

Social Governance

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Corporate directors, like most people, are social creatures, and their social networks affect their decisions. But directors' social networks remain both understudied and undertheorized by scholars and inconsistently addressed by courts. This Article comprehensively examines the importance of director networks to corporate governance for the first time. Using qualitative and quantitative data, the Article uncovers the importance of director networks to corporate governance and the implications that network theory poses for the study of corporate law. In doing so, the Article tackles an understudied corner of corporate decision-making at a critical time, when directors have an outsized influence over their companies and in many cases, the United States economy as a whole.

This Article builds on a robust literature in corporate governance and decision-making. Much of the existing scholarship has focused on whether directors—especially “busy directors” who serve on multiple boards—are meeting investors' and regulators' expectations. However, the literature overlooks an important aspect of busyness, that when directors serve on multiple boards, they also build a social network that extends beyond the companies they serve, spanning several degrees of separation. This Article shows how these broader connections affect corporate governance and discusses the legal implications of what it terms as “Social Governance.”

This Article makes three contributions to the literature. First, the Article identifies the significance of network theory to contemporary corporate governance discourse and develops a theoretical framework to better account for directors' service on multiple boards. Second, it empirically examines the direct impact that director networks have on the governance of public firms. It does so through an original data set that reveals some of the positive effects that director networks have on companies' governance and further demonstrates how network analysis adds important insights to existing empirical studies regarding director service on multiple boards. Finally, the Article suggests that the current discourse by regulators, institutional investors, and academics may underestimate the importance that director networks have for companies. The Article then suggests several policy reforms to address these findings.

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Introduction

Corporate America is a social network. Interpersonal connections have an increasingly important role in corporate boardrooms, where on a daily basis board members make decisions that have immense impact not only on the economy but also on the underlying social fabric of our society. Environmental policies, employee compensation, cybersecurity risk and other important governance issues are all shaped by directors’ and managers’ observations and interactions with other directors and companies,¹ what this article terms as “Social Governance.”

A surge of recent interest in board member connections has focused on “interlocks”—directors who sit on the boards of multiple companies.² The research

¹ Yaron Nili & Cathy Hwang, *Shadow Governance*, 108 CALIF. L. REV. (forthcoming 2020) (discussing the way corporations adopt internal policies).

² Michal Barzuza & Quinn Curtis, *Board Interlocks and Corporate Governance* 39 DEL. J. CORP. L. 699 (2015) (calling for more scholarly attention on director interlocks); Michal Barzuza & Quinn Curtis, *Board Interlocks and Outside Directors’ Protection* 46 J. LEGAL STUD. 129 (2017) (studying the role of director interlocks on

has produced mixed evidence. A number of studies have found interlocks correlated with positive governance outcomes such as communication of best practices,³ better board composition,⁴ spread of legal information,⁵ and fewer accounting restatements.⁶ Other studies, however, have found them to be associated with negative outcomes such as options backdating,⁷ more earnings management,⁸ and the increased spread of poison pills.⁹ These seemingly conflicting findings have been difficult to reconcile.

We show that there is a missing piece to the puzzle—director networks—that helps to explain some of these divergent findings and provides an important, yet underexplored, insight into what we term as Social Governance. Director networks are the web of *both* direct and indirect connections that directors create. In other words, director networks account for multiple degrees of separation and connectivity that the literature has largely overlooked thus far.

Importantly, director networks offer an alternative to the way that scholars and policymakers have treated directors' service on multiple boards to date. Most scholars have considered only the direct effect of overlapping board seats on corporate governance, but this narrow approach overlooks the importance of the depth, breadth and structure of director networks.

This Article makes several key contributions to the existing literature. First, it makes the case that the prevailing scholarly and policymaking focus on interlocks—direct connections—is too narrow, and that the *structure* of board networks matters as much, if not more, than interlocks alone. By structure, we mean

indemnification protection, finding that interlocks contribute to outside directors' knowledge and bargaining power); Jay J. Janney & Steve Gove, *Firm Linkages to Scandals via Directors and Professional Service Firms: Insights from the Backdating Scandal*, 140 J. BUS. ETHICS. 65 (2017) (examining the backdating scandal in terms of firms that were linked to problem firms through interlocking directors); Natalia Ortiz de Mandojana & Jaun Alberto Aragon-Correa, *Boards and Sustainability: The Contingent Influence of Director Interlocks on Corporate Environmental Performance*, 24 BUS. STRAT. ENV. 499 (2015) (analyzing interlocks' effect on firms' environmental policies).

³ See Christa H. S. Bouwman, *Corporate Governance Propagation Through Overlapping Directors*, 24 REV. FIN. STUD. 2358, 2358–59 (2011).

⁴ *Id.* To the extent the separation of the roles is indeed a good governance practice. See, e.g., Yaron Nili, *Successor CEOs*, 99 B.U. L. REV. 787 (2019).

⁵ See Barzuza & Curtis, *Board Interlocks and Corporate Governance*, *supra* note 2 at 685–86; Michal Barzuza & Quinn Curits, *Interlocking Board Seats and Protection for Directors After School*, 8 (Va. L. & Econ. Res. Paper No. 2013-11, 2013), <http://perma.cc/R9S8-8GFE> [hereinafter *Interlocking Board Seats*].

⁶ Thomas C. Omer et al., *Do Director Networks Matter for Financial Reporting Quality? Evidence from Restatements*, (Jun. 1, 2014), [<http://perma.cc/J2SX-EETY>] (finding that companies with more-connected directors are less likely to misstate their annual results).

⁷ John M. Bizjak et al., *Option Backdating and Board Interlocks*, 22 REV. FIN. STUD. 4821, 4826 (2009) (reporting that 80% of the firms in their sample shared at least one director and that “our results indicate that board interlocks appear to be an important factor in facilitating the spread of backdating of option grants”).

⁸ See Peng-Chia Chiu et al., *Board Interlocks and Earnings Management Contagion*, 88 ACCT. REV. 915, 916 (2013) (finding evidence that firms with interlocked boards are more likely to manage their earnings).

⁹ Gerald F. Davis, *Agents Without Principles? The Spread of the Poison Pill Through the Intercorporate Network*, 36 ADMIN. SCI. Q. 583, 606 (1991) (“These results provide . . . support for the interorganizational hypotheses for when and why firms would adopt poison pills.”).

characteristics of networks that most people understand intuitively and that network theory has embraced, but that corporate interlock literature has yet to examine. To illustrate, if a person has five friends, those friends establish a network. But if we stopped at that, as the current interlock literature does, we would think that every person within that friend group of five people has the same social network. However, the network is not defined just by those friends, but by who else those five friends know. If all the friends are solitary and have no other friends, this would be a different sort of network than if all five friends have many other contacts. The problem with the current literature on board interlocks is that it stops at the five initial friends when assessing directors' connections.

Second, we use an empirical study to show that directors' broader networks are important for corporate governance. We do this with a natural experiment, using the unexpected deaths of directors holding office as shocks to the directors' professional networks. We examine the effect that abrupt changes to directors' networks have on financial reporting and corporate governance ratings, both for the company that loses the director, and for connected companies whose director networks are indirectly affected by the loss.¹⁰ In doing so, we show that sudden changes in board personnel reverberate through the web of director connections.

Third, we show that network *structure* is important for understanding corporate governance and helps to reconcile previous conflicting studies. For example, a well-known academic paper found that more interlocked boards were associated with options backdating, a manipulative practice.¹¹ When aspects of network structure are introduced into the analysis, however, the importance of interlocks diminishes, and even reverses. Specifically, we find that network structures with fewer degrees of separation and more tightly clustered memberships are more predictive of options backdating than interlocks alone, using the same analysis. This not only bolsters the hypothesis that networks help to transmit information, but also helps to describe which *kinds* of networks facilitate the transmission information, especially nefarious practices.

Finally, we discuss the implications of these findings for policy and for the courts. The first implication is for the debate over director "busyness."¹² Recent

¹⁰ Financial reporting has been found to be an important indicator of good corporate governance. *See, e.g.,* Chris Armstrong, Wayne Guay, Hamid Mehran & Joseph Webber, *The Role of Financial Reporting and Transparency in Corporate Governance*, 2016 ECON. POL'Y REV. 107, 108 (2016) (reviewing research on the link between good corporate governance and good accounting practices); Louis Lowenstein, *Financial Transparency and Corporate Governance: You Manage What You Measure*, 96 COLUM. L. REV. 5, 7 (1996) (discussing the relationship between good corporate governance and accounting practices).

¹¹ *See* Peter J. Snyder, Richard L. Priem & Edward Levitas, *The Diffusion Of Illegal Innovations Among Management Elites*, 1 ACAD. MGMT. PROC. (2009).

¹² *See generally* Antonio Falato, *Distracted Directors: Does Board Busyness Hurt Shareholder Value?*, 113 J. FIN. ECON. 404 (2014); Alexander Ljungqvist & Konrad Raff, *Busy Directors: Strategic Interaction & Monitoring Synergies*, NAT'L BUREAU OF ECON. RES. (Sep. 2017). *See also* Institutional Shareholder Services, *2016 Benchmark Policy Recommendations* 6 (Nov. 20, 2015) available at <https://www.issgovernance.com/file/policy/2016-america-policy-updates.pdf> (summarizing academic research defining "busy" as a director who serves on three or more

scholarship and policy have focused on whether or not directors with multiple board memberships are bad for governance because they are too busy to be effective. Our research shows that multiple board memberships have offsetting benefits that might counteract the busyness problem. The second implication is for courts. Courts in Delaware and elsewhere have perceived that social networks matter, but so far have lacked a consistent way to analyze the existence of such networks. We explore how network theory can help to explain and inform certain court decisions in a more consistent manner.

Importantly, the stakes are high. A board of directors sets the direction of a company, makes major decisions, and ultimately has an outsized influence on the company, the industry in which the company operates, and the United States economy as a whole.¹³ But as with other sectors of society, the boardroom is not an egalitarian place: boards are overwhelmingly occupied by the same faces, and that fact has, in recent years, spurred important theoretical and practical conversations about board diversity,¹⁴ anti-competitiveness,¹⁵ and the role of the corporation in society.¹⁶

To illustrate how our approach and findings help to expand our understanding of the social context of corporate governance beyond interlocks, consider Robert Napier, a former director of Hewlett-Packard before his premature death in office at the age of 57. Apart from his service on the Hewlett-Packard Board, Napier sat on several other boards including AT&T and Lucent Technologies.¹⁷ Napier's service on these boards overlapped with several directors of a company called Hudson Highland Group. Shortly after Napier passed away in 2003, Hudson suffered governance lapses in precisely the same areas for which Napier was known as an expert, by failing to have an IT system in place to comply with tax laws.¹⁸ The relationship between Napier's death and Hudson's failure seem

boards); Bradley W. Benson et. al., *Do Busy Directors & CEOs Shirk Their Responsibilities? Evidence from Mergers & Acquisitions*, 55 THE Q. REV. OF ECON. & FIN. 1 (Feb. 2015); Joann S. Lublin, *Three, Four, Five? How Many Board Seats Are Too Many?* WALL ST. J. (Jan. 20, 2016, 9:19 PM), <https://www.wsj.com/articles/three-four-five-how-many-board-seats-are-too-many-1453342763>.

¹³ See e.g. Martin Lipton, *The Future of the Board of Directors*, HARV. L. SCH. F. CORP. GOVERNANCE & FIN. REG. (July 6, 2010), <https://corpgov.law.harvard.edu/2010/07/06/the-future-of-the-board-of-directors/> (delineating the expected roles of boards of directors).

¹⁴ See, AARON A. DHIR, CHALLENGING BOARDROOM HOMOGENEITY: CORPORATE LAW, GOVERNANCE, AND DIVERSITY 44 (2015); Amanda K. Packel, *Government Intervention into Board Composition: Gender Quotas in Norway and Diversity Disclosures in the United States*, 21 STAN. J.L. BUS. & FIN. 192, 198–200 (2016) (reviewing AARON A. DHIR, CHALLENGING BOARDROOM HOMOGENEITY: CORPORATE LAW, GOVERNANCE, AND DIVERSITY (2015)); Yaron Nili, *Beyond the Numbers: Substantive Gender Diversity in Boardrooms*, 94 IND. L.J. 145 (2019).

¹⁵ See Yaron Nili, *Horizontal Directors*, 114 NW. L. REV. (forthcoming 2020).

¹⁶ See, e.g., Claire Hill, *Marshalling Reputation to Minimize Problematic Business Conduct*, 99 B.U. L. REV. 1193, 1194 (2019).

¹⁷ *Hewlett-Packard Co., Profile: Robert V Napier*, BLOOMBERG LAW, <https://www.bloomberglaw.com/people/1820723> (last visited June 23, 2019).

¹⁸ Jennifer Weidler & Stewart Weintraub, *Hudson Highland Group Settles Sales Tax Issues with SEC, Pays Penalties*, TAX BLOG-STATE AND LOCAL (Feb. 11, 2011, 4:25 PM), <https://taxblawgstataandlocal.wordpress.com/2011/02/11/hudson-highland-group-settles-sales-tax-issues-with-sec-pays-penalties/>.

attenuated on the surface since Napier did not directly serve on Hudson's board. Although it is impossible to know what would have happened to Hudson if Napier had not passed away unexpectedly, one must wonder whether the outcome would have been different had Hudson's board had access, through a directors' network, to the IT expertise that Napier possessed. Nonetheless, numerous similar situations appear in the data we gather, over the period from 1990-2017, and point to a phenomenon that the existing interlock literature cannot well explain but a Social Governance theory can.

The data collected for this Article demonstrates that this pattern occurs consistently: even beyond the first degree of separation, unexpected director departures from less connected boards presaged governance failures both at the companies the directors serve and at the adjacent companies to which directors are indirectly connected at a rate too high to be considered random. More plausibly, governance influence and best practices are transmitted through networks even without direct interlocks.

The Article proceeds as follows. Part I provides an overview of both the important role that directors serve in corporate governance and the common practice of serving on more than one board. We then turn to discuss the importance of network theory to corporate governance, demonstrating why a more robust consideration of networks is important.¹⁹ The Article does this by identifying the significance of network theory to contemporary corporate governance discourse. Research on network theory has shown networks to influence decision making in several ways.²⁰ We outline the pieces of network theory that prevailing scholarship has embraced and the pieces that scholars and policy makers have yet to address.²¹ We then discuss how courts in Delaware and elsewhere have similarly struggled with how to treat board member connections when assessing director independence in a host of other situations, often coming to seemingly inconsistent conclusions.²² In sum, Part I introduce a broader way to think about networks in corporate

¹⁹ See, e.g., *In re Oracle Derivative Litigation*, 824 A.2d 917, 918-19 (Del. Ch. 2003) (Delaware Chancery Court refused to accept a board committee decision because its members could be influenced by their indirect networks).

²⁰ See generally, Stephen Borgatti, Ajay Mehra, Daniel Brass and Giuseppe Labianca, *Network Analysis in the Social Sciences*, 323 SCIENCE 892, 893 (2009) (discussing the development and use of network theory in social science research); Candace Jones, William Hesterly & Stephen Borgatti, *A General Theory of Network Governance: Exchange Conditions and Social Mechanisms*, 22 ACAD. MGM'T REV. 4, 5 (2007) (advancing a theory that explains the conditions that govern the exchange of resources in networks).

²¹ See, e.g., Da Lin, *Beyond Beholden*, 44 J. CORP. LAW (2019) (studying the appointment to private company boards of directors with connections to members of related boards); Ljungqvist & Raff, *supra* note 12; Benson et. al., *supra* note 12; Lublin, *supra* note 12; Todd Wallack & Sacha Pfeffer, *Debate Swirls on How Many Board Directorships Are Enough*, BOSTON GLOBE (Dec. 10, 2015), <https://www.bostonglobe.com/metro/2015/12/09/some-corporate-directors-overboard-joining-many-boards-and-raising-performance-questions/pQBVAGZmCBJ4fzaKTGdziP/story.html>; Barzuza & Curits, *Interlocking Board Seats*, *supra* note 5 at 5; Bouwman, *supra* note 3; Eliezer M. Fich & Anil Shivdasani, *Are Busy Boards Effective Monitors?* (ECGI - Finance Working Paper No. 55, 2004), (arguing that busy directors are associated with weak corporate governance).

²² See *infra* Part I.B.4.

governance, expanding the frame beyond interlocks and put forth a theoretical framework of director networks for use in legal research.

Part II makes a novel empirical case for the significance of director networks. While scholars have theorized that networks are important in other private ordering contexts, such as private enforcement of contracts and informal commercial relations,²³ whether networks matter, and if so, which elements of networks matter, are unresolved yet important empirical questions. Through a series of original interviews with directors and general counsels, the Article charts the concrete ways through which director networks can affect the board. It also uses a hand-collected dataset of director deaths to demonstrate the direct impact that director networks have on corporate governance by using the quality of financial reporting and corporate governance metrics as case studies.²⁴ Ultimately, we demonstrate not only that networks matter, but that network *structure* matters, and that certain kinds of network structures are more positive than others.

Part III considers network theory's implications for policy and courts. We start by underscoring the need to reframe the debate over director "busyness." We then suggest that a director networks analysis can alleviate some of the current inconsistencies in the way courts approached directors' social networks. Finally, we discuss how proxy advisors and stock exchanges should integrate director network considerations into their governance policies.

I. Director Networks

A. *Why Directors Matter*

To understand the importance of director networks and their impact on corporate governance, it is useful to review what corporate directors do and why they matter. Directors have been at the heart of the corporations' governance from the corporate form early days.²⁵ In the United States, the corporate board can be traced back as far as Alexander Hamilton's creation of The Society for Establishing Useful Manufactures.²⁶ Since then, boards have been depicted as a core organ of

²³ See, e.g., Lisa Bernstein, *Opting out of the Legal System: Extralegal Contractual Relations in the Diamond Industry*, 21 J. LEG. STUD. 115 (1992).

²⁴ Financial reporting has been found to be an important indicator of good corporate governance. See, e.g., Chris Armstrong, Wayne Guay, Hamid Mehran & Joseph Webber, *The Role of Financial Reporting and Transparency in Corporate Governance*, 2016 ECON. POL'Y REV. 107, 108 (2016) (reviewing research on the link between good corporate governance and good accounting practices); Louis Lowenstein, *Financial Transparency and Corporate Governance: You Manage What You Measure*, 96 COLUM. L. REV. 5, 7 (1996) (discussing the relationship between good corporate governance and accounting practices).

²⁵ Melvin Aron Eisenberg, *Legal Models of Management Structure in the Modern Corporation: Officers, Directors, and Accountants*, 63 CALIF. L. REV. 375, 376 (1975) (discussing the origins of the board of directors as the core of modern corporate decision-making).

²⁶ See STEPHEN BAINBRIDGE & M. TODD HENDERSON, *OUTSOURCING THE BOARD: HOW BOARD SERVICE PROVIDERS CAN IMPROVE CORPORATE GOVERNANCE* 17, 17 (2018).

the modern corporation,²⁷ yet in recent years, the role that directors and the board take in corporate governance has reached new levels of importance.²⁸ As we further detail below, courts and regulators alike have increasingly begun relying on the board as a safety valve of sorts, entrusting more responsibilities and more duties with regulatory ends into the hands of directors.²⁹ Given the size and influence of many companies, boards have a major impact on society as whole in addition to their power within their own companies.³⁰

1. The Board's Governance Functions

Broadly speaking, the board is tasked with several important governance roles. First, while management handles most of the operational decision-making, the board must be an active participant in some of the more important managerial business decisions, such as mergers, stock issuance, change of company governance documents, and the hiring of the management team.³¹ Second, the board is a management resource. The board provides insight and advice, as well as networking benefits, and facilitates a firm's access to various resources.³² Third, the board is charged with a monitoring role.³³ Shareholders' lack of incentive to supervise management due to their dispersed ownership,³⁴ coupled with free riding concerns, effectively leads to a managerial controlled corporate structure. As one of the first institutions asked to mitigate this concern was the board of directors,³⁵

²⁷ Eisenberg, *supra* note 25 at 376 (noting that the board of directors is the core of modern corporate decision-making); Business Roundtable, *Principles of Corporate Governance*, HARV. L. SCH. F. CORP. GOVERNANCE & FIN. REG. (Sept. 8, 2016), <https://corpgov.law.harvard.edu/2016/09/08/principles-of-corporate-governance> (discussing the board of directors' vital role in overseeing the company's management and business strategies to achieve long-term value creation).

