

Social Corporate Governance

Jeremy McClane* & Yaron Nili**

ABSTRACT

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. Using qualitative and quantitative data, the Article uncovers the importance of director networks 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. The literature, however, 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 Corporate Governance.”

This Article makes three contributions to the existing 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, at times significantly altering their results. Finally, the Article suggests that the current discourse by regulators, institutional investors, and academics may underestimate the importance that director networks have for companies. It then suggests several policy reforms to address these findings.

* Associate Professor of Law, University of Illinois College of Law.

** Assistant Professor of Law, University of Wisconsin Law School. The Authors would like to thank participants at the 2019 American Law and Economics Association Annual Meeting, the 2019 Conference on Empirical Legal Studies, the 2019 National Business Law Scholars Conference at UC Berkeley, the 2020 AALS Annual Meeting Section on Law and the Social Sciences, and workshop participants at Washington University in St. Louis, the University of Wisconsin, and Boston University. All errors are our own.

TABLE OF CONTENTS

INTRODUCTION	934
I. DIRECTOR NETWORKS	940
A. <i>Why Directors Matter</i>	941
1. The Board's Governance Functions.....	941
2. Board Members as Part of the Corporate Governance Ecosystem	943
3. Multiple Directorships as a Corporate Governance Norm	945
B. <i>Interlocks Versus Networks</i>	947
1. Scholarly Work on Director Connections: Director Interlocks and Busyness	949
a. <i>Legal Scholarship on Interlocks</i>	949
b. <i>Empirical Research on Interlocks</i>	950
2. The Emergence of Literature on Networks	952
a. <i>Research on Networks in Business</i>	953
b. <i>Research on Networks of Boards</i>	953
3. The Approach of Proxy Advisors and Policymakers	954
4. Interlocks and Networks in the Courts	956
a. <i>Director Independence</i>	956
b. <i>Corporate Opportunity and Conflicts of Interest</i>	959
II. SOCIAL CORPORATE GOVERNANCE	961
A. <i>The View from the Ground: Directors' View Regarding Networks' Role</i>	961
1. Networks Formed Through Service on Other Boards	962
2. How Director Networks Impact Governance ...	964
B. <i>Network Analysis</i>	965
1. Data Sources and Design	965
2. Network Centrality Measures	967
C. <i>Networks and Accounting Irregularity</i>	971
1. Accounting Irregularity Raw Data	972
2. Analysis and Results	973
D. <i>Governance Indexes</i>	976
1. MSCI Analysis	977
2. E-index Analysis	978
E. <i>Options Backdating</i>	978
III. POLICY IMPLICATIONS	980

A. <i>Finding Equilibrium Between Busyness and Connectedness: The Need for Broader Networks Research</i>	980
B. <i>Toward a Consistent Doctrine of Networks</i>	981
1. Director Independence	981
2. Fiduciary Duty Litigation	984
C. <i>The Perception of Networks: Shareholder Voting Policies</i>	988
D. <i>The New York Stock Exchange's Approach to Directors</i>	990
CONCLUSION	992
APPENDIX PART I: TABLES	994
APPENDIX PART II: CENTRALITY MEASURES	1014

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 an 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 Corporate 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 has produced mixed evidence. A number of studies have found interlocks correlated with positive governance out-

¹ See generally Yaron Nili & Cathy Hwang, *Shadow Governance*, 108 CALIF. L. REV. 1097 (2020) (discussing a way that corporations adopt internal policies).

² See Michal Barzuza & Quinn Curtis, *Board Interlocks and Corporate Governance*, 39 DEL. J. CORP. L. 669, 670–71 (2015) [hereinafter Barzuza & Curtis, *Corporate Governance*] (calling for more scholarly attention on director interlocks). See generally Michal Barzuza & Quinn Curtis, *Board Interlocks and Outside Directors' Protection*, 46 J. LEGAL STUD. 129 (2017) [hereinafter Barzuza & Curtis, *Outside Directors' Protection*] (studying the role of director interlocks on 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 & Juan Alberto Aragon-Correa, *Boards and Sustainability: The Contingent Influence of Director Interlocks on Corporate Environmental Performance*, 24 BUS. STRATEGY & ENV'T 499 (2015) (analyzing interlocks' effect on firms' environmental policies).

comes 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.

This Article shows 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 the Article calls Social Corporate Governance. Director networks are the web of *both* direct and indirect connections that directors constitute. In other words, director networks account for multiple degrees of separation and connectivity that literature has largely overlooked thus far.

Importantly, director networks offer an alternative to the way 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,¹⁰ but this approach overlooks the importance of the depth, breadth, and structure of director networks.

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

⁴ See *id.* Better board compensation is relevant to the extent that the separation of the roles is indeed a good governance practice. See generally Yaron Nili, *Successor CEOs*, 99 B.U. L. REV. 787 (2019) (discussing the successor CEO phenomenon and its policy implications).

⁵ See Barzuza & Curtis, *Corporate Governance*, *supra* note 2 at 685–86; Barzuza & Curtis, *Outside Directors' Protection*, *supra* note 2, at 137.

⁶ See THOMAS C. OMER, MARJORIE K. SHELLEY & FRANCES M. TICE, DO DIRECTOR NETWORKS MATTER FOR FINANCIAL REPORTING QUALITY? EVIDENCE FROM AUDIT COMMITTEE CONNECTEDNESS AND RESTATEMENTS (2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2379151 [<https://perma.cc/3QWZ-F752>] (finding that companies with more-connected directors are less likely to misstate their annual results).

⁷ See John Bizjak, Michael Lemmon & Ryan Whitby, *Option Backdating and Board Interlocks*, 22 REV. FIN. STUD. 4821, 4826, 4845 (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, Siew Hong Teoh & Feng Tian, *Board Interlocks and Earnings Management Contagion*, 88 ACCT. REV. 915, 916–18 (2013) (finding evidence that firms with interlocked boards are more likely to manage their earnings).

⁹ See 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 . . . somewhat strong[] support for the interorganizational hypotheses for when and why firms would adopt poison pills.”).

¹⁰ See, e.g., Ortiz de Mandojana & Aragon-Correa, *supra* note 2, at 499–502; Chiu et al., *supra* note 8, at 916–18.

This Article makes several 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. In this context, *structure* refers to the 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 one stopped at that, as much of the interlock literature does, then one would think that every person within that friend group of five people has the same social network. The network is not defined just by those friends, however, but by whom 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, the Article uses an empirical study to show that directors' broader networks are important for corporate governance. It does this with a natural experiment, using the deaths of directors holding office as shocks to the directors' professional networks. The Article examines 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.¹¹ In doing so, the data shows 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.¹² When aspects of network structure are introduced into the analysis, however, the importance of interlocks dimin-

11 Financial reporting is an important indicator of good corporate governance. See Christopher S. Armstrong, Wayne R. Guay, Hamid Mehran & Joseph P. Weber, *The Role of Financial Reporting and Transparency in Corporate Governance*, 22 *ECON. POL'Y REV.* 107, 108–09 (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.* 1335, 1335 (1996) (discussing the relationship between good corporate governance and accounting practices).

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

ishes, and even reverses. Specifically, this Article finds 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 of 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.”¹³ Recent 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.¹⁴ Our research shows that multiple board memberships have offsetting benefits, such as improved corporate governance mechanisms, that might counteract the busyness problem.¹⁵ 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.¹⁶ We explore how network theory can help to explain and inform certain court decisions in a more consistent manner.

Importantly, the stakes are high. The board of directors sets the direction of its 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.¹⁷ But, as with other sectors of society, the boardroom is not an egalitarian place;

13 See INSTITUTIONAL S’HOLDER SERVS., AMERICAS PROXY VOTING GUIDELINES UPDATES: 2016 BENCHMARK POLICY RECOMMENDATIONS 6 (2015) (summarizing academic research defining “busy” as a director who serves on three or more boards); Bradley W. Benson, Wallace N. Davidson III, Travis R. Davidson & Hongxia Wang, *Do Busy Directors and CEOs Shirk Their Responsibilities? Evidence from Mergers and Acquisitions*, 55 Q. REV. ECON. & FIN. 1, 3–4 (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> [<https://perma.cc/XEJ4-XLK4>]. See generally Antonio Falato, Dalida Kadyrzhanova & Ugur LeI, *Distracted Directors: Does Board Busyness Hurt Shareholder Value?*, 113 J. FIN. ECON. 404 (2014) (discussing the effect of interlocking directors’ “busyness” on the quality of board monitoring and shareholder value); Alexander Ljungqvist & Konrad Raff, *Busy Directors: Strategic Interaction and Monitoring Synergies* (Nat’l Bureau of Econ. Rsch., Working Paper No. 23889, 2017) (discussing the effect of monitoring synergies on the quantity of board monitoring at “spillover firms”).

14 See sources cited *supra* note 13.

15 See *infra* Part III.

16 See *infra* Section I.B.4.

17 See Martin Lipton, *The Future of the Board of Directors*, HARV. L. SCH. F. ON CORP. GOVERNANCE (July 6, 2010), <https://corpgov.law.harvard.edu/2010/07/06/the-future-of-the-board-of-directors/> [<https://perma.cc/67QE-HMYL>] (delineating the expected roles of boards of directors).

boards are overwhelmingly occupied by the same faces, and that fact has, in recent years, spurred important theoretical and practical conversations about board diversity,¹⁸ anticompetitiveness,¹⁹ and the role of the corporation in society.²⁰

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 fifty-six.²¹ Apart from his service on the Hewlett-Packard board, Napier sat on several other boards including AT&T and Lucent Technologies.²² By inference, Napier's service on these boards overlapped with the service of several directors of a company called Hudson Highland Group ("Hudson").²³ Shortly after Napier passed away in 2003, Hudson suffered governance lapses by failing to have an IT system in place to comply with tax laws—precisely the same areas for which Napier was known as an expert.²⁴ The relationship between Napier's death and Hudson's failure seems attenuated on the surface because Napier did not directly serve on Hudson's board, but his indirect connection to Hudson raises questions about the timing of the two events. Although it is impossible to know what would have happened to Hudson if Napier had not passed away unexpectedly, one might wonder whether the outcome would have been different had Hudson's board had access, through its network, to the IT expertise that Napier possessed. Numerous similar situations appear in the data over the period from 1990 to 2017 and point to a phenomenon that the existing interlock

18 See AARON A. DHIR, CHALLENGING BOARDROOM HOMOGENEITY: CORPORATE LAW, GOVERNANCE, AND DIVERSITY 44 (2015); Amanda K. Packer, *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 *id.*); Yaron Nili, *Beyond the Numbers: Substantive Gender Diversity in Boardrooms*, 94 IND. L.J. 145, 172–73 (2019).

19 See generally Yaron Nili, *Horizontal Directors*, 114 Nw. U. L. REV. 1179 (2020) (analyzing the negative effect on competition that results when directors serve on the boards of multiple companies within the same industry).

20 See Claire A. Hill, *Marshalling Reputation to Minimize Problematic Business Conduct*, 99 B.U. L. REV. 1193, 1196–98 (2019).

21 See *H-P Officer Robert Napier Dies*, WALL ST. J. (Oct. 15, 2003, 12:01 AMB), <https://www.wsj.com/articles/SB106616705099740400> [<https://perma.cc/V5ZB-3XTL>].

22 *Remembering Bob Napier: A Lifetime of Achievements*, HEWLETT-PACKARD CO., http://www.hp.com/hpinfo/exec/team/napier/napier_achievements.html [<https://perma.cc/9RYN-CPAF>].

23 See *id.*; Stewart Weintraub & Jennifer Weidler, *Hudson Highland Group Settles Sales Tax Issues with SEC, Pays Penalties*, SALT BLAWG (Feb. 11, 2011, 4:25 PM), <https://taxblawg-stateandlocal.wordpress.com/2011/02/11/hudson-highland-group-settles-sales-tax-issues-with-secpays-penalties/> [<https://perma.cc/FNU8-XF9Y>].

24 See Weintraub & Weidler, *supra* note 23.

literature cannot well explain but a Social Corporate 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. This pattern occurs 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. The Article then discusses the importance of network theory to corporate governance, demonstrating why a more robust consideration of networks is important.²⁵ It does this by identifying the significance of network theory to contemporary corporate governance discourse. Research on network theory has shown that networks influence decision making in several ways.²⁶ The Article outlines the pieces of network theory that prevailing scholarship has embraced as well as the pieces that scholars and policymakers have yet to address.²⁷ It then discusses 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

²⁵ See, e.g., *In re Oracle Corp. Derivative Litig.*, 824 A.2d 917, 948 (Del. Ch. 2003) (denying a board committee motion to terminate because its members could be influenced by their “bias-creating relationships” with their indirect networks).

²⁶ See generally Stephen P. Borgatti, Ajay Mehra, Daniel J. Brass & Giuseppe Labianca, *Network Analysis in the Social Sciences*, 323 SCI. 892, 892–93 (2009) (discussing the development and use of network theory in social science research); Candace Jones, William S. Hesterly & Stephen P. Borgatti, *A General Theory of Network Governance: Exchange Conditions and Social Mechanisms*, 22 ACAD. MGMT. REV. 911, 912–14 (1997) (advancing a theory that explains the conditions that govern the exchange of resources in networks).

²⁷ See, e.g., Da Lin, *Beyond Beholden*, 44 J. CORP. L. 515, 532–33 (2019) (studying the appointment to private company boards of directors with connections to members of related boards); Ljungqvist & Raff, *supra* note 13, at 1; Benson et al., *supra* note 13, at 16–17; Lublin, *supra* note 13; Todd Wallack & Sacha Pfeiffer, *Debate Swirls on How Many Board Directorships Are Enough*, BOS. GLOBE (Dec. 10, 2015), <https://www.bostonglobe.com/metro/2015/12/09/some-corporate-directors-overboard-joining-many-boards-and-raising-performance-questions/pQBVGZmCBJ4fzaKTGdziP/story.html> [<https://perma.cc/K2NC-4EW7>]; Barzuza & Curtis, *Outside Directors’ Protection*, *supra* note 2, at 130–34; Bouwman, *supra* note 3, at 2358; Eliezer M. Fich & Anil Shivdasani, *Are Busy Boards Effective Monitors?*, 61 J. FIN. 689, 690–92 (2006) (arguing that busy directors are associated with weak corporate governance).

seemingly inconsistent conclusions.²⁸ In sum, Part I explains a broader way to think about networks in corporate governance, expanding the frame beyond interlocks, and puts 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. Although scholars have theorized that networks are important in other private ordering contexts—such as private enforcement of contracts and informal commercial relations²⁹—whether networks matter and, if so, which elements of networks matter, are also important yet unresolved 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.³⁰ 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. Ultimately, it demonstrates 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 the courts. The Article starts by underscoring the need to reframe the debate over director “busyness.” It then suggests that a director networks analysis can alleviate some of the current inconsistencies in the way courts have approached directors' social networks. Finally, it discusses how proxy advisors and stock exchanges should integrate director network considerations into their governance policies.

I. DIRECTOR NETWORKS

This Part describes the features and functions of boards of directors and explains why networks should be an important part of the analytical toolkit with respect to corporate governance. It situates our contribution within the larger body of research on director connectedness and discusses how broadening the scope of network analysis in corporate law can help address unanswered questions for courts and researchers alike.

²⁸ See *infra* Section I.B.4.

²⁹ See, e.g., Lisa Bernstein, *Opting Out of the Legal System: Extralegal Contractual Relations in the Diamond Industry*, 21 J. LEGAL STUD. 115, 144–46 (1992).

