LAWYERS AND FOOLS:
LAWYER-DIRECTORS IN PUBLIC CORPORATIONS

By Lubomir P. Litov,* Simone M. Sepe,† and Charles K. Whitehead‡


The accepted wisdom—that a lawyer who becomes a corporate director has a fool for a client—is outdated. The benefits of lawyer-directors in today’s world significantly outweigh the costs. Beyond monitoring, they help manage litigation and regulation, as well as structure compensation to align CEO and shareholder interests. The results have been an average 9.5 percent increase in firm value and an almost doubling in the percentage of public companies with lawyer-directors.

This Article is the first to analyze the rise of lawyer-directors. It makes a variety of other empirical contributions, each of which is statistically significant and large in magnitude. First, it explains why the number of lawyer-directors has increased. Among other reasons, businesses subject to greater litigation and regulation, and firms with significant intangible assets (such as patents) value a lawyer-director’s expertise. Second, this Article describes the impact of lawyer-directors on corporate monitoring. Among other results, it shows that lawyer-directors are more likely to favor a board structure and takeover defenses that reduce shareholder value—balanced, however, by the benefits of lawyer-directors, such as the valuable advice they can provide. Finally, this Article analyzes the significant reduction in risk-taking and the increase in firm value that results from having a lawyer on the board.

Our findings fly in the face of requirements that focus on director independence. Our results show that board composition—and the training, skills, and experience that directors bring to managing a business—can be as or more valuable to the firm and its shareholders.

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## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>2</td>
</tr>
<tr>
<td>I. THE MONITORING AND MANAGING BOARD</td>
<td>6</td>
</tr>
<tr>
<td>II. THE RISE OF THE LAWYER-DIRECTOR</td>
<td>12</td>
</tr>
<tr>
<td>A. Data and Data Sources</td>
<td>16</td>
</tr>
<tr>
<td>B. Predicting Lawyer-Directors</td>
<td>18</td>
</tr>
<tr>
<td>C. Concerns with Endogeneity</td>
<td>23</td>
</tr>
<tr>
<td>III. LAWYERS, MONITORING, AND INCENTIVES</td>
<td>26</td>
</tr>
<tr>
<td>A. CEO Compensation</td>
<td>27</td>
</tr>
<tr>
<td>B. Board Structure and Takeover Protections</td>
<td>34</td>
</tr>
<tr>
<td>C. Stock Option Backdating</td>
<td>38</td>
</tr>
<tr>
<td>IV. THE (POST-)MODERN CORPORATION—Risk-Taking, Firm Value, and the Managing Board</td>
<td>40</td>
</tr>
<tr>
<td>A. Risk-Taking</td>
<td>41</td>
</tr>
<tr>
<td>B. Tobin’s Q and Firm Value</td>
<td>56</td>
</tr>
<tr>
<td>CONCLUSION</td>
<td>63</td>
</tr>
<tr>
<td>Appendix A—Definitions of Variables</td>
<td>65</td>
</tr>
<tr>
<td>Appendix B—Selected Summary Data</td>
<td>70</td>
</tr>
<tr>
<td>Appendix C—Analytical Descriptions of Regression Models</td>
<td>72</td>
</tr>
<tr>
<td>Appendix D—Robustness Analysis</td>
<td>77</td>
</tr>
</tbody>
</table>

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INTRODUCTION

For over a half-century, the legal profession has debated whether lawyers should be directors of public corporations.\(^1\) The accepted wisdom has been that lawyers should steer clear of public company boards.\(^2\) A lawyer-director\(^3\) is less able to objectively assess board actions in which she participates,\(^4\) and if she is outside counsel, she also is less able to monitor and manage the executives who pay her legal fees.\(^5\) Those costs are significant and outweigh the benefits she brings to the board—her ability to spot issues,\(^6\) provide a perspective on decisions that non-lawyers may not have,\(^7\) and assist in navigating legal and regulatory problems as they arise.\(^8\) In short, a lawyer who represents herself—by acting as both a lawyer and a director—has a fool for a client.\(^9\)

This Article explains why the accepted wisdom is outdated. The costs of being a lawyer-director can still be significant, but the balance has now shifted in its favor—reflecting a lawyer-director’s ability to assist the board in managing the significant rise in litigation and regulation affecting businesses\(^10\) and changes in CEO compensation that occur when a lawyer is on the board.\(^11\) In fact, based on an average of 10,000 or more observations from 2000 to 2009, we find a statistically and economically significant increase in firm value (as measured by Tobin’s Q\(^12\)) of the companies that have a lawyer on the board. A lawyer-director increases firm value by 9.5 percent, and when the lawyer is also a company executive, the increase in firm value rises to 10.2

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\(^2\) See infra note 97 and accompanying text.

\(^3\) In this Article, the term “lawyer-director” refers to a director of a public corporation with legal training, see infra note 112, regardless of whether or not she is practicing as a lawyer or as outside counsel to the firm at the time she is on the board.

\(^4\) This may be relevant to the extent a lawyer’s legal skills were an important part of why she was asked to join the board, regardless of whether the firm is a client. See infra note 98 and accompanying text.

\(^5\) See infra note 99 and accompanying text.


\(^7\) See ABA Task Force Report, supra note 1, at 2.

\(^8\) See Harold M. Williams, Corporate Accountability and the Lawyer’s Role, 34 Bus. Law. 7, 10 (1978) (describing the view that lawyer-directors have special knowledge of “litigation and other matters of vital significance to directors”); Robert H. Mundheim, Should Code of Professional Responsibility Forbid Lawyers to Serve on Boards of Corporations For Which They Act as Counsel?, 33 Bus. Law. 1507, 1508 (1978) (noting the importance of an “appropriate relationship” between counsel and a board that represents public shareholders); Micalyn S. Harris & Karen L. Valihura, Outside Counsel as Director: The Pros and Potential Pitfalls of Dual Service, 53 Bus. Law. 479, 482-83 (1998).


\(^10\) See infra Table 6, Panel C, and notes 101-103, 324-330 and accompanying text. A board’s perceptions, even if they overstate actual legal exposure, can also favor having a lawyer-director. See infra note 103 and accompanying text.

\(^11\) See infra Table 6, Panel B, and notes 318-323 and accompanying text.

\(^12\) See infra note 116.
percent. The result has been an almost doubling in the percentage of public companies with lawyer-directors from 2000 to 2009.

This Article is the first to analyze the rise in lawyer-directors. It makes a variety of other empirical contributions—each of which is statistically significant and large in magnitude—in addition to explaining this important shift in board composition.

First, we explain why the number of lawyer-directors has grown. Only recently have studies examined the effect on board composition of the environment in which a firm operates. We add to those studies by showing that businesses with intangible assets, such as patents, value lawyer-directors who can assist in protecting those assets. Firms that are more likely to be involved in litigation also benefit from having a lawyer on the board. In addition, we identify the greater likelihood of having a lawyer-director as a business becomes more complex.

Next, we describe the impact of lawyer-directors on corporate monitoring and incentives. We consider the decline in CEO risk-taking incentives that occurs with a lawyer-director. In addition, we analyze changes in board structure (such as whether the CEO is also board chairman).

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13 See infra Table 6, Panel A, and notes 313-317 and accompanying text.
14 The percentage of public companies with lawyer-directors was 24.5 percent in 2000, up to 47.5 percent in 2005, and 43.9 percent in 2009. See infra Figure 1 and note 106 and accompanying text.
15 Based on our sample, the number of lawyer-directors was 340 (in 1,393 firms) in 2000 and 541 (in 1,237 firms) in 2009, with a high of 642 (in 1,357 firms) in 2007. The average number of independent directors in public companies also grew over the last thirty years. See Sanjai Bhagat & Bernard Black, The Non-Correlation Between Board Independence and Long-Term Firm Performance, 27 J. Corp. L. 231, 232 (2002).
17 Intellectual property rights have become an increasingly important source of cash and non-cash value for corporations. See MARSHALL PHELPS & DAVID KLINE, BURNING THE SHIPS 89-95 (2009) (describing Microsoft’s ability to leverage intellectual property into value-producing assets). Global intellectual property licensing revenues approached or exceeded $90 billion per year between 2003 and 2010. See Anne Kelley, Practicing in the Patent Marketplace, 78 U. Chi. L. Rev. 115, 115 (2011). Nevertheless, 99 percent of patent owners never file suit to enforce their rights, see Mark A. Lemley, Rational Ignorance at the Patent Office, 95 Nw. U. L. Rev. 1495, 1501 (2001), although litigated patents are most likely among the most valuable patents to a firm, see John R. Allison et al., Valuable Patents, 92 Geo. L. J. 435, 435-37, 439-43 (2004), as are those patents the firm chooses to renew, see Kimberly A. Moore, Worthless Patents, 20 Berkeley Tech. L. J. 1521, 1526 (2005). Notwithstanding the relatively small number of litigated patents, patent case filings rose from 1991 to 2008 in line with (and at a rate exceeding) the grant of new patents, and since 2005, at least ten significant federal district court decisions have awarded patent holders amounts in excess of $100 million. See ARON LEVKO ET AL., A CLOSER LOOK: PATENT LITIGATION TRENDS AND THE INCREASING IMPACT OF NONPRACTICING ENTITIES 4 (PricewaterhouseCoopers 2009), available at http://www.pwc.com/us/en/forensic-services/publications/assets/2009-patent-litigation-study.pdf. Between 1995 and 2008, the success rates for plaintiffs who asserted patent rights was 29.3 percent for non-practicing entities (patent holders that do not design, manufacture, or distribute products) and 40.4 percent for practicing entities. In cases that went to trial, non-practicing entities and practicing entities were successful, respectively, 67.4 percent and 65.8 percent of the time. See id. at 12.
18 See infra Table 1 and note 138 and accompanying text.
19 See infra Table 1 and note 137 and accompanying text. This benefit is consistent with the common explanation for the recent rise in lawyer-CEOs. Increases in regulation and greater litigation, it has been reported, provide one reason for the increase in CEOs with a legal background. See Mark Curriden, CEO, Esq.: Why Lawyers are Being Asked to Lead Some of the Nation’s Largest Companies, ABA J., May 2010, at 31, 33.
20 See infra Table 1 and note 141 and accompanying text.
21 See infra Table 5, Panel B, and notes 276-278 and accompanying text.
and takeover protections (such as the addition of a poison pill or classified board) that can insulate the board and CEO from shareholder oversight.\textsuperscript{22} We also consider the effect of lawyer-directors on board integrity, using as a proxy the substantial decline in stock option backdating when a lawyer is on the board.\textsuperscript{23} Our results are consistent with lawyer-directors providing meaningful oversight over senior managers, similar to recent changes in board composition and director-officer relationships described by others.\textsuperscript{24} In addition, diversity among directors can improve the quality of a board’s decisions, partly by bringing a depth of perspective that may not be present if the board is comprised of only like-minded people.\textsuperscript{25}

Finally, we describe the benefits of having a lawyer-director. Our intuition is that a lawyer’s training and experience, and the judgment that comes with it, can add value to a board’s decision-making and promote more informed monitoring, as well as assist in managing litigation and regulatory costs.\textsuperscript{26} A lawyer-director brings a special perspective based on her experience with the law and legal issues, and an appreciation of doing things “by the book” that likely comes with it.\textsuperscript{27} In fact, we find that financial stability is likely to increase as a result of a lawyer-director’s influence on decisions regarding litigation\textsuperscript{28} and CEO compensation.\textsuperscript{29} Although lawyer-directors may favor a board structure and takeover defenses that can reduce shareholder welfare,\textsuperscript{30} the potential decline is balanced by the benefits of lawyer-directors, such as the valuable advice they can provide.\textsuperscript{31} As noted earlier, the result is an increase in firm value by 9.5 percent, and for inside lawyer-directors, the increase rises further to 10.2 percent.\textsuperscript{32}

Could those results be replicated by a lawyer who advises the board, rather than joins it? We think not. A lawyer-director is more likely than outside counsel to attend board meetings and have access to information needed to properly advise the board.\textsuperscript{33} She may also become aware of new information at an earlier stage, enabling her to flag concerns as they arise.\textsuperscript{34} In particular, she

\begin{thebibliography}{999}
\bibitem{22} See infra Table 3 and notes 218-221 and accompanying text.
\bibitem{23} See infra Table 4 and notes 224-237 and accompanying text.
\bibitem{24} The recent changes in board composition have been described in Marcel Kahan & Edward Rock, \textit{Embattled CEOs}, 88 TEX. L. REV. 987, 1044 (2010). Among other characteristics, Professors Kahan and Rock indicate that outside directors are more likely to enjoy a less collegial relationship with insiders, have occasional need to be confrontational, and deal more often with shareholders. \textit{See id.; see also} Troy A. Paredes, \textit{Too Much Pay, Too Much Deference: Behavioral Corporate Finance, CEOs, and Corporate Governance}, 32 FLA. ST. U. L. REV. 673, 740-47 (2005) (advocating the position of “chief naysayer” in order to force consideration of alternative business strategies). Directors who may be well-qualified for the position, they suggest, include “retired CEOs and other retired high-level executives, bankers, accountants, consultants, or investment professionals.” Kahan & Rock, supra, at 1044. To that list, we would also add lawyers.
\bibitem{25} See Mathias Dewatripont & Jean Tirole, \textit{Advocates}, 107 J. POL. ECON. 1, 4 (1999) (providing a formal discussion of the use of advocacy systems within various organizational contexts); \textit{see also} infra notes 93-96 and accompanying text.
\bibitem{27} See Bagley, supra note 26, at 380-81.
\bibitem{28} See infra Table 5, Panels C and D, and notes 283-296 and accompanying text.
\bibitem{29} See infra Table 5, Panel B, and notes 274-278 and accompanying text.
\bibitem{30} See infra Table 3 and notes 201-211, 215-216, 218-221 and accompanying text.
\bibitem{31} See infra notes 212-214, 217, 222-223 and accompanying text.
\bibitem{32} See infra Table 6, Panel A, and notes 314-315 and accompanying text.
\bibitem{33} See Symposium, \textit{Should Counsel Also Serve on the Board?}, 33 BUS. LAW. 1511, 1514 (1974); Harris & Valihura, supra note 8, at 483.
\bibitem{34} See Harris & Valihura, supra note 8, at 482-83.
\end{thebibliography}
can assist her colleagues to better understand legal and regulatory problems and, as necessary, act as a bridge between the board and outside advisors to resolve them. Directors and managers are also more inclined to follow the advice of a colleague who shares equal responsibility for its outcome. That may be particularly true of lawyer-directors in light of the higher standards to which the courts have held them.