²⁸ See Yaron Nili, *Out of Sight Out of Mind: The Case for Improving Director Independent Disclosure*, 43 J. CORP. LAW, 35, 39 (2017) (discussing the importance of directors).

²⁹ *Id.*; See also, Nili, *Horizontal Directors*, *supra* note 15 (discussing the increased reliance on boards).

³⁰ *Id.*

³¹ See STEPHEN BAINBRIDGE, *CORPORATE GOVERNANCE AFTER THE FINANCIAL CRISIS* 45 (2012). To this end, boards are largely expected to coordinate succession planning long before the current CEO ever steps down. See Bainbridge & Henderson, *OUTSOURCING THE BOARD* *supra* note 26, at 35.

³² *Id.* at 47.

³³ See STEPHEN BAINBRIDGE, *THE NEW CORPORATE GOVERNANCE IN THEORY AND PRACTICE* 155 (2008) (detailing the role of the board monitoring management); JONATHAN R. MACEY, *CORPORATE GOVERNANCE: PROMISES KEPT, PROMISES BROKEN* 50 (2008) (listing major corporate governance mechanisms for U.S. public companies); Jill E. Fisch, *Taking Boards Seriously*, 19 CARDOZO L. REV. 265, 290 (1997) (describing the ideal model of corporate governance as one that enhances the ability of each firm to structure corporate decision-making in accordance with its particular needs).

³⁴ Often referred to as "Agency Costs." See ADOLF A. BERLE, JR. & GARDINER C. MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* 6 (1932); Eugene F. Fama & Michael C. Jensen, *Separation of Ownership and Control*, 26 J. L. & ECON. 301, 304 (1983) (agency costs can be defined as the "costs of structuring, monitoring, and bonding a set of contracts among agents with conflicting interests.").

³⁵ See generally Jeffrey N. Gordon, *The Rise of Independent Directors in the United States, 1950-2005: Of Shareholder Value and Stock Market Prices*, 59 STAN. L. REV. 1465 (2007).

the board is expected to represent shareholders' interest vis-à-vis management,³⁶ curtailing management's ability to extract private benefits or act in a suboptimal way with respect to shareholder interests.³⁷

In recent decades, the board has also become an increasingly important actor within state and federal law. Delaware, for example, gives independent boards wide latitude when reviewing their decisions³⁸ and has emphasized the importance of directors in a corporation's governance.³⁹ Courts demonstrate their deference to boards by presuming the actions taken by corporate directors are in the best interest of the company.⁴⁰ A shareholder challenging this presumption bears a heavy burden, requiring particularized evidence of self-dealing or bad faith in order to overcome the business judgment rule's protections of corporate directors and their decisions.⁴¹

The business judgment rule's deference to the board's substantive decisions makes process and potential conflicts of interest the key battlegrounds for plaintiffs alleging unfairness in the boardroom. Consequently, social networks between boards has become an area of interest for plaintiffs trying defeat the business judgment rule presumption by alleging procedural defects or self-dealing in the board's decisions. In breach of fiduciary duty actions, courts place a spotlight on director relationships that may create an incentive to act out of self-interest.⁴² Despite an understanding that corporate directors can and should have social relationships between one another,⁴³ the law has an interest in examining when these relationships cloud the judgment of a director.

³⁶ See BAINBRIDGE, *NEW CORPORATE GOVERNANCE*, *supra* note 33 (detailing the role of the board and its importance in the governance of the firm).

³⁷ See Michelle M. Harner, *Corporate Control and the Need for Meaningful Board Accountability*, 94 MINN. L. REV. 541, 583–84 (2010) (focusing on the boards' broader duties in the context of a controlling shareholder).

³⁸ Delaware courts, in particular, have strengthened the appeal of independent directors by giving credit to conflicted transactions that were vetted and approved by a special committee comprised of independent directors. See *Kahn v. M & F Worldwide*, 88 A.3d 635, 644 (Del. 2014) (“[W]here the controller irrevocably and publicly disables itself from using its control to dictate the outcome of the negotiations and the shareholder vote [by employing both procedural protections], the controlled merger then acquires the shareholder-protective characteristics of third-party, arm’s-length mergers, which are reviewed under the business judgment standard”); Da Lin, *supra* note 21 (studying the appointment to private company boards of directors with connections to members of related boards).

³⁹ *Beam ex rel. Martha Stewart Living Omnimedia, Inc. v. Stewart*, 845 A.2d 1040, 1049 (Del. 2004); see also Maureen S. Brundage & Oliver C. Brahmst, *Director Independence: Alive and Well Under Delaware Law*, in *THE GLOBAL CORPORATE GOVERNANCE GUIDE 2004: BEST PRACTICE IN THE BOARDROOM* (2004) (supporting Delaware’s approach).

⁴⁰ See *Cede & Co. v. Technicolor, Inc.* 884 A2d 26 (Del. 2005).

⁴¹ *Id.*

⁴² See, e.g., Nili *Horizontal Directors*, *supra* note 15; Gabriel Rauterberg & Eric Talley, *Contracting Out of the Fiduciary Duty of Loyalty: An Empirical Analysis of Corporate Opportunity Waivers*, 117 COLUM. L. REV. 1075, 1086 (2017).

⁴³ *In re Oracle Corp Derivative Litigation*, 824 A.2d at 930 (explaining that the law cannot simply ignore the nature of human to be social animals and that corporate directors are generally the sort of people to be a part of social institutions).

Moreover, the recent rise in shareholder activism by hedge funds⁴⁴ and in institutional investors' engagement with companies⁴⁵ has empowered shareholders to take a more active role, and accordingly, the board has taken a key role in such engagement with shareholders.⁴⁶ The board, therefore, has become a conduit, allowing investors to—formally and informally—better engage with the company.⁴⁷

Finally, federal law has given boards greater monitoring duties following both the accounting scandals in the early years of the millennium following the financial crisis. For example, Sarbanes-Oxley, passed in the wake of several large-scale accounting scandals, requires boards to have an independent audit committee that oversee auditing services, approve accountants and handle compliance regarding management accounting practices.⁴⁸ The Dodd-Frank Act similarly imposed new requirements, mandating independent executive compensation committees to determine officer pay.⁴⁹

2. Board Members as part of the Corporate Governance Ecosystem

Corporate governance discourse is increasingly focused on issues related to board composition, independence, and the role of the board within the larger corporate governance ecosystem.⁵⁰ Institutional investors have focused on a range of board composition issues, including term limits,⁵¹ replacement of board members (often referred to as “board refreshment”),⁵² diversity,⁵³ board evaluation

⁴⁴ See e.g., Matthew R. Denes et. al., *Thirty Years of Shareholder Activism: A Survey of Empirical Research*, 44 J. OF CORP. FIN. 405 (2017) (summarizing and synthesizing the results from 73 studies that examine the consequences of shareholder activism); Stuart L. Gillan & Laura T. Starks, *The Evolution of Shareholder Activism in the United States*, 19 J. APPLIED CORP. FIN. 55 (2007).

⁴⁵ Paula Loop, *The Changing Face of Shareholder Activism*, HARV. L. SCH. F. CORP. GOVERNANCE & FIN. REG. (Feb. 1, 2018), <https://corpgov.law.harvard.edu/2018/02/01/the-changing-face-of-shareholder-activism/>.

⁴⁶ Krystal Berrini and Rob Zivnuska, *Board Lessons: Succeeding with Investors in a Crisis*, HARV. L. SCH. F. CORP. GOVERNANCE & FIN. REG. (Jun. 5, 2018), <https://corpgov.law.harvard.edu/page/2/?s=Engagement>.

⁴⁷ Martin Lipton, *Spotlight on Boards 2018*, HARV. L. SCH. F. CORP. GOVERNANCE & FIN. REG. (May 31, 2018), <https://corpgov.law.harvard.edu/2018/05/31/spotlight-on-boards-2018/>.

⁴⁸ See Sarbanes-Oxley Act, 116 Stat. 745 (2002).

⁴⁹ Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, Pub. L No. 111-203 (2010).

⁵⁰ See e.g. Marc S. Gerber, *US Corporate Governance: Boards of Directors Remain Under the Microscope*, SKADDEN (Jan. 16, 2015), <https://www.skadden.com/insights/publications/2015/01/us-corporate-governance-boards-of-directors-remain>; Robert Hauswald & Robert Marquez, *Governance Mechanisms, Corporate Disclosure, and the Role of Technology* (2005), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=687138.

⁵¹ William M. Libit & Todd E. Freier, *Director Tenure: The Next Boardroom Battle*, THE CORPORATE BOARD 6-8 (Mar. 2015) (discussing advocate positions on tenure).

⁵² Cam C. Hoang, *Institutional Investors & Trends in Board Refreshment*, HARV. L. SCH. F. CORP. GOVERNANCE & FIN. REG. (Apr. 8, 2016), <https://corpgov.law.harvard.edu/2016/04/08/institutional-investors-and-trends-in-board-refreshment/> (discussing and sampling institutional investor guidance on board refreshment).

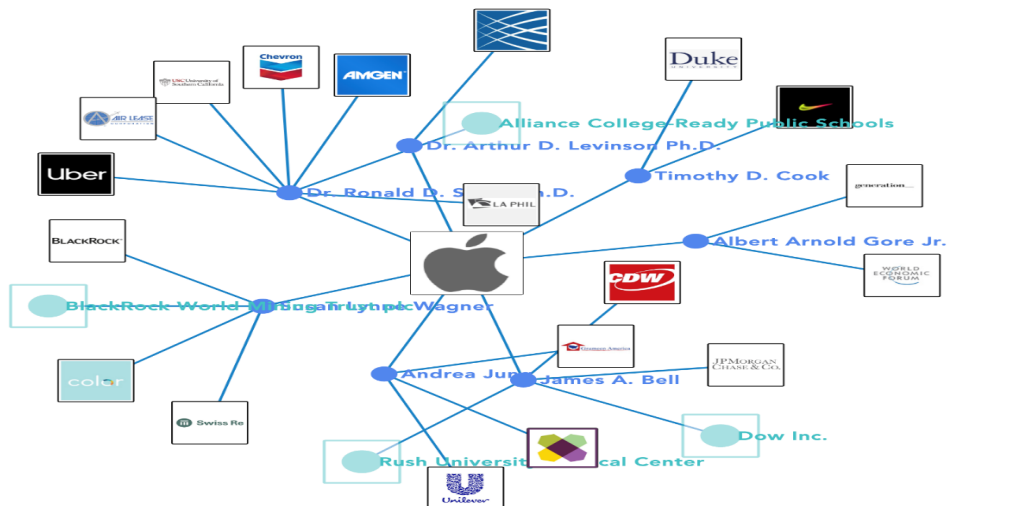
⁵³ Eleanor Bloxham, *Institutional Investors Are Leading the Fight for More Diverse Corporate Boards*, FORTUNE (June 16, 2016), <http://fortune.com/2016/06/16/institutional-investors-are-leading-the-fight-for-more-diverse-corporate-boards>.

processes,⁵⁴ and disclosures regarding these issues.⁵⁵ In a recent letter, Vanguard, one of the world’s largest institutional investors, explained that it considers the board to be “one of a company’s most critical strategic assets” and looks for a “high-functioning, well-composed, independent, diverse, and experienced board with effective evaluation practices.”⁵⁶ Each director brings their own set of qualifications, background and diversity to form each company’s board,⁵⁷ making the board’s effectiveness more than simply the sum of its individual directors.

3. Multiple Directorships as a Corporate Governance Norm

While the general dynamics and attributes of groups are not unique to boards, there is one key aspect that differentiates directors from other corporate executives. Despite their important duties, an unusual feature of board service is that members need not devote their attention solely to one company at a time. Close to forty percent of the directors in the S&P 1500 serve on more than one board.⁵⁸ To take a granular example, each of Apple Inc.’s eight directors serves on additional boards with many of them serving on three or four other boards at the same time, as Figure 1 shows.

Figure 1: Apple’s Board Connections



⁵⁴ Francesco Surace, *Evaluating Board Skills*, MORROW SODALI (June 5, 2017) (“Morrow Sodali’s latest Institutional Investor Survey shows that the board skills matrix is viewed as a key disclosure item by investors representing \$18 trillion of assets under management – 78% of respondents – when voting on director elections.”).

⁵⁵ CamberView Partners, *NYC Pension Funds Boardroom Accountability Project Version 2.0*, HARV. L. SCH. F. CORP. GOVERNANCE & FIN. REG. (Sept. 19, 2017), <https://corpgov.law.harvard.edu/2017/09/19/nyc-pension-funds-boardroom-accountability-project-version-2-0/>.

⁵⁶ F. William McNabb III, *An Open Letter to Directors of Public Companies Worldwide*, VANGUARD (Aug. 31, 2017), <https://about.vanguard.com/investment-stewardship/governance-letter-to-companies.pdf>.

⁵⁷ See Nili, *Out of Sight Out of Mind* *supra* note 28, at 39 (discussing qualifications and background of directors).

⁵⁸ See Nili, *Horizontal Directors*, *supra* note 15, at 12.

The unique structure and stated expectations of boards make service on several boards feasible. Directors are not full-time employees of the company, nor are they required to dedicate their working time entirely to the corporation. Instead, directors may continue their work as full-time employees elsewhere, as well as to serve on other companies' boards. Directors are expected to meet regularly, but not onerously, often eight to twelve times a year, and board members spend an average of 245 hours per year on board related activities for each board on which they sit.⁵⁹ These meetings center on executing duties such as hiring and monitoring management,⁶⁰ approving key business decisions, retaining outside consultants and adopting various governance policies and procedures.⁶¹

Importantly, while boards meet regularly, many important board decisions are delegated to specific board committees, which are tasked with a particular mandate. Board committees meet separately from the full board, are composed of subsets of board members, and tend to have specific, narrowly defined functions.⁶² While boards may have various committees, there are several key committees that all publicly traded companies must maintain⁶³ and that are often cited as having the greatest influence on corporate governance.⁶⁴ These key committees are the audit committee,⁶⁵ the nominating committee,⁶⁶ the corporate governance committee,⁶⁷ and the compensation committee, each of which can meet separately from the

⁵⁹ See SPENCER STUART, 2017 SPENCER STUART U.S. BOARD INDEX 10, 14 (2017), https://www.spencerstuart.com/~media/ssbi2017/ssbi_2017_final.pdf (stating that in 2017 boards met an average of 8.2 times).

⁶⁰ See BAINBRIDGE, NEW CORPORATE GOVERNANCE *supra* note 33, at 155–67 (detailing the role of the board monitoring management); Fisch, *supra* note 33, at 268–72.

⁶¹ MACEY, PROMISES KEPT, PROMISES BROKEN *supra* note 33 at 50 (2008) (listing, among other things, the board's duties as a corporate governance mechanisms for U.S. public companies).

⁶² See Eileen Morgan Johnson, *The Basics of Board Committee Structure*, ASAE (Dec. 21, 2015), https://www.asaecenter.org/resources/articles/an_plus/2015/december/the-basics-of-board-committee-structure [<https://perma.cc/RSR6-6TAQ>].

⁶³ See Yaron Nili, *The "New Insiders": Rethinking Independent Directors' Tenure*, 68 HASTINGS L.J. 97, 109–10 (2016); see also SPENCER STUART, *supra* note 59.

⁶⁴ Idalene F. Kesner, *Directors' Characteristics and Committee Membership: An Investigation of Type, Occupation, Tenure, and Gender*, 31 ACAD. MGMT. J. 66, 67–68 (1988); see David A. Carter, Frank D'Souza, Betty J. Simkins & W. Gary Simpson, *The Gender and Ethnic Diversity of US Boards and Board Committees and Firm Financial Performance*, 18 CORP. GOVERNANCE: INT'L REV. 396, 400–01 (2010).

⁶⁵ The audit committee is charged with ensuring the quality and integrity of the company's financial statements and regulatory compliance. Under NYSE listing rules, the committee must be comprised solely of independent directors. See N.Y. Stock Exch., *Section 303A.07 Audit Committee Additional Requirements*, NYSE LISTED COMPANY MANUAL (Aug. 22, 2013), http://wallstreet.cch.com/LCMTTools/PlatformViewer.asp?selectednode=chp_1_4_3_8&manual=%2Fflcm%2Fsections%2Fflcm-sections%2F [<https://perma.cc/L77T-PBCT>].

⁶⁶ The nominating committee is in charge of nominating director candidates and often also selects new CEOs and peer directors to the other board committees. See Joseph V. Carcello, et al., *CEO Involvement in Selecting Board Members, Audit Committee Effectiveness, and Restatements*, 28 CONTEMP. ACCT. RES. 396, 397–401 (2011).

⁶⁷ The corporate governance committee is responsible for assisting a corporate board in matters related to the corporation's governance structure. DIRTT, ENVTL. SOLS., *CORPORATE GOVERNANCE COMMITTEE CHARTER 2* (Oct. 17, 2013), <https://www.dirtt.net/assets/attachments/59cdebe4e1/DIRTT-GovernanceCommittee-Jan18.pdf> [<https://perma.cc/7ZU9-BZCH>].

board.⁶⁸ Given the fact that directors are able to serve on so many boards simultaneously, scholars and policy-makers have focused heavily on directors' ability to perform their duties well given time constraints and possible conflicts of interest.

B. *Interlocks versus Networks*

Scholarship and policy statements by proxy advisors and other influential corporate governance actors frequently conflate two distinct but related concepts: director interlocks and director networks. Both are important to understanding how director connections play a role in corporate governance, but they are different in important ways that have significance for policy and scholarly study. Director interlocks—board members who sit on more than one board at a time, thus “interlocking” the boards on which they sit—are a unique feature of corporate boards that does not exist in other labor markets. Scholars have studied interlocks extensively, and they remain an ongoing concern for policymakers who wonder whether too many director positions might render directors too busy to do their jobs well. The debate surrounding this issue is further discussed below.

Director networks, by contrast, have been far less studied than interlocks. Yet, director networks include social connections that are equally relevant for a board's effectiveness. Director networks encompass interlocks (because directors will have ties to other directors on all the boards on which they sit), but networks also include many other types of connections that the interlocks concept does not capture. For example, a director's network might include members of boards on which a director does not sit, but whom she knows through other directors on her board – in what equates to a second degree of separation. It might also include all the connections that the director has intermediated between other directors, either on her board or on other boards. It additionally might include directors on other boards who are connected indirectly through intermediary board members, going down the degrees of separation.

Social networks extending beyond the first degree of separation have been investigated in various settings including venture capital,⁶⁹ law firms,⁷⁰ and

⁶⁸ The compensation committee sets the compensation of senior executives and generally oversees the corporation's compensation policies. Under NYSE listing rules the committee must be comprised solely of independent directors. See N.Y. Stock Exch., *Section 303A.05 Compensation Committee*, NYSE LISTED COMPANY MANUAL (Jan. 11, 2013), http://wallstreet.cch.com/LCMTTools/PlatformViewer.asp?selectednode=chp_1_4_3_6&manual=%2Ffcm%2Fsections%2Ffcm-sections%2F [https://perma.cc/VD5A-BJRE].

⁶⁹ See Yael Hochberg, Alexander Ljunqvist & Yang Lu, *Who You Know Matters: Venture Capital Networks and Firm Performance*, 62 J. FIN. 261, 261-62 (2005) (examining how networks of venture capitalists affect firm performance).

⁷⁰ See Patricia Dechow & Samuel Chan, *How Do Accounting Practices Spread? An Examination of Law Firm Networks and Stock Option Backdating* (2018) (unpublished manuscript) available at <https://ssrn.com/abstract=2688434> (empirically examining how law firm networks transmit accounting practices and disclosures).

innovative industries,⁷¹ but the study of these networks among corporate directors is still relatively unexplored.⁷² Like interlocks, directors' broader networks have the ability to influence their service on boards, and consequently, analyzing board connections through a social lens is an important, yet largely ignored, exercise in understanding corporate governance. The sections below map the literature on interlocks, business, and networks in business contexts generally, to help situate this paper in the broader literature, as well as the relevant policy discussions.