³⁰ See *infra* Section II.A.

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 corporation's governance from the early days of the corporate form.³¹ 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.³² Since then, boards have been depicted as a core organ of the modern corporation;³³ yet in recent years, the roles that directors and boards play in corporate governance have reached new levels of importance.³⁴ 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.³⁵ Given the size and influence of many companies, boards have a major impact on society as a whole in addition to their power within their own companies.³⁶

1. *The Board's Governance Functions*

Broadly speaking, the board of directors is responsible for many important tasks within the corporate governance structure. The board typically participates in the most important business decisions made by management, including mergers, stock actions, management of governance documents, and executive hiring.³⁷ The board also functions as a resource for management by providing support, advice, and

³¹ See Melvin Aron Eisenberg, *Legal Models of Management Structure in the Modern Corporation: Officers, Directors, and Accountants*, 63 CALIF. L. REV. 375, 376–77 (1975) (stating that although boards of directors do not directly operate corporations, boards do create business policies that guide corporations).

³² See STEPHEN M. BAINBRIDGE & M. TODD HENDERSON, *OUTSOURCING THE BOARD* 17 (2018).

³³ See Business Roundtable, *Principles of Corporate Governance*, HARV. L. SCH. F. ON CORP. GOVERNANCE (Sept. 8, 2016), <https://corpgov.law.harvard.edu/2016/09/08/principles-of-corporate-governance> [<https://perma.cc/LV7X-AT8T>] (discussing the board of directors' vital role in overseeing the company's management and business strategies to achieve long-term value creation).

³⁴ See Yaron Nili, *Out of Sight, Out of Mind: The Case for Improving Director Independence Disclosure*, 43 J. CORP. L. 35, 38–39 (2017) (discussing the accelerated importance of independent directors).

³⁵ *Id.*; see also Nili, *supra* note 19, at 1189 (discussing the increased reliance on boards).

³⁶ See Nili, *supra* note 19, at 1207.

³⁷ See STEPHEN M. 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, *supra* note 32, at 35.

networking.³⁸ Finally, the board is responsible for monitoring the corporation.³⁹ Due to their dispersed ownership, shareholders lack an incentive to review most executive decisions and concerns about free riding have contributed towards a corporate structure that is controlled by management.⁴⁰ The board can often address these concerns by representing the interests of shareholders through management⁴¹ and preventing management from acting in a manner that is contrary to the interests of shareholders.⁴²

In recent decades, the board has also become an increasingly important actor within state and federal law. Independent boards enjoy broad deference for decisions challenged in Delaware courts,⁴³ and the courts have acknowledged that directors play an important role in a corporation's governance.⁴⁴ Courts demonstrate their deference to boards by refusing to second-guess whether actions taken by corporate directors are in the best interest of the company in most circumstances.⁴⁵ A shareholder challenging directors' decisions bears a heavy

³⁸ See BAINBRIDGE & HENDERSON, *supra* note 32, at 37.

³⁹ See STEPHEN M. BAINBRIDGE, *THE NEW CORPORATE GOVERNANCE IN THEORY AND PRACTICE* 160 (2008) (detailing the role of the board monitoring management); JONATHAN R. MACEY, *CORPORATE GOVERNANCE* 50 (2008) (listing major corporate governance mechanisms for U.S. public companies); Jill E. Fisch, *Taking Boards Seriously*, 19 *CARDOZO L. REV.* 265, 289–90 (1997) (“The ideal model of corporate governance is one that enhances the ability of each firm to structure corporate decisionmaking in accordance with its particular needs. . .”).

⁴⁰ See ADOLF A. BERLE, JR. & GARDINER C. MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* 6 (1933). These are often referred to as “Agency Costs.” See Eugene F. Fama & Michael C. Jensen, *Separation of Ownership and Control*, 26 *J.L. & ECON.* 301, 304 (1983) (“Agency costs include the costs of structuring, monitoring, and bonding a set of contracts among agents with conflicting interests.”).

⁴¹ See BAINBRIDGE, *supra* note 39, at 155–56 (detailing the role of the board and its importance in the governance of the firm).

⁴² 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).

⁴³ “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.” Lin, *supra* note 27, at 522; see *id.* at 518–22 (studying the appointment to private company boards of directors with connections to members of related boards); see also *Kahn v. M & F Worldwide Corp.*, 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 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.”).

⁴⁴ See Maureen S. Brundage & Oliver C. Brahmst, *Director Independence: Alive and Well Under Delaware Law*, in *GLOBAL CORPORATE GOVERNANCE GUIDE* 2004, at 116–20 (2004) (supporting Delaware’s approach).

⁴⁵ See *Beam ex rel. Martha Stewart Living Omnimedia, Inc. v. Stewart*, 845 A.2d 1040, 1048–49 (Del. 2004).

burden, requiring particularized evidence of self-dealing or bad faith in order to overcome the business judgment rule's protections.⁴⁶

Moreover, the recent rise in hedge fund activism⁴⁷ and institutional investors' engagement⁴⁸ has led boards to take on a more prominent role in directly interfacing with shareholders.⁴⁹ The board, therefore, has become a conduit allowing investors to better engage with the company, both formally and informally.⁵⁰

Finally, federal law has given boards greater monitoring duties following both the accounting scandals in the early years of the millennium after the financial crisis. For example, the Sarbanes-Oxley Act⁵¹—passed in the wake of several large-scale accounting scandals—requires boards to have an independent audit committee that oversees auditing services, approves accountants, and handles compliance regarding management accounting practices.⁵² The Dodd-Frank Act⁵³ similarly imposed new requirements, mandating independent executive compensation committees to determine officer pay.⁵⁴

2. Board Members as Part of the Corporate Governance Ecosystem

Contemporary debates about the role of the board increasingly center on its composition and the independence of its members.⁵⁵ In-

⁴⁶ See *id.*

⁴⁷ See Matthew R. Denes, Jonathan M. Karpoff & Victoria B. McWilliams, *Thirty Years of Shareholder Activism: A Survey of Empirical Research*, 44 J. CORP. FIN. 405, 406 (2017) (summarizing and synthesizing the results from seventy-three 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, 68–69 (2007).

⁴⁸ See Paula Loop, Catherine Bromilow & Leah Malone, *The Changing Face of Shareholder Activism*, HARV. L. SCH. F. ON CORP. GOVERNANCE (Feb. 1, 2018), <https://corpgov.law.harvard.edu/2018/02/01/the-changing-face-of-shareholder-activism/> [<https://perma.cc/X7D8-6AFE>].

⁴⁹ See Krystal Berrini & Rob Zivnuska, *Board Lessons: Succeeding with Investors in a Crisis*, HARV. L. SCH. F. ON CORP. GOVERNANCE (June 5, 2018), <https://corpgov.law.harvard.edu/2018/06/05/board-lessons-succeeding-with-investors-in-a-crisis/> [<https://perma.cc/99ZA-6H9L>].

⁵⁰ See Martin Lipton, *Spotlight on Boards 2018*, HARV. L. SCH. F. ON CORP. GOVERNANCE (May 31, 2018), <https://corpgov.law.harvard.edu/2018/05/31/spotlight-on-boards-2018/> [<https://perma.cc/JN62-42YL>].

⁵¹ Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (2002) (codified as amended in scattered sections of 15 and 18 U.S.C.).

⁵² *Id.* § 404.

⁵³ Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified in scattered sections of the U.S.C.).

⁵⁴ *Id.* § 952.

⁵⁵ See, e.g., Marc S. Gerber, *US Corporate Governance: Boards of Directors Remain Under the Microscope*, SKADDEN: INSIGHTS (Jan. 2015), <https://www.skadden.com/insights/publications/>

stitutional investors focus on several issues relating to board composition, including term limits,⁵⁶ replacement of board members (often referred to as “board refreshment”),⁵⁷ diversity,⁵⁸ board evaluation processes,⁵⁹ and disclosures regarding these issues.⁶⁰ One institutional stakeholder, Vanguard, has explained that the board is “one of a company’s most critical strategic assets” and that it looks for a “high-functioning, well-composed, independent, diverse, and experienced board with effective ongoing evaluation practices.”⁶¹ Each director brings his or her own set of qualifications, background, and diversity to form each company’s board,⁶² making the board’s effectiveness more than simply the sum of its individual directors.

Interest in board member interpersonal connections has emerged alongside the increased focus on board independence. Personal connections are potential resources but can also be potential liabilities. As previously mentioned, the business judgment rule’s deference to the board’s substantive decision-making process and potential conflicts of interest are key battlegrounds for plaintiffs alleging unfairness in the boardroom. Consequently, social networks between boards have be-

2015/01/us-corporate-governance-boards-of-directors-remain [https://perma.cc/3HJE-3W9E]; Robert Hauswald & Robert Marquez, *Governance Mechanisms, Corporate Disclosure, and the Role of Technology* (2005), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=687138 [https://perma.cc/VH9B-UNJV].

⁵⁶ See William M. Libit & Todd E. Freier, *Director Tenure: The Next Boardroom Battle*, CORP. BD., Mar.–Apr. 2015, at 5, 6–8 (discussing advocate positions on tenure).

⁵⁷ See Cam C. Hoang, *Institutional Investors and Trends in Board Refreshment*, HARV. L. SCH. F. ON CORP. GOVERNANCE (Apr. 8, 2016), https://corpgov.law.harvard.edu/2016/04/08/institutional-investors-and-trends-in-board-refreshment/ [https://perma.cc/C3C6-MT3U] (discussing and sampling institutional investor guidance on board refreshment).

⁵⁸ See Eleanor Bloxham, *Institutional Investors Are Leading the Fight for More Diverse Corporate Boards*, FORTUNE (June 16, 2016, 2:40 PM), http://fortune.com/2016/06/16/institutional-investors-are-leading-the-fight-for-more-diverse-corporate-boards [https://perma.cc/NR68-8KP8].

⁵⁹ See Francesco Surace, *Evaluating Board Skills*, CHARTERED GOVERNANCE INST.: GOVERNANCE & COMPLIANCE (June 5, 2017), https://www.icsa.org.uk/features/june-2017-evaluating-board-skills [https://perma.cc/8RYM-HLRD] (“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.”).

⁶⁰ See CamberView Partners, *NYC Pension Funds Boardroom Accountability Project Version 2.0*, HARV. L. SCH. F. ON CORP. GOVERNANCE (Sept. 19, 2017), https://corpgov.law.harvard.edu/2017/09/19/nyc-pension-funds-boardroom-accountability-project-version-2-0/ [https://perma.cc/VP6T-USZN].

⁶¹ F. WILLIAM McNABB III, AN OPEN LETTER TO DIRECTORS OF PUBLIC COMPANIES WORLDWIDE 1 (2017), https://global.vanguard.com/documents/investment-stewardship-mcnabb-letter.pdf [https://perma.cc/8KD7-LBLS].

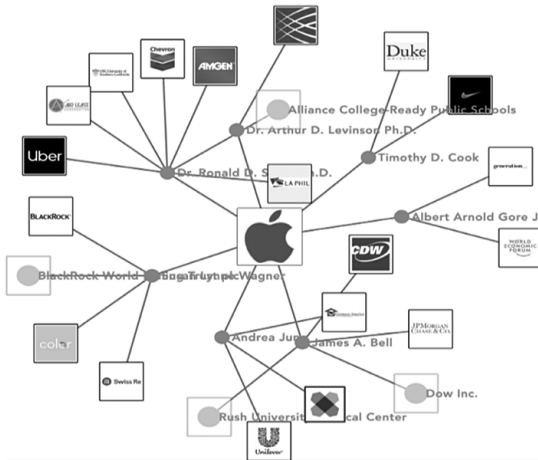
⁶² See Nili, *supra* note 34, at 39–40 (discussing qualifications and background of directors).

come areas of interest for plaintiffs trying to defeat the business judgment rule presumption by alleging procedural defects or self-dealing in the board's decisions.⁶³ In many breach of fiduciary duty actions, courts place a spotlight on director relationships that may create an incentive to act out of self-interest.⁶⁴ Despite an understanding that corporate directors can and should have social relationships between one another,⁶⁵ the law has an interest in examining when these relationships cloud a director's judgment.

3. Multiple Directorships as a Corporate Governance Norm

Although 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.⁶⁶ To take a granular example, each of Apple Inc.'s eight directors serve on additional boards, with many of them serving on three or four other boards at the same time, as Figure 1 shows.⁶⁷

FIGURE 1. APPLE'S BOARD CONNECTIONS



⁶³ See, e.g., *Orman v. Cullman*, 794 A.2d 5, 26–28 (Del. Ch. 2002) (addressing allegations that directors lacked independence because of prior business relationships).

⁶⁴ See Nili, *supra* note 19, at 1202–03; 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).

⁶⁵ See *In re Oracle Corp. Derivative Litig.*, 824 A.2d 917, 930 (Del. Ch. 2003).

⁶⁶ See Nili, *supra* note 19, at 1209.

⁶⁷ The graphic was sourced from EQUILAR BOARDEDGE, <https://www.equilar.com/executive-and-board-database> [https://perma.cc/W2KV-VUF7].

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.⁶⁸ Instead, directors may continue their work as full-time employees elsewhere, and may serve on other companies' boards.⁶⁹ Directors are expected to meet regularly, but not onerously, often eight to twelve times a year,⁷⁰ and board members spend an average of 245 hours per year on board-related activities for each board on which they sit.⁷¹ These meetings center on executing duties such as hiring and monitoring management,⁷² approving key business decisions, retaining outside consultants, and adopting various governance policies and procedures.⁷³

Board procedures facilitate directors' ability to serve multiple companies simultaneously. Although 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.⁷⁴ There are several key committees that all publicly traded companies must maintain⁷⁵ and that are often cited as "having the greatest influence on corporate [governance]."⁷⁶ These key committees are the audit committee,⁷⁷ the nominating committee,⁷⁸ the corporate

⁶⁸ See BAINBRIDGE, *supra* note 39, at 192.

⁶⁹ See *id.*

⁷⁰ See SPENCER STUART, 2017 SPENCER STUART U.S. BOARD INDEX 28 (2017), https://www.spencerstuart.com/~media/ssbi2017/ssbi_2017_final.pdf [<https://perma.cc/HS4Q-RKTL>] (stating that, in 2017, boards met an average of 8.2 times).

⁷¹ See Nili, *supra* note 19, at 1191–92.

⁷² See BAINBRIDGE, *supra* note 39, at 160–67 (detailing the role of the board monitoring management); Fisch, *supra* note 39, at 268–72.

⁷³ See MACEY, *supra* note 39, at 53 (discussing, among other things, the board's monitoring duties as a corporate governance mechanism for U.S. public companies); Nili, *supra* note 19, at 1188–89.

⁷⁴ See Eileen Morgan Johnson, *The Basics of Board Committee Structure*, AM. SOC'Y ASS'N EXECS. (Apr. 29, 2020), https://www.asaecenter.org/resources/articles/an_plus/2015/december/the-basics-of-board-committee-structure [<https://perma.cc/RSR6-6TAQ>].

⁷⁵ See Yaron Nili, *The "New Insiders": Rethinking Independent Directors' Tenure*, 68 HASTINGS L.J. 97, 109–10 (2016); SPENCER STUART, *supra* note 70, at 29.

⁷⁶ 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 396, 400–01 (2010).