This Article’s approach to the board differs from the standard framing common in much of corporate law scholarship. A principal focus there is on the problems that arise from separating ownership and control. The board responds to the resulting agency costs by monitoring senior managers on behalf of dispersed shareholders. Our study looks outside the corporation to external factors—the business environment in which the firm operates—that can also affect the board and how it is organized. Which skills are optimal will be shaped over time by changes in those factors. In addition, our study looks at the experience and skills that lawyer-directors bring to managing the business, advancing corporate interests, and contributing to decision-making. The results suggest that an “ideal” board is likely to reflect circumstances that are particular to each firm. By filling substantive gaps in how the company is managed, board composition can help increase firm value. Consequently, interfering with the ability of shareholders and directors to order their own affairs potentially imposes a less-efficient, less-flexible model on organizations with different needs and characteristics. For that reason, we argue, a one-size-fits-all approach to regulating the board can bring with it its own costs, impairing shareholder welfare if it limits the firm’s ability to respond to external change.

35 See Bagley, supra note 26, at 381, 383.
36 See Albert, supra note 6, at 417-18.
37 See Mundheim, supra note 8, at 1508; see also infra note 99
39 See Benjamin Hermalin & Michael Weisbach, Boards of Directors as an Endogenously Determined Institution: A Survey of the Economic Literature, 9 ECON. POL’Y REV. 7, 9 (2003) (suggesting that boards are “an endogenously determined institution that helps to ameliorate the agency problems that plague any large organization.”); Roberta Romano, Corporate Law and Corporate Governance, 5 INDUS. CORP. CHANGE 277, 277-78 (1996) (noting that “[t]he fundamental task of corporate law is to provide a framework of governance institutions that mitigate the agency problem arising from the separation of ownership and control in the modern corporation”).
40 See Jeffrey Pfeiffer, Size and Composition of Corporate Boards of Directors: The Organization and its Environment, 17 ADMIN. SCIENCE Q. 218, 219 (1972) (finding that optimal board size and composition are affected by the environment in which the firm operates).
42 See Violina P. Rindova, What Corporate Boards Have to Do with Strategy: A Cognitive Perspective, 36 J. MGMT. STUD. 953, 960 (1999). Importantly, the effect of having a lawyer-director is significant even after controlling for the effect of having outside directors. In other words, for the variables that we consider, the value provided by a lawyer-director is greater than the value provided by a non-lawyer, outside director. See infra note 105 and accompanying text.
43 See infra note 331 and accompanying text; see also Fisch, supra note 38, at 284-89 (noting that “[i]deal board structure . . . depends on board function” and describing firm-specific characteristics that may change board function); Larry E. Ribstein, The Mandatory Nature of the ALI Code, 61 GEO. WASH. L. REV. 985, 993 (1993) (finding that outside directors can benefit firms, but “they also may impose costs . . . that outweigh monitoring benefits”).
In Part I, we describe the monitoring and managing functions of the board, and the effect that a firm’s external environment can have on board composition.

Part II describes our data on lawyer-directors and the firm characteristics that are likely to result in having a lawyer on the board. We find that a board is more likely to include a lawyer-director (i) as the firm becomes subject to more litigation, including patent litigation, (ii) with an increase in firm size, (iii) if the firm is listed on the New York Stock Exchange (“NYSE”), and (iv) as the firm becomes more complex. A firm is also more likely to add a lawyer to its board if other firms in the same industry have lawyer-directors or when one or more current directors serves on a different board that has a lawyer-director.

In Part III, we consider the implications of our results on corporate monitoring and incentives. A lawyer-director causes a change in CEO incentives that more closely align CEO and shareholder interests. She is also more likely to favor the adoption of takeover defenses (such as classified boards and poison pills). Finally, we find a significant drop in the likelihood of stock option backdating when a lawyer is on the board.

Part IV considers the substantial benefits of having a lawyer-director, including a decline in risk-taking and increase in firm value. We argue, based on our results, that board composition—and the training, substantive skills, and experience that directors bring to managing a business—can be as or more valuable to the firm and its shareholders than current requirements that focus on director independence.

I. THE MONITORING AND MANAGING BOARD

A central focus of corporate law scholarship is the function of the board. Two basic models have emerged that seek to explain directors’ responsibilities and how they interact with parties in and around the corporation.\(^{44}\) The dominant model is premised on agency costs, assigning to the board a monitoring function that can improve firm performance by reducing inefficiencies.\(^ {45}\) The second model considers the board to be a provider of management resources, including human capital (such as experience, expertise, and reputation) and relational capital (such as ties to other firms and regulators). Under this “resource dependence” approach, the board spans the divide between the company and its external environment, improving firm performance through its ability to assist in managing the company’s business.\(^ {46}\) Both functions co-exist within the board,\(^ {47}\) even though the latter has been much less explored.\(^ {48}\)


The standard framing arises from the separation of ownership and control that Berle and Means identified in the public corporation. That separation was the result of increased specialization by managers and capital providers. Managers developed specific skills in order to better operate the firm within an evolving and competitive marketplace. Investors relied on liquidity in the public market in order to diversify risk at lower cost. The result was greater independence of the managers, who relied on dispersed shareholders for low-cost equity capital while retaining control over the firm’s day-to-day operations. Shareholders, in turn, received ownership-type benefits, such as voting rights and fiduciary duties, in order to limit the resulting agency costs.

Over time, board structure also reflected shareholder attempts to further minimize agency costs. Although, by statute, a corporation’s business is managed “by or under” the board’s direction, realistically, directors are unable to operate a company on their own. Corporation law, therefore, permits the board to delegate managerial duties to the firm’s officers, while the

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53 Monitoring was not historically a primary function of the board, but grew in importance as institutional shareholders looked for new means to deter management misconduct. See Franklin A. Gevurtz, The Historical and Political Origins of the Corporation Board of Directors, 33 HOFSTRA L. REV. 89, 169 (2004) (“Significantly, the rationale for corporate boards most favored by modern scholars—that boards exist to monitor managers on behalf of passive investors—is the rational that finds the least support in the historical origins of the corporate board.”); Jeffrey N. Gordon, The Rise of Independent Directors in the United States, 1950-2005: Of Shareholder Value and Market Prices, 59 STAN. L. REV. 1465, 1469 (2007) (“[F]rom the post-World War II era to the present[,] . . . the board’s principal role shifted from the ‘advising board’ to the ‘monitoring board’ ”); see also Laura Lin, The Effectiveness of Outside Directors As a Corporate Governance Mechanism: Theories and Evidence, 90 NW. U. L. REV. 898, 900 n.4 (1996) (noting that the focus on boards is “part of on-going research on ways to align the interests of management and residual risk-bearing shareholders”).
54 See Del. Code Ann. tit. 8, § 141(a) (2012) (“The business and affairs of every corporation organized under this chapter shall be managed by or under the direction of a board of directors, except as may be otherwise provided in this chapter or in its certificate of incorporation.”); see also Mills Acquisition Co. v. Macmillan, Inc., 559 A.2d 1261 (Del. 1989).
55 See Grimes v. Donald, 1995 Del. Ch. LEXIS 3, 25-26 (Del. Ch. 1995) (“[T]he law recognizes that corporate boards, comprised as they traditionally have been of persons dedicating less than all of their attention to that role, . . . may satisfy their obligations by thoughtfully appointing officers, establishing or approving goals and plans and monitoring performance.”).
56 See Del. Code Ann. tit. 8, § 142 (2012) (permitting the board to select officers in the manner “prescribed by the by-laws or determined by the board of directors”).
board, as fiduciaries, remains obligated to monitor those officers for the shareholders’ benefit. 57 Specifically, shareholders rely on the board to select, compensate, review, and when appropriate, replace the senior executives who run the firm, 58 delegating to the CEO and her team the authority to make day-to-day decisions that affect the company and its affairs. 59 Shareholders who are unhappy with the outcome can vote out the existing board or sell their shares. 60

The focus on monitoring prompted well-founded concerns over the directors’ ability to oversee senior managers. 61 Until recently, 62 CEOs exercised significant influence over the board and its decision-making process. 63 Since CEOs could determine board composition, directors were limited in their ability to supervise CEO conduct. 64 A poorly-performing CEO could also “capture” directors who were unwilling to remove someone they had appointed and whose performance could reflect on their own business skills. 65 Over time, proxy contests, hostile takeovers,

57 See Easterbrook & Fischel, supra note 52, at 91 (referring to corporate managers as “agents of the equity investors”); Clark, supra note 47, at 278-79 (analyzing statutory corporate governance reforms); Henry Hansmann & Reinier Kraakman, The End of History for Corporate Law, 89 Geo. L.J. 439, 440-41 (2001) (describing the “standard shareholder-oriented” model); Johnson & Millon, supra note 50, at 1607-08; see also Nicola Faith Sharpe, Questioning Authority: The Critical Link Between Board Power and Process, 38 J. Corp. L. 1, 9-10 (2012) (describing tools used by the board to oversee managers).

58 See Am. Law Inst., Principles of Corporate Governance: Analysis and Recommendations § 3.01; see also Johnson & Millon, supra note 50, at 1601-02, 1605-08.

59 See Am. Law Inst., supra note 58, at § 3.01; Myles L. Mace, Directors: Myth and Equality 38-40 (1971); Jonathan R. Macey, Corporate Governance—Promises Kept, Promises Broken 53-54 (2008). Under state law, plaintiffs face a high hurdle in trying to hold the board liable for a failure to monitor the company. In order to prevail, a plaintiff must prove either (a) “the directors utterly failed to implement any reporting or information system or controls” to monitor the business or (b) “having implemented such a system or controls, [the directors] consciously failed to monitor or oversee its operations thus disabling themselves from being informed of risks or problems requiring their attention.” Stone v. Ritter, 911 A.2d 362, 370 (Del. 2006). In either case, “imposition of liability requires a showing that the directors knew that they were not discharging their fiduciary obligations” and were “demonstrating a conscious disregard for their responsibilities.” Id. Claims for failing to monitor have almost always involved illegality or fraud by officers or employees of the company, see Robert T. Miller, The Board’s Duty to Monitor Risk After Citigroup, 12 U. Pa. J. Bus. L. 1153, 1157-58 (2010), although a recent decision involving the Citigroup board’s alleged failure to monitor company risk-taking left open the possibility of a plaintiff meeting its requirement even if there was no illegality, see In re Citigroup Inc. Shareholders Derivative Litigation, 964 A.2d 106, 126 (Del. Ch. 2009). The board’s monitoring obligation was modified for public companies under section 404 of the Sarbanes-Oxley Act of 2002 [hereinafter SOX], Pub. L. No. 107-204, 116 Stat. 745 § 404, which requires the CEO and CFO periodically to publicly certify that they are familiar with the company’s internal controls and have disclosed all deficiencies or material weaknesses to the company’s independent auditor.

60 See In re The Walt Disney Co. Derivative Litig., 907 A.2d 693, 698 (Del. Ch. 2005), aff’d 906 A.2d 27 (Del. 2006) (“The redress for failures that arise from faithful management must come from the markets, through the action of shareholders and the free flow of capital, and not from this Court.”); Stephen M. Bainbridge, Director Primacy and Shareholder Disempowerment, 119 HARV. L. REV. 1735, 1749-51 (2006); Leo E. Strine, Jr., Toward a True Corporate Republic: A Traditionalist Response to Bebchuk’s Solution for Improving Corporate America, 119 HARV. L. REV. 1759, 1764 (2006).

61 See Lynn L. Dallas, The Multiple Roles of Corporate Boards of Directors, 40 San Diego L. Rev. 781, 782 (2003) (noting that the “main focus” for the reform of corporate boards has been on the monitoring role).

62 See Kahan & Rock, supra note 24, at 1022-32 (describing the loss of CEO power to corporate boards).

63 See Mace, supra note 59, at 72-85, 190-94; Johnson & Millon, supra note 50, at 1613-20.

64 See MACEY, supra note 59, at 77; Gordon, supra note 53, at 1496.

65 See Donald C. Langevoort, Resetting the Corporate Thermostat: Lessons from the Recent Financial Scandals About Self-Deception, Deceiving Others and the Design of Internal Controls, 93 Geo. L. J. 285, 293-95 (2004) (describing how senior managers, including the CEO, capture the board). Other problems with capture arise from
concentrated share ownership, and activist investors were each identified as effective means to reinvigorate board oversight. Each looked to enhance director independence in light of the conventional wisdom that independent directors are the most effective monitors. Their special position was bolstered by court decisions that applied a more deferential standard of review to the judgments they made. Their role—and the board’s monitoring function—was reinforced by regulatory and quasi-regulatory requirements that increased the number of independent directors on the board and assigned to them specific board-level duties.

