)	(0.0448)	(0.0443)	(0.0695)	(0.0682)	(0.0679)	(0.0655)	(0.0655)	(0.0654)
External: high investor influence	-0.0161	-0.0486	-0.0510	0.0208	-0.0315	-0.0239	0.0391	0.00582	0.00131	0.0764	0.0183	0.0309	0.177**	0.142**	0.142**	0.219***	0.173***	0.168**
	(0.0537)	(0.0534)	(0.0542)	(0.0535)	(0.0506)	(0.0503)	(0.0557)	(0.0574)	(0.0505)	(0.0594)	(0.0516)	(0.0527)	(0.0691)	(0.0703)	(0.0705)	(0.0664)	(0.0658)	(0.0654)
External: high government influence	0.0127	-0.0118	0.00742	0.00890	0.0100	0.0119	0.0102	-0.0174	0.00371	0.00343	0.00809	0.00767	0.0352	0.0119	0.0307	0.0358	0.0332	0.0366
	(0.0377)	(0.0385)	(0.0371)	(0.0397)	(0.0341)	(0.0344)	(0.0409)	(0.0401)	(0.0383)	(0.0411)	(0.0361)	(0.0363)	(0.0522)	(0.0496)	(0.0510)	(0.0505)	(0.0476)	(0.0476)
Board: extreme size (<6 or >12)	0.104*	0.0580	0.0816*	0.0720	0.0796*	0.0796*	0.0798	0.0295	0.0542	0.0438	0.0581	0.0518	-0.0411	-0.0875	-0.0630	-0.0726	-0.0722	-0.0647
	(0.0532)	(0.0512)	(0.0481)	(0.0500)	(0.0468)	(0.0467)	(0.0499)	(0.0506)	(0.0501)	(0.0509)	(0.0440)	(0.0441)	(0.0670)	(0.0720)	(0.0692)	(0.0683)	(0.0668)	(0.0652)
Board: % independence	0.198*	0.265**	0.0926	0.125	0.120	0.101	-0.248**	-0.169	-0.359***	-0.309***	-0.330***	-0.343***	0.178	0.237	0.0694	0.0727	0.0833	0.0659
	(0.113)	(0.117)	(0.107)	(0.115)	(0.0983)	(0.0966)	(0.107)	(0.116)	(0.126)	(0.104)	(0.0985)	(0.0944)	(0.157)	(0.153)	(0.155)	(0.154)	(0.145)	(0.142)
Board: % female	0.0557	-0.0801	0.0407	-0.110	-0.0513	-0.0531	-0.0820	-0.221	-0.0980	-0.248*	-0.164	-0.196	0.431**	0.286	0.416**	0.241	0.272	0.316*
	(0.156)	(0.148)	(0.150)	(0.141)	(0.133)	(0.130)	(0.147)	(0.148)	(0.144)	(0.141)	(0.129)	(0.126)	(0.205)	(0.188)	(0.199)	(0.191)	(0.183)	(0.184)
Director: lead director or chairman	0.0561*	0.0362	0.0334	0.0165	0.0240	0.0200	0.0378	0.0187	0.0137	-0.000672	0.00934	0.000557	0.134***	0.112**	0.111**	0.0865**	0.0912**	0.0950**
	(0.0336)	(0.0317)	(0.0322)	(0.0329)	(0.0297)	(0.0296)	(0.0324)	(0.0326)	(0.0313)	(0.0334)	(0.0289)	(0.0288)	(0.0450)	(0.0435)	(0.0437)	(0.0434)	(0.0410)	(0.0411)
Director: executive	-0.109*	-0.0761	-0.0384	-0.0171	-0.0162	-0.00393	-0.225***	-0.199***	-0.151**	-0.141**	-0.140***	-0.119**	-0.0984	-0.0556	-0.0259	0.0205	0.0210	0.0183
	(0.0654)	(0.0646)	(0.0594)	(0.0632)	(0.0573)	(0.0574)	(0.0599)	(0.0553)	(0.0633)	(0.0576)	(0.0494)	(0.0477)	(0.0875)	(0.0858)	(0.0869)	(0.0844)	(0.0798)	(0.0804)
Director: not prev. known to board/execs.	-0.0618*	-0.0494	-0.0537	-0.0741**	-0.0570*	-0.0604**	-0.0442	-0.0316	-0.0354	-0.0567	-0.0380	-0.0428	-0.0222	-0.00890	-0.0141	-0.0360	-0.0209	-0.0206
	(0.0335)	(0.0321)	(0.0327)	(0.0339)	(0.0295)	(0.0297)	(0.0341)	(0.0340)	(0.0322)	(0.0360)	(0.0301)	(0.0308)	(0.0463)	(0.0432)	(0.0446)	(0.0429)	(0.0411)	(0.0416)
Director: first board appointment	0.218	0.0337	0.0109	0.00667	0.0733	0.0548	0.106	-0.0997	-0.124	-0.127	-0.0310	-0.0774	-0.103	-0.282***	-0.305***	-0.312***	-0.278***	-0.260***
	(0.193)	(0.0986)	(0.139)	(0.158)	(0.155)	(0.159)	(0.171)	(0.127)	(0.126)	(0.140)	(0.131)	(0.130)	(0.122)	(0.0915)	(0.0797)	(0.107)	(0.106)	(0.100)
Director: female	-0.0126	0.0577	0.0229	-0.00294	0.0331	0.0276	-0.0489	0.0224	-0.0107	-0.0399	-0.00522	-0.00700	-0.110**	-0.0348	-0.0747	-0.0981*	-0.0615	-0.0676
	(0.0384)	(0.0355)	(0.0370)	(0.0371)	(0.0335)	(0.0333)	(0.0387)	(0.0397)	(0.0375)	(0.0417)	(0.0359)	(0.0364)	(0.0529)	(0.0493)	(0.0502)	(0.0501)	(0.0472)	(0.0474)
Internal: director engagement	0.551***				0.161***		0.613***				0.245***		0.536***				0.0702	
	(0.0376)				(0.0471)		(0.0330)				(0.0434)		(0.0483)				(0.0633)	
Internal: interpersonal rel.		0.575***			0.223***			0.589***			0.189***			0.612***			0.253***	
		(0.0356)			(0.0476)			(0.0323)			(0.0503)			(0.0450)			(0.0629)	
Internal: board meeting mgt.			0.655***		0.247***				0.709***		0.310***				0.652***		0.175**	
			(0.0391)		(0.0564)				(0.0383)		(0.0573)				(0.0558)		(0.0812)	
Internal: internal governance				0.520***	0.147***					0.524***	0.0910*					0.593***	0.290***	
				(0.0344)	(0.0413)					(0.0344)	(0.0501)					(0.0429)	(0.0648)	
Internal: aggregated rating						0.773***						0.814***						0.810***
						(0.0380)						(0.0352)						(0.0529)
Marker: enhanced prof. reputation	0.102***	0.0729***	0.0779***	0.105***	0.0240	0.0278	0.109***	0.0940***	0.0876***	0.130***	0.0346	0.0407*	0.106***	0.0588*	0.0776**	0.0804***	0.0154	0.0147
	(0.0244)	(0.0225)	(0.0223)	(0.0235)	(0.0209)	(0.0207)	(0.0239)	(0.0224)	(0.0237)	(0.0242)	(0.0212)	(0.0213)	(0.0326)	(0.0320)	(0.0324)	(0.0309)	(0.0318)	(0.0320)
Company: family-owned	-0.0872	-0.0632	-0.0178	-0.0459	-0.0498	-0.0430	-0.185	-0.158	-0.109	-0.140	-0.146*	-0.136	-0.162	-0.139	-0.0939	-0.120	-0.122	-0.118
	(0.0990)	(0.0905)	(0.0786)	(0.0950)	(0.0807)	(0.0808)	(0.114)	(0.105)	(0.0845)	(0.114)	(0.0881)	(0.0893)	(0.0990)	(0.0947)	(0.0825)	(0.106)	(0.0941)	(0.0910)
Company: annual revenues (ln)	0.0279***	0.0255***	0.0295***	0.0211**	0.0222***	0.0218***	0.0190**	0.0174**	0.0210***	0.0131	0.0146*	0.0131*	0.0344***	0.0309***	0.0357***	0.0249**	0.0257**	0.0272**
	(0.00847)	(0.00766)	(0.00802)	(0.00829)	(0.00718)	(0.00720)	(0.00847)	(0.00839)	(0.00801)	(0.00882)	(0.00763)	(0.00770)	(0.0113)	(0.0111)	(0.0116)	(0.0113)	(0.0108)	(0.0108)
Company: performance (prior 12 mos.)	0.0859***	0.0892***	0.0812***	0.0682***	0.0626***	0.0596***	0.0832***	0.0911***	0.0796***	0.0708***	0.0626***	0.0586***	0.0929***	0.0915***	0.0869***	0.0638***	0.0609***	0.0612***
	(0.0170)	(0.0150)	(0.0161)	(0.0164)	(0.0146)	(0.0147)	(0.0160)	(0.0152)	(0.0150)	(0.0170)	(0.0141)	(0.0139)	(0.0227)	(0.0210)	(0.0220)	(0.0214)	(0.0207)	(0.0208)
Constant	0.915***	0.885***	0.693***	1.327***	0.492***	0.541***	0.719***	0.802***	0.517***	1.271***	0.269*	0.402***	0.295	0.141	0.0427	0.544***	-0.101	-0.197
	(0.171)	(0.163)	(0.172)	(0.159)	(0.159)	(0.153)	(0.156)	(0.161)	(0.166)	(0.157)	(0.158)	(0.148)	(0.209)	(0.215)	(0.223)	(0.187)	(0.214)	(0.205)
Observations	577	577	577	577	577	577	577	577	577	577	577	577	577	577	577	577	577	577
R-squared	0.583	0.620	0.616	0.593	0.682	0.680	0.609	0.610	0.633	0.577	0.692	0.684	0.463	0.518	0.492	0.522	0.562	0.557

Robust standard errors in parentheses, industry fixed effects included in all specifications.

*** p<0.01, ** p<0.05, * p<0.1

In addition, we find that external stakeholders, and board, firm and respondent characteristics are associated with board governance effectiveness. Activist influence is negatively associated with ratings for management evaluations and selection, suggesting that either activists target companies with poor governance, or activist engagement with the board negatively affects directors' perceptions of their boards' performance. In contrast, firms with strong investor influence have higher ratings for management evaluations and selection, consistent with their influence aligning directors' interests more closely with shareholders.

For firm variables, we find that larger firms have higher ratings for all three measures of board governance effectiveness, suggesting that either larger companies invest more in board governance or that directors of large companies perceive that they are more diligent in their governance responsibilities. However, the economic magnitude of this relationship is relatively modest. For example, a 25% increase in annual revenues is associated with a 0.005 unit increase in the average rating of risk management oversight (on a 1-5 Likert scale). Firms with stronger prior performance also have higher governance ratings for all three constructs. A one unit increase in reported firm performance (equivalent to a change from market average performance to higher than market performance) is associated with a 0.06 unit average increase in ratings on strategy guidance and appraisal (approximately 0.1 standard deviations). We cannot distinguish whether this implies that stronger governance actually improves firm performance, or whether directors incorrectly perceive this to be the case.

Several respondent characteristics are related to their perceptions of board governance effectiveness. Executive directors perceive that their boards are less effective in strategy guidance and appraisal, consistent with responses from several executive directors we interviewed who had concerns about the board's depth of understanding of the firm's strategy.

Respondent independence and experience also shape their ratings. Respondents who were lead directors or board chairmen, and presumably less independent, had higher assessments of board effectiveness in management evaluation and selection, whereas respondents who were unknown to the board when appointed had lower perceptions of the board's effectiveness in risk management oversight. Respondents for which the sample company is their first board assignment had lower ratings of board effectiveness in management evaluation and selection.

Board composition appears to have a relatively modest association with perceptions of its governance performance. Boards with a higher percentage of independent directors have lower ratings on board strategy guidance and appraisal. One plausible explanation for this finding is that boards with more independent directors also have fewer members with deep knowledge of the firm and its industry, reducing the effectiveness of their guidance on strategy. And boards with a higher percentage of women members have higher ratings on management evaluations and selection.

Finally, as reported in Panels A and B of Table 1-6, estimates for the two marker variables were generally positive and significant, suggesting that they were at least partially effective in capturing potential halo effects that impacted all questions for a given individual respondent.

Robustness checks

Inevitably, our categorization of the diverse survey questions is subjective and open to debate. To examine how these classifications affected our inferences, we re-estimated our regressions using constructs for internal board operations derived from a principal-components analysis. The analysis generated four factors, corresponding to meeting structure and communication; collegiality, alignment, and integration; training, evaluation, and norms; and

time management and board composition.[10] The results, shown in Table 1-7, are consistent with our main results that show a strong positive relation between each of the constructs and perceptions of board effectiveness on governance.

As an alternative to our use of marker variables as controls for potential halo effects, we also use a two-stage method to account for possible halo effects on the dependent and independent variables. In the first stage, individual responses for each question are regressed on the two marker variables and residuals are estimated. We then compute the governance effectiveness and internal board operations constructs by averaging residuals for all questions relevant to the construct. For example, the residual management evaluation and selection construct is the average of residuals for the survey questions on HR/talent management, compensation, CEO evaluation, and CEO succession planning. In the second stage, mean residuals for each governance effectiveness construct are regressed on respondent, board, and firm variables, and mean residuals for the four internal board operations constructs. Finally, we use a bootstrap method to adjust the second-stage standard errors for noise introduced through the first-stage estimation. The unreported estimates show an economically and statistically significant positive relation between residual governance effectiveness constructs and residual internal board operations constructs, consistent with our main findings.

Since our survey was conducted globally for public and private firms, we examine variation in the findings for privately-owned firms in the United States and both publicly- and privately-owned firms outside of the United States. As shown in Appendix A Table A-2, consistent with our main sample, we find that the ratings of internal board operations to be mostly strongly associated with perceptions of board governance effectiveness.

[10] The rotated factor output is shown in Appendix A Table A-1, along with the main survey questions underlying each factor variable.

Table 1-7. Relation between survey participants' perceptions of board effectiveness, external, board, and director characteristics, and internal board operations – factor variables

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	Risk Management Oversight						Strategy Guidance and Appraisal					Management Evaluation and Selection			
External: high activist influence	-0.0953	-0.109*	-0.0874	-0.0967	-0.0475	-0.0975	-0.114*	-0.0876	-0.0823	-0.0284	-0.216***	-0.225***	-0.196**	-0.201**	-0.147*
	(0.0583)	(0.0584)	(0.0578)	(0.0608)	(0.0455)	(0.0632)	(0.0622)	(0.0658)	(0.0647)	(0.0493)	(0.0808)	(0.0785)	(0.0826)	(0.0842)	(0.0754)
External: high investor influence	0.0160	0.0700	0.0333	0.0567	0.00905	0.0951	0.151**	0.114	0.152**	0.0972*	0.161*	0.209***	0.161**	0.196**	0.158**
	(0.0652)	(0.0649)	(0.0659)	(0.0673)	(0.0575)	(0.0725)	(0.0746)	(0.0715)	(0.0710)	(0.0513)	(0.0823)	(0.0804)	(0.0762)	(0.0798)	(0.0671)
External: high government influence	-0.0363	-0.00664	-0.0262	-0.0278	0.00104	-0.0192	0.00799	-0.00750	-0.00688	0.0194	0.0368	0.0715	0.0457	0.0447	0.0832
	(0.0499)	(0.0495)	(0.0489)	(0.0515)	(0.0386)	(0.0550)	(0.0533)	(0.0526)	(0.0565)	(0.0421)	(0.0707)	(0.0653)	(0.0675)	(0.0703)	(0.0554)
Board: extreme size (<6 or >12)	0.0282	0.0545	0.0443	0.0435	0.0292	0.0364	0.0639	0.0549	0.0522	0.0354	-0.0526	-0.0293	-0.0430	-0.0448	-0.0523
	(0.0643)	(0.0648)	(0.0644)	(0.0666)	(0.0534)	(0.0673)	(0.0701)	(0.0675)	(0.0686)	(0.0477)	(0.0891)	(0.0839)	(0.0853)	(0.0861)	(0.0684)
Board: % independence	0.0246	0.0711	-0.0460	0.0657	0.0283	-0.385**	-0.345**	-0.469***	-0.283*	-0.338***	-0.0479	0.0134	-0.142	0.0315	-0.0158
	(0.164)	(0.160)	(0.157)	(0.167)	(0.123)	(0.173)	(0.157)	(0.158)	(0.163)	(0.109)	(0.246)	(0.213)	(0.210)	(0.232)	(0.162)
Board: % female	0.179	0.136	0.219	0.185	0.0537	0.0245	-0.00433	0.0705	0.00170	-0.121	0.339	0.263	0.373	0.314	0.173
	(0.206)	(0.189)	(0.205)	(0.209)	(0.150)	(0.198)	(0.195)	(0.196)	(0.199)	(0.142)	(0.269)	(0.243)	(0.260)	(0.259)	(0.207)
Director: lead director or chairman	0.0725*	0.0728*	0.0745*	0.0939**	0.0256	0.0496	0.0542	0.0514	0.0827*	0.0127	0.179***	0.169***	0.171***	0.201***	0.128***
	(0.0438)	(0.0427)	(0.0441)	(0.0450)	(0.0352)	(0.0427)	(0.0442)	(0.0424)	(0.0425)	(0.0314)	(0.0582)	(0.0552)	(0.0560)	(0.0567)	(0.0468)
Director: executive	-0.144*	-0.124	-0.143*	-0.181**	-0.0538	-0.248***	-0.236***	-0.246***	-0.314***	-0.187***	-0.156	-0.115	-0.140	-0.202*	-0.0616
	(0.0817)	(0.0758)	(0.0780)	(0.0833)	(0.0693)	(0.0802)	(0.0742)	(0.0756)	(0.0778)	(0.0500)	(0.118)	(0.113)	(0.110)	(0.115)	(0.0898)
Director: not prev. known to board/execs.	-0.0493	-0.0811*	-0.0710	-0.0646	-0.0695**	-0.0357	-0.0676	-0.0608	-0.0524	-0.0552*	0.00284	-0.0281	-0.0147	-0.00584	-0.0213
	(0.0436)	(0.0428)	(0.0442)	(0.0454)	(0.0338)	(0.0441)	(0.0451)	(0.0450)	(0.0452)	(0.0330)	(0.0584)	(0.0544)	(0.0569)	(0.0584)	(0.0476)
Director: first board appointment	0.0881	0.00890	0.0546	0.0651	0.128	-0.236	-0.319*	-0.274	-0.224	-0.152	-0.289*	-0.358***	-0.297	-0.266	-0.217
	(0.188)	(0.183)	(0.254)	(0.231)	(0.197)	(0.159)	(0.193)	(0.209)	(0.228)	(0.133)	(0.153)	(0.134)	(0.202)	(0.193)	(0.149)
Director: female	0.00254	-0.0518	-0.0566	-0.0348	0.00127	-0.0482	-0.107*	-0.117**	-0.0827	-0.0448	-0.119*	-0.160**	-0.166**	-0.134*	-0.117**
	(0.0501)	(0.0505)	(0.0513)	(0.0520)	(0.0406)	(0.0506)	(0.0557)	(0.0544)	(0.0520)	(0.0401)	(0.0681)	(0.0653)	(0.0685)	(0.0687)	(0.0562)
Internal: Factor 1	0.153***				0.265***	0.176***				0.277***	0.0953**				0.226***
	(0.0274)				(0.0223)	(0.0299)				(0.0209)	(0.0381)				(0.0303)
Internal: Factor 2		0.171***			0.264***		0.146***			0.244***		0.227***			0.313***
		(0.0233)			(0.0205)		(0.0244)			(0.0194)		(0.0321)			(0.0282)
Internal: Factor 3			0.127***		0.171***			0.150***		0.193***			0.168***		0.214***
			(0.0218)		(0.0172)			(0.0224)		(0.0175)			(0.0283)		(0.0244)
Internal: Factor 4				0.0547**	0.0389**				0.137***	0.121***				0.107***	0.0920***
				(0.0263)	(0.0196)				(0.0257)	(0.0187)				(0.0307)	(0.0239)
Marker: enjoy serving on board	0.250***	0.300***	0.375***	0.388***	0.0306	0.215***	0.297***	0.359***	0.385***	0.0262	0.228***	0.203***	0.303***	0.325***	-0.0235
	(0.0373)	(0.0346)	(0.0391)	(0.0357)	(0.0327)	(0.0382)	(0.0351)	(0.0314)	(0.0328)	(0.0328)	(0.0489)	(0.0429)	(0.0397)	(0.0393)	(0.0514)
Company: family-owned	0.0230	-0.0307	0.0237	-0.0117	0.0642	-0.0984	-0.154	-0.0964	-0.139	-0.0524	-0.275**	-0.322***	-0.250*	-0.298**	-0.224*
	(0.119)	(0.123)	(0.121)	(0.126)	(0.105)	(0.136)	(0.145)	(0.140)	(0.138)	(0.0979)	(0.127)	(0.119)	(0.128)	(0.136)	(0.123)
Company: annual revenues (ln)	0.0515***	0.0386***	0.0363***	0.0472***	0.0277***	0.0334***	0.0211*	0.0156	0.0287**	0.00879	0.0529***	0.0390***	0.0359**	0.0505***	0.0238**
	(0.0108)	(0.0106)	(0.0110)	(0.0111)	(0.00816)	(0.0115)	(0.0113)	(0.0113)	(0.0116)	(0.00882)	(0.0143)	(0.0142)	(0.0141)	(0.0143)	(0.0118)
Company: performance (prior 12 mos.)	0.118***	0.0970***	0.101***	0.110***	0.0540***	0.136***	0.119***	0.116***	0.116***	0.0592***	0.132***	0.103***	0.108***	0.115***	0.0468**
	(0.0211)	(0.0207)	(0.0223)	(0.0228)	(0.0171)	(0.0200)	(0.0206)	(0.0211)	(0.0217)	(0.0158)	(0.0286)	(0.0268)	(0.0279)	(0.0292)	(0.0233)
Constant	2.406***	2.212***	2.015***	1.732***	3.649***	2.616***	2.277***	2.173***	1.725***	3.675***	1.949***	2.107***	1.844***	1.417***	3.362***
	(0.220)	(0.214)	(0.235)	(0.222)	(0.186)	(0.231)	(0.218)	(0.208)	(0.220)	(0.191)	(0.309)	(0.255)	(0.250)	(0.257)	(0.284)
Observations	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428
R-squared	0.491	0.520	0.492	0.457	0.697	0.489	0.486	0.494	0.485	0.724	0.349	0.427	0.392	0.360	0.577

Robust standard errors in parentheses, industry fixed effects included in all specifications.
*** p<0.01, ** p<0.05, * p<0.1

Finally, to explore the concern that the respondents' ratings of board effectiveness reflect perceptions rather than actual board performance, we examine whether board effectiveness ratings are related to subsequent firm outcomes for boards where the respondent opted to disclose the name of their company. Our measures of future performance include traditional financial returns (ROS, ROA, and ROE for the year subsequent to survey implementation), risk measures (losses, impairments or write-offs, discontinued operations, restatements, lawsuits, reduced corporate guidance, dividend decreases, auditor changes, bankruptcy or auditor going concern opinions, special/extraordinary shareholder meetings, filing delays, and activist letters to the company over the subsequent year), as well as CEO compensation metrics (percent of compensation based on salary, bonus, and equity options, again for the subsequent year).

Several ratings of internal board operations are correlated with relevant variables of interest. For example, boards with lower ratings for interpersonal relationships and board meeting management are more likely to file for bankruptcy and have delays in SEC filings, suggesting that these boards are not adequately managing risks. Boards with lower ratings for director engagement are more likely to report goodwill impairments after the survey was conducted, consistent with such firms making value-destroying acquisitions and not properly appraising strategic decisions. And boards with weak ratings of board meeting management use a lower proportion of stock-based remuneration for CEO compensation, suggesting that they have weaker incentives in place and are not effectively evaluating management.

However, we interpret these results cautiously. They are likely to be affected by selection bias. The sample size is small, allowing us to control for only a small number of potentially confounding variables. And given the large number of independent variables considered, the

reported significant correlations could be attributable solely to chance (Bettis, 2012; Goldfarb & King, 2016).

Discussion and Conclusion

The literature on teams has long recognized that a team's performance is affected by the engagement and interactions of its members, as well as team management and governance. Corporate boards are teams and, therefore, their performance is likely to be affected many of the same factors. Yet, given data limitations, research has not examined how boards operate and govern themselves, and how these factors shape board governance performance.

To address this gap, we use survey data on U.S. public company directors' perceptions of their boards' governance effectiveness and internal operations. Most respondents perceived that their boards were highly effective in overseeing risk management, and somewhat less effective in guiding and appraising strategy, and in management evaluation and selection. Yet despite relatively high ratings of many areas of board governance oversight, respondents perceived a number of areas of concern. In overseeing risk management, few directors were confident about their boards' review of cybersecurity risks. In strategy appraisal, many raised questions about the board's guidance on technology, innovation, global expansion, and M&A. And in management evaluation and selection, their ratings were particularly low on succession planning and the evaluation of future management talent.

Responses to questions on internal board operations show that respondents generally perceived that their boards had highly engaged members, highly functioning personal relationships (both between directors and between directors and management), and effective board meetings. Ratings of the board's internal governance practices, however, were lower,

notably for questions on the use of evaluations for individual directors, addressing problematic directors, and providing effective training for new members.

Finally, tests that explored the relation between board governance effectiveness and internal board operations documented a strong positive relation for all three board governance constructs and each of the internal board operations constructs, even after controlling for individual director characteristics, board and company characteristics, and for halo effects that potentially contaminate ratings for all questions from the same respondent. These findings suggest that factors found to be associated with team effectiveness in other settings are also highly applicable to the corporate governance context.

We are fully aware that our efforts to examine this important and under-researched topic are exploratory and preliminary. They raise many questions. Our correlations do not prove causality. Survey data are subject to concerns about subjectivity and response biases. The construction of our board governance and operations constructs are subjective, and therefore open to question. And our efforts to control for any halo effects for respondents may be imperfect.

However, we see these questions as creating opportunities for future research. Our findings suggest that there are wide differences in respondent perceptions of board effectiveness in such areas as oversight of cybersecurity risks, guidance on technology, innovation, global expansion, and M&A, and succession planning and evaluations of management talent, making each a rich area for further study. Are identifiable board characteristics associated with differences in actual company performance in each of these areas? Are there ways for large sample studies to examine and better understand drivers of effective and ineffective board decisions in each of these areas? For example, as we reported, risk and audit committees that are

engaged in the oversight of cybersecurity risk management create an advisory boards of IT experts, appoint new committee members with cybersecurity knowledge, or hire external consultants to support and educate the board, whereas unengaged firms have yet to address this challenge. Both quantitative and qualitative findings show that many boards struggle to effectively handle powerful CEOs who refuse to engage in succession planning or their own retirement. What types of boards are effective (and ineffective) in handling these situations? How do their efforts impact firm performance?

Our qualitative findings identify a number of operational questions that boards must address. How does the board trade-off short-term performance and long-term strategy? How does it balance management oversight and evaluation, versus imposing its will in decisions that should be left to management? And how can it provide effective oversight for companies with complex business models? By examining these questions, researchers may be able to improve our understanding of the limits to board effectiveness. For example, when does scope and complexity become a detriment to effective governance? How do different types of boards balance short-term performance and long-term strategy, particularly as the CEO approaches retirement age?

The findings on internal board operations also raise questions for future work. Can operational and internal governance factors be identified using archival data? For example, is widespread board or committee turnover, or board criticism by an activist or large shareholder an indicator of problematic board operations and internal governance? Can such events be used to better identify the relation between board operations and internal governance, and the performance of its governance responsibilities? Why do firms adopt different operations and internal governance approaches? For example, interviewees from our study note that some

boards use externally-conducted board assessments, others use internal assessments, and yet others use no form of self-assessment. What factors underlie these choices? How effective are external versus internal assessments for improving board operations and governance?

Finally, our findings are relevant to regulators of board governance effectiveness. For example, recent regulations (such as the Sarbanes-Oxley Act) required the appointment of a minimum number of independent directors. However, we find that director independence plays a relatively modest role in explaining perceptions of board governance effectiveness relative to how boards actually operate – the engagement of their members, the relationships they have with one another and with the CEO, how they manage their meetings, and how they are governed.

CHAPTER TWO

Recipe for Succession: An Analysis of Board-Level Drivers of CEO Succession Planning

J. Yo-Jud Cheng, Boris Groysberg, and Paul Healy

Abstract

CEOs can be a source of competitive advantage for firms, yet many corporate boards do not have CEO succession planning processes in place to manage the high stakes of CEO transitions. This study uses a mixed-methodology approach to (1) identify the basic components of a board-level succession plan, and (2) examine the board attributes that facilitate succession planning. Our results highlight the role of various board characteristics – particularly those related to the CEO/board relationship and risk management processes – in contributing to succession planning. These findings underscore the importance of considering CEO transitions as the result of a process, rather than as a discrete event, and provide evidence that CEO succession planning processes should be incorporated more directly in empirical research on CEO succession.

Introduction

Prior research shows that chief executives can play a critical role in shaping firm performance (Crossland & Hambrick, 2011; Hambrick & Mason, 1984; Hambrick & Quigley, 2014; Wasserman, Anand, & Nohria, 2010) and that managerial capabilities can be a source of competitive advantage (Fortune & Mitchell, 2012; Helfat et al., 2009; Henderson & Cockburn, 1994). Yet CEO tenures are relatively short – on average only 5 to 6 years for large public U.S. companies (PwC Strategy&, 2016). CEO succession planning and transitions, therefore, are among corporate boards' most important governance responsibilities, as reflected in recent practitioner articles and books that offer guidance to boards on how to improve CEO succession planning processes (e.g., Citrin & Daum, 2011; Michael & Conlin, 2017; Saporito & Winum, 2012; Tichy, 2014).

However, surveys of corporate directors find that most boards do not have adequate planning processes in place to manage these transitions. CEO succession planning ranks among the least effective board processes and many boards are not confident in the processes they have in place to select new leaders (Cheng & Groysberg, 2017; D. F. Larcker & Saslow, 2014; Tonello, Wilcox, & Eichbaum, 2009).[11] The value of implementing and maintaining succession planning practices is underscored by academic research on the negative consequences of interim CEOs (Ballinger & Marcel, 2010) and the benefits of relay and heir apparent successions (Shen & Cannella, 2002, 2003; Vancil, 1987; Zhang & Rajagopalan, 2004). Nevertheless, academic research on the processes that comprise succession planning remains relatively limited. As noted in a recent review of the CEO succession literature, "extant research still focuses largely on the

[11] The potential downsides from under-investing in succession planning are high: one study estimated that premature (rather than planned) successions cost large companies as much as U.S. $112 billion in market value (Favaro, Karlsson, & Neilson, 2015).

CEO succession event, which is contrary to practical evidence that CEO succession is a continuous process" (Berns & Klarner, 2017, p. 89).