1. Scholarly Work on Director Connections: Director Interlocks and Busyness

Interlocks and director busyness have been the subject of a wealth of research by legal scholars and policymaking efforts by the major proxy advisors and the SEC. One prevalent concern is that the time commitments of directors' combined service on various boards may cause them to shirk their duties.⁷³ The concern pivots around directors' level of busyness, which is a function of the number of other board positions they take.

a. Legal Scholarship on Interlocks

The abundant legal scholarship on the subset of directors who serve on more than one board has focused primarily on the connection established by the interlocks themselves.⁷⁴ Because many companies seek operational and executive experience in their board nominees in order to raise investor confidence in the board, the pool from which companies elect directors is limited,⁷⁵ making director interlocks a natural byproduct of corporate culture. Companies prefer experienced directors, both for their skills and experience and to signal credibility to potential investors, so they often treat prior director experience as a strength in a nomination process.

Because board members serve a number of important functions, including making important governance decisions,⁷⁶ providing advice to management,⁷⁷ and

⁷¹ See, e.g., Matthew Jennejohn, *The Private Order of Innovation Networks*, 68 STAN L. REV. 281, 282 (2016) (discussing networks in the context of collaborations between innovation enterprises).

⁷² A notable exception is Da Lin, *supra* note 21 at 1. However, this study does not address the set of issues that are the subject of this article.

⁷³ See Bradley W. Benson, *Do Busy Directors & CEOs Shirk Their Responsibilities? Evidence from Mergers & Acquisitions*, 55 Q. REV. ECON. & FIN. 1, 3-4 (2015) (examining empirical evidence suggesting that busy directors shirk their duties in some circumstances).

⁷⁴ See, e.g., Barzuza & Curtis, *supra* note 2; Barzuza & Curtis, *Interlocking Board Seats*, *supra* note 5 (examining how management practices changed via interlocks after change in doctrine).

⁷⁵ See Nili, *Board Diversity*, *supra* note 14 at 1 (discussing the problems of gender diversity in board refreshment).

⁷⁶ See BAINBRIDGE, *AFTER THE FINANCIAL CRISIS*, *supra* note 31 at 45.

⁷⁷ *Id.* at 47; see also Gordon, *The Rise of Independent Directors*, *supra* note 35.

monitoring corporate managers on behalf of shareholders⁷⁸ scholars have posited, as a theoretical matter, that serving on multiple boards may diminish a director's ability to perform these duties well for any board. To the extent that interlocks hinder director duties, scholars have also argued that they may hinder the ability of nominally independent directors to fulfill the definition of independent set out by the SEC and the stock exchanges.⁷⁹ Despite these contentions, some have argued that director interlocks are beneficial and an inevitable consequence of hiring experienced directors to boards. Interlocked directors are likely to be more experienced, and some scholars contend that their experience translates to better corporate performance, despite any potential drawbacks from busyness.

b. Empirical Research on Interlocks

Empirical scholars from law and economics have tried to assess the impact of director interlocks and busyness, generating mixed results. This mixed picture illustrates why it is important to look at broader networks as well as simple interlocks when assessing the influence of directors' connections.

A number of studies show that busyness (defined as number of interlocks) hurts shareholder value, but each also demonstrates why director interlocks alone do not tell the whole story. One notable paper used director deaths as shocks to the busyness of surviving board members.⁸⁰ Drawing on a sample of boards with busy independent directors from 1988 to 2007, they found sustained negative market reactions to such deaths, implying that the sudden increase in busyness strained the surviving boards' ability to manage the firm.⁸¹ Another recent study used the withdrawal of analyst coverage after a number of brokers closed their research operations as an exogenous shock, positing that the loss of outside monitoring leads to greater monitoring effort by directors, and thus directors diverted their attention to the firm that lost coverage at the expense of the other firms the directors served.⁸² The authors found that the increased busyness resulted in poorer market performance at firms that did not lose coverage, implying negative monitoring synergies.⁸³ Other researchers have made similar findings using various methods,

⁷⁸ See BAINBRIDGE, *NEW CORPORATE GOVERNANCE* *supra* note 33 (detailing the role of the board monitoring management); Fisch, *supra* note 33 at 290; See also Harner, *supra* note 37 at 583–84 (focusing on the boards' broader duties in companies with controlling shareholders); Laby, *supra* note 37 at 104 (describing directors' fiduciary duty to adopt shareholders' ends).

⁷⁹ See Gregory H. Shill, *The Golden Leash and the Fiduciary Duty of Loyalty*, 64 *UCLA L. REV.* 1246, 1247 (2017); Nili, *Out of Sight Out of Mind*, *supra* note 28, at 35–37.

⁸⁰ Antonio Falato et al., *Distracted Directors: Does Board Busyness Hurt Shareholder Value?*, 113 *J. FIN. ECON.* 404, 405 (2014).

⁸¹ See *id.*

⁸² Ljungqvist & Raff, *supra* note 12, at 5.

⁸³ See *id.*

namely that busy boards are associated with poor performance and poor-quality monitoring.⁸⁴

On the other hand, some researchers have found positive benefits associated with director interlocks. These studies revealed evidence that director busyness is associated with higher firm value.⁸⁵ Although busy directors may be less effective at monitoring, they may increase firm value through their advisory activities.⁸⁶ Studies have found that director busyness creates more value for smaller firms, possibly because expertise and connectedness go farther at firms that are themselves less connected or experienced.⁸⁷ Others have found evidence that directors with more interlocks add value during extraordinary events such as mergers.⁸⁸

Additional research, however, points to a relationship between director interlocks and good corporate governance practices generally. For example, studies have found that more director interlocks are associated with more accurate financial reporting and a reduced likelihood of misstating annual results.⁸⁹ Studies also have demonstrated a link between the propensity of a firm to adopt conservative accounting practices and engage in other good corporate governance practices associated with director interlocks.⁹⁰ Interlocks have also been found to facilitate the spread of legal developments and governance practices.⁹¹ For example, Michal Barzuza and Quinn Curtis identified that firms were more than twice as likely to adopt changes in response to a major court decision once a firm with which they shared an outside director adopted such a change.⁹² In any event, however, such studies have found only associations and evidence of a causal effect is relatively minimal.

The mixed picture painted by these studies might be explained by the fact that, while interlocks are related to busyness, network effects may not necessarily

⁸⁴ See Core et al., *Corporate Governance, Chief Executive Officer Compensation, and Firm Performance*, 51 J. FIN. ECON. 371 (1999); Fich & Shivdasani, *supra* note 21 at 5; Luke C.D. Stein & Hong Zhao, *Distracted Directors*, (Working paper, 2016); RW Masulis & EJ Zhang, *How Valuable are Independent directors? Evidence from External Distractions*, 132 J. OF FIN. ECON. 226 (2019); See also Falato, *supra* note 80, at 113.

⁸⁵ See, e.g., Ferris et al., *Mergers and the Market for Busy Directors: An International Analysis*, J. FIN. RESEARCH (forthcoming).

⁸⁶ See *id.*

⁸⁷ See, e.g., Ira C. Harris & Katsuhiko Shimizu, *Too Busy to Serve? An Examination of Overboarded Directors*, 41 J. MGMT. STUD. 775-798 (2004) (finding that busy directors enhance acquisition performance through expertise); Laura Field et al., *Are busy boards detrimental?* 109 J. FIN. ECON. 63-82 (2013) (finding that venture backed IPO firms benefit from busy director expertise as busy directors serve more as advisors than monitors).

⁸⁸ See Joy Ishii & Yuhai Xuan, *Acquirer-target Social Ties and Merger Outcomes*, 112 J. FIN. ECON 344, 345 (2014).

⁸⁹ See, e.g., Thomas C. Omer et al., *Do Director Networks Matter for Financial Reporting Quality? Evidence from Restatements* 6 (Jun. 1, 2014), [<http://pcrma.cc/J2SX-EETY>] (companies with more interlocked directors are less likely to misstate their annual results).

⁹⁰ See Bouwman, *supra* note 3, at 2358-59.

⁹¹ Barzuza & Curtis, *Interlocking Board Seats*, *supra* note 5.

⁹² Michael Barzuza & Quinn Curtis, *Board Interlocks & Outside Directors' Protection*, J. LEG. STUD. (2013).

be. Director connections can exist even among non-busy directors, and networks may confer benefits (or pose additional challenges) even for directors who are busy. The main takeaway of this review is that interlocks (and the busyness that they entail) do not give a complete picture of the virtues and drawbacks of connected directors, but incorporating a Social Governance framework paints a clearer picture.

2. The Emergence of Literature on Networks

Recent years have seen a proliferation of research on networks among people and entities.⁹³ The idea that networks influence human decision making and information flow is intuitively appealing: the more connections a person has, the more that person is able to receive and send information, influence others, and be influenced by those in the network. One need only look at social media to see the importance that individuals place on being “connected” with the world and individuals around them. This intuition, and numerous studies supporting it, are the basis of social network theory, which posits that an individual’s actions in life depend in large part on how that individual is tied to a larger web of social connections.⁹⁴ A network encompasses not only those who are directly connected to someone but also, those are who several steps removed.

In particular, scholarly interest in networks generally has bloomed given the advent of social media, which have made networks larger and provided large datasets for researchers to explore.⁹⁵ Networks can be defined in many different ways, and each embrace a larger set of connections than the concept of interlocks. The most frequently used metrics conceive a network as a set of nodes and set of edges and seek to measure the centrality—or connectedness—of the nodes.⁹⁶ The nodes can be thought of like the hub a bicycle wheel, and the edges are each of the spokes. However, unlike a wheel, each spoke might end in yet another node (or hub) that extends its own edges (spokes) to still other nodes and so on. The importance of any node (hub) in the network is referred to as its centrality.⁹⁷

There are various ways of measuring centrality, and the ones employed in this article are further explained below in Part II. The main point for purposes of this discussion is that centrality measures take into account not only interlocks

⁹³ See e.g., Martin Grandjean, *A Social Network Analysis of Twitter: Mapping the Digital Humanities Community*, 3 COGENT ARTS & HUM. 1, 2 (2014); Daniel Grunspan, *Understanding Classrooms Through Social Network Analysis: A Primer for Social Network Analysis in Education Research*, 13 LIFE SCI. EDUC. 167, 168, (2014); Hamid Nasrinpour, et. al., *An Agent-Based Model of Message Propagation in the Facebook Electronic Social Network*, (unpublished manuscript) (2016), arXiv:1611.07454.

⁹⁴ See Miranda J. Lubbers, José Luis Molina & Hugo Valenzuela-García, *When Networks Speak Volumes: Variation in the Size of Broader Acquaintanceship Networks*, 56 SOC. NETWORKS 55, 56 (2019).

⁹⁵ See CHARLES KADUSHIN, UNDERSTANDING SOCIAL NETWORKS: THEORIES, CONCEPTS, AND FINDINGS 12 (2012).

⁹⁶ See *id.*

⁹⁷ See *id.*

(common spokes between hubs) but more complex aspects of a network, such as how many hubs one has to go through to get from a given hub to a second given hub, or how many paths between different hubs run through a given hub.

a. Research on Networks in Business

Researchers have examined networks in a number of contexts. Most closely related to business law, researchers have extensively studied networks among venture capitalists, an industry known to rely heavily on networks.⁹⁸ Research on networks in the entrepreneurial context has found that networks operate in several ways. The most obvious is through the provision of advice and resources among members of the network. Connected board members of venture capital funded companies would have access to names, potential capital, and exposure to best governance practices. They also have exposure to more diverse or preferable corporate practices generally.

Network concepts have also been studied in the law, to an extent, most prominently by scholars of contract theory looking for explanations for why individuals in certain industries rely on informal as opposed to formal contracts.⁹⁹ While these scholars do not discuss centrality per se, their analyses implicitly reflect the same network dynamics as centrality models.

b. Research on Networks of Boards

Some research on board networks has emerged in recent years, but mostly outside of the literature on law or corporate governance, instead focusing on financial performance, and without a strategy for isolating the effects of networks versus other factors.¹⁰⁰ Some scholars have argued that network effects of board connectedness are beneficial to companies because they facilitate the transfer of best practices and knowledge.¹⁰¹ Some research has suggested that strong networks are desirable characteristics in candidates for director positions.¹⁰² The benefits cited for this desirability include access to capital, strong networks for potential hiring or corporate partnerships, and access to personal relationships for mentoring or other networking opportunities.¹⁰³ In the related venture capital context, a robust

⁹⁸ See Ha Hoang & Bostjan Antoncic, *Network Based Research in Entrepreneurship, A Critical Review*, 18 J. BUS VENTURING 165, 170 (2003).

⁹⁹ See, e.g., Lisa Bernstein, *Opting out of the Legal System: Extralegal Contractual Relations in the Diamond Industry*, 21 J. LEG. STUD. 115 (1992).

¹⁰⁰ See e.g., David F. Larcker, Eric So & Charles Wang, *Boardroom Centrality and Firm Performance*, 55 J. ACCT. & ECON. 225, 225, 229-30 (2013) (using network analysis to analyze stock market returns); Thomas C. Omer, Marjorie K. Shelley & Frances M. Tice, *Do Well-Connected Directors Affect Firm Value?*, 24 J. APP. FIN. 1, 2 (2014) (examining the effect of individual director connections on company economic value).

¹⁰¹ See Larcker et al, *supra* note 100, at 229-30.

¹⁰² See generally, Nili & Hwang *supra* note 1.

¹⁰³ *New GE Director Nominees Bring Impressive Network to the Board*, EQUILAR (Mar. 5. 2018) <https://www.equilar.com/blogs/366-new-ge-directors-bring-an-impressive-network-to-board.html> (praising a

network of expertise and service providers has been posited to lead to better performing venture funds and portfolios.¹⁰⁴ Better-connected boards of directors have been associated with higher future returns than firms with poorly-connected boards.¹⁰⁵ Better-networked boards have even been found to perform better in terms of certain environmental policies, where environmentally-connected directors can affect a firm's behavior, including an association with lower greenhouse gas emissions.¹⁰⁶

3. The Approach of Proxy Advisors and Policy Makers

Despite the emerging literature and growing importance of networks, proxy advisors and the SEC have focused primarily on interlocks in recent discussions and policy proposals regarding good corporate governance while ignoring the broader view of Social Governance. The general consensus among the influential actors in corporate governance is that too much busyness is a bad thing.¹⁰⁷ For example, shareholder advisory services ISS and Glass Lewis have issued guidelines in recent years that recommend that shareholders withhold their vote (in effect, vote against) public company directors serving on more than five boards, and any director who serves as an executive officer of another company while sitting on more than two public company boards.¹⁰⁸ Blackrock, the world's largest asset manager and one of the largest shareholders of most of the companies in the S&P 1500, has announced an even more stringent voting policy: they will withhold a vote for any CEO who sits on more than one company board besides her own, and any outside director who sits on more than four boards.¹⁰⁹ Vanguard, another of the world's largest three index fund operators, has a similar policy, promising to vote against any named executive who is running for two or more board seats at public

refreshed GE board for bringing on "director nominees [with] an extensive background and wide-spanning executive networks to the table [as] combined, Horton, Culp and Seidman have 173 connections to C-level executives and board members across more than 130 companies").

¹⁰⁴ Yael V. Hochberg, *Whom You Know Matters: Venture Capital Networks and Investment Performance*, 62 J. FIN. 251, 252 (2007).

¹⁰⁵ *Id.* (citing David F. Larcker et al., *Boardroom Centrality and Firm Performance*, 55 J. ACCT. & ECON. 225, 229-30 (2013)).

¹⁰⁶ Swarnodeep Homroy & Aurelie Slechten, *Do Board Expertise & Networked Boards Affect Environmental Performance?* J. BUS. ETHICS, 1 (2017).

¹⁰⁷ See Institutional Shareholder Services, *2019 United States Proxy Voting Guidelines: Benchmark Policy Recommendations*, 6 (Dec. 6, 2018) <https://www.issgovernance.com/file/policy/active/americas/US-Voting-Guidelines.pdf> (giving voting guidelines for company board members serving on multiple boards).

¹⁰⁸ *Id.*; see also Glass Lewis, *Proxy Paper Guidelines: An Overview of the Glass Lewis Approach to Proxy Advice* 20 (2019) available at https://www.glasslewis.com/wp-content/uploads/2018/10/2019_GUIDELINES_UnitedStates.pdf ("CEOs or other top executives who serve on each other's boards create an interlock that poses conflicts that should be avoided to ensure the promotion of shareholder interests above all else").

¹⁰⁹ Blackrock, *2019 Proxy Voting Guidelines for US Securities*, 3 (Jan. 2019) <https://www.blackrock.com/corporate/literature/fact-sheet/blk-responsible-investment-guidelines-us.pdf> (giving voting guidelines for company board members serving on multiple boards).

companies other than her own, and any director seeking more than four board seats at a time.¹¹⁰ State Street, a third large index fund investor, is somewhat more lenient, allowing public company CEOs to sit on up to three boards, and allowing outside directors to sit on up to six.¹¹¹

Similarly, the SEC's Corporate Governance Guidelines provide recommendations limiting the number of outside board positions public company officers take.¹¹² As with the proxy advisors, these recommendations focus on busyness and on corporate opportunities. In each of these sets of guidelines, there is discussion of director independence, but in each case, independence refers to whether a director is also an officer of the company (or controlled by an officer or controlling shareholder of the company).¹¹³

These policies demonstrate key actors' concern about the impact of directors' (and especially CEOs') ties to multiple boards, but the policies also reflect these actor's preoccupation with interlocks and busyness. Yet, the variation across the proxy advisor's policies highlights the uncertainty that the major players have about the busyness issue. On the one hand, it makes intuitive sense to ensure that directors are not too busy to do their jobs. On the other hand, it is not entirely clear how big a problem busyness is, or if it is a problem, how many directorships render a director "too busy."

Absent from the voting and governance policies is any explicit discussion of networks or network structure. However, networks should be relevant as a matter of theory because membership on multiple boards has an impact beyond the boards on which the "busy" director sits, as a director's influence is transmitted through a broader network, among all directors linked to her. Moreover, an "overboarded" director may have access to more resources and information through her network in a way that might mitigate busyness. Alternatively, a relatively non-busy director might be subject to influences through networks with directors on other boards that could raise conflicts of interest. As influential investors and regulators continue to develop their policies with regard to overboarded directors, it follows that an important consideration should be the network that the director is able to access due to her connections to different boards. This theoretical contention is supported by the empirical portion of this Article, as further discussed below.

¹¹⁰ Vanguard Funds, Proxy Voting Guidelines for US Portfolio Companies, 4 (Apr. 1, 2019) https://about.vanguard.com/investment-stewardship/portfolio-company-resources/proxy_voting_guidelines.pdf (giving voting guidelines for company board members serving on multiple boards).

¹¹¹ State Street, Proxy Voting and Engagement Guidelines, North America, 4 (Mar. 18, 2019) (giving voting guidelines for company board members serving on multiple boards) <https://www.ssga.com/na/us/institutional-investor/en/our-insights/viewpoints/2019-proxy-voting-and-engagement-guidelines-north-america.html>.

¹¹² See Securities & Exchange Commission, *Memorandum Circular N. 19: Code of Corporate Governance for Publicly Listed Companies*, 22 (Nov. 22, 2016) ("The non-executive directors of the Board should concurrently serve as directors to a maximum of five publicly listed companies to ensure that they have sufficient time to fully prepare for meetings, challenge Management's proposals/views, and oversee the long-term strategy of the company.")

¹¹³ See, e.g., Institutional Shareholder Services, *supra* note 107 at 6.