A key to the monitoring model is understanding the incentives that drive director oversight. Independent directors are the monitors of choice, in large part due to concerns that insiders (current and former managers) and dependent outsiders (who are economically tied to the firm) have little incentive to actively supervise the firm’s managers. Boards dominated by independent directors are better monitors because they lack the incentives to simply defer to senior management. The problem is that insiders and dependent outsiders—precisely because norms of collegiality that make it difficult for directors to question managers and professional and social ties that bind directors and officers. See Macey, supra note 59, at 58-61.


See Gordon, supra note 53, at 1520-40 (explaining that greater director independence resulted from a shift in corporate objectives to shareholder value and greater informativeness of stock prices); Kahan & Rock, supra note 24, at 995-1037 (chronicling the shift towards increased director independence and the benefits to shareholders).

See Bhagat & Black, supra note 15, at 233. Notwithstanding the conventional wisdom, the empirical support for the value of independent directors to the firm has been mixed. See id.; Lin, supra note 53, at 968 app. I (listing seven studies, two with a positive correlation between outside directors and firm performance, one with a negative correlation, three with no correlation, and one with mixed results).

See, e.g., Auerbach v. Bennett, 393 N.E.2d 994, 1001-02 (N.Y. 1979) (applying business judgment standard to decision of a committee of independent directors to terminate a shareholder derivative suit); see also Dallas, supra note 61, at 786.

The definition of “independence” is also strict. See NYSE, LISTED COMPANY MANUAL § 303A.02 (2012) [hereinafter NYSE MANUAL]. Under the New York Stock Exchange rules, among other requirements for a director to be independent, she cannot have been an employee of the corporation during the preceding three years and cannot have a close relative who is an employee. See id. § 303A.02(a)-(b)(i). Economic ties, such as a position in another company that does significant business with the corporation, may also disqualify a director from being independent. See id. § 303A.02(b)(v).

For example, New York Stock Exchange rules require most companies listed on the exchange to have a majority of independent directors on their boards. See id. § 303A.01. The rules also require independent directors to comprise key board committees, including the audit, compensation, and nominating committees, see id. §§ 303A.04(a), .05(a), .06, .07(b), with heightened standards of independence for audit committee directors, see id. § 303A.02. The audit committee must have the express power to hire, fire, and compensate the firm’s independent auditors. See SOX § 301, 15 U.S.C. § 78j-1(m)(2) (2012). All members of the audit committee must also be financially literate. See NYSE MANUAL, supra note 70, § 303A.07(a), cmt. In addition, the board must determine whether one or more of the audit committee members is a “financial expert,” see SOX § 407, 15 U.S.C. § 7265, disclosing the identity of the expert(s) or that none of the members qualifies and explaining why, see id. § 7265(a).

of their close ties to the firm—may be best positioned to assess a senior manager’s performance. They have direct access to information about the company and its operations, unlike independent directors whose source of information is more likely to be management itself. Moreover, insiders and dependent outsiders may bring to the board other valuable resources that benefit the firm—through their knowledge of the business and experience in the industry—that independent directors, precisely because of their independence, may not be able to provide.

This attention to director resources presents a version of the board that differs from the standard monitoring model. In it, the board participates in managing the business, supporting rather than evaluating the firm’s senior officers, and securing resources and reducing uncertainty around the company’s operations. It is a role that in Delaware is reflected in the statute granting the board its authority—declaring the business of the corporation to be “managed” by or under the board, without reference to monitoring. The benefits include the advice and counsel that directors can provide to managers, coordination between the firm and external bodies (such as regulators), and access to a broad network of contacts. From that perspective, optimal board composition should depend, in part, on the firm’s operational environment and the business strategies it intends to pursue. A lawyer, for example, can provide particular expertise on legal or regulatory concerns, but the value of that insight will vary with the environment in which the firm does business. As the environment changes, optimal board composition should change as well.

74 See id. at 78-79.
75 See Adams & Ferreira, supra note 48, at 217-19 (noting the CEO’s incentive to withhold information from the board, since the probability of board intervention is greater as more information is provided); Langevoort, supra note 65, at 293-94; Sharpe, supra note 45, at 1453-55. Note, however, that stock prices have grown increasingly informative, providing an additional source of feedback on company performance for independent directors. See Gordon, supra note 53, at 1469-70.
77 See Dallas, supra note 72, at 11; Rindova, supra note 42, at 964-65, 966-67.
78 See supra note 54.
79 See Clark, supra note 47, at 279 ("[T]he classic statement of the directors’ role in section 141(a) of the Delaware General Corporation Law declares that the business of a corporation is to ‘be managed by or under the direction of the board of directors.’ The definition of the board highlights the managerial role of the board. The monitoring role receives no such billing.” (footnotes omitted)).
80 See Catherine M. Daily & Charles Schwenk, Chief Executive Officers, Top Management Teams, and Boards of Directors: Congruent or Countervailing Forces?, 22 J. MGMT. 185, 190-191, 194, 196 (1996); Dallas, supra note 72, at 12; Hillman et al., supra note 41, at 241. For example, if politics are important to firm profitability, the number of lawyer-directors and directors with political experience—who have knowledge of government procedures and insight into government actions—is likely to be greater. See Anup Agrawal & Charles R. Knoeber, Do Some Outside Directors Play a Political Role?, 44 J. L. & ECON. 179, 180, 195 (2001). Likewise, for natural gas companies between 1930 and 1998, greater regulation was associated with an increase in the number of political directors on the board, while deregulation was associated with a decrease. See Helland & Sykuta, supra note 16, at 169.
81 See Dallas, supra note 61, at 807-08; Helland & Sykuta, supra note 16, at 170.
82 See Dallas, supra note 61, at 806.
83 See Hillman et al., supra note 41, at 242-44; Pfeffer, supra note 46, at 226.
Although not necessarily in conflict, there is some concern that the managing and monitoring functions may not be compatible—that one may substitute for the other. The role of supervisor can dampen the collegiality needed for directors to participate in managing the company; likewise, greater involvement in managing the business may cause a loss of the objectivity needed to adequately monitor performance. The key is that, while directors may engage in both functions, different boards are likely to do so to different degrees depending on their particular circumstances. In that respect, the two functions can also be complementary. A director whose experience benefits the board’s managing function may, through her expertise, also be able to more closely monitor how managers perform. Likewise, a firm that principally benefits from an outside director’s monitoring may use her industry knowledge and external relationships to assist in its business operations. Finally, the two functions may overlap in practice. Knowing the board will take an interest in her activities, a senior officer is more likely to take extra care to gather the relevant facts, weigh the different options, anticipate competing considerations, and clarify the proposed course of action. Although the board may view its participation as managerial support, the senior officer is likely to treat it the same way she would a formal monitoring of her performance.

In the next Part, we begin to consider the role of lawyer-directors on the boards of public corporations. Lawyer-directors bring special skills to the board that can affect board decisions and firm behavior. Experienced practitioners offer a perspective on litigation and regulation that

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84 See Macey, supra note 59, at 54 (describing the modern responsibilities of the board to include “both monitoring management and participating in management decisions in the ordinary course of a firm’s business”).

85 See Dallas, supra note 61, at 783.

86 See Margaret M. Blair & Lynn A. Stout, Trust, Trustworthiness, and the Behavioral Foundations of Corporate Law, 149 U. Pa. L. Rev. 1735, 1753-59 (2001) (noting that continuous conflict between directors and officers can harm the company); Fisch, supra note 38, at 280 (“There is a natural inconsistency between the board’s monitoring and managing functions.”); Tamar Frankel, Corporate Boards of Directors: Advisors or Supervisors?, 77 U. Cin. L. Rev. 501, 502-04 (describing differences in the balance of power and balance of trust between the monitoring and managing models of the board).

87 See Dallas, supra note 61, at 808; Hillman & Dalziel, supra note 44, at 388.


89 See Dallas, supra note 61, at 802, 808, 812. But see Macey, supra note 59, at 54 (stating that directors face an “inherent conflict” when they evaluate decisions in which they participated).

90 See Fisch, supra note 38, at 274; Dallas, supra note 61, at 805-06.

91 See Clark, supra note 47, at 280-81.

92 See A. Burak Güner et al., Financial Expertise of Directors, 88 J. Fin. Econ. 323, 324-26 (2008) (finding that directors with financial expertise who are commercial or investment bankers influence corporate policies in favor of more external financing, potentially at shareholder expense); see also Ben W. Lewis et al., Difference in Degrees: CEO Characteristics and Firm Responses to Pressures for Disclosure, at 3 (May 21, 2012) (finding that CEO characteristics also effect firm behavior and, in particular, that lawyer-CEOs are less receptive to shareholder requests), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2063838. Although the effect of director independence on firm profitability has been unclear, see Bhagat & Black, supra note 15, at 233 (finding no empirical evidence that ties board independence to improved profitability), more recent research suggests that a focus on independence alone may not reflect the characteristics that are relevant to performance, see Masulis et al., supra note 76, at 4-5 (concluding that independent experts with industry experience significantly improve firm performance). Instead, directors with industry-specific knowledge are more likely to be present on the boards of more complex firms and, among other effects, enhance firm performance, lower the likelihood of earnings restatements, improve the CEO’s pay-for-performance sensitivity, and boost innovation. See Masulis et al., supra note 76, at 6-7.
can benefit the board’s deliberations.93 Moreover, trained in advocacy, a lawyer-director’s willingness to pursue a particular course of action—potentially at odds with others on the board—can bring a diverse and valuable perspective to board discussions.94 Of course, diversity in the boardroom can have a cost—conflict can weaken the collegiality needed to work as a group95—but directors can temper their discussions in order to take advantage of the broader set of experiences that lawyers can contribute.96

II. THE RISE OF THE LAWYER-DIRECTOR

In this Part and in Parts III and IV, we present our analysis of data on lawyer-directors on the boards of U.S. public corporations from 2000 to 2009. Our results are consistent with the managing function of the board, although not to the exclusion of important monitoring benefits.

The accepted wisdom is that lawyers should steer clear of joining a public company board of directors.97 The emphasis has been on the significant costs arising from the dual role of counselor and director. A lawyer-director is less able to objectively assess board actions in which she participates,98 and if she is outside counsel, she also is less able to monitor and manage the

93 See Ronald C. Anderson et al., The Economics of Director Heterogeneity, 40 Fin. Mgmt. 5, 6 (2011).
94 See Marleen A. O’Connor, The Enron Board: The Perils of Groupthink, 71 U. Cin. L. Rev. 1233, 1306-11 (2003) (arguing that “diversity may enhance board effectiveness because different life experiences may lead to different perceptions of social reality”); Lynne L. Dallas, The New Managerialism and Diversity on Corporate Boards of Directors, 76 Tul. L. Rev. 1363, 1406 (2002) (concluding that “heterogeneous groups tend to make higher quality decisions in matter involving creative and judgmental decisionmaking”); Rindova, supra note 42, at 960 (observing that directors’ diverse experience is a valuable source of knowledge from which managers can make superior decisions). In particular, diverse occupational backgrounds can enhance how well a firm performs, with an even greater effect on performance if the firm is operationally complex. See Anderson et al., supra note 93, at 6-7 (finding a positive association between board heterogeneity, in particular with firms that have complex operations and with respect to occupational heterogeneity.
97 See ABA Task Force Report, supra note 1, at 63-64 (concluding that “because of the pitfalls that may arise from the practice of lawyers serving on the boards of directors of their clients, the Task Force believes that this practice should be discouraged in most cases.”); see also ABA Standing Comm. on Ethics & Prof’l Responsibility, Lawyer Serving as Director of Client Corporation, Formal Op. 98-410 (Feb. 27, 1998) (cautioning lawyers to be “sensitive” to the potential problems a lawyer-director faces), reprinted COLLECTED FORMAL OPINIONS 1983-1998; N.Y. State Bar Ass’n Comm. on Prof’l Ethics, Op. 589 (1988) (finding no per se rule of professional ethics that forbids a lawyer from acting as a director, but “[w]ithout endorsing the practice, which has received considerable attention and criticism”).
98 See CHARLES W. WOLFRAM, MODERN LEGAL ETHICS § 13.7 at 739 (1986) (observing that “[w]hat is good for business and what the law requires may be very different things, but the need to draw this distinction is particularly great for a person who purports to draw upon both kinds of expertise and make both kinds of judgments.”); ABA Task Force Report, supra note 1, at 36-38, 44-50; ABA Report and Recommendations, supra note 6, at 388-89; John S. Dziienkowski & Robert J. Peroni, The Decline in Lawyer Independence: Lawyer Equity Investments in Clients, 81 Tex. L. Rev. 405, 532 (2002) (noting that, while “[o]ne would think that a prudent firm would hesitate to occupy . . . two potentially conflicting roles . . . many firms in the Silicon Valley are occupying three roles . . . : legal counselor, member of the board of directors, and significant shareholder.”); Donald C. Langevoort, The Epistemology of Corporate-Securities Lawyer: Beliefs, Biases and Organizational Behavior, 63 Brooklyn L. Rev. 629, 673-74 (1998) (describing the social influences on a lawyer-director that can bias her advice); Simon M. Lorne, The Corporate and Securities Adviser, The Public Interest, and Professional Ethics, 76 Mich. L. Rev. 423, 491 (1978)
senior executives who pay her legal fees.99 Balanced against those costs are the potential benefits of having a lawyer on the board—although, within the accepted wisdom, they are outweighed by the costs that a lawyer-director brings.100

We believe that rises in regulation and litigation101 have shifted that cost-benefit balance by contributing significantly to the benefits of having a lawyer on the board.102 The board’s

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99 See Martin Riger, The Lawyer-Director—“A Vexing Problem,” 33 Bus. Lawyer 2381, 2384-86 (1978) (concluding that “[b]y no current measure of the performance of the outside director could [a lawyer-director] be considered a disinterested monitor of management’s performance.”); James D. Cox, The Paradoxical Corporate and Securities Law Implications of Counsel Serving on the Client’s Board, 80 Wash. L. Q. 541, 550-55 (2002) (describing the burden on a lawyer-director to prove “her vote was not corrupted by fear that to have voted otherwise would jeopardize the pecuniary relationship the attorney had with the corporation”). In addition, lawyer-directors are held to a higher standard of conduct than non-lawyers, raising the risk of liability. See ABA Task Force Report, supra note 1, at 50-56; Cox, supra, at 542. A lawyer-director may also find herself excluded under the corporation’s director and officer liability insurance policy and her firm’s malpractice insurance policy. See Harris & Valihura, supra note 8, at 493-96 (noting that, notwithstanding the benefits, a lawyer must face “many thorny issues” if she becomes a director). Her dual position also jeopardizes the firm’s ability to rely on the attorney-client and work product privileges in connection with any advice she provides. See ABA Task Force Report, supra note 1, at 44-50; ABA Report and Recommendations, supra note 6, at 389-90; Robert P. Cummins & Megy M. Kelly, The Conflicting Roles of Lawyer as Director, 23 Litig. 48, 49-50 (1996) (suggesting that a non-director lawyer should also attend board meetings to render privileged legal advice); Harris & Valihura, supra note 8, at 483-89.