Given the value of CEO succession planning, it is somewhat puzzling that so many organizations do not have adequate planning practices in place. In this study, we explore the *processes* that underlie CEO successions to understand why so many companies appear to be underprepared for these transitions. Because CEO selection is the responsibility of the board of directors, we build upon insights from the corporate governance literature and focus our analysis around board-level drivers of succession planning. We seek to answer two primary research questions: What processes does a board-level CEO succession plan include? What board attributes facilitate CEO succession planning processes?

Our study employs multiple research methods to answer these questions. In the first part of our study, we analyze qualitative field data to build a deeper understanding of the practices that comprise a board-level CEO succession plan. We identify two practices – regular discussions about CEO succession and contingency planning for an unexpected succession – as fundamental components of a basic CEO succession plan. Next, we inductively develop hypotheses around three types of board attributes that facilitate succession planning processes: board meeting efficiency; the CEO/board relationship; and risk management processes. In the second part of our study, we use quantitative data from a large-sample survey of corporate directors to test our hypotheses.

Our survey results confirm that many boards are underprepared for CEO transitions. We use a multivariate analysis to identify the board attributes that are associated with CEO succession planning processes. We find that the quality of the CEO/board relationship and risk management processes are positively associated with the frequency of CEO discussions and

contingency planning. These findings demonstrate the role that board processes can play in spurring more frequent discussions of CEO succession and in motivating boards to delineate a contingency plan for CEO succession. Our analysis highlights the importance of understanding CEO transitions as the result of a process, rather than as a discrete event, and provides evidence that CEO succession planning processes should be incorporated more directly in empirical research on CEO succession.

Prior Literature

CEOs and other top executives can play a central role in setting firm strategy and shaping firm performance (Hambrick & Mason, 1984; Montgomery, 2012). Wasserman et al. (2010) decompose variance in firm-level financial performance and find that the CEO effect is comparable to the industry effect in explaining performance (13.5% versus 15.5%, respectively), while other studies calculate CEO effects that substantially exceed industry effects and find that the CEO effect is increasing over time (Hambrick & Quigley, 2014; Quigley & Hambrick, 2015). Due to the influence a CEO can wield over firm performance, CEO transitions are extremely important junctures in the life of a firm.[12] CEO successions have received a substantial amount of research attention, with most studies primarily falling into two categories: studies that examine the antecedents of CEO transitions and studies that examine the consequences (see Berns & Klarner, 2017; Finkelstein, Hambrick, & Cannella, 2009; Giambatista, Rowe, & Riaz, 2005; Kesner & Sebora, 1994 for comprehensive and well-developed reviews of the literature to date).

[12] Given that the average tenure of CEOs in large, publicly-traded U.S. firms is 5-6 years (PwC Strategy&, 2016), CEO transitions are also a nearly inevitable part of firm development.

Antecedents and consequences of CEO succession

Research on *antecedents* to CEO succession examine the relation between the likelihood of CEO turnover and characteristics of the incumbent CEO (Ocasio, 1994), the successor CEO (Cannella & Shen, 2001; Zhang & Rajagopalan, 2004), the board (Ocasio, 1994; Westphal & Zajac, 1995), the number of prior successions (Wasserman, 2003), the firm (Allgood & Farrell, 2003; Grusky, 1960; Huson, Parrino, & Starks, 2001), and the environment (Datta & Rajagopalan, 1998; Zhang & Rajagopalan, 2003).

These studies find that poor performing firms have an increased likelihood of CEO turnover (Huson et al., 2001; Wagner, Pfeffer, & O'Reilly, 1984; Warner, Watts, & Wruck, 1988). Although many studies have confirmed the inverse relation between firm performance and CEO turnover, much of the variation in turnover rates is unexplained by financial performance alone (Finkelstein et al., 2009). Many other organizational factors, such as CEO power and tenure, are associated with CEO turnover rates and the CEO selection decision (Finkelstein & D'Aveni, 1994; Ocasio, 1994). With respect to the type of successor that is selected, outside CEO appointments are more likely than inside appointments following periods of poor firm performance (Boeker & Goodstein, 1993; Cannella & Lubatkin, 1993), while inside CEO appointments are more likely in larger firms with internal talent pools and when there is a higher proportion of inside directors on the board (Boeker & Goodstein, 1993; Dalton & Kesner, 1983; Finkelstein et al., 2009).

Studies on the *consequences* of CEO succession seek to explain differences in post-succession financial performance (Huson et al., 2001; Shen & Cannella, 2002, 2003) and strategic changes (Datta, Rajagopalan, & Zhang, 2003; Romanelli & Tushman, 1994; Virany, Tushman, & Romanelli, 1992). Research on the consequences of CEO succession is complicated by the fact that new CEOs are often bound by a "going-in mandate" – the expectations of the

board and other stakeholders – during their first years in office (Vancil, 1987; Westphal & Fredrickson, 2001b), which can obscure the effect of a newly-appointed executive. In addition, firm performance is not a consistent indicator of CEO quality early on in a new CEO's tenure, making it difficult to evaluate the performance of early-stage CEOs (Graffin, Boivie, & Carpenter, 2013). The findings from studies of the consequences of CEO succession are mixed overall, perhaps because of variation in the conditions that lead to transitions.

The actual *process* of CEO succession has largely been left unstudied in the academic literature; however, these processes are likely to influence both how candidates are selected and how they fare as CEO. For example, succession planning processes that precede CEO transitions can increase the number of available CEO candidates, which has been shown to increase the likelihood of succession and to also influence the type and quality of successor that is selected (Cragun, Nyberg, & Wright, 2016; Mobbs & Raheja, 2012; Ployhart, Weekley, & Baughman, 2006; Zhang & Rajagopalan, 2004). In addition, the effectiveness of board succession processes could explain some of the heterogeneity in CEO succession outcomes that we observe, if, for example, poor succession planning leads to a CEO selection that is not a good fit for the firm's strategic needs.

CEO succession planning

The board's role in selecting and dismissing the CEO suggests that *planning* for CEO succession should also be a key responsibility of the board of directors. Further, CEO succession planning is gaining prominence from a regulatory standpoint. Recent guidance from the U.S. Securities and Exchange Commission (SEC) affirmed CEO succession planning as a "significant policy issue regarding the governance of the corporation" (U.S. Securities and Exchange Commission, 2009) and succession planning is increasingly becoming accepted as a "key part of

corporate risk management" (D. F. Larcker & Tayan, 2010, p. 2). In the words of one executive search consultant, designing a strong succession process is a goal in and of itself:

> *With CEO succession, there are really two parts that make for a great succession. One is the process, and two is the outcome, and the outcome has both short-term and long-term dimensions. … You can have a lousy process and a great outcome, but then there are great processes and bad outcomes. The ideal is a great process and a great outcome.*

Research on the consequences of relay successions and interim CEOs provide indirect evidence that succession planning is beneficial for firm performance. Relay successions (also known as heir apparent successions) involve the appointment of a high-ranking internal executive (typically the President or Chief Operating Officer) to the CEO role (Bigley & Wiersema, 2002; Shen & Cannella, 2003; Vancil, 1987). These types of transitions allow the incoming CEO to be groomed by the incumbent and provide time for the incoming CEO to build valuable relationships within the firm (Khurana, 2002; Vancil, 1987). Zajac (1990) documents a positive relationship between firm profitability and whether the CEO has a specific successor in mind, and other empirical studies find evidence of positive abnormal stock returns and higher post-succession financial performance following these types of successions (Shen & Cannella, 2003; Zhang & Rajagopalan, 2004), suggesting that many firms benefit from planned, sequential CEO successions. In contrast, studies of unplanned successions find that appointing an interim CEO, presumably reflecting insufficient succession planning, is disruptive and detrimental to firm financial performance and survival (Ballinger & Marcel, 2010; Favaro, Karlsson, & Neilson, 2015), and that investors may react negatively to a perceived lack of succession planning (Harris & Helfat, 1998).

These large-sample studies generally analyze externally observable, publicly-reported company characteristics to indirectly explore the effects of succession planning, but do not examine the actual board deliberations and processes that underlie board-level succession plans.

Studies that do discuss specific succession planning processes are primarily descriptive, small sample studies that may not generalize (Kesner & Sebora, 1994; Mahler, 1980; Rhodes & Walker, 1984; Vancil, 1987). As a result, in their review of extant studies, Finkelstein et al. (2009) observe that surprisingly "little research has been done on succession processes," and Cragun et al. (2016) suggest that the area offers "fertile opportunities for meaningful advances." We seek to address this gap by integrating insights from in-depth qualitative data with quantitative data from a large-sample survey to examine the board's role in CEO succession planning and to identify the characteristics of boards that are able to maintain CEO succession planning processes.

Theory Development

As noted in one review of the CEO succession literature, studies on succession processes are uncommon because they require "access to highly sensitive deliberations and events inside the organization" (Finkelstein et al., 2009, p. 179). To explore questions related to succession planning, researchers have called for greater use of case studies, interviews, and surveys to fill the gaps in our understanding of succession processes (Berns & Klarner, 2017; Giambatista et al., 2005).

To this end, we use a mixed-methodology approach to address our primary research questions. Our analysis proceeds in two stages: first, we use inductive methods to derive hypotheses from in-depth interviews; then, we test our hypotheses through a multivariate analysis of data from a large-sample survey. This research design allows us to use the richness of our qualitative data to first inform, contextualize, and advance our understanding of the complex processes and dynamics that underlie CEO succession planning processes (Graebner, Martin, & Roundy, 2012). We then integrate our inductive methods with a large-sample quantitative

analysis to triangulate and test the pervasiveness of the insights we derive in the first part of our analysis (Creswell, 2009; Edmondson & McManus, 2007; Eisenhardt & Graebner, 2007; Wasserman, 2008).

Qualitative methods and data

Existing research provides little guidance on what constitutes a board-level CEO succession planning process. In the first stage of our analysis, we inductively derive insights from rich qualitative data to identify the basic building blocks that constitute a succession planning process, and then identify three types of board attributes that may contribute to the ability of boards to maintain these processes. Because interviews are a particularly effective method for gathering data about "episodic and infrequent" phenomena such as CEO successions (Eisenhardt & Graebner, 2007, p. 28), we begin our data collection process by conducting semi-structured interviews with individuals who were deeply involved in two different CEO successions. By interviewing individuals with direct experience in recent CEO transitions (many of whom have been involved in multiple succession processes through various board memberships), we were able to gain access to details on the specific succession planning processes that occur at the board level, which are typically confidential and not observable to external observers.

In our first round of data collection, we conducted 11 semi-structured interviews with directors and high-level executives (seven of whom are current/former CEOs of Fortune 500 companies) who were involved in a CEO succession process at a telecommunications firm; for our second round of data collection, we interviewed 15 individuals (the incumbent and successor CEO, independent board members, top executives, and executive search consultants) who were involved in a CEO succession process at a technology firm. Both firms are in the Fortune 500

and are publicly-listed in the United States. The interviews ranged from 30 minutes to 90 minutes in length, and were recorded and subsequently transcribed. We asked each of our interviewees detailed questions to ascertain the specific components of each board's succession planning processes, from start to finish. By asking similar questions across multiple individuals that were involved in each succession process, we were able to acquire a level of depth and breadth that allowed us to triangulate our data and minimize concerns with retrospective sense-making and impression management (Eisenhardt & Graebner, 2007).

To supplement our interview data, we collected over 1,000 text responses to open-ended survey questions about CEO succession planning and board functions asked to board directors of both public and private firms of various sizes that operated in a wide range of industries (we describe our survey methodology in further detail in the "Survey methodology and sample" section).[13] Survey respondents were encouraged to provide long-form text responses. By gathering our qualitative data through both interviews and surveys, we gained a deep, multi-perspective view into the succession planning processes behind two different CEO successions, while also gathering a broad range of directors' views on CEO succession planning across a larger sample of firms.

We use a grounded, inductive approach to review our qualitative data and generate first-order codes, then iterate between our data and the existing literature to derive a set of second order themes and patterns in the data, without making any a priori theoretical assumptions (Corbin & Strauss, 2014; Locke, 2001). This analysis provides insights into the activities that

[13] Survey questions included: Describe this board's process to determine CEO succession, specifically highlighting what you think works well and does not work well; If there is a gap between expectations placed on boards today and realities of a board's ability to oversee a company, what do you think are the 2-3 top factors causing it?; Should directors spend more time on board-related processes or activities? If Yes, what 2-3 processes or activities require the most attention?

constitute board-level CEO succession plan, the specific challenges that boards face in implementing these planning processes, and the board attributes that facilitate succession planning processes.

CEO succession planning processes

Because relatively little is known about *how* boards prepare for CEO successions (Berns & Klarner, 2017; Finkelstein et al., 2009), we begin by describing the specific processes that boards use for succession planning (which we derive through our qualitative analysis), and also explore reasons why some boards succeed at and some boards struggle with implementing these processes. Although succession planning may encompass a broad range of processes and activities, we focus on the most basic building blocks of a board-level succession plan.

Discussions about CEO succession. A common theme in our interviews about CEO succession planning is the importance of discussing CEO succession on a regular basis. On some boards, these discussions are an accepted norm for the board and CEO. One director described how this process unfolded shortly after the appointment of a new CEO:

> *We recently appointed (from within) a new CEO. Five minutes after giving him the good news, the lead director said that we expect him to begin tabling candidates to be his successor within a few months. He wasn't surprised; he knows that is the culture of this company.*

On other boards, CEO succession is delegated to a specific board committee, which handles the primary discussions on the topic. One director explained the responsibilities of a dedicated CEO succession committee:

> *There is a separate committee whose responsibility it is to evaluate bench strength for a variety of levels within the company, including the CEO position. This committee meets regularly, currently every two months in conjunction with the regularly scheduled board meetings.*

However, on many boards, these discussions are challenging, and directors struggle with initiating these conversations, even when they acknowledge that they are necessary. As one director described: "we find this really difficult, so [we] are ducking the issue. We know we have to address it, but keep deferring," while another lamented, "I am the lone voice raising the issue of CEO succession to the governance committee and to the board chair during my first year. I will feel a measure of success if I can get the topic on the agenda."

Some directors find that their boards delay CEO succession discussions until the issue is imminent, at which point, these discussions might be too late to be of use in developing and evaluating a full slate of potential candidates. Especially during times of crisis, board attention may shift toward more urgent and immediate matters in lieu of succession planning discussions (Berns & Klarner, 2017; Ocasio, 1997). One director remarked: "CEO succession is only done when the current [CEO] leaves. [This] leaves much to be done." Other boards defer these discussions out of a fear of how the discussion will be perceived. According to one director, the delay in initiating these discussions stems from a desire to placate the sitting CEO: "[The] board is not willing to engage in this discussion. [The] standard answer is: 'we don't want to spook the CEO.'"

Framing these discussions as a core responsibility of the board can help to minimize the awkward and potentially threatening nature of these discussions. One director explained:

> *As a sitting CEO, your main responsibility, aside from running the company, is to groom someone to succeed you. … When viewed from this perspective, the question of succession isn't threatening, it's mandatory. It is something the board takes very seriously. We made it clear we were happy with the CEO and with the company's performance under his leadership, but that it was our duty to discuss his succession plans.*

Contingency planning. Another critical element of a board-level CEO succession plan involves the maintenance of a contingency plan to call upon in the event of an unexpected

succession. Many directors colloquially refer to this as having a name in the envelope in the event that the current CEO is "hit by a bus." One director described the nature of this type of planning:

> *Every year, when we do our talent assessment of the senior team, we also look at succession, and who might fill the [CEO] role. We call it the hit-by-a-bus scenario—if the CEO is hit by a bus, what's the plan? Who's the person that could fill that role and in what timeframe?*

Another director described a similar contingency planning process:

> *The plan is actually written in terms of what happens, who the successor would be, and what the steps would be. That's reviewed formally at the compensation committee [level] and then also discussed at the board [level] once a year, every year.*

One director noted that the emergency succession plan would be implemented "to afford [the] board time to make a thoughtful selection for a permanent hire," and in many cases, the emergency CEO candidate might be different than the permanent selection and often would be selected from the board itself. One director explained: "[We] determined [that] there is no inside candidate, so [we're] not wasting time on that. [We] have two 'ready now' board members who could take the helm while a search is conducted."

In addition to simply maintaining the name of a successor candidate, in many companies, the incumbent CEO plays a central role in grooming an individual who could step in if needed (Zajac, 1990). One CEO described the methodical process through which he was groomed by his predecessor before being appointed:

> *[The previous CEO] had begun to talk to me about potentially being her successor … four years in advance of … her targeted time [for stepping down]. … As we got closer, I got a chance to spend more and more time not only with her, but with the board … [and] two years in advance, I moved up to president. … Then I came on the board probably a year later. …[I]t was a very thoughtful, planned approach—exposing me to Wall Street, exposing me to the investment community. … I never became publicly anointed, so to speak, … but I think inside the company it was pretty well telegraphed that that's where we were going.*

Nevertheless, some boards grapple with a "CEO [who is] not yet committed to developing his bench strength." Agency and political theories posit that CEOs have an incentive to build and use their power over boards to protect their positions in times of poor performance (M. C. Jensen & Meckling, 1976; Ocasio, 1994), which was supported by one director's observation that: "The CEO is holding onto their job using all means possible, including not having a viable successor in place." To further complicate this process, the lack of a clear timeline when planning for an emergency succession can make succession planning challenging, even when the incumbent CEO is committed to grooming potential candidates. One director lamented how difficult it is "to manage expectations and timing of exec[utive]s with potential." While many boards succeed in selecting a candidate who could step in immediately if needed (oftentimes anointing a director from the board, rather than an internal executive), others struggle with getting the CEO to take an active role in grooming and developing candidates, and in managing the expectations of candidates in the pipeline.

Hypotheses

To understand why some boards do and some boards do not have CEO succession planning processes, we sought to identify the board-level attributes that are associated with CEO succession planning. Our inductive analysis allows us to probe the internal workings of boards, through which we identify three broad categories of board attributes that facilitate CEO succession planning processes: board meeting efficiency; the CEO/board relationship; and risk management processes.

Board meeting efficiency. Our qualitative analysis suggests that on many boards, CEO succession discussions can often be delayed because other, more immediately pressing issues frequently arise; however, when directors are well-prepared for board meetings and the meeting

agenda is managed appropriately, boards are better able to invest the time necessary for succession planning. A directorship is a substantial time commitment that requires directors to devote a significant amount of time to both preparing for and attending board meetings (National Association of Corporate Directors, 2016). The practice of paying outside directors a per-meeting fee for each meeting they attend and the SEC requirement for boards of publicly-traded firms to disclose and identify directors that attend fewer than 75% of board meetings indicate that director commitment is an issue for many boards (Adams & Ferreira, 2008). Directors emphasized the importance of having well-prepared and committed board members in ensuring that board meeting discussions are productive. One director explained:

> *To have an effective board you need diligence and active participation by all the directors. … It sounds so basic, but what you don't want is a director who shows up who hasn't even read the material or who falls asleep or spends all of the meeting with his Blackberry under the table texting.*

When directors review materials in advance of meetings, simple questions can be preemptively addressed over email or quickly resolved at the beginning of meetings, leaving time for more substantive discussions, such as those around CEO succession. A lack of preparation by directors can prevent deeper discussions from occurring. One director reflected on this challenge:

> *While many other [directors] have the … passion for the work, many others come to the meetings, rarely ask probing questions, take their check and run.*

Many directors considered adequate preparation for meetings as a necessary requisite for the board's ability to effectively review potential CEO candidates on a continual basis and to hold discussions around leadership development and succession planning. In addition, effective time management during meetings can also ensure that more concrete matters do not overtake the time necessary for more abstract matters such as contingency planning for a CEO transition.

Regularly recurring discussions also play a critical role when preparing to select a new CEO. As one director reflected:

> *If you had a question, or you had a concern or something you wanted to probe with any of those [CEO] candidates, you had every opportunity.… There was no way that you could have said, "I didn't have the chance to ask that question." That was taken completely off the table.*

This type of open, continuous discussion can help the board reach a consensus around a succession decision by ensuring that all directors are able to gather sufficient information. Another director of the same board commented:

> *Sometimes when the process isn't as robust, people are dealing with different levels of information and different perceptions. What happens a great deal of the time is that I like candidate A over candidate B, because I know candidate A better. But by the time we got to the end, we had all been through so many interactions. Every single person knew every candidate intimately.*

Investing in the time and preparation needed for in-depth succession planning can level the playing field both between candidates (ensuring that directors have access to equal amounts of information on each candidate) and between directors (ensuring that they are able to voice their perspectives and concerns to the rest of the board) in the course of selecting a new CEO. Adequate director preparedness and time management allow boards to discuss CEO succession regularly and start formulating contingency plans before the issue is immediately imminent. This brings us to our first set of hypotheses:

> *Hypothesis 1a: Boards with a higher level of board meeting efficiency will discuss CEO succession more frequently.*
>
> *Hypothesis 1b: Boards with a higher level of board meeting efficiency will be more likely to have a contingency plan for CEO succession.*

CEO/board relationship. The degree of control the board of directors exercises over the CEO and its implications for monitoring of the CEO and other corporate governance outcomes has been examined extensively in prior research (Fama & Jensen, 1983; Pfeffer, 1972; Westphal

& Zajac, 1995). In addition to boards' roles in CEO monitoring, boards are also tasked with providing advice, counsel, and assistance to the CEO. Compatibility in leadership and communication styles and a collaborate relationship between the board and CEO can foster the board's ability to provide this type of counsel (Westphal, 1999).

Our qualitative analysis suggests that a constructive relationship between the CEO and the rest of the board can contribute to succession planning in several ways. When the board and CEO have a collaborative and synergistic relationship, the board is more likely to be able to hold regular discussions about succession, ensure that the CEO is developing a pipeline of potential candidates, and come to an eventual succession decision when the time comes (while a more dominant CEO may seek to delay succession discussions or neglect to develop a leadership pipeline). In addition, boards in which there is constructive relationship between the CEO and board may be more successful in utilizing the CEO's deep knowledge of internal candidates while also setting limits around the CEO's influence over the final decision.

In line with this sentiment, one director noted how the board's decision-making power can be co-opted by the CEO when there is not a productive and collaborative relationship in place: "at public companies, directors are not encouraged to act independently, but are either agents of the CEO or minimalized by the CEO." Another important consideration is the ability of directors to engage in robust discussions. As one director stated:

> *A board room environment that respects challenge, advocacy and encourages listening is essential. Collegiate thought, group think and agreement will deliver poor results.*

In summary, boards that have a constructive relationship with the CEO will be better positioned to engage in CEO succession planning. This brings us to our second set of hypotheses:

> *Hypothesis 2a: Boards with a constructive CEO/board relationship will discuss CEO succession more frequently.*

Hypothesis 2b: Boards with a constructive CEO/board relationship will be more likely to have a contingency plan for CEO succession.

Risk management processes. Guidance issued by the Securities and Exchange Commission in 2009 affirmed that board-level CEO succession planning to ensure that the company is "not adversely affected due to a vacancy in leadership" is one of the board's "key functions" (U.S. Securities and Exchange Commission, 2009). In our interviews, many directors discussed CEO succession planning with respect to risk management. Some directors stated that CEO succession planning discussions occurred within the context of annual risk assessment discussions, while others discussed the risks associated with the loss of a CEO with valuable tacit knowledge and capabilities:

We have significant key-man risk, as this is a start-up that monetizes the thought process and experience of the founder. This limits the exit strategy possibilities, which the founder himself acknowledges.

Others described the risks inherent in a CEO departure without having a clear plan in place:

When either [the] CEO wants to resign or [the] board is not happy with the performance, candidates are searched and planned. It is a risky approach because it is a reactive approach. Even when there is no risk of replacement, we should have a plan.

Managing this type of risk can be challenging for many boards:

The CEO has stonewalled taking steps (like creating a COO position and filling it) to more or less groom someone for the CEO role or to de risk the sudden loss of the CEO. The other board members are in agreement, yet they are frozen since they are concerned if we push too hard then the incumbent would leave and we have no replacement. The CEO really … wants to pick his successor, which is not going to happen.

Boards that have a strong orientation toward risk management and that have processes in place for managing various risks, such as a sudden CEO departure, will be more likely to be able to manage CEO succession planning. This brings us to our last set of hypotheses:

Hypothesis 3a: Boards with more robust risk management processes will discuss CEO succession more frequently.

Hypothesis 3b: Boards with more robust risk management processes will be more likely to have a contingency plan for CEO succession.

Quantitative Methods and Data

For the second part of our study, we use quantitative data collected from a large-sample survey to test the strength and pervasiveness of the insights we inductively derived from our qualitative data (Creswell, 2009; Eisenhardt & Graebner, 2007). A survey methodology is particularly suitable in this context because it allows us to gather information on boards' CEO succession planning processes and the inner workings of boards, which are not typically available in empirical studies that rely on archival data. This methodology can thus bridge the gap between in-depth field studies that rely on detailed observations of a limited number of companies but may lack generalizability (see, e.g., Lorsch & MacIver, 1989; Vancil, 1987) and archival studies that can capture variation across a broad array of companies but must rely on metrics that are publicly-reported.

Survey methodology and sample

We distributed a survey via e-mail to a list of board directors compiled through the CapitalIQ database and distribution lists of a non-profit organization and executive search consultancy. The survey was administered to boards globally, and to both public and privately-owned companies. 5,216 total survey responses from board directors were collected from October 2015 through June 2016, representing an overall response rate of 7%. This response rate is comparable to other large-sample surveys of CFOs that had response rates between 5.4% to 9% (Dichev et al., 2013; Graham & Harvey, 2001; Graham et al., 2005). The survey instrument encompassed a broad range of themes and was comprised of several modules (see Appendix B for an overview of the survey structure). We excluded any observations where the respondent did not answer the relevant questions in the survey module about their board's succession planning

practices or did not answer the set of survey questions we use to construct our independent variables and control variables, resulting in a sample of 2,281 survey responses. To ensure comparability across sample companies, our primary analyses in this study are based on boards of publicly-traded companies headquartered in the United States. Therefore, we arrive at a final sample of 584 observations that we use in our multivariate analyses.

Sample representativeness

Our data were collected through a voluntary survey, and thus, our sample may not be representative of the population of corporate boards. To assess sample representativeness, we compared characteristics of our survey sample against characteristics of boards in the BoardEx database, a comprehensive database on corporate boards that has been widely used in corporate governance research (e.g., Aggarwal et al., 2011; Cohen et al., 2008, 2010; Erkens et al., 2012). Appendix C Table C-1 compares our board survey data to the BoardEx database for 2015 and 2016 (we limit the BoardEx data to publicly-traded companies headquartered in the United States for comparability). On average, average board size in our survey sample is similar to that for the BoardEx database (9.0 vs. 9.9 directors, respectively), and directors are similar in age (61.3 vs. 59.4). Although the proportion of female respondents in our sample is higher than the proportion of directors in the BoardEx database (28% vs. 13%), the proportion of female directors in each board is more comparable (17% vs. 13%). Board experience for responding directors is also comparable to that for BoardEx (surveyed directors served on an average of 3.4 public boards over the course of their careers vs. 3.2 in the BoardEx database), implying that our survey did not disproportionately sample especially experienced or inexperienced directors. Furthermore, the distribution of industries represented in our sample was very similar to the

distribution of industries in the BoardEx database. These statistics suggest that our survey sample is largely representative of the population of boards of publicly-traded firms in the U.S.[14]

Common method bias

Our methodology relies on both independent and dependent variables derived from a single survey from the same respondent, which may result in common method bias (Chang, van Witteloostuijn, & Eden, 2010; Podsakoff & Organ, 1986) if there is "artifactual covariance between the predictor and criterion variable produced by the fact that the respondent providing the measure of these variables is the same" (Podsakoff et al., 2003, p. 882). We mitigate the potential for common method bias both through the design of our survey and through our empirical specification.

Survey design. We sought to reduce the possibility of response bias and common method bias through the design of our survey. First, all responses to our survey were completely anonymized, unless the respondent voluntarily opted to provide the name of their company (we use this subset of observations for additional data validation tests and supplemental analyses). We chose to keep respondent identity completely anonymous in order to reduce the likelihood that respondents felt pressure to make their responses more socially desirable or to inflate ratings of their boards due to concerns around disclosing negative information about their boards (Podsakoff et al., 2003). Next, the survey encompassed questions on a very wide range of themes and our dependent and independent variables did not appear next to each other in the context of the survey.[15] It is therefore unlikely that artifactual covariance would arise from respondents'

[14] Because all survey responses were fully anonymous (with the exception of the small subset of respondents that opted to voluntarily disclose the name of their firm), we are not able to directly compare the characteristics of respondents and non-respondents.

[15] The survey contained a module about CEO succession planning, as well as other modules related to: board diversity, processes for board activities such as cybersecurity, innovation, and mergers and acquisitions; board

knowledge that CEO succession would be a focus of the study or from respondents' implicit theories around a causal relationship between the variables of interest in this study (Podsakoff et al., 2003). We also used different survey scales for the dependent and independent variables, which should reduce the likelihood of artifactual covariance arising due to the use of the same scale format (e.g., Likert scale) (Podsakoff et al., 2003). An overview of the full survey structure is provided in Appendix B.

Last, the survey questions we used for our dependent variables were relatively objective and factual in nature (rather than more subjective perceptions), and should therefore be less susceptible to the possibility of common method bias as compared to survey questions that involve more subjective perceptions (Podsakoff & Organ, 1986; Wasserman, 2017). To gauge the accuracy of these factual survey questions, we examined the subset of survey responses in which the respondent voluntarily opted to provide the name of their company, and compared survey responses on objective board characteristics to data from publicly-available sources. We find that survey responses on most of these objective variables are highly comparable to data from archival sources. For example, the average proportion of independent directors reported by identifiable respondents was 81%, while the correspondent statistic from publicly-available archival data sources was 80%. The proportion of female directors as reported by respondents was 16%, as compared to 17% from publicly-available sources (comparisons are shown in Appendix C Table C-2). However, some differences do exist. For example, the mean board size reported by survey respondents was 8.9 directors, as compared to 10.9 directors as reported in publicly-available sources.

dynamics; political affiliation; economic outlook; and other themes. See Appendix B for an overview of the full survey structure.

Statistical remedies. In addition to the choices we made in the design of our survey instrument, we also took several steps to minimize the potential effects of common method bias through our empirical methodology. We build upon a statistical technique used in prior research that relies on the identification of a "marker variable" that is subject to the effect of common method bias, but is theoretically unrelated to the variables of interest (Guiso et al., 2015; Lindell & Brandt, 2000; Lindell & Whitney, 2001; Podsakoff et al., 2003). We adapt this procedure for our multivariate analysis by identifying two survey questions to serve as our marker variables: ratings of the respondent's enjoyment from serving on the board and whether serving on the board has enhanced the respondent's professional reputation. We use these two variables (separately) as control variables in our multivariate analyses. Through this procedure, the marker variable should capture the variation associated with common method biases, and the resulting relationships we observe should therefore be uncorrelated with these effects. This procedure has been used in prior research (Guiso et al., 2015).

Dependent variables

Our survey included a module on CEO succession planning that contained two questions on succession planning processes that we derived from our qualitative analysis: the frequency of CEO succession planning discussions and the existence of a contingency plan for CEO succession (refer to Appendix D for comprehensive variable descriptions).