⁷⁷ The audit committee is charged with ensuring the quality and integrity of the company's financial statements and regulatory compliance. See Nili, *supra* note 75, at 152. Under NYSE

governance committee,⁷⁹ and the compensation committee,⁸⁰ each of which can meet separately from the board. Given that directors are able to serve on so many boards simultaneously, scholars and policymakers have focused heavily on directors' ability to perform their duties well considering time constraints and possible conflicts of interest.⁸¹ This discussion is often framed in terms of director interlocks—directors with multiple board memberships who “interlock” the companies they serve—as being a unique feature of corporate boards that does not exist in other labor markets.⁸² As scholars have pointed out, interlocks have important consequences for corporate governance. As explained below, however, the interlock framing captures only part of what is important about multiple board memberships.

B. *Interlocks Versus Networks*

Scholarship and policy statements by influential corporate governance actors frequently conflate director interlocks with director networks, although they are distinct concepts. 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. 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.⁸³ The debate surrounding this issue is further discussed below.

listing rules, the committee must be composed solely of independent directors. See N.Y. STOCK EXCH., LISTED COMPANY MANUAL § 303A.07(a) (2013) [hereinafter N.Y.S.E. MANUAL], <https://nyseguide.srorules.com/listed-company-manual> [<https://perma.cc/2G52-4KR8>].

⁷⁸ 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, Terry L. Neal, Zoe-Vonna Palmrose, & Susan Scholz, *CEO Involvement in Selecting Board Members, Audit Committee Effectiveness, and Restatements*, 28 CONTEMP. ACCT. RSCH. 396, 397–401 (2011).

⁷⁹ The corporate governance committee is responsible for assisting a corporate board in matters related to the corporation's governance structure. DIRTT ENV'T SOLS., CORPORATE GOVERNANCE COMMITTEE CHARTER 2 (2018), <https://www.dirtt.net/assets/attachments/59cdebe4e1/DIRTT-GovernanceCommittee-Jan18.pdf> [<https://perma.cc/7ZU9-BZCH>].

⁸⁰ The compensation committee sets the compensation of senior executives and generally oversees the corporation's compensation policies. See N.Y.S.E. MANUAL, *supra* note 77, § 303A.05. Under NYSE listing rules the committee must be composed solely of independent directors. See *id.*

⁸¹ See sources cited *supra* note 13.

⁸² See sources cited *supra* note 2.

⁸³ See sources cited *supra* note 13.

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 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 might also include directors on other boards who are connected indirectly through intermediary board members, going down the degrees of separation. It may extend further to relationships made through director networking organizations, service in charitable organizations, and common educational background with members of other companies' boards.

Social networks extending beyond the first degree of separation have been investigated in various settings including venture capital,⁸⁴ law firms,⁸⁵ and innovative industries,⁸⁶ but the study of these networks among corporate directors is still relatively unexplored.⁸⁷ Like interlocks, directors' broader networks have the ability to influence their performance on boards.⁸⁸ Consequently, analyzing board connections through a social lens is an important exercise in understanding corporate governance. The Sections below map the literature on interlocks, busyness, and networks in business contexts to help situate this Article in the broader literature and relevant policy discussions.

⁸⁴ See generally Yael V. Hochberg, Alexander Ljungqvist & Yang Lu, *Whom You Know Matters: Venture Capital Networks and Investment Performance*, 62 J. FIN. 251 (2007) (examining how networks of venture capitalists affect firm performance).

⁸⁵ See generally Patricia M. Dechow & Samuel T. Tan, *How Do Accounting Practices Spread? An Examination of Law Firm Networks and Stock Option Backdating* (Sing. Mgmt. Univ. Sch. Acct. Rsch. Paper No. 2020-112, 2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2688434 [<https://perma.cc/T65W-8TY8>] (examining empirically how law firm networks transmit accounting practices and disclosures).

⁸⁶ See generally Matthew Jennejohn, *The Private Order of Innovation Networks*, 68 STAN. L. REV. 281 (2016) (discussing networks in the context of collaborations between innovation enterprises).

⁸⁷ A notable exception is Lin, *supra* note 27. This study, however, is focused specifically on the impact of shareholder patronage on director behavior and does not account for how networks in general affect corporate governance.

⁸⁸ See *id.*

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 U.S. Securities and Exchange Commission (“SEC”). One prevalent concern is that the time commitments of directors’ combined service on various boards may cause them to shirk their duties.⁸⁹ 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.⁹⁰ “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,⁹¹ making director interlocks a natural byproduct of corporate culture. Companies prefer experienced directors—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.⁹²

Board members serve a number of important functions, including making important governance decisions,⁹³ providing advice to management,⁹⁴ and monitoring corporate managers on behalf of shareholders,⁹⁵ and scholars have posited that serving on multiple boards may diminish a director’s ability to perform these duties well for any

⁸⁹ See Benson et al., *supra* note 13, at 3–4 (examining empirical evidence suggesting that busy directors shirk their duties in some circumstances).

⁹⁰ See, e.g., Barzuza & Curtis, *Corporate Governance*, *supra* note 2, at 681–93 (surveying the academic literature on board connectivity and its impact on corporate governance). See generally Barzuza & Curtis, *Outside Directors’ Protection*, *supra* note 2 (examining how management practices changed via interlocks after change in doctrine).

⁹¹ Nili, *supra* note 18, at 158 (discussing the problems of gender diversity in board refreshment).

⁹² See *id.* at 172.

⁹³ See BAINBRIDGE, *supra* note 37, at 45.

⁹⁴ See *id.* at 49; 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, 1506 (2007).

⁹⁵ See BAINBRIDGE, *supra* note 39, at 163–64 (detailing the role of the board monitoring management); Fisch, *supra* note 39, at 272; see also Harner, *supra* note 42, at 583–84 (focusing on the boards’ broader duties in companies with controlling shareholders).

board.⁹⁶ To the extent that interlocks affect director duties, scholars have argued that this may hinder the ability of nominally independent directors to fulfill the definition of independence set out by the SEC and the stock exchanges.⁹⁷ 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.⁹⁸

b. Empirical Research on Interlocks

Empirical researchers have tried to assess the impact of director interlocks and busyness, but have generated conflicting results. The mixed picture of interlocks highlights the value of looking 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 study 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.⁹⁹ Drawing on a sample of boards with busy independent directors from 1988 to 2007, the study found sustained negative market reactions to such deaths, implying that the sudden increase in busyness strains the surviving boards' ability to manage the firm.¹⁰⁰ Another recent study used the withdrawal of analyst coverage after several brokers closed their research operations as an exogenous shock.¹⁰¹ The study posited that the loss of outside monitoring leads to greater internal monitoring effort by directors, and thus directors divert their attention to the firm that lost coverage at the expense of the other firms the directors serve.¹⁰² The authors found that increased busyness could result in lower market value for firms that did not lose coverage if monitoring synergies were negative.¹⁰³ Other researchers have made similar findings using various methods, namely that busy

⁹⁶ See sources cited *supra* note 13.

⁹⁷ See Gregory H. Shill, *The Golden Leash and the Fiduciary Duty of Loyalty*, 64 UCLA L. REV. 1246, 1265–68 (2017); Nili, *supra* note 34, at 37.

⁹⁸ See sources cited *supra* notes 3–6.

⁹⁹ Falato et al., *supra* note 13, at 405.

¹⁰⁰ *Id.*

¹⁰¹ Ljungqvist & Raff, *supra* note 13, at 20–21.

¹⁰² *Id.* at 3–4.

¹⁰³ *Id.* at 37–38.

boards are associated with poor performance and poor-quality monitoring.¹⁰⁴

On the other hand, some researchers have found positive benefits associated with director interlocks. Studies have found that director busyness creates more value for smaller firms, possibly because expertise and connectedness have higher value at firms that are themselves less connected or experienced.¹⁰⁵

Additional research 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.¹⁰⁶ Interlocks have also been found to facilitate the spread of legal developments and governance practices.¹⁰⁷ For example, Professors 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.¹⁰⁸

The mixed picture painted by these studies might be explained by the fact that, although interlocks are related to busyness, network effects may not necessarily be so related. Director connections can exist

¹⁰⁴ See, e.g., John E. Core, Robert W. Holthausen & David F. Larcker, *Corporate Governance, Chief Executive Officer Compensation, and Firm Performance*, 51 J. FIN. ECON. 371, 372 (1999) (finding CEO compensation higher when outsider directors serve on multiple other boards); Fich & Shivdasani, *supra* note 27, at 693 (compiling research suggesting that “too many directorships may lower the effectiveness of outside directors as corporate monitors”); Luke C.D. Stein & Hong Zhao, *Independent Executive Directors: How Distraction Affects Their Advisory and Monitoring Roles*, 56 J. CORP. FIN. 199, 200–01 (2019) (finding that firms are negatively affected when independent directors are distracted by poor performance of directors’ outside employers); Ronald W. Masulis & Emma Jincheng Zhang, *How Valuable Are Independent Directors? Evidence from External Distractions*, 132 J. FIN. ECON. 226, 249–50 (2019) (finding that distracted directors “miss more board meetings, undertake less trading in their firm’s stock, and exhibit a higher likelihood of leaving the current directorship” and that their firms have “lower operating performance and firm value, weaker operating efficiency, worse [merger and acquisition] performance, and lower accounting quality”); Falato et al., *supra* note 13, at 423 (finding that director busyness has a “negative effect[] . . . on the value of treated firms . . . [and] is detrimental to board monitoring quality”).

¹⁰⁵ See, e.g., Ira C. Harris & Katsuhiko Shimizu, *Too Busy to Serve? An Examination of the Influence of Overboarded Directors*, 41 J. MGMT. STUD. 775, 788–94 (2004) (finding that busy directors enhance acquisition performance through expertise); Laura Field, Michelle Lowry & Anahit Mkrtchyan, *Are Busy Boards Detrimental?*, 109 J. FIN. ECON. 63, 81 (2013) (finding that venture-backed firms conducting initial public offerings benefit from busy director expertise as busy directors serve more as advisors than monitors).

¹⁰⁶ See, e.g., OMER ET AL., *supra* note 6, at 34 (finding that companies with more interlocked directors are less likely to misstate their annual results).

¹⁰⁷ See Barzuza & Curtis, *Outside Directors’ Protection*, *supra* note 2, at 152–53.

¹⁰⁸ *Id.* at 131.

even among nonbusy directors, and networks may confer benefits to—or pose additional challenges 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. Incorporating a Social Corporate Governance framework, however, paints a clearer picture.

2. *The Emergence of Literature on Networks*

Research on networks among people and entities have proliferated in recent years.¹⁰⁹ 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 convey ideas, 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 the 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.¹¹⁰

A network encompasses not only those who are directly connected to someone but also those who are several steps removed.¹¹¹ Networks have been defined in different ways, and many definitions embrace a larger set of connections than the concept of interlocks. The most frequently used metrics conceive of a network as a set of nodes and seek to measure the connectedness of those nodes.¹¹² The nodes can be thought of like the hubs of a bicycle wheel, and the points of connection between them (referred to as edges) as the spokes. Unlike a wheel, however, each spoke might end in yet another

¹⁰⁹ See, e.g., Martin Grandjean, *A Social Network Analysis of Twitter: Mapping the Digital Humanities Community*, COGENT ARTS & HUMANS., Apr. 15, 2016, at 1, 1–2; Daniel Z. Grunspan, Benjamin L. Wiggins & Steven M. Goodreau, *Understanding Classrooms Through Social Network Analysis: A Primer for Social Network Analysis in Education Research*, 13 CBE LIFE SCIS. EDUC. 167, 168 (2014); Hamid Reza Nasrinpour, Marcia R. Friesen & Robert D. McLeod, *An Agent-Based Model of Message Propagation in the Facebook Electronic Social Network*, ARXIV (Nov. 22, 2016), <https://arxiv.org/ftp/arxiv/papers/1611/1611.07454.pdf> [<https://perma.cc/3H9G-VRAF>].

¹¹⁰ 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).

¹¹¹ See KEITH N. HAMPTON, LAUREN SESSIONS GOULET, LEE RAINIE & KRISTEN PURCELL, PEW RSCH. CTR., *SOCIAL NETWORKING SITES AND OUR LIVES* 32–42 (2011), <https://www.pewinternet.org/wp-content/uploads/sites/9/media/Files/Reports/2011/PIP-Social-networking-sites-and-our-lives.pdf> [<https://perma.cc/P3P6-2PN5>].

¹¹² See CHARLES KADUSHIN, *UNDERSTANDING SOCIAL NETWORKS* 13–17 (2012).

node (or hub) that extends its own edges (or spokes) to still other nodes and so on. The importance of any node (hub) in the network is referred to as its centrality.¹¹³

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 (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

Using centrality measures (among others), researchers have examined networks in a number of contexts. Most are closely related to business law—researchers have extensively studied networks among venture capitalists, an industry known to rely heavily on networks.¹¹⁴ 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.¹¹⁵ 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.

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.¹¹⁶ Although these scholars do not typically discuss centrality per se, their analyses implicitly reflect the same network dynamics as centrality models.

b. Research on Networks of Boards

Research on board network centrality has emerged in recent years, outside of the literature on law or corporate governance. This research has primarily focused on financial performance, and much of it has proceeded without a strategy for isolating the effects of net-

¹¹³ Carla Sciarra, Guido Chiarotti, Francesco Laio & Luca Ridolfi, *A Change of Perspective in Network Centrality*, SCI. REPS., Oct. 15, 2018, at 1.

¹¹⁴ See, e.g., Ha Hoang & Bostjan Antoncic, *Network-Based Research in Entrepreneurship: A Critical Review*, 18 J. BUS. VENTURING 165, 169–70 (2003).

¹¹⁵ See *id.*

¹¹⁶ See generally Bernstein, *supra* note 29 (exploring the use of extralegal contracts in the diamond industry).

works versus other factors.¹¹⁷ In that vein, scholars have argued that network effects of board connectedness are beneficial to companies because they facilitate the transfer of best practices and knowledge.¹¹⁸ Some research has also suggested that strong networks are desirable characteristics in candidates for director positions.¹¹⁹ 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.¹²⁰ In the related venture capital context, a robust network of expertise and service providers has been posited to lead to better performing venture funds and portfolios.¹²¹ Better-connected boards of directors have been associated with higher future returns than firms with poorly connected boards.¹²² Better-networked boards have even been found to perform better in terms of adhering to certain environmental policies—where environmentally connected directors can affect a firm’s behavior—such as an association with lower greenhouse gas emissions.¹²³

3. *The Approach of Proxy Advisors and Policymakers*

Despite the emerging literature and growing importance of networks, proxy advisors and the SEC have focused primarily on interlocks and policy proposals regarding good corporate governance while ignoring the broader view of Social Corporate Governance. The general consensus among the influential actors in corporate governance is that too much busyness is a bad thing.¹²⁴ For example, shareholder

117 See, e.g., David F. Larcker, Eric C. So & Charles C.Y. 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. 17, 17–18 (2014) (examining the effect of individual director connections on company economic value).

118 See Larcker et al., *supra* note 117, at 248–49.

119 See Nili, *supra* note 19, at 1192–93.

120 See Amit Batish, *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> [<https://perma.cc/TLW7-U3BV>] (praising a refreshed GE board for bringing on “director nominees [with] an extensive background and wide-spanning executive networks” with “173 connections to C-level executives and board members across more than 130 companies”).

121 See Hochberg et al., *supra* note 84, at 251–52.

122 *Id.* at 253.

123 See Swarnodeep Homroy & Aurelie Slechten, *Do Board Expertise and Networked Boards Affect Environmental Performance?*, 158 J. BUS. ETHICS 269, 269–70, 273 (2019).