100 See supra notes 6-8 and accompanying text.

101 It is difficult to precisely measure the rise in regulation and litigation during the period, but there are a number of ways to approximate the growth. The various measures suggest that regulation and litigation were significant and increased from 2000 to 2009 (our observation period). Counting the number of Federal Register pages provides an inexact measure of levels of new federal regulation. During 2000-2009, the total number of Federal Register pages ranged between 64,438 and 79,435 annually. See Clyde Wayne Crews, Jr., Ten Thousand Commandments: An Annual Policymaker’s Snapshot of the Federal Regulatory State 14 (2010), available at http://cei.org/studies/ten-thousand-commandments-2010. More telling was the relative number of Federal Register pages compared to prior decades. In 2000-2009, the total was 730,176 pages, a 17.3 percent increase over the 1990s (622,368 pages) and a 38.0 percent increase over the 1980s. See id. at 16. The White House estimated that, from fiscal year 2002 to 2011, federal agencies published about 38,000 final and interim final rules in the Federal Register. See Office of Mgmt. & Budget, Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities 10 (Draft of March 2012), available at http://www.whitehouse.gov/sites/default/files/omb/dera/draft_2012_cost_benefit_report.pdf. Using the Code of Federal Regulations (“CFR”) as a measure, in 2010, the CFR contained 55 percent more pages than in 1980, growing from 102,195 to 157,974 pages. See id at 15. Moreover, as of 2010, 184 of the new federal regulations were classified as “economically significant” (meaning that the relevant regulator estimated that the rule would have an annual economic effect of at least $100 million), a 34.3 percent increase over the preceding five years. See id. at 22. On the litigation front, between 2000 and 2009, the amounts annually budgeted by federal agencies to police regulatory compliance rose by 70.8 percent, from $31.8 billion to $54.3 billion. See id. at 11. Surveys of in-house counsel of U.S. and U.K. firms conducted in 2006-2010 showed that, in each year, between 22 and 40 percent of firms expected the total number of legal disputes to increase over the coming 12 months. See Fulbright & Jaworski LLP, 7th Annual Litigation Trends Survey Report 10 (2010), available at http://www.fulbright.com/litigationtrends. From 2005 to 2010, more than a quarter of the surveyed companies (the highest, in 2007, at 39 percent) reported they were involved in one or more lawsuits with more than $20 million at
perceived sense of risk, even if it overstates actual legal exposure, can also favor having a lawyer as a colleague. We also believe that lawyer-directors provide significant monitoring benefits, adjusting a CEO’s incentives to more closely align her interests with those of the firm. Importantly, the benefit of a lawyer-director is significant even after controlling for the effects of outside directors. In other words, for the variables that we consider below, the value provided by a lawyer-director is greater than the value provided by a non-lawyer, outside director. As a result, the percentage of firms with lawyers on the board has risen substantially—from 24.5 percent in 2000 to 43.9 percent in 2009 (and topping at 47.5 percent in 2005)—as indicated in Figure 1 below.

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102 See infra Table 6, Panel C, and notes 324-330 and accompanying text.
103 See Langevoort, supra note 95, at 823-24 (explaining why, under certain circumstances, directors overestimate legal risk).
104 See infra Table 6, Panel B, and notes 318-320 and accompanying text.
105 This control, identified as OUTSIDE_DIRECTORS, is made for all tables in our study. In this Article, for brevity, we present the control for OUTSIDE_DIRECTORS in Table 3, Panel A, Table 4, and Table 6. Outcomes for the control in the remaining tables are on file with the authors.
106 Based on our sample, the number of lawyer-directors also grew during the period. See supra note 15 and accompanying text.
Assessing the trend in lawyer-directors is difficult due to the limited availability of historical data and uncertainty over how it was compiled. The number of lawyer-directors appears to have been significant during the 1970s and early 1980s, but may have dropped in the late 1980s and 1990s, perhaps due to concerns over heightened liability. One survey indicated that the percentage of companies with outside counsel on the board ranged from 19.4 percent in

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107 See ABA Task Force Report, supra note 1, at 6.
109 See supra note 99.
1988 to 18 percent in 1991 and 17.5 percent in 1992,\textsuperscript{110} which is roughly consistent with the 24.5 percent we observed in 2000.

\section*{A. Data and Data Sources}

We obtained data from several sources. For each of those sources, the relevant observation period was 2000 to 2009.

Our main source was the BoardEx database, which includes data on individual directors of 1,500 U.S. public corporations comprising the S&P Composite 1500 Index ("S&P 1500"). We used that data, excluding financial institutions,\textsuperscript{111} to define the main variable of our study, $\text{JD}_{i,t}$, which is an indicator variable for the presence of a lawyer-director.\textsuperscript{112} In order to identify directors who received a legal education, we used the educational background information provided by BoardEx. We also used Boardex to compile employment history, personal information (such as gender, age, and law school alma mater), board committee assignments, and director’s compensation.

In addition, we used the ExecuComp database, which includes data on companies in the S&P 1500, to obtain information on executive incentives, including CEO $\text{VEGA}_{i,t}$\textsuperscript{113} (CEO compensation tied to changes in stock value) and CEO $\text{DELTA}_{i,t}$ (CEO compensation tied to changes in stock volatility), CEO Salary, CEO Excess Compensation, and whether the CEO and board chairman are the same person.

We used the Risk Metrics database in order to obtain data on each firm’s governance features. In particular, we retrieved the Entrenchment Index ("E Index"), which is a count index of provisions in corporate charters and by-laws that provide protection against unsolicited takeovers (such as classified boards and poison pills).\textsuperscript{114} We used between 8,316 and 9,333 observations, depending on the model and restraints imposed by the necessary controls. We also lost observations in the process of matching the Risk Metrics data to the principal dataset from BoardEx.

\textsuperscript{110} See ABA Task Force Report, \textit{supra} note 1, at 5.
\textsuperscript{111} We excluded financial institutions principally for two reasons. First, financial firms tend to be more regulated than non-financial firms. Consequently, the effect of governance on risk-taking or firm value may be conditioned by external regulation. Second, empirical analysis that relates corporate governance to firm performance often excludes measures of performance that are dependent on (or related to) measures of indebtedness (such as, for example, returns on equity). Leverage in a financial firm is fundamentally different from leverage in a non-financial firm, so including financial firms in the data would distort the outcomes. Others have adopted the same empirical strategy. \textit{See, e.g., Güner et al., \textit{supra} note 92, at 2661; David Yermack, \textit{Higher Market Valuation of Companies with a Small Board of Directors}, 40 J. Fin. Econ. 185, 189 (1996). Excluding financial institutions, the number of companies in our data set ranged between 1,205 and 1,326 firms.}
\textsuperscript{112} Directors who received one or more of the following degrees were considered to be lawyer-directors: JD, LLB, LLM, Doctor of Jurisprudence. Within our sample, the highest number of law degrees awarded to lawyer-directors were (in order) by: Harvard Law School, Columbia Law School, Yale Law School, New York University Law School, and Michigan Law School.
\textsuperscript{113} Unless otherwise defined, all initially capitalized terms and all terms entirely in capital letters are defined in Appendix A.
\textsuperscript{114} For a description of the E Index, see \textit{infra} note 208 and accompanying text.
For litigation, we used the Audit Analytics litigation file for 2000-2010. Included in that file was information on litigation, divided by categories of lawsuits, with the most frequent categories being SECURITIES_LIT\textsubscript{it,t} (securities law litigation), PATENT_LIT\textsubscript{it,t} (patent litigation), CLASSACTIONS_LIT\textsubscript{it,t} (class action litigation), and ACCOUNTING_LIT\textsubscript{it,t} (litigation relating to accounting malpractice). We also used the Audit Analytics litigation file to calculate an estimated probability of litigation, identified as GENERAL_LIT\textsubscript{it,t}, which is the sum of the two principal litigation categories (securities law and class action litigation) included in Audit Analytics. We used 9,333 observations from the Audit Analytics litigation file, based on matching the Audit Analytics data to the principal dataset from BoardEx.

Finally, we used (i) the Option Metrics database to obtain information on implied volatility, which we employed as a proxy for corporate risk,\textsuperscript{115} (ii) the Compustat database to collect data on additional firm features, (iii) the Center for Research in Security Prices (University of Chicago) database to calculate firm value as measured by Tobin’s Q,\textsuperscript{116} and (iv) the Thomson Financial Dataset to calculate institutional ownership (such as ownership by mutual funds, pension funds, hedge funds, insurance companies, and investment banks) as reported on Form 13F at the end of the relevant fiscal year.\textsuperscript{117} We used between 8,000 and 11,743 observations by aligning information from those databases against matching data available in other databases.

\textsuperscript{115} See infra notes 255-256 and accompanying text.

\textsuperscript{116} Tobin’s Q is the ratio of a firm’s market value (defined as the firm’s total liabilities, minus its balance sheet deferred taxes and investment tax credits, plus the value of its preferred stock and the market value of its common stock) divided by the replacement cost of its assets. See Eugene Fama & Kenneth French, Testing Trade-off and Pecking Order Predictions About Dividends and Debt, 15 REV. FIN. STUD. 1, 8 (2002). The measure was introduced by James Tobin in A General Equilibrium Approach to Monetary Theory, 1 J. MONEY, CREDIT & BANKING 15 (1969). Tobin’s Q has become a commonly recognized proxy for market valuation because market prices reflect the marginal cost of capital, which is reflected in the Tobin’s Q measure. See, e.g., Philip G. Berger & Eli Ofek, Diversification’s Effect on Firm Value, 37 J. FIN. ECON. 39, 40 (1995); Larry Lang & Rene Stulz, Tobin’s Q, Corporate Diversification, and Firm Performance, 102 J. POL. ECON. 1248, 1249-50 (1994); Randal Morck et al., Management Ownership and Market Valuation: An Empirical Analysis, 20 J. FIN. ECON. 293, 294 (1988); Yermack, supra note 111, at 186. One major advantage of Tobin’s Q is its computational simplicity. All of its determinants are retrievable from existing data sources such as, for example, the Compustat database. Tobin’s Q, however, is not without its critics. First, market prices do not necessarily reflect the marginal cost of capital, but instead may reflect the average cost of capital. In that case, firm value may not be properly captured by Tobin’s Q. See Joao Gomes, Financing Investment, 91 AM. ECON. REV. 1263, 1264-65 (2001); see also Eric Lindenberg & Stephen Ross, Tobin’s q Ratio and Industrial Organization, 54 J. BUS. 1, 8-9 (1981). Second, Tobin’s Q may not reflect an accurate valuation of the firm due to market irrationality. Irrationality could be significant if investor sentiment drives valuations in the stock market. See Malcolm Baker et al., When Does the Market Matter? Stock Prices and the Investment of Equity-Dependent Firms?, 23 J. Q. ECON. 969, 969 (2003). With those caveats in mind, Tobin’s Q is still a commonly accepted measure of firm valuation, including within the scholarship on corporate governance. See, e.g., Paul Gompers et al., Corporate Governance and Equity Prices, 118 Q. J. ECON. 107, 126 (2003) (“Our valuation measure is Tobin’s \( Q \) which has been used for this purpose in corporate-governance studies since the work of Demsetz and Lehn . . . .”).