Discussions about CEO succession. We constructed a categorical variable based on responses to a survey question on the frequency of board-level discussions about CEO succession. The variable takes on a value of 2 if CEO succession is discussed at each board meeting or several times a year; a value of 1 if it is discussed annually; and 0 if it is not discussed on a regular basis. We consider this metric to be a key component of a board's CEO succession

planning processes, because, as emphasized in our interviews, the board would not be able to maintain or implement an effective and timely CEO succession plan without regular discussions.

Contingency planning. We constructed a dichotomous variable that denotes whether survey respondents indicated that their board has vetted a viable candidate who could step in immediately as CEO if necessary. The variable takes on a value of 1 if a candidate is available; and 0 otherwise. The availability of a viable candidate is a measure of the board's contingency planning for CEO succession, which was discussed in our interviews as a critical component of succession planning.

Independent variables

We constructed independent variables that correspond to each of the three types of board attributes that we identified in our qualitative analysis as being potential drivers of board-level succession planning. We identified the survey questions that most closely capture the various facets of each board attribute. We created our three constructs by aggregating the underlying survey questions into factor variables using a principal-components analysis. We describe our main independent variables below and provide summary statistics on the underlying survey questions in Appendix C Table C-3, and the descriptions of survey questions in Appendix B.

Board meeting efficiency. We constructed this variable based on two survey questions: "Agenda topics and materials accurately reflect priorities of board" and "Overall, all directors are well prepared for meetings on this board" (both questions are rated on a 1-5 Likert scale: Strongly Disagree, …, Strongly Agree).

CEO/board relationship. We constructed this variable based on two survey questions: "The CEO communicates and consults with this board in an appropriate and effective manner"

and “This CEO-board relationship sets the right tone for the rest of the company” (both questions are rated on a 1-5 Likert scale: Strongly Disagree, …, Strongly Agree).

Risk management processes. We constructed this variable based on two survey questions on the effectiveness of the board’s processes for “Compliance” and “Risk Management” (both questions are rated on a 1-5 Likert scale: Poor, …, Excellent).

Control variables

Several additional factors may influence CEO succession planning processes, which we control for in our multivariate analyses. We briefly describe these control variables below.

Influence of external investors. Researchers find that institutional investors (Finkelstein et al., 2009) and activist investors (Helwege, Intintoli, & Zhang, 2012) can influence CEO successions by pressuring directors to make top management changes or to appoint certain types of executives (Cragun et al., 2016). Boards that are more heavily influenced by investors may therefore be incentivized to devote more resources toward evaluating the current CEO and future candidates, and consequently, invest more in succession planning in general. We constructed a measure of investor influence based on a survey question that asks respondents to rate the level of influence investors and shareholders exert over the company (this variable takes a value of 1 if investors are rated as being very influential; and 0 otherwise).

Family ownership. Family-owned firms have relatively low CEO turnover rates (Lausten, 2002) and family member CEOs experience lower CEO turnover rates following weak financial performance than outsider CEOs (X. Chen, Cheng, & Dai, 2013; Rachpradit, Tang, & Khang, 2012). These differences in CEO succession rates may be driven by family control and non-financial factors that are not faced by non-family-owned firms (Bennedsen, Nielsen, Perez-Gonzalez, & Wolfenzon, 2007); therefore, CEO succession planning processes are likely to

differ between family-owned firms and other firms. We control for family-ownership with a dichotomous variable (equal to 1 if the firm is family-owned; and 0 otherwise).

Firm size. Smaller firms are more likely to appoint CEOs from outside the firm and are less likely to groom internal candidates because they have a smaller internal labor pool from which to select CEO candidates (Barker III, Patterson Jr, & Mueller, 2001; Lauterbach, Vu, & Weisberg, 1999; Naveen, 2006). We proxy for firm size using the natural log of annual revenues.

Board size. Prior studies have found a negative relationship between board size and firm value across a variety of contexts (Conyon & Peck, 1998; Eisenberg, Sundgren, & Wells, 1998; Yermack, 1996). We include both board size and squared board size, to account for non-linearities, as controls.

Proportion independent directors. Prior research posits that executive directors are less likely to remove the CEO to whom their career is tied, and therefore, boards dominated by executive directors are less likely to replace a poorly-performing CEO (Weisbach, 1988); therefore, we control for the proportion of directors who are independent. However, we also note that other studies have shown that board independence does not necessarily improve corporate governance (Dalton, Daily, Ellstrand, & Johnson, 1998; Ocasio, 1994).

Proportion female directors. Existing studies have shown that more gender-diverse boards have greater performance/CEO turnover sensitivity, and a stronger orientation toward monitoring (Abbott et al., 2012; Adams & Ferreira, 2009). In addition, to the extent that female directors have different experiences than male directors, more gender-diverse boards will have a greater range of perspectives, perceptions, and ideas (Hillman et al., 2007). We therefore control for the proportion of directors that are female.

Multivariate tests

We use the following ordered logit model to estimate the relation between the two measures of CEO succession planning and the independent and control variables:[16]

$$\text{SuccessionPlanning}_i = \beta_0 + \beta_1\text{BoardMeetingEfficiency}_i + \beta_2\text{CEO/BoardRelationship}_i + \beta_3\text{RiskManagementProcesses}_i + \beta_4\text{MarkerVariable}_i + X'_i\beta + \varepsilon_i$$

for firm *i*, where X'_i is a vector of control variables (investor influence; family ownership; firm size; board size; squared board size; proportion independent directors; proportion female directors). Standard errors are corrected for heteroscedasticity.

Results

We first report summary data and univariate correlations for survey responses on CEO succession planning and ratings of board attributes. We then examine the relation between succession planning and the three board attributes to determine the characteristics of boards that have succession planning processes in place.

CEO succession planning processes in sample companies

Our survey results indicate that there is a high level of variation in the extent of boards' CEO succession planning and that many boards do not have succession planning processes in place. Forty-eight percent of boards in our sample discuss CEO succession at the board level at every board meeting or several times a year, 36% discuss annually, and 16% do not discuss on a regular basis. Sixty-three percent have a contingency plan for CEO succession in place (see Table 2-1).

[16] To test the robustness of our findings, we re-run all of our analyses using an ordinary least squares specification and a probit specification rather than a logit. Our findings remain unchanged. The findings also remain unchanged after controlling for respondent characteristics (gender, age, employment status, prior board experience).

Table 2-1. Summary statistics on key variables

	Mean	St. Dev.	Min.	Max.
Dependent variables:				
Frequency of CEO succession discussions	1.32	0.73	0.00	2.00
Contingency planning	0.63	0.48	0.00	1.00
Independent variables:				
Board meeting efficiency	0.00	0.37	-2.04	0.84
CEO/board relationship	0.00	0.88	-3.88	1.05
Risk management processes	0.00	0.69	-2.83	1.31
Control variables:				
High investor influence over company	0.73	0.44	0.00	1.00
Family-owned	0.03	0.17	0.00	1.00
Firm revenues (ln)	7.41	2.21	3.22	13.12
Board size	9.03	2.72	3.00	33.00
Board size^2	88.98	74.99	9.00	1,089.00
% independent directors	0.80	0.16	0.00	1.00
% female directors	0.17	0.12	0.00	0.63
Industry fixed effects:				
FE 1: Consumer Discret.	0.15	0.36	0.00	1.00
FE 2: Consumer Staples	0.05	0.21	0.00	1.00
FE 3: Energy & Util.	0.12	0.32	0.00	1.00
FE 4: Fin. & Prof. Services	0.23	0.42	0.00	1.00
FE 5: Healthcare	0.13	0.34	0.00	1.00
FE 6: IT & Telecom	0.14	0.35	0.00	1.00
FE 7: Industrials	0.12	0.33	0.00	1.00
FE 8: Materials	0.05	0.23	0.00	1.00

N=584.

Our two CEO succession planning measures (frequency of CEO succession discussions; contingency planning) are positively correlated but are relatively distinct: they share a correlation of 0.36 (see Table 2-2). Among boards that discuss CEO succession at every board meeting or several times a year, 76% have a contingency plan in place; among boards with a contingency plan in place, 59% discuss CEO succession at every board meeting or several times a year.

Table 2-2. Correlations between key variables

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
[1] Frequency of CEO succession discussions	1.00											
[2] Contingency planning	0.36	1.00										
[3] Board meeting efficiency	0.20	0.16	1.00									
[4] CEO/board relationship	0.22	0.26	0.26	1.00								
[5] Risk management processes	0.24	0.24	0.55	0.22	1.00							
[6] High investor influence over company	0.01	0.04	0.00	0.04	0.01	1.00						
[7] Family-owned	-0.03	0.03	0.03	-0.09	-0.02	-0.06	1.00					
[8] Firm revenues (ln)	0.24	0.18	0.08	0.14	0.20	0.02	0.05	1.00				
[9] Board size	0.12	0.12	0.04	0.01	0.14	0.05	0.08	0.42	1.00			
[10] Board size^2	0.04	0.08	0.00	-0.03	0.08	0.00	0.06	0.25	0.93	1.00		
[11] % independent directors	0.24	0.18	0.17	0.12	0.20	0.04	-0.17	0.19	0.19	0.11	1.00	
[12] % female directors	0.10	0.01	0.09	0.06	0.09	-0.02	-0.01	0.28	0.24	0.15	0.12	1.00

Board characteristics and attributes of sample companies

Independent directors comprise 80% of the average board in our sample. Ratings of board activities are high overall (see Appendix C Table C-3 for average ratings of the underlying survey questions used to construct our main independent variables). Out of the three board attributes we focus on, we find that directors rate their board meeting efficiency most highly, on average, followed by the CEO/board relationship, and then risk management processes.

Discussions about CEO succession: Multivariate results

In our multivariate analysis, we first examine the relation between the frequency of CEO succession discussions and the three board attributes we identified through our inductive analysis. Firm revenues, board size, and the proportion of independent directors are positively associated with the frequency of these discussions (see model 1 in Table 2-3). As shown in models 2-4, board-level CEO succession discussions are positively associated with each of three main board attributes individually. When all three of our independent variables of interest are included together (model 5), the strength of these relationships are somewhat attenuated, but all three attributes are nonetheless positively associated with the frequency of CEO succession discussions.

The magnitudes of these relationships are economically significant. The likelihood of a board discussing CEO succession each meeting or several times a year versus annually is 1.4

times higher (p=0.006) with a one standard deviation increase in the rating of the CEO/board relationship; and 1.3 times higher (p=0.051) with a one standard deviation increase in the rating of risk management processes. We therefore find support for hypotheses 2a and 3a.

Contingency planning: Multivariate results

Next, using contingency planning (the availability of an immediate CEO successor candidate) as the dependent variable, we find that being a family-owned firm, firm revenues, and the proportion of independent directors are all positively associated with the presence of contingency planning for a CEO succession (see model 6 in Table 2-3). We once again find that each of the three board attributes is positively associated with contingency planning (models 7-9), and when all three independent variables of interest are included together (model 10), the effects of the CEO/board relationship and risk management processes dominate the effect of board meeting efficiency. These findings are consistent with our qualitative evidence and suggest that the CEO/board relationship and risk management processes are positively associated with contingency planning.

The magnitudes of the relationships are substantial: the likelihood of having an immediate successor candidate is 1.8 times higher (p<0.001) with a one standard deviation increase in the rating of the CEO/board relationship; and 1.4 times higher (p=0.004) with a one standard deviation increase in the rating of risk management processes. We therefore find support for hypotheses 2b and 3b.

Table 2-3. Relationship between CEO succession planning and board attributes

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Frequency of CEO Succession Discussions					**Contingency Planning for CEO Succession**				
Board meeting efficiency		0.738***			0.385		0.763***			0.236
		(0.003)			(0.190)		(0.007)			(0.484)
CEO/board relationship			0.388***		0.362***			0.666***		0.655***
			(0.004)		(0.006)			(0.000)		(0.000)
Risk management processes				0.452***	0.334*				0.571***	0.515***
				(0.002)	(0.051)				(0.000)	(0.004)
Control variables:										
High investor influence over company	-0.043	-0.036	-0.077	-0.036	-0.064	0.097	0.111	0.061	0.134	0.101
	(0.811)	(0.844)	(0.677)	(0.843)	(0.728)	(0.638)	(0.599)	(0.774)	(0.526)	(0.639)
Family-owned	-0.299	-0.385	-0.188	-0.328	-0.270	0.858	0.784	1.183*	0.876	1.169*
	(0.493)	(0.381)	(0.696)	(0.464)	(0.578)	(0.130)	(0.141)	(0.051)	(0.118)	(0.053)
Firm revenues (ln)	0.109**	0.112**	0.096**	0.098*	0.089*	0.113**	0.116**	0.087	0.100*	0.075
	(0.030)	(0.027)	(0.050)	(0.052)	(0.073)	(0.041)	(0.042)	(0.123)	(0.085)	(0.212)
Board size	0.192*	0.186	0.190*	0.180	0.178	0.073	0.063	0.069	0.052	0.048
	(0.092)	(0.111)	(0.091)	(0.127)	(0.123)	(0.513)	(0.568)	(0.572)	(0.643)	(0.683)
Board size^2	-0.007*	-0.007*	-0.007*	-0.007*	-0.006	-0.002	-0.001	-0.001	-0.001	-0.000
	(0.061)	(0.083)	(0.072)	(0.094)	(0.104)	(0.624)	(0.697)	(0.797)	(0.737)	(0.911)
% independent directors	2.156***	1.936***	2.138***	1.912***	1.841***	2.172***	1.969***	2.153***	1.920***	1.840***
	(0.000)	(0.001)	(0.000)	(0.001)	(0.002)	(0.000)	(0.001)	(0.001)	(0.002)	(0.005)
% female directors	0.170	0.051	0.121	0.145	0.050	-0.915	-1.046	-0.960	-0.973	-1.044
	(0.825)	(0.948)	(0.876)	(0.848)	(0.948)	(0.239)	(0.182)	(0.226)	(0.216)	(0.198)
Marker variable:										
Enjoy serving on the board	0.382***	0.245*	0.152	0.221	-0.023	0.279**	0.127	-0.113	0.075	-0.344**
	(0.003)	(0.073)	(0.332)	(0.111)	(0.884)	(0.032)	(0.392)	(0.483)	(0.609)	(0.043)
Industry fixed effects:										
FE 1: Consumer Discret.	-0.220	-0.186	-0.130	-0.153	-0.068	-0.354	-0.326	-0.200	-0.290	-0.117
	(0.602)	(0.663)	(0.755)	(0.723)	(0.874)	(0.416)	(0.459)	(0.650)	(0.504)	(0.789)
FE 2: Consumer Staples	-0.273	-0.286	-0.093	-0.342	-0.164	0.188	0.179	0.526	0.121	0.472
	(0.619)	(0.607)	(0.867)	(0.535)	(0.772)	(0.733)	(0.750)	(0.369)	(0.827)	(0.405)
FE 3: Energy & Util.	-0.535	-0.495	-0.549	-0.502	-0.500	0.679	0.758	0.695	0.750	0.811*
	(0.187)	(0.223)	(0.175)	(0.222)	(0.225)	(0.141)	(0.110)	(0.144)	(0.112)	(0.096)
FE 4: Fin. & Prof. Services	-0.386	-0.342	-0.371	-0.449	-0.396	0.505	0.571	0.589	0.417	0.534
	(0.320)	(0.381)	(0.339)	(0.254)	(0.316)	(0.231)	(0.187)	(0.172)	(0.324)	(0.212)
FE 5: Healthcare	-0.554	-0.533	-0.586	-0.517	-0.543	-0.228	-0.190	-0.247	-0.185	-0.185
	(0.187)	(0.209)	(0.164)	(0.227)	(0.207)	(0.603)	(0.674)	(0.587)	(0.675)	(0.685)
FE 6: IT & Telecom	-0.534	-0.527	-0.521	-0.526	-0.512	-0.096	-0.063	-0.057	-0.083	-0.019
	(0.183)	(0.190)	(0.195)	(0.196)	(0.211)	(0.823)	(0.886)	(0.896)	(0.845)	(0.964)
FE 7: Industrials	-0.042	0.042	-0.003	0.002	0.074	0.305	0.394	0.365	0.338	0.440
	(0.920)	(0.920)	(0.994)	(0.996)	(0.861)	(0.508)	(0.405)	(0.454)	(0.466)	(0.368)
Observations	584	584	584	584	584	584	584	584	584	584
Pseudo R2	0.0615	0.0696	0.0717	0.0710	0.0822	0.0753	0.0860	0.113	0.0944	0.132

p-values in parentheses (calculated based on robust standard errors).
*** p<0.01, ** p<0.05, * p<0.1

We ran additional analyses using the subset of survey responses in which the respondent opted to disclose the name of their company (we call these observations "identified boards"). We matched each of these identified observations to data on CEO transitions that occurred subsequent to the survey implementation (if any).[17] We find that boards with stronger risk

[17] We had 40 total observations where the respondent disclosed the name of the company and for which we could locate information about a CEO transition that occurred following the survey implementation. Overall, these firms were comparable to the full (anonymous) survey sample with respect to their CEO succession planning and board

management processes are less likely to have an outsider CEO succession. Ratings of board meeting efficiency and the CEO/board relationship are also negatively associated with outsider CEO succession, but these relationships are not very precisely estimated (see Table 2-4). In addition, ratings for board meeting efficiency and risk management processes are positively associated with the likelihood of relay CEO succession (when the President or Chief Operating Officer is promoted internally to the role of CEO), but once again, these relationships are not very precisely estimated (see Table 2-4). The large standard errors on these estimates are perhaps not surprising given the small sample size of observations for which we were able to obtain external CEO transition data.

Table 2-4. Relationship between succession patterns and board attributes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
VARIABLES	**Relay Succession**				**Outside Succession**				**Interim Succession**			
Board meeting efficiency	0.137			0.022	-0.086			0.229	0.141			0.053
	(0.366)			(0.915)	(0.626)			(0.331)	(0.419)			(0.828)
CEO/board relationship		-0.080		-0.091		-0.071		-0.089		0.123		0.111
		(0.566)		(0.510)		(0.599)		(0.497)		(0.284)		(0.348)
Risk management processes			0.139	0.134			-0.203**	-0.284**			0.082	0.059
			(0.142)	(0.287)			(0.012)	(0.024)			(0.342)	(0.640)
Constant	0.328***	0.355***	0.329***	0.364***	0.373***	0.402***	0.369***	0.405***	0.253***	0.204***	0.252***	0.211***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.008)	(0.001)	(0.008)
Observations	40	40	40	40	40	40	40	40	40	40	40	40
R-squared	0.016	0.009	0.046	0.057	0.007	0.007	0.104	0.137	0.020	0.025	0.019	0.043

p-values in parentheses (calculated based on robust standard errors).
*** p<0.01, ** p<0.05, * p<0.1

As an additional check, we examined the relationships between the two CEO succession planning variables and the CEO transition data. We find that the frequency of CEO succession discussions is negatively associated with the likelihood of an outsider CEO succession (see Table 2-5). Taken together, these findings support our main analyses by providing suggestive evidence that boards that do not have strong risk management processes and do not discuss CEO succession regularly are more likely to appoint an external CEO candidate, potentially because

attributes. See Appendix C Table C-4 for a direct comparison of the sample of identified firms with CEO transitions and the rest of the survey sample.

these firms do not have adequate CEO succession planning processes, and therefore do not have viable internal candidates available.

Table 2-5. Relationship between succession patterns and board succession planning

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Relay Succession			**Outside Succession**			**Interim Succession**		
Frequency of CEO succession discussions	0.034		0.015	-0.169*		-0.181*	0.000		-0.030
	(0.704)		(0.869)	(0.066)		(0.056)	(1.000)		(0.777)
Contingency planning		0.133	0.125		-0.018	0.076		0.179	0.195
		(0.433)	(0.455)		(0.920)	(0.670)		(0.196)	(0.254)
Constant	0.278*	0.222	0.207	0.612***	0.389**	0.570***	0.250	0.111	0.141
	(0.056)	(0.126)	(0.276)	(0.000)	(0.018)	(0.003)	(0.102)	(0.308)	(0.253)
Observations	40	40	40	40	40	40	40	40	40
R-squared	0.003	0.014	0.015	0.081	0.000	0.085	0.000	0.030	0.032

p-values in parentheses (calculated based on robust standard errors).
*** p<0.01, ** p<0.05, * p<0.1

Overall, results from our multivariate analyses highlight the importance of various board attributes in supporting CEO succession planning. In particular, the CEO/board relationship and risk management processes are strongly associated with both succession planning outcomes (frequency of CEO succession discussions; contingency planning).

Robustness checks

We conducted several tests to confirm the validity of our main findings. First, instead of using the factor variables of the three board attributes created using a principal-factor analysis, we instead constructed our main independent variables using a naïve (simple) average across the underlying ratings. Findings remain consistent (see Appendix C Table C-5). Second, we ran our main multivariate analysis using an alternative marker variable – whether the director reports that his or her professional reputation has been enhanced by serving on the board – to control for the potential effects of common method bias. Our findings remain unchanged, suggesting that our results are not sensitive to the selection of our marker variable (see Appendix C Table C-6). As an additional check for the effects of common method bias, we run Harman's one-factor test, which is one of the most widely used tests for common method bias (Chang et al., 2010; Podsakoff et al., 2003). We find that more than one factor is needed to explain the variance in the

main variables in our analysis, and therefore do not find strong evidence that common method bias is driving the relationships we find between the three board attributes and CEO succession planning (see Appendix C Table C-7).

Discussion and Conclusion

The influence that CEOs can wield over strategy-setting and decision-making processes suggests that CEO successions can have a meaningful and far-reaching effect on firm performance (Hambrick & Mason, 1984; Hambrick & Quigley, 2014; Montgomery, 2012; Wasserman et al., 2010). CEO transitions can therefore provide a valuable opportunity for organizations to realign and adapt to changing environmental conditions and needs (Pfeffer & Salancik, 1978; Romanelli & Tushman, 1994); however, most boards do not have adequate succession planning processes in place (Cheng & Groysberg, 2017; D. F. Larcker & Saslow, 2014; Tonello et al., 2009). Although researchers have made significant headway in understanding the antecedents and consequences of CEO succession, we do not yet have a clear understanding of *how* boards prepare for CEO succession (Berns & Klarner, 2017; Finkelstein et al., 2009). This study seeks to answer recent calls for research that adopts a process lens and uses qualitative field work to better understand CEO succession processes in order to advance the literature on CEO succession and to assist boards in managing CEO transitions (Berns & Klarner, 2017; Lorsch, 2017).

Limitations

While we believe that this study provides new insights on the process of CEO succession planning, we acknowledge that our study may suffer from certain limitations inherent in our survey methodology, such as subjectivity of responses to survey questions, potential for respondent bias, sample selection issues, and challenges in identifying causal relationships.

Nonetheless, we believe this study provides a first step forward in opening the black box around board-level deliberations on succession planning. By integrating the depth of our qualitative data with the breadth of our quantitative survey, we are able to gain a unique insights into boards' internal CEO succession planning processes.

Contributions

The aim of this study is twofold: first, to identify the key components of a CEO succession planning process; and second, to identify the board attributes that facilitate CEO succession planning, with the goal of identifying ways in which boards can improve their succession planning processes and elucidating why so many boards are underprepared for CEO successions. By integrating in-depth qualitative data with quantitative data from a large-scale survey, we directly examine board-level processes surrounding CEO succession decisions, rather than relying on external proxies (e.g., the appointment of an interim CEO) for these typically unobservable processes.

This is, to our knowledge, one of the first large-scale academic studies to examine the specific processes that constitute a CEO succession planning process and the board-level attributes that facilitate succession planning. This study advances the CEO succession and broader corporate governance literature by exploring the complex and multi-faceted *process* through which CEO succession decisions occur and highlights the role that pre-succession planning can play both in influencing the timing and characteristics of CEO transitions, and in shaping post-succession outcomes. We make three primary contributions. First, we establish regular discussions about CEO succession and contingency planning as two fundamental building blocks of a basic succession planning process. Second, we identify two board attributes – the CEO/board relationship and risk management processes – that facilitate CEO succession

planning. Third, we show that the influence of board attributes on succession planning processes is an important pathway through which the board can affect succession outcomes.

By illustrating a few of the mechanisms through which board attributes can influence CEO succession, this study provides additional context with which prior research can be interpreted. Our findings on the positive relationship between a constructive CEO/board relationship and CEO succession planning complement prior research that finds that dual CEO-Chairmen are associated with lower levels of CEO turnover (Cannella & Lubatkin, 1993; Goyal & Park, 2002; Krause, Semadeni, & Cannella, 2014; Ocasio, 1994). These studies find a negative effect of CEO duality on the board's monitoring capabilities. Our study indicates that one pathway through which dual CEO-Chairmen can influence succession rates is by limiting board-level succession planning (e.g., by setting board agendas to avoid discussions of CEO succession or declining to groom potential successors). Our study also suggests that in addition to the CEO/board relationship, risk management processes can also play a role in shaping CEO successions.

Our research provides an additional explanation for why many firms do not experience CEO turnovers despite persistent poor firm performance (Finkelstein et al., 2009): a lack of board-level succession planning may constrain the board's ability to replace a CEO, even when performance merits a change. A similar explanation may apply to studies that identify various board characteristics as moderators in the relationship between poor firm performance and the appointment of a CEO from outside the firm (e.g., Boeker & Goodstein, 1993; Cannella & Lubatkin, 1993), if boards are compelled to select an outside CEO because they have not proactively invested in developing an internal pipeline of candidates. In addition, to the extent that CEO succession planning can influence the type of CEO that is selected (e.g., an outsider or

an heir apparent that was groomed by the incumbent CEO), succession planning can have implications for post-succession strategic change and performance (Bigley & Wiersema, 2002; Wiersema, 1992; Zhang & Rajagopalan, 2010).

Our findings also have implications for research on the capabilities of new CEOs and their corresponding fit (or lack of fit) to the firm's strategic needs (e.g., Ang, Lauterbach, & Vu, 2003; G. Chen & Hambrick, 2011; Custódio, Ferreira, & Matos, 2013; Harris & Helfat, 1997). Many studies of CEO succession make the underlying assumption that the board has a pool of candidates from which to select a CEO, and that the board is able to make a well-informed CEO selection decision with respect to the firm's strategic positioning; however, our findings suggest that many boards may lack the necessary processes to ensure that a pool of candidates exists and that an appropriate choice is made. Measures of the CEO/board relationship and risk management processes could help explain some of the heterogeneity we observe in CEO-firm fit and post-succession outcomes.

Future directions

This study opens several pathways for future research. First, studies that explore the relation between the presence of specific succession planning practices and subsequent succession outcomes would be particularly valuable in advancing this research stream. Second, research that examines the long-term cascading effects of CEO successions, as vacancies lower down in the organizational hierarchy arise and are subsequently filled following a CEO transition, could add valuable insight to the *process* of CEO succession. Last, our qualitative analysis provides evidence that managing post-succession turnover of the candidates who were *not* selected as CEO is an important consideration for board members. Existing research typically examines only the individual who was appointed CEO; further research that incorporates the full

slate of candidates that were involved in the succession "horse race" would advance our understanding of the consequences of these transitions.

Board-level investments in improving succession planning are likely to increase as regulatory and investor scrutiny on succession planning intensifies. Succession planning is critical in ensuring that boards are able to act swiftly in response to governance crises because boards may find their "hands tied" in the face of a corporate scandal if they need to fire the sitting CEO but do not have an appropriate candidate prepared to fill the position (Gerut, 2018). One executive search consultant observed how attention to succession planning is increasing:

> *The trend is that companies are getting more serious about succession planning. They're sharing best practices … [and] realizing that it's an ongoing process and not just an event if you do it right. … I think slowly over time the trend has been to realize you can probably get better results if you build the right bench over time and run the right process. You need to have strong internal choices alongside the outside market.*

Existing studies on relay and heir apparent successions have provided significant steps toward building a more comprehensive understanding of CEO succession planning processes (e.g., Cannella & Shen, 2001; Shen & Cannella, 2003; Zhang & Rajagopalan, 2004). Additional research on the effects of CEO succession processes in academic research is crucial for expanding our understanding of these important transitions, which, in turn, can help boards improve their own planning processes and support the effectiveness of future CEO successions.

CHAPTER THREE

When to Take the Leap: The Antecedents and Consequences of Leapfrog CEOs

J. Yo-Jud Cheng

Abstract

Much of the prior research on CEO successions focuses on the differences between CEOs appointed from within and from outside the firm. However, this dichotomy neglects significant heterogeneity in the career trajectories of chief executives. In this study, I examine the environmental antecedents and performance consequences of appointing a "leapfrog" CEO: an internal candidate who is fast-tracked past more senior executives to be appointed as CEO. I analyze CEO transitions that occurred between 2001–2013 in large, publicly-traded U.S. firms and find that 16% of transitions involve leapfrog CEOs. Among firms with high pre-succession performance, I find they are more likely to appoint a leapfrog CEO when their industry environment is declining – but only when the board engages in CEO succession planning. In addition, I find that leapfrog CEOs are associated with an increase in return on assets (ROA) under these conditions. They also are more likely than other CEO types to shift resources away from legacy businesses.

Introduction

> *"We skipped a generation of leaders … the strategy the company needed going forward was more represented in the next generation of leaders as opposed to the ones that had been in place."*
>
> – Rod McGeary, Cisco board member, on the selection of Chuck Robbins as the CEO of Cisco[18]

The strategic decisions and actions of chief executive officers (CEOs) can influence and alter firm performance and survival. Because the characteristics and experiences of top executives can affect the trajectory of organizations, the selection of the right CEO is a crucial and high stakes decision when firms are faced with an impending CEO succession. Research on CEO successions shows that candidates selected from within the firm ("insiders") may differ in specific ways from candidates appointed from outside the firm ("outsiders"). Insiders often are preferable when continuity and stability are important, due to their deep firm-specific knowledge and experience (Harris & Helfat, 1997; Shen & Cannella, 2003; Vancil, 1987). Meanwhile, outsiders are often preferable when substantial strategic changes are needed, due to their ability to break the status quo (Finkelstein et al., 2009).

However, as prior work suggests, this insider/outsider dichotomy neglects important and meaningful differences in CEOs' career histories and experiences (Crossland, Zyung, Hiller, & Hambrick, 2014). Many CEOs might not neatly fall into these two categories; instead, CEOs are more likely to fall along a continuum of "outsiderness" based on their level of knowledge and familiarity with the focal firm (Finkelstein et al., 2009; Karaevli, 2007; Zhang & Rajagopalan, 2004). CEOs along this continuum can meld the advantages and disadvantages typically ascribed to insider CEOs with those typically ascribed to outsider CEOs. Defining CEO origin on a continuum, rather than as a binary measure, may help us further our understanding of the

[18] Rod McGeary, Personal Interview, November 13, 2013.

benefits and costs of different types of CEO selection decisions (Karaevli, 2007; Shen & Cannella, 2003; Zhang & Rajagopalan, 2004).