124 See, e.g., INST. S’HOLDER SERVS., UNITED STATES PROXY VOTING GUIDELINES: BENCHMARK POLICY RECOMMENDATIONS 11 (2019), <https://www.issgovernance.com/file/policy/active/>

advisory services, Institutional Shareholder Services (“ISS”) and Glass Lewis, have issued guidelines in recent years that recommend shareholders withhold their vote—in effect, vote against—for public company directors serving on more than five boards or serving as executive officers of other companies while sitting on more than two public company boards.¹²⁵ BlackRock, the world’s largest asset manager and one of the largest shareholders of most companies in the S&P 1500, recently 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.¹²⁶ Vanguard, one 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 companies other than her own and any director seeking more than four board seats at a time.¹²⁷ State Street, another large index fund investor, allows public company CEOs to sit on up to two boards and allows outside directors to sit on up to four.¹²⁸ 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 is controlled by an officer or controlling shareholder of the company.¹²⁹

These policies demonstrate key actors’ concern about the impact of directors’—and especially CEOs’—ties to multiple boards, but the policies also reflect these actors’ preoccupation with interlocks and

americas/US-Voting-Guidelines.pdf [https://perma.cc/R9QU-6HS5] (giving voting guidelines for company board members serving on multiple boards).

125 *See id.*; *see also* GLASS LEWIS, PROXY PAPER GUIDELINES: AN OVERVIEW OF THE GLASS LEWIS APPROACH TO PROXY ADVICE: UNITED STATES 19–20 (2019), https://www.glasslewis.com/wp-content/uploads/2018/10/2019_GUIDELINES_UnitedStates.pdf [https://perma.cc/JCK8-WPVQ] (“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.”).

126 BLACKROCK, BLACKROCK INVESTMENT STEWARDSHIP: CORPORATE GOVERNANCE AND PROXY VOTING GUIDELINES FOR U.S. SECURITIES 4 (2020), <https://www.blackrock.com/corporate/literature/fact-sheet/blk-responsible-investment-guidelines-us.pdf> [https://perma.cc/A6C4-NCJZ] (giving voting guidelines for company board members serving on multiple boards).

127 VANGUARD, SUMMARY OF THE PROXY VOTING POLICY FOR U.S. PORTFOLIO COMPANIES 4 (2020), https://about.vanguard.com/investment-stewardship/portfolio-company-resources/2020_proxy_voting_summary.pdf [https://perma.cc/9A5E-N9GV] (giving voting guidelines for company board members serving on multiple boards).

128 STATE ST. GLOB. ADVISORS, PROXY VOTING AND ENGAGEMENT GUIDELINES: NORTH AMERICA 4 (2021), <https://www.ssga.com/library-content/pdfs/ic/proxy-voting-and-engagement-guidelines-us-canada.pdf> [https://perma.cc/3SYZ-67N2] (giving voting guidelines for company board members serving on multiple boards).

129 *See, e.g.*, INST. S’HOLDER SERVS., *supra* note 124, at 9.

busyness. Yet, the variation across the proxy advisors' 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 effectively 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 network structure beyond interlocks. 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. 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.¹³⁰ Alternatively, a relatively nonbusy 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 networks 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.¹³¹

4. *Interlocks and Networks in the Courts*

Courts have increasingly noted the importance of networks but have not embraced a unified theory on why and when networks matter. Among corporate law's most important institutions, the Delaware courts have struggled with how to handle director networks when assessing whether directors have violated fiduciary duties, whether they have lacked independence, or whether they have unjustifiably appropriated corporate opportunities. 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 Corp. Derivative Litigation*,¹³² the Delaware Chancery Court found that a mere common affil-

¹³⁰ See Nili, *supra* note 19, at 1233–34.

¹³¹ See *infra* Part II.

¹³² 824 A.2d 917 (Del. Ch. 2003).

iation with Stanford University and prospects for the university's future fundraising were enough to frustrate two directors' independence.¹³³ Oracle's board had appointed two Stanford professors, who had no direct ties or prior relationship with Oracle, to the Special Litigation Committee ("Committee") to determine whether a derivative action against other Oracle board members over alleged insider trading could proceed.¹³⁴ After a thorough investigation, the Committee decided that the suit lacked merit.¹³⁵ The court refused to give credence to the Committee's decision, 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.¹³⁶ 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 regarding the committee's independence to overrule the Committee's decision, allowing the lawsuit to continue.¹³⁷

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 nonindependent way was enough for the court to question their disinterestedness.¹³⁸ The decision demonstrates the Delaware courts' willingness to look at networks outside of direct interlocks, but leaves confusion as to what kinds of networks matter. Other states have done the same.¹³⁹

133 *Id.* at 920–21.

134 *Id.* at 923–24, 929.

135 *Id.* at 928.

136 *Id.* at 942–43.

137 *Id.* at 943, 948.

138 *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. *Id.* at 947. In the context of reviewing the Special Litigation Committee's findings, the reasonable doubt standard expands the scope of what could constitute a conflict of interest from where it would be in a suit alleging breach of fiduciary duty. *See Zapata Corp. v. Maldonado*, 430 A.2d 779, 788–89 (Del. 1981). The rationale for considering broad social ties should still apply in similar matters.

139 *See, e.g., Boland v. Boland*, 31 A.3d 529, 564 (Md. 2011) ("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 [Special Litigation Committee's] independence and good faith by presenting evidence of significant personal or social relationships."); *Sherman v. Ryan*, 911 N.E.2d 378, 392 (Ill. App. Ct. 2009) ("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, '[m]ere 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.'" (alteration in original) (citation omitted) (quoting *Beam ex rel. Martha Stewart Living Omnimedia, Inc. v. Stewart*, 845 A.2d 1040, 1051–52 (Del. 2004))).

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 Services & Insurance Plan v. Baiera*,¹⁴⁰ the Delaware Chancery Court found no reasonable doubt about a director's independence or compliance with the duty of loyalty even though he had previously served as CEO of a service provider with whom his company agreed to do business.¹⁴¹ In that case, the same interlocks that 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 initial public offering.¹⁴² The court found that despite the close ties between several of Orbitz's directors and Travelport (and the appointment of one of them by Travelport), the plaintiffs did not raise sufficient reasonable doubts regarding the directors' independence.¹⁴³

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 ex rel. Zynga Inc. v. Pincus*,¹⁴⁴ the independent directors of game developer 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.¹⁴⁵ Investors sued, and on appeal the Delaware Supreme Court found that business ties among

¹⁴⁰ 119 A.3d 44 (Del. Ch. 2015).

¹⁴¹ *See id.* at 59.

¹⁴² *See id.* at 50–52.

¹⁴³ *See id.* at 59–62. Other cases have made similar findings. *See, e.g., Beam ex rel. Martha Stewart Living Omnimedia, Inc. v. Stewart*, 833 A.2d 961, 979 (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 “[n]ot 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” (footnotes omitted)).

¹⁴⁴ No. 9512-CB, 2016 WL 769999 (Del. Ch. Feb. 29, 2016).

¹⁴⁵ *See id.* at *1. 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. Cnty. Emps. Ret. Fund v. Sanchez*, 124 A.3d 1017, 1022 (Del. 2015) (“[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*. . . . [W]hen a close relationship endures for that long, a pleading stage inference arises that it is important to the parties.” (footnote omitted)).

the directors, and the fact that some of the directors shared a private plane, raised reasonable doubt about their independence.¹⁴⁶

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 doctrine¹⁴⁷ 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.¹⁴⁸ Corporate opportunities, however, can pose problems for directors serving on multiple boards. As one court has stated, "It is only when a business opportunity arises which places the director in a position of serving two masters, and when, dominated by one, he neglects his duty to the other, that a wrong has been done."¹⁴⁹ 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 to take advantage of them.¹⁵⁰ Nonetheless, a corporation may, through its nonconflicted directors, elect to forgo an

¹⁴⁶ *Sandys ex rel. Zynga Inc. v. Pincus*, 152 A.3d 124, 126 (Del. 2016).

¹⁴⁷ See *infra* note 150 and accompanying text.

¹⁴⁸ See, e.g., *Quadrant Structured Prods. Co. v. Vertin*, 102 A.3d 155, 186 (Del. Ch. 2014) ("[T]he Delaware Supreme Court held that there [sic] '[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." (alterations in original) (citation omitted) (quoting *Weinberger v. UOP, Inc.*, 457 A.2d 701, 710 (Del. 1983))).

¹⁴⁹ *Singer v. Carlisle*, 26 N.Y.S.2d 172, 182 (N.Y. Sup. Ct. 1940).

¹⁵⁰ The general rule on corporate opportunities in Delaware is set out in the case *Guth 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. *Id.* at 511. 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)

opportunity and allow the director to take advantage of it once it has been fully disclosed.¹⁵¹

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. For example, *Johnston v. Greene*¹⁵² 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.¹⁵³ An opportunity arose to buy a business that made a mechanical part and the patents for aircrafts.¹⁵⁴ Atlas passed on the opportunity, but Airfleets's board decided to purchase a controlling interest in the business, though not its patents.¹⁵⁵ The director proceeded to purchase the patents, and a group of Airfleets shareholders sued alleging breach of fiduciary duty by usurping a corporate opportunity.¹⁵⁶ The court ultimately found that the opportunity had been fairly presented to both boards and rejected by both, freeing the director to seize it for himself.¹⁵⁷

One need only slightly alter the facts of *Johnston* 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 colleague 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 analyzing

(quoting HENRY WINTHROP BALLANTINE, *BALLANTINE ON CORPORATIONS* 204–05 (rev. ed. 1946)).

¹⁵¹ See, e.g., *Kerrigan v. Unity Sav. Ass'n*, 317 N.E.2d 39, 43 (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.”).

¹⁵² 121 A.2d 919 (Del. 1956).

¹⁵³ *Id.* at 920.

¹⁵⁴ *Id.* at 921.

¹⁵⁵ *Id.* at 922.

¹⁵⁶ *Id.*

¹⁵⁷ See *id.* at 925.

them would better maintain faithfulness to the interests underlying this doctrine.

II. SOCIAL CORPORATE GOVERNANCE

Part I described the importance of directors and summarized how scholars, policymakers, and courts have either paid too little regard or taken inconsistent approaches to director networks as broadly defined. This leaves many open questions: whether it is feasible to examine such networks, how this can be done, and whether an examination of networks adds anything to the preexisting analysis of board behavior. In this Part, we provide empirical evidence to show that the examination of Social Corporate 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 Section II.A, gathers qualitative data through interviews with board members and company general counsels 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 approach, outlined in Section II.B, involves a quantitative empirical case study of director networks and their impact on corporate governance. Specifically, the quantitative analysis examines the role of director networks in improving the board's accounting practices, the impact on two different corporate governance indices, and evidence of options backdating.

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

This Section presents data from original interviews with directors and general counsels about the role of networks in the governance of corporations. We interviewed members of boards of directors and general counsels of public companies, first to assess our empirical strategy and then to develop further insight into the plausibility of our quantitative analysis. A table describing our interviews is set out in Part I of the Appendix.¹⁵⁸ 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 mem-

¹⁵⁸ See *infra* Appendix: Part I, Table 7.

bership 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. This technique, however, 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 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 counsels 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 but lamented the concerns regarding their time commitments to other boards. One public company director, for example, described more networked directors as being more "experienced" and noted the benefits of having board members who have handled a variety of situations.¹⁵⁹ Another director described a situation in which an activist shareholder attempted to influence a company on whose board she served.¹⁶⁰ The director had encountered the same activist while serving on a different board and

¹⁵⁹ Telephone Interview with Participant V (Nov. 8, 2018).

¹⁶⁰ Telephone Interview with Participant IX (Sept. 5, 2019).

was able to share knowledge of how to deal with the activist, which led to a smoother resolution to the problem.¹⁶¹ Another interviewee commented that “you don’t need to teach [directors on multiple boards] everything from scratch.”¹⁶² Another noted that “the ability of these directors to share information about how other companies have approached things strategically is invaluable.”¹⁶³

On the other hand, participants also highlighted concerns regarding the time commitment of directors serving on multiple boards, stating that at times, it could be “a challenge to schedule board meetings” and sometimes “their attention was clearly not there.”¹⁶⁴ 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.”¹⁶⁵

Another potential drawback we asked interviewees about was potential conflicts of interest that serving on multiple boards might engender. Interviewees generally thought that this issue was a problem in theory but that, in practice, boards are highly cognizant of it and deal with it well. A number of interviewees 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.¹⁶⁶ Another interviewee conveyed that such conflicts, should they arise, would “usually be easily addressed” through disclosure and approval by other directors.¹⁶⁷

Some interviewees, however, 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

161 *Id.*

162 Telephone Interview with Participant II (Nov. 5, 2018).

163 Telephone Interview with Participant III (Nov. 6, 2018).

164 Telephone Interview with Participant IX, *supra* note 160.

165 Telephone Interview with Participant I (Oct. 18, 2018).

166 Telephone Interview with Participant XIII (Sept. 19, 2019).

167 Telephone Interview with Participant II, *supra* note 162.

to gain from it.”¹⁶⁸ This suggests that board members are attuned to potential conflicts of interest and take them into account, at least some of the time.

2. *How Director Networks Impact Governance*

Interviewees 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. Some interviewees 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.¹⁶⁹ Interviewees 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.¹⁷⁰ In addition, participants indicated that directors bring with them document and policy templates from their other companies as part of the onboarding process.¹⁷¹ Several interviewees 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 also actively suggest revisions and additions based on what other companies she served or serves have been doing.¹⁷²

Some 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 stated “we would seek that director’s input as far as how was the experience with that outside consultant.”¹⁷³ According to the interviewees, 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. Interviewees also specifically confirmed the role of networks 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 noted that “it happens all the time,”¹⁷⁴ and another general

¹⁶⁸ Telephone Interview with Participant XII (Sept. 18, 2019).

¹⁶⁹ *E.g.*, Telephone Interview with Participant XIII, *supra* note 166.

¹⁷⁰ *Id.*

¹⁷¹ Telephone Interview with Participant VI (Jan. 9, 2019).

¹⁷² Telephone Interview with Participant VII (Feb. 1, 2019).

¹⁷³ Telephone Interview with Participant XIII, *supra* note 166.

¹⁷⁴ Telephone Interview with Participant XV (Sept. 23, 2019).

counsel mentioned that he has definitely seen it, particularly “in the contexts of highly regulated industries, where sharing of such knowledge is particularly useful.”¹⁷⁵

In addition, interviewees acknowledged that the broader network plays an important role in the nomination and selection of new directors,¹⁷⁶ as directors 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 their broader network.¹⁷⁷ As a whole, the interviews highlighted the importance of examining director networks and Social Corporate Governance more broadly into discussions surrounding interlocks and the importance of corporate board professional ties.

B. Network Analysis

This Section presents a quantitative case study of director network structure and its relationship to corporate governance. The analysis marries original hand-collected data with publicly available and proprietary datasets. As further explained below, we use several types of analysis to assess the impact of director networks on various measures of corporate governance. In our main analysis, we use director deaths as a natural quasi experiment to assess the effect of randomly timed disruptions to the network. To do so, we look at the effect of changes in networks, defined in four different ways, on companies that are directly and indirectly affected by the death.

1. Data Sources and Design

Our data is drawn from a number of different sources. We collected our initial sample of board members using BoardEdge¹⁷⁸ and BoardEx,¹⁷⁹ 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. After, 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.