\textsuperscript{117} All institutional investment managers with more than $100 million under discretionary management are required to disclose certain of their holdings in U.S. stocks and other securities to the SEC each quarter on Form 13F. The information on Form 13F covers long positions greater than 10,000 shares or $200,000 over which the manager exercises sole or shared investment discretion. Short positions and derivatives are not required to be disclosed. See Securities Exchange Act of 1934 § 13(f)(1), 15 U.S.C. § 78m(f) (2006); Form 13F, 17 C.F.R. § 249.325 (2012).
B. Predicting Lawyer-Directors

On average, lawyer-directors are more likely to be men, 63 years old, and outside directors (not employed by the company) who participate on two public company boards and, within each board, are members of three or four committees. About one-fourth of lawyer-directors are members, respectively, of the audit and nominating (or governance) committees, and about one-third are members, respectively, of the compensation and risk management committees. In seven percent of the boards, the lawyer-director is also chairman; in nine percent, he is the audit committee chair; in 14 percent, he is the compensation and/or risk committee chair; and in 27 percent he is the nominating (or governance) committee chair. A lawyer-director’s average compensation is $177,000 per year, of which over sixty percent is tied to the company’s common stock.\footnote{The data in this paragraph are all derived from Appendix B, Panel B.}

We begin our analysis in Table 1 below by determining whether there are particular firm characteristics that are more likely to result in having a lawyer on the board. Using a determinant model,\footnote{The models that underlie the tables in Parts II, III, and IV of this Article are described in Appendix C.} we assessed the likelihood of having a lawyer-director against a number of predetermined firm characteristics. We used predetermined variables in order to assess their impact, as existing firm characteristics, on the prospective likelihood of having a lawyer-director.\footnote{Predetermining (lagging) a variable is a standard econometric technique that attempts to make the variable more exogenous to the determination of the independent variable (in this case, the likelihood of having a lawyer-director).} We expected firms with a high estimated likelihood of litigation, \( \text{GENERAL\_LIT}_{i,t-1} \), to have lawyers on the board, because lawyer-directors may bring special expertise in managing complex lawsuits to which the company is subject.\footnote{See supra note 8 and accompanying text. In order to minimize concerns over endogeneity with respect to \( \text{GENERAL\_LIT}_{i,t} \) and \( \text{JD}_{i,t} \), we also considered specifications where \( \text{GENERAL\_LIT}_{i,t} \) was lagged over two or three periods. The significance of the variable was inflated in those cases, consistent with the expectation that including a lawyer-director reflects her litigation expertise. More importantly, this finding confirmed our expectations in the null hypothesis—larger and more complex firms listed on the NYSE or in industries with a higher degree of litigation are more likely to have a lawyer on the board.} Larger firms are also more likely to have lawyer-directors due to their greater organizational complexity (as evidenced by a larger number of operating segments, \( \text{COMPLEXITY}_{i,t-1} \), and a higher amount of total assets, \( \text{SIZE}_{i,t-1} \)), as well as the likelihood of greater public (and regulatory) scrutiny.\footnote{See Agrawal & Knoeber, supra note 80, at 183-85 (describing the effect of size on political oversight).} We also expected firms listed on the NYSE to be more likely to have lawyer-directors due to the NYSE’s listing requirements for independent directors\footnote{See supra notes 70-71 and accompanying text. Firms listed on the NYSE are subject, among other laws, to the Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, which has increased the presence of lawyers and other outsiders on boards of directors. See infra note 129 and accompanying text.} and the higher levels of corporate governance regulation (and related litigation) to which public companies are subject.\footnote{See Stephen M. Bainbridge, Corporate Governance and U.S. Capital Market Competitiveness 6-31 (UCLA School of Law, Paper No. 10-13, Oct. 22, 2010), available at http://ssrn.com/abstract=1696303.} Finally, we considered the effect of institutional share ownership by investment managers with more than $100 million under discretionary management, \( \text{INSTITUTIONAL\_OWN}_{i,t-1} \), on having a lawyer-director. We considered the
possibility that higher levels of institutional ownership could affect how a company is operated, as well as the composition of its board.\textsuperscript{125}

In addition, we included several variables, outside of firm characteristics, that could influence the selection of a lawyer-director. We included an indicator variable, SOX\textsubscript{i,t-1}, equal to 1 in the period following enactment of the Sarbanes-Oxley Act of 2002 (“SOX”).\textsuperscript{126} Although aspects of board structure changed prior to SOX’s passage,\textsuperscript{127} the Act had a dramatic effect on corporate boards, their activities, and their costs.\textsuperscript{128} Following SOX, the makeup of the director pool also changed, increasing the likelihood of lawyers, financial experts, academics, and retired executives becoming directors.\textsuperscript{129} Also included was a variable that captured the propensity of other firms in the same industry to include lawyers on their boards, INDUSTRY JD\textsubscript{i,t-1}.\textsuperscript{130} Due to an industry’s particular characteristics (such as increased regulation), we anticipated that firms in some industries would benefit more than firms in others by having a lawyer on the board.\textsuperscript{131} Finally, we included an indicator variable, JD NETWORK\textsubscript{i,t-1}, equal to 1 if at least one director was a member of another board that included a lawyer-director.\textsuperscript{132} Consistent with other examples of overlapping boards sharing knowledge, we expected directors who sit on more than one board, and who find a lawyer-director to be valuable, to share those experiences with others.\textsuperscript{133} Although some firm characteristics can be codetermined with having a lawyer-director, variables such as SOX, the firm’s industry, and director networks are purely exogenous determinants.

In Table 1, we controlled for various categories of litigation propensity. Those included the probability of a firm being engaged in patent litigation, PATENT\textsubscript{LIT,i,t}, the probability of litigation relating to the securities laws, SECURITIES\textsubscript{LIT,i,t}, the probability of class action litigation, CLASSACTION\textsubscript{LIT,i,t}, and the probability of litigation relating to accounting malpractice, ACCOUNTING\textsubscript{LIT,i,t}.

\textsuperscript{125} See Kahan & Rock, supra note 24, at 995-1013 (describing increased activism among institutional shareholders and the resulting changes in board organization).
\textsuperscript{126} See Pub. L. No. 107-204, 116 Stat. 745 § 404. Note that SOX was partially effective in 2003, and most of its provisions were effective by 2004. This indicator variable, therefore, is coded as equal to 1 in the period starting with 2004.
\textsuperscript{127} See Kahan & Rock, supra note 24, at 1026-27.
\textsuperscript{128} See James S. Linck et al., The Effects and Unintended Consequences of the Sarbanes-Oxley Act on the Supply and Demand for Directors, 22 REV. FIN. STUD. 3287, 3289-90 (2009).
\textsuperscript{129} See id., at 3290.
\textsuperscript{130} Note that, in order to avoid a mechanical positive correlation, this variable is calculated for each firm to exclude that firm’s propensity to have a lawyer-director.
\textsuperscript{131} See Agrawal & Knoeber, supra note 80, at 185 (finding that the importance of having directors with political experience varies by industry).
\textsuperscript{132} Variables (i) – (iii) are exclusive, since their effect on the choice of having a lawyer-director occurs through channels that are distinct from the channels that influence the dependent variables (risk-taking, CEO compensation, firm value, and other mechanisms of corporate governance) to be separately investigated.
\textsuperscript{133} See Gerald F. Davis, Agents without Principles? The Spread of the Poison Pill through the Intercorporate Network, 36 Admin. Science Q. 583, 592-94, 607-08 (1991) (finding that interlocking boards provided one means for companies to communicate an innovation’s value to others); James D. Westphal & Edward J. Zajac, Defections from the Inner Circle: Social Exchange, Reciprocity, and the Diffusion of Board Independence in U.S. Corporations, 42 ADMIN. SCIENCE Q. 161, 162-63, 173-81 (1997) (explaining the diffusion of corporate governance changes, where CEOs become subject to closer board control, through the influence of CEOs from one company being on the boards of other companies).
Table 1. Predictive Regression for the Choice of a Lawyer-Director.\textsuperscript{134}

Table 1 sets out the determinants of having a lawyer-director on the board of a public corporation. Model (1) is a Probit model (and shows actual, as opposed to marginal, effects), while Models (2) through (6) are linear probability models. Regressions included controls for year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios, excluding financial firms).\textsuperscript{135} Adjusted R-squared and Pseudo R-squared are measures of model goodness of fit. The ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
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<td>GENERAL_LIT_i,t</td>
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<td>0.031**</td>
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<td>(2.02)</td>
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<td>0.053***</td>
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<tr>
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<td></td>
<td>(2.31)</td>
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</tbody>
</table>

\textsuperscript{134} In this table and this Article’s other tables, we report in parentheses the t-statistics ($t - \text{stat}$) associated with the test of the null hypothesis that the estimated coefficient is statistically different from zero. $t - \text{stat}$ is defined as $\hat{\beta}/\sigma_{\hat{\beta}}$, where $\hat{\beta}$ is the estimated coefficient, and where $\sigma_{\hat{\beta}}$ is the standard error associated with the estimate of $\hat{\beta}$. If $|t - \text{stat}| \geq 2.62$, the null hypothesis is rejected at the 1% confidence level; if $2.62 > |t - \text{stat}| \geq 1.96$, the null hypothesis is rejected at the 5% confidence level; if $1.96 > |t - \text{stat}| \geq 1.64$, the null hypothesis is rejected at the 10% confidence level; in the remaining case, where $|t - \text{stat}| < 1.64$, the null hypothesis cannot be rejected and the estimated coefficient is considered statistically insignificant.

\textsuperscript{135} The original classification of 48 industries in Eugene F. Fama & Kenneth R. French, \textit{Industry Costs of Equity}, 43 J. Fin. Econ. 153, 179-81 (1997) (listing categories by SIC codes), has been updated to 49 industries, see Kenneth R. French, \textit{Changes in Industry Specifications}, DARTMOUTH COLLEGE (February 9, 2013), http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/changes_ind.html. Excluded from our sample are all financial firms: banking, insurance, real estate, and financial trading. \textit{See supra} note 111. The industries (excluding the financial industry) include: coal, shipping containers, shipbuilding and railroad equipment, non-metallic and industrial metal mining, precious metals, utilities, entertainment, candy and soda, tobacco products, toys and recreation, construction, transportation, printing and publishing, aircraft, textiles, petroleum and natural gas, clothing and apparel, food products, business services, restaurants and hotels and motels, telecommunication, construction materials, chemicals, retail, beer and liquor, healthcare, medical equipment, pharmaceutical products, personal services, machinery, business supplies, steel works, automobiles and trucks, wholesale, consumer goods, electrical equipment, computers, electronic equipment, computer software, measuring and controlling equipment, fabricated products, defense, agriculture, rubber and plastic products, and other products.
Our main findings were consistent with our expectations, except that institutional share ownership, INSTITUTIONAL OWN, was not an economically significant predictor of having a lawyer on the board. Turning to the economic significance of the remaining results, based on Model (2) of Table 1, we found:

- A one standard deviation increase in the probability of litigation, GENERAL_LIT, is associated with a 2.2 percent standard deviation increase in the probability of having a lawyer on the board, JD. Examining the four litigation categories, we also found that a one standard deviation increase in the probability of patent litigation, PATENT_LIT, is associated with a 3.6 percent increase in JD.

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136 We present our economic significance estimates from Model (2) of Table 1 (rather than Model (1) of Table 1), because the estimates in Model (2) (a linear model) are marginal effects, whereas those shown in Model (1) (a non-linear model) are not.

137 This amount is calculated as (a) the coefficient estimate of GENERAL_LIT (0.031) in Model (2), multiplied by (b) one standard deviation in GENERAL_LIT (0.29, as set out in Appendix B, Panel A), divided by (c) the unconditional probability of having a lawyer-director (the average of JD, 0.41, as set out in Appendix B, Panel A).

138 This amount is calculated as (a) the coefficient estimate of PATENT_LIT (0.053) in Model (3), multiplied by (b) one standard deviation in PATENT_LIT (0.28, as set out in Appendix B, Panel A), divided by (c) the unconditional probability of having a lawyer-director (the average of JD, 0.41, as set out in Appendix B, Panel A).
A one standard deviation increase in the SIZE\textsubscript{i,t} of a company is associated with a nearly 18.4 percent increase in JD\textsubscript{i,t}.\textsuperscript{139}

For companies listed on the NYSE, JD\textsubscript{i,t} increases by 44.6 percent.\textsuperscript{140}

A one standard deviation increase in COMPLEXITY\textsubscript{i,t-1}, as evidenced by a larger number of operating segments, is associated with a 1.8 percent standard deviation increase in JD\textsubscript{i,t}.\textsuperscript{141}

A company is also more likely to have a lawyer on the board when other firms in the same industry have a lawyer-director and when one or more existing directors serve on another board with a lawyer-director.

A one standard deviation increase in INDUSTRY JD\textsubscript{i,t-1} (the propensity of firms in the same industry to include lawyers on their boards) is associated with a 14.7 percent standard deviation increase in the probability of having a lawyer-director, JD\textsubscript{i,t}.\textsuperscript{142}

An increase by one standard deviation in JD NETWORK\textsubscript{i,t-1} (the likelihood of a director being a member of another board that includes a lawyer-director) is associated with a seven percent increase in JD\textsubscript{i,t}.\textsuperscript{143}

Generally speaking, the firm characteristics that predict whether a lawyer is on the board can be divided into two categories. In the first are internal characteristics, such as a firm’s size, complexity, and decision to list on the NYSE. Those internal characteristics—over which the company has some control—are likely to also result in the board including a lawyer-director. In the second are external pressures, such as greater litigation and regulation, over which the board has less control. Board composition can evolve in line with changes in the environment in which its business is conducted, with the likelihood of a lawyer-director increasing when it benefits the board to have a colleague with legal training or when other boards add a lawyer-director. With respect to patents, a lawyer-director may be particularly valuable in protecting, realizing, and leveraging the value of the firm’s intangible assets.\textsuperscript{144} In both cases—greater complexity and

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\textsuperscript{139} This amount is calculated as (a) the coefficient estimate of SIZE\textsubscript{i,t} (0.047) in Model (2), multiplied by (b) one standard deviation in SIZE\textsubscript{i,t} (1.603, as set out in Appendix B, Panel A), divided by (c) the unconditional probability of having a lawyer-director (the average of JD\textsubscript{i,t}, 0.41, as set out in Appendix B, Panel A).