In this study, I expand upon prior work on CEO origin by examining a specific type of CEO on the outsiderness continuum: the "leapfrog" CEO. I define leapfrog CEOs as internal candidates who are fast-tracked past more senior or more experienced executives to be appointed CEO (Torres, 2014; Torres, Hansell, Foster, & Baron, 2014). Prior research has conceptually explored the idea of "maverick" and "inside-outsider" CEOs that possess the valuable firm-specific knowledge typical of an insider CEO coupled with the objectivity and fresh perspectives typical of an outsider CEO (Bower, 2007; Finkelstein et al., 2009), while practitioner sources have examined prominent examples of recent leapfrog CEO transitions (Torres, 2014; Torres et al., 2014). However, our understanding, on a broad scale, of the prevalence and effects of this type of CEO appointment remains relatively sparse. In order to understand why firms make this type of CEO selection and when leapfrog CEOs might be most beneficial for firm performance, I focus on the following research question: *what are the antecedents and consequences of selecting a leapfrog CEO?* More specifically, I focus on the pre-succession performance of the focal firm and its external environment preceding the appointment of leapfrog CEOs and analyze the conditions under which leapfrog CEOs influence post-succession firm performance.

I argue that the characteristics of a leapfrog CEO will be most advantageous when two specific conditions exist: (1) the firm is performing well; but (2) its external environment is in decline. When a firm is performing well, I expect that the board will be more likely to appoint a CEO from within in order to maintain stability; however, when the external environment is deteriorating, boards will prefer to appoint a CEO whose skills are different from the skills represented in the incumbent top management team. Leapfrog CEOs are well-equipped to

manage these conditions because they possess valuable firm-specific knowledge coupled with a strategic orientation that is distinct from the vision held by the former CEO. Due to the alignment between leapfrog CEOs' characteristics and these particular pre-succession conditions, I expect that among high-performance firms situated within a declining industry environment, leapfrog CEOs will be appointed more frequently and will improve firm performance (relative to other CEO types).

To test my hypotheses about the antecedents and consequences of leapfrog CEOs, I first examine the conditions under which leapfrog CEOs are selected, and second, analyze their effects on firm performance. I construct a panel dataset of CEO transitions that took place in large, publicly-traded firms between 2001 and 2013 and link contextual information on the pre-succession board and top executive team as well as data on the financial performance of the firm and industry to each CEO transition. I find that 16% of CEO successions in my sample were leapfrog transitions. I use a multinomial logit model to analyze the antecedents to the selection of a leapfrog CEO. To mitigate concerns around unobservable firm-level differences, I use a difference-in-differences methodology with firm- and year-fixed effects to analyze the consequences, which I supplement with robustness checks that incorporate coarsened exact and propensity score matching techniques.

With respect to the antecedents of leapfrog CEOs, I find that firms are more likely to appoint a leapfrog CEO when the external industry environment is in decline – but only when the board engages in CEO succession planning. Furthermore, I find that the likelihood of appointing a leapfrog CEO increases with the pre-succession turnover rate in the top management team. Taken together, these findings suggest that some boards do indeed appear to appoint leapfrog CEOs as a means to adapt to changes in their external environment; however, many boards do

not appear to be investing in succession planning and therefore might not have effective processes for aligning their CEO criteria to their firms' strategic needs.

When I examine the consequences of leapfrog CEOs, I find that the appointment of a leapfrog CEO is associated with an increase in return on assets (ROA) of approximately 4 percentage points when the firm is experiencing conditions conducive to a leapfrog CEO (specifically, when the firm is performing well, but the external industry environment is in decline). To probe possible mechanisms underlying these performance differences, I examine changes in resource allocation patterns and corporate investment decisions. These additional analyses suggest that leapfrog CEOs are more likely to shift resources and investments away from their firms' primary industry segment and into other business segments. To test the robustness of my results, I re-run my main analyses using coarsened exact matching (CEM) and propensity score matching (PSM) techniques, conduct several falsification tests, and test alternative specifications. My findings remain unchanged.

This study builds upon existing research on CEO succession and theories from the upper echelons perspective by empirically defining and analyzing a distinct type of CEO on the outsiderness continuum: the leapfrog CEO. I expand upon prior research that describes and conceptually examines the characteristics of "insider-outsider" and "maverick" CEOs (Bower, 2007; Finkelstein et al., 2009) and practitioner sources that explore the advantages of leapfrog CEOs based upon prominent examples from recent years (Torres et al., 2014) by identifying leapfrog CEOs across a broad sample and developing and testing theories around the conditions under which leapfrog CEOs will be most effective. This research underscores the importance of considering CEO origin as a *continuum* as well as the crucial role of contingencies when analyzing the effects of CEO successions (G. Chen & Hambrick, 2011; Finkelstein et al., 2009;

Karaevli, 2007): I find a differential effect of leapfrog CEOs only when their unique characteristics are in alignment with the firm's strategic needs.

This study also advances our understanding of how CEO transitions serve as a vehicle for organizational change and a mechanism through which organizations adapt to shifts in the external environment (Romanelli & Tushman, 1994; Virany et al., 1992). Although insider CEOs are typically associated with stability and continuity (Vancil, 1987), this study suggests that candidates found from deeper within the firm – leapfrog CEOs – can drive value-enhancing corporate change and resource reallocations. By increasing investments in CEO succession planning and considering candidates further down the organizational hierarchy, firms may be able to more fully take advantage of CEO transitions as an opportunity to realign their leadership and strategy with changing environmental conditions. In sum, this study offers a new perspective on CEO origin by analyzing leapfrog CEOs, and suggests that appointing this type of leader can help firms shift the strategic orientation of their top management team, break inertial tendencies that anchor firms to legacy businesses, and thereby lay the groundwork for corporate renewal and organizational change.

Prior Literature on CEO Succession and CEO Origin

Chief executive officers can shape firm strategy (Datta et al., 2003; Romanelli & Tushman, 1994; Virany et al., 1992), investment decisions (Bertrand & Schoar, 2003; Malmendier & Tate, 2005), board-level decisions (Westphal & Zajac, 1995; Zajac & Westphal, 1996), relationships with external investors (David, Bloom, & Hillman, 2007), organizational culture (Guiso et al., 2015; Kotter & Heskett, 1992; Van den Steen, 2010), and consequently, influence firm performance (Hambrick & Mason, 1984). Because of the disproportionate

influence a single individual – the CEO – can wield over firm performance, CEO transitions are often a critical juncture point for firms.

CEO origin

Prior research has shown how the origin of new CEOs can play a central role in CEO selection decisions and in how these CEOs perform. The archetypal model of an internal candidate's path to the CEO role is a smooth "relay" succession, where an internal candidate is promoted in a stepwise fashion to the President or Chief Operating Officer (COO) role prior to being appointed CEO (Shen & Cannella, 2003; Vancil, 1987; Zhang & Rajagopalan, 2004). This type of succession process allows for a high level of continuity and stability through the transition period and provides time for the preceding CEO to train and groom the new candidate and for the board to evaluate and observe the candidate before making their final selection decision (Khurana, 2002; Shen & Cannella, 2003; Vancil, 1987; Zhang & Rajagopalan, 2004). Another benefit of internal candidates is that they are likely to possess valuable firm-specific knowledge that can inform their decisions as CEO (Harris & Helfat, 1997). In contrast, when substantial changes are needed, the board of directors may forgo internal candidates in lieu of an outsider CEO (Harris & Helfat, 1997; Lorsch & MacIver, 1989) because outsider CEOs are expected to be "cognitively open-minded, with low commitment to the status quo, able to envision and consider new courses of action, and [be] socially and interpersonally unencumbered" (Finkelstein et al., 2009, p. 190). Accordingly, the appointment of an outsider CEO is associated with greater changes to strategy and staffing (Grusky, 1960; Helmich & Brown, 1972; Kesner & Dalton, 1994; Kraatz & Moore, 2002).

Although many extant studies focus on these two broad categories of newly appointed CEOs (insiders and outsiders), this insider-outsider dichotomy is overly simplistic (Finkelstein et

al., 2009; Karaevli, 2007; Zhang & Rajagopalan, 2004). Instead, CEOs vary along a continuum of outsiderness based on their background and prior experiences (Finkelstein et al., 2009). An individual's career trajectory through a firm can serve as a distinguishing feature of his or her level of outsiderness (Finkelstein et al., 2009; Shen & Cannella, 2003; Zhang & Rajagopalan, 2004). In contrast to internal candidates who are promoted sequentially in a stepwise fashion through the firm, some internal candidates leapfrog past more senior executives to be appointed CEO. The experiences accumulated by internal CEOs that do not follow a sequential path through the organization may equip these individuals with a different skillset and strategic orientation than an individual who followed a more traditional career trajectory.

Leapfrog CEOs

In this paper, I argue that leapfrog CEOs who are fast-tracked through the organization past more senior executives to be appointed CEO are a distinct CEO type on the outsiderness continuum. In the academic literature, researchers have descriptively explored the purported benefits of CEO candidates that do not follow a traditional path through the firm. Finkelstein et al. (2009) refer to these individuals as "maverick" or "quick rise" internal CEOs, while Bower (2007) dubs these CEOs "inside-outsiders." By virtue of their trajectory through the firm, leapfrog CEOs possess a high degree of firm-specific knowledge, while also possessing an openness to change and a strategic vision that is likely to be distinct from the perspectives possessed by the incumbent top management team (Bower, 2007; Finkelstein et al., 2009).

Leapfrog CEOs can also mitigate some of the potential disadvantages of stepwise insider CEOs and outsider CEOs. As compared to a stepwise insider, the selection of a leapfrog CEO can help firms from falling into the trap of the "Peter Principle," wherein employees are promoted to their "level of incompetence" (Peter & Hull, 1969). Although appointing an internal

candidate who has been groomed and sequentially promoted upward through the firm in a stepwise fashion is often considered to be the ideal model for a planned CEO succession (Vancil, 1987), firms that rigidly adhere to a relay succession process may inadvertently select CEOs who do not possess the requisite skill set because the characteristics needed to successfully perform as "right-hand man" to the CEO are not necessarily the same skills needed for the CEO role (Bower, 2007; Peter & Hull, 1969). As compared to an outsider CEO, the selection of a leapfrog CEO is likely to be a less risky choice for two reasons: first, it can be difficult for the board of directors to gain sufficient information about external candidates prior to making a decision (Khurana, 2002; Zajac, 1990), and second, a candidate's success in one firm does not guarantee success in another firm (Groysberg, 2010; Groysberg, Lee, & Nanda, 2008). These factors increase the risk of making a poor CEO choice and consequently, increase the likelihood of a rapid subsequent dismissal when an outsider CEO is selected (Zajac, 1990; Zhang, 2008).

Despite the many potential advantages of leapfrog CEOs, the effect of appointing a leapfrog CEO is somewhat ambiguous. Leapfrog CEOs are knowledgeable about their firms and may be particularly well-equipped to manage strategic changes; however, these CEOs may lack the experience to effectively navigate the chief executive role and may negatively affect morale within the firm among passed-over executives (Gibbons & Henderson, 2011; Levinson, 1974; Torres, 2014; Torres et al., 2014).

In this study, I examine the antecedents and consequences of leapfrog CEOs. More specifically, I develop hypotheses around the *conditions* under which I expect leapfrog CEOs to be most effective, and then empirically test whether firms are more likely to appoint leapfrog CEOs and how leapfrog CEOs perform relative to other CEO types under these conditions. In the

following sub-sections, I first discuss the antecedents to the selection of leapfrog CEOs and subsequently, the consequences of leapfrog CEOs.

Hypothesis Development

The conditions preceding CEO transitions can interact with how different CEO types affect strategic change and firm performance (Karaevli & Zajac, 2013; Khurana & Nohria, 2000). For example, disruption caused by an external succession can be beneficial for subsequent firm performance in the context of a turnaround situation, while it can have negative repercussions under other conditions (Helfat & Bailey, 2005). Any analysis of the effect of different CEO types should therefore account for pre-succession contextual factors.

In this study, I specifically focus on successions that occur under conditions of high pre-succession firm performance. Firms that are performing well typically seek to maintain stability and continuity during CEO transitions (Vancil, 1987); however, shifts in the external industry environment may necessitate changes to the firm's strategy. When these two conditions coexist – a firm is performing well, but its external environment is declining – firms may struggle to adapt. Top executives in a high-performance firm might not recognize the threat posed by a changing external environment, and even when they recognize the threat, they often choose to double-down and increase commitment in legacy businesses (Tushman, Newman, & Romanelli, 1986). In the following section, I argue that leapfrog CEOs are uniquely equipped to address the competing demands of maintaining a successful business while adapting to environmental change.

Antecedents to selecting a leapfrog CEO

The board of directors is officially tasked with selecting a new CEO if a need arises. A key consideration in the CEO selection decision is the degree of alignment between the CEO's

capabilities and experiences and the future strategic needs of the firm, which can influence subsequent firm performance (Beal & Yasai-Ardekani, 2000; Datta et al., 2003; Groysberg, McLean, & Nohria, 2006). I expect that when the focal firm is performing well, the board will be more likely to select a CEO from within the firm than from outside. An insider CEO will be preferable because they possess valuable firm- and industry-specific knowledge (Harris & Helfat, 1997), which are more important to preserve when the firm is performing well. In addition, outsider CEO successions can demoralize and spur turnover among promising individuals that hope to rise to the apex of the organization (Bidwell & Keller, 2014; Cannella & Lubatkin, 1993; Holmström, 1999; Lazear, 1991). The selection of an outsider CEO can also send a worrying signal to external stakeholders that substantial changes are wanted and needed within the firm (Gamson & Scotch, 1964; Lorsch & MacIver, 1989; Vancil, 1987), which would be undesirable if the firm is performing well.

Although I expect that the board will opt for an internal CEO candidate when the firm is performing well, I anticipate that the board will expand its search beyond just the incumbent top management team when the firm's external industry environment is in decline. During periods of environmental change, anointing an internal heir apparent far in advance can be risky because the process of selecting and grooming a successor can take several years (Cappelli & Keller, 2014). The ideal characteristics of a new CEO may change between when an heir is selected and when the actual transition occurs, and therefore, I expect that when a firm's external industry environment is in decline, boards will be more likely to forego the implementation of an internal stepwise succession process.

The board may also choose to consider candidates outside of the incumbent top management team in order to identify individuals that possess a different "intellectual

framework" than the incumbent CEO (Bower, 2007, p. 132). The "strategic context" or cognitive representation through which leaders formulate goals, policies, and implementation plans can be highly resistant to change (Bower, 2007, p. 139; Gavetti, 2005). Over time, CEOs can become committed to a course of action and less likely to seek new information or adopt strategies that deviate from industry norms (Finkelstein & Hambrick, 1990; Katz, 1982; Salancik, 1977). Through the course of a CEO's tenure, the alignment between a firm's strategy and its external environment can erode as the individual becomes "stale in the saddle" (Miller, 1991). Processes of executive promotion and attrition can cause the strategic outlook of the core top management team operating alongside the CEO to also become more homogenous over time if the executives who agree with the CEO's strategic decisions and actions are promoted and choose to stay in the firm, while those who disagree with the CEO's choices exit the firm (Levinson, 1974; March & March, 1977; Miller, 1991; Schneider, 1987).

Because of this acculturation and filtration process, members of the incumbent top management team will be more likely to possess a strategic vision that is similar to the vision held by the prior leadership and aligned toward the firm's past environment. I therefore expect that when the external industry environment necessitates a change in a firm's strategy, it will be preferable for the board to select a leapfrog candidate from outside the incumbent top management team who possesses a skill set and mental framework that is better suited to impending environmental changes and challenges.

If a change to the firm's external industry environment necessitates a change to the firm's strategy (Lawrence & Lorsch, 1967), the characteristics that previously enabled the incumbent CEO and his or her core top management team to succeed may no longer be applicable in the future, and the perspectives and skills needed to bring the firm's strategic direction back in

alignment with its external environment are more likely to be found in a leapfrog CEO from outside of the incumbent top management team. In sum, I expect that when the firm is performing well but the external industry environment is in decline, boards will be less likely to select a candidate from outside the firm and also less likely to select a candidate from within the incumbent top management team. The characteristics that are most closely aligned with the firm's future strategic needs will be more likely to be found in a leapfrog CEO than in an outsider or stepwise insider. This brings me to my first hypothesis:

> *Hypothesis 1. Among firms with strong pre-succession performance, the likelihood of selecting a leapfrog CEO will increase when the external industry environment is in decline.*

CEO succession planning

Although hiring and firing the CEO is a core responsibility of firms' boards of directors, surveys and reports indicate that many boards do not have adequate CEO succession planning practices in place at the board level (Cappelli, 2008; Cheng & Groysberg, 2017; D. F. Larcker & Saslow, 2014; Najipoor-Schuette & Patton, 2018), and consequently, many boards might be unable to match CEO characteristics to the firm's strategic needs when a vacancy arises. Prior research points to the value of CEO succession planning due to the positive stock market reaction and post-succession outcomes following relay CEO successions (Shen & Cannella, 2003; Zhang & Rajagopalan, 2004) and the value of the incumbent CEO having a specific successor in mind (Zajac, 1990); however, as these studies note, relay successions are just one indicator of CEO succession planning. CEO succession planning does not necessarily always result in a relay succession process.

In essence, CEO succession plans are meant to match CEO characteristics with the firm's future strategic needs (Harris & Helfat, 1997, 1998). Having a robust succession planning process that allows board members to meet and evaluate possible candidates well in advance of

the CEO transition is likely to increase the pool of candidates under consideration by the board. Therefore, the likelihood that a leapfrog candidate is among the slate of CEO candidates should increase with the level of CEO succession planning. In addition, boards with succession planning processes are more likely to have invested time in discussing the firm's future strategic needs, outlining the desired characteristics of an incoming CEO, and evaluating possible candidates. I would therefore expect these boards to be more likely to recognize the value of appointing a leapfrog CEO when the external environment is changing. Thus, I expect the firm's level of CEO succession planning to positively moderate the likelihood of appointing a leapfrog CEO when the external environment is in decline.

> *Hypothesis 2. Among firms with strong pre-succession performance, the existence of a board-level CEO succession planning process will increase the likelihood of selecting a leapfrog CEO when the external industry environment is in decline.*

Consequences of selecting a leapfrog CEO

Prior to a CEO transition, it is the board's responsibility to select a CEO whose characteristics are aligned with the firm's future strategic needs; however, after the transition takes place, it is up to the CEO to take the appropriate actions to address the firm's strategic needs. When changes to the external industry environment necessitate a strategic change in a high-performance firm, a leapfrog CEO may be more capable of implementing changes that improve financial performance as compared to an outsider or stepwise insider.

Relative to an outsider CEO, a leapfrog CEO is equipped with more firm-specific knowledge that would enable him or her to take performance-improving actions more quickly and more effectively than an outsider CEO. CEOs appointed from outside of the firm have a steep learning curve early on in their tenure. In order to formulate their top management team, outsider CEOs need to spend time meeting and evaluating potential candidates (both internal and external to the firm); a leapfrog CEO likely already has information on internal candidates at the

time of their appointment. Outsider CEOs also need to embark on listening tours and invest time in learning about the firm prior to devising a course of action (Bidwell, 2011; Nawaz, 2017; Wright, Nyberg, Schepker, & Ulrich, 2014); a leapfrog CEO is more likely to already possess information on the relative strengths and weaknesses of existing businesses that can help shape their strategic choices and investment decisions (Dalton & Kesner, 1985; Harris & Helfat, 1997).

Relative to a stepwise insider, a leapfrog CEO will be better equipped to enact organizational changes that can improve firm performance when the external industry environment is in decline. As compared to a stepwise insider who was promoted sequentially through the organization, a leapfrog CEO will be less encumbered by social relationships within the firm and will be more able to make staffing changes within the firm (Finkelstein et al., 2009; Levinson, 1974). If a stepwise insider were to bypass the hierarchy when promoting new executives into the top management team, he or she may be negatively perceived as breaking the implicit procedures and traditions around promotions that put him or her into the CEO role in the first place (Gibbons & Henderson, 2011; Levinson, 1974).

In addition, due to the challenge of deviating from prior courses of action, a stepwise insider may be constrained by decisions he or she made while serving as a top executive (Finkelstein & Hambrick, 1990; Katz, 1982; Salancik, 1977). Reversing course on a prior decision can hurt a new CEO's credibility and make him or her look like a "flip-flopper" (Bower, 2007, p. 133); meanwhile, a leapfrog CEO is less likely to be associated with the prior decisions of the pre-succession top management team and will therefore be better positioned to enact organizational changes.

Furthermore, because leapfrog CEOs are rapidly elevated upward through the organizational hierarchy, they are likely to possess a knowledge base and cognitive frame that is

more conducive toward enacting strategic change. Decisions around resource allocations are a critical responsibility of top executives and can shape firm strategy (Bower & Gilbert, 2005). Due to their rapid rise through the firm, leapfrog CEOs are more likely to be equipped with direct knowledge of strategic initiatives that are percolating at the middle-manager level (Bower, 1970; Bower & Gilbert, 2005; Noda & Bower, 1996).

When taking the helm of a high-performance firm in a declining industry environment, leapfrog CEOs are more likely to possess a more suitable set of skills and characteristics to improve post-succession firm financial performance as compared to an outsider or a stepwise insider. Leapfrog CEOs' knowledge of the firm allows them to take action more quickly and effectively than an outsider CEO, while their rapid trajectory through the firm relieves them from many of the impediments that constrain stepwise insider CEOs. This brings me to my third hypothesis:

> *Hypothesis 3. Among firms with strong pre-succession performance, the selection of a leapfrog CEO will be associated with an increase in post-succession firm financial performance when the external industry environment is in decline.*

Methods

Sample and data

To test my hypotheses on the antecedents and consequences of leapfrog CEOs, I first compiled a list of over 1,600 CEO transitions that took place in large, publicly-traded U.S. firms between 2001 and 2013. I then constructed a panel dataset by linking each of these transitions to data on the characteristics of the incoming and incumbent CEO, board, and top management team, as well as financial data for the focal firm and its external industry environment for the three years preceding the succession and the three years following the succession (the final dataset therefore spans the years 1998 through 2016 after incorporating the pre- and post-

succession data). I compiled data on CEO transitions and top management team characteristics from Execucomp, top management team career histories and board-level characteristics from BoardEx, financial performance from Compustat, and board-level succession planning from annual proxy statements from the Securities and Exchange Commission's EDGAR database.

Sample restrictions. To arrive at my final dataset, I excluded firm-years with more than one CEO transition and CEO transitions where the CEO's tenure was shorter than one year (primarily interim CEOs), and consistent with prior work, excluded financial firms (SIC 6000-6999) and utilities firms (SIC 4900-4999) because these industries are heavily regulated and are required to abide by accounting rules that limit their comparability to firms operating in other industries (e.g., Amit & Livnat, 1988; Fama & French, 2001; Hadlock & Pierce, 2010; Malmendier, Tate, & Yan, 2011). These restrictions resulted in a stacked firm × year panel dataset with 25,061 observations spanning the years 1998 through 2016, corresponding to 1,675 CEO transitions that occurred within 1,074 firms.

For my primary analysis, I limited my sample to transitions that occurred in firms that had strong pre-succession financial performance (resulting in a sample of 979 CEO transitions in 742 firms). I made this limitation for two reasons. First, my hypotheses are specific to the subset of CEO transitions in which a degree of stability and the preservation of firm-specific knowledge are likely to be desired by the board. Second, the pre-succession conditions that precede CEO transitions differ significantly between cases in which the firm is performing well and the incumbent CEO leaves on a planned timeline, as compared to cases in which the firm is performing poorly and the incumbent CEO is dismissed or forced out. My empirical strategy relies on the CEO transitions in my sample to be preceded by similar pre-succession financial

performance trends. Limiting my main analysis to transitions that occurred under conditions of high pre-succession performance ensures that pre-succession trends are comparable across cases.

Construction of main variables

New CEO origin. I categorized all CEO transitions in my sample into one of three groups: leapfrog CEOs, stepwise insider CEOs, or outsider CEOs. Using employment data compiled from the Execucomp and BoardEx databases, I first took the earliest date of employment at the focal firm for incoming CEOs and categorized individuals with at least two years of experience at the focal firm as insiders, and all others as outsiders (this definition is consistent with prior work, e.g., Cannella & Lubatkin, 1993; Harris & Helfat, 1997; Zhang, 2008; Zhang & Rajagopalan, 2004). Among the insider CEO candidates, I defined leapfrog CEOs as any internal candidate who was appointed to CEO but was not among the top five most highly-compensated executives during the two years prior to being appointed CEO (the SEC requires that publicly-traded firms disclose the five most highly-compensated employees annually). Because compensation levels are strongly associated with hierarchical position within the firm, status as a disclosed earner is frequently used as a proxy for membership in the "inner circle" of the top management team (e.g., Carpenter & Sanders, 2002; Dezsö & Ross, 2012; Finkelstein et al., 2009).

This categorization method identifies individuals who bypassed members of the highest echelons of the firm (I refer to this group of executives as the "incumbent top management team") to be appointed CEO. Although this methodology relies on a proxy for an individual's position in the organizational hierarchy, this definition can be consistently applied across the entire sample of CEO transitions, whereas a categorization method that relies on job titles or organizational charts would not be possible to apply across the full sample of firms.

Financial performance. I examine financial performance both as an antecedent to the selection of a leapfrog CEO and also as the primary outcome of interest in my analysis of the consequences of leapfrog CEOs. My primary measure of firm performance is ROA, which I calculate as net income divided by total assets. Because financial performance of both the focal firm and its external environment are likely to influence the type of CEO that is selected (Boeker & Goodstein, 1993; Virany et al., 1992), I constructed two financial performance measures that incorporate industry-level performance for my analysis of the antecedents to the appointment of leapfrog CEOs. I calculated each firm's industry-adjusted ROA by subtracting the industry median ROA for each firm's 4-digit SIC code from the firm's ROA. I categorized firms performing better than their industry median as being high-performance firms. I identified declining industries by calculating total sales revenues for each 4-digit SIC code by year. I categorized CEO transitions that were preceded by a year-on-year decline in industry-wide total sales revenues as transitions that occurred during periods of external industry decline. The main dependent variable in my analysis of the consequences of leapfrog CEOs is ROA. I winsorize this ratio at the 1 and 99 percent level to limit the effect of outlying values.

CEO succession planning. CEO succession planning processes can affect the size of the pool of CEO candidates and can therefore influence the type of CEO that is selected. To determine whether a CEO succession planning process was in place prior to each CEO transition in my sample, I used a novel text analysis methodology to analyze annual proxy statements (form DEF 14A) filed with the SEC two years prior to each CEO succession. Publicly-traded firms are required to file a proxy statement prior to each annual meeting that contains information on board composition, committees, and compensation. Boards that have CEO

succession planning processes are likely to mention these practices in their proxy statements in the context of describing the board's ongoing duties and responsibilities.

I first constructed a dictionary of terms related to CEO succession planning and leadership development. I then used the Linguistic Inquiry and Word Count (LIWC) software package to analyze the frequency of these terms. I categorized firms as having a CEO succession planning process in place if they made any mention of CEO succession-related processes in their proxy statement.

Construction of pre-succession control variables

For my analysis of the antecedents of leapfrog CEOs, I constructed several control variables corresponding to pre-succession characteristics of the incumbent CEO, top management team, and board, which I describe in the following section.

Incumbent CEO characteristics. The incumbent CEO is likely to have a significant influence over the selection of a new CEO through their role in choosing to promote and groom potential candidates and in providing (or withholding) relevant information to the board. I constructed three measures corresponding to characteristics of the predecessor CEO during the year immediately prior to the focal CEO succession: tenure (in years); tenure squared; and a dummy variable for whether the CEO concurrently held the title of board Chairman. Each of these measures is likely to influence the balance of power between the CEO and the rest of the board, and thereby, the level of the incumbent CEO's influence over the eventual CEO selection (Westphal & Zajac, 1995; Zajac & Westphal, 1996).

Top management team characteristics. The top management team represents the primary pool of potential CEO candidates prior to the succession. I therefore expect the characteristics of these executives to be associated with the likelihood that the board selects a new CEO from

within this group of managers. To examine the characteristics of this group of executives, I focus on the set of the top five most highly-compensated employees ("disclosed earners").

I expect that the age of the incoming CEO will be one of the board's considerations when selecting a new CEO because boards generally seek CEOs who can serve for several years prior to reaching retirement age (Cannella & Shen, 2001; Vancil, 1987). Although incoming CEO ages vary widely (Brickley, 2003), I expect that boards will generally consider candidates aged 55 or younger to be within the preferred age range of incoming CEOs. If all executives in the top management team were over 55 years of age, I would expect the likelihood that the board selects a new CEO from outside of this group to increase. I therefore created a dummy variable set equal to 1 if at least one member of the top management team is aged 55 or younger in the year prior to the succession, and equal to 0 otherwise.

Second, I expect that pre-succession changes in the pool of potential CEO candidates could affect the likelihood that a leapfrog CEO is selected. If the top management team is characterized by high pre-succession turnover, I would expect there to be a lower likelihood that a stepwise succession process exists, and therefore, the board may be more likely to appoint a leapfrog CEO or an outsider CEO. Alternatively, high turnover could also indicate that an heir apparent has been selected and that executives who were passed-over chose to exit the firm. To account these possibilities, I calculated top management team turnover based on the proportion of disclosed earners from the two years prior to each succession that were no longer disclosed earners in the year prior to the succession. For ease of interpretation in my regressions, I convert this rate into a z-score with a mean of 0 and standard deviation of 1.

Board characteristics. I examine firms' pre-succession board characteristics because the board of directors holds the official responsibility for selecting new CEOs. I focus on the year

prior to each CEO transition because that is the group that would have been responsible for selecting the incoming CEO. Adding a non-CEO executive to the board is one way in which a candidate might be groomed as an heir apparent to the incumbent CEO (Hermalin & Weisbach, 1988; Vancil, 1987). I therefore constructed a dummy variable that is set equal to 1 if the board of directors had more than one executive director in the year prior to the focal succession, and 0 otherwise.

I also calculated the average age of all directors on the board. Studies have shown that CEO and executive age is negatively associated with risk-taking behavior (Berger, Kick, & Schaeck, 2014; Serfling, 2014; Yim, 2013). To the extent that these findings can be extended to the behavior of board directors, I would also expect that younger board directors would be more likely to make a riskier CEO selection, such as a leapfrog CEO.

Empirical specifications

To examine the antecedents to leapfrog CEOs, I constructed a dataset in which each observation represents one CEO transition. I ran a multinomial logit model where the dependent variable takes on one of three categorical values: leapfrog CEO; stepwise insider CEO; or outsider CEO. Following prior research, I controlled for a wide range of characteristics of the incumbent CEO, top management team, and board. To test my hypotheses, I specifically focused on the performance of the external industry environment and the presence of board-level CEO succession planning. In addition, all analyses included year fixed effects. I used this methodology to analyze the likelihood of appointing a leapfrog CEO relative to the likelihood of appointing a stepwise insider CEO, and separately, relative to the likelihood of appointing an outsider CEO (see Zhang & Rajagopalan, 2003, 2004 for similar methodologies).