4. Interlocks and Networks in the Courts

Courts have increasingly noted the importance of networks, but have not embraced a coherent theory about why and when networks matter. In particular, the Delaware courts (among corporate law's most important institutions) have struggled with how to handle director networks when assessing whether directors have violated fiduciary duties, director independence, and the corporate opportunity doctrine. A number of Delaware cases serve to illustrate the varying approaches taken by the state's courts over the past twenty years.

a. Director Independence

In the context of director independence, the Delaware courts have laid out a shifting set of criteria for determining whether director networks matter. For example, in *In re Oracle Derivative Litigation*, the Delaware Chancery Court found that a mere common affiliation with Stanford University and prospects for the university's future fundraising were enough to frustrate two directors' independence.¹¹⁴ Oracle's board appointed two Stanford professors, who had no direct ties or prior relationship with Oracle, to determine whether a derivative action against other Oracle board members over alleged insider trading could proceed.¹¹⁵ After a thorough investigation, the committee decided that the suit lacked merit.¹¹⁶ The court refused to give credence to the committee's decision, however, not because of the defendants' and professors' mutual board service, but primarily due to their common Stanford affiliation and the possible influence of overlapping Silicon Valley networks.¹¹⁷ In its decision, the court expressed uncertainty over whether "[the directors'] connections might produce bias in either a tougher or laxer direction" but ultimately found enough doubt about the committee's independence to overrule the committee's decision, allowing the lawsuit to continue.¹¹⁸

The ties at issue in the *Oracle* case were attenuated and could even be described as hypothetical: the mere fact that the independent directors might feel social pressure to act in a non-independent way was enough for the court to question their disinterestedness.¹¹⁹ The decision demonstrates the Delaware courts'

¹¹⁴ *In Re Oracle Derivate Litigation*, 824 A.2d 917, 918 (Del. Ch. 2003).

¹¹⁵ *Id.* at 918-19.

¹¹⁶ *Id.*

¹¹⁷ *Id.* at 931.

¹¹⁸ *Id.*

¹¹⁹ *See id.* The precise question was whether the directors' potential ties raised a reasonable doubt about their independence, and the court found that it did. In the context of reviewing a special litigation committee's findings, the reasonable doubt standard lowers the threshold of what could constitute a conflict of interest from where it would be in a suit alleging breach of fiduciary duty. *See, e.g., Zapata Corp. v. Maldonado*, 430 A 2d 779 (Del. 1979). Nonetheless, the rationale for considering broad social ties should still apply in similar matters.

willingness to look at networks outside of direct interlocks, but leaves confusion as to what kinds of network matter. Other states have done the same.¹²⁰

Subsequent decisions in Delaware and elsewhere have taken an inconsistent approach regarding networks; at times, courts have treated far more intimate ties than those in *Oracle* as unproblematic for director independence, while more attenuated ties have raised doubts. For example, in *Teamsters Union 25 Health Servs. & Ins. Plan v. Baiera*, the Delaware Chancery Court found no doubt about a director's independence or compliance with the duty of loyalty even though he had served on the board of, and in fact been appointed by, a service provider with whom his company agreed to do business.¹²¹ In that case, the same interlocks that the literature identifies as influential were held to be immaterial. The case centered on a service agreement that travel company Orbitz signed with its then-parent, Travelport Limited to help ensure the success of Travelport's IPO. The court found that despite the close ties between several of Orbitz's directors and Travelport (and appointment of one them by Travelport), the plaintiffs did not raise reasonable doubts about the directors' independence.¹²²

In other recent cases, by contrast, the Delaware courts have found conflict in more attenuated relationships than in either case described above. For example, in *Sandys v. Pincus*, the independent directors of game maker Zynga voted to allow fellow board member, Mark Pincus, to trade restricted stock in the company immediately before the announcement of negative earnings that would result in a drop in stock price.¹²³ Investors sued, and on appeal the Delaware Supreme Court

¹²⁰ See, e.g., *Boland v. Boland*, 423 Md. 296, 356 (Md. 2011) (holding that "The independence inquiry should not end with an examination of business relationships. In some instances, the plaintiff can raise a genuine issue of material fact regarding the SLC's independence and good faith by presenting evidence of significant personal or social relationships."); *Sherman v. Ryan*, 392 Ill. App. 3d 712, 725 (Ill. App. Ct. 2009) (holding that "A reasonable doubt as to the independence of a director may be raised because of financial ties, familial affinity, a particularly close or intimate personal or business affinity... However, mere allegations that directors move in the same business and social circles, or a characterization that they are close friends, is not enough to negate independence for demand excusal purposes.").

¹²¹ See *Teamsters Union 25 Health Servs. & Ins. Plan v. Baiera*, C.A. No. 9503-CB (Del. Ch. July 13, 2015).

¹²² See *id.*, Other cases have made similar implications. See, e.g., *Beam ex rel. Martha Stewart Living Omnimedia, Inc. v. Stewart*, 833 A.2d 961, 1050 (Del. Ch. 2003) (finding that "some professional or personal friendships, which may border on or even exceed familial loyalty and closeness, may raise a reasonable doubt whether a director can appropriately consider demand..." but holding that "Not all friendships, or even most of them, rise to this level and the Court cannot make a reasonable inference that a particular friendship does so without specific factual allegations to support such a conclusion.").

¹²³ See *Sandys v. Pincus* 2016 WL 769999 (Del. Ch. Feb. 29, 2016). See also *Del. County Employees. Ret. Fund v. Sanchez*, 124 A.3d 1017, 1022 (Del. 2014). In addition, the Delaware Courts have increasingly acknowledged the possible importance of relationships and backed away from any blanket presumption about the ability of a director to consider demand excusal. See *Del. County Employees. Ret. Fund v. Sanchez*, 124 A.3d 1017, 1022 (Del. 2014) (stating that "[In *Beam*] we did not suggest that deeper human friendships could not exist that would have the effect of compromising a director's independence. When, as here, a plaintiff has pled that a director has been close friends with an interested party for half a century, the plaintiff has pled facts quite different from those at issue in *Beam*. ...when a close relationship endures for that long, a pleading stage inference arises that it is important to the parties."

found that business ties among the directors, and the fact that some of the directors shared a private plane, raised reasonable doubt about their independence.¹²⁴

These cases, and others like them, illustrate courts' willingness to look at networks beyond interlocks. Yet, they do little to clarify what kinds of networks are relevant and when they might be especially problematic. There is little analytical guidance to say why owing one's job to another entity does not make one beholden to that entity but sharing a private plane with another does. Networks are relevant, but clarity on the implications of networks would benefit corporate governance law and the actors within it.

b. Corporate Opportunity and Conflicts of Interest

Similarly, networks add complexity to a director's responsibilities with respect to the corporate opportunity doctrine and conflicts of interest. In most circumstances, courts have not viewed service on multiple boards as impugning a director's loyalty to the corporation she serves.¹²⁵ However, corporate opportunities can pose problems for directors serving on multiple boards. As one court has stated, "[i]t is only when a business opportunity arises which places the director in a position of servicing two masters, and when, dominated by one, he neglects his duty to the other, that a wrong has been done."¹²⁶ The basic requirement in most states is that directors avoid taking business opportunities that "belong" to the corporation, meaning, essentially, that the opportunities are within the company's business line and the company is in a position take advantage of them.¹²⁷ Nonetheless, a corporation may, through its non-conflicted directors, elect to forgo an opportunity and allow the director to take advantage of it once it has been fully disclosed.¹²⁸

Networks throw an additional wrinkle into the basic corporate opportunity framework. Opportunities may arise for entities enmeshed in a director's network, even if the director (or a company she serves) does not take the opportunity directly.

¹²⁴ *Id.*

¹²⁵ See e.g., *Quadrant Structured Prods. Co. v. Vertin*, 102 A.3d 155 (Del. Ch. Ct. 2015) ("... 'the Delaware Supreme Court held that there "[t]here is no dilution of [fiduciary] obligation where one holds dual or multiple directorships.' If the interests of the beneficiaries to whom the dual fiduciary owes duties are aligned, then there is no conflict of interest.").

¹²⁶ *Singer v. Carlisle*, 26 N.Y.S.2d 172, 182 (N.Y. 1940).

¹²⁷ The general rule on corporate opportunities in Delaware is set out in the case *Gulf v. Loft, Inc.*, 5 A.2d 503 (Del. 1939). (The basic doctrinal formulation of the rule is that a director may not take an opportunity for him or herself if: (1) the corporation is financially able to take advantage of the opportunity; (2) the opportunity is in or closely related to the corporation's line of business; (3) the corporation has an interest or expectancy in the opportunity; and (4) if the director takes the opportunity, he or she would take on a position at odds with his or her duties to the corporation). A small number of jurisdictions use a fairness test. Under such a test, a corporate opportunity is deemed to belong to the corporation if a fiduciary's appropriation would not satisfy "ethical standards of what is fair and equitable [to the corporation in] particular sets of facts." *Durfee v. Durfee & Canning, Inc.*, 80 N.E.2d 522, 529 (Mass. 1948).

¹²⁸ See, e.g., *Kerrigan v. Unity Savings Ass'n*, 58 Ill. 1974 ("[I]f the doctrine of business opportunity is to possess any vitality, the corporation or association must be given the opportunity to decide, upon full disclosure of the pertinent facts, whether it wishes to enter into a business that is reasonably incident to its present or prospective operations.").

For example, *Johnston v. Greene*¹²⁹ presents a typical fact pattern. In that case, the director in question was president of two companies: Airfleets, an aircraft financing company, and Atlas, an investment company that owned a large stake in Airfleets. An opportunity arose to buy a business that made a mechanical part and the patents for it.¹³⁰ Atlas passed on the opportunity, and Airfleets' board decided to purchase a controlling interest in the third business, but not its patents. The director proceeded to purchase the patents, and a group of Airfleets shareholders sued alleging breach of fiduciary duty by usurping a corporate opportunity. The court ultimately found that the opportunity had been fairly presented to both boards and rejected, freeing the director to seize it for himself.¹³¹

One need only alter the facts of *Johnston* slightly to see how networks complexify the analysis. Imagine that, instead of taking the opportunity to the board of Airfleets, the director in *Johnston* had told a colleague with whom he served on yet another company's board about it. Assume he did so to curry favor with that director and other members of that board. This other company and its directors owe no fiduciary duties to Airfleets or Atlas and could take the opportunity. The director would not have taken the opportunity for himself, and therefore the case against him for breach of fiduciary duty would be weak using the traditional analysis; nonetheless, his behavior would be equally if not more problematic. Considerations like this might complicate corporate opportunity inquiries, but nonetheless, analyzing them is arguably necessary to remain faithful to the interests underlying this doctrine.

II. Social Governance

Part I described the importance of directors and summarized how scholars, policy-makers, and courts have either ignored networks beyond interlocks or taken inconsistent approaches to broader director networks. This leaves many open questions: whether it is feasible to examine networks, how this can be done, and whether an examination of networks adds anything to the preexisting analysis. In this Part, we provide empirical evidence to show that the examination of Social Governance through director networks is feasible and possible, and we provide a case study of how such analysis can be done.

We explore the importance of broader networks using two empirical approaches. The first approach, outlined in Part II.A, gathers qualitative data through interviews with board members and company general counsel who work closely with boards. This approach assesses the anecdotal impressions of those in the trenches about the importance of interlocks and director networks. The second

¹²⁹ 121 A.2d 919 (Del. Ch. 1956).

¹³⁰ *See id.* at 920.

¹³¹ *See id.* at 925.

approach, outlined in Part II.B, involves a quantitative empirical case study of director networks and their impact on corporate governance. Specifically, the quantitative analysis examines of the role of director networks in improving the board's accounting practices.

A. *The View from The Ground: Directors' View Regarding Networks' Role*

This section presents data from original interviews with directors and general counsel about the role of those networks in the governance of corporations. We interviewed members of boards of directors and general counsels of public companies to assess our empirical strategy and develop further insight into the plausibility of our quantitative results. A table describing our interviews is set out in the Appendix.¹³² These directors served on companies ranging from large, Fortune 500 Companies to small Russell 3000 companies. To identify interview subjects, we used a snowball sampling technique, beginning with a sample of directors taken from the membership of the National Association of Corporate Directors, and asking each interviewee to refer us to anyone else willing to speak with us. The major downside of snowball sampling is that it is difficult to obtain an unbiased sample. However, this technique helped us gain access to directors and general counsels who might have otherwise been disinclined to participate. Because of the challenges associated with using snowball sampling and interviews in general, we consider these interviews to be supplemental to the quantitative data. They provide context and support for our approach but we do not rely solely on the interviews in forming our conclusions.

Each director affirmed the important influence of networks in corporate governance. Moreover, the interviews provided anecdotal support for our more comprehensive empirical strategy of looking at networks created by board memberships, as further explained in this section. The interviews also shed light on the ways in which networks can transmit information, as well as the other kinds of networks that are important to board governance. In addition to establishing networks' importance, these interviews reveal some of the specific ways in which these networks are utilized as well as some of their potential limits and downsides.

Notably, board members themselves also tend to conflate the issue of director interlocks with broader director networks. When asked to tease out the influence of each, the board members we interviewed generally acknowledged that both are important, although direct interlocks are more concrete and easier to conceptualize, and therefore take more attention in directors' thinking.

1. Networks formed through service on other boards

Our interviews revealed that directors and general counsel view networks formed through service on multiple boards to have both benefits and downsides. Participants highlighted the benefits that connections with other boards can bring

¹³² See Table 7 in the Appendix, *infra*.

but lamented the concerns regarding their time commitments to other boards. One public company director, for example, described more networked directors has being more “experienced” and noted the benefits of having board members who have seen situations before.¹³³ For example, another director described a situation in which an activist shareholder attempted to influence a company on whose board she served. The director had encountered the same activist while serving on a different board and was able to share knowledge of how to deal with the activist, which led to a smoother resolution to the problem. Another interviewee commented that “you don’t need to teach [directors on multiple boards] everything from scratch.”¹³⁴ Another noted that “the ability of these directors to share information about how other companies have approached things strategically is invaluable.”¹³⁵

On the other hand, participants also highlighted concerns regarding the time commitment of these directors, stating that at times, it could be “a challenge to schedule board meetings” and sometimes “their attention was clearly not there.” One director, however, stressed that “it is more about the stage in the director’s career and their commitment to the position than mere number of board positions.”¹³⁶

Another potential drawback we asked interviewees about was potential conflicts of interests that serving on multiple boards might lead to. Participants generally thought that this issue was a problem in theory, but in practice, boards are highly cognizant of it and deal with it well. Participants stated that directors usually try to avoid such conflicts when considering whether to accept a seat on a board. For instance, one director recounted an anecdote in which she advised a colleague not to accept a board position with a company that had business in a wide range of industries because it might cause a conflict of interest in the event the colleague were offered a CEO position in one of those industries sometime in the future. Another participant expressed that such conflicts, should they arise, would “usually be easily addressed” through disclosure and approval by other directors.¹³⁷ However, some participants acknowledged that at times, companies debate the motivation behind a director’s advice or recommendation when it is based on outside knowledge gained from her other board service. For example, one interviewee stated that “when a director recommends that we buy a product from a company in which he is a director, we wonder whether this advice is because he has intimate knowledge with the product and its value or because they stand to gain from it.”¹³⁸ This suggests that board members are attuned to potential conflicts of interest and take them into account, at least some of the time.

¹³³ Telephone Interview with Participant V (November 8, 2018).

¹³⁴ Telephone Interview with Participant II (November 5, 2018).

¹³⁵ Telephone Interview with Participant III (November 6, 2018).

¹³⁶ Telephone Interview with Participant I (October 18, 2018).

¹³⁷ Telephone Interview with Participant II (November 5, 2018).

¹³⁸ Telephone Interview with Participant XII (September 18, 2019).

2. How Director Networks Impact Governance

Participants described several paths through which board networks impact a board's work. One path is via informal discussions with colleagues from other boards. Directors rely on their networks of colleagues for information sharing. Participants stated that they often rely more on colleagues from other boards when dealing with unfamiliar situations because there is sensitivity about appearing knowledgeable and competent in front members of one's own board. Interviewees commonly described sharing knowledge, often on a no-names, off-the-record basis, about experiences they have had at other companies or things they have learned from colleagues on other boards. In addition, participants indicated that directors bring with them document and policy templates from their other companies as part as the onboarding process.¹³⁹ Several participants specifically mentioned the "onboarding" process (the process of orienting a new director to a company) as an opportunity for a well-networked incoming director to not only learn about the companies' own policies but to also actively suggest revisions and additions based on what other companies in which she serves have been doing.¹⁴⁰

Several interviewees noted that a director's network and service on other boards is useful when the company is looking for an outside consultant. One general counsel noted that "we would seek that director's input as far as how was the experience with that outside consultant."¹⁴¹ Our participants also noted that the network of directors is particularly useful when looking for new directors, and many nominations are the result of directors offering names from within their network. According to participants, consultants are particularly important when there is a change in law, regulation or market practice to which a company must adapt, and about which there is little precedent practice.

Finally, participants also specifically confirmed the role of networks, rather than solely interlocks, in the data sharing process in the boardroom. When asked if it is common to have directors mention information they gained from a different director with whom they serve on another company, one director said that "it happens all the time"¹⁴² while another general counsel mentioned that he has definitely seen it, particularly "in the contexts of highly regulated industries, where sharing of such knowledge is particularly useful."¹⁴³

Participants also acknowledged that the broader network plays an important role in the nomination and selection of new directors,¹⁴⁴ as directors

¹³⁹ Telephone Interview with Participant VI (January 9, 2019).

¹⁴⁰ Telephone Interview with Participant VII (February 1, 2019).

¹⁴¹ Telephone Interview with Participant XIII (September 19, 2019).

¹⁴² Telephone Interview with Participant XV (September 23, 2019).

¹⁴³ Telephone Interview with Participant III (November 6, 2018).

¹⁴⁴ Telephone Interview with Participants II (November 5, 2018); Telephone Interview with Participants XII (September 18, 2019).

would often recommend candidates based on their wider network information. One participant specifically highlighted the ability of networked directors to attract both executives and outside service providers through the broader network.¹⁴⁵ These interviews highlight the importance of examining director networks and Social Governance more broadly into discussions surrounding interlocks and the importance of corporate board professional ties.

B. Network Analysis

1. Data Sources and Design

Our data is drawn from a number of different sources. We collected our initial sample of board members using BoardEdge and BoardEx, two commercially available databases of board composition that includes the identities, ages, positions, educational backgrounds and other organizational affiliations of public company directors and senior managers. We collected and coded the identities of members of the boards of directors of all publicly traded companies in those databases, beginning in 1990 until January of 2018. Private firms and firms for which financial information was unavailable were excluded, as were firms with less than four years of available data, since the governance changes of such firms over time cannot be readily assessed. This left a dataset of 7,208 firms existing in at least four years of the dataset, and 84,722 firm-year observations. To observe the governance impact of directors, we used several outcomes that serve as proxies for good governance. First, we collected SEC enforcement data from the SEC's Accounting and Auditing Enforcement Releases, and the Government Accountability Office. These releases describe SEC enforcement actions against public companies that have allegedly engaged in fraudulent accounting practices and either litigated or settled their cases with a consent decree.

The releases state the timing of the alleged fraud, as well as the nature of the fraudulent activity, among other things. In addition, we collected information on financial restatement events from Audit Analytics, which maintains a database of auditor actions with respect to publicly traded companies. We also collected information on firm governance policies, particularly those related to board entrenchment, from Institutional Shareholder Services. In addition, we gathered information on firm governance policies, including director and officer compensation, company diversity policies, employment policies and environmental policies compiled by Morgan Stanley Capital International (MSCI), a provider of governance and policy indexes. We gather market data from the Center for Research in Securities Pricing (CRSP) database and company financial data from Compustat, a financial, statistical, and market database.

¹⁴⁵ Telephone Interview with Participants XII (September 18, 2019).