\textsuperscript{140} This amount is calculated as the coefficient estimate of NYSE-Listed\textsubscript{i,t-1} (0.183) divided by the unconditional probability of having a lawyer-director (the average of JD\textsubscript{i,t}, 0.41, as set out in Appendix B, Panel A).

\textsuperscript{141} This amount is calculated as (a) the coefficient estimate of COMPLEXITY\textsubscript{i,t-1} (0.006) in Model (2), multiplied by (b) one standard deviation in COMPLEXITY\textsubscript{i,t-1} (1.23, as set out in Appendix B, Panel A), divided by (c) the unconditional probability of having a lawyer-director (the average of JD\textsubscript{i,t}, 0.41, as set out in Appendix B, Panel A).

\textsuperscript{142} This amount is calculated as (a) the coefficient of INDUSTRY JD\textsubscript{i,t-1} (0.437) in Model (2), multiplied by (b) one standard deviation in INDUSTRY JD\textsubscript{i,t-1} (0.138, as set out in Appendix B, Panel A), divided by (c) the unconditional probability of having a lawyer-director (the average of JD\textsubscript{i,t}, 0.41, as set out in Appendix B, Panel A).

\textsuperscript{143} This amount is calculated as (a) the coefficient estimate of JD NETWORK\textsubscript{i,t-1} (0.11), multiplied by (b) one standard deviation in JD NETWORK\textsubscript{i,t-1} (0.26, as set out in Appendix B, Panel A), divided by (c) the unconditional probability of having a lawyer-director (the average of JD\textsubscript{i,t}, 0.41, as set out in Appendix B, Panel A).

\textsuperscript{144} See Bagley, supra note 26, at 385-86.
ranging litigation—directors are more likely to become more closely involved in developing a company’s business strategy, consistent with the board’s managing function.\textsuperscript{145}

\textbf{C. Concerns with Endogeneity}

In the Parts III and IV, we consider the effect of a lawyer-director on CEO pay, board structure and takeover protections, board integrity, corporate risk-taking, and firm value. Before doing so, it may be worthwhile to first address potential endogeneity concerns around our results. Endogeneity, in this context, refers to the possibility that changes in dependent variables correlate with the presence of a lawyer-director, but may not be caused by having a lawyer-director (a “specification problem”), or that the changes may be the cause of why a lawyer is on the board rather than the other way around (a “ simultaneity problem”).\textsuperscript{146} If either is true, the regression model we employ and the estimates we obtain may not be reliable.\textsuperscript{147}

To address those concerns, we employed an instrumental variable analysis through a two-stage least squares (\textquotedblleft 2SLS\textquotedblright) regression.\textsuperscript{148} In the first stage, we predicted the key independent variable, JD\textsubscript{i,t}, that we suspected could be endogenous, using the analysis performed in Model (1) of Table 1. The prediction of JD\textsubscript{i,t} relied on two sets of independent variables. The first set included GENERAL\_LIT\textsubscript{i,t-1}, SIZE\textsubscript{i,t-1}, NYSE\textsubscript{-Listed}\textsubscript{i,t-1}, COMPLEXITY\textsubscript{i,t-1}, and INSTITUTIONAL OWN\textsubscript{i,t-1}. The second set was comprised of excluded (or distinct) instrumental variables that we assumed would influence JD\textsubscript{i,t} but would not influence the applicable dependent variable. Those excluded variables were: the enactment of SOX (SOX\textsubscript{i,t-1}), the propensity of other firms in the same industry to have lawyer-directors (INDUSTRY JD\textsubscript{i,t-1}), and in any given year, having at least one director sit on another board in the prior year that included a lawyer-director (JD NETWORK\textsubscript{i,t-1}).\textsuperscript{149} Both sets of variables were predetermined, meaning they existed at the time a lawyer-director joined the board. Since they already existed, they were assumed to be exogenous—their existence was not determined by the addition of the lawyer-


\textsuperscript{146} See Ian Ayres & John J. Donohue III, Shooting Down the \textquoteleft More Guns, Less Crime\textquoteright Hypothesis, 55 STAN. L. REV. 1193, 1255-56 (2003) (discussing the consequences of non-causal correlation between dependent and independent variables in a different empirical context, and stressing the importance of selecting excluded instruments to address the endogeneity problem).

\textsuperscript{147} See William H. Greene, ECONOMETRIC ANALYSIS 228 (7\textsuperscript{th} ed. 2012) (explaining why parameter estimates are biased when independent and dependent variables are correlated in a non-causal manner).

\textsuperscript{148} See Jeffrey M. Wooldridge, ECONOMETRIC ANALYSIS OF CROSS SECTION AND PANEL DATA 90 (2002) (discussing 2SLS regressions and the diagnostic tests used to determine whether instrumental variables are correctly selected).

\textsuperscript{149} Excluded instrumental variables are used to identify distinctive factors that determine the inclusion of lawyers on the board. The factors are distinctive if they explain the choice to include a lawyer-director but are unrelated to the dependent variable being studied (in this case, CEO compensation). Those instrumental variables (SOX\textsubscript{i,t-1}, INDUSTRY JD\textsubscript{i,t-1}, and JD NETWORK\textsubscript{i,t-1}) are valid, because (x) they are relevant to influencing the appointment of a lawyer-director and (y) they are exclusive, since their effect on having a lawyer-director occurs through channels that are distinct from the channels that influence the dependent variables.

We make similar assumptions regarding the relevance and exclusivity of the above instruments in regressions to analyze CEO DELTA\textsubscript{i,t}, CEO VEGA\textsubscript{i,t}, CEO SALARY\textsubscript{i,t}, CEO EXCESSCOMP\textsubscript{i,t}, ZSCORE\textsubscript{i,t}, IMPLVOL\textsubscript{i,t}, OPTION\_BACKDATING\_LIT\textsubscript{i,t}, BOARDSIZE\textsubscript{i,t}, EINDEX\textsubscript{i,t}, CEOCHAIR\textsubscript{i,t}, STAGGERED\textsubscript{i,t}, and Tobin’s Q.
director—and, therefore, they could be used as instruments to predict whether a lawyer would be on the board.\textsuperscript{150} Finally, in the first stage, we controlled for year and industry fixed effects.

In the second stage, we used the value of JD\textsubscript{t,1} predicted from the first stage (lagged by one period, and referred to as Predicted JD\textsubscript{t,1-1}) and related this variable to each of the dependent variables. Our empirical results using Predicted JD\textsubscript{t,1} confirmed that our instrumental variable analysis properly addressed the endogeneity concern.\textsuperscript{151}

As part of the 2SLS regression, we assumed that the excluded variables—SOX\textsubscript{t,1-1}, INDUSTRY JD\textsubscript{t,1-1}, and JD NETWORK\textsubscript{t,1-1}—would influence JD\textsubscript{t,1} but would not directly influence the dependent variables. There may, however, be a concern with this assumption—the possibility that one or more excluded variables, in fact, directly affected one or more of the dependent variables. For example, SOX\textsubscript{t,1-1} could have a direct effect on CEO compensation (a dependent variable), rather than indirectly affecting CEO compensation through the presence of a lawyer-director, Predicted JD\textsubscript{t,1}. To verify the treatment, we removed SOX\textsubscript{t,1-1} from the list of excluded instruments and we controlled the regression explicitly for SOX\textsubscript{t,1-1}. Our results, in those cases, remained unchanged; the impact of Predicted JD\textsubscript{t,1} on the dependent variables was the same. This was due to our specifications also including a control for year fixed effects. SOX\textsubscript{t,1-1} was defined as a dummy variable equal to 1 after 2002 and 0 otherwise. Including this annual fixed effect absorbed a substantial part of the direct effect of SOX\textsubscript{t,1-1} on the dependent variables. Consequently, the coefficient of Predicted JD\textsubscript{t,1} explained the marginal incidence of having a lawyer-director on the dependent variables. We also controlled each of our other regressions for year fixed effects. This meant that any direct effect that SOX\textsubscript{t,1-1} could have on a dependent or interacting variable was largely absorbed by the year control.

The industry variable, INDUSTRY JD\textsubscript{t,1-1}, could have a quasi-industry fixed effect, meaning that (like SOX\textsubscript{t,1-1}) it could directly influence one or more of our dependent variables. To address this concern, we controlled for industry fixed effects (using the Fama-French 49 industry categories) in our predictive model (Table 1). After controlling for the Fama-French categories, INDUSTRY JD\textsubscript{t,1-1} still had a positive and statistically significant effect on the likelihood of

\textsuperscript{150} Predetermined variables were also included in the analysis of (i) CEO DELTA\textsubscript{t-1} and CEO VEGA\textsubscript{t-1} in Table 2, Panel A, and CEOSALARY\textsubscript{t-1} and CEO-EXCESSCOMP\textsubscript{t-1} in Table 2, Panel B (including, in each case, the year and industry indicator variables, NYSE-Listed\textsubscript{t-1}, SIZE\textsubscript{t-1}, AVSALES GROWTH\textsubscript{t-1}, DIVIDENDS\textsubscript{t-1}, CASH\textsubscript{t-1}, and OUTSIDE DIRECTORS\textsubscript{t-1}), (ii) board structure and takeover protections (including BOARDSIZE\textsubscript{t-1}, EINDEX\textsubscript{t-1}, CEOCHAIR\textsubscript{t-1}, and STAGGERED\textsubscript{t-1}) in Table 3 (including year and industry indicator variables, NYSE-Listed\textsubscript{t-1}, SIZE\textsubscript{t-1}, AVSALES GROWTH\textsubscript{t-1}, DIVIDENDS\textsubscript{t-1}, CASH\textsubscript{t-1}, INSTITUTIONAL OWN\textsubscript{t-1}, and OUTSIDE DIRECTORS\textsubscript{t-1}), (iii) OPTION BACKDATING LIT\textsubscript{t-1} in Table 4 (including year and industry indicator variables, NYSE-Listed\textsubscript{t-1}, SIZE\textsubscript{t-1}, AVSALES GROWTH\textsubscript{t-1}, DIVIDENDS\textsubscript{t-1}, CASH\textsubscript{t-1}, and OUTSIDE DIRECTORS\textsubscript{t-1}), (iv) ZSCORE\textsubscript{t-1} and IMPLVOL\textsubscript{t-1} in all panels in Table 5 (including year and industry indicator variables, CEO DELTA\textsubscript{t-1}, CEO VEGA\textsubscript{t-1}, NYSE-Listed\textsubscript{t-1}, SIZE\textsubscript{t-1}, AVSALES GROWTH\textsubscript{t-1}, DIVIDENDS\textsubscript{t-1}, CASH\textsubscript{t-1}, and OUTSIDE DIRECTORS\textsubscript{t-1}), and (v) Tobin’s Q in Table 6 (including year and industry indicator variables, NYSE-Listed\textsubscript{t-1}, SIZE\textsubscript{t-1}, AVSALES GROWTH\textsubscript{t-1}, DIVIDENDS\textsubscript{t-1}, CASH\textsubscript{t-1}, and OUTSIDE DIRECTORS\textsubscript{t-1}).

\textsuperscript{151} We use Predicted JD\textsubscript{t,1} to address endogeneity concerns when we analyzed the following dependent variables: CEO DELTA\textsubscript{t}, CEO VEGA\textsubscript{t}, CEOSALARY\textsubscript{t}, CEO-EXCESSCOMP\textsubscript{t}, ZSCORE\textsubscript{t}, IMPLVOL\textsubscript{t}, OPTION BACKDATING LIT\textsubscript{t}, board structure and takeover protections (BOARDSIZE\textsubscript{t}, EINDEX\textsubscript{t}, CEOCHAIR\textsubscript{t}, STAGGERED\textsubscript{t}), and Tobin’s Q. All of the empirical results we obtained by using Predicted JD\textsubscript{t,1} confirm that our instrumental variable analysis properly addressed the endogeneity concern.
having a lawyer-director. From this result, we concluded that, at the margin, INDUSTRY JD\textsubscript{i,t-1} was relevant to explaining when a lawyer is on the board. We controlled our other regressions using the Fama-French 49 industry categories. This meant that any direct effect that INDUSTRY JD\textsubscript{i,t-1} could have on a dependent or interacting variable was largely absorbed by the Fama-French 49 industry controls.

To verify our results, we also removed INDUSTRY JD\textsubscript{i,t-1} from the list of excluded instruments where INDUSTRY JD\textsubscript{i,t-1} could affect the dependent variables. The results were substantially unchanged. The explanation here parallels the earlier reasoning for SOX\textsubscript{i,t-1}. The Fama-French 49 industry controls absorbed a substantial portion of the effect of INDUSTRY JD\textsubscript{i,t-1}. Thus, like SOX\textsubscript{i,t-1}, the coefficient of Predicted JD\textsubscript{i,t-1} explained the marginal incidence of having a lawyer-director on the dependent variables once the Fama-French 49 controls were taken into account.