¹⁷⁵ Telephone Interview with Participant III, *supra* note 163.

¹⁷⁶ Telephone Interview with Participant II, *supra* note 162; Telephone Interview with Participant XII, *supra* note 168.

¹⁷⁷ Telephone Interview with Participant XII, *supra* note 168.

¹⁷⁸ EQUILAR, <https://www.equilar.com/executive-and-board-database> [<https://perma.cc/3TAW-DZMS>].

¹⁷⁹ BOARDEx, <https://www.boardex.com/> [<https://perma.cc/Z35Q-9XA8>].

Private firms and firms for which financial information was unavailable were excluded, as were firms with less than four years of available data because 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 consecutive 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. 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 (i.e., events indicative of materially misleading accounting) 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 ISS. Moreover, 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 capital markets information and governance indexes. We gathered market data from the Center for Research in Securities Pricing ("CRSP") database and company financial data from Compustat, a financial, statistical, and market database.

Our main study design uses director deaths as randomly timed shocks to the director network—for both the company at which the death occurs and to other indirectly connected companies. To identify these instances, 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 any 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.¹⁸⁰

¹⁸⁰ See Carol Hymowitz & Joann S. Lublin, *McDonald's CEO Tragedy Holds Lessons for*

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.¹⁸¹ We therefore supplemented the dataset by searching ProQuest and Lexis for news articles about director departures and deaths that corresponded to their departure date from a company board. This yielded a dataset with a total of 658 director deaths between 1990 and 2018. The average age of a director's death in our dataset was 72, several years younger than the average life expectancy in the United States which currently stands at 78.7 years.¹⁸² Directors' ages while in office at their time of death ranged from 40 to 95 years old.

2. Network Centrality Measures

Conceptually, networks consist of the scope and reach of the social interactions that directors have with one another. To assess networks in practice reliable measures of their intangible attributes are necessary. To construct a model of network interactions, we calculated four measures of centrality connectedness used in the literature on networks, as described in Part I.¹⁸³

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. For present purposes, we use board memberships as network building blocks for two reasons. First, they have been the focus of the prior literature that we endeavor to expand, and provide a logical starting point for making the case for a broader conception of networks. Second, because boards meet a predictable number of times per year at regular intervals, they provide a baseline of regular interpersonal interactions between their members,

Directors, WALL ST. J. (Apr. 20, 2004, 12:01 AM), <https://www.wsj.com/articles/SB108241709119287202> [<https://perma.cc/6XBV-QZET>].

¹⁸¹ 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 SEC, Form 8-K, <https://www.sec.gov/about/forms/form8-k.pdf> [<https://perma.cc/ADE4-AFFJ>]; SEC Standard Instructions for Filing Forms Under Securities Act of 1933, Securities Exchange Act of 1934 and Energy Policy and Conservation Act of 1975-Regulations S-K, 17 C.F.R. § 229.501 (2020).

¹⁸² JIAQUAN XU, SHERRY L. MURPHY, KENNETH D. KOCHANEK & ELIZABETH ARIAS, NAT'L CTR. FOR HEALTH STAT., MORTALITY IN THE UNITED STATES, 2018, at 1 (2020), <https://www.cdc.gov/nchs/data/databriefs/db355-h.pdf> [<https://perma.cc/AK5W-KW49>].

¹⁸³ For a paper using similar network analysis techniques on boards of directors, see generally Larcker et al., *supra* note 117.

upon which a network model can be built. With respect to other kinds of networks, such as alumni associations or social media connections, it is difficult to observe whether individuals actually come into contact at all with any regularity. Boards, on the other hand, provide an observable set of repeated interactions over time. Moreover, to the extent that board members are part of other networks as well, board networks provide a lower bound for social interactions among their members.

The four measures of connectedness used in the literature that we employ here are described below.¹⁸⁴ 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 among directors may impact the companies on which the 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 others.¹⁸⁵ 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 of 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 that actors in a network have direct access to. In the dataset, the median Degree Centrality for all companies across the entire time period is five, meaning that the median board has five direct interlocks with other companies.¹⁸⁶

2. *Closeness*: The second measure of board connectedness is Closeness Centrality, which measures the “distance” between boards via chains of mutual connections. Specifically, it accounts for the number of other boards a company board member would have to go through to reach any other board that he or she is not directly connected to.¹⁸⁷ The measure is similar to the concept of degrees of separation. Using the analogy from the Introduction, closeness is a

¹⁸⁴ See *id.* at 226–27. Note that we assume the possibility of bilateral communication between any two connected boards. Where network connections can run in one direction only, measures of indegree and outdegree are commonly used.

¹⁸⁵ See *id.* at 226.

¹⁸⁶ See *id.* at 230 tbl.1.

¹⁸⁷ See *id.* at 226.

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 through fewer intermediaries. Closeness is different from Degree because it broadens the network beyond the direct interlocks between boards. The median Closeness Centrality for boards in the dataset is 0.22 (or roughly, one over five).¹⁸⁸ Because of the way closeness is calculated, this means that the median board is separated by five 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 connected board.

3. *Betweenness*: The third measure is Betweenness Centrality, a measure that accounts for how much a given actor plays “middleman” for other actors.¹⁸⁹ 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 the friends 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 of directors lies upon. Betweenness measures the extent that a board plays a bridging role between companies that would otherwise be unconnected. The median Betweenness Centrality is approximately eight, indicating that the median board across all years lies on the path between eight other pairs of companies.¹⁹⁰

4. *Eigenvector*: Eigenvector 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 their members’ direct contacts are also well connected.¹⁹¹ 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 can only be interpreted in a relative sense, i.e., as a way to compare the centrality of boards and directors to each other. The median Eigenvector Centrality is 0.010, with the twenty-fifth percentile at 0.004 and the seventy-fifth percentile at 0.015.¹⁹²

¹⁸⁸ See *id.* at 230 tbl.1.

¹⁸⁹ See *id.* at 226.

¹⁹⁰ See *id.* at 230 tbl.1.

¹⁹¹ See *id.* at 226.

¹⁹² See *id.* at 230 tbl.1.

It should be noted that we employ each of these measures to capture 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 the various measures of centrality enables examination of different aspects of the network that might be important to a 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. The time commitment involved, however, 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 this balance is at the center of the debate over busy directors.¹⁹³

Consider a situation in which a director sits on Board A and Board B, and she and her colleagues have little experience dealing with the types of problems Board A has. If someone on Board B knows someone on Board C, she can connect to a director on Board C; 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.¹⁹⁴ This is the type of network that Closeness Centrality seeks to capture, and networks that expand beyond this are generally described by Betweenness and Eigen Value 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.

For our analysis, we mapped networks for all firms in each year in the dataset and for each individual director in the dataset. From these, we calculated the network metrics described above. Table 1 in Part I of 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 Part I of 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.

¹⁹³ See *supra* Part I.

¹⁹⁴ See *supra* Section I.B.3.

C. *Networks and Accounting Irregularity*

One proxy for a board's influence on corporate governance is the extent to which a company's accounting exhibits irregularities.¹⁹⁵ 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 the Sarbanes-Oxley Act in 2002. Moreover, accounting best practices are the type of information that can plausibly be transmitted over a network, if any such transmission takes place at all.¹⁹⁶ There are a few reasons for this. First, 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.¹⁹⁷ 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 SEC's Accounting and Auditing Enforcement Releases and audit analytics provide a direct measure of accounting irregularities that later come to light.

We hypothesize that, all else equal, if networks are important conduits for governance information, then positive changes in a company's network (i.e., the network getting bigger or denser) will result in a lower incidence of accounting irregularity; conversely, negative changes in the network (i.e., the network getting smaller or less dense) will have a negative impact. Using director deaths as an exogenously timed shock to the networks, if networks are important, we would expect to see an impact not just at the company directly affected (i.e., the company whose board member passes away), but also on companies on whose boards that director did not serve—whose networks changed via indirect connections.

¹⁹⁵ See Nadia Smaili & Réal Labelle, *Corporate Governance and Accounting Irregularities: Canadian Evidence*, 20 J. MGMT. & GOVERNANCE 625, 626 (2016).

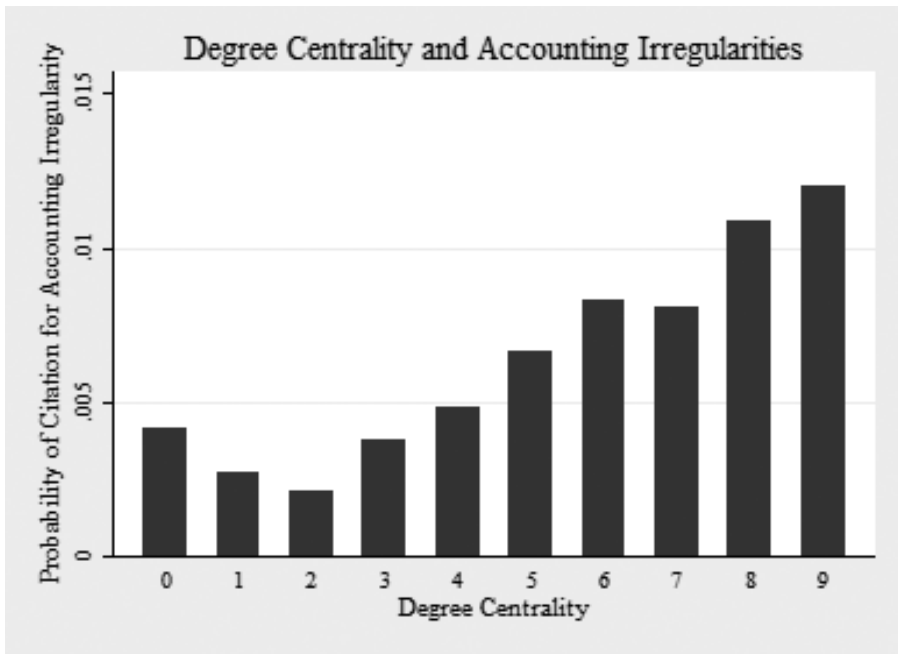
¹⁹⁶ See Mark S. Beasley, *An Empirical Analysis of the Relation Between the Board of Director Composition and Financial Statement Fraud*, 71 ACCT. REV. 443, 443–48 (1996).

¹⁹⁷ We note that our main analysis uses boards as nodes and director connections as edges. This makes sense given that we are looking at firm-level outcomes. Another way of modeling a network is to use directors as nodes. However, to assess firm-level outcomes using such a network would require employing arbitrary means, such as averaging, to determine the level of connectedness that matters for firm outcomes, and would therefore introduce arbitrary noise into the analysis. In any event, a test of networked boards is useful to assess whether they are conduits for this information or practices.

1. Accounting Irregularity Raw Data

Starting with the raw data, the noteworthy pattern is that citations for accounting irregularities increase as connectedness increases. 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



The raw data seems to support the traditional busy director concerns, showing that director interlocks interfere with directors' ability to monitor. Looking at raw data alone, however, 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. Larger firms are more likely to have more connected boards, and it is 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 err, or 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 teases 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 because 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 because these factors can 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 as a proxy of managerial ability, book value per share, leverage, and sales turnover because these are commonly accepted measures used in the literature as factors often associated with managerial competence and accounting irregularity.¹⁹⁸ We also use fixed effects for each company's industry—as two-digit standard industry classification 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.¹⁹⁹

The results of the naive regressions are shown in Table 2 in the Appendix. One important point stands out in the results: 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 con-

¹⁹⁸ See, e.g., Joseph F. Brazel, Keith L. Jones & Mark F. Zimbelman, *Using Nonfinancial Measures to Assess Fraud Risk*, 47 J. ACCT. RSCH. 1135, 1156–58 (2009) (describing financial and nonfinancial controls for research in accounting fraud).

¹⁹⁹ See M.T. Nwakuya & E.O. Biu, *Comparative Study of Within-Group and First Difference Fixed Effects Models*, 9 AM. J. MATHEMATICS & STAT. 177, 178–99 (2019).

founding 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 a way to tease apart the effect of networks from other factors. Moreover, difference-in-difference models additionally control for time-varying inherent qualities of the companies and industries we study.²⁰⁰

Moreover, we conduct our analysis on companies both directly and indirectly affected by the death. 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—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 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 before and after 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 (i.e., before and after the death) for the treatment group than it does for the control group. 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

²⁰⁰ See Tamar Sofer, David B. Richardson, Elena Colicino, Joel Schwartz & Eric J. Tchetgen Tchetgen, *On Negative Outcome Control of Unobserved Confounding as a Generalization of Difference-in-Differences*, 31 STAT. SCI. 348, 350–51 (2016).

the network) had an effect. Of course, other variables (such as firm size, performance, year, industry, and age) are also controlled 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 somewhat lag behind the director's departure. 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.²⁰¹

Table 3 in Part I of 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 Table 3.A. in the Appendix shows, the coefficients for primary companies are negative and statistically significant 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 Table 3.B. The effect at secondary companies is smaller, which one would expect, because 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.²⁰²

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 an unanticipated director death ex-

²⁰¹ 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 1000 randomly generated placebo deaths 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. We also conducted the analysis using only director deaths that occur before the age of seventy because these are likely to be more unexpected than deaths of directors who are much older. The results remain in these tests.

²⁰² For the more visually oriented, graphs of the results from Table 3 are also included in the Appendix as Figures 3 and 4.

perience 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, on average, experience a lower probability of being cited.

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 "entrenchment index" ("E-index") developed by Professors Bebchuk, Cohen, and Ferrell.²⁰³ 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, all of which have management-entrenching effects: staggered boards, limits to shareholder amendments of the bylaws, supermajority requirements for mergers, supermajority requirements for charter amendments, poison pills, and golden parachute arrangements.²⁰⁴ 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").²⁰⁵ 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

²⁰³ See Lucian Bebchuk, Alma Cohen & Allen Ferrell, *What Matters in Corporate Governance?*, 22 REV. FIN. STUD. 783, 785 (2009). The index has been used in over 300 studies of the influence of corporate governance on firm value. See *Links to 1002 Studies that Use the Entrenchment Index (Bebchuk, Cohen, and Ferrell, 2009)*, HARV. L. SCH., <http://www.law.harvard.edu/faculty/bebchuk/studies.shtml> [<https://perma.cc/HU2P-M77Q>].

²⁰⁴ See Bebchuk et al., *supra* note 203, at 785, 787.

²⁰⁵ See *ESG Research*, MSCI, <https://www.msci.com/research/esg-research> [<https://perma.cc/N8H7-EP53>].

whether existence of the policy can be definitively determined.²⁰⁶ 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.²⁰⁷ 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.²⁰⁸ 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 both simple regressions and a difference-in-difference analysis, again using unexpected director deaths as a natural experiment. 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. Each measure, however, exhibits a different pattern. Increased 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.A. in the Appendix. 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; yet, the coefficients are statistically significant only for Closeness and Betweenness, but not for Degree and Eigenvector. These results are set out in Table 4.B. in the Appen-

²⁰⁶ See MORGAN STANLEY CAP. INT’L, MSCI GOVERNANCE-QUALITY INDEXES METHODOLOGY 10 (2015), https://www.msci.com/eqb/methodology/meth_docs/MSCI_Governance-Quality_Jun15.pdf [<https://perma.cc/FK7D-8MEA>].