Our main study design centers around an unexpected shock to the director network—for both the company at which the death occurs and to other indirectly connected companies—and therefore we identify cases in which companies experienced unexpected departure by the death of a director. We began by searching Form 8-Ks on the SEC’s EDGAR database for information on all director departures. We then parsed these filings for information on the reasons for the director’s departure. We categorized sudden departures in two ways. In the first category are unexpected director departures due to death; that is, deaths that occur in office without other information indicating the director’s intention to leave or retire in the same year. Such deaths of directors and CEOs are a tragic occurrence, but not exceptionally rare.¹⁴⁶

Although many companies provide information about a director’s death and resignations on Form 8-K, they are not always required to do so, and the information is not always available from that source.¹⁴⁷ We therefore supplemented the dataset by searching Proquest and Lexis for news articles about director departures and deaths that correspond to their departure date from a company board. This yields a first of its kind data set with a total of 658 director sudden deaths between 1990 and 2018. The average age of a director’s death in our dataset is 72, several years younger than the average life expectancy in the United States which currently stands at 78.69 years. Directors’ ages while in office at their time of death range from 40 to 95 years old.

2. Network Centrality Measures

While conceptually, networks are straightforward—the scope and reach of the social interactions that directors have with one another—in practice, a reliable measure of their intangible attributes is necessary. To construct a model of network interactions, we calculate four measures of connectedness used in the literature on networks and in finance research on board networks.¹⁴⁸

We note that our model builds upon direct board overlaps, as discussed in much of the traditional literature, but also goes beyond them. We also note that our approach is simply one way to model a network. Other networks based on social media ties or other connections are also undoubtedly relevant, and we are currently gathering data for a future project looking at these. For present purposes, we use board memberships as network building blocks because they have been the focus of the prior literature that we endeavor to expand. Moreover, networks based on

¹⁴⁶ Carol Hymowitz & Joann S. Lublin, “*McDonald’s CEO Tragedy Holds Lessons for Directors*,” WALL STREET JOURNAL, <https://www.wsj.com/articles/SB108241709119287202>.

¹⁴⁷ Form 8-K requires disclosure of a director’s departure, but does not require any disclosure about the reason for the departure, unless it is due to resignation over a disagreement with company operations or policies. See Form 8-K; Regulations S-K Item 501.

¹⁴⁸ For a paper using similar network analysis techniques on boards of directors, see Larcker, et. al., *supra* note 100 at 268-70.

board memberships are likely to be highly correlated with other type of networks as well.

The four measures of connectedness used in the literature that we employ here are described below.¹⁴⁹ The measures are Degree Centrality, Closeness Centrality, Betweenness Centrality and Eigenvector Centrality, each of which is explained below. Although each of these measures is relatively simple, together they account for various ways that connections between and amongst directors might result in impacts on the companies' directors serve.

1. Degree: The first measure, Degree Centrality, is the same measure that is often referred to as interlocks in the literature. It enumerates the number of links between members of one board and another, and the distance between boards as a function of such links. To return to the analogy to friends in the Introduction, degree simply measures how many friends one has but says nothing more. In terms of boards, degree measures how many directors are shared between any set companies. This measure evaluates the direct size of a network, i.e., the ability of actors in a network to reach other actors without going through intermediaries. This in turn determines the amount of resources actors in a network have direct access to. In the dataset, the median Degree Centrality for all companies across the entire time period is 5, meaning that the median board has five direct interlocks with other companies.

2. Closeness: The second measure of board connectedness is Closeness Centrality, which measures the distance between boards. Specifically, it accounts for the number of other boards a company board member would have to go through to reach any other board to which he or she is not directly connected. The measure is similar to the concept of degrees of separation. Using the analogy from the introduction, closeness is a measure of how many friends-of-friends a person would need to go through to get to other parts of the extended network. With respect to boards, the intuition behind this measure is that boards are more likely to share information with each other or influence one another if their members can reach each other going through fewer intermediaries. Closeness is different than Degree because it broadens the network beyond the direct interlocks between boards. The median Closeness Centrality for board in the dataset is 0.22. Because of the way closeness is calculated, this means that the median board is separated by 5 other boards from the board that is further away in its network. Another way to think about this is that the median board is five degrees of separation away from its furthest board.

¹⁴⁹ *See id.*

3. Betweenness: The third measure is Betweenness Centrality, a measure which accounts for how much a given actor plays “middleman” for other actors. Extending the examples from the Introduction, if an individual has five friends, but none of the friends know each other (or anyone else), her betweenness increases because they have to go through her to get to each other. In terms of directors, betweenness counts how many paths between other parties a given board or directors lies upon. Betweenness measures the extent to which a board plays a bridging role between companies that would otherwise be unconnected. The median Betweenness Centrality is approximately 8, indicating that the median board across all years lies on the path between 8 other pairs of companies.

4. Eigen Vector: Eigen Vector Centrality considers how connected board members’ direct connections are. The idea behind this measure is that boards may have more influence, or may be more susceptible to influence, if its members’ direct contacts are also well connected. The measure itself can be thought of as a scaled score of sorts, of the connectedness of each board to every other board. As such, it has no natural interpretation, except in a relative sense, i.e, as a way to compare the centrality of boards and directors to each other. The median eigen vector centrality is 0.010, with the 25th percentile at 0.004 and the 75th percentile is 0.015.

It should be noted that we employ each of these measures, as each captures a different notion of connectedness between members of various boards of directors, and it is not clear a priori which is most meaningful (if any) with respect to governance or enforcement outcomes.

Using these other measures of centrality affords us the ability examine a more complete and holistic view of the network that is important to director’s decisions around the board table. For example, if a director sits on two different boards, Board A and Board B, she may have opportunities to use what she learns through her experience with Board A in her service to Board B. However, the time commitment involved in serving both boards might mean that she is unable to give her full attention to both at the same time. This illustrates Degree Centrality, and how this balances out is at the center of the debate over busy directors.¹⁵⁰ However, consider a situation in which a director sits on Board A and Board B, and Board A has problems with which she and her colleagues on both boards have little experience. If one of her colleagues on Board B knows someone on Board C with whom she can connect the director, the director will have access to a source of information and knowledge that is not captured solely through counting interlocks. Moreover, the ability to connect with Board C’s members will presumably not affect the director’s busyness. This is the type of network that Closeness Centrality seeks to capture, and networks that expand beyond this are generally described by

¹⁵⁰ See discussion in Part I, *supra*.

betweenness and Eigenvalue Centrality. Importantly, if the network connectivity of Board A changes, this will affect not only Board A, but it may affect Boards B and C also. Thus, higher order network measures can be used to capture important direct and indirect elements of a network.

Networks were created for all firms in each year in the dataset and for each individual director in the dataset. From these, the network metrics described above were calculated, and pictures of the networks were drawn. Table 1 in the Appendix provides summary data on the network measures over the dataset. Measures of centrality generally increase throughout the years in the dataset, as illustrated in Figure 2 in the Appendix. As discussed above, this could be due to a number of factors, including the perceived benefit of networked directors on the boards of publicly traded firms, the increasing professionalization of corporate directors, or the concentration of ownership of publicly traded firms making familiar names and relationships more important in director appointments.

C. Networks and Accounting Irregularity

One proxy for a board's influence on corporate governance is the extent to which a company exhibits accounting irregularities. Ensuring that systems are in place to enable accurate reporting and monitoring the firm's managers are key board functions, particularly after the enactment of Sarbanes-Oxley in 2002. Moreover, accounting best practices are the type of information that one would expect to be transmitted over a network, if any such transmission takes place at all. There are a few reasons for this. The first that accounting rules and standards change from time to time, and the practices to implement these changes take time to develop. Firms that develop them first (or pay experts to do so) are likely to serve as models for other firms. Those models can be copied more readily between more networked firms.¹⁵¹ The second is that, to the extent that companies use outside professionals to develop accounting practices, board members may be consulted and recommend firms via both direct and indirect network connections. The data from the AAER's and audit analytics provide a direct measure of accounting irregularities that later come to light.

We hypothesize that if networks are important conduits for governance information, then positive changes in a company's network (i.e., the network getting bigger) will result in a lower incidence of accounting irregularity; conversely, negative changes in the network (i.e., the network getting smaller) of highly networked boards will have a negative impact, all else equal.

In addition, using an exogenous shock to the networks, if networks are important, we would expect to see an effect not just at the company directly affected

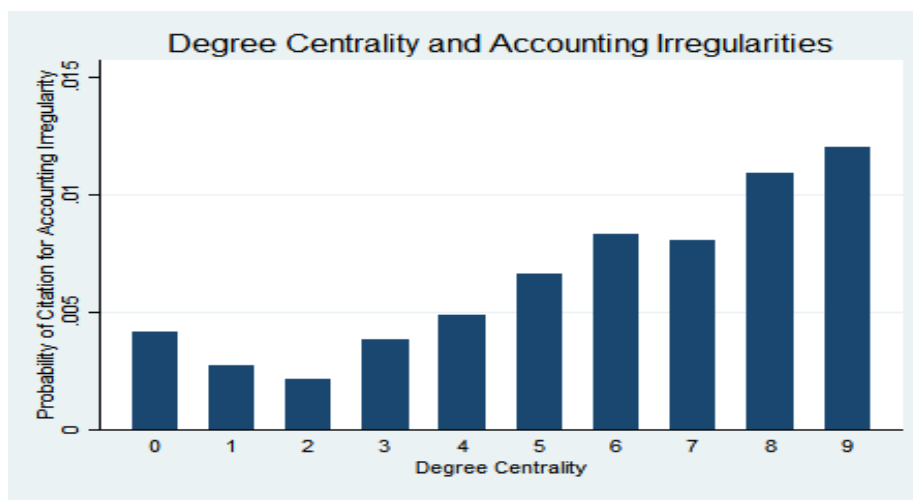
¹⁵¹ Of course, firms can be networked in ways other than via their directors, and those other networks could also transmit best practices. If that is so, then any network effect from connected boards could be masked by other networks. Nonetheless a test of networked boards is useful to assess whether they are conduits for this information as well.

by the shock (i.e., the company whose board member passes away), but also on companies on whose boards that director did not serve, but whose networks changed via indirect connections.

1. Accounting Irregularity Raw Data

Starting with the raw data, the noteworthy pattern is that citations for accounting irregularities increase as connectedness increases. The graph in Figure 2 below illustrates this trend. It shows the average relationship between Degree Centrality and the probability of being cited for accounting irregularities.

FIGURE 2: DEGREE CENTRALITY AND CITATION FOR ACCOUNTING IRREGULARITIES



Thus, the raw data would seem to support the traditional busy director concerns, showing that director interlocks interfere with director's ability to monitor. However, looking at raw data alone can be misleading and demonstrates the need for more thorough analysis. For example, certain firm characteristics might be associated both with director connections and with citation for accounting fraud without being directly related. For example, larger firms are more likely to have more connected boards, and it possible that larger firms are also more likely to be cited for accounting problems. In that sense, it is unclear whether the busyness of directors is driving the results, or rather, that the type of companies that attract busy directors are also more likely to be scrutinized more closely by investors and regulators alike. Moreover, it is unclear whether this pattern would affect companies with few direct connections that are themselves connected to well-connected companies. The following analysis helps to tease apart these possibilities.

2. Analysis and Results

To estimate the relationship between networks and accounting irregularity, we start our analysis with regression models designed to assess simple correlation. These models assess whether there is a relationship between our measures of director networks and the accounting misstatements when controlling for possible confounding variables. Specifically, we employ controls for company size using the amount of a company's assets, since size may be associated with networks as well as fraud or detection of fraud. We also control for directors' age and tenure on the board, since these might relate to their ability to provide advice and oversight independent of any network effect.

In addition, we control for a company's age, its return on assets (ROA) as a proxy of managerial ability, book value per share, leverage and sales turnover since these are commonly accepted measures used in the literature as factors often associated managerial competence and accounting irregularity.¹⁵² We also use fixed effects for each company's industry (as 2-digit SIC codes), each year and for the company itself. These fixed effects control for inherent qualities of the industries, companies, and years that we analyze that might otherwise affect the results.¹⁵³

The results of the simple regressions are shown in Table 2 in the Appendix. One important point stands out in the results: that each centrality measure has a negative coefficient, indicating that as a company's network strengthens, the likelihood of being cited for accounting irregularity decreases. As suspected, the size of a company is positively correlated with the probability of it being cited.

Of course, this model cannot rule out endogeneity. For example, it could be the case that better companies hire more networked or effective directors, and that less well-run companies cannot attract such directors or do not hire them. To assess whether that is likely to be the case, we conduct additional analyses using a difference-in-difference method. The goal of these analyses is to assess the true effects of networks, independent of the size of the company or other confounding factors, by exploiting the random timing of directors' sudden deaths. The specific timing of a director's death and replacement by another director causes changes in companies' connectedness that are plausibly exogenous (i.e., unrelated) to a company's odds of being cited for accounting misstatements, except via its impact on the company's director composition, and perhaps more importantly, via its impact on the networks of other companies that are *connected* to the companies where the death occurred. Therefore, it provides way to tease apart the effect of networks from other factors. Moreover, difference-in-difference models

¹⁵² See Joseph Brazel, Keith Jones & Mark Zimbleman, *Using Nonfinancial Measures to Assess Fraud Risk*, 47 J. ACC. RES. 1135, 1157 (2009) (describing financial and non-financial controls for research in accounting fraud).

¹⁵³ See Maureen Nwakuya & Eo Bui, *Comparative Study of Within-Group and First Difference Fixed Effects Models*, 9 AM. J. MATHEMATICS AND STAT. 177, 178-9 (2019).

additionally control for time-varying inherent qualities of the companies and industries we study.¹⁵⁴

To explain further, we conduct our analysis on two sets of companies. The first set of analyses examines changes in the networks of the companies at which the director deaths occur. However, because we are interested in the importance of networks, and not just the effect of a director's death on a company's policies, our second set of analyses looks at changes in the network for companies that *do not* experience a director loss but that are *connected* via director networks to companies that do experience a loss. By connected, we mean that there is at least one intermediary director between the two companies. For ease of reference, we refer to the firms where the death occurred as *primary firms*, and the firms that are connected to primary firms (but which did not experience a death) as *secondary firms*. Analyzing both types of firms allows us to further tease out the impact of an exogenous change in the network versus the impact from the director death itself.

Our difference-in-difference analysis compares the differences in director networks for the four years prior and four year post a director death. Companies whose networks are affected by the death are the "treatment group," and companies that have had no exogenous change to their boards are the "control group." The analysis compares the probability of being cited for accounting irregularity between the treatment and control firms, both before and after the change to the network. The idea is to see if the probability of accounting irregularity changes differently over time for the treatment group than it does for the control group (i.e., before and after the death). If there is a statistically significant difference in the *difference* between both groups after the change, then we can infer that the treatment (i.e., the change in the network) had an effect. Of course, other variables (such as firm size, performance, year, industry and age) are also controlled for to isolate the network effect on governance.

We selected the four-year window because it is likely that any governance or knowledge effect resulting from a change in director connectedness would likely lag behind the director's departure somewhat. Although boards that lose members replace those members, the incoming members have different levels of connectivity, meaning that the passing of a director has an impact on the board's network that goes beyond the immediate aftermath of the death.¹⁵⁵

¹⁵⁴ *See id.*

¹⁵⁵ We performed an analysis of parallel trends with respect to accounting irregularity and network connectivity to ensure comparability of treatment and control groups. We also performed robustness checks performing each difference-in-difference analysis using 100 randomly generated placebo death years to confirm that our results are not driven by other trends in the data, as set out in Appendix Table 8. The analysis using placebo deaths resulted in an average coefficient close to zero for each type of centrality, indicating that the results using real deaths are not spurious or driven by underlying trends in the data. Second, we did an analysis using matched samples of "treated" and "untreated" firms, matching based on firm characteristics, to rule out the possibility that firm quality is driving the results. The results indicate that our analysis is not driven by firm characteristics. Finally, we conducted the

Table 3 in the Appendix provides the difference-in-difference results for accounting irregularity, showing the effect of a change in networks caused by a director's death on the difference in the probability of citation for accounting irregularities. As explained, we include the same controls used for the simple regression analysis above. As panels 1-4 of Table 3 in the Appendix shows, the coefficients for primary companies are negative and significant at the 5% level or better for all network metrics at the primary companies (where the death occurred).

The table also shows that the change in network connectedness had an impact on secondary companies (those whose networks are indirectly affected by the death) with respect to all network metrics other than degree. These results are in panels 5-8 of Table 3. The effect at secondary companies is smaller, which one would expect since any impact is conveyed indirectly via the network. This provides support for the conclusion that greater network centrality leads to lower citation for fraud, and a fortiori, better corporate governance.¹⁵⁶

These analyses support the conclusion that greater network centrality is associated with a lower probability of accounting irregularities. Specifically, these empirical tests reveal that firms who experience a negative change in network centrality (meaning their network becomes smaller) due to a sudden director death experience a greater likelihood of being cited for accounting irregularities in the four-year period following the death event; as a corollary, firms who experience a positive change in network centrality as a result of the death and replacement by another director experience a lower probability of being cited, on average.

D. Governance Indexes

Another proxy for a board's influence is the adoption of corporate policies over which the board has control. We analyze changes in corporate governance indexes using the difference-in-difference method described above for both primary and secondary companies.

Several governance policies have been identified as having relevance for firm performance, as discussed below. Companies' level of adherence to these policies are commonly aggregated into indexes so that companies can be assessed in terms of their overall corporate governance orientation, something that any single policy does not necessarily represent on its own. One widely-used index is the so-called "entrenchment index" (E-index) developed by Professors Bebchuk, Cohen and Ferrell.¹⁵⁷ These researchers found that among a long list of policies monitored by shareholder proxy services, only six items had a significant impact on firm value,

analysis using only director deaths that occur before the age of 65, since these are likely to be more unexpected than deaths of directors who are much older. The results remain in these tests.

¹⁵⁶ For the more visually oriented, graphs of the results from Table 3 are also included in the Appendix as Figures 3 and 4.

¹⁵⁷ See Lucian Bebchuk, Alma Cohen & Allen Ferrell, *What Matters in Corporate Governance?*, 22 REV. FIN. STUD. 783 (2008). The index has been used in over 300 studies of the influence of corporate governance on firm value. See <http://www.law.harvard.edu/faculty/bebchuk/studies.shtml>.

all of which have management-entrenching effects: these are staggered boards, limits to shareholder amendments of the bylaws, supermajority requirements for mergers, supermajority requirements for charter amendments—limit the extent to which a majority of shareholders can impose their will on management, poison pills and golden parachute arrangements.¹⁵⁸ The authors created an unweighted index accounting for the adoption of these policies and found a significant correlation with firm value. A higher index score indicates more entrenched management and worse corporate governance.

A second index of corporate governance policies used by researchers and securities analysts is a proprietary governance score created by Morgan Stanley Capital International (MSCI).¹⁵⁹ MSCI rates a number of corporate governance factors based in part on investor revealed preference (as determined through shareholder votes), stated preference (as determined through surveys), and whether existence of the policy can be definitively determined.¹⁶⁰ Some of the policies in the MSCI score overlap with those in the E-index (e.g., existence of a poison pill), but many do not: audit committee independence, board attendance issues, gender diversity, independent board majority, annual director elections, cross shareholding, and one share, one vote provisions.¹⁶¹ Thus, the MSCI score provides an alternative measure of corporate governance quality that captures different policies, and a different definition of “good” governance than the E-index.¹⁶² In contrast to the E-index, a higher MSCI score indicates better corporate governance, while a lower score denotes worse governance.

We examine the effect of networks on governance using both measures. Employing a similar design to that used for accounting irregularities, we analyze the indexes using simple regressions, and then using a difference-in-difference analysis, again using unexpected director death as a natural experiment. Instead of logit models, we use linear regression given the continuous nature of both corporate governance measures.

1. MSCI Analysis

Our difference-in-difference analysis reveals a relationship between increased connectedness and better corporate governance using both governance measures. However, each measure exhibits a different pattern. Increased

¹⁵⁸ *Id.*

¹⁵⁹ See Morgan Stanley Capital International, ESG Research, available at <https://www.msci.com/research/esg-research>.

¹⁶⁰ See MSCI Governance Indexes Methodology, available at https://www.msci.com/eqb/methodology/meth_docs/MSCI_Governance-Quality_Jun15.pdf.

¹⁶¹ See *id.*, at Appendix II.