To examine the consequences of leapfrog CEOs, I used my panel dataset, which encompasses the three years prior to each succession and the three years following each succession, excluding the year in which the transition took place (this time window is consistent with prior work on the consequences of CEO transitions, e.g., Bennedsen et al., 2007; G. Chen & Hambrick, 2011; Karaevli, 2007; Shen & Cannella, 2002). I used an ordinary least squares model and a difference-in-differences approach to conduct my main analysis. The empirical specification includes an indicator for the post-succession period, which captures the effect of changes deriving from CEO transitions of *all* types, and a post-succession indicator specifically for leapfrog, stepwise insider, and outsider successions. I used these interaction terms to compare the pre- versus post-succession performance of leapfrog CEOs *relative* to pre- versus post-succession performance of stepwise insider and outsider CEOs (separately). My main specification takes the following form:

$$ROA_{it} = \beta_0 + \beta_1 Post\ CEO\ Change_{it} + \beta_2 Post \times Leapfrog\ CEO_{it} + \beta_3 Post \times Stepwise\ Insider\ CEO_{it} + \beta_4 Post \times Industry\ Decline_{it} + \beta_5 Post \times Leapfrog\ CEO \times Industry\ Decline_{it} + \beta_6 Post \times Stepwise\ Insider\ CEO \times Industry\ Decline_{it} + \delta_i + \varphi_t + \varepsilon_{it}$$

for firm i in year t. I included both firm (δ_i) and year (φ_t) fixed effects in all specifications to account for time-invariant, unobservable firm-specific characteristics as well as economy-wide year-to-year changes. In effect, I examine *within-firm* changes in financial performance following CEO transitions for firms that appoint leapfrog CEOs *relative* to firms that appoint other CEO types (in the empirical specification presented above, I exclude the indicator variable for outsider CEOs, and therefore, outsider CEO transitions are the excluded reference group; I also run my analysis where stepwise insider CEOs transitions are the excluded reference group). I clustered standard errors by firm to account for serial correlation. Because my hypotheses are

specific to the firms with strong pre-succession performance, I limited my data to this subset of firms in my primary analyses.

CEOs are not randomly assigned to firms; therefore, the selection of a leapfrog CEO is an endogenous decision. This introduces several concerns around the identification of the consequences of leapfrog CEOs. My empirical approach mitigates two primary concerns that may arise: one potential concern is that the effect of a leapfrog CEO might be attributable to an unobservable firm-specific characteristic; a second potential concern is that differences in pre-succession performance for firms that select leapfrog CEOs could bias the subsequent performance effects I attribute to leapfrog CEOs. By focusing on within-firm changes in financial performance, I am able to control for the effects of firm-specific, time-invariant factors on the relationship between CEO type and financial performance, and by limiting my sample to firms with high pre-succession performance, I ensure that firms in my sample have similar pre-succession trends in financial performance (a requirement for difference-in-differences analyses).

Nevertheless, additional concerns may exist about whether firms that select leapfrog CEOs differ from firms that select other CEO types in ways that could influence post-succession financial performance, that firms that anticipate an industry shift (and therefore appoint a leapfrog CEO) could be concurrently preparing for the industry shift in other ways, or that the performance changes I document are attributable to a factor other than the selection of a leapfrog CEO. To corroborate my main findings, I ran additional robustness checks that used coarsened exact matching and propensity score matching models to further account for pre-succession differences, conducted an alternative test utilizing an exogenous shock to the external industry environment, and ran multiple falsification tests and analyses of varying subsets of the sample.

Results

Within my full sample of CEO successions, 16% of the CEO transitions were categorized as leapfrog successions; 49% as stepwise insider successions; and 36% as outsider successions (among the subset of firms with high pre-succession performance, the percentages were similar: 16%, 53%, and 31%, respectively). The average incumbent CEO was in office for approximately seven years. The majority of firms (83%) had a least one top management team member aged 55 or younger in the year prior to the CEO change and 44% of firms had a dual CEO-Chairman. One quarter of firms in my sample mentioned CEO succession planning in their proxy statements two years prior to the year of the succession. Among firms with high pre-succession performance, incoming CEOs were 54 years old on average, regardless of CEO type (leapfrog; stepwise insider; outsider), and 5% of leapfrog CEOs were women (see Table 3-1).

Table 3-1. Descriptive statistics on CEO transitions in sample

	Full Sample				Firms with High Pre-Succession Perf.		
	All CEO Types				Leapfrog CEO	Stepwise Insider CEO	Outsider CEO
	Mean	Std. Dev.	Min.	Max.	Mean	Mean	Mean
Predecessor CEO characteristics (t=-1):							
Tenure	7.10	7.47	0.00	61.00	5.56	8.90	6.29
Pre-succession TMT characteristics (t=-1):							
At least 1 executive aged 55 or younger	0.83	0.37	0.00	1.00	0.80	0.84	0.77
Turnover rate	0.10	0.15	0.00	1.00	0.12	0.06	0.11
Pre-succession board characteristics (t=-1):							
Average age	57.44	4.08	41.23	74.00	56.51	57.88	56.67
More than 1 executive director	0.57	0.50	0.00	1.00	0.49	0.66	0.50
CEO duality	0.44	0.50	0.00	1.00	0.52	0.56	0.30
Financial performance (t=-1):							
ROA above industry median	0.62	0.48	0.00	1.00	.	.	.
Declining industry-level sales	0.27	0.45	0.00	1.00	0.25	0.23	0.30
CEO succession planning (t=-2):							
Mentioned in proxy statement	0.25	0.43	0.00	1.00	0.24	0.27	0.24
Financial performance:							
ROA *(t=-1)*	0.02	0.15	-0.69	0.29	0.08	0.08	0.06
ROA change *(t=-3 to -1 vs. t=+1 to +3)*	0.00	0.11	-0.55	0.61	-0.02	-0.01	-0.03
Successor CEO characteristics (t=0):							
Age	53.57	7.03	30.00	87.00	52.89	52.95	53.43
Tenure (if observed in sample)	4.62	3.11	1.00	15.00	4.66	5.45	4.43
Female	0.05	0.21	0.00	1.00	0.05	0.05	0.05
N	1,647				154	514	301

Note: One observation per CEO succession.

Antecedents to selecting a leapfrog CEO

I examine the antecedents to the selection of a leapfrog CEO in Table 3-2. The dependent variable in this analysis is the likelihood of appointing a leapfrog CEO (models 1 and 3 show the likelihood of appointing a leapfrog CEO relative to the likelihood of appointing an outsider CEO; models 2 and 4 show the likelihood of appointing a leapfrog CEO relative to the likelihood of appointing a stepwise insider CEO). I find that the conditions under which firms appoint outsider CEOs and leapfrog CEOs are quite similar overall, with one exception: the likelihood of appointing a leapfrog CEO increases (relative to the likelihood of appointing an outsider CEO) by approximately 2.2 times when there is more than one executive director on the board (model 1 in Table 3-2: β=0.819; σ=0.243; p=0.001), holding all other factors constant. Relative to the likelihood of appointing a stepwise insider CEO, the likelihood of appointing a leapfrog CEO is approximately 1.5 times less likely when the incumbent CEO is also the board Chairman (model 2 in Table 3-2: β=-0.429; σ=0.216; p=0.047).

I do not find that the likelihood of appointing a leapfrog CEO (relative to the likelihood of appointing an outsider CEO or a stepwise insider CEO) changes with respect to the performance of the external industry environment. As shown in model 1 of Table 3-2, there is a not a statistically significant change in the likelihood of appointing a leapfrog CEO (relative to an outsider CEO) when the external industry is in decline (β=-0.312; σ=0.272; p=0.251); similarly, as shown in model 2 of Table 3-2, there is not a statistically significant change in the likelihood of appointing a leapfrog CEO (relative to the likelihood of appointing a stepwise insider CEO) when the external industry is in decline (β=-0.0356; σ=0.258; p=0.890). I therefore do not find support for hypothesis 1.

Table 3-2. Antecedents to the selection of a leapfrog CEO and CEO succession planning

	(1)	(2)	(3)	(4)
	Likelihood of Appointing Leapfrog CEO			
Comparison Group:	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*
Predecessor CEO Characteristics:				
Tenure	0.0118	-0.0469	0.00906	-0.0642*
	(0.0345)	(0.0330)	(0.0377)	(0.0350)
Tenure - Squared	-0.000718	0.000620	-0.000597	0.000848
	(0.000945)	(0.000911)	(0.00105)	(0.000999)
Incumbent Top Management Team Characteristics:				
At Least One Executive Age 55 or Younger	0.306	-0.280	0.248	-0.327
	(0.330)	(0.307)	(0.357)	(0.332)
Turnover Rate (z-score)	0.176	0.567***	0.173	0.602***
	(0.111)	(0.109)	(0.125)	(0.120)
Board Characteristics:				
Average Age	0.0165	-0.0431	0.00661	-0.0329
	(0.0313)	(0.0286)	(0.0341)	(0.0308)
Dual CEO-Chairman	0.0682	-0.429**	0.114	-0.316
	(0.236)	(0.216)	(0.253)	(0.225)
More than One Executive Director	0.819***	-0.184	0.896***	-0.195
	(0.243)	(0.220)	(0.264)	(0.235)
Industry Performance and Succession Planning:				
Industry Decline	-0.312	-0.0356	-0.575*	-0.221
	(0.272)	(0.258)	(0.343)	(0.325)
Succession Planning			-0.0208	-0.00858
			(0.315)	(0.294)
Industry Decline × Succession Planning			1.402**	0.866*
			(0.585)	(0.516)
Constant	-0.409	2.578	-0.404	1.661
	(2.197)	(1.981)	(2.437)	(2.188)
Observations	966	966	869	869

Notes: Multinomial logit model. Limited to firms with high pre-succession performance. Year fixed effects included in all specifications. Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

CEO succession planning

Next, I focus on the subset of firms that had succession planning processes in place prior to the CEO transition (models 3 and 4 in Table 3-2). I do not find that the overall likelihood of appointing a leapfrog CEO changes based on whether the board has succession planning processes in place. However, among this set of firms, I find that the likelihood of appointing a leapfrog CEO increases when the external industry environment is in decline. Based on the coefficient on the interaction term (*Industry Decline* × *Succession Planning*), I find that the likelihood of appointing a leapfrog CEO increases by approximately 4.1 times relative to the

likelihood of appointing an outsider CEO when the external industry is in decline and the firm has succession planning processes in place (model 3 of Table 3-2: β=1.402; σ=0.585; p=0.017). Relative to the likelihood of appointing a stepwise insider CEO, I find that the likelihood of appointing a leapfrog CEO increases by approximately 2.4 times (model 4 of Table 3-2: β=0.866; σ=0.516; p=0.094). I therefore find support for hypothesis 2.

Consequences of selecting a leapfrog CEO

In Table 3-3, I examine post-succession changes in ROA by comparing the within-firm change in average ROA for the three years prior to the succession relative to the three years following the succession (excluding the year of the succession). The dependent variable in each of these regressions is ROA. I find that ROA decreases, on average, by approximately 3.6 to 5.3 percentage points for firms that experienced a CEO succession of any type in the three years following the succession relative to the three years preceding the succession (see the coefficient on *Post CEO Change* in models 1-2 in Table 3-3).

To examine the effect of leapfrog CEOs in particular, I examine the effect of leapfrog CEOs relative to the effect of outsider CEOs (models 1 and 3 in Table 3-3), and separately, examine the effect of leapfrog CEOs relative to the effect of stepwise insider CEOs (models 2 and 4 of Table 3-3). I do not find that post-succession performance following the appointment of a leapfrog CEO systematically differs, overall, from post-succession performance following the appointment of a stepwise insider or outsider CEO (see the coefficient on *Post CEO Change* × *Leapfrog CEO* in models 1-2 in Table 3-3); meanwhile, I find that stepwise insider CEOs outperform outsider CEOs by 1.7 percentage points on average.

To test hypothesis 3, I focus on the subset of firms that experienced a decline in the external industry environment in the year prior to the CEO transition by adding in an indicator

for industry decline and interactions between this indicator and CEO type (see models 3-4 in Table 3-3). Among these firms, I find that the appointment of a leapfrog CEO is associated with a 5.5 percentage point increase in post-succession ROA relative to firms that appointed an outsider CEO (model 3 in Table 3-3: β=0.055; σ=0.023; p=0.015), and a 4.3 percentage point increase in post-succession ROA relative to firms that appointed a stepwise insider CEO (model 4 in Table 3-3: β=0.043; σ=0.019; p=0.024).

Table 3-3. Consequences of appointing a leapfrog CEO: Firm financial performance

	(1)	(2)	(3)	(4)
	Return on Assets			
Comparison Group:	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*
Post CEO Change	-0.0532***	-0.0363***	-0.0441***	-0.0321***
	(0.00816)	(0.00652)	(0.00932)	(0.00666)
Post CEO Change × Leapfrog CEO	0.00840	-0.00852	-0.00827	-0.0202*
	(0.0109)	(0.00915)	(0.0132)	(0.0111)
Post CEO Change × Stepwise Insider CEO	0.0169**		0.0119	
	(0.00785)		(0.00922)	
Post CEO Change × Outsider CEO		-0.0169**		-0.0119
		(0.00785)		(0.00922)
Post CEO Change × Industry Decline			-0.0244	-0.0122
			(0.0154)	(0.00880)
Post CEO Change × Leapfrog CEO × Industry Decline			0.0552**	0.0429**
			(0.0226)	(0.0190)
Post CEO Change × Stepwise Insider CEO × Industry Decline			0.0123	
			(0.0178)	
Post CEO Change × Outsider CEO × Industry Decline				-0.0123
				(0.0178)
Constant	0.113***	0.113***	0.112***	0.112***
	(0.0167)	(0.0167)	(0.0164)	(0.0164)
Firm FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Observations	5,799	5,799	5,756	5,756
R-squared	0.483	0.483	0.484	0.484

Notes: Ordinary least squares model. Limited to firms with high pre-succession performance. Robust standard errors in parentheses, clustered by firm.
*** p<0.01, ** p<0.05, * p<0.1

As an additional test of my hypotheses, I ran the same analysis on the full sample of CEO successions (that were preceded by both high and low pre-succession performance) as well as the subset of firms that had low pre-succession performance. I proposed that the skills possessed by leapfrog CEOs would most closely align with the firm's strategic needs when two particular conditions are in place: the firm is performing well but the external industry environment is in

decline; therefore, I would not necessarily expect leapfrog CEOs to outperform other CEO types when the focal firm is performing poorly prior to the CEO transition. Consistent with this logic, I do not find evidence that leapfrog CEOs outperform other CEO types when the external industry environment is in decline among firms with low pre-succession performance; however, I do find that ROA increases on average following CEO successions of all types.

Alternative specifications

The non-random nature of CEO selection decisions leads to several potential concerns around the identification of the effect of leapfrog CEOs on financial performance. Although I cannot directly identify a causal estimate of the effect of leapfrog CEOs, I ran a set of additional analyses to triangulate the effects of this type of CEO selection, and conducted a series of robustness checks to rule out alternative explanations.

Matching on pre-succession observable characteristics. One possible concern with my identification strategy is that firms that select leapfrog CEOs have different pre-succession characteristics than firms that select other CEO types (this is also a primary concern with a difference-in-differences methodology, which assumes that the performance of the treatment and control groups have parallel performance trends prior to treatment). To confirm that my findings are not driven by differences in pre-succession trends, I re-ran my analysis using coarsened exact matching and propensity score matching models.

I matched each leapfrog CEO transition to a stepwise insider or an outsider transition based upon the full set of pre-succession variables included in the antecedents analysis using coarsened exact matching. This ensures that each leapfrog CEO succession is matched to a comparable CEO transition on the full set of observable pre-succession characteristics. As an additional check, I used propensity score matching to match each leapfrog transition to one, two,

and three of its "nearest neighbors" by propensity score. These analyses yield results consistent with my main findings (see Appendix E Table E-1).

An exogenous shock to the external industry environment. My analysis thus far makes the assumption that a board may choose to select a leapfrog CEO due to the alignment between a leapfrog CEO's characteristics and the firm's future strategic needs; however, this raises concerns about whether firms that anticipate a change in the external environment, and therefore select a leapfrog CEO, might be taking other actions that could influence financial performance. As an alternative test of my hypotheses, I examined financial performance following an exogenous shift in the external environment: the Great Recession.

For this analysis, I focused on the subset of firms in which a CEO transition took place between 2004 and 2006. I categorized firms into two groups: firms operating in industries that were strongly negatively affected by the Great Recession (treatment) and firms operating in industries that were not strongly affected (control), based on industry-level changes in total employment from 2007 through 2009. To the extent that firms that appointed new CEOs from 2004-2006 could not have anticipated the impending recession, the effect of the recession can be assumed to be a plausibly exogenous shock to these firms' external industry environment. I find that among firms that were most affected by the Great Recession, those that had appointed a leapfrog CEO prior to the Great Recession outperformed firms that had appointed a different CEO type (see Appendix E Table E-2). This lends additional evidence that leapfrog CEOs may be particularly well-equipped to navigate external industry changes relative to other CEO types, even when they are not specifically appointed to deal with these issues.

Robustness checks. I ran falsification tests in which I shifted the time period of analysis to rule out the possibility that firms that select leapfrog CEOs time their CEO transitions

differently than firms that select other CEO types and to ensure that the performance effects I document align with the timing of the CEO transition. I did not find that firms that appointed leapfrog CEOs performed differently from other firms during the pre-succession period. To rule out the possibility that my results are being driven by succession planning or top management team turnover, I separately examined results for firms with and without succession planning processes and with low and high post-succession top management team turnover and found similar results. To check for the influence of CEO age, which has been shown to be a determinant of CEO behavior (e.g., Serfling, 2014; Yim, 2013), I examined whether younger insider CEOs performed differently than older insider CEO and outsider CEOs, and did not find that the performance effects I observe are attributable to CEO age. In addition, I confirmed that the effects of leapfrog CEOs were not limited only to ROA; I examined several alternative measures of financial performance (industry-adjusted ROA, ROE, ROS, ROI, Tobin's Q) and found similar results. The results of these robustness checks are summarized in Appendix E Table E-3.

Drivers of change in financial performance

To delve into the potential mechanisms underlying the post-succession financial performance differences between leapfrog CEOs and other CEO types, I examined post-succession changes in corporate strategy. I analyzed changes to corporate diversification using entropy measures of unrelated and related diversification (Jacquemin & Berry, 1979), which capture the degree of relatedness between the industry segments in which firms operate (this measure has been widely used in prior research, e.g., M. Jensen & Zajac, 2004; Palepu, 1985; Steinbach, Holcomb, Holmes, Devers, & Cannella, 2017; Wiersema & Bantel, 1992). I find that the level of unrelated diversification (indicating sales deriving from different industry groups

defined at the 2-digit SIC code level) increases following leapfrog CEO transitions under conditions of industry decline relative to stepwise insider CEO transitions (I do not find significant differences relative to outsider CEO transitions; nor do I find differences with respect to changes in *related* diversification; see models 1-4 in Table 3-4).

Next, I examined changes to the allocations of spending and resources between firms' business segments. Among firms that report spending by business segment in their financial filings, I calculated the proportion of sales, employees, capital expenditures, and R&D expenditures attributed to each firm's largest industry segment (on a yearly basis). I find that the proportion of sales, employees, capital expenditures, and R&D expenditures attributable to the firm's largest industry segment decreases following leapfrog CEO transitions that occur during periods of industry decline (relative to firms that selected other CEO types). This suggests that leapfrog CEOs are more likely to reallocate resources away from their firms' primary business segment (see models 5-12 in Table 3-4).

Table 3-4. Consequences of appointing a leapfrog CEO: Corporate strategy

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Entropy Measures of Diversification				Proportion Attributed to Largest Industry Segment							
	Unrelated Diversification		Related Diversification		Sales		Employees		Capital Expenditures		R&D Spending	
Comparison Group:	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*
Post CEO Change	0.00248	0.0149	0.00554	-0.00425	-0.00781	-0.00435	0.00461	-0.00301	-0.0186	-0.00529	-0.0208	-0.000431
	(0.0160)	(0.0146)	(0.0165)	(0.0151)	(0.0115)	(0.00999)	(0.0141)	(0.00835)	(0.0139)	(0.0107)	(0.0145)	(0.0153)
Post CEO Change × Leapfrog CEO	-0.0240	-0.0364	0.0246	0.0344	0.00227	-0.00118	0.00909	0.0167	0.00411	-0.00922	0.0534	0.0330
	(0.0422)	(0.0419)	(0.0257)	(0.0252)	(0.0239)	(0.0233)	(0.0161)	(0.0127)	(0.0229)	(0.0216)	(0.0354)	(0.0360)
Post CEO Change × Stepwise Insider CEO	0.0124		-0.00978		0.00345		-0.00762		0.0133		0.0203	
	(0.0203)		(0.0204)		(0.0136)		(0.0119)		(0.0138)		(0.0227)	
Post CEO Change × Outsider CEO		-0.0124		0.00978		-0.00345		0.00762		-0.0133		-0.0203
		(0.0203)		(0.0204)		(0.0136)		(0.0119)		(0.0138)		(0.0227)
Post CEO Change × Industry Decline	0.00151	-0.0365	-0.0228	-0.0374	0.0152	0.0523***	-0.00245	0.0192	0.00792	0.0531**	0.0226	0.0222
	(0.0285)	(0.0243)	(0.0279)	(0.0270)	(0.0223)	(0.0183)	(0.0137)	(0.0161)	(0.0226)	(0.0211)	(0.0183)	(0.0262)
Post CEO Change × Leapfrog CEO × Industry Decline	0.0981	0.136**	-0.0231	-0.00847	-0.0460	-0.0831**	-0.0132	-0.0348*	-0.0376	-0.0828*	-0.0662*	-0.0659
	(0.0702)	(0.0693)	(0.0379)	(0.0373)	(0.0424)	(0.0409)	(0.0180)	(0.0191)	(0.0443)	(0.0431)	(0.0381)	(0.0418)
Post CEO Change × Stepwise Insider CEO × Industry Decline	-0.0380		-0.0146		0.0371		0.0216		0.0451		-0.000339	
	(0.0373)		(0.0381)		(0.0284)		(0.0192)		(0.0304)		(0.0299)	
Post CEO Change × Outsider CEO × Industry Decline		0.0380		0.0146		-0.0371		-0.0216		-0.0451		0.000339
		(0.0373)		(0.0381)		(0.0284)		(0.0192)		(0.0304)		(0.0299)
Constant	0.214***	0.214***	0.137***	0.137***	0.827***	0.827***	0.962***	0.962***	0.915***	0.915***	0.892***	0.892***
	(0.0482)	(0.0482)	(0.0295)	(0.0295)	(0.0288)	(0.0288)	(0.0189)	(0.0189)	(0.0401)	(0.0401)	(0.0707)	(0.0707)
Firm FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	3,786	3,786	3,786	3,786	3,786	3,786	1,687	1,687	3,042	3,042	888	888
R-squared	0.900	0.900	0.857	0.857	0.882	0.882	0.879	0.879	0.880	0.880	0.902	0.902

Notes: Ordinary least squares model. Limited to firms with high pre-succession performance. Robust standard errors in parentheses, clustered by firm.
*** p<0.01, ** p<0.05, * p<0.1

In addition, I examined post-succession firm-level changes in corporate investment spending (capital intensity, R&D intensity, financial leverage, and patenting activity) and do not

find any evidence that leapfrog CEOs increase or decrease the overall intensity of these activities relative to other CEO types (see Appendix E Table E-4). Furthermore, I do not find evidence that top management team turnover rates following CEO successions differ systematically from turnover rates following other types of CEO transitions (see Appendix E Table E-5).

Discussion and Conclusion

In this study, I examine the antecedents and consequences of leapfrog CEOs. I hypothesize that leapfrog CEOs will be particularly effective under certain conditions: when the firm is performing well, but its external industry environment is in decline. Consistent with my hypothesis, I find that among high-performing firms, leapfrog CEOs are appointed more frequently when the external industry environment is in decline – but only when the firm engages in CEO succession planning. In addition, the appointment of a leapfrog CEO is associated with an increase in ROA of approximately 4 percentage points when the firm is experiencing conditions conducive to a leapfrog CEO. Descriptive evidence suggests that some of this difference in financial performance may stem from leapfrog CEOs' higher propensities to reallocate investments and resources out of their firms' legacy businesses and into other industry segments within the firm.

This study advances prior research on CEO succession and new CEO origin by empirically defining and analyzing a distinct CEO type on the outsiderness continuum: the leapfrog CEO. Prior work has described the purported benefits of an "inside-outsider" or "maverick" CEO (Bower, 2007; Finkelstein et al., 2009), while the popular press has highlighted particularly successful examples of leapfrog CEOs. This is the first study to my knowledge to identify leapfrog CEOs across a broad sample and to develop and empirically test theories around the *conditions* under which leapfrog CEOs should outperform other CEO types. This

study complements existing research that examines specific types of CEO successions such as relay successions (Cannella & Shen, 2001; Shen & Cannella, 2003; Zhang & Rajagopalan, 2004) and interim successions (Ballinger & Marcel, 2010).

My findings highlight the importance of contingencies when analyzing the effects of different CEO types (Karaevli & Zajac, 2013; Khurana & Nohria, 2000). I do not find any evidence that leapfrog CEOs affect firm performance in a systematic way *overall*; it is only when the unique characteristics of a leapfrog CEO are in alignment with the firm's strategic needs that I find a differential effect of leapfrog CEOs (G. Chen & Hambrick, 2011). The fit between the firm, its external environment, and the CEO's characteristics are critical considerations when analyzing the effects of CEO transitions.

Findings from this study also suggest that many boards are not investing in CEO succession planning, and therefore, some boards might not have effective processes for selecting CEOs to match their firms' strategic needs. Results on the antecedents to leapfrog CEOs suggest that many firms are appointing leapfrog CEOs following periods of instability in the top management team, rather than as a proactive choice to adapt to environmental changes. This study lends an additional perspective to existing work that points to the value of CEO succession planning (Harris & Helfat, 1998; Shen & Cannella, 2003; Zajac, 1990; Zhang & Rajagopalan, 2004) and introduces a new text analysis methodology for identifying whether boards have CEO succession planning practices in place. This methodology complements existing research that uses other markers, such as the existence of an heir apparent, to determine whether the board engages in CEO succession planning (e.g., Shen & Cannella, 2003).

My findings also inform the literatures on organizational and strategic change by providing additional evidence that CEO changes can be used as an opportunity for firms to

realign their leadership and business portfolio with the firm's future strategic needs (M. Jensen & Zajac, 2004; Romanelli & Tushman, 1994; Virany et al., 1992). Internal CEO transitions are typically associated with continuity and stability; this study shows that alternative modes of internal succession can lay the groundwork for instigating organizational change through changes to diversification and business portfolio decisions. This study offers suggestive evidence that leapfrog CEO transitions can be a pathway through which firms can foster corporate entrepreneurship and support innovation in large, established companies.

The limitations of this study open new avenues for future work. First, I focus on high-performing firms facing a decline in their external industry environment. Additional studies that focus on CEO transitions that occur under conditions of low pre-succession firm performance and/or different external environmental conditions (such as industry volatility or growth) would bolster the theories I propose in this paper. Second, additional studies that examine other dimensions of CEOs' prior experiences, such as functional background, board experience, and firm tenure, would help to advance our understanding of differences in CEO types and the various interactions between different types of prior experience.

Practically, the results from this study imply that some boards might benefit from considering leapfrog CEOs as an option in their choice sets when planning for CEO succession. CEO transitions offer a valuable opportunity for firms to realign their leadership and strategic orientation to external environmental conditions. Many firms only consider the CEO's direct reports as potential CEO candidates, and opt to hire from outside the firm if an appropriate candidate does not exist within that limited group of individuals (Cappelli, 2008; Carmichael & Fernández-Aráoz, 2017). By increasing investments in CEO succession planning and considering candidates further down the organizational hierarchy in the pool of potential candidates, firms

may be more likely to find internal candidates who are prepared to instigate value-enhancing strategic change.