²⁰⁷ See *id.*

²⁰⁸ 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.

dix. 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 Eigenvector, it is possible that the result is due to certain policies that 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 change 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. Only the results for the secondary company, however, are statistically significant. The results are set out in the Appendix for both primary companies (Table 5.A.) and secondary companies (Table 5.B.). 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.²⁰⁹

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.²¹⁰ We use a similar methodology to assess whether firms reveal evidence of options backdating, using a proprietary dataset of options backdating occur-

²⁰⁹ See Bizjak et al., *supra* note 7, at 4826.

²¹⁰ See *id.* at 4821–22.

rences provided by MSCI.²¹¹ 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 in Part I of the Appendix.²¹²

When network variables are introduced, however, the relationship with Degree reverses and becomes exceedingly small or loses statistical significance, depending on the specification. More important factors are Closeness (the extent of separation between one person and others in the network), Eigenvector (how connected your connections are), and another network measure known as clustering. Clustering provides more information about the network centrality measures already discussed.²¹³ 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. 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.²¹⁴

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 kinds of short-path, clustered networks are described in the social science literature as being potentially prone to greater levels of groupthink because information is transmitted within a smaller set of actors who are relatively closed off from the larger network.²¹⁵ 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. They also sug-

²¹¹ See *id.* at 4826.

²¹² Only primary companies were analyzed because this was the method followed by the prior study.

²¹³ See *supra* Section II.B.2.

²¹⁴ See Duncan J. Watts & Steven H. Strogatz, *Collective Dynamics of ‘Small-World’ Networks*, 393 NATURE 440, 441 (1998) (describing mathematical and real-world features of insular clustered networks); Aaron Clauset, M.E.J. Newman & Christopher Moore, *Finding Community Structure in Very Large Networks*, 70 PHYSICAL REV. E 06111-1, 066111-5 n.14 (2004).

²¹⁵ See, e.g., Marlene E. Turner & Anthony R. Pratkanis, *Twenty-Five Years of Groupthink Theory and Research: Lessons from the Evaluation of a Theory*, 73 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 105, 105–06 (1998) (explaining the evolution of groupthink, which is defined as “conformity to group values and ethics” (quoting *Groupthink*, WEBSTER’S NEW COLLEGIATE DICTIONARY (1975))).

gest 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 Corporate Governance through director networks plays an important role in ways that are not sufficiently captured by interlocks, busyness, or market-based metrics alone. Yet, academic literature and important policymaking bodies have scarcely begun to expand their analysis when examining a director's service on multiple boards. Focusing solely on the direct interlocks that directors create and on the sheer number of boards a director serves have led many to conclude that directors' service on multiple boards might be suboptimal, 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 discernible principle as to why.

Our results provide support for the argument that positive benefits of director connectedness—Social Corporate 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 benefits for boards. Below, we expand on these important policy implications.

A. Finding Equilibrium Between Busyness and Connectedness: The Need for Broader Networks Research

The results presented in this Article collectively provide evidence that, on average, companies with more networked boards have better corporate governance mechanisms in at least some respects. 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 network and vice versa. The strength of a network, rather, can be better evaluated based on the access to information and the ease with 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 limit board interlocks may need to be more nuanced, accounting for the possibility that service on other boards may be beneficial if the interlocks lend themselves to connections with other well-connected boards.

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 may be outweighed by the connections she brings to the table. Our results illustrate how networks matter in important ways that are different from 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 answering this question and 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 Corporate Governance is needed to further explore this question in an effort to maximize the benefits that flow from director networks.

B. 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, have violated fiduciary duties, or the corporate opportunity doctrine.²¹⁶ 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.²¹⁷

1. Director Independence

Director independence is the first area in which director networks could substantially influence a court's analysis. As explained above, in the context of director independence, courts have laid out a malleable

²¹⁶ See *supra* Section I.B.4.

²¹⁷ See Joseph R. Slight 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).

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 cast doubt on the ability of a board to make decisions that warrant deference under the business judgment rule.²¹⁸ 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.²¹⁹ 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 litigation 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 neglected to define the features of networks that systematically 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.”²²⁰ These courts have stated that a “plaintiff cannot just assert that a close relationship exists” but must produce evidence.²²¹ 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.

218 See, e.g., R. FRANKLIN BALOTTI & JESSE A. FINKELSTEIN, *THE DELAWARE LAW OF CORPORATIONS & BUSINESS ORGANIZATIONS* 904–05 (2020).

219 See *id.*

220 *Cumming ex rel. New Senior Inv. Grp., Inc. v. Edens*, No. 13007-VCS, 2018 WL 992877, at *15 (Del. Ch. Feb. 20, 2018) (quoting *In re Oracle Corp. Derivative Litig.*, 824 A.2d 917, 938 (Del. Ch. 2003)).

221 *Marchand v. Barnhill*, 212 A.3d 805, 818 (Del. 2019); accord *In re BGC Partners, Inc., Derivative Litig.*, No. 2018-0722-AGB, 2019 WL 4745121, at *9 (Del. Ch. Sept. 30, 2019) (quoting *Marchand*, 212 A.3d at 818).

There are numerous examples of seemingly inconsistent doctrinal applications. The *Pincus* case, in which allegations about co-ownership of a private plane and other business dealings were enough to meet the plaintiff's burden,²²² contrasts sharply with cases like *In re LendingClub Corp. Derivative Litigation*²²³ 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.²²⁴ To be sure, either of these situations may or may not entail strong enough relationships to thwart the possibility of independent decision making. But without guidance on the types of relationships that could be problematic, it is difficult for corporate actors and transaction planners to avoid unintentionally compromising independence, even if in appearance only.

Although co-owning a plane might indicate a relationship inconsistent with independence, simply co-owning something does not, by itself, imply a close relationship. Consider NetJets, a company that 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 relationship.²²⁵ 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.²²⁶ 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.²²⁷ Courts have limited time and resources however, and detailed investigation into the facts of each relationship among corporate decisionmakers is inefficient and unlikely to occur in many cases, as *Pincus* exemplifies. Moreover, a legal standard that allows even the most tenuous relationship to give rise to the possibility of thwarting

222 *Sandys ex rel. Zynga Inc. v. Pincus*, 152 A.3d 124, 129–31 (Del. 2016).

223 No. 12984-VC, 2019 WL 5678578 (Del. Ch. Oct. 31, 2019).

224 *Id.* at *17 (first quoting Consol. Supplemented Verified S'holder Derivative Complaint ¶ 182, *In re LendingClub Corp. Derivative Litigation*, No. 12984-VC, 2019 WL 5678578 (Del. Ch. Oct. 31, 2019); and then quoting Plaintiffs' Answering Brief at 50, *In re LendingClub Corp. Derivative Litigation*, No. 12984-VC, 2019 WL 5678578 (Del. Ch. Oct. 31, 2019)).

225 See *Explore Fractional Jet Ownership*, NETJETS, <https://www.netjets.com/en-us/how-fractional-jet-ownership-works> [https://perma.cc/FZW2-4U75].

226 See *Pincus*, 152 A.3d at 130–31.

227 See *Marchand v. Barnhill*, 212 A.3d 805, 818, 820 (Del. 2019).

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 decisionmakers to overinvest in setting up unnecessary decision-making processes that consume time and resources to try to avoid ensnarement by the courts' amorphous standard.

Thus, although 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 a standard is problematic. As explained below, however, the network theory described in this Article can help clarify the basic interests underlying the court's decisions, which can, in turn, provide a basis for a consistent set of presumptions to guide courts and help 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 above, director networks may implicate the corporate opportunity doctrine when opportunities arise from entities enmeshed in a director's network.²²⁸ Under 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, courts, like scholars, have thus far scarcely recognized broader networks 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.²²⁹

This dichotomy, however, misses several important nuances. First, as at least one recent article has recognized, "the undivided-loy-

²²⁸ See *supra* Section I.B.4.b.

²²⁹ See ERIC TALLEY & MIRA HASHMALL, THE CORPORATE OPPORTUNITY DOCTRINE 9–10 (2001), <https://weblaw.usc.edu/why/academics/cle/icc/assets/docs/articles/iccfinal.pdf> [<https://perma.cc/LT6U-WJU8>].

alty model is simply not well adapted for fiduciaries shared by two companies.”²³⁰ In fact, if a director serves two companies, the current model expects the director to disclose the corporate opportunity to both corporations, which encourages the two corporations to compete with one another to their detriment.²³¹ Courts have recognized this issue as especially true in the parent-subsidary context.²³²

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. Take, for example, *Personal Touch Holding Corp. v. Glaubach*,²³³ where the Delaware Chancery Court found a breach of the corporate opportunity doctrine when a cofounder purchased a building that his company was interested in acquiring and then offered to lease the building to the company at a personal profit.²³⁴ If this cofounder had learned of the building’s availability from someone within his board’s 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 opportunity, it would not have run afoul of the corporate opportunity doctrine, even though it arguably violates the spirit of the fiduciary relationship he held. Certainly, such a situation would be problematic given the corporate opportunity doctrine’s stated policy that it should be interpreted, “upon broad considerations of corporate duty and loyalty,”²³⁵ and as “demanding of a director ‘the most scrupulous observance.’”²³⁶ Though some companies have begun to address this issue with the advent of corporate opportunity waivers,²³⁷ this Article argues that networks are important considerations in analyses of breaches of the corporate opportunity doctrine, and courts should take them into account.

230 Gabriel Rauterberg & Eric Talley, *Contracting Out of the Fiduciary Duty of Loyalty: An Empirical Analysis of Corporate Opportunity Waivers*, 117 COLUM. L. REV. 1075, 1093–94 (2017).

231 *Id.* at 1094.

232 *See id.* at 1094–95 (first citing *Thorpe v. CERBCO, Inc.*, 676 A.2d 436, 442 (Del. 1996); and then citing *In re Digex, Inc. S’holders Litig.*, 789 A.2d 1176, 1193 (Del. Ch. 2000)).

233 No. 11199-CB, 2019 WL 937180 (Del. Ch. Feb. 25, 2019).

234 *Id.* at *3.

235 *Guth v. Loft, Inc.*, 5 A.2d 503, 511 (Del. 1939).

236 *Pers. Touch Holding Corp. v. Glaubach*, No. 11199-CB, 2019 WL 937180, at *13 (Del. Ch. Feb. 25, 2019) (quoting *BelCom, Inc. v. Robb*, No. CIV.A.14663, 1998 WL 229527, at *3 (Del. Ch. Apr. 28, 1998)).

237 *See, e.g.*, Rauterberg & Talley, *supra* note 230, at 1094–95.

Also within the fiduciary duty framework, conflicts-of-interest litigation would benefit from clarification with regard to the relevance of different kinds of director networks. Although interlocking directorates have dominated the discourse surrounding potential conflict-of-interest violations,²³⁸ 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.”²³⁹ Allegations of conflicted directors arise frequently in the parent-sub-sidiary setting.²⁴⁰ When directors are seated on boards of both a parent and its subsidiary, they are required to structure transactions on an arm’s length basis.²⁴¹ 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 systematically considered the features of social ties that are critical for potential conflicts of interest.

Identifying the areas of litigation for which networks matter 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 a number of connections, both immediate and indirect.

In addition, our analysis shows that the *structure* of the formal network matters. Looking at the number of interlocks alone provides only part of the story, but looking at how the network is structured provides more insight. The courts’ decisions may seem superficially inconsistent, but analogues from network theory may help to elucidate an underlying theory. As an illustration, consider the *Oracle* case as an example. In that case, the court was concerned about the out-sized influence of one defendant in particular, Larry Ellison, in the relatively insular community of Silicon Valley.²⁴² Network theory provides some support for 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 a “small-world” network, meaning that

²³⁸ See generally Nili, *supra* note 19 (analyzing potential antitrust concerns that arise from horizontal directorships).

²³⁹ Remus Valsan, *Fiduciary Duties, Conflict of Interest, and Proper Exercise of Judgment*, 62 MCGILL L.J. 1, 4 (2016).

²⁴⁰ See, e.g., *Weinberger v. UOP, Inc.*, 457 A.2d 701, 710 (Del. 1983).

²⁴¹ See *id.* at 710–11.

²⁴² *In re Oracle Corp. Derivative Litig.*, 824 A.2d 917, 932–33 (Del. Ch. 2003).

members of the network are not as well connected outside of their network relative to other network members, and even then, their connections run through a small number of influential brokers.²⁴³ Ellison was much better connected than the independent directors that the court scrutinized. But more than having connections, Ellison showed characteristics of a broker to an insular network, occupied by the independent directors and other board members. In terms of the network metrics, the independent directors had a high clustering coefficient (nearly equal to 1, the maximum), while Ellison's was relatively low (0.4). Moreover, the independent directors' average path to other directors was twice as long (20 intermediaries on average between them and everyone else, compared with 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 a small network in which parties are likely to encounter each other repeatedly. These metrics reveal a situation that is consistent with 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 groupthink. 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 harmonize the court's reasoning with a broader theory in a way that could eventually lead to more consistent doctrine.

In *Pincus* (the shared airplane case), the court referred to a "network[] . . . of repeat players," but by contrast, the business network had relatively few of these characteristics.²⁴⁴ The independent directors (who were ruled not independent) were well connected, even better connected than Pincus (the derivative suit defendant) himself. The network did not look like a small-world network, but instead involved parties who encountered others outside the network at least as routinely as those inside of it and should have been subject to the reputational and professional sanctions from outside the Zynga network. Even though Pincus and the other directors had similar Degree Centrality (all between 17 and 20), the structure of their network resembled one in which Pincus was in a low-power position compared with the directors who were supposedly beholden to him.²⁴⁵ These network

²⁴³ See Watts & Strogatz, *supra* note 214, at 440–41.

²⁴⁴ Sandys *ex rel.* Zynga Inc. v. Pincus, 152 A.3d 124, 134 (Del. 2016).

²⁴⁵ Pincus himself had a high clustering coefficient (equal to 1), while Siminoff (the plane co-owner) and Doerr and Gordon (the directors) had low ones (each between 2 and 4), indicating that they acted as brokers and had more power in the network than Pincus. The directors had

features do not support the courts' analysis but do align with the reaction of many observers that this case went much farther than other precedents in finding attenuated connections to be important.²⁴⁶ 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. Courts have limited time and resources, however, and would benefit from a theory that helps them screen cases that need more scrutiny from those that need less.

One way of articulating some of the interests the courts seem to be espousing 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 or is a gatekeeper to other resources, courts should look more carefully at the details of the relationships in question. A court could accomplish this by shifting 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 situations that could be discussed, and a comprehensive exploration of network theory's application to each doctrine is beyond the scope of this Article. These examples serve to illustrate how consideration of networks using centrality could clarify the underlying logic of courts' intuitions, leading to decisions that are more predictable and consistent. Future work could further inform that effort.

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 they publish are often followed by large institutional investors.²⁴⁷

higher Eigenvector and Betweenness scores than Pincus as well, indicating that their connections were connected and that they acted as more important brokers than Pincus.

²⁴⁶ See, e.g., Nathan P. Emeritz, *Independence Issues in the Entrepreneurial Ecosystem*, ABA: BUS. L. TODAY (May 18, 2017), https://www.americanbar.org/groups/business_law/publications/blt/2017/05/04_emeritz/ [<https://perma.cc/DFG6-G6XA>].

²⁴⁷ See Tamara C. Belinfanti, *The Proxy Advisory and Corporate Governance Industry: The Case for Increased Oversight and Control*, 14 STAN. J.L. BUS. & FIN. 384, 385–87 (2009) (stating that shareholders largely follow the advice of proxy advisors).