¹⁶² As a robustness check, we confirm that a basic relationship between each corporate governance measure and firm value, measured as total Q exists in the raw data. However, we note that the goal of this project is to assess whether networks affect governance; the subsequent question of whether these governance policies are significant for firm value is beyond the scope of this paper.

connectedness is associated with increases in MSCI score after an exogenously generated change in the network, suggesting that connectedness has a positive effect on corporate governance, or at least, those measures tracked by MSCI. This was true for all four connectedness measures at the primary company (the company that lost a director) as set out in Table 4 in the Appendix (panels 1-4). With respect to companies connected to the primary company—those whose networks were affected but who did not themselves lose a director—a similar pattern emerges; however, the coefficients are statistically significant only for Closeness and Betweenness, but not for Degree and Eigen Vector. These results are also set out in Table 4 in the Appendix (panels 5-8). With respect to Degree, this could be the case because the secondary company does not lose a director, and thus its Degree does not change as a result of the loss at the primary company. With respect to Eigen Vector, it is possible that the result is due to the fact that certain policies are less affected by the connectedness of a company's connections than others; however, it could also simply be due to lack of statistical power in the sample with respect to the MSCI scores.

2. E-index Analysis

Analysis of the E-index likewise suggests a positive relationship between connectedness and corporate governance. Because of the way the E-index is constructed, better corporate governance is denoted by a negative changes in a company's index rating. The results for both the primary company (the one suffering the death), and secondary connected companies show a negative change in the E-index following the network shock. However, only the results for the secondary company are statistically significant. The results are set out in Table 5 of the Appendix for both primary companies (panels 1-4) and secondary companies (panels 5-8). The difference in results could simply be a consequence of the fact that there are far fewer companies that experience a death than there are companies connected to them, and therefore, analysis of the secondary connected companies has more statistical power. Alternatively, it could be that the types of governance policies the E-index captures are influenced more by indirect networks, although it is difficult to see why that would be the case. In any event, the results provide further support for the hypothesis that networks can facilitate positive corporate governance changes, at least in some firms in a network.

E. Options Backdating

Our last test uses options backdating as an outcome, and tests our network measures to assess what networks besides interlocks are important for transferring nefarious practices. As previously discussed, a well-known paper found that more interlocked boards were associated with options backdating, a manipulative practice that often entails a violation of disclosure rules or fraud.¹⁶³ To do so, we

¹⁶³ See Bizjak et al., *supra* note 7, at 4821.

use a similar methodology to the prior paper to assess whether firm reveal evidence of options backdating.¹⁶⁴ Using ordinary least squares regression (per the prior paper) our results confirm that interlocks in isolation are indeed associated with options backdating, shown in Table 6.¹⁶⁵

However, when network variables are introduced, the relationship with degree reverses, becomes exceedingly small or loses statistical significance, depending on the specification. More important factors are closeness (the degrees of separation between one person and others in the network), eigen vector (how connected your connections are) and another network measure known as clustering. Clustering provides more information about the network centrality measures already discussed. It describes how many “cliques” exist among the connected members of a network. Using the analogy involving friends from the introduction, if all of one’s five friends know one another, but don’t know many additional people, the group would have a large clustering coefficient; in other words, they would have formed a clique. Clustering describes how insular any given community of boards or directors is and how much such groups are connected or cut off from the larger network.¹⁶⁶

Networks with shorter paths and connections that are more clustered are more likely to engage in options backdating. This bolsters the hypothesis that networks help to transmit information, but also that the structure of a network matters. These kind of short path, clustered networks are described in the social science literature as being potentially prone to greater levels of groupthink, since information is transmitted within a smaller set of actors who are relatively closed off from the larger network. Our results cannot say definitively if this explanation holds true for options backdating, or whether there may be other explanations that networks do not capture; but they do suggest, at the very least, that network architecture matters as much or more than simple overlapping directorships, and suggests areas for future research into whether certain kinds of networks are more prone to transmitting bad practices as opposed to good.

III. Policy Implications

At a basic level, the above analysis demonstrates that Social Governance through director networks plays an important part in corporate governance in ways that are not sufficiently captured by interlocks, busyness, or market-based metrics alone. Yet, the academic literature and important policy making bodies have scarcely begun to expand their analysis when examining director’s service on multiple boards. Focusing solely on the direct interlocks that directors create and

¹⁶⁴ See *id.* at 4826.

¹⁶⁵ Only primary companies were analyzed since this was the method followed by the prior study.

¹⁶⁶ See Duncan Watts & Steven Strogatz, *Collective Dynamics of Small World Networks*, 393 NATURE 440, 441 (1998) (describing mathematical and real-world features of insular clustered networks). See also Aaron Clauset, M. E. J. Newman, Christopher Moore, *Finding Community Structure in Very Large Networks*, PHY. REV E. 70 (2004).

on the sheer number of boards a director serves, has led many to conclude that directors' service on multiple boards might be sub-optimal, when in fact, the picture is more complex. Moreover, courts have approached networks in ways that vary greatly from one situation to another, without any discernable principle as to why.

Our results provide support for the argument that positive benefits of director connectedness—Social Governance—provide a counterweight to the drawbacks of director busyness. The results also provide evidence that the structure of networks matters and are important sources of the benefits for boards. Below we expand on these important policy implications.

A. *Surpassing Equilibrium and the Need for Broader Networks Research*

The existing literature supports the idea that interlocks are important but is ambivalent about whether they are good or bad. Directors who are better networked may have access to information and best practices from various companies on whose boards they sit, or whose directors they have relationships with.¹⁶⁷ Networked directors might therefore be able to bring expertise on effective corporate governance mechanisms, compliance, and monitoring strategies to their companies, and thus lead companies that exhibit fewer actionable or otherwise problematic behaviors. On the other hand, companies with highly networked boards may exhibit worse governance behavior because directors who sit on the boards of multiple companies—one of the criteria for determining how well networked a board is—may be too busy to devote sufficient attention to any one of the companies they serve,¹⁶⁸ or because the networks transmit negative practices.¹⁶⁹

Yet, the results presented in this paper collectively provide evidence that, on average, companies with more networked boards have better corporate governance mechanisms, as shown by the lack of incidence of enforcement events, litigation and accounting restatements that they experience. These findings support the conclusion that board connectedness may yield positive benefits for public company governance, bringing to light an upside to director interlocks that has gone largely unnoticed, while also shedding light on how network structure is important for both positive and negative network effects.

One way to evaluate the positive effects of a network is to look at a network's strength. Board interlocks solely affect Degree Centrality but fail to provide any information about a network's structure or the extent of information transfer that might occur in a network. In other words, a company with a smaller number of directors who serve on other boards could have a stronger overall

¹⁶⁷ A similar argument has been made with respect to transmission of business innovations that increase shareholder value. See Pamela R. Haunschild & Christine M. Beckman, *When Do Interlocks Matter? Alternate Sources of Information and Interlock Influence*, 43 ADMIN. SCIENSCI. Q. (1998).

¹⁶⁸ See Ljungqvist & Raff, *supra* note 12; Nili, *Horizontal Directors*, *supra* note 15 at 3. In line with this possibility, researchers have found that the number of board positions held by a director is negatively associated with shareholder wealth. See Fich & Shivdasani, *supra* note 21 at 5.

¹⁶⁹ See Nili, *Horizontal Directors*, *supra* note 15, at 2-3.

network and vice versa. Rather, the strength of a network can be better evaluated based on the access to information and the ease at which that information can flow. As firms realize the value of director networks, they seek to hire directors who bring these connections with them. This suggests that efforts to reign in board interlocks may need to be more nuanced. Likewise, service on other boards may be beneficial if, say, the interlocks lend themselves to connections with other well-connected boards.

It is clear that viewing directors solely for their own expertise and background or seeing their benefit as merely a function of the number of boards they serve on, misses a big part of what is important in boardroom decision-making. Indeed, at times, the cost of retaining a very busy director would be outweighed by the connections she brings to the table. Our results illustrate how networks matter in important but different ways than other means of looking at director connections. Ultimately, this poses the question: at what point does an equilibrium exist between the benefit director networks create and the concerns they raise?

Conceptualizing directors' networks is just a first step in understanding the role of director networks in the corporate governance landscape. This is especially relevant given that boards have become more networked over time. Future work on Social Governance is needed in order to further explore and pinpoint these exact questions in an effort to maximize the benefits that flow from director networks.

B. Networks and the Courts: Toward a Consistent Doctrine of Networks

As previously discussed, courts have, at times, taken inconsistent approaches with respect to director networks when assessing issues such as whether directors raise independence concerns or have violated fiduciary duties or the corporate opportunity doctrine. Courts have also been inconsistent when evaluating what scope of networks should be taken into consideration. These inconsistencies, especially by Delaware courts, push against a long-standing incentive for corporations to incorporate in Delaware: consistency of the courts.¹⁷⁰

1. Director Independence

The first area in which Director Networks could substantially influence a courts' analysis is director independence. As explained above, in the context of director independence, courts have laid out a shifting set of criteria for determining whether director networks matter. To understand the importance of networks, it is important to understand the mechanics of litigation over director independence. Director independence is usually raised by plaintiffs to remove a corporate decision from the protection of the business judgment rule by casting doubt in the process

¹⁷⁰ Joseph R. Slights III & Elizabeth A. Powers, *Delaware Courts Continue to Excel in Business Litigation with the Success of the Complex Commercial Litigation Division of the Superior Court*, 70 BUS. LAW. 1039, 1046 (2015).

by which the decision was made.¹⁷¹ The crux of such litigation is not so much the ultimate standard of proof for showing lack of independence; rather, the important moment comes at the initial stages when plaintiffs must make a prima facie case that the ties between directors raise doubts about their independence.¹⁷² If such doubts are adequately raised, then regardless of whether or not independence is truly compromised, the defendant corporation has a difficult burden to assuage such doubts, and for all practical purposes, the courts will proceed as though independence is compromised. The upshot of this is that proxies for lack of independence take on a dispositive role, often regardless of the reality of the situation.

Courts have increasingly looked at networks as such proxies but have failed to outline or define the features of networks that raise problems. Delaware courts have expressed a willingness to consider social ties in evaluating independence and have favorably cited *Oracle's* proposition that “corporate directors are generally the sort of people deeply enmeshed in social institutions... that, explicitly and implicitly, influence and channel the behavior of those who participate in their operation.”¹⁷³ These courts have stated that “a plaintiff cannot just assert that a close relationship exists” but must produce evidence.¹⁷⁴ Notwithstanding this language, however, Delaware courts have allowed plaintiffs to assert the existence of close relationships with only circumstantial evidence, accepting ambiguous situations as facially sufficient evidence that a defendant’s network ties thwart their independence. These ambiguous standards have resulted in decisions that lack a unifying theory, or more importantly for corporate governance, make it difficult for managers to structure decision-making processes in a way that avoids independence problems.

There are numerous examples of seemingly inconsistent doctrinal applications. The *Pincus* case described above, in which allegations about co-ownership of a private plane and other business dealings were enough to meet the plaintiff’s burden¹⁷⁵ contrast sharply with cases like *In re Lendingclub Corporation* in which shared board positions and “significant business and social ties” across a “thirteen-year working relationship” were insufficient to draw an inference of a lack of independence.¹⁷⁶ To be sure, either of these situations may or may not entail strong enough relationships to thwart the possibility of independent decision-making. While co-owning a plane might indicate a relationship inconsistent with

¹⁷¹ See, e.g., FRANKLIN BALOTTI & JESSE FINKELSTEIN, DELAWARE LAW OF CORPORATIONS AND BUSINESS ORGANIZATIONS 904-905 (2011).

¹⁷² See *id.*

¹⁷³ *Cumming v. Edens*, 2018 WL 992877, at 56 (Del. Ch. Feb. 20, 2018).

¹⁷⁴ *Marchand v. Barnhill*, 212 A.3d 805, 818 (Del. 2019). See also *In re BGC Partners, Inc. Derivative Litig.*, No. 2018-0722-AGB, 2019 Del. Ch. LEXIS 1289, at *26 (Ch. Sep. 30, 2019).

¹⁷⁵ *Sandys v. Pincus*, 152 A.3d 124, 129-31 (Del. 2016).

¹⁷⁶ *In re Lendingclub Corp. Derivative Litig.*, No. CV 12984-VCM, 2019 WL 5678578, at 39-40 (Del. Ch. Oct. 31, 2019).

independence, simply co-owning something does not, by itself, imply a close relationship (consider the company Netjets, which sells fractional ownership interest in private planes—much like timeshare units in vacation houses—where co-owners may not even know each other’s identities, much less have a close relationship¹⁷⁷). Plaintiffs in *Pincus* offered no details regarding the ownership arrangement of the plane and averred no other information about the relationship between the co-owners, yet the court accepted the argument that ownership of such an asset cast sufficient doubt on independence.¹⁷⁸ At the same time, overlapping directorships and a significant long-term business relationship at issue in *Lendingclub* might imply a strong enough friendship to cloud a person’s independence.

Courts have stated that a case by case approach is warranted.¹⁷⁹ However, courts have limited time and resources, and investigation into the facts of each relationship among corporate decision makers is inefficient at best, and infeasible and prone to error at worst. Moreover, a legal standard that allows even the most tenuous relationship to give rise to the possibility of thwarting independence invites litigation over many corporate decisions, which is costly and time consuming even when the relationship turns out to be harmless. This, in turn, forces corporate decision makers to over-invest in setting up unnecessary decision-making processes that consume time and resources, in order to try to avoid ensnarement by the courts’ amorphous standard.

Thus, while courts have been willing to consider social ties, they have not developed a reigning standard for when a network relationship may impact a directors’ ability to impartially make decisions. The lack of such standard is problematic. However, as explained below, the network theory described in this paper can help clarify the basic interests underlying the court’s decisions, which in turn can provide a basis for a consistent set of presumptions to guide courts, helping them decide which party should bear evidentiary burdens and when to look more deeply into a situation.

2. Fiduciary duty litigation

The second area in which Director Networks could substantially influence a courts’ analysis is fiduciary duty litigation. Within the fiduciary duty framework, director networks could impact two important areas of litigation: Corporate Opportunity Doctrine litigation and conflict of interest litigation. As referenced in section I.B.4.b, director networks may implicate the corporate opportunity doctrine when opportunities arise from entities enmeshed in a director’s network.¹⁸⁰ Under

¹⁷⁷ See NetJets, Fractional Jet Ownership is the Superior Choice, <https://www.netjets.com/en-us/how-fractional-jet-ownership-works> (last visited Feb 4, 2020).

¹⁷⁸ See *Pincus*, 152 A.3d at 131.

¹⁷⁹ See *Marchand*, 212 A.3d at 818.

¹⁸⁰ See *supra* section I.B.4. **Error! Reference source not found.**

the current iteration of this doctrine, directors may not take for themselves a business opportunity that belongs to the corporation unless they present it to the corporation and receive authorization to pursue it themselves. In contrast to director independence determinations, so far courts, like scholars, have scarcely recognized broader networks at all when assessing the corporate opportunity doctrine, even though networks could easily pose the same challenge as interlocks in that context. Much of the current literature discusses the corporate opportunity doctrine in black and white terms: either a fiduciary must abstain from the opportunity altogether or the fiduciary must disclose the opportunity to the board.¹⁸¹

This dichotomy, however, misses several important nuances. First, as at least one recent article has recognized, “the undivided-loyalty model is simply not well adapted for fiduciaries shared by two companies.”¹⁸² In fact, if a director serves two companies, the current model expects the director to disclose the corporate opportunity to both corporations, which, in turn, encourages the two corporations to compete with another to their detriment.¹⁸³ Courts have recognized this issue as especially true in the parent-subsidary context.¹⁸⁴

Next, it does not account for directors that learn of opportunities through their networks. Certainly, directors with overlapping interests share overlapping networks, yet if a director learns of an opportunity through her network, the law remains unclear as to whether the director is required to disclose this opportunity to the corporation. If, however, the courts begin to look at the corporate opportunity doctrine in light of the stated policy it should be interpreted, “upon broad considerations of corporate duty and loyalty,”¹⁸⁵ and as “demanding of a director the most scrupulous observance,”¹⁸⁶ one can begin to see how director networks should influence the application of the corporate opportunity doctrine.

Take, for example, *Personal Touch Holding Corporate v. Glaubach*, where the Delaware Court found a breach of the corporate opportunity doctrine when a co-founder purchased a building that his company was interested in acquiring and then offered to lease the building to the company at a personal profit.¹⁸⁷ If this co-founder had learned of the building’s availability from someone within his network instead of as a direct result of his work for the company and purchased the building on this knowledge instead of notifying the company of the potential business

¹⁸¹ Eric Talley & Mira Hashmall, *The Corporate Opportunity Doctrine* at 9-10 (Feb. 2001) <https://weblaw.usc.edu/why/academics/cle/icc/assets/docs/articles/iccfinal.pdf>.

¹⁸² Rauterberg & Talley, *supra* note 42, at 1093–94.

¹⁸³ *Id.* at 1094 (citing *Energy Res. Corp. v. Porter*, 438 N.E.2d 391, 394 (Mass. App. Ct. 1982); *Meinhard v. Salmon*, 164 N.E. 545, 547 (N.Y. 1928)).

¹⁸⁴ *Id.* at 1094–95 (citing *Thorp v. DERBCO, Inc.* 676 A.2d 436, 442 (Del. 1996); *In re Digex, Inc.* 789 A.2d 1176, 1193 (Del. Ch. 2000)).

¹⁸⁵ 23 Del. Ch. 255, 5 A.2d 503, 511 (Del. 1939).

¹⁸⁶ *Pers. Touch Holding Corp. v. Glaubach*, No. 11199-CB, 2019 Del. Ch. LEXIS 66, at 35 (Ch. Feb. 25, 2019).

¹⁸⁷ *Id.*

opportunity, it would not have run afoul of corporate opportunity doctrine even though it violates the spirit of the fiduciary relationship he held. Though some companies have begun to address this issue with the advent of corporate opportunity waivers,¹⁸⁸ this article argues that networks are important considerations in analyses of breaches of the corporate opportunity doctrine, and court should take them into account.

Also within the fiduciary duty framework, conflicts of interest litigation could be influenced by a clearer recognition of director networks. While interlocking directorates have dominated the current discourse surrounding potential conflict of interest violations,¹⁸⁹ these concerns ignore wider issues. A conflict of interest can be described as “a situation in which a person, who has a duty to exercise judgment for the benefit of another, has an interest that tends to interfere with the proper exercise of her discretion.”¹⁹⁰ Allegations of conflicted directors arise frequently in the parent-subsidiary setting.¹⁹¹ When directors are seated on boards of both a parent and its subsidiary, the law requires them to structure transactions on an arm’s length basis.¹⁹² Importantly, the closeness or strength of a connection between one director and another within her network, may implicate the same considerations, but the courts have not yet considered the social ties involved in potential conflicts of interest.

Identifying the areas of litigation that networks can influence and understanding why courts have failed to integrate broader networks into their analysis, is only a starting point. In order to ensure predictability, a framework for how to consider networks and integrate them into the existing analysis must be employed. Networks, even ones based on formal ties, can be used as proxies by looking at number of connections, both immediate and indirect.

Perhaps more telling, however, is the *structure* of the formal network. Looking at the number of interlocks alone provides relatively little information, but looking at how the network is structured provides more insight. The courts’ decisions may seem inconsistent, but analogues from network theory may help to provide some clarity. For example, in the *Oracle* case, the court was concerned about the outsized influence of one defendant in particular, Larry Ellison, in the relatively insular community of Silicon Valley. Network theory supports the court’s intuitions in that case.

Examining a network from that time—consisting of boards as well as affiliations with universities and other organizations—reveals what theorists describe as “small world” network, meaning that members of the networks are not

¹⁸⁸ See e.g. Rauterberg & Talley, *supra* note 42, at 1093–94.

¹⁸⁹ See Nili, *Horizontal Directors*, *supra* note 15.

¹⁹⁰ Remus Valsan, *Fiduciary Duties, Conflict of Interest, and Proper Exercise of Judgment*, 62 MCGILL L.J. 1, 4 (2016).