We did not expect JD NETWORK\textsubscript{i,t-1} to directly influence our dependent variables, although it was possible the network could have had some effect that was independent of whether a lawyer was on the board. Our ability to exclude JD NETWORK\textsubscript{i,t-1} was confirmed, however, because the residuals of the first-stage regression, where we regressed JD NETWORK\textsubscript{i,t-1} against JD\textsubscript{i,t}, were uncorrelated with the dependent variables in all the second-stage regressions (including CEO compensation, risk taking, and firm value).

The endogeneity concerns were also addressed in a first-difference regression on the relationship between a lawyer-director and our two major dependent variables—firm risk-taking and value.\textsuperscript{152} The principal concern was that firm characteristics, other than those controls identified in our regressions, could drive the relationship with those variables. Through a first-difference regression, we could test whether there was an idiosyncratic feature of the firm that codetermined the dependent and independent variables. Ultimately, the first-difference method allowed us to test the isolated effect a lawyer-director has on firm risk-taking and value. Consistent with all our regressions, we also predetermined the independent variable (JD\textsubscript{i,t-1}) by lagging it by one period. In this way, we could observe (on average at an individual firm level) whether the change in having a lawyer-director from year 1 to year 2, for example, affected the change in risk-taking and firm value from years 2 to 3. This model confirmed our hypothesis, that the presence of a lawyer-director had a causal effect on firm risk-taking and value. The results of the regression were also consistent with the other causal claims we make in this Article.\textsuperscript{153}

\textsuperscript{152} Our formal robustness analysis appears in Appendix D.

\textsuperscript{153} In order to strengthen our robustness checks, we substituted industry fixed effects with firm fixed effects in the 2SLS analysis. This required us to control for firm effects in the first-stage and second-stage regressions. Since our first-stage regression is non-linear (a Probit model), the estimation is biased due to an incidental parameter problem—the problem of biased estimates in non-linear panel data models with fixed effects that have less than ten degrees of freedom per effect, as described in J. Neyman & Elizabeth L. Scott, \textit{Consistent Estimates Based on Partially Consistent Observations}, 16 \textit{Econometrica} 1 (1948). We estimated nearly 1,300 firm indicators with less than 10,000 observations, so we had approximately seven degrees of freedom per firm indicator. Consequently, we implemented a model with random effects as an alternative to firm fixed effects, following the strategy suggested by William Greene in \textit{Fixed Effects and Bias Due to the Incidental Parameters Problem in the Tobit Model}, 23 \textit{Econometrica Revs}. 125 (2004). We found that all of the second-stage results are, on average, economically stronger and statistically unchanged. We also obtained similar statistical and economic results in all of our second-stage regressions when we used, as the first-stage regression model, Model 2 in Table 1 (the linear probability model). Since the first-stage model was linear, we were able to control for firm fixed effects without concern for the
In the next two Parts, we consider what happens after a lawyer joins the board. Part III describes the effect of a lawyer-director on board monitoring, CEO incentives, and the shareholders’ ability to influence board action. None of those is a firm characteristic that determines the presence of a lawyer-director, but each is affected by having a lawyer participate in board oversight and decision-making. In Part IV, we consider the impact of a lawyer-director on risk-taking and firm value. Part of the effect is tied to firm characteristics that predict having a lawyer-director—in particular, the influence on board composition of litigation and regulation—and part is related to the role of a lawyer-director in monitoring firm performance.

III. LAWYERS, MONITORING, AND INCENTIVES

The traditional monitoring model focuses on incentives that help align the interests of directors and managers with those of the firm—principally its ability to access low-cost equity capital, partly by minimizing agency costs. Those incentives can be explicit, by directly tying board and manager compensation to a firm’s results, or implicit, for directors, through the threat of removal by the shareholders and, for managers, through concern over being fired by the board.

Explicit and implicit incentives can be substitutes and complements. For example, in an optimal incentive contract, the implicit incentives tied to an officer’s career concerns should decline as the officer nears retirement, while the explicit incentives—tying current pay to current performance—should substitute in their place. Alternatively, the CEO of a financially constrained firm may be forced to make incentive concessions in order to raise new funds. She may be willing to accept a lower level of performance-based compensation, as well as the greater risk of losing her job if she performs poorly. In each case, the extent to which incentives are substitutes or complements varies with the circumstances of the officer or the company, making it difficult to assess how changes in any one incentive interact with the others.

In this Part, we examine the effect of a lawyer-director on both types of incentives. We start by considering changes in CEO compensation, an explicit incentive, whose effect on firm performance is likely to be tied to the risk-taking it encourages. For implicit incentives, we...

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154 See supra note 72 and accompanying text.
157 See id. at 26-27.
159 See TIROLE, supra note 156, at 26.
160 See id. at 378-79. Nevertheless, we are able to analyze infra in Part IV the overall effect on firm risk-taking and value of having a lawyer-director.
161 See infra notes 168-176 and accompanying text.
consider changes in board structure (such as board size and whether the CEO is also board chairman) and takeover protections (such as the addition of a poison pill or classified board) that can affect board monitoring and the likelihood of the CEO being fired.\footnote{See infra notes 201-217 and accompanying text.} We also consider the extent to which a lawyer-director affects board integrity—the board’s conducting itself in an honest manner, in particular in relation to public disclosure—using stock option backdating as a proxy. Accurate disclosure is particularly important, because it makes clear the type of compensation the CEO has received and, more generally, it provides valuable information to shareholders who can assess firm (and managerial) performance.\footnote{See infra notes 225-226 and accompanying text.} We wait until Part IV to consider the effect of a lawyer-director on firm risk-taking and value, partly arising from the changes in incentives we analyze below.

A. CEO Compensation

Few areas of corporate governance scholarship have received as much attention as executive compensation. Managers generally are more risk averse than shareholders,\footnote{See David I. Walker, The Law and Economics of Executive Compensation: Theory and Evidence, in RESEARCH HANDBOOK ON THE ECONOMICS OF CORPORATE LAW 236-37 (Claire Hill & Brett McDonnell eds., 2011).} who can diversify away firm-specific risks—such as a drop in performance—that a manager, whose reputation and human capital are tied to the firm, must potentially bear.\footnote{See Brian J. Hall & Kevin J. Murphy, Optimal Exercise Prices for Executive Stock Options, 90 AM. ECON. REV. 209, 211 (2000).} A manager who is paid a salary and a pension also becomes a creditor of the firm, with limited upside and the potential loss of her investment if the firm becomes insolvent.\footnote{See Kelli A. Alces & Brian D. Galle, The False Promise of Risk-Reducing Incentive Pay: Evidence from Executive Pensions and Deferred Compensation, 38 J. CORP. L. 53, 57 (2012).} Shareholders face different risks—the loss of their investment if the firm is bankrupt, but unlimited returns if the firm succeeds.\footnote{See generally Brian J. Hall & Jeffrey B. Liebman, Are CEOs Really Paid Like Bureaucrats?, 63 Q. J. ECON. 653 (1998); Bengt Holmstrom, Managerial Incentive Problems—A Dynamic Perspective, 66 REV. ECON. STUD. 169 (1999).}

There is a well-developed body of scholarship on the use of compensation to link executive and shareholder interests.\footnote{See David I. Walker, The Challenge of Improving the Long-Term Focus of Executive Pay, 51 B.C. L. REV. 435, 448-49 (2010).} Within a manager’s pay package, the incentive component—typically stock or stock options, but more recently, an array of instruments\footnote{See Michael C. Jensen & William H. Meckling, Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, 3 J. FIN. ECON. 305, 353 (1976); Michael C. Jensen & Kevin Murphy, Performance Pay and Top Manager Incentives, 98 J. POL. ECON. 225, 242-53 (1990).} is intended to align the interests of senior managers and shareholders\footnote{See supra note 164, at 236-38.} by giving managers direct financial incentives to take on the risks shareholders would prefer and rewarding managers for increases in firm value.\footnote{See Walker, supra note 169, at 435-36.} Often, however, executive incentives are blamed for promoting excessive risk-taking\footnote{See Walker, supra note 169, at 435-36.}—perhaps a breakdown in the “optimal contracting” model of compensation, which argues that incentives are the product of arm’s-length bargaining between directors and
managers, or a reflection of the “managerial power” view of compensation, which argues that CEOs and other executives influence how they are paid, potentially to the detriment of shareholders and the firm. As equity-based pay has grown, a key to the inquiry has been whether particular incentives motivate senior managers to maximize short-term gains—by pursuing riskier projects, potentially at the expense of future profits—or improve corporate performance in a way that can be sustained over a longer period of time.

In this Part, we consider the effect of a lawyer-director on CEO compensation tied to changes in the value of a company’s common stock, CEO DELTA$_{i,t}$, and changes in the volatility of a company’s common stock, CEO VEGA$_{i,t}$. Delta refers to the sensitivity of an option’s value to changes in the underlying asset price. CEO compensation tied to a firm’s delta, therefore, is sensitive to changes in firm value, which is likely to reduce a CEO’s risk-taking incentives. Vega refers to the sensitivity of a stock option’s price to changes in share price volatility. As shares become more volatile, indicating an increase in company risk, CEO compensation with a positive vega will increase in value. CEO compensation that is positively tied to a firm’s vega, therefore, can increase a CEO’s risk-taking incentives.

Table 2, Panel A, sets out our study of the impact of lawyer-directors on CEO incentives—CEO DELTA$_{i,t}$ and CEO VEGA$_{i,t}$. Our main independent variable in those regressions was the presence of a lawyer-director. To capture this, we used (i) the indicator variable JD$_{i,t}$ in Models (1) and (7), (ii) Predicted JD$_{i,t}$ in Models (2) and (8), (iii) an indicator variable if the lawyer-director is a non-executive, JD_OUTSIDE$_{i,t}$, in Models (3) and (9), (iv) an indicator variable if the lawyer-director is also the board’s chairman, JD_CHAIRMAN$_{i,t}$, in Models (4) and (10), (v) an indicator variable if a lawyer-director sits on the board’s compensation committee, JD_COMPCOM$_{i,t}$, in Models (5) and (11), and (vi) an indicator variable if a lawyer-director is the compensation committee chairman, JD_CHAIR_COMPCOM$_{i,t}$, in Models (6) and (12). We also controlled for those variables that appear in the predictive model in Table 1, such as year and industry fixed effects, NYSE-Listed$_{i,t-1}$, SIZE$_{i,t-1}$, AVSALESGROWTH$_{i,t-1}$ (average sales growth), DIVIDENDS$_{i,t-1}$ (dividend payouts), CASH$_{i,t-1}$ (cash reserves), and OUTSIDE_DIRECTORS$_{i,t-1}$ (proportion of outside directors on the board). Those are important controls in regression

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174 See Lucian Arye Bebchuk et al., Managerial Power and Rent Extraction in the Design of Executive Compensation, 69 U. CHI. L. REV. 751, 753-54 (2002); Lucian A. Bebchuk & Robert J. Jackson, Jr., Executive Pensions, 30 J. CORP. L. 823, 829-31 (2005); Core et al., supra note 173, at 1143; Richard A. Lambert et al., The Structure of Organizational Incentives, 38 ADMIN. SCI. Q. 438, 441-42 (1993);


177 See John C. Hull, Options, Futures, and Other Derivatives 251 (6th ed. 2006).

178 See id. at 373, 791.


180 We also considered INSTITUTIONAL OWN$_{i,t}$ (percentage of stock held by institutional investment managers), but did not include it as a formal control because it was statistically insignificant.
models to determine CEO incentives, because they capture firm performance which can be an important determinant of CEO pay.\textsuperscript{181}

Table 2. Lawyer-Directors and CEO Compensation.

Panel A. This panel presents a regression of CEO DELTA\(_{i,t}\) and CEO VEGA\(_{i,t}\) on variables that reflect the participation of a lawyer-director on the board and control variables. The main variables reflecting lawyer-director participation are: JD\(_{i,t}\) (in Models (1) and (7)), Predicted JD\(_{i,t}\), where the prediction for JD\(_{i,t}\) is based on Model (1) in Table 1 (in Models (2) and (8)), JD_OUTSIDE\(_{i,t}\) (in Models (3) and (9)), JD_CHAIRMAN\(_{i,t}\) (in Models (4) and (10)), JD_COMPCOM\(_{i,t}\) (in Models (5) and (11)), and JD_CHAIR_COMPCOM\(_{i,t}\) (in Models (6) and (12)). Regressions included controls for year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios, excluding financial firms). We controlled for (but, for brevity, do not show) the following variables: NYSE-Listed\(_{i,t}\), SIZE\(_{i,t}\), AVSALESGROWTH\(_{i,t}\), DIVIDENDS\(_{i,t}\), CASH\(_{i,t}\), and OUTSIDE_DIRECTORS\(_{i,t}\).

Adjusted R-squared is a measure of model goodness of fit. The ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

<table>
<thead>
<tr>
<th>Variable</th>
<th>CEO DELTA(_{i,t})</th>
<th>CEO VEGA(_{i,t})</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OLS</td>
<td>2SLS</td>
</tr>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>JD(_{i,t})</td>
<td>15.4***</td>
<td>(2.70)</td>
</tr>
<tr>
<td>Predicted JD(_{i,t})</td>
<td>332***</td>
<td>(3.11)</td>
</tr>
<tr>
<td>JD_OUTSIDE(_{i,t})</td>
<td>29.9***</td>
<td>(3.33)</td>
</tr>
<tr>
<td>JD_CHAIRMAN(_{i,t})</td>
<td>52.2***</td>
<td>(3.56)</td>
</tr>
<tr>
<td>JD_COMPCOM(_{i,t})</td>
<td>6.99***</td>
<td>(3.06)</td>
</tr>
<tr>
<td>JD_CHAIR_COMPCOM(_{i,t})</td>
<td>44**</td>
<td>(2.12)</td>
</tr>
</tbody>
</table>

| Observations | 11,743 | 8,177 | 11,743 | 11,743 | 11,743 | 11,733 | 11,360 | 7,996 |
| Adj. R-squared | 17.9% | 18.1% | 17.9% | 17.9% | 17.9% | 17.9% | 41.6% | 42% |
Our main findings in Table 2, Panel A, are the following:

- We found that the presence of a lawyer-director, JD_{i,t}, is associated with weaker risk-taking incentives. Lawyer-directors are associated with higher CEO DELTA_{i,t} and lower CEO VEGA_{i,t}. 