Proxy advisors' current approach has only addressed a portion of what makes up a director's network: director interlocks.²⁴⁸ 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. Although these policies seek to address the concerns that the existing literature has highlighted, their analysis overlooks the emphasis of this Article: 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 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 are concerned with the effectiveness of the directors and officers running 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 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 change 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 grant the company access to information and connec-

²⁴⁸ See INST. S'HOLDER SERVS., *supra* note 124, at 8, 10.

tions.” 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, proxy advisors and the SEC have the responsibility to understand the impact that the policies have in practice because they have undertaken the task of addressing the dynamics that director networks present. Although 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 because 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.²⁴⁹ 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 simultaneously.²⁵⁰ 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. 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. It demonstrates the practical and collateral effects of these current policies, and although effects such as limiting diversity were not the direct intention of these policies, their practical effects support an argument for amendment.

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

The New York Stock Exchange (“NYSE”) imposes various requirements on publicly traded companies including requirements on director independence,²⁵¹ board committees,²⁵² and disclosure require-

²⁴⁹ See Nili, *supra* note 18, at 172–74.

²⁵⁰ See *id.* at 147–49.

²⁵¹ N.Y.S.E. MANUAL, *supra* note 77, § 303A.01.

²⁵² *Id.* § 303A.03–07.

ments.²⁵³ Each of these requirements can implicate and necessitate an analysis of directors' broader networks. The NYSE rule on director independence states that "[l]isted companies must have a majority of independent directors."²⁵⁴ To evaluate whether a director is independent, the board of directors must "affirmatively determine[] that the director has no material relationship with the listed company (either directly or as a partner, shareholder or officer of an organization that has a relationship with the company)."²⁵⁵ For directors that are serving on a 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."²⁵⁶ Further, the NYSE provides that connections to companies through family members can eliminate a director's independent status.²⁵⁷

Although 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.²⁵⁸ According to the NYSE rules, director X would be considered independent.²⁵⁹ Director X, however, 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.²⁶⁰ This example can be expanded further by looking at the social connections and networks that exist among directors and corporate executives.

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 audit committees, are required to be composed of a minimum number of independent directors.²⁶¹ Similarly, the NYSE requires that boards

²⁵³ *Id.* § 303A.09.

²⁵⁴ *Id.* § 303A.01.

²⁵⁵ *Id.* § 303A.02(a)(i).

²⁵⁶ *Id.* § 303A.02(a)(ii).

²⁵⁷ *Id.* § 303A.02(a)(iii).

²⁵⁸ *See id.* § 303A.02(a)(i).

²⁵⁹ *Id.*

²⁶⁰ *See id.* § 303A.02(b)(iv).

²⁶¹ *Id.* § 303A.06.

have a “nominating/corporate governance committee” that is “composed entirely of independent directors.”²⁶² 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 an 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 recategorize them as nonindependent 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 the networks 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.²⁶³ 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 U.S. corporate landscape. In contrast to the recent push to limit board interlocks, this Article puts forth one concrete reason for the benefit of overlapping directors and director networks. The broader social networks that

²⁶² *Id.* § 303A.04(a).

²⁶³ *See id.* § 303A.09.

these overlaps create tie together the leaderships of numerous public firms. This Article provides evidence that these ties enhance boards' ability to effectively govern their firms.

This Article incorporates network analysis and an expanded view of the role of social ties in corporate governance into the discourse regarding director service on boards. In doing so, the Article systematically considers the questions that an expanded view of networks poses for courts and other bodies that are influential in corporate governance. To shed light on some of these questions, we examine director networks empirically using interviews and a quantitative case study, employing director deaths as a natural experiment to examine the effect of changes in board networks on governance outcomes. In doing so, we identify 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 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. We discuss how our findings begin to answer some of the questions that networks raise, and we also illustrate how network theory can provide insight into questions that remain. Future work is needed to better understand the role of director networks in other aspects of boards' work as well as the tradeoffs between the benefits generated by these networks 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
Eigenvector 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	-0.001*** (0.000)			
Pseudo R ²	0.145			
Number of Observation	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	
Eigenvector				-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)
Market to Book Ratio	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)
ROA	-0.001*** (0.000)	-0.001*** (0.000)	-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 a company receiving an accounting citation as the dependent variable and four measures of network centrality of its board of directors 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 are 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.A. 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)
Degree x Post	-0.137*** (0.025)			
Pseudo R ²	0.242			
Number of Observations	37,261			
Closeness x Post		-22.609** (0.977)		
Pseudo R ²		0.110		
Number of Observations		37,261		
Betweenness x Post			-0.713*** (0.250)	
Pseudo R ²			0.189	
Number of Observations			37,261	
Eigenvector x Post				-52.33** (21.910)
Pseudo R ²				0.143
Number of Observations				37,261
Size	0.001 (0.002)	0.001 (0.002)	0.001 (0.003)	-0.001 (0.004)
Market to Book Ratio	0.003*** (0.000)	0.003*** (0.000)	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)
Industry FE	X	X	X	X
Year FE	X	X	X	X

This table gives the results of logit regressions using the probability of a company receiving an accounting citation in the four-year window following a director's death as the dependent variable and four measure of network centrality of its board of directors as the main independent variables. Table 3.A. gives results for the company whose board experiences the death (the primary company). Table 3.B.

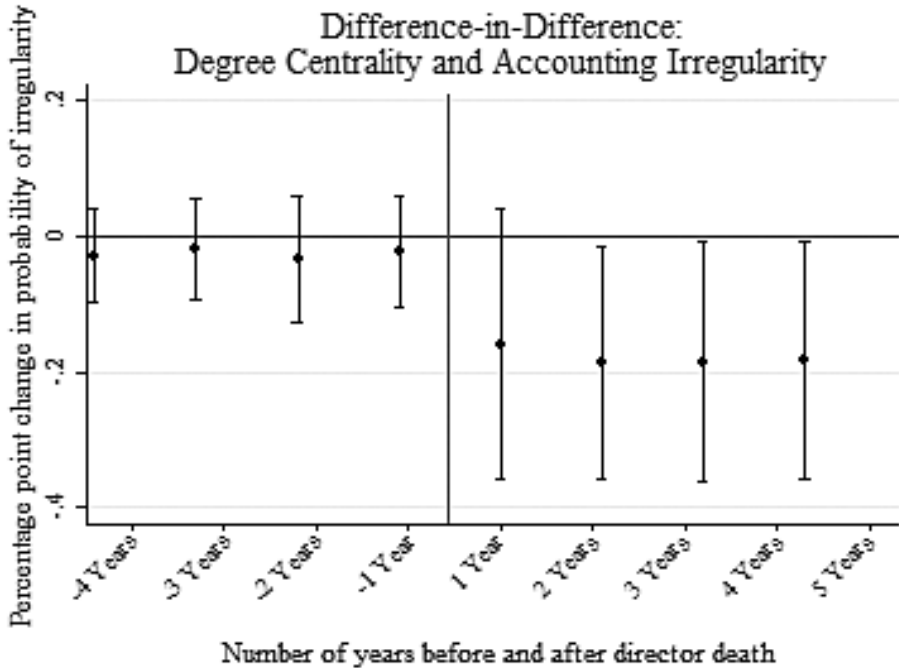
presents results for companies that are connected to the primary company but experienced no death. Fixed effects for each company are used for each specification. Additional controls for the natural log of company age and the natural log of director age included for all specifications but are not tabulated. 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.

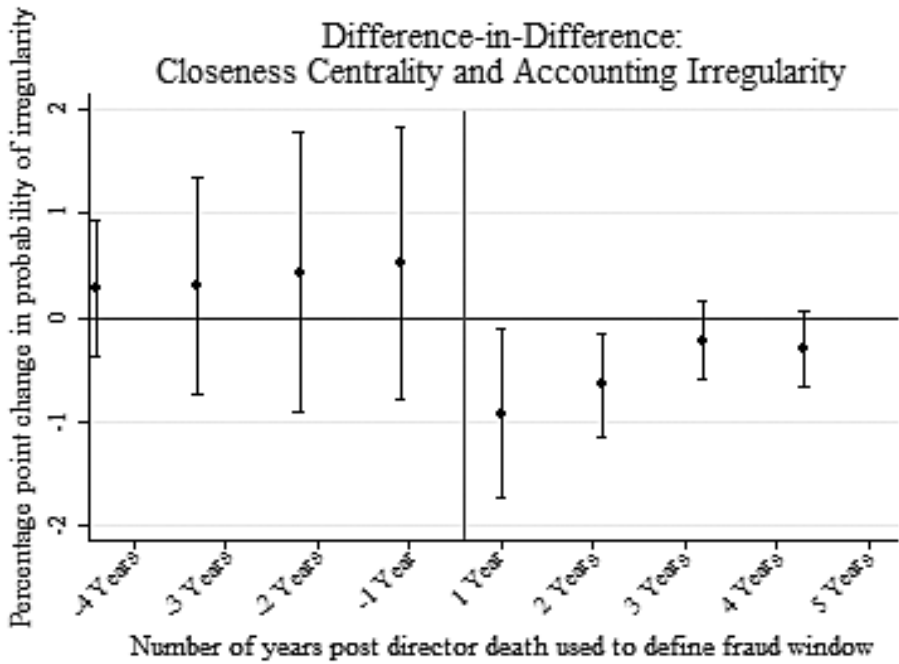
TABLE 3.B. DIFFERENCE-IN-DIFFERENCE: SECONDARY BOARD CENTRALITY MEASURES AND ACCOUNTING IRREGULARITY, ONE TO FOUR YEARS AFTER BOARD MEMBER DEATH AT CONNECTED COMPANY

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)
Degree x Post	0.060 (0.598)			
Pseudo R ²	0.211			
Number of Observations	33,952			
Closeness x Post		-25.991* (14.25.)		
Pseudo R ²		0.140		
Number of Observations		33,920		
Betweenness x Post			-0.0003** (0.0001)	
Pseudo R ²			0.141	
Number of Observations			33,920	
Eigenvector x Post				-1.291** (0.583)
Pseudo R ²				0.140
Number of Observations				33,920
Size	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** (0.000)	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)
Industry FE	X	X	X	X
Year FE	X	X	X	X

This table gives the results of logit regressions using the probability of a company receiving an accounting citation in the four-year window following a director’s death as the dependent variable and four measure of network centrality of its board of directors as the main independent variables. Table 3.A. gives results for the company whose board experiences the death (the primary company). Table 3.B. presents 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 are 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.

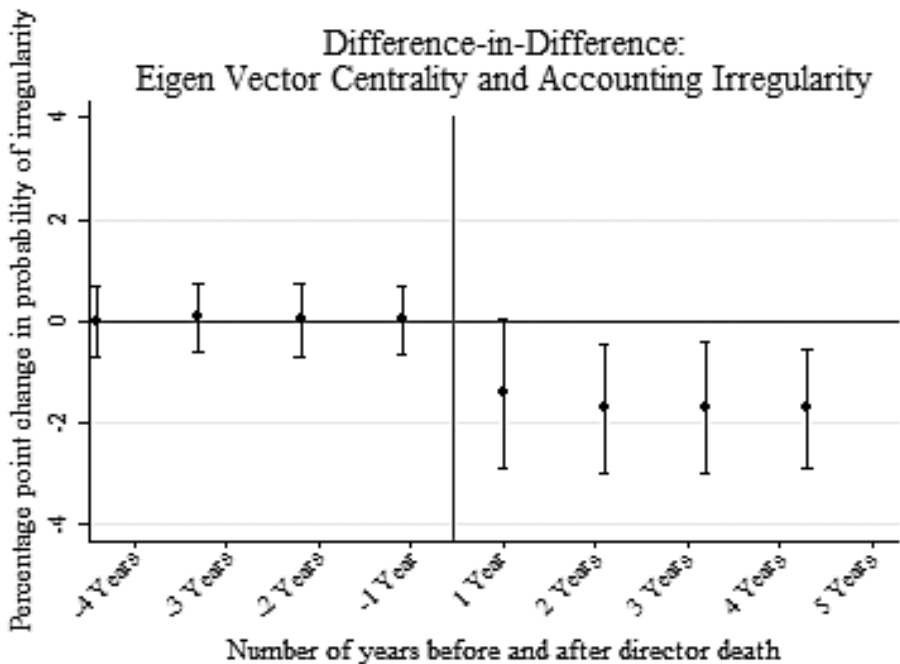
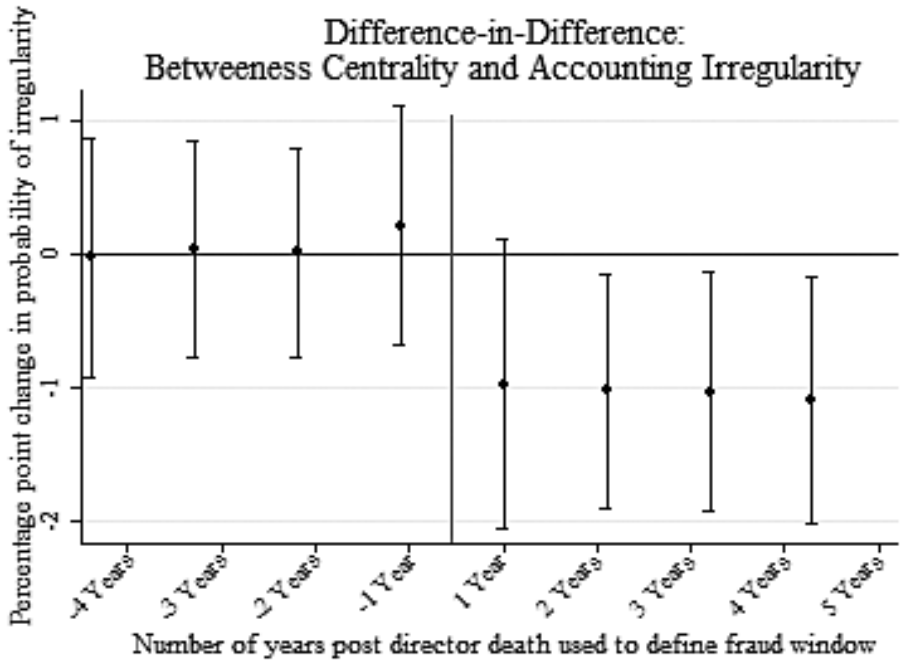
FIGURE 3.A. PRIMARY BOARD: DIFFERENCE-IN-DIFFERENCE, LIKELIHOOD OF FRAUD AND CENTRALITY FOLLOWING SHOCK TO NETWORK FROM DIRECTOR DEATH, DEGREE CENTRALITY, AND CLOSENESS CENTRALITY