¹⁹¹ See, e.g., *Weinberger v. UOP, Inc.*, 457 A.2d 701 (Del. 1983).

¹⁹² *Id.*

well connected outside of their network, and even then, their connections run through a small number of influential brokers. Ellison is much better connected than the independent directors the court scrutinized. But more than having connections, Ellison shows characteristics of a broker to an insular network occupied by Grundfest and the other directors. In terms of the network metrics, Grundfest had a high clustering coefficient (equal to 1, the maximum), while Ellison's was relatively low (0.4). Moreover, Grundfest's average path to other directors was twice as long (20 intermediaries on average between him and everyone else, compared to Ellison's 10). The small world measure, known as sigma, was relatively high for the group of directors at Oracle and in its network (1.5), indicating small network in which parties are likely to encounter each other repeatedly. These metrics provide an empirical and theoretical basis for the court's reasoning in that case: when directors experience a power differential with an important broker in a close-knit network, it is possible those directors might be more easily influenced, either directly or through group-think. This assessment is not intended to be decisive about the outcome in any way. Rather, it is intended to show how theory and analysis can help explain and rationalize the court's intuition.

In *Pincus* (the shared airplane case), the court referred to a "network" of "repeat players," but by contrast, the business network has relatively few of these characteristics. The independent directors (who were ruled not-independent) are well-connected, even better connected than Pincus (the derivative suit defendant) himself. The network does not look like a small world network, but instead involves parties who encounter others outside the network at least as routinely as those inside of it and should be subject to the reputational and professional sanctions from outside the Zynga network. Even though Pincus and the other directors have similar Degree Centrality (all between 17 and 20), the structure of their network resembles one in which Pincus is in a low power position compared to the directors who are supposedly beholden to him.¹⁹³ These network features do not support the courts' analysis but do align with the reaction of many observers that this case went much further than other precedents in finding attenuated connections to be important.

Importantly, other features that are not observable from the point of view of a formally modeled network are also important, and courts are wise to examine the facts of each case. However, courts have limited time and resources, and these network measures can help to elucidate a theory that helps them to screen cases that need more scrutiny from those that need less.

One way of articulating some of the interests the courts seems to be turning to, is to say that when a director is relatively unconnected, or in a small-world network, but the subject of a decision is well connected and is a gatekeeper to other

¹⁹³ Pincus himself has a high clustering coefficient (equal to 1), while Siminoff (the plane co-owner), Doerr and Gordon (the directors) have low ones (each between 2 and 4) indicating that they act as brokers and have more power in the network than Pincus. The directors have higher eigen vector and betweenness scores than Pincus as well, indicating that their connections are connected, and that they act as more important brokers than Pincus.

resources, courts should look more carefully at the situation. One way to do this would be to shift the presumption, placing the burden to show independence onto defendants in those situations that lend themselves more to undue influence. This would be a prescription consistent with rationales courts have articulated and might also help to guide them more consistently in separating problematic networks from those that are less so.

There are many other possible examples, and a comprehensive exploration of network theory's application to each doctrine is beyond the scope of this article. Future work will explore the details of how network theory can be applied in various situations and to various types of networks. But these examples illustrate the kinds of considerations that would be relevant and how centrality would lead to decisions that are more predictable and consistent.

C. The Perception of Networks: Shareholder Voting Policies

This Article also shows why shareholder advisory services should consider networks when they issue their voting and corporate governance guidelines. These services have tremendous influence on corporate policy, given that the voting guidelines that they publish are often followed by large institutional investors.¹⁹⁴

Proxy Advisors' current approach has only addressed a portion of what makes up a director's network: director interlocks.¹⁹⁵ Indeed, to date, these bodies have aimed their considerable influence at the directors sitting on multiple boards, especially if a director happens to also be the CEO of a company. While these policies seek to address the concerns that the existing literature has highlighted, their analysis overlooks the emphasis of this paper: directors influence and impact expands beyond the boards to which they are directly connected.

For example, membership on multiple boards has an impact beyond the boards on which the "busy" director sits, because that director's influence is transmitted through a broader network, among all directors linked to her. Moreover, an "overboarded" director has access to more resources and information through her network, and the evidence suggests that this is helpful in at least some circumstances. An important consideration should be the network that the director is able to access due to her connections to different boards. It may also be the case that other kinds of social ties not directly linked to interlocks should be considered.

Shareholder advisory services' real concern is the effectiveness of the directors and officers to run the company in the best interest of shareholders. Taking broader networks into account would help these bodies address these concerns more effectively because it would allow them to tap the benefits of networks, which can mitigate the drawbacks of busyness. Simultaneously, it would allow them to see the

¹⁹⁴ Tamara Belinfanti, *The Proxy Advisory and Corporate Governance Industry: The Case for Increased Oversight and Control*, 14 STAN. J. L. BUS & FIN. 2 (2009) (shareholders largely follow the advice of proxy advisors).

¹⁹⁵ Institutional Shareholder Services, *supra* note 107.

benefits that may, at times outweigh the concerns that their current policies seek to address.

Taking this into consideration, Proxy Advisors should use less discrete and more inclusive language. For example, Glass Lewis could expand their provision to state: “CEO’s or top executives who are influenced by or influence boards through their personal and professional connections and subsequently create a significant conflict of interest, should be avoided.” This would, at minimum, acknowledge the influence a director can have and the flow of information they can facilitate. Similarly, ISS and Vanguard’s Policies could be amended to the following: “While overboarding, defined as sitting on more than five public boards, is a reason to raise concern, this concern is neutralized if the director demonstrates that they have a strong network that will allow the company access to a flow of information and connections.” This balancing analysis allows for a more flexible standard that recognizes that the benefits a director’s network can bring to the table may outweigh the negatives of director “overboarding.”

Furthermore, regardless of whether the policies are amended, because Proxy Advisors and the SEC have undertaken the task of addressing the dynamics that director networks present, they have the responsibility to understand the impact that the policies have in practice. While amending their policies to account for networks might also help these bodies deal with some of the negative effects their policies have produced, amendments to existing policies, or additional policies to augment the collateral effects of the current policies, may be necessary.

For example, concerns have been raised that voting against overboarded directors might limit the talent pool for directors, since the best corporate leaders are often sought out by many companies at once. Moreover, these policies may reduce diversity on boards in the short term.¹⁹⁶ For instance, women are often underrepresented in the pool of potential corporate directors, and many companies looking to diversify their boards draw from the same small pool, resulting in talented female directors being asked to serve on many boards at once.¹⁹⁷ The current voting policies employed by the index funds and proxy advisors have the presumed unintentional effect of limiting the number of women and minorities on public company boards because there are currently fewer minority and female director candidates, and limiting the number of board seats each can, in turn, limit the overall number on boards in general. This is a major drawback of policies limiting board memberships that must be weighed against attempts to limit busyness. This demonstrates the practical and collateral effects of these current policies, and while effects such as limiting diversity were not the direct intention of these policies, their practical effects supports an argument for amendment.

¹⁹⁶ See Nili, *Board Diversity*, *supra* note 14 at 1.

¹⁹⁷ *Id.*

D. The New York Stock Exchange's Approach to Directors

The New York Stock Exchange imposes various requirements on publicly traded companies including requirements on director independence,¹⁹⁸ board committees,¹⁹⁹ and disclosure requirements.²⁰⁰ Each of these requirements can implicate and necessitate an analysis of directors' broader networks. The NYSE Rule on director independence states, "Listed company must have a majority of independent directors."²⁰¹ To evaluate whether a director is independent, the Board of Directors must "affirmatively determin[e] that the director has no material relationship with the listed company (whether directly as a partner, shareholder, or officer of an organization that has a relationship with the company)."²⁰² For directors that are serving on the compensation committee, a broader analysis is used to determine a director's independence by "consider[ing] all factors specifically relevant to determining whether a director has a relationship to the listed company which is material."²⁰³ Further, the NYSE provides that connections to companies through family members can eliminate a director's independent status.

While the NYSE's Rules regarding director independence recognize that a director may have connections beyond those derived explicitly from the other companies it serves, it does not recognize the whole picture. For example, director X may have no family members affiliated with company A and may have no "material relationship" with the company. According to the NYSE rules, director X would be considered independent. However, a director X may serve on another company's board with individual Y. If individual Y serves on a different company's board with person Z who also serves on Company A's board, and has connections with director X through director Y, the independence of director X could then be called into question. This example can be expanded further by looking at the social connections and networks that exists among directors and corporate executives. Accordingly, the SEC's rule, while more inclusive than an interlock-based inquiry, does not cast a broad enough net.

The NYSE's rules on board committees also necessitate a consideration of broader networks. First, like the NYSE's general requirements on director independence, some committees, such as the audit committee, are required to be composed of a minimum number independent directors.²⁰⁴ Similarly, the NYSE requires that boards have a nominating/corporate governance committee that is

¹⁹⁸ N.Y.S.E. Manual (CCH), § 303A.01.

¹⁹⁹ N.Y.S.E. Manual (CCH), § 303A.03–07.

²⁰⁰ N.Y.S.E. Manual (CCH), § 303A.09.

²⁰¹ N.Y.S.E. Manual (CCH), § 303A.01.

²⁰² N.Y.S.E. Manual (CCH), § 303A.02(a)(i).

²⁰³ N.Y.S.E. Manual (CCH), § 303A.02(a)(ii).

²⁰⁴ N.Y.S.E. Manual (CCH), § 303A.06.

“composed entirely of independent directors.”²⁰⁵ These requirements emphasize collateral effects of incorporating networks into the director independence analyses. If the NYSE incorporates networks into its independence analyses, it may decrease the pool of directors who can serve on a given company’s board as an independent director. If this pool is too limited, it may necessitate amendment to policies mandating the number of independent directors on a given committee.

Second, committees provide a key avenue for directors to assert influence and implement information, ideas and practices that they receive through their network. If a director’s network, taken as a whole, would cause their independence to be compromised, it may follow that the information, ideas and practices they implement go against the best interest of the company, whether intentionally or unintentionally. Alternatively, it may be that a directors’ broader networks, which may re-categorize them as non-independent directors, also provide them specialized information that is necessary for service on a particular committee. This push and pull dynamic of directors’ networks emphasizes the importance of, at a minimum, incorporating them into the NYSE’s current regulatory framework.

Finally, the NYSE disclosure requirements for corporate governance guidelines can serve as an opportunity for companies to adopt and disclose policies that consider networks, thereby recognizing their importance.²⁰⁶ Generally, companies have not incorporated broader networks into their policies, but rather have limited their analyses to interlocks. However, if companies amend their current governance policies to include reference to directors’ broader networks, and accordingly disclose these policies, as required by the NYSE, then the acknowledgement of their importance will become more widespread. Furthermore, if companies recognize the important role that networks can play, courts too will see it as a valuable aspect to incorporate into their analyses.

Conclusion

Overlapping directors are a salient feature of the US corporate landscape. In contrast to the recent push to limit board interlocks, this Article puts forth one concrete reason of the benefit of overlapping directors and director networks. The broader social networks that these overlaps create tie together the leaderships of numerous public firms, and though the subject of debate, this paper provides evidence that these ties enhance boards’ ability to effectively govern their firms.

By incorporating network theory into the discourse and analysis regarding director service on boards, this Article identifies the broader benefits that director overlaps may create. It is not merely the knowledge gained from directors’ service on other boards that is helpful for these interlocked directors, it is also the

²⁰⁵ N.Y.S.E. Manual (CCH), § 303A.04.

²⁰⁶ N.Y.S.E. Manual (CCH), § 303A.09.

connections these directors are able to form and the broad networks they create, which serve as channels through which information, practices and ideas can flow.

This Article contributes to the debate by using director deaths as a natural experiment to examine the effect of changes in board networks on governance outcomes. The results shed light on the larger importance of network analysis in corporate governance research. Future work is needed to better understand the role of director networks in other aspects of boards' work as well as a better understanding of the tradeoffs between the benefits of these networks generate and the potential concerns they pose.

Appendix Part I: Tables

TABLE 1: SUMMARY STATISTICS

	Mean (1)	Median (2)	25th Percentile (3)	75th Percentile (4)	Std. Deviation (5)
Company total assets (\$ million)	7,500	490	99	2,100	6,500
Company revenue (\$ million)	2,500	264	51	1,200	1,100
Total debt (\$ million)	1,400	37	182	449	1,500
Company Age (years)	39	26	12	55	40
Board size (members)	9	9	7	10	2.5
Outside Directors	6.4	6	5	8	2.4
Director age (years)	56	55	50	59	7.47
Board meetings per year	8.3	7	6	10	4.2
Degree Centrality	7.98	5	2	11	8.55
Closeness Centrality	0.198	0.221	0.169	0.253	0.079
Betweenness Centrality	8.04	8.32	7.13	9.20	1.77
Eigen Vector Centrality	0.011	0.010	0.004	0.015	0.013
Clustering Coefficient	0.259	0.155	0	0.333	0.305

TABLE 2: CENTRALITY MEASURES AND ACCOUNTING IRREGULARITY

Logit Regression, Fixed Effects Model: Probability of citation for accounting irregularity				
	(1)	(2)	(3)	(4)
Degree	-0.0006*** (0.0001)			
Pseudo R ²	0.145			
Number of Observations	38,665			
Closeness		-0.040*** (0.011)		
Pseudo R ²		0.142		
Number of Observations		38,665		
Betweenness			-0.001*** (0.0004)	
Pseudo R ²			0.149	
Number of Observations			38,665	
Eigen Vector				-0.169** (0.081)
Pseudo R ²				0.143
Number of Observations				38,665
Size	0.003*** (0.001)	0.003*** (0.001)	0.003*** (0.001)	0.003*** (0.001)
Book to Market	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)
ROA	-0.001*** (0.0002)	-0.001*** (0.0002)	-0.001*** (0.002)	-0.001*** (0.002)
Industry FE	X	X	X	X
Year FE	X	X	X	X
Firm FE	X	X	X	X

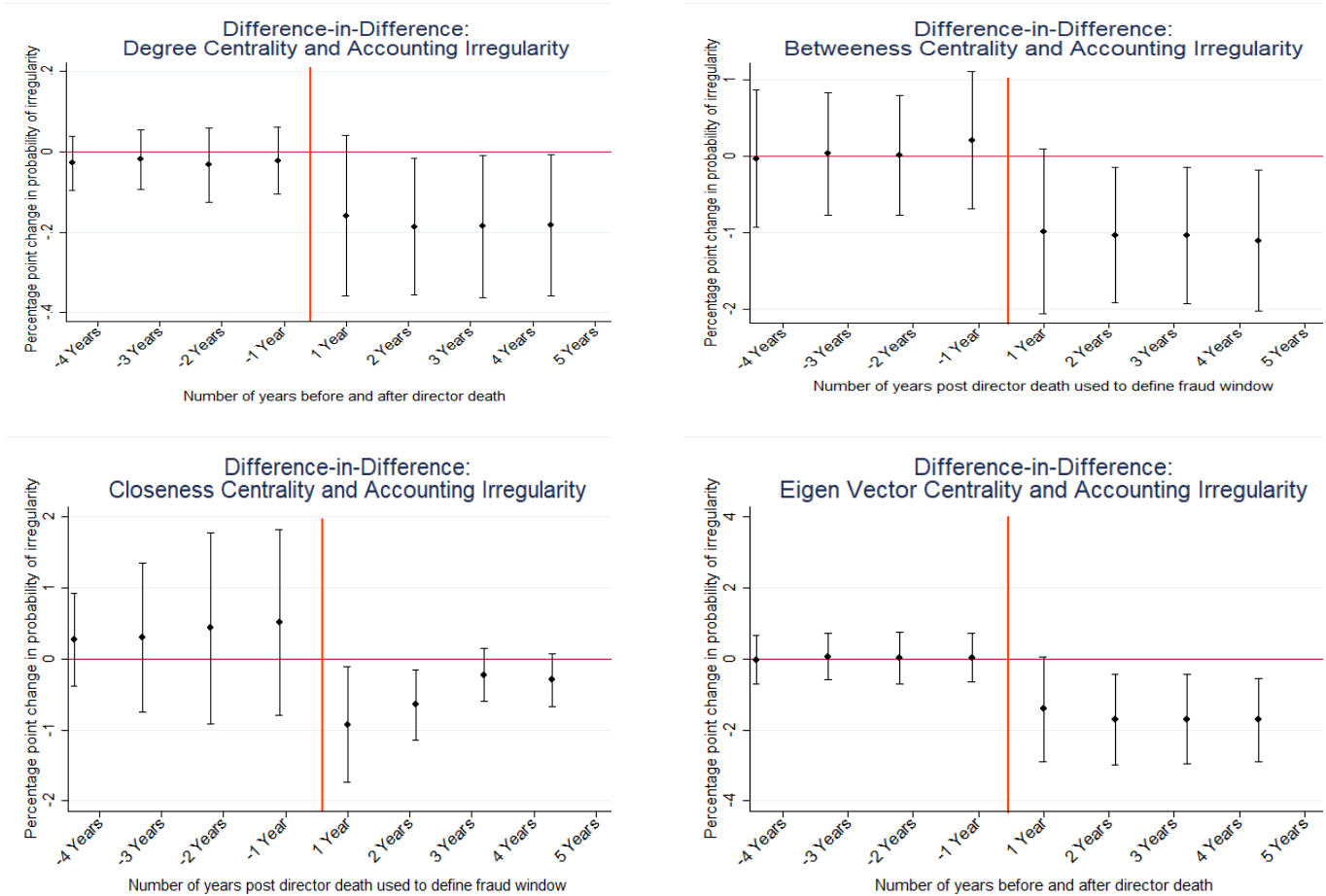
This table gives the results of logit regressions of the probability of accounting citation as the dependent variable and four measures of network centrality of a given board as the main independent variables. The analysis also uses company-level fixed effects for all specifications. Additional controls for the natural log of company age are included for all specifications but not tabulated. Standard errors clustered at the firm and year level are reported in parentheses. Estimates marked with *, ** and *** are statistically significant at the 10%, 5% and 1% level respectively.