APPENDIX A (Chapter One)

Additional Tables and Data

Table A-1. Rotated factor output from principal-components analysis of survey questions on internal board operations

	Factor 1	Factor 2	Factor 3	Factor 4	Uniqueness
Staying current on industry	0.38	0.34	0.33	0.46	0.43
Staying engaged between meetings	0.19	0.59	0.33	0.14	0.48
Overall, all directors are well prepared for meetings on this board	0.53	0.25	0.36	0.07	0.52
I feel connected to the mission of this company	0.67	0.32	0.10	-0.06	0.44
Collegiality	0.40	0.74	0.03	-0.07	0.28
Relationship between shareholder and non-shareholder directors	0.21	0.67	0.01	0.07	0.50
It is clear what is--and what is not--acceptable member behavior on this board	0.45	0.31	0.44	-0.09	0.50
The CEO communicates and consults with this board in an appropriate and effective manner	0.57	0.27	0.32	0.10	0.49
I feel my voice is heard on this board	0.71	0.39	0.03	-0.10	0.34
Time management (e.g., digesting all materials; allowing adequate time for thoughtful discussion and debate)	0.38	0.40	0.38	0.36	0.43
Independent thinking (independent from management as well as from fellow directors)	0.41	0.62	0.22	0.02	0.40
We are able to have open and candid discussions on this board	0.65	0.41	0.14	-0.21	0.34
This board has a “devil’s advocate” in most debates	0.51	-0.04	0.34	-0.16	0.60
Agenda topics and materials accurately reflect priorities of board	0.69	0.25	0.13	0.07	0.44
Sufficient time is allocated during board meetings to discuss strategy	0.63	0.18	0.37	0.28	0.36
This board’s overall effectiveness would be lessened without executive sessions	0.26	0.16	0.29	-0.66	0.39
Overall, the committees on this board work well	0.65	0.39	0.11	-0.09	0.41
Overall, the general meetings of this board are productive	0.73	0.36	0.12	0.01	0.33
Board composition (e.g., appointing directors with skills and experience board needs)	0.23	0.56	0.34	0.19	0.49
Evaluation of individual directors	0.15	0.50	0.42	-0.09	0.54
Alignment on role of independent directors	0.41	0.70	0.11	0.01	0.33
Creating effective board structure (leadership roles, committees)	0.29	0.63	0.25	-0.02	0.46
Integrating new members	0.24	0.64	0.29	-0.01	0.45
Addressing problematic directors (e.g., domineering, disruptive, asserting personal agenda, silent)	0.30	0.63	0.30	-0.06	0.42
This board provides effective training for new directors	0.10	0.17	0.81	-0.10	0.30

Survey questions underlying each factor variable

Factor 1: Meeting structure, communication

Agenda topics and materials accurately reflect priorities of board
Overall, the general meetings of this board are productive
I feel my voice is heard on this board
I feel connected to the mission of this company
Overall, the committees on this board work well
We are able to have open and candid discussions on this board
The CEO communicates and consults with this board in an appropriate and effective manner

Factor 2: Collegiality, alignment, integration

Relationship between shareholder and non-shareholder directors
Collegiality
Alignment on role of independent directors
Integrating new members
Creating effective board structure (leadership roles, committees)
Addressing problematic directors (e.g., domineering, disruptive, asserting personal agenda, silent)
Staying engaged between meetings
Independent thinking (independent from management as well as from fellow directors)

Factor 3: Training, evaluation, norms

This board provides effective training for new directors
Evaluation of individual directors
It is clear what is--and what is not--acceptable member behavior on this board
This board has a "devil's advocate" in most debates
This board's overall effectiveness would be lessened without executive sessions
Overall, all directors are well prepared for meetings on this board

Factor 4: Time management, board composition

Staying current on industry
Time management (e.g., digesting all materials; allowing adequate time for thoughtful discussion and debate)
Sufficient time is allocated during board meetings to discuss strategy
Board composition (e.g., appointing directors with skills and experience board needs)

Table A-2. Relation between survey participants' perceptions of board effectiveness, external, board, and director characteristics, and internal board operations – private; non-US boards

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Risk Management Oversight				**Strategy Guidance and Appraisal**				**Management Evaluation and Selection**			
VARIABLES	**US, Public**	**US, Private**	**Non-US, Public**	**Non-US, Private**	**US, Public**	**US, Private**	**Non-US, Public**	**Non-US, Private**	**US, Public**	**US, Private**	**Non-US, Public**	**Non-US, Private**
External: high activist influence	-0.0667	0.128	-0.0623	0.0768	-0.0437	0.179	-0.0340	-0.0664	-0.122*	0.0753	-0.0605	-0.0632
	(0.0414)	(0.117)	(0.0529)	(0.112)	(0.0448)	(0.181)	(0.0468)	(0.0922)	(0.0656)	(0.368)	(0.0694)	(0.150)
External: high investor influence	-0.0199	0.00740	-0.0362	-0.0757	0.0360	0.0976*	-0.0144	0.0414	0.166**	0.160	-0.00368	-0.109
	(0.0503)	(0.0691)	(0.0479)	(0.0486)	(0.0532)	(0.0580)	(0.0476)	(0.0600)	(0.0642)	(0.0990)	(0.0653)	(0.0686)
External: high government influence	0.0116	0.0809	0.0774**	-0.0672*	0.00729	-0.116*	-0.0337	-0.0433	0.0364	0.0355	0.00746	-0.00630
	(0.0343)	(0.0727)	(0.0310)	(0.0405)	(0.0366)	(0.0667)	(0.0287)	(0.0437)	(0.0477)	(0.0990)	(0.0404)	(0.0564)
Board: extreme size (<6 or >12)	0.0815*	-0.00231	0.0767**	0.0298	0.0542	0.0543	0.0350	0.0385	-0.0659	0.0587	-0.0110	-0.0892
	(0.0463)	(0.0540)	(0.0333)	(0.0368)	(0.0434)	(0.0579)	(0.0338)	(0.0406)	(0.0643)	(0.0792)	(0.0470)	(0.0560)
Board: % independence	0.0965	0.0725	-0.167**	-0.0695	-0.349***	-0.155	-0.0203	-0.0352	0.0704	-0.0861	0.113	-0.0727
	(0.0961)	(0.110)	(0.0687)	(0.0707)	(0.0937)	(0.0995)	(0.0693)	(0.0706)	(0.143)	(0.138)	(0.0867)	(0.0957)
Board: % female	-0.0458	0.315**	0.0131	-0.151	-0.186	-0.0147	-0.267**	0.0482	0.320*	0.128	0.0423	-0.115
	(0.130)	(0.159)	(0.110)	(0.118)	(0.127)	(0.162)	(0.112)	(0.116)	(0.186)	(0.269)	(0.143)	(0.179)
Director: lead director or chairman	0.0225	-0.00535	-0.0682**	-0.0228	0.00372	0.00840	-0.0481	-0.0394	0.0934**	0.130	0.000962	0.0592
	(0.0297)	(0.0570)	(0.0318)	(0.0345)	(0.0290)	(0.0572)	(0.0299)	(0.0393)	(0.0412)	(0.0816)	(0.0420)	(0.0554)
Director: executive	-0.000600	0.193***	0.0814*	0.0530	-0.114**	0.0192	0.0788*	-0.0378	0.0228	-0.116	-0.0113	0.00915
	(0.0570)	(0.0663)	(0.0441)	(0.0465)	(0.0474)	(0.0673)	(0.0444)	(0.0481)	(0.0798)	(0.0889)	(0.0613)	(0.0668)
Director: not prev. known to board/execs.	-0.0606**	-0.00176	-0.00503	0.0271	-0.0427	0.0259	-0.0121	-0.0122	-0.0189	0.117	-0.0370	0.00736
	(0.0297)	(0.0565)	(0.0295)	(0.0442)	(0.0309)	(0.0556)	(0.0295)	(0.0466)	(0.0416)	(0.0872)	(0.0412)	(0.0673)
Director: first board appointment	0.0533	0.163	-0.162*	-0.0348	-0.0776	0.128	-0.0925	0.0359	-0.250**	0.397**	-0.0372	-0.0135
	(0.163)	(0.146)	(0.0968)	(0.0589)	(0.133)	(0.133)	(0.0795)	(0.0688)	(0.111)	(0.177)	(0.124)	(0.0831)
Director: female	0.0291	0.0405	-0.0327	0.0819*	-0.00510	0.133*	0.0383	-0.0251	-0.0682	-0.101	0.0263	0.00170
	(0.0334)	(0.0632)	(0.0337)	(0.0487)	(0.0366)	(0.0681)	(0.0347)	(0.0464)	(0.0472)	(0.110)	(0.0468)	(0.0683)
Internal: aggregated rating	0.775***	0.725***	0.755***	0.787***	0.832***	0.865***	0.839***	0.809***	0.897***	0.872***	0.894***	1.049***
	(0.0406)	(0.0671)	(0.0378)	(0.0503)	(0.0400)	(0.0619)	(0.0364)	(0.0530)	(0.0554)	(0.0951)	(0.0529)	(0.0671)
Marker: enjoy serving on board	0.0237	0.0522	0.0404	-0.0266	0.0171	0.0286	0.0200	0.0789**	-0.0845*	0.0187	-0.00771	-0.170***
	(0.0283)	(0.0486)	(0.0293)	(0.0337)	(0.0313)	(0.0485)	(0.0300)	(0.0358)	(0.0435)	(0.0726)	(0.0490)	(0.0450)
Company: family-owned	-0.0473	-0.0295	0.00415	-0.0151	-0.141	-0.122*	-0.0508	-0.00391	-0.112	0.0168	0.0330	-0.000262
	(0.0808)	(0.0594)	(0.0477)	(0.0367)	(0.0885)	(0.0649)	(0.0467)	(0.0391)	(0.0901)	(0.104)	(0.0628)	(0.0583)
Company: annual revenues (ln)	0.0220***	0.0168	0.0119*	-0.000631	0.0134*	-	-0.00470	-0.0154*	0.0269**	0.0249	0.0376**	0.00420
	(0.00723)	(0.0105)	(0.00672)	(0.00893)	(0.00775)	(0.0121)	(0.00620)	(0.00924)	(0.0107)	(0.0192)	(0.00896)	(0.0141)
Company: performance (prior 12 mos.)	0.0600***	0.0865**	0.0557**	0.0484**	0.0596***	0.0645**	0.0732**	0.0690**	0.0638***	0.0791**	0.0473**	0.0852**
	(0.0147)	(0.0256)	(0.0145)	(0.0190)	(0.0139)	(0.0244)	(0.0149)	(0.0211)	(0.0209)	(0.0367)	(0.0203)	(0.0288)
Company: common law country	-	-	0.0119	0.0896**	-	-	-0.112***	0.0138	-	-	-0.0100	0.0327
			(0.0302)	(0.0375)			(0.0295)	(0.0391)			(0.0430)	(0.0552)
Constant	0.540***	0.533*	0.718***	0.951***	0.418***	0.285	0.382***	0.180	-0.103	-0.433	-0.480**	-0.0870
	(0.156)	(0.297)	(0.140)	(0.165)	(0.152)	(0.226)	(0.131)	(0.186)	(0.207)	(0.351)	(0.209)	(0.215)
Observations	577	237	739	456	577	237	739	456	577	237	739	456
R-squared	0.679	0.654	0.599	0.584	0.682	0.668	0.626	0.632	0.561	0.534	0.504	0.489

Robust standard errors in parentheses, industry fixed effects included in all specifications.
*** p<0.01, ** p<0.05, * p<0.1

APPENDIX B (Chapter Two)

Structure of Full Board Survey

*Relevant questions in **bold***

- Most relevant political issues
  - Carbon tax; corporate tax rates; cybersecurity; etc.
- Economic and business outlook
- Respondents' public, private, and not-for-profit and foundation board service
- How respondent received first board appointment
- Reasons the respondent serves on boards
- Respondent characteristics
  - Gender; executive/independent
- Company listing status (public/private); family ownership
- How respondent was introduced to the board
- Stakeholders in the company (and level of influence it exerts on company)
  - Activists; community; creditors; employees; etc.
- Board characteristics
  - Board size; number of independent directors; number currently serving as CEOs in other companies; number of female directors; etc.
- Board term limits, mandatory retirement age
- Performance evaluations for directors
- Respondents' hours per year dedicated to the board
- Meetings per year, average attendance rate
- Entity responsible for managing time at general meetings
- Executive sessions
- Committee memberships; committee effectiveness
- **Board's effectiveness on various board processes**
  - **Board composition; compensation; compliance; cybersecurity; risk management; etc.**
- Candidates for most recent open non-executive director's seat; skills sought
- Board's effectiveness on various board dynamics
  - Ability to have candid and open discussions; addressing problematic directors; alignment on role of independent directors; etc.
- Challenges faced by respondent in role as a director
  - Asserting independent thinking; confusion regarding role as a director; etc.
- Biggest challenges to the company achieving its strategic objectives
  - Activist shareholders; attracting and retaining top talent; compensation; etc.
- Company's short- vs. long-term focus
- **Board's CEO succession planning processes**
  - **How often is CEO succession discussed at the board level; has this board vetted at least one viable candidate who could immediately step in as CEO if necessary; please describe this board's process to determine CEO succession, specifically highlighting what you think works well and does not work well (open-ended text response)**
- Board's succession planning processes for directors, committee chairs
- **Board's effectiveness on various practices**
  - **Agenda topics and materials accurately reflect priorities of board; overall, all directors are well prepared for meetings on this board; the CEO communicates and consults with this board in an appropriate and effective manner; this CEO-board relationship sets the right tone for the rest of the company; serving on this board has enhanced my professional reputation; overall, I enjoy serving on this board; sufficient time is allocated during board meetings to discuss strategy; I feel my voice is heard on this board; etc.**
- Company characteristics
  - Industry; location of headquarters; annual revenues; financial performance
- Name of company (optional)
- Respondent demographics
  - Education; age; ethnicity; country of birth; marital status; children; outside interests; primary political affiliation; employment status
- Respondent employment information (if applicable)
  - Job title; industry; listing status; country; annual revenues; employer name (optional)

APPENDIX C (Chapter Two)

Additional Tables and Robustness Checks

Table C-1. Comparison of survey sample and BoardEx population

	Survey	BoardEx			
	Mean	Mean	Difference	t-statistic	p-value
Director characteristics:					
Age	61.33	59.39	1.94	4.63	0.00
Age at first board appointment	43.13	44.16	-1.03	-2.49	0.01
Female	0.28	0.13	0.15	11.03	0.00
Foreign national	0.15	0.10	0.06	4.46	0.00
Employed	0.55	0.49	0.06	2.82	0.00
Independent	0.92	0.71	0.21	10.92	0.00
Chairman or lead director	0.39	0.13	0.26	18.32	0.00
Audit/finance committee member	0.63	0.59	0.04	1.97	0.05
Compensation committee member	0.48	0.27	0.22	11.81	0.00
Nomination/gov. committee member	0.48	0.44	0.04	2.05	0.04
Total public boards: career to-date	3.38	3.22	0.16	0.87	0.38
Total private boards: career to-date	7.77	5.89	1.88	5.38	0.00
Total public boards: current	1.71	1.91	-0.20	-1.89	0.06
Total private boards: current	2.37	3.11	-0.73	-4.77	0.00
Longest board service: public (years)	8.06	8.37	-0.32	-1.01	0.31
Longest board service: private (years)	6.84	6.73	0.11	0.38	0.71
Board characteristics:					
Total directors	9.03	9.86	-0.83	-3.69	0.00
Total independent directors	7.29	6.90	0.40	2.16	0.03
% independent directors	0.80	0.71	0.09	8.85	0.00
Total female directors	1.58	1.38	0.20	2.91	0.00
% female directors	0.17	0.13	0.04	7.37	0.00
Total foreign national directors	0.75	0.16	0.59	23.40	0.00
% foreign national directors	0.09	0.11	-0.02	-2.20	0.03
Industry:					
Consumer Discretionary	0.15	0.13	0.02	1.68	0.09
Consumer Staples	0.05	0.04	0.00	0.53	0.59
Energy & Utilities	0.12	0.12	0.00	-0.20	0.84
Financial & Professional Services	0.23	0.32	-0.09	-4.57	0.00
Healthcare	0.13	0.09	0.04	3.24	0.00
IT & Telecom	0.14	0.10	0.04	3.39	0.00
Industrials	0.12	0.12	0.00	0.18	0.86
Materials	0.05	0.08	-0.02	-1.88	0.06

Table C-2. Comparison of responses to objective survey questions and data from publicly-available sources for identified observations

	Survey	BoardEx			
	Mean	Mean	Difference	t-statistic	p-value
Board size	8.91	11.41	-2.50	-1.88	0.06
# independent directors	7.20	8.23	-1.03	-2.41	0.02
% independent directors	0.80	0.82	-0.02	-0.84	0.40
# female directors	1.60	1.79	-0.19	-0.85	0.40
% female directors	0.17	0.16	0.01	0.57	0.57

Table C-3. Summary statistics on underlying survey variables used to construct board attributes

	Summary Statistics				Correlations						Factor Analysis			
	Mean	St. Dev.	Min.	Max.	[1]	[2]	[3]	[4]	[5]	[6]	Rotated Factor 1	Rotated Factor 2	Rotated Factor 3	Unique-ness
Board meeting efficiency:														
[1] Agenda topics and materials accurately reflect priorities of board	4.36	0.64	1	5	1.00						0.42	0.40	0.30	0.57
[2] Overall, all directors are well prepared for meetings on this board	4.31	0.71	1	5	0.46	1.00					0.37	0.34	0.30	0.65
CEO/board relationship:														
[3] The CEO communicates and consults with this board in an appropriate and effective manner	4.22	0.84	1	5	0.43	0.38	1.00				0.83	0.13	0.08	0.29
[4] This CEO-board relationship sets the right tone for the rest of the company	4.24	0.81	1	5	0.46	0.40	0.80	1.00			0.83	0.21	0.08	0.26
Risk management processes:														
[5] Compliance	4.08	0.78	1	5	0.38	0.31	0.28	0.33	1.00		0.25	0.57	0.11	0.61
[6] Risk management	3.69	0.81	1	5	0.35	0.31	0.27	0.35	0.48	1.00	0.25	0.56	0.09	0.62

Table C-4. Comparison of attributes of identified boards with CEO transitions and rest of survey sample

	Anonymous Survey Sample	Identified Respondent with CEO Transition Data			
	Mean	**Mean**	**Difference**	**t-statistic**	**p-value**
Dependent variables:					
Frequency of CEO succession discussions	1.32	1.45	-0.14	-1.06	0.29
Contingency planning	0.62	0.73	-0.11	-1.25	0.21
Independent variables:					
Board meeting efficiency	0.00	-0.04	0.05	0.68	0.50
CEO/board relationship	-0.02	0.28	-0.30	-1.91	0.06
Risk management processes	0.00	0.00	0.00	-0.02	0.98
Control variables:					
High investor influence over company	0.73	0.73	0.00	0.05	0.96
Family-owned	0.03	0.00	0.03	1.02	0.31
Firm revenues (ln)	7.43	7.10	0.32	0.81	0.42
Board size	9.07	8.42	0.65	1.33	0.18
Board size^2	89.82	74.91	14.91	1.11	0.27
% independent directors	0.80	0.80	0.00	-0.16	0.87
% female directors	0.17	0.17	-0.01	-0.27	0.79
Industry fixed effects:					
FE 1: Consumer Discret.	0.15	0.06	0.09	1.47	0.14
FE 2: Consumer Staples	0.04	0.09	-0.05	-1.26	0.21
FE 3: Energy & Util.	0.11	0.24	-0.13	-2.28	0.02
FE 4: Fin. & Prof. Services	0.24	0.12	0.12	1.56	0.12
FE 5: Healthcare	0.13	0.15	-0.02	-0.31	0.76
FE 6: IT & Telecom	0.15	0.09	0.06	0.89	0.37
FE 7: Industrials	0.12	0.18	-0.06	-1.09	0.28
FE 8: Materials	0.05	0.06	-0.01	-0.15	0.88
Overall board effectiveness rating	3.94	4.18	-0.24	-1.54	0.13

Table C-5. Relationship between CEO succession planning and board attributes, using board attributes constructed using naïve average

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Frequency of CEO Succession Discussions					**Contingency Planning for CEO Succession**				
Board meeting efficiency		0.708***			0.480**		0.865***			0.463**
		(0.000)			(0.014)		(0.000)			(0.041)
CEO/board relationship			0.448***		0.266*			0.764***		0.576***
			(0.003)		(0.092)			(0.000)		(0.000)
Risk management processes				0.464***	0.271*				0.618***	0.383**
				(0.002)	(0.095)				(0.000)	(0.024)
Control variables:										
High investor influence over company	-0.043	-0.040	-0.079	-0.047	-0.065	0.097	0.118	0.062	0.126	0.102
	(0.811)	(0.824)	(0.669)	(0.795)	(0.724)	(0.638)	(0.582)	(0.770)	(0.551)	(0.637)
Family-owned	-0.299	-0.376	-0.182	-0.289	-0.281	0.858	0.834	1.201**	0.940	1.153*
	(0.493)	(0.409)	(0.705)	(0.525)	(0.563)	(0.130)	(0.109)	(0.049)	(0.106)	(0.056)
Firm revenues (ln)	0.109**	0.104**	0.095*	0.093*	0.087*	0.113**	0.106*	0.084	0.092	0.074
	(0.030)	(0.037)	(0.053)	(0.063)	(0.079)	(0.041)	(0.068)	(0.134)	(0.109)	(0.213)
Board size	0.192*	0.180	0.190*	0.180	0.176	0.073	0.051	0.068	0.052	0.045
	(0.092)	(0.122)	(0.092)	(0.121)	(0.127)	(0.513)	(0.647)	(0.580)	(0.650)	(0.706)
Board size^2	-0.007*	-0.007*	-0.007*	-0.007*	-0.006	-0.002	-0.001	-0.001	-0.001	-0.000
	(0.061)	(0.099)	(0.071)	(0.083)	(0.104)	(0.624)	(0.831)	(0.800)	(0.737)	(0.926)
% independent directors	2.156***	1.849***	2.135***	1.971***	1.830***	2.172***	1.852***	2.149***	1.976***	1.847***
	(0.000)	(0.002)	(0.000)	(0.001)	(0.002)	(0.000)	(0.003)	(0.001)	(0.002)	(0.004)
% female directors	0.170	0.012	0.127	0.185	0.048	-0.915	-1.113	-0.951	-0.924	-1.048
	(0.825)	(0.987)	(0.871)	(0.807)	(0.951)	(0.239)	(0.161)	(0.230)	(0.241)	(0.197)
Marker variables:										
Enjoy serving on the board	0.382***	0.112	0.144	0.224	-0.035	0.279**	-0.063	-0.125	0.071	-0.343**
	(0.003)	(0.441)	(0.357)	(0.102)	(0.825)	(0.032)	(0.693)	(0.442)	(0.621)	(0.044)
Industry fixed effects:										
FE 1: Consumer Discret.	-0.220	-0.142	-0.121	-0.132	-0.056	-0.354	-0.260	-0.190	-0.260	-0.108
	(0.602)	(0.739)	(0.772)	(0.759)	(0.895)	(0.416)	(0.559)	(0.666)	(0.549)	(0.804)
FE 2: Consumer Staples	-0.273	-0.262	-0.088	-0.302	-0.172	0.188	0.230	0.531	0.168	0.474
	(0.619)	(0.639)	(0.874)	(0.583)	(0.761)	(0.733)	(0.687)	(0.362)	(0.758)	(0.403)
FE 3: Energy & Util.	-0.535	-0.494	-0.548	-0.512	-0.499	0.679	0.809*	0.696	0.732	0.818*
	(0.187)	(0.227)	(0.176)	(0.216)	(0.227)	(0.141)	(0.095)	(0.143)	(0.122)	(0.094)
FE 4: Fin. & Prof. Services	-0.386	-0.347	-0.378	-0.472	-0.404	0.505	0.604	0.573	0.375	0.534
	(0.320)	(0.376)	(0.331)	(0.232)	(0.306)	(0.231)	(0.169)	(0.183)	(0.377)	(0.212)
FE 5: Healthcare	-0.554	-0.545	-0.583	-0.522	-0.544	-0.228	-0.173	-0.245	-0.194	-0.182
	(0.187)	(0.200)	(0.166)	(0.224)	(0.207)	(0.603)	(0.707)	(0.589)	(0.662)	(0.690)
FE 6: IT & Telecom	-0.534	-0.519	-0.521	-0.524	-0.509	-0.096	-0.024	-0.060	-0.090	-0.011
	(0.183)	(0.199)	(0.197)	(0.201)	(0.214)	(0.823)	(0.958)	(0.891)	(0.833)	(0.980)
FE 7: Industrials	-0.042	0.069	-0.003	-0.017	0.075	0.305	0.454	0.359	0.307	0.443
	(0.920)	(0.869)	(0.994)	(0.968)	(0.861)	(0.508)	(0.348)	(0.461)	(0.509)	(0.364)
Observations	584	584	584	584	584	584	584	584	584	584
Pseudo R2	0.0615	0.0766	0.0723	0.0713	0.0838	0.0753	0.103	0.114	0.0973	0.132

p-values in parentheses (calculated based on robust standard errors).
*** p<0.01, ** p<0.05, * p<0.1

Table C-6. Relationship between CEO succession planning and board attributes, using alternative marker variable

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Frequency of CEO Succession Discussions					**Contingency Planning for CEO Succession**				
Board meeting efficiency		0.819***			0.401		0.596**			0.104
		(0.001)			(0.172)		(0.036)			(0.767)
CEO/board relationship			0.431***		0.386***			0.534***		0.505***
			(0.001)		(0.002)			(0.000)		(0.000)
Risk management processes				0.501***	0.355**				0.467***	0.402**
				(0.001)	(0.039)				(0.002)	(0.029)
Control variables:										
High investor influence over company	-0.039	-0.032	-0.080	-0.032	-0.071	0.127	0.132	0.081	0.146	0.105
	(0.832)	(0.862)	(0.663)	(0.860)	(0.699)	(0.546)	(0.536)	(0.706)	(0.493)	(0.630)
Family-owned	-0.246	-0.366	-0.165	-0.302	-0.276	0.919	0.844	1.135*	0.903	1.097*
	(0.572)	(0.407)	(0.734)	(0.503)	(0.575)	(0.102)	(0.120)	(0.054)	(0.104)	(0.059)
Firm revenues (ln)	0.114**	0.115**	0.097**	0.100**	0.089*	0.105*	0.106*	0.081	0.093	0.070
	(0.023)	(0.022)	(0.046)	(0.047)	(0.072)	(0.060)	(0.064)	(0.159)	(0.112)	(0.249)
Board size	0.187*	0.183	0.189*	0.176	0.179	0.081	0.072	0.075	0.063	0.061
	(0.098)	(0.115)	(0.093)	(0.134)	(0.124)	(0.486)	(0.525)	(0.539)	(0.581)	(0.608)
Board size^2	-0.007*	-0.007*	-0.007*	-0.007*	-0.006	-0.002	-0.002	-0.001	-0.002	-0.001
	(0.062)	(0.084)	(0.074)	(0.098)	(0.109)	(0.603)	(0.650)	(0.741)	(0.678)	(0.804)
% independent directors	2.252***	1.974***	2.177***	1.941***	1.824***	2.195***	2.004***	2.094***	1.945***	1.836***
	(0.000)	(0.001)	(0.000)	(0.001)	(0.002)	(0.000)	(0.001)	(0.001)	(0.002)	(0.004)
% female directors	0.097	0.011	0.108	0.118	0.092	-1.116	-1.192	-1.079	-1.132	-1.084
	(0.899)	(0.988)	(0.890)	(0.877)	(0.906)	(0.155)	(0.130)	(0.174)	(0.154)	(0.176)
Marker variable:										
Serving has enhanced professional reputation	0.219**	0.106	0.038	0.082	-0.097	0.468***	0.385***	0.264**	0.347***	0.156
	(0.040)	(0.340)	(0.753)	(0.470)	(0.440)	(0.000)	(0.002)	(0.044)	(0.006)	(0.265)
Industry fixed effects:										
FE 1: Consumer Discret.	-0.264	-0.208	-0.130	-0.170	-0.054	-0.400	-0.360	-0.232	-0.324	-0.166
	(0.529)	(0.626)	(0.753)	(0.693)	(0.900)	(0.350)	(0.403)	(0.591)	(0.449)	(0.703)
FE 2: Consumer Staples	-0.414	-0.368	-0.118	-0.418	-0.140	0.076	0.114	0.469	0.082	0.460
	(0.440)	(0.502)	(0.833)	(0.440)	(0.805)	(0.887)	(0.835)	(0.413)	(0.880)	(0.415)
FE 3: Energy & Util.	-0.574	-0.510	-0.560	-0.516	-0.494	0.653	0.726	0.698	0.726	0.785
	(0.149)	(0.204)	(0.162)	(0.205)	(0.234)	(0.153)	(0.119)	(0.137)	(0.121)	(0.104)
FE 4: Fin. & Prof. Services	-0.455	-0.374	-0.385	-0.489	-0.385	0.420	0.498	0.556	0.384	0.527
	(0.236)	(0.335)	(0.318)	(0.211)	(0.333)	(0.309)	(0.237)	(0.188)	(0.357)	(0.216)
FE 5: Healthcare	-0.587	-0.544	-0.593	-0.523	-0.529	-0.312	-0.264	-0.288	-0.254	-0.229
	(0.157)	(0.196)	(0.155)	(0.218)	(0.221)	(0.472)	(0.550)	(0.517)	(0.561)	(0.611)
FE 6: IT & Telecom	-0.626	-0.578	-0.547	-0.570	-0.496	-0.189	-0.129	-0.076	-0.136	-0.017
	(0.116)	(0.149)	(0.172)	(0.159)	(0.228)	(0.656)	(0.762)	(0.859)	(0.748)	(0.969)
FE 7: Industrials	-0.079	0.031	-0.013	-0.012	0.077	0.290	0.372	0.375	0.336	0.430
	(0.848)	(0.941)	(0.976)	(0.977)	(0.857)	(0.529)	(0.427)	(0.436)	(0.468)	(0.376)
Observations	584	584	584	584	584	584	584	584	584	584
Pseudo R2	0.0572	0.0675	0.0708	0.0691	0.0827	0.0914	0.0982	0.118	0.105	0.128

p-values in parentheses (calculated based on robust standard errors).
*** p<0.01, ** p<0.05, * p<0.1

Table C-7. Harman's one-factor test of common method bias

	Unrotated Factor 1	**Unrotated Factor 2**	**Unrotated Factor 3**	**Unrotated Factor 4**	**Unrotated Factor 5**	**Unrotated Factor 6**	**Unrotated Factor 7**	**Uniqueness**
Frequency of CEO succession discussions	0.28	0.40	0.20	-0.09	0.11	-0.07	0.01	0.70
Contingency planning	0.27	0.37	0.13	-0.15	0.22	-0.01	0.00	0.71
Board meeting efficiency	0.19	0.51	-0.33	0.10	-0.03	0.00	0.00	0.58
CEO/board relationship	0.09	0.35	0.03	-0.11	0.04	0.10	-0.04	0.84
Risk management processes	0.29	0.49	-0.29	0.09	-0.04	0.00	0.01	0.58
High investor influence over company	0.04	0.04	0.04	-0.12	-0.05	0.15	0.03	0.95
Family-owned	0.03	-0.11	-0.07	0.21	0.28	-0.01	0.01	0.86
Firm revenues (ln)	0.50	0.14	0.29	0.23	0.01	0.05	0.00	0.59
Board size	0.92	-0.31	-0.03	0.00	-0.01	0.04	0.02	0.05
Board size^2	0.83	-0.42	-0.18	-0.13	0.03	-0.03	-0.02	0.08
% independent directors	0.29	0.27	0.12	-0.12	-0.20	-0.08	0.02	0.77
% female directors	0.27	0.04	0.17	0.22	-0.15	-0.01	-0.02	0.82

APPENDIX D (Chapter Two)

Description of Key Variables from Board Survey

Variable	Description
Dependent variables:	
Frequency of CEO succession discussions	How often is CEO succession discussed at the board level? 0: Not discussed regularly 1: Annually 2: Each meeting or several times a year
Contingency planning for CEO succession	Has this board vetted at least one viable candidate who could immediately step in as CEO if necessary? 0: No 1: Yes
Independent variables:	
Board meeting efficiency	Agenda topics and materials accurately reflect priorities of board 1: Strongly disagree 2: Disagree 3: Unsure 4: Agree 5: Strongly agree Overall, all directors are well prepared for meetings on this board 1: Strongly disagree 2: Disagree 3: Unsure 4: Agree 5: Strongly agree
CEO/board relationship	The CEO communicates and consults with this board in an appropriate and effective manner 1: Strongly disagree 2: Disagree 3: Unsure 4: Agree 5: Strongly agree This CEO-board relationship sets the right tone for the rest of the company 1: Strongly disagree 2: Disagree 3: Unsure 4: Agree 5: Strongly agree
Risk management processes	Rate this board's effectiveness on: Compliance 1: Poor 2: Below average 3: Average 4: Above average 5: Excellent Rate this board's effectiveness on: Risk managemet 1: Poor 2: Below average 3: Average 4: Above average 5: Excellent

APPENDIX E (Chapter Three)

Additional Tables and Robustness Checks

Table E-1. Consequences of appointing a leapfrog CEO: Firm financial performance with matching on pre-succession characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Return on Assets							
	Coarsened Exact		Propensity Score		Propensity Score (2)		Propensity Score (3)	
Comparison Group:	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*
Post CEO Change	-0.0482***	-0.0348***	-0.0313*	0.00327	-0.0268*	0.00159	-0.0319***	-0.00730
	(0.0120)	(0.00909)	(0.0184)	(0.0148)	(0.0137)	(0.0119)	(0.0121)	(0.0113)
Post CEO Change × Leapfrog CEO	-0.00535	-0.0188	0.00530	-0.0293*	-0.00162	-0.0300**	0.00124	-0.0234*
	(0.0136)	(0.0116)	(0.0229)	(0.0149)	(0.0174)	(0.0131)	(0.0153)	(0.0132)
Post CEO Change × Stepwise Insider CEO	0.0134		0.0346		0.0284*		0.0246*	
	(0.00961)		(0.0224)		(0.0155)		(0.0134)	
Post CEO Change × Outsider CEO		-0.0134		-0.0346		-0.0284*		-0.0246*
		(0.00961)		(0.0224)		(0.0155)		(0.0134)
Post CEO Change × Industry Decline	-0.0296*	-0.0151*	-0.0140	-0.0483*	-0.0231	-0.0498***	-0.0154	-0.0387**
	(0.0164)	(0.00887)	(0.0270)	(0.0263)	(0.0184)	(0.0188)	(0.0155)	(0.0155)
Post CEO Change × Leapfrog CEO × Industry Decline	0.0639***	0.0493**	0.0383	0.0726**	0.0489**	0.0756***	0.0405*	0.0638***
	(0.0234)	(0.0192)	(0.0315)	(0.0310)	(0.0243)	(0.0245)	(0.0221)	(0.0221)
Post CEO Change × Stepwise Insider CEO × Industry Decline	0.0145		-0.0343		-0.0267		-0.0233	
	(0.0185)		(0.0387)		(0.0273)		(0.0226)	
Post CEO Change × Outsider CEO × Industry Decline		-0.0145		0.0343		0.0267		0.0233
		(0.0185)		(0.0387)		(0.0273)		(0.0226)
Constant	0.117***	0.117***	0.0496	0.0496	0.0665**	0.0665**	0.0742***	0.0742***
	(0.0243)	(0.0243)	(0.0338)	(0.0338)	(0.0271)	(0.0271)	(0.0238)	(0.0238)
Firm FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Observations	5,372	5,372	1,926	1,926	2,189	2,189	2,626	2,626
R-squared	0.523	0.523	0.465	0.465	0.475	0.475	0.482	0.482