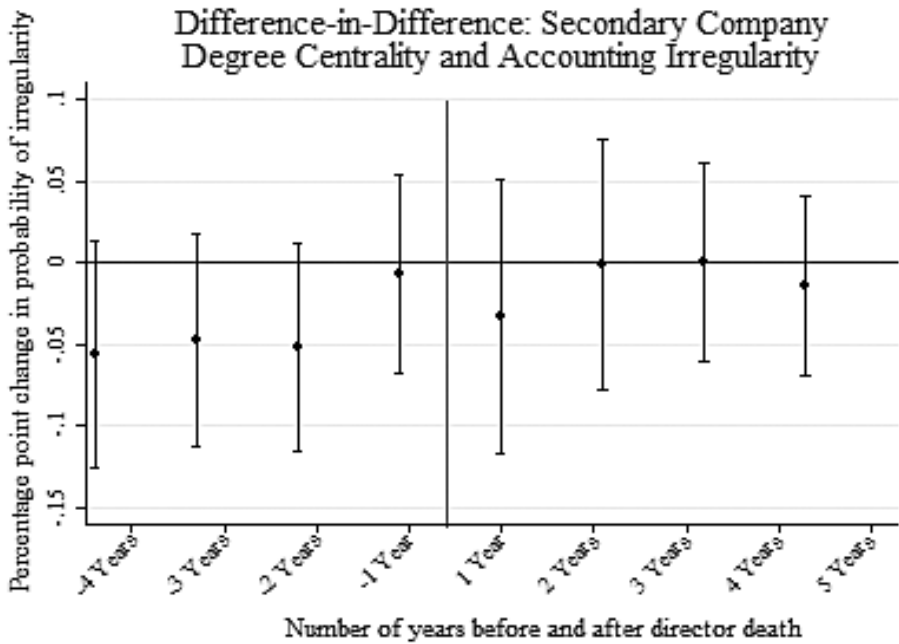
These graphs visually depict the difference-in-difference from Table 4.A. They show the percentage change in probability of accounting irregularity as a function of an increase in network centrality (measured using the four measures described in the text) for the year following the death and replacement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

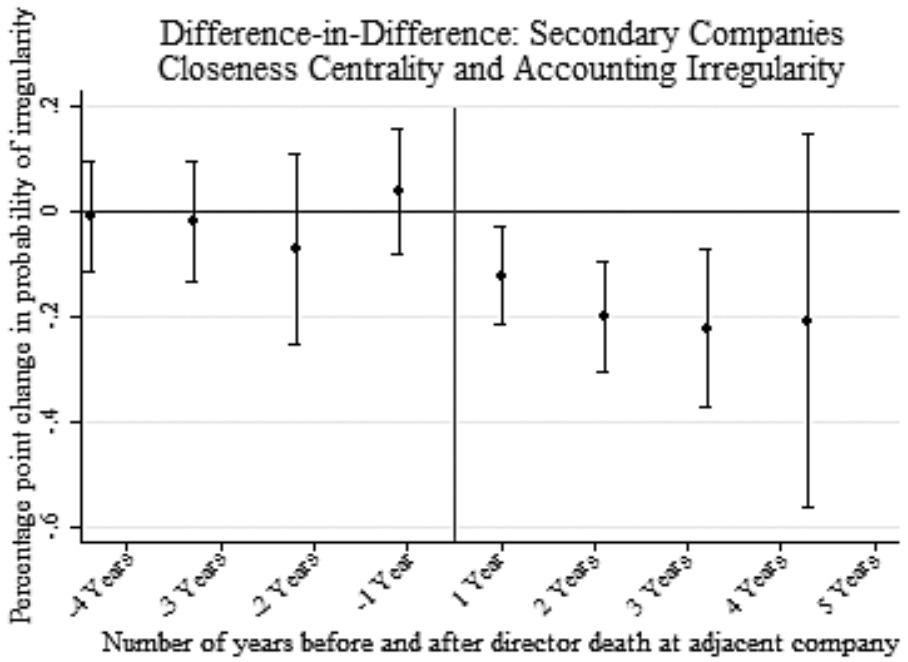
FIGURE 3.B. PRIMARY BOARD: DIFFERENCE-IN-DIFFERENCE, LIKELIHOOD OF FRAUD AND CENTRALITY FOLLOWING SHOCK TO NETWORK FROM DIRECTOR DEATH, BETWEENNESS CENTRALITY AND EIGENVECTOR CENTRALITY



These graphs visually depict the difference-in-difference from Table 4.A. 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 middle, vertical axis represents the time of a director's death.

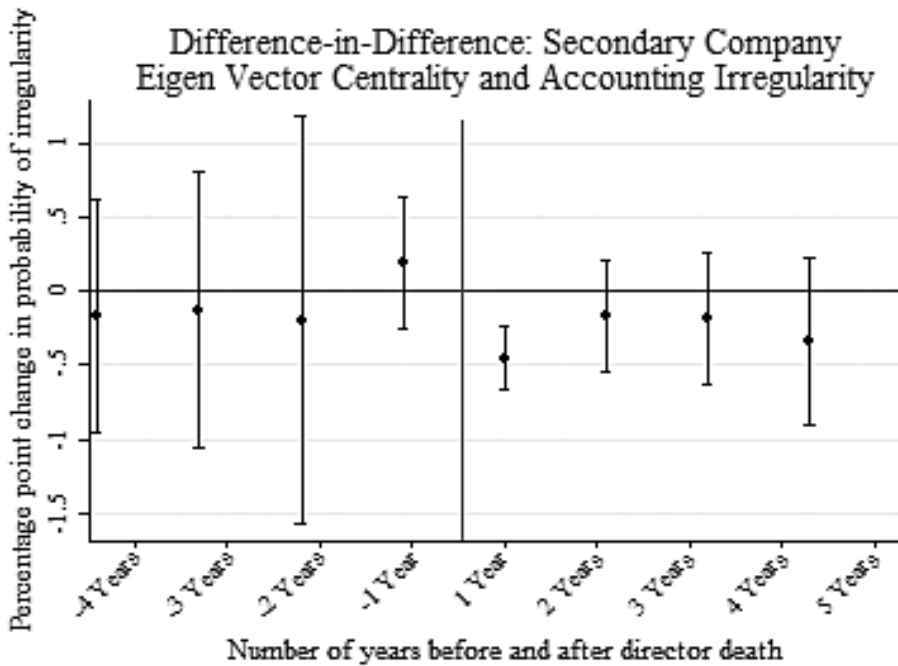
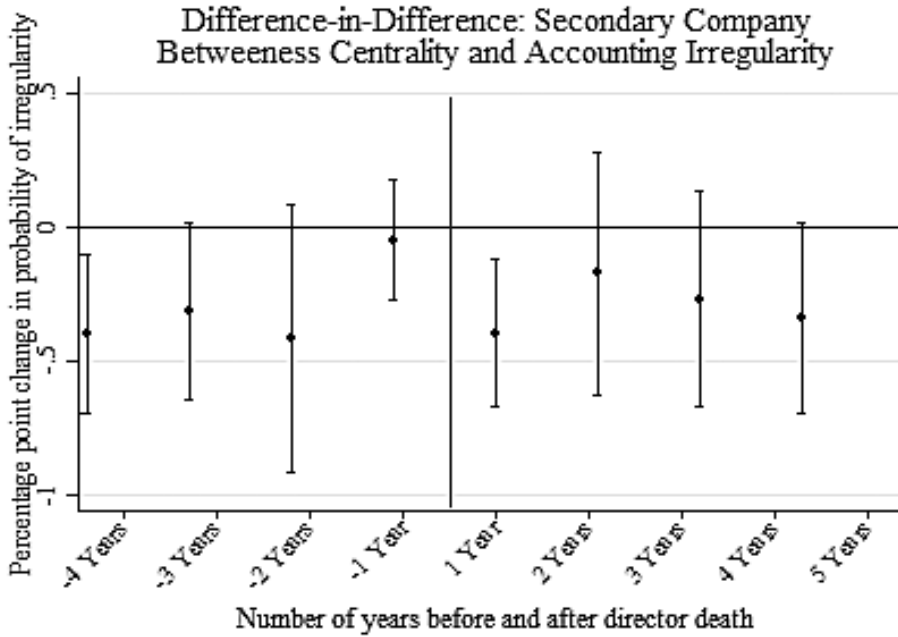
FIGURE 4.A. INDIRECTLY CONNECTED BOARD: DIFFERENCE-IN-DIFFERENCE, LIKELIHOOD OF FRAUD AND CENTRALITY FOLLOWING SHOCK TO NETWORK FROM DIRECTOR DEATH AT AN INDIRECTLY CONNECTED COMPANY FOR DEGREE AND CLOSENESS CENTRALITY





These graphs visually depict the difference-in-difference from Table 4.B. 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 black points represent coefficients, and the vertical black bars are standard errors. The middle, vertical axis represents the time of a director's death.

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



These graphs visually depict the difference-in-difference from Table 4.B. 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 black points represent coefficients, and the vertical black bars are standard errors. The middle, vertical axis represents the time of a director's death.

TABLE 4.A. 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)
<u>Degree</u>				
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)	
<u>Closeness</u>				
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)
Log (Assets)	-0.107*** (0.013)	-0.091*** (0.013)	-0.096*** (0.017)	-0.089*** (0.018)
ROA	-0.060*** (0.013)	-0.068*** (0.012)	-0.069*** (0.013)	-0.067*** (0.013)
Leverage	-0.142*** (0.044)	-0.132*** (0.043)	-0.146*** (0.045)	-0.134*** (0.043)
Sales	-0.060*** (0.013)	-0.060*** (0.013)	-0.008*** (0.003)	-0.008** (0.004)
Industry FE	X	X	X	X
Year FE	X	X	X	X
Adj R²	0.168	0.168	0.167	0.168
Number of Observations	17,810	17,810	17,810	17,810

This table represents changes in MSCI governance score in the four-year window following a director's death. Table 4.A. gives results for the company whose board experiences the death (the primary company). Table 4.B. presents 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 are 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 4.B. 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)
<u>Betweenness</u>				
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)	
<u>Eigenvector (EV)</u>				
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)	-0.092*** (0.017)	-0.102*** (0.018)	-0.070*** (0.012)	-0.070*** (0.012)
ROA	-0.070*** (0.012)	-0.061*** (0.013)	-0.091*** (0.018)	-0.092*** (0.018)
Leverage	-0.133*** (0.043)	-0.131*** (0.043)	-0.140*** (0.043)	-0.136*** (0.043)
Sales	-0.008** (0.004)	-0.009** (0.004)	-0.008** (0.004)	-0.008** (0.004)
Industry FE	X	X	X	X
Year FE	X	X	X	X
Adj R²	0.170	0.168	0.168	0.164
Number of Observations	17,810	17,810	17,810	17,810

This table represents changes in MSCI governance score in the four-year window following a director's death. Table 4.A. gives results

for the company whose board experiences the death (the primary company). Table 4.B. presents 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 are 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.A. 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)
<u>Degree</u>				
Post	-0.093 (0.065)		-0.101* (0.061)	
Degree Change	0.004** (0.002)		-0.005* (0.002)	
Post*	-0.008		-0.003	
Degree Change	(0.005)		(0.002)	
<u>Closeness</u>				
Post		0.120 (0.427)		0.706** (0.356)
Closeness Change		-0.380 (0.899)		-0.445 (0.878)
Post*		-1.111		-2.568**
Closeness Change		(1.549)		(1.261)
Log (Assets)	0.043 (0.021)	0.043 (0.021)	0.043 (0.029)	0.043 (0.031)
ROA	-0.030 (0.021)	-0.030 (0.024)	-0.030 (0.022)	-0.016 (0.021)
Leverage	-0.102 (0.091)	-0.102 (0.091)	-0.102 (0.091)	-0.109 (0.097)
Sales	-0.005 (0.006)	0.009 (0.007)	-0.004 (0.006)	-0.004 (0.006)
Industry FE	X	X	X	X
Year FE	X	X	X	X
Adj R²	0.091	0.123	0.167	0.168
Number of Observations	17,311	17,311	17,311	17,311

This table represents changes in Bebchuck, Cohen Ferrell Entrenchment Index (E-Index) governance score in the four-year window following a director's death. Table 5.A. gives results for the company whose board experiences the death (the Primary company). Table 5.B. presents 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 are 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.B. 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)
<u>Betweenness</u>				
Post	-0.026 (0.085)		0.046 (0.042)	
Betweenness Change	-0.000 (0.000)		-0.000 (0.000)	
Post* Betweenness Change	-0.0001* (0.0000)		-0.0001** (0.0000)	
<u>Eigenvector (EV)</u>				
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)	0.047 (0.031)	0.047 (0.031)	0.047 (0.031)	0.047 (0.031)
ROA	-0.021 (0.023)	-0.017 (0.023)	-0.021 (0.023)	-0.017 (0.023)
Leverage	-0.105 (0.097)	-0.098 (0.097)	-0.105 (0.097)	-0.098 (0.097)
Sales	0.004 (0.006)	-0.004 (0.006)	-0.004 (0.006)	-0.004 (0.006)
Industry FE	X	X	X	X
Year FE	X	X	X	X
Adj R²	0.110	0.168	0.168	0.094
Number of Observations	17,311	17,311	17,311	17,311

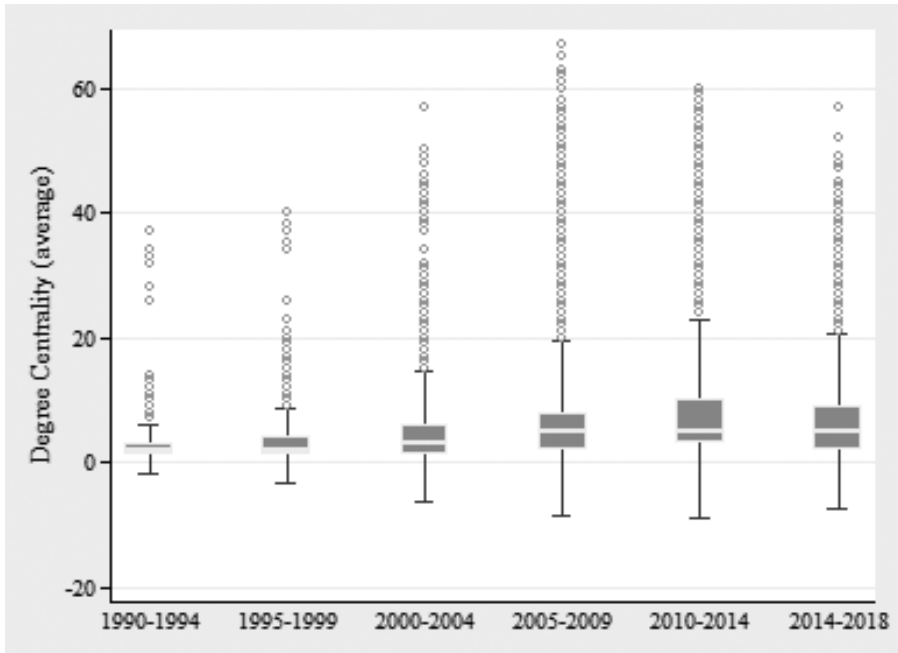
This table represents changes in Bebchuck, Cohen Ferrell Entrenchment Index (E-Index) governance score in the four-year window following a director's death. Table 5.A. gives results for the company whose board experiences the death (the Primary company). Table 5.B. presents results for companies that 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 are 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)
Eigenvector	-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)
Market to Book Ratio	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

This table represents 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 are 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 a public company general counsel; served on various board committees; chair of a 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 a 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 a public (now private) company.
September 5, 2019	IX	Director on seven 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 compensation committee chair. Currently on two public boards.
September 5, 2019	XI	Director on the board of two large public companies.
September 18, 2019	XII	Director and former CEO with 30 years of experience; served on nine public company boards; audit committee member.
September 19, 2019	XIII	Director and former CEO with over 20 years of experience on a 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 a 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	Eigenvector
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	0.4000	0.392	0.384	0.392
Number of Observations	21,989	37,261	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				

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

The following is a technical description of how centrality measures used in the quantitative portion of this Article 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. It 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: letting $l(i, j)$ 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: letting $P_i(k, j)$ 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 ,

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

Eigenvector Centrality: The final measure of connectedness is Eigenvector. This measure is a variation of Degree Centrality, which takes 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:

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

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