TABLE 3: DIFFERENCE-IN-DIFFERENCE: CENTRALITY MEASURES AND ACCOUNTING IRREGULARITY, ONE TO FOUR YEARS AFTER BOARD MEMBER DEATH

Difference-in-Difference: Probability of citation for accounting irregularity, boards with a death in the preceding 4 years versus those without.								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Degree x Post	-0.137*** (0.025)				0.060 (0.598)			
Pseudo R ²	0.242				0.211			
Number of Observations	37,261				33,952			
Closeness x Post		-22.609** (0.977)				-25.991* (14.25.)		
Pseudo R ²		0.110				0.140		
Number of Observations		37,261				33,920		
Betweenness x Post			-0.713*** (0.250)				-0.0003** (0.0001)	
Pseudo R ²			0.189				0.141	
Number of Observations			37,261				33,920	
Eigen Vector x Post				-52.33** (21.910)				-1.291** (0.583)
Pseudo R ²				0.143				0.140
Number of Observations				37,261				33,920
Size	0.001 (0.002)	0.001 (0.002)	0.001 (0.003)	-0.001 (0.004)	0.001 (0.002)	0.001 (0.002)	0.001 (0.003)	-0.001 (0.004)
Book to Market	0.003** (0.0001)	0.003** (0.0001)	0.005** (0.002)	0.013* (0.003)	0.003** (0.0001)	0.003** (0.0001)	0.005** (0.002)	0.013* (0.003)
ROA	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.002 (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.002 (0.001)
Industry FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X

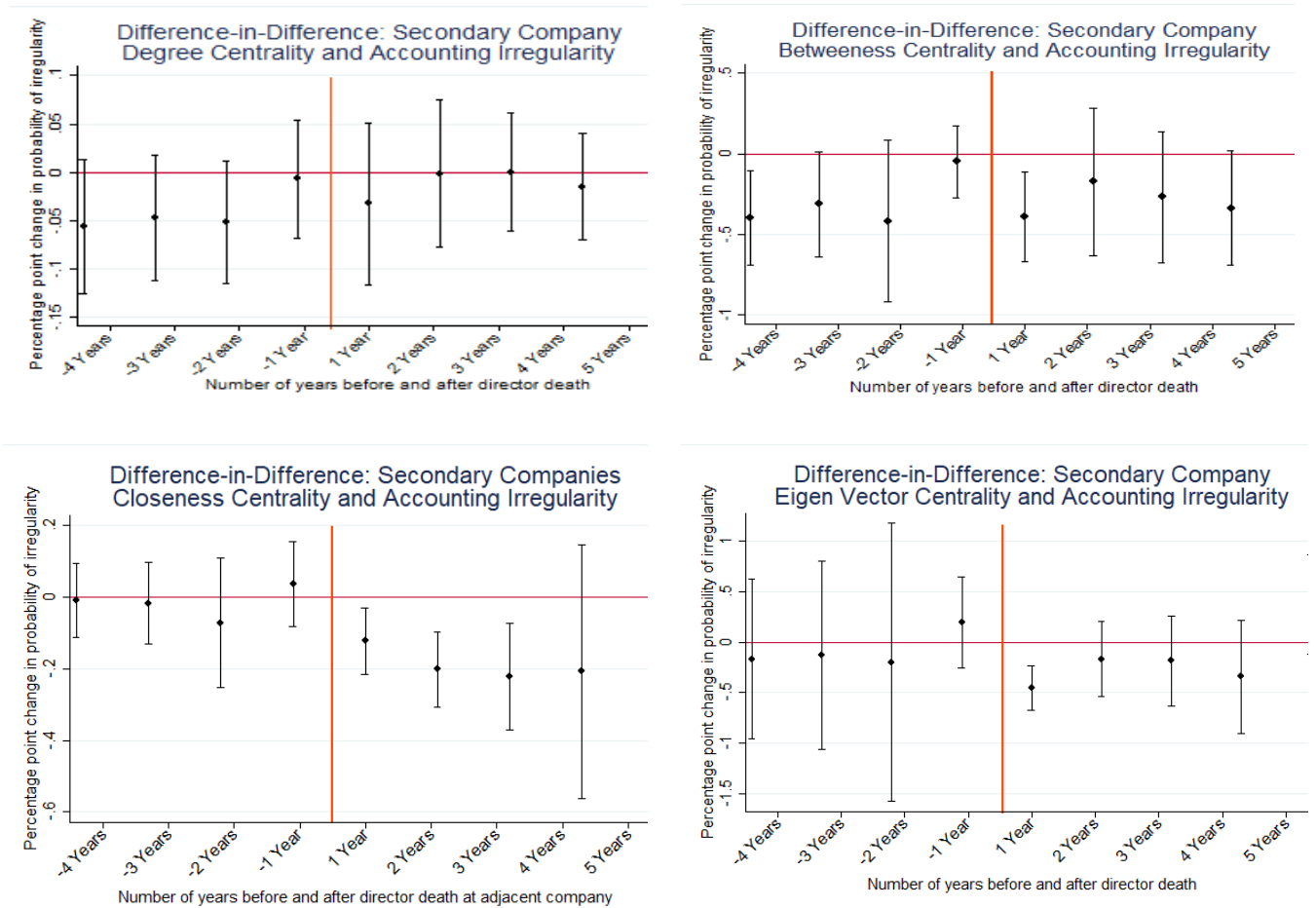
This table gives the results of logit regressions using the probability of accounting citation in the four-year window following a director's death as the dependent variable and four measures of network centrality of a given board as the main independent variables. Panels 1-4 give results for the company whose board experienced the death (the Primary Company). Panels 5-8 present results for companies that are connected to the Primary Company but experienced no death. Fixed effects for each company are used for each specification. Additional controls for the natural log of company age and the natural log of director age included for all specifications but not tabulated. Standard errors clustered at the firm level are reported in parentheses. Estimates marked with *, ** and *** are statistically significant at the 10%, 5% and 1% level respectively.

FIGURE 3: PRIMARY BOARD: DIFFERENCE-IN-DIFFERENCES OF LIKELIHOOD OF FRAUD AND CENTRALITY FOLLOWING SHOCK TO NETWORK FROM DIRECTOR DEATH



These graphs visually depict the difference-in-differences from panels 1-4 of Table 4. They show the percentage change in probability of accounting irregularity as a function of an increase in network centrality (measured using the four measures described in the text) for the year following the death and replacement of a director on a given board. The black dots represent coefficients, and the vertical black bars are standard errors. The red vertical line represents the time of a director's death.

FIGURE 4: INDIRECTLY CONNECTED BOARD: DIFFERENCE-IN-DIFFERENCE OF LIKELIHOOD OF FRAUD AND CENTRALITY FOLLOWING SHOCK TO NETWORK FROM DIRECTOR DEATH AT AN INDIRECTLY CONNECTED COMPANY



These graphs visually depict the difference-in-difference from panels 5-8 of Table 4. They show the percentage change in probability of accounting irregularity at companies that are indirectly connected to a company at which a director death occurred. The probability is shown as a function of an increase in network centrality (measured using the four measures described in the text) for each year following the death. The points black points represent coefficients, and the vertical black bars are standard errors. The red vertical line represents the time of a director's death.

TABLE 4: DIFFERENCE-IN-DIFFERENCE: CENTRALITY MEASURES AND CHANGES IN MSCI GOVERNANCE SCORE, ONE TO FOUR YEARS AFTER BOARD MEMBER DEATH

Difference-in-Difference: MSCI Index Score, boards with a death in the preceding 4 years versus those without								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Degree								
Post	-0.085*** (0.074)				-0.099** (0.048)			
Degree Change	0.001 (0.002)				0.001 (0.002)			
Post*Degree Change	0.013*** (0.004)				0.009 (0.010)			
Closeness								
Post		-0.525* (0.282)				-0.374 (0.250)		
Closeness Change		-1.569*** (0.372)				-1.465*** (0.368)		
Post*Closeness change		2.586** (1.079)				1.985** (0.903)		
Betweenness								
Post			0.003 (0.052)				-0.012 (0.030)	
Betweenness Change			-0.00003** (0.00002)				-0.00003** (0.00001)	
Post*Betweenness change			0.00004** (0.00002)				0.00002** (0.00001)	
Eigen Vector (EV)								
Post				-0.034 (0.076)				-0.054 (0.046)
EV Change				-3.070** (1.424)				-2.785** (1.333)
Post*EV change				7.015* (3.726)				3.304 (2.267)
Log (Assets)	-0.107*** (0.013)	-0.091*** (0.013)	-0.092*** (0.017)	-0.102*** (0.018)	-0.096*** (0.017)	-0.089*** (0.018)	-0.070*** (0.012)	-0.070*** (0.012)
ROA	-0.060*** (0.013)	-0.068*** (0.012)	-0.070*** (0.012)	-0.061*** (0.013)	-0.069*** (0.013)	-0.067*** (0.013)	-0.091*** (0.018)	-0.092*** (0.018)
Leverage	-0.142*** (0.044)	-0.132*** (0.043)	-0.133*** (0.043)	-0.131*** (0.043)	-0.146*** (0.045)	-0.134*** (0.043)	-0.140*** (0.043)	-0.136*** (0.043)
Sales	-0.060*** (0.013)	-0.060*** (0.013)	-0.008** (0.004)	-0.009** (0.004)	-0.008*** (0.003)	-0.008** (0.004)	-0.008** (0.004)	-0.008** (0.004)
Industry FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Adj R ²	0.168	0.168	0.170	0.168	0.167	0.168	0.168	0.164
Number of observations	17,810	17,810	17,810	17,810	17,810	17,810	17,810	17,810

Changes in MSCI governance score in the four-year window following a director's death. Panels 1-4 give results for the company whose board experienced the death (the Primary Company). Panels 5-8 present results for companies that are connected to the Primary Company but experienced no death. Additional controls for the natural log of company age, natural log of the deceased directors' tenure on the board and the natural log of director age are included for all specifications but not tabulated. Standard errors clustered at the firm and year level are reported in parentheses. Estimates marked with *, ** and *** are statistically significant at the 10%, 5% and 1% level respectively.

TABLE 5: DIFFERENCE-IN-DIFFERENCE: CENTRALITY MEASURES AND CHANGES IN E-INDEX GOVERNANCE SCORE, ONE TO FOUR YEARS AFTER BOARD MEMBER DEATH

Difference-in-Difference: E-index changes, boards with a death in the preceding 4 years versus those without.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Degree								
Post	-0.093 (0.065)				-0.101* (0.061)			
Degree Change	0.004** (0.002)				-0.005* (0.002)			
Post*Degree Change	-0.008 (0.005)				-0.003 (0.002)			
Closeness								
Post		0.120 (0.427)				0.706** (0.356)		
Closeness Change		-0.380 (0.899)				-0.445 (0.878)		
Post*Closeness change		-1.111 (1.549)				-2.568** (1.261)		
Betweenness								
Post			-0.026 (0.085)				0.046 (0.042)	
Betweenness Change			-0.00001 (0.00001)				-0.00002 (0.00001)	
Post*Betweenness change			-0.00004* (0.00002)				-0.00006** (0.00003)	
Eigen Vector (EV)								
Post				-0.008 (0.117)				-0.087 (0.060)
EV Change				-3.341 (2.409)				-3.793 (2.437)
Post*EV change				-6.409 (4.445)				-16.291** (7.370)
Log (Assets)	0.043 (0.021)	0.043 (0.021)	0.047 (0.031)	0.047 (0.031)	0.043 (0.029)	0.043 (0.031)	0.047 (0.031)	0.047 (0.031)
ROA	-0.030 (0.021)	-0.030 (0.024)	-0.021 (0.023)	-0.017 (0.023)	-0.030 (0.022)	-0.016 (0.021)	-0.021 (0.023)	-0.017 (0.023)
Leverage	-0.102 (0.091)	-0.102 (0.091)	-0.105 (0.097)	-0.098 (0.097)	-0.102 (0.091)	-0.109 (0.097)	-0.105 (0.097)	-0.098 (0.097)
Sales	-0.005 (0.006)	0.009 (0.007)	0.004 (0.006)	-0.004 (0.006)	-0.004 (0.006)	-0.004 (0.006)	-0.004 (0.006)	-0.004 (0.006)
Industry FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Adj R ²	0.091	0.123	0.110	0.168	0.167	0.168	0.168	0.094
Number of observations	17,311	17,311	17,311	17,311	17,311	17,311	17,311	17,311

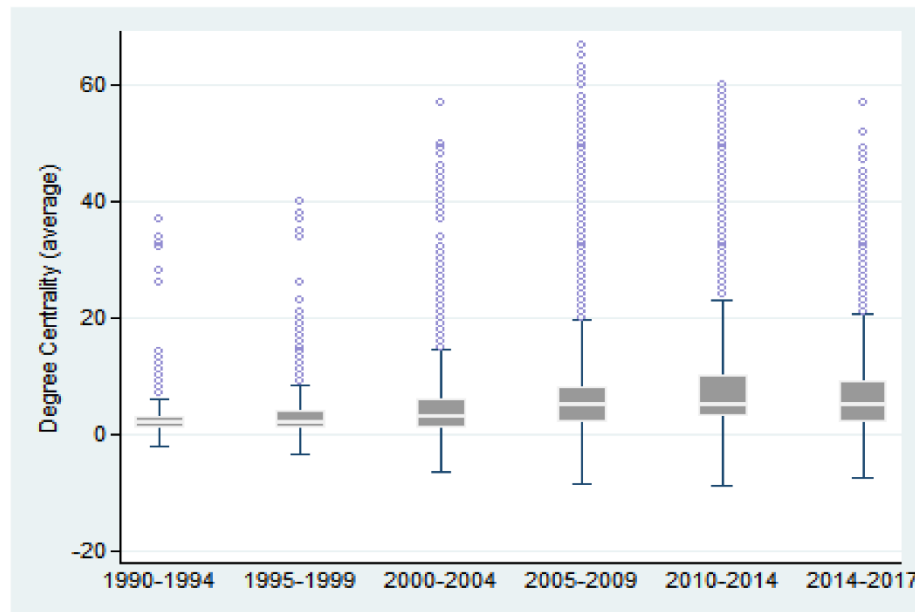
Changes in Bebchuk, Cohen Ferrell Entrenchment Index (E-Index) governance score in the four-year window following a director's death. Panels 1-4 give results for the company whose board experienced the death (the Primary Company). Panels 5-8 present results for companies that are connected to the Primary Company but experienced no death. Additional controls for the natural log of company age, natural log of the deceased directors' tenure on the board and the natural log of director age are included for all specifications but not tabulated. Standard errors clustered at the firm and year level are reported in parentheses. Estimates marked with *, ** and *** are statistically significant at the 10%, 5% and 1% level respectively.

TABLE 6: NETWORK STRUCTURE AND OPTIONS BACKDATING

Ordinary Least Squares Regression: Probability of options backdating and network centrality and structure			
	(1)	(2)	(3)
Degree	0.002 (0.004)	0.001 (0.004)	-0.001*** (0.000)
Closeness	-0.039 (0.079)	0.017 (0.035)	0.237*** (0.076)
Betweenness	0.003** (0.001)	-0.003** (0.001)	-0.005 (0.001)
Eigen Vector	-0.859** (0.411)	-0.0849* (0.395)	0.857*** (0.323)
Clustering Coefficient	0.083** (0.039)	0.002 (0.003)	0.042*** (0.003)
Size	0.007*** (0.001)	0.007*** (0.001)	-0.015*** (0.002)
Book to Market	0.116* (0.063)	0.116* (0.063)	0.117* (0.064)
ROA	-0.051*** (0.019)	-0.049*** (0.019)	-0.051*** (0.019)
Industry FE	X	X	X
Year FE	X	X	X
Industry*Year FE		X	X
Company FE			X
Adj. R²	0.04	0.05	0.623
Number of Observations	21,198	24,335	20,679

Ordinary least squares regression. Dependent variable is the occurrence of options backdating. Additional controls for the natural log of company age, are included for all specifications but not tabulated. Standard errors clustered at the firm and year level are reported in parentheses. Estimates marked with *, ** and *** are statistically significant at the 10%, 5% and 1% level respectively.

FIGURE 5: DISTRIBUTION OF DEGREE CENTRALITY OF BOARD NETWORKS



The figure shows the distribution of Degree Centrality for all boards in the dataset over time. Degree Centrality is a measure of the number of direct links between a firm and outside boards, that is, the number of director interlocks a board has. The figure illustrates the centrality measures among the firms in the study, and the trends that emerge over time. The boxes represent the interquartile range and the line represents the median of the distribution. The whisker endpoints represent the 5th and 95th percentiles of the distribution.

TABLE 7: INTERVIEW PARTICIPANTS

Date Interviewed	Participant Number	Background
October 18, 2018	I	Extensive public company board experience, including serving as chair of audit, compensation, and nominating/governance committees
November 5, 2018	II	Decades of experience as public company general counsel; served on various board committees; chair of non-profit board and member of several non-profit boards.
November 6, 2018	III	Director of three public companies; general counsel of several public companies.
November 8, 2018	IV	General counsel of public company for approximately 20 years.
November 8, 2018	V	15 years of experience serving on two public company boards.
January 9, 2019	VI	Served on five public company boards in various capacities.
February 1, 2019	VII	Served on a private board of a major family-owned company.
August 6, 2019	VIII	General counsel of formerly public (now private) company.
September 5, 2019	IX	Director on 7 large public boards and was a public company CFO.
September 5, 2019	X	Director on six public boards as chair of the board, presiding director, audit chair and comp committee chair. Currently on two public boards
September 5, 2019	XI	Director on board of two large public companies.
September 18, 2019	XII	Director and former CEO with 30 years of experience, served on 9 public company boards. Audit committee member.
September 19, 2019	XIII	Director and former CEO with over 20 years of experience on public company and other company boards; served on audit, nomination/governance, and several special committees.
September 19, 2019	XIV	Director on the boards of one public and one private company.
September 23, 2019	XV	Executive in large public company and a director in several large cap public companies

TABLE 8: PLACEBO TESTS FOR DIFFERENCE-IN-DIFFERENCES ESTIMATES

Robustness check (Placebo Death Year)				
	Degree	Closeness	Betweenness	Eigen Vector
Dependent variable = Accounting irregularity				
Primary Company	0.000 (0.001)	- 0.016 (1.145)	0.000 (0.011)	-0.026 (1.619)
Pseudo R ²	0.384	0.390	0.385	0.390
Number of Observations	22,481	22,481	19,067	21,989
Secondary Company	0.000 (0.001)	-0.001 (0.203)	0.000 (0.004)	-0.013 (1.142)
Pseudo R ²	0.400	0.392	0.384	0.392
Number of Observations	21,989	21,989	19,067	21,989
Dependent variable = E-Index				
Primary Company	0.000 (0.001)	-0.090 (1.859)	-0.001 (0.056)	-0.083 (8.226)
Adjusted R ²	0.178	0.177	0.174	0.178
Number of Observations	16,404	16,402	15,520	16,404
Secondary Company	0.000 (0.003)	0.089 (1.156)	0.001 (0.016)	0.056 (3.299)
Adjusted R ²	0.182	0.182	0.178	0.170
Number of Observations	16,404	16,402	15,520	16,404
Dependent variable = MSCI				
Primary Company	0.002 (0.012)	0.075 (2.467)	-0.035 (0.055)	0.721 (6.847)
Adjusted R ²	0.378	0.378	0.372	0.377
Number of Observations	19,715	19,715	18,088	19,715
Secondary Company	0.007 (0.044)	-0.091 (2.435)	-0.062 (1.987)	-0.436 (4.311)
Adjusted R ²	0.378	0.377	0.373	0.378
Number of Observations	19,715	19,715	18,088	19,715

This table presents the results of placebo tests of all difference-in-difference specifications. Each regression from Appendix Tables 3-5 was run 100 times using randomly generated director death years to assess the possibility of spurious results. All controls and fixed effects were included per the original specifications. The mean coefficients and standard errors are reported.

Appendix Part II: Centrality Measures

Following is a technical description of how centrality measures used in the quantitative portion of this paper were calculated. These measures are consistent with those used in other literatures that employ network analysis.

Degree Centrality: The measure is meant to capture the number of channels of information and resource exchange that exist between two companies, and might be thought of as similar to degrees of separation. The measure is calculated in accordance with the following. Letting $\delta(i, j)$ indicate that boards i and j share a director, for each company j in a network,

$$Degree \equiv \sum_{j \neq i} \delta(i, j)$$

Closeness Centrality: The second measure of board connectedness is closeness, which measures the distance between boards in terms of overlapping directors, relative to other boards. The intuition behind this measure is that boards are more likely to share information with each other or influence one another if their members can reach each other through fewer interlocks (or traveling a shorter distance). Closeness is calculated as follows: let $l(i, j)$ be the shortest path between boards i and j ,

$$Closeness \equiv \frac{n - 1}{\sum_{j \neq i} l(i, j)}$$

Betweenness Centrality: The third measure is betweenness, a measure which accounts for the number of paths between one board and another. If a board has many paths between itself and other boards, more information and influence are likely to be conveyed between the two. Unlike degree which measures overlapping board members, closeness measures all potential pathways or relationships between multiple boards. It is another proxy for how important or well situated a board is in a given network. Formally it is computed as follows: let $P_i(k, j)$ be the total number of shortest paths between board k and board j , and $P(k, j)$ be the total number of paths between k and j ,

$$Betweenness \equiv \sum_{j \neq i: i \notin \{k, j\}} \frac{P_i(k, j) / P(k, j)}{(n-1)(n-2)/2}$$

Eigen Vector Centrality: The final measure of connectedness is Eigenvalue Centrality. This measure is a variation of Degree Centrality, taking into account how connected board members' direct connections are. The idea behind this

measure is that boards may have more influence, or may be more susceptible to influence, if its members' direct contacts are also well connected. It is represented by the eigenvector of a matrix G, where:

$$\lambda \cdot \text{Centrality}_i \equiv \sum_j g_{ij} \cdot \text{Centrality}_j$$

Where λ is a proportionality factor and $g_{ij} = 1$ if firms i and j are linked.