Notes: Ordinary least squares model. Limited to firms with high pre-succession performance. Robust standard errors in parentheses, clustered by firm.
*** p<0.01, ** p<0.05, * p<0.1

Table E-2. Consequences of appointing a leapfrog CEO: Firm financial performance following an exogenous shock to the external industry environment

	(1)	(2)
	Return on Assets	
Comparison Group:	*Outsider*	*Stepwise Insider*
Affected by Great Recession	-0.132**	-0.00346
	(0.0669)	(0.0180)
Affected by Recession × Leapfrog CEO	0.159**	0.0308*
	(0.0666)	(0.0165)
Affected by Recession × Stepwiser Inside CEO	0.129*	
	(0.0678)	
Affected by Recession × Outsider CEO		-0.129*
		(0.0678)
Constant	0.0122	0.0122
	(0.0139)	(0.0139)
Firm FE	Y	Y
Year FE	Y	Y
Observations	1,996	1,996
R-squared	0.379	0.379

Limited to successions among firms with high pre-succession performance. Robust standard errors in parentheses, clustered by firm.
*** p<0.01, ** p<0.05, * p<0.1

Table E-3. Consequences of appointing a leapfrog CEO: Firm financial performance – summary of robustness checks

	(1)	(2)		(3)	(4)
		Stepwise			*Stepwise*
Comparison Group:	*Outsider*	*Insider*		*Outsider*	*Insider*
Return on Assets (ROA), difference-in-differences (from Table 3-3)					
Post CEO Change × Leapfrog CEO × Industry Decline	0.0552**	0.0429**			
	(0.0226)	(0.0190)			
Robustness Checks: Alternative Windows of Analysis			**Robustness Checks: Alternative Measures of Financial Performance**		
Panel A: Alternative Time Windows - t-6 to t-4 vs. t-3 to t-1			**Panel J: Dependent Variable - Industry-adjusted ROA**		
Post CEO Change × Leapfrog CEO × Industry Decline	-0.00823	-0.0160	Post CEO Change × Leapfrog CEO × Industry Decline	0.0728**	0.0548**
	(0.0173)	(0.0150)		(0.0311)	(0.0273)
Panel B: Alternative Time Windows - t+1 to t+3 vs. t+4 to t+6			**Panel K: Dependent Variable - Return on Equity (ROE)**		
Post CEO Change × Leapfrog CEO × Industry Decline	0.0116	0.00115	Post CEO Change × Leapfrog CEO × Industry Decline	0.136	0.143**
	(0.0288)	(0.0259)		(0.0900)	(0.0670)
Robustness Checks: Effect of CEO Succession Planning			**Panel L: Dependent Variable - Return on Sales (ROS)**		
Panel C: Sub-Sample - No CEO Succession Planning			Post CEO Change × Leapfrog CEO × Industry Decline	0.0948**	0.0924***
Post CEO Change × Leapfrog CEO × Industry Decline	0.0583*	0.0451		(0.0396)	(0.0352)
	(0.0343)	(0.0302)	**Panel M: Dependent Variable - Return on Investment (ROI)**		
Panel D: Sub-Sample - CEO Succession Planning			Post CEO Change × Leapfrog CEO × Industry Decline	0.117***	0.0801**
Post CEO Change × Leapfrog CEO × Industry Decline	0.0522*	0.0409*		(0.0435)	(0.0376)
	(0.0292)	(0.0236)	**Panel N: Dependent Variable - Tobin's Q**		
			Post CEO Change × Leapfrog CEO × Industry Decline	0.637**	0.471**
				(0.274)	(0.235)
Robustness Checks: Effect of Top Management Team Turnover			**Robustness Checks: Subsets Based on Industry Characteristics**		
Panel E: Sub-Sample - Low Post-Succession Top Management Team Turnover			**Panel O: Sub-Sample - Low Industry Competitiveness**		
Post CEO Change × Leapfrog CEO × Industry Decline	0.0986***	0.0333	Post CEO Change × Leapfrog CEO × Industry Decline	0.0228	0.0296
	(0.0340)	(0.0327)		(0.0360)	(0.0291)
Panel F: Sub-Sample - High Post-Succession Top Management Team Turnover			**Panel P: Sub-Sample - High Industry Competitiveness**		
Post CEO Change × Leapfrog CEO × Industry Decline	0.0337	0.0475**	Post CEO Change × Leapfrog CEO × Industry Decline	0.0744***	0.0489**
	(0.0272)	(0.0227)		(0.0283)	(0.0244)
Robustness Checks: Effect of CEO Age			**Panel Q: Sub-Sample - Low R&D Intensity**		
Panel G: Alternative Independent Variable - Insider CEO < 45 Years Old			Post CEO Change × Leapfrog CEO × Industry Decline	0.00803	0.0263
Post CEO Change × Young CEO × Industry Decline	-7.27e-05	-0.0218		(0.0260)	(0.0196)
	(0.0518)	(0.0500)	**Panel R: Sub-Sample - High R&D Intensity**		
Panel H: Alternative Independent Variable - Insider CEO < 50 Years Old			Post CEO Change × Leapfrog CEO × Industry Decline	0.108***	0.0790**
Post CEO Change × Young CEO × Industry Decline	0.0126	-0.00996		(0.0378)	(0.0338)
	(0.0238)	(0.0200)	**Panel S: Sub-Sample - Low Patenting Activity**		
Panel I: Alternative Independent Variable - Insider CEO < 55 Years Old			Post CEO Change × Leapfrog CEO × Industry Decline	0.0276	0.0389
Post CEO Change × Young CEO × Industry Decline	0.0132	-0.0130		(0.0323)	(0.0263)
	(0.0190)	(0.0160)	**Panel T: Sub-Sample - High Patenting Activity**		
			Post CEO Change × Leapfrog CEO × Industry Decline	0.0882**	0.0541*
				(0.0358)	(0.0294)

Notes: Ordinary least squares models. Limited to successions among firms with high pre-succession performance. Each estimate above corresponds to the independent variable of interest from a different regression where the dependent variable is ROA (unless otherwise noted); see Appendix D for full regression tables. Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

Table E-4. Consequences of appointing a leapfrog CEO: Corporate investment decisions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Capital Intensity		R&D Intensity		Financial Leverage		Total Patents	
Comparison Group:	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*
Post CEO Change	-0.00417	-0.00243	0.00173	0.000763	0.238	-0.0971	18.06	5.518
	(0.00289)	(0.00237)	(0.00311)	(0.00192)	(0.227)	(0.128)	(21.13)	(11.56)
Post CEO Change × Leapfrog CEO	-0.000774	-0.00251	-0.00397	-0.00300	-0.0206	0.314	-20.59	-8.049
	(0.00398)	(0.00348)	(0.00473)	(0.00376)	(0.310)	(0.242)	(30.64)	(15.70)
Post CEO Change × Stepwise Insider CEO	0.00174		-0.000967		-0.335		-12.55	
	(0.00294)		(0.00367)		(0.230)		(28.28)	
Post CEO Change × Outsider CEO		-0.00174		0.000967		0.335		12.55
		(0.00294)		(0.00367)		(0.230)		(28.28)
Post CEO Change × Industry Decline	-0.000561	-0.00125	-0.00102	-0.00280	-0.234	0.160	-13.78	42.53
	(0.00433)	(0.00289)	(0.00460)	(0.00315)	(0.265)	(0.136)	(31.79)	(26.58)
Post CEO Change × Leapfrog CEO × Industry Decline	-0.00129	-0.000602	0.00308	0.00485	0.122	-0.272	17.44	-38.87
	(0.00901)	(0.00838)	(0.00622)	(0.00525)	(0.391)	(0.306)	(36.28)	(30.13)
Post CEO Change × Stepwise Insider CEO × Industry Decline	-0.000689		-0.00177		0.395		56.31	
	(0.00525)		(0.00552)		(0.296)		(40.52)	
Post CEO Change × Outsider CEO × Industry Decline		0.000689		0.00177		-0.395		-56.31
		(0.00525)		(0.00552)		(0.296)		(40.52)
Constant	0.0364***	0.0364***	0.0501***	0.0501***	0.414	0.414	95.20***	95.20***
	(0.00621)	(0.00621)	(0.00458)	(0.00458)	(0.331)	(0.331)	(15.36)	(15.36)
Firm FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Observations	5,746	5,746	3,858	3,858	5,732	5,732	940	940
R-squared	0.789	0.789	0.898	0.898	0.319	0.319	0.985	0.985

Notes: Ordinary least squares model. Limited to firms with high pre-succession performance. Robust standard errors in parentheses, clustered by firm.
*** p<0.01, ** p<0.05, * p<0.1

Table E-5. Consequences of appointing a leapfrog CEO: Top management team turnover

	(1)	(2)	(3)	(4)
	Top Management Team Turnover			
Comparison Group:	*Outsider*	*Stepwise Insider*	*Outsider*	*Stepwise Insider*
Post CEO Change	0.0502***	0.0385***	0.0424***	0.0401***
	(0.0137)	(0.0112)	(0.0146)	(0.0116)
Post CEO Change × Leapfrog CEO	-0.0196	-0.00797	-0.0218	-0.0195
	(0.0145)	(0.0131)	(0.0172)	(0.0156)
Post CEO Change × Stepwise Insider CEO	-0.0116		-0.00232	
	(0.0102)		(0.0119)	
Post CEO Change × Outsider CEO		0.0116		0.00232
		(0.0102)		(0.0119)
Post CEO Change × Industry Decline			0.0128	-0.0170
			(0.0189)	(0.0122)
Post CEO Change × Leapfrog CEO × Industry Decline			0.00257	0.0324
			(0.0306)	(0.0272)
Post CEO Change × Stepwise Insider CEO × Industry Decline			-0.0298	
			(0.0225)	
Post CEO Change × Outsider CEO × Industry Decline				0.0298
				(0.0225)
Constant	0.105***	0.105***	0.113***	0.113***
	(0.0344)	(0.0344)	(0.0342)	(0.0342)
Firm FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Observations	5,662	5,662	5,627	5,627
R-squared	0.324	0.324	0.327	0.327

Notes: Ordinary least squares model. Limited to firms with high pre-succession performance. Robust standard errors in parentheses, clustered by firm.
*** p<0.01, ** p<0.05, * p<0.1

REFERENCES

Abbott, L. J., Parker, S., & Presley, T. J. (2012). Female Board Presence and the Likelihood of Financial Restatement. *Accounting Horizons; Sarasota*, *26*(4), 607–629.

Adams, R. B. (2009). Asking Directors about their Dual Roles. *SSRN Working Paper No. 1362339*.

Adams, R. B., & Ferreira, D. (2007). A theory of friendly boards. *The Journal of Finance*, *62*(1), 217–250.

Adams, R. B., & Ferreira, D. (2008). Do directors perform for pay? *Journal of Accounting and Economics*, *46*(1), 154–171. https://doi.org/10.1016/j.jacceco.2008.06.002

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, *94*(2), 291–309. https://doi.org/10.1016/j.jfineco.2008.10.007

Adams, R. B., Hermalin, B. E., & Weisbach, M. S. (2010). The Role of Boards of Directors in Corporate Governance: A Conceptual Framework and Survey. *Journal of Economic Literature*, *48*(1), 58–107. https://doi.org/10.1257/jel.48.1.58

Aebi, V., Sabato, G., & Schmid, M. (2012). Risk management, corporate governance, and bank performance in the financial crisis. *Journal of Banking & Finance*, *36*(12), 3213–3226. https://doi.org/10.1016/j.jbankfin.2011.10.020

Aggarwal, R., Erel, I., Ferreira, M., & Matos, P. (2011). Does governance travel around the world? Evidence from institutional investors. *Journal of Financial Economics*, *100*(1), 154–181. https://doi.org/10.1016/j.jfineco.2010.10.018

Ahern, K. R., & Dittmar, A. K. (2012). The Changing of the Boards: The Impact on Firm Valuation of Mandated Female Board Representation. *The Quarterly Journal of Economics*, *127*(1), 137–197. https://doi.org/10.1093/qje/qjr049

Alexander, J. C., Barnhart, S. W., & Rosenstein, S. (2007). Do investor perceptions of corporate governance initiatives affect firm value: The case of TIAA-CREF. *The Quarterly Review of Economics and Finance*, *47*(2), 198–214. https://doi.org/10.1016/j.qref.2006.07.005

Allgood, S., & Farrell, K. A. (2003). The match between CEO and firm. *The Journal of Business*, *76*(2), 317–341. https://doi.org/10.1086/367752

Amit, R., & Livnat, J. (1988). Diversification strategies, business cycles and economic performance. *Strategic Management Journal*, *9*(2), 99–110. https://doi.org/10.1002/smj.4250090202

Ang, J., Lauterbach, B., & Vu, J. (2003). Efficient Labor and Capital Markets: Evidence from CEO Appointments. *Financial Management*, *32*(2), 27–52. https://doi.org/10.2307/3666335

Argote, L., McEvily, B., & Reagans, R. (2003). Managing Knowledge in Organizations: An Integrative Framework and Review of Emerging Themes. *Management Science*, *49*(4), 571–582. https://doi.org/10.1287/mnsc.49.4.571.14424

Ballinger, G. A., & Marcel, J. J. (2010). The use of an interim CEO during succession episodes and firm performance. *Strategic Management Journal*, *31*(3), 262–283. https://doi.org/10.1002/smj.808

Bandura, A. (1997). *Self-efficacy: the exercise of control*. New York: WHFreeman.

Banker, R. D., Field, J. M., Schroeder, R. G., & Sintia, K. K. (1996). Impact of Work Teams on Manufacturing Performance: A Longitudinal Field Study. *Academy of Management Journal*, *39*(4), 867–890. https://doi.org/10.2307/256715

Barker III, V. L., Patterson Jr, P. W., & Mueller, G. C. (2001). Organizational causes and strategic consequences of the extent of top management team replacement during turnaround attempts. *Journal of Management Studies*, *38*(2), 235–270. https://doi.org/10.1111/1467-6486.00235

Beal, R. M., & Yasai-Ardekani, M. (2000). Performance implications of aligning CEO functional experiences with competitive strategies. *Journal of Management*, *26*(4), 733–762. https://doi.org/10.1016/S0149-2063(00)00054-4

Bell, R. G., Filatotchev, I., & Aguilera, R. V. (2013). Corporate Governance and Investors' Perceptions of Foreign IPO Value: An Institutional Perspective. *Academy of Management Journal*, *57*(1), 301–320. https://doi.org/10.5465/amj.2011.0146

Bennedsen, M., Nielsen, K. M., Perez-Gonzalez, F., & Wolfenzon, D. (2007). Inside the family firm: The role of families in succession decisions and performance. *The Quarterly Journal of Economics*, *122*(2), 647–691. https://doi.org/10.1162/qjec.122.2.647

Berger, A. N., Kick, T., & Schaeck, K. (2014). Executive board composition and bank risk taking. *Journal of Corporate Finance*, *28*, 48–65. https://doi.org/10.1016/j.jcorpfin.2013.11.006

Berns, K. V. D., & Klarner, P. (2017). A Review of the CEO Succession Literature and a Future Research Program. *The Academy of Management Perspectives*, *31*(2), 83–108. https://doi.org/10.5465/amp.2015.0183

Bertrand, M., & Schoar, A. (2003). Managing with style: The effect of managers on firm policies. *Quarterly Journal of Economics*, *118*(4), 1169–1208. https://doi.org/10.1162/003355303322552775

Bettis, R. A. (2012). The search for asterisks: Compromised statistical tests and flawed theories. *Strategic Management Journal*, *33*(1), 108–113. https://doi.org/10.1002/smj.975

Bhojraj, S., & Sengupta, P. (2003). Effect of Corporate Governance on Bond Ratings and Yields: The Role of Institutional Investors and Outside Directors. *The Journal of Business*, *76*(3), 455–475. https://doi.org/10.1086/344114

Bidwell, M. (2011). Paying More to Get Less: The Effects of External Hiring versus Internal Mobility. *Administrative Science Quarterly*, *56*(3), 369–407. https://doi.org/10.1177/0001839211433562

Bidwell, M., & Keller, J. (2014). Within or Without? How Firms Combine Internal and External Labor Markets to Fill Jobs. *Academy of Management Journal*, *57*(4), 1035–1055. https://doi.org/10.5465/amj.2012.0119

Bigley, G. A., & Wiersema, M. F. (2002). New CEOs and Corporate Strategic Refocusing: How Experience as Heir Apparent Influences the Use of Power. *Administrative Science Quarterly*, *47*(4), 707–727. https://doi.org/10.2307/3094914

Blair-Loy, M. (2001). It's Not Just What You Know, It's Who You Know: Technical Knowledge, Rainmaking, and Gender among Finance Executives. *Research in the Sociology of Work*, *10*, 51–83.

Board of Governors of the Federal Reserve System. (2017). *Proposed Guidance on Supervisory Expectation for Boards of Directors* (No. Docket No. OP-1570). Federal Reserve System.

Boeker, W., & Goodstein, J. (1993). Performance and Successor Choice: The Moderating Effects of Governance and Ownership. *Academy of Management Journal*, *36*(1), 172–186. https://doi.org/10.2307/256517

Bower, J. L. (1970). *Managing the resource allocation process: a study of corporate planning and investment*. Boston, MA: Harvard Business School Press.

Bower, J. L. (2007). *The CEO Within: Why Inside Outsiders Are the Key to Succession*. Boston, MA: Harvard Business Review Press.

Bower, J. L., & Gilbert, C. (Eds.). (2005). *From Resource Allocation to Strategy*. New York: Oxford University Press.

Brass, D. J. (1985). Men's and Women's Networks: A Study of Interaction Patterns and Influence In an Organization. *Academy of Management Journal*, *28*(2), 327–343. https://doi.org/10.2307/256204

Brav, A., Jiang, W., Partnoy, F., & Thomas, R. (2008). Hedge Fund Activism, Corporate Governance, and Firm Performance. *The Journal of Finance*, *63*(4), 1729–1775. https://doi.org/10.1111/j.1540-6261.2008.01373.x

Brickley, J. A. (2003). Empirical research on CEO turnover and firm-performance: a discussion. *Journal of Accounting and Economics*, *36*(1), 227–233. https://doi.org/10.1016/j.jacceco.2003.09.003

Cannella, A. A., & Lubatkin, M. (1993). Succession as A Sociopolitical Process: Internal Impediments to Outsider Selection. *Academy of Management Journal*, *36*(4), 763–793. https://doi.org/10.2307/256758

Cannella, A. A., & Shen, W. (2001). So close and yet so far: promotion versus exit for CEO heirs apparent. *Academy of Management Journal*, *44*(2), 252–270.

Cappelli, P. (2008). Talent Management for the Twenty-First Century. *Harvard Business Review*, *86*(3), 74–81.

Cappelli, P., & Keller, J. (2014). Talent Management: Conceptual Approaches and Practical Challenges. *Annual Review of Organizational Psychology and Organizational Behavior*, *1*(1), 305–331. https://doi.org/10.1146/annurev-orgpsych-031413-091314

Carmichael, S. G., & Fernández-Aráoz, C. (2017). *Why More CEOs Should Be Hired from Within* (No. 605). Retrieved from https://hbr.org/ideacast/2017/11/why-more-ceos-should-be-hired-from-within.html

Carpenter, M. A., & Sanders, W. G. (2002). Top management team compensation: the missing link between CEO pay and firm performance? *Strategic Management Journal*, *23*(4), 367–375. https://doi.org/10.1002/smj.228

Carreyrou, J. (2018). *Bad Blood: Secrets and Lies in a Silicon Valley Startup*. New York: Knopf.

Certo, S. T., & Hodge, F. (2007). Top Management Team Prestige and Organizational Legitimacy: An Examination of Investor Perceptions. *Journal of Managerial Issues*, *19*(4), 461–477. Retrieved from JSTOR.

Chang, S.-J., van Witteloostuijn, A., & Eden, L. (2010). From the Editors: Common method variance in international business research. *Journal of International Business Studies*, *41*(2), 178–184. https://doi.org/10.1057/jibs.2009.88

Chen, G., & Hambrick, D. C. (2011). CEO Replacement in Turnaround Situations: Executive (Mis)Fit and Its Performance Implications. *Organization Science*, *23*(1), 225–243. https://doi.org/10.1287/orsc.1100.0629

Chen, X., Cheng, Q., & Dai, Z. (2013). Family ownership and CEO turnovers. *Contemporary Accounting Research*, *30*(3), 1166–1190. https://doi.org/10.1111/j.1911-3846.2012.01185.x

Cheng, J. Y.-J., & Groysberg, B. (2017). Why Boards Aren't Dealing with Cyberthreats. *Harvard Business Review (Digital Article)*. Retrieved from https://hbr.org/2017/02/why-boards-arent-dealing-with-cyberthreats

Chhaochharia, V., Grinstein, Y., Grullon, G., & Michaely, R. (2017). Product market competition and internal governance: evidence from the Sarbanes–Oxley Act. *Management Science*, *63*(5), 1405–1424.

Citrin, J. M., & Daum, J. (2011). *You Need a Leader--Now What?: How to Choose the Best Person for Your Organization*. New York: Crown Business.

Cohen, L., Frazzini, A., & Malloy, C. (2008). The Small World of Investing: Board Connections and Mutual Fund Returns. *Journal of Political Economy*, *116*(5), 951–979. https://doi.org/10.1086/592415

Cohen, L., Frazzini, A., & Malloy, C. (2010). Sell-Side School Ties. *The Journal of Finance*, *65*(4), 1409–1437. https://doi.org/10.1111/j.1540-6261.2010.01574.x

Cohen, L., Frazzini, A., & Malloy, C. J. (2012). Hiring Cheerleaders: Board Appointments of "Independent" Directors. *Management Science*, *58*(6), 1039–1058. https://doi.org/10.1287/mnsc.1110.1483

Conyon, M. J., & Peck, S. I. (1998). Board size and corporate performance: evidence from European countries. *The European Journal of Finance*, *4*(3), 291–304. https://doi.org/10.1080/135184798337317

Cooil, B., Aksoy, L., Keiningham, T. L., & Maryott, K. M. (2009). The Relationship of Employee Perceptions of Organizational Climate to Business-Unit Outcomes: An MPLS Approach. *Journal of Service Research*, *11*(3), 277–294. https://doi.org/10.1177/1094670508328984

Corbin, J., & Strauss, A. (2014). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (4 edition). Los Angeles: SAGE Publications, Inc.

Cragun, O. R., Nyberg, A. J., & Wright, P. M. (2016). CEO succession: what we know and where to go? *Journal of Organizational Effectiveness: People and Performance*, *3*(3), 222–264. https://doi.org/10.1108/JOEPP-02-2016-0015

Creswell, J. W. (2009). Mixed Methods Procedures. In *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (3rd ed., pp. 203–225). Los Angeles: Sage Publications.

Crossland, C., & Hambrick, D. C. (2011). Differences in managerial discretion across countries: How nation-level institutions affect the degree to which CEOs matter. *Strategic Management Journal*, *32*(8), 797–819. https://doi.org/10.1002/smj.913

Crossland, C., Zyung, J., Hiller, N. J., & Hambrick, D. C. (2014). CEO career variety: effects on firm-level strategic and social novelty. *Academy of Management Journal*, *57*(3), 652–674. https://doi.org/10.5465/amj.2012.0469

Custódio, C., Ferreira, M. A., & Matos, P. (2013). Generalists versus specialists: Lifetime work experience and chief executive officer pay. *Journal of Financial Economics*, *108*(2), 471–492. https://doi.org/10.1016/j.jfineco.2013.01.001

Daily, C. M., Certo, S. T., & Dalton, D. R. (1999). A decade of corporate women: some progress in the boardroom, none in the executive suite. *Strategic Management Journal*, *20*(1), 93–100. https://doi.org/10.1002/(SICI)1097-0266(199901)20:1<93::AID-SMJ18>3.0.CO;2-7

Dalton, D. R., Daily, C. M., Ellstrand, A. E., & Johnson, J. L. (1998). Meta-analytic reviews of board composition, leadership structure, and financial performance. *Strategic Management Journal*, *19*(3), 269–290. https://doi.org/10.1002/(SICI)1097-0266(199803)19:3<269::AID-SMJ950>3.0.CO;2-K

Dalton, D. R., & Kesner, I. F. (1983). Inside/Outside Succession and Organizational Size: The Pragmatics of Executive Replacement. *Academy of Management Journal*, *26*(4), 736–742. https://doi.org/10.2307/255919

Dalton, D. R., & Kesner, I. F. (1985). Organizational Performance as an Antecedent of Inside/Outside Chief Executive Succession: An Empirical Assessment. *Academy of Management Journal*, *28*(4), 749–762.

Datta, D. K., & Rajagopalan, N. (1998). Industry Structure and CEO Characteristics: An Empirical Study of Succession Events. *Strategic Management Journal*, *19*(9), 833–852.

Datta, D. K., Rajagopalan, N., & Zhang, Y. (2003). New CEO openness to change and strategic persistence: the moderating role of industry characteristics. *British Journal of Management*, *14*(2), 101–114. https://doi.org/10.1111/1467-8551.00268

David, P., Bloom, M., & Hillman, A. J. (2007). Investor activism, managerial responsiveness, and corporate social performance. *Strategic Management Journal*, *28*(1), 91–100. https://doi.org/10.1002/smj.571

Defond, M. L., Hann, R. N., & Hu, X. (2005). Does the Market Value Financial Expertise on Audit Committees of Boards of Directors? *Journal of Accounting Research*, *43*(2), 153–193. https://doi.org/10.1111/j.1475-679x.2005.00166.x

Dezsö, C. L., & Ross, D. G. (2012). Does female representation in top management improve firm performance? A panel data investigation. *Strategic Management Journal*, *33*(9), 1072–1089. https://doi.org/10.1002/smj.1955

Dichev, I. D., Graham, J. R., Harvey, C. R., & Rajgopal, S. (2013). Earnings quality: Evidence from the field. *Journal of Accounting and Economics*, *56*(2), 1–33. https://doi.org/10.1016/j.jacceco.2013.05.004

Edmondson, A. C., & McManus, S. E. (2007). Methodological Fit in Management Field Research. *The Academy of Management Review*, *32*(4), 1155–1179. https://doi.org/10.2307/20159361

Edmondson, A. C., Roberto, M. A., & Watkins, M. D. (2003). A dynamic model of top management team effectiveness: Managing unstructured task streams. *The Leadership Quarterly*, *14*(3), 297–325. https://doi.org/10.1016/S1048-9843(03)00021-3

Eisenberg, T., Sundgren, S., & Wells, M. T. (1998). Larger board size and decreasing firm value in small firms. *Journal of Financial Economics*, *48*(1), 35–54. https://doi.org/10.1016/S0304-405X(98)00003-8

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory Building From Cases: Opportunities And Challenges. *Academy of Management Journal*, *50*(1), 25–32. https://doi.org/10.5465/AMJ.2007.24160888

Erkens, D. H., Hung, M., & Matos, P. (2012). Corporate governance in the 2007–2008 financial crisis: Evidence from financial institutions worldwide. *Journal of Corporate Finance*, *18*(2), 389–411. https://doi.org/10.1016/j.jcorpfin.2012.01.005

Fama, E. F., & French, K. R. (2001). Disappearing dividends: changing firm characteristics or lower propensity to pay? *Journal of Financial Economics*, *60*(1), 3–43. https://doi.org/10.1016/S0304-405X(01)00038-1

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The Journal of Law & Economics*, *26*(2), 301–325.

Favaro, K., Karlsson, P.-O., & Neilson, G. L. (2015). The $112 billion CEO succession problem. *Strategy+business (PwC Strategy& LLC)*, (79).

Finkelstein, S., & D'Aveni, R. A. (1994). CEO Duality as a Double-Edged Sword: How Boards of Directors Balance Entrenchment Avoidance and Unity of Command. *Academy of Management Journal*, *37*(5), 1079–1108. https://doi.org/10.2307/256667

Finkelstein, S., & Hambrick, D. C. (1990). Top-Management-Team Tenure and Organizational Outcomes: The Moderating Role of Managerial Discretion. *Administrative Science Quarterly*, *35*(3), 484–503. https://doi.org/10.2307/2393314

Finkelstein, S., Hambrick, D. C., & Cannella, A. A. (2009). *Strategic Leadership: Theory and Research on Executives, Top Management Teams, and Boards*. New York: Oxford University Press.

Fortune, A., & Mitchell, W. (2012). Unpacking Firm Exit at the Firm and Industry Levels: The Adaptation and Selection of Firm Capabilities. *Strategic Management Journal*, *33*(7), 794–819. https://doi.org/10.1002/smj.972

Fracassi, C. (2016). Corporate Finance Policies and Social Networks. *Management Science*, *63*(8), 2420–2438. https://doi.org/10.1287/mnsc.2016.2433

Gamson, W. A., & Scotch, N. A. (1964). Scapegoating in Baseball. *American Journal of Sociology*, *70*(1), 69–72. https://doi.org/10.1086/223739

Gavetti, G. (2005). Cognition and Hierarchy: Rethinking the Microfoundations of Capabilities' Development. *Organization Science*, *16*(6), 599–617. https://doi.org/10.1287/orsc.1050.0140

Gerut, A. (2018, March 5). Toxic Culture Begs for Board Oversight. *Agenda (A Financial Times Service)*.

Giambatista, R. C., Rowe, W. G., & Riaz, S. (2005). Nothing succeeds like succession: A critical review of leader succession literature since 1994. *The Leadership Quarterly*, *16*(6), 963–991. https://doi.org/10.1016/j.leaqua.2005.09.005

Gibbons, R., & Henderson, R. (2011). Relational Contracts and Organizational Capabilities. *Organization Science*, *23*(5), 1350–1364. https://doi.org/10.1287/orsc.1110.0715

Gillan, S. L., & Starks, L. T. (2007). The Evolution of Shareholder Activism in the United States. *Journal of Applied Corporate Finance*, *19*(1), 55–73. https://doi.org/10.1111/j.1745-6622.2007.00125.x

Goldfarb, B., & King, A. A. (2016). Scientific apophenia in strategic management research: Significance tests & mistaken inference. *Strategic Management Journal*, *37*(1), 167–176. https://doi.org/10.1002/smj.2459

Goodman, P. S., Ravlin, E., & Schminke, M. (1987). Understanding groups in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 9, pp. 121–173). Greenwich, CT: JAI Press.