- The effect of a lawyer-director on CEO incentives is stronger if her position on the board is more prominent—specifically, if a lawyer-director is the chairman of the board or the chairman or a member of the compensation committee.

- As noted earlier, our results on the impact of a lawyer-director on CEO incentives are not affected by the possible endogeneity of having a lawyer on the board. In Panel A, Model (2), we show the same qualitative results using Predicted JD_{i,t}.

- As a robustness check, we obtained the same qualitative results as Panel A when we performed a first-difference regression of CEO DELTA_{i,t} and CEO VEGA_{i,t} against JD_{i,t}. 

Turning to the economic significance of the results, we found:

- Based on the estimates in Table 2, Panel A, the presence of a lawyer-director increases CEO DELTA_{i,t} by 3.1 percent and decreases CEO VEGA_{i,t} by 9.3 percent.

- Similar effects are shown in Table 2, Panel A, for alternative measures of a lawyer-director’s participation on the board. For example, if the lawyer-director also serves as board chairman, the increase in CEO DELTA_{i,t} is 10.5 percent and the decrease in CEO VEGA_{i,t} is 13.9 percent.

- The effect on CEO incentives is even greater if we use Predicted JD_{i,t} rather than JD_{i,t}. For example, a one standard deviation increase in Predicted JD_{i,t} leads to a 12.4 percent increase in CEO DELTA_{i,t} and a 15 percent decrease in CEO VEGA_{i,t}.

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182 See supra notes 146-153 and accompanying text.
183 The results of this robustness check are on file with the authors.
184 This amount is equal to the coefficient estimate of 15.4 appearing in Panel A, Model (1), divided by average CEO DELTA_{i,t} of 497 (as set out in Appendix B, Panel A).
185 This amount is equal to the coefficient estimate of -6.4 appearing in Panel A, Model (7), divided by average CEO VEGA_{i,t} of 69 (as set out in Appendix B, Panel A).
186 This amount is equal to the coefficient estimate of 52.2 appearing in Panel A, Model (4), divided by average CEO DELTA_{i,t} of 497 (as set out in Appendix B, Panel A).
187 This amount is equal to the coefficient estimate of -9.6 appearing in Panel A, Model (10), divided by average CEO VEGA_{i,t} of 69 (as set out in Appendix B, Panel A).
188 This amount is equal to (a) the coefficient estimate of 332 appearing in Panel A, Model (2), multiplied by (b) one standard deviation in Predicted JD_{i,t} of 0.179, divided by (c) average CEO DELTA_{i,t} of 497 (as set out in Appendix B, Panel A).
189 This amount is equal to (a) the coefficient estimate of -58 appearing in Panel A, Model (8), multiplied by (b) one standard deviation in Predicted JD_{i,t} of 0.179, divided by (c) average CEO VEGA_{i,t} of 69 (as set out in Appendix B, Panel A).
**Table 2. Lawyer-Directors and CEO Compensation.**

**Panel B.** This panel presents regressions of $\text{CEOSALARY}_{it}$ and $\text{CEO-EXCESSCOMP}_{it}$ on variables that reflect the participation of a lawyer-director on the board. We included the same control variables as in Panel A but do not show them for brevity. Regressions included controls for year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). Adjusted R-squared is a measure of model goodness of fit. The ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dependent Variable: $\text{CEOSALARY}_{it}$</th>
<th>Dependent Variable: $\text{CEO-EXCESSCOMP}_{it}$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td></td>
<td>OLS</td>
<td>2SLS</td>
</tr>
<tr>
<td>$\text{JD}_{i,t-1}$</td>
<td>0.07***</td>
<td>0.029***</td>
</tr>
<tr>
<td></td>
<td>(3.15)</td>
<td>(2.69)</td>
</tr>
<tr>
<td>Predicted $\text{JD}_{i,t-1}$</td>
<td>0.146**</td>
<td>0.31***</td>
</tr>
<tr>
<td></td>
<td>(2.08)</td>
<td>(2.96)</td>
</tr>
<tr>
<td>Observations</td>
<td>12,926</td>
<td>9,008</td>
</tr>
<tr>
<td>Adj. R-Squared</td>
<td>8.7%</td>
<td>10.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.4%</td>
</tr>
</tbody>
</table>

In Panel B, we relate lawyer-directors to CEO Salary and CEO Excess Compensation. In those regressions, following the same format as in Panel A, we found that boards with lawyer-directors have higher CEO Salary and higher CEO Excess Compensation. Evaluating the economic effect of lawyer-directors on CEO Salary, we found that the addition of a lawyer on the board leads to a 5.5 percent standard deviation increase in CEO Salary. The effect on CEO Excess Compensation is similar, a 5.7 percent standard deviation increase. In addition, a one standard deviation increase in Predicted $\text{JD}_{i,t-1}$ is associated with a 2.4 percent standard deviation increase in CEO Salary and an 11 percent standard deviation increase in CEO Excess Compensation. As a robustness check, we obtained the same qualitative results as Panel B when we

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190 Our sample sizes differ across the various tabulations. This is primarily the result of differences in the availability of data on the control variables or the excluded instruments. A particular problem here is that data on the instrumental variable $\text{JD PREVIOUS INTERACT}_{i,t}$ are not available before 2000, whereas computation of the instrumental variable requires knowledge of the prior year’s board seats for each director. In addition, we time lag the instrumental variables by one year, which limits the availability of data to compute Predicted $\text{JD}_{i,t}$. The differential in sample sizes also arises from the need to truncate some dependent variables that have extreme values. Truncation is the process by which a researcher removes the extreme values of the distribution of a variable to minimize the effect of such “outliers” on the statistical analysis. For example, truncation at 95 percent implies that the researcher removes all observations below 2.5 percent and above 97.5 percent of the distribution of the variable. Although this technique allows for more meaningful statistical analysis, it also lowers and varies the sample sizes. See Greene, supra note 147, at 833.

191 This amount is calculated as the coefficient estimate of 0.071 divided by the standard deviation in CEO Salary of 1.289.

192 This amount is calculated as the coefficient estimate of 0.029 divided by the standard deviation in CEO Excess Compensation of 0.501.

193 Those amounts are calculated as follows:
performed a first-difference regression of $\text{CEOSALARY}_{i,t}$ and $\text{CEO-EXCESSCOMP}_{i,t}$ against $\text{JD}_{i,t}$.\textsuperscript{194}

Panels A and B show two basic shifts in CEO compensation that result when a lawyer is on the board. First, a lawyer-director results in a change in incentives, with a higher CEO $\text{DELTAA}_{i,t}$ and a lower CEO $\text{VEGAA}_{i,t}$. CEO compensation becomes more sensitive to firm value, reducing a CEO’s interest in risk-taking. That effect is even greater if the lawyer-director has a senior position on the board, as chairman or as part of the compensation committee. Second, a lawyer-director is likely to cause an increase in CEO salary. Although incentive compensation is weaker, the CEO’s total compensation is greater.

We believe the results are consistent with three possible explanations. For one, a lawyer-director may promote more conservative management. In the ordinary course, the increase in CEO $\text{DELTAA}_{i,t}$ will reduce her interest in risk-taking, and the greater salary will encourage her to support strategies that ensure the firm can continue to pay her.\textsuperscript{195} However, if the risk of bankruptcy rises and the value of the CEO’s shares approaches zero, she may decide to disproportionately increase risk-taking in a gamble to keep the firm solvent.\textsuperscript{196} The outcome is an incentive structure that helps align CEO and shareholder interests, but potentially at a cost. The CEO’s interest in greater risk-taking may come at the expense of the firm’s creditors, who would prefer lower levels of risk in order to preserve sufficient assets in bankruptcy to pay their claims. The potential mismatch in interests is a cost borne by the creditors, but one which they are likely to transfer to the firm and its shareholders through a higher cost of capital.\textsuperscript{197}

The second explanation relates to the “managerial power” view of compensation.\textsuperscript{198} It may simply be the case that CEOs are better able to influence lawyer-directors to cause the board to pay CEOs more, resulting in a rise in total CEO salary. Here, again, the greater CEO compensation is likely to encourage a CEO to manage firm performance so that she can continue to be paid. Yet, for the same reasons as before, that incentive may turn to greater risk-taking—whose costs to creditors are transferred to the shareholders—in the event the firm becomes financially troubled.\textsuperscript{199}

- For CEO Salary, we multiplied the coefficient estimate (0.146) by the standard deviation in Predicted $\text{JD}_{i,t-1}$ (0.179) and then divided the result by the standard deviation in CEO Salary (1.088).
- For CEO Excess Compensation, we multiplied the coefficient estimate (0.31) by the standard deviation in Predicted $\text{JD}_{i,t-1}$ (0.179) and then divided the result by the standard deviation in CEO Excess Compensation (0.501).

Note that these findings are consistent with our finding higher levels of borrowing when a lawyer is on the board. See infra notes 297-299 and accompanying text. Higher CEO Salary reduces the potential for a CEO to be biased in favor of a firm’s shareholders, which could be the case if her compensation included a significant equity component. See Lucian A. Bebchuk & Holger Spamann, Regulating Bankers’ Pay, 98 GEO. L.J. 247, 255-64 (2010); Jensen & Meckling, supra note 168, at 353; Simone Sepe, Making Sense of Executive Compensation, 36 DEL. J. CORP. L. 189, 202-3 (2011).

\textsuperscript{194} The results of this robustness check are on file with the authors.
\textsuperscript{195} See supra note 177 and accompanying text.
\textsuperscript{196} See Alex Edmans & Qi Liu, Inside Debt, 15 REV. FIN. 75, 87 (2011).
\textsuperscript{197} See id. at 83; Alces & Galle, supra note 166, at 57-58.
\textsuperscript{198} See supra note 174 and accompanying text.
\textsuperscript{199} The first two explanations assume that the CEO’s salary does not include debt (including pension and other deferred compensation). Consistent with the “inside debt” approach to compensation, tying a CEO’s pay to debt is expected to make her sensitive to taking on the risk of losses in excess of the firm’s liquidation value. In that case, the CEO’s incentives to assume greater risk will be tempered by her interest in ensuring that, if the firm becomes more, resulting in higher levels of borrowing when a lawyer is on the board. See infra notes 297-299 and accompanying text. Higher CEO Salary reduces the potential for a CEO to be biased in favor of a firm’s shareholders, which could be the case if her compensation included a significant equity component. See Lucian A. Bebchuk & Holger Spamann, Regulating Bankers’ Pay, 98 GEO. L.J. 247, 255-64 (2010); Jensen & Meckling, supra note 168, at 353; Simone Sepe, Making Sense of Executive Compensation, 36 DEL. J. CORP. L. 189, 202-3 (2011).
Finally, the greater salary may reflect the incremental risk a CEO faces of losing her job when a lawyer is on the board. In general, average total CEO compensation declined from 2000 to 2008 (dropping from an average of $12.3 million in 2000 to $7.3 million in 2008), roughly the same period as our analysis. When a lawyer is on the board, higher salaries may compensate her for the greater oversight to which she becomes subject and the potential loss of management perquisites if she is more likely to be fired for poor performance.

The result, in all three cases, is a greater cost to the company’s shareholders—at a minimum, the higher salary paid to the CEO and, potentially, the costs that result from conflict with the firm’s creditors. The question, which we address in the next Part, is whether there is an offsetting benefit. To briefly anticipate that discussion, we find in Part IV that the change in CEO compensation that occurs when there is a lawyer-director results in an overall decline in risk-taking and increase in firm value.

**B. Board Structure and Takeover Protections**

Our next focus is on the effect of a lawyer-director on board structure and takeover protections. Those relate to the implicit incentives that directors and officers face over the concern they can be removed from their jobs for poor performance.

Board structure can affect the directors’ ability to manage the firm and its officers. Earlier studies showed an inverse correlation between board size, BOARDSIZE$_{i,t}$, and firm value among non-financial firms. Those studies found, on average, that an increase in board size had a negative effect on firm value, most likely because, as the number of directors increased, it became more difficult to coordinate decision-making and control over management. More recent studies have found that, as firms become more complex, larger boards result in higher firm value. Consistent with the board’s managing function, those studies suggest that the greater size is the result of outside directors who bring more experience and knowledge to a board’s decision-making and provide more useful advice to the CEO.

Having a board chairman who is CEO, CEOCHAIR$_{i,t}$, may also affect board oversight. The tasks of chairman and CEO are different and potentially conflicting. The CEO is responsible for running the company, and the chairman is responsible for running the board, one of whose principal functions is monitoring the CEO. A dual CEO-chairman is strategically bankrupt, it will still have sufficient assets to pay its creditors (including her). See Edmans & Liu, supra note 196, at 92.

200 See Kahan & Rock, supra note 24, at 1037.


202 See Jensen, supra note 66, at 862-865; Yermack, supra note 201, at 186.

203 See Jeffery L