Goyal, V. K., & Park, C. W. (2002). Board leadership structure and CEO turnover. *Journal of Corporate Finance*, *8*(1), 49–66. https://doi.org/10.1016/S0929-1199(01)00028-1

Graebner, M. E., Martin, J. A., & Roundy, P. T. (2012). Qualitative data: Cooking without a recipe. *Strategic Organization*, *10*(3), 276–284. https://doi.org/10.1177/1476127012452821

Graffin, S. D., Boivie, S., & Carpenter, M. A. (2013). Examining CEO succession and the role of heuristics in early-stage CEO evaluation. *Strategic Management Journal*, *34*(4), 383–403. https://doi.org/10.1002/smj.2019

Graham, J. R., & Harvey, C. R. (2001). The theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics*, *60*(2–3), 187–243. https://doi.org/10.1016/S0304-405X(01)00044-7

Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, *40*(1–3), 3–73. https://doi.org/10.1016/j.jacceco.2005.01.002

Groysberg, B. (2010). *Chasing Stars: The Myth of Talent and the Portability of Performance*. Princeton, NJ: Princeton University Press.

Groysberg, B., Lee, L.-E., & Nanda, A. (2008). Can They Take It with Them? The Portability of Star Knowledge Workers' Performance. *Management Science*, *54*(7), 1213–1230.

Groysberg, B., McLean, A. N., & Nohria, N. (2006). Are leaders portable? *Harvard Business Review*, *84*(5), 92–100.

Groysberg, B., Polzer, J. T., & Elfenbein, H. A. (2011). Too Many Cooks Spoil the Broth: How High-Status Individuals Decrease Group Effectiveness. *Organization Science*, *22*(3), 722–737. https://doi.org/10.1287/orsc.1100.0547

Grusky, O. (1960). Administrative succession in formal organizations. *Social Forces*, *39*(2), 105–115.

Gryta, T., & Mann, T. (2018, December 14). GE Powered the American Century—Then It Burned Out. *Wall Street Journal*. Retrieved from https://www.wsj.com/articles/ge-powered-the-american-centurythen-it-burned-out-11544796010

Guiso, L., Sapienza, P., & Zingales, L. (2015). The value of corporate culture. *Journal of Financial Economics*, *117*(1), 60–76. https://doi.org/10.1016/j.jfineco.2014.05.010

Güner, A. B., Malmendier, U., & Tate, G. (2008). Financial expertise of directors. *Journal of Financial Economics*, *88*(2), 323–354. https://doi.org/10.1016/j.jfineco.2007.05.009

Hackman, J. R. (1976). Group influences on individuals. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1455–1525). Chicago, IL: Rand McNally.

Hackman, J. R. (1987). The design of work teams. In J. W. Lorsch (Ed.), *Handbook of organizational behavior* (pp. 315–342). Englewood Cliffs, NJ: Prentice-Hall.

Hackman, J. R. (2002). *Leading Teams: Setting the Stage for Great Performances*. Boston, MA: Harvard Business Review Press.

Hackman, J. R., & Morris, C. G. (1975). Group Tasks, Group Interaction Process, and Group Performance Effectiveness: A Review and Proposed Integration. *Advances in*

Experimental Social Psychology, *8*, 45–99. https://doi.org/10.1016/S0065-2601(08)60248-8

Hadlock, C. J., & Pierce, J. R. (2010). New Evidence on Measuring Financial Constraints: Moving Beyond the KZ Index. *The Review of Financial Studies*, *23*(5), 1909–1940. https://doi.org/10.1093/rfs/hhq009

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, *9*(2), 193–206. https://doi.org/10.2307/258434

Hambrick, D. C., & Quigley, T. J. (2014). Toward more accurate contextualization of the CEO effect on firm performance. *Strategic Management Journal*, *35*(4), 473–491. https://doi.org/10.1002/smj.2108

Harris, D., & Helfat, C. (1997). Specificity of CEO human capital and compensation. *Strategic Management Journal*, *18*(11), 895–920.

Harris, D., & Helfat, C. E. (1998). CEO duality, succession, capabilities and agency theory: commentary and research agenda. *Strategic Management Journal*, *19*(9), 901–904.

Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, *87*(2), 268–279. https://doi.org/10.1037/0021-9010.87.2.268

Helfat, C. E., & Bailey, E. E. (2005). External succession and disruptive change: heirs-apparent, forced turnover and firm performance. *Strategic Organization*, *3*(1), 47–83.

Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M., Singh, H., Teece, D., & Winter, S. G. (2009). *Dynamic Capabilities: Understanding Strategic Change in Organizations*. John Wiley & Sons.

Helmich, D. L., & Brown, W. B. (1972). Successor Type and Organizational Change in the Corporate Enterprise. *Administrative Science Quarterly*, *17*(3), 371–381. https://doi.org/10.2307/2392150

Helwege, J., Intintoli, V. J., & Zhang, A. (2012). Voting with their feet or activism? Institutional investors' impact on CEO turnover. *Journal of Corporate Finance*, *18*(1), 22–37. https://doi.org/10.1016/j.jcorpfin.2011.10.002

Henderson, R., & Cockburn, I. (1994). Measuring competence? Exploring firm effects in pharmaceutical research. *Strategic Management Journal*, *15*(S1), 63–84.

Hermalin, B. E., & Weisbach, M. S. (1988). The determinants of board composition. *The RAND Journal of Economics*, *19*(4), 589–606. https://doi.org/10.2307/2555459

Hermalin, B. E., & Weisbach, M. S. (2003). Boards of Directors as an Endogenously Determined Institution: A Survey of the Economic Literature. *Federal Reserve Bank of New York Economic Policy Review*, *9*(1), 7–26.

Hillman, A. J., Shropshire, C., & Cannella, A. A. (2007). Organizational Predictors of Women on Corporate Boards. *Academy of Management Journal*, *50*(4), 941–952. https://doi.org/10.5465/AMJ.2007.26279222

Holmström, B. (1999). Managerial Incentive Problems: A Dynamic Perspective. *The Review of Economic Studies*, *66*(1), 169–182. https://doi.org/10.1111/1467-937X.00083

Huson, M. R., Parrino, R., & Starks, L. T. (2001). Internal monitoring mechanisms and CEO turnover: A long-term perspective. *The Journal of Finance*, *56*(6), 2265–2297.

Jacquemin, A. P., & Berry, C. H. (1979). Entropy Measure of Diversification and Corporate Growth. *The Journal of Industrial Economics*, *27*(4), 359–369. https://doi.org/10.2307/2097958

Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *The Journal of Finance*, *48*(3), 831–880. https://doi.org/10.2307/2329018

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Jensen, M., & Zajac, E. J. (2004). Corporate elites and corporate strategy: how demographic preferences and structural position shape the scope of the firm. *Strategic Management Journal*, *25*(6), 507–524. https://doi.org/10.1002/smj.393

Kanter, R. M. (1977). Some Effects of Proportions on Group Life: Skewed Sex Ratios and Responses to Token Women. *American Journal of Sociology*, *82*(5), 965–990. https://doi.org/10.1086/226425

Karaevli, A. (2007). Performance consequences of new CEO "outsiderness": moderating effects of pre- and post-succession contexts. *Strategic Management Journal*, *28*(7), 681–706.

Karaevli, A., & Zajac, E. J. (2013). When do outsider CEOs generate strategic change? The enabling role of corporate stability. *Journal of Management Studies*, *50*(7), 1267–1294. https://doi.org/10.1111/joms.12046

Karpoff, J. M., Malatesta, P. H., & Walkling, R. A. (1996). Corporate governance and shareholder initiatives: Empirical evidence. *Journal of Financial Economics*, *42*(3), 365–395. https://doi.org/10.1016/0304-405X(96)00883-5

Katz, R. (1982). The Effects of Group Longevity on Project Communication and Performance. *Administrative Science Quarterly*, *27*(1), 81–104. https://doi.org/10.2307/2392547

Kesner, I. F., & Dalton, D. R. (1994). Top Management Turnover and CEO Succession: An Investigation of the Effects of Turnover on Performance. *Journal of Management Studies*, *31*(5), 701–713. https://doi.org/10.1111/j.1467-6486.1994.tb00635.x

Kesner, I. F., & Sebora, T. C. (1994). Executive succession: Past, present & future. *Journal of Management*, *20*(2), 327–372.

Khurana, R. (2002). *Searching for a Corporate Savior: The Irrational Quest for Charismatic CEOs*. Princeton, NJ: Princeton University Press.

Khurana, R., & Nohria, N. (2000). The Performance Consequences of CEO Turnover. *SSRN Working Paper No. 219129*.

Khurana, R., & Pick, K. (2004). The Social Nature of Boards Corporate Misbehavior by Elite Decision-Makers Symposium - Perspectives from Law and Social Psychology. *Brooklyn Law Review*, *70*, 1259–1286.

Kirkpatrick, G. (2009). *The Corporate Governance Lessons from the Financial Crisis* (p. 30). OECD.

Kor, Y. Y., & Misangyi, V. F. (2008). Outside directors' industry-specific experience and firms' liability of newness. *Strategic Management Journal*, *29*(12), 1345–1355. https://doi.org/10.1002/smj.709

Kosoff, M. (2017, May 30). A Secret Behind Theranos's Downfall Is Revealed. *Vanity Fair: The Hive*.

Kotter, J. P., & Heskett, J. L. (1992). *Corporate Culture and Performance*. New York: Free Press.

Kozlowski, S. W. J., & Bell, B. S. (2003). Work groups and teams in organizations. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Handbook of psychology: Industrial and organizational psychology* (Vol. 12, pp. 333–375). https://doi.org/10.1002/0471264385.wei1214

Kozlowski, S. W. J., & Ilgen, D. R. (2006). Enhancing the Effectiveness of Work Groups and Teams. *Psychological Science in the Public Interest*, *7*(3), 77–124. https://doi.org/10.1111/j.1529-1006.2006.00030.x

Kraatz, M. S., & Moore, J. H. (2002). Executive Migration and Institutional Change. *Academy of Management Journal*, *45*(1), 120–143. https://doi.org/10.5465/3069288

Krause, R., Semadeni, M., & Cannella, A. A. (2014). CEO Duality: A Review and Research Agenda. *Journal of Management*, *40*(1), 256–286. https://doi.org/10.1177/0149206313503013

Krishnan, G. V., & Visvanathan, G. (2008). Does the SOX Definition of an Accounting Expert Matter? The Association between Audit Committee Directors' Accounting Expertise and Accounting Conservatism*. *Contemporary Accounting Research*, *25*(3), 827–858. https://doi.org/10.1506/car.25.3.7

Kroll, M., Walters, B. A., & Wright, P. (2008). Board vigilance, director experience, and corporate outcomes. *Strategic Management Journal*, *29*(4), 363–382. https://doi.org/10.1002/smj.649

Larcker, D. F., & Saslow, S. (2014). *2014 report on senior executive succession planning and talent development*. Retrieved from Stanford Graduate School of Business, The Institute of Executive Development, The Rock Center for Corporate Governance website: https://www.gsb.stanford.edu/sites/gsb/files/publication-pdf/cgri-survey-2014-senior-executive-succession.pdf

Larcker, D. F., & Tayan, B. (2010). *CEO Succession Planing: Who's Behind Door Number One* (pp. 1–7).

Larcker, D., & Tayan, B. (2011). *Corporate Governance Matters: A Closer Look at Organizational Choices and Their Consequences* (1 edition). FT Press.

Lausten, M. (2002). CEO turnover, firm performance and corporate governance: empirical evidence on Danish firms. *International Journal of Industrial Organization*, *20*(3), 391–414. https://doi.org/10.1016/S0167-7187(00)00083-7

Lauterbach, B., Vu, J., & Weisberg, J. (1999). Internal vs. external successions and their effect on firm performance. *Human Relations*, *52*(12), 1485–1504. https://doi.org/10.1023/A:1016980918820

Lawrence, P. R., & Lorsch, J. W. (1967). *Organization and Environment: Managing Differentiation and Integration*. Boston, MA: Harvard Business School, Division of Research.

Lazear, E. P. (1991). Labor Economics and the Psychology of Organizations. *Journal of Economic Perspectives*, *5*(2), 89–110. https://doi.org/10.1257/jep.5.2.89

Levinson, H. (1974). Don't choose your own successor. *Harvard Business Review*, *52*(6), 53.

Lindell, M. K., & Brandt, C. J. (2000). Climate quality and climate consensus as mediators of the relationship between organizational antecedents and outcomes. *Journal of Applied Psychology*, *85*(3), 331–348. https://doi.org/10.1037/0021-9010.85.3.331

Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, *86*(1), 114–121. https://doi.org/10.1037/0021-9010.86.1.114

Lipton, M., & Lorsch, J. W. (1992). A modest proposal for improved corporate governance. *The Business Lawyer*, *48*(1), 59–77.

Locke, K. (2001). *Grounded theory in management research*. Retrieved from http://nrs.harvard.edu/urn-3:hul.ebookbatch.GEN_batch:20170318EDZ0000086217

Lorsch, J. W. (2017). Understanding Boards of Directors: A Systems Perspective. *Annals of Corporate Governance*, *2*(1), 1–49.

Lorsch, J. W., & MacIver, E. (1989). *Pawns or Potentates: The Reality of America's Corporate Boards*. Boston, MA: Harvard Business School Press.

Mahler, W. (1980). Management succession planning: New approaches for the 80's. *Human Resource Planning*, *13*(4), 221–227.

Malmendier, U., & Tate, G. (2005). CEO overconfidence and corporate investment. *The Journal of Finance*, *60*(6), 2661–2700.

Malmendier, U., Tate, G., & Yan, J. (2011). Overconfidence and Early-Life Experiences: The Effect of Managerial Traits on Corporate Financial Policies. *The Journal of Finance*, *66*(5), 1687–1733. https://doi.org/10.1111/j.1540-6261.2011.01685.x

March, J. C., & March, J. G. (1977). Almost Random Careers: The Wisconsin School Superintendency, 1940-1972. *Administrative Science Quarterly*, *22*(3), 377–409. https://doi.org/10.2307/2392180

Matsa, D. A., & Miller, A. R. (2013). A Female Style in Corporate Leadership? Evidence from Quotas. *American Economic Journal: Applied Economics*, *5*(3), 136–169. https://doi.org/10.1257/app.5.3.136

McCahery, J. A., Sautner, Z., & Starks, L. T. (2016). Behind the Scenes: The Corporate Governance Preferences of Institutional Investors. *The Journal of Finance*, *71*(6), 2905–2932. https://doi.org/10.1111/jofi.12393

McDonald, M. L., & Westphal, J. D. (2013). Access denied: low mentoring of women and minority first-time directors and its negative effects on appointments to additional boards. *Academy of Management Journal*, *56*(4), 1169–1198. https://doi.org/10.5465/amj.2011.0230

Michael, N., & Conlin, B. (2017). *Your CEO Succession Playbook: How to Pass the Torch So Everyone Wins*. Trifold Publishing.

Miller, D. (1991). Stale in the Saddle: CEO Tenure and the Match Between Organization and Environment. *Management Science*, *37*(1), 34–52. https://doi.org/10.1287/mnsc.37.1.34

Mobbs, S., & Raheja, C. G. (2012). Internal managerial promotions: Insider incentives and CEO succession. *Journal of Corporate Finance*, *18*(5), 1337–1353. https://doi.org/10.1016/j.jcorpfin.2012.09.001

Montgomery, C. (2012). *The Strategist: Be the Leader Your Business Needs*. Harper Collins.

Najipoor-Schuette, K., & Patton, D. (2018). *The CEO: A Personal Reflection*. Egon Zehnder.

National Association of Corporate Directors. (2016). *2016-2017 NACD Public Company Governance Survey*.

Naveen, L. (2006). Organizational complexity and succession planning. *The Journal of Financial and Quantitative Analysis*, *41*(3), 661–683.

Nawaz, S. (2017). The biggest mistakes new executives make. *Harvard Business Review (Digital Article)*. Retrieved from https://hbr.org/2017/05/the-biggest-mistakes-new-executives-make

Nguyen, B. D. (2012). Does the Rolodex Matter? Corporate Elite's Small World and the Effectiveness of Boards of Directors. *Management Science*, *58*(2), 236–252. https://doi.org/10.1287/mnsc.1110.1457

Nicholson, G., & Newton, C. (2010). The role of the board of directors: Perceptions of managerial elites. *Journal of Management & Organization*, *16*(2), 204–218. https://doi.org/10.1017/S1833367200002133

Noda, T., & Bower, J. L. (1996). Strategy Making as Iterated Processes of Resource Allocation. *Strategic Management Journal*, *17*, 159–192.

Ocasio, W. (1994). Political dynamics and the circulation of power: CEO succession in U.S. industrial corporations, 1960-1990. *Administrative Science Quarterly*, *39*(2), 285–312. https://doi.org/10.2307/2393237

Ocasio, W. (1997). Towards an Attention-Based View of the Firm. *Strategic Management Journal*, *18*, 187–206.

OECD. (2015). *G20/OECD Principles of Corporate Governance*. Paris, France.

Palepu, K. (1985). Diversification strategy, profit performance and the entropy measure. *Strategic Management Journal*, *6*(3), 239–255. https://doi.org/10.1002/smj.4250060305

Paruchuri, S., & Misangyi, V. F. (2015). Investor perceptions of financial misconduct: the heterogeneous contamination of bystander firms. *Academy of Management Journal*, *58*(1), 169–194. https://doi.org/10.5465/amj.2012.0704

Peter, D. L. J., & Hull, R. (1969). *The Peter Principle: Why Things Always Go Wrong*. New York: William Morrow.

Pfeffer, J. (1972). Size and composition of corporate boards of directors: The organization and its environment. *Administrative Science Quarterly*, *17*(2), 218–228. https://doi.org/10.2307/2393956

Pfeffer, J., & Salancik, G. R. (1978). *The External Control of Organizations: A Resource Dependence Perspective*. New York: Harper & Row.

Ployhart, R. E., Weekley, J. A., & Baughman, K. (2006). The structure and function of human capital emergence: A multilevel examination of the attraction-selection-attrition model. *The Academy of Management Journal*, *49*(4), 661–677. https://doi.org/10.2307/20159791

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Podsakoff, P. M., & Organ, D. W. (1986). Self-Reports in Organizational Research: Problems and Prospects. *Journal of Management*, *12*(4), 531–544. https://doi.org/10.1177/014920638601200408

PwC Strategy&. (2016). *2015 CEO Success Study: Outsider CEOs (Briefing Document)*. PwC.

Quigley, T. J., & Hambrick, D. C. (2015). Has the "CEO effect" increased in recent decades? A new explanation for the great rise in America's attention to corporate leaders. *Strategic Management Journal*, *36*(6), 821–830. https://doi.org/10.1002/smj.2258

Rachpradit, P., Tang, J. C. S., & Khang, D. B. (2012). CEO turnover and firm performance, evidence from Thailand. *Corporate Governance*, *12*(2), 164–178. http://dx.doi.org/10.1108/14720701211214061

Rhodes, D. W., & Walker, J. W. (1984). Management succession and development planning. *Human Resource Planning*, *7*(4), 157–173.

Romanelli, E., & Tushman, M. L. (1994). Organizational transformation as punctuated equilibrium: An empirical test. *Academy of Management Journal*, *37*(5), 1141–1166. https://doi.org/10.2307/256669

Salancik, G. R. (1977). Commitment and the control of organizational behavior and belief. In B. M. Staw & G. R. Salancik (Eds.), *New Directions in Organizational Behavior* (pp. 1–54). Chicago: St. Clair Press.

Saporito, T. J., & Winum, P. (2012). *Inside CEO Succession: The Essential Guide to Leadership Transition*. Mississauga, Ontario: John Wiley & Sons.

Schneider, B. (1987). The People Make the Place. *Personnel Psychology*, *40*(3), 437–453. https://doi.org/10.1111/j.1744-6570.1987.tb00609.x

Serfling, M. A. (2014). CEO age and the riskiness of corporate policies. *Journal of Corporate Finance*, *25*, 251–273. https://doi.org/10.1016/j.jcorpfin.2013.12.013

Sharma, V. D., & Iselin, E. R. (2012). The Association between Audit Committee Multiple-Directorships, Tenure, and Financial Misstatements. *Auditing: A Journal of Practice & Theory*, *31*(3), 149–175. https://doi.org/10.2308/ajpt-10290

Shen, W., & Cannella, A. A. (2002). Revisiting the performance consequences of CEO succession: the impacts of successor type, postsuccession senior executive turnover, and departing CEO tenure. *The Academy of Management Journal*, *45*(4), 717–733. https://doi.org/10.2307/3069306

Shen, W., & Cannella, A. A. (2003). Will succession planning increase shareholder wealth? Evidence from investor reactions to relay CEO successions. *Strategic Management Journal*, *24*(2), 191–198. https://doi.org/10.1002/smj.280

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *The Journal of Finance*, *52*(2), 737–783. https://doi.org/10.2307/2329497

Sonnenfeld, J. (2004). Good governance and the misleading myths of bad metrics. *Academy of Management Perspectives*, *18*(1), 108–113. https://doi.org/10.5465/ame.2004.12689497

Srinidhi, B., Gul, F. A., & Tsui, J. (2011). Female directors and earnings quality. *Contemporary Accounting Research*, *28*(5), 1610–1644. https://doi.org/10.1111/j.1911-3846.2011.01071.x

Steinbach, A. L., Holcomb, T. R., Holmes, R. M., Devers, C. E., & Cannella, A. A. (2017). Top management team incentive heterogeneity, strategic investment behavior, and performance: A contingency theory of incentive alignment. *Strategic Management Journal*, *38*(8), 1701–1720. https://doi.org/10.1002/smj.2628

Stern, I., & Westphal, J. D. (2010). Stealthy Footsteps to the Boardroom: Executives' Backgrounds, Sophisticated Interpersonal Influence Behavior, and Board Appointments. *Administrative Science Quarterly*, *55*(2), 278–319.

Tichy, N. M. (2014). *Succession: Mastering the Make-or-Break Process of Leadership Transition*. New York: Portfolio.

Tonello, M., Wilcox, J. C., & Eichbaum, J. (2009). *The Role of the Board in Turbulent Times: CEO Succession Planning* (No. 312; pp. 1–19). The Conference Board.

Torres, R. (2014). The Rise of the Not-So-Experienced CEO. *Harvard Business Review (Digital Article)*. Retrieved from https://hbr.org/2014/12/the-rise-of-the-not-so-experienced-ceo

Torres, R., Hansell, G., Foster, K., & Baron, D. (2014). *Leapfrog Succession: A New Trend in Appointing CEOs?* Boston Consulting Group.

Tushman, M. L., Newman, W. H., & Romanelli, E. (1986). Convergence and Upheaval: Managing the Unsteady Pace of Organizational Evolution. *California Management Review*, *29*(1), 29–44. https://doi.org/10.2307/41165225

U.S. Securities and Exchange Commission. (2009). *Staff Legal Bulletin No. 14E (Shareholder Proposals)*. Retrieved from https://www.sec.gov/interps/legal/cfslb14e.htm

Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics*, *53*(1), 113–142. https://doi.org/10.1016/S0304-405X(99)00018-5

Vafeas, N. (2003). Length of Board Tenure and Outside Director Independence. *Journal of Business Finance & Accounting*, *30*(7–8), 1043–1064. https://doi.org/10.1111/1468-5957.05525

Van den Steen, E. (2010). On the origin of shared beliefs (and corporate culture). *RAND Journal of Economics*, *41*(4), 617–648. https://doi.org/10.1111/j.1756-2171.2010.00114.x

Vancil, R. F. (1987). *Passing the Baton: Managing the Process of CEO Succession*. Boston, MA: Harvard Business School Press.

Virany, B., Tushman, M. L., & Romanelli, E. (1992). Executive succession and organization outcomes in turbulent environments: an organization learning approach. *Organization Science*, *3*(1), 72–91.

Wageman, R., Hackman, J. R., & Lehman, E. (2005). Team Diagnostic Survey: Development of an Instrument. *The Journal of Applied Behavioral Science*, *41*(4), 373–398. https://doi.org/10.1177/0021886305281984

Wagner, W. G., Pfeffer, J., & O'Reilly, C. A. (1984). Organizational Demography and Turnover in Top-Management Group. *Administrative Science Quarterly*, *29*(1), 74–92. https://doi.org/10.2307/2393081

Walker, A., Machold, S., & Ahmed, P. K. (2015). Diversity and Conflict in Boards of Directors. *International Studies of Management & Organization*, *45*(1), 25–42. https://doi.org/10.1080/00208825.2015.1005995

Warner, J. B., Watts, R. L., & Wruck, K. H. (1988). Stock prices and top management changes. *Journal of Financial Economics*, *20*, 461–492. https://doi.org/10.1016/0304-405X(88)90054-2

Wasserman, N. (2003). Founder-CEO Succession and the Paradox of Entrepreneurial Success. *Organization Science*, *14*(2), 149–172. https://doi.org/10.1287/orsc.14.2.149.14995

Wasserman, N. (2008). Revisiting the Strategy, Structure, and Performance Paradigm: The Case of Venture Capital. *Organization Science*, *19*(2), 241–259. https://doi.org/10.1287/orsc.1070.0309

Wasserman, N. (2017). The throne vs. the kingdom: Founder control and value creation in startups. *Strategic Management Journal*, *38*(2), 255–277. https://doi.org/10.1002/smj.2478

Wasserman, N., Anand, B., & Nohria, N. (2010). When does leadership matter? A contingent opportunities view of CEO leadership. In N. Nohria & R. Khurana (Eds.), *Handbook of Leadership Theory and Practice* (pp. 27–63). Boston, MA: Harvard Business Press.

Watson, W., Stewart, W. H., & BarNir, A. (2003). The effects of human capital, organizational demography, and interpersonal processes on venture partner perceptions of firm profit and growth. *Journal of Business Venturing*, *18*(2), 145–164. https://doi.org/10.1016/S0883-9026(01)00082-9

Weaver, C. (2017, May 30). Court Documents Shed Light on Theranos Board's Response to Crisis. *Wall Street Journal*. Retrieved from https://www.wsj.com/articles/court-documents-shed-light-on-theranos-boards-response-to-crisis-1496136600

Weisbach, M. S. (1988). Outside directors and CEO turnover. *Journal of Financial Economics*, *20*, 431–460. https://doi.org/10.1016/0304-405X(88)90053-0

Westphal, J. D. (1999). Collaboration in the boardroom: behavioral and performance consequences of CEO-board social ties. *The Academy of Management Journal*, *42*(1), 7–24. https://doi.org/10.2307/256871

Westphal, J. D., & Fredrickson, J. W. (2001a). Who directs strategic change? Director experience, the selection of new CEOs, and change in corporate strategy. *Strategic Management Journal*, *22*(12), 1113–1137. https://doi.org/10.1002/smj.205

Westphal, J. D., & Fredrickson, J. W. (2001b). Who Directs Strategic Change? Director Experience, the Selection of New CEOs, and Change in Corporate Strategy. *Strategic Management Journal*, *22*(12), 1113–1137.

Westphal, J. D., & Stern, I. (2006). The other pathway to the boardroom: interpersonal influence behavior as a substitute for elite credentials and majority status in obtaining board appointments. *Administrative Science Quarterly*, *51*(2), 169–204. https://doi.org/10.2189/asqu.51.2.169

Westphal, J. D., & Stern, I. (2007). Flattery will get you everywhere (especially if you are a male Caucasian): how ingratiation, boardroom behavior, and demographic minority status affect additional board appointments at U.S. companies. *The Academy of Management Journal*, *50*(2), 267–288. https://doi.org/10.2307/20159854

Westphal, J. D., & Zajac, E. J. (1995). Who shall govern? CEO/board power, demographic similarity, and new director selection. *Administrative Science Quarterly*, *40*(1), 60–83. https://doi.org/10.2307/2393700

Wiersema, M. F. (1992). Strategic Consequences of Executive Succession Within Diversified Firms. *Journal of Management Studies*, *29*(1), 73–94. https://doi.org/10.1111/j.1467-6486.1992.tb00653.x

Wiersema, M. F., & Bantel, K. A. (1992). Top Management Team Demography and Corporate Strategic Change. *The Academy of Management Journal*, *35*(1), 91–121. https://doi.org/10.2307/256474

Wright, P. M., Nyberg, A. J., Schepker, D. J., & Ulrich, M. D. (2014). *CEO Assessment and Onboarding: Results of the 2014 HR@Moore Survey of Chief HR Officers*. University of South Carolina, Darla Moore School of Business: Center for Executive Succession.

Wu, Y. (2004). The impact of public opinion on board structure changes, director career progression, and CEO turnover: Evidence from CalPERS' corporate governance program. *Journal of Corporate Finance*, *10*(1), 199–227. https://doi.org/10.1016/S0929-1199(03)00024-5

Xie, B., Davidson, W. N., & DaDalt, P. J. (2003). Earnings management and corporate governance: the role of the board and the audit committee. *Journal of Corporate Finance*, *9*(3), 295–316. https://doi.org/10.1016/S0929-1199(02)00006-8

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics*, *40*(2), 185–211. https://doi.org/10.1016/0304-405X(95)00844-5

Yim, S. (2013). The acquisitiveness of youth: CEO age and acquisition behavior. *Journal of Financial Economics*, *108*(1), 250–273. https://doi.org/10.1016/j.jfineco.2012.11.003

Zajac, E. J. (1990). CEO selection, succession, compensation and firm performance: a theoretical integration and empirical analysis. *Strategic Management Journal*, *11*(3), 217–230. https://doi.org/10.1002/smj.4250110304

Zajac, E. J., & Westphal, J. D. (1996). Who shall succeed? How CEO/board preferences and power affect the choice of new CEOs. *Academy of Management Journal*, *39*(1), 64–90. https://doi.org/10.2307/256631

Zhang, Y. (2008). Information asymmetry and the dismissal of newly appointed CEOs: an empirical investigation. *Strategic Management Journal*, *29*(8), 859–872. https://doi.org/10.1002/smj.689

Zhang, Y., & Rajagopalan, N. (2003). Explaining new CEO origin: firm versus industry antecedents. *Academy of Management Journal*, *46*(3), 327–338. https://doi.org/10.2307/30040626

Zhang, Y., & Rajagopalan, N. (2004). When the known devil is better than an unknown God: an empirical study of the antecedents and consequences of relay CEO successions. *Academy of Management Journal*, *47*(4), 483–500. https://doi.org/10.2307/20159598

Zhang, Y., & Rajagopalan, N. (2010). Once an outsider, always an outsider? CEO origin, strategic change, and firm performance. *Strategic Management Journal*, *31*(3), 334–346. https://doi.org/10.1002/smj.812

Zhu, D. H., & Chen, G. (2015a). CEO Narcissism and the Impact of Prior Board Experience on Corporate Strategy. *Administrative Science Quarterly*, *60*(1), 31–65. https://doi.org/10.1177/0001839214554989

Zhu, D. H., & Chen, G. (2015b). Narcissism, director selection, and risk-taking spending. *Strategic Management Journal*, *36*(13), 2075–2098. https://doi.org/10.1002/smj.2322

Zorn, M. L., Shropshire, C., Martin, J. A., Combs, J. G., & Ketchen, D. J. (2017). Home alone: the effects of lone-insider boards on CEO pay, financial misconduct, and firm performance. *Strategic Management Journal*, *38*(13), 2623–2646. https://doi.org/10.1002/smj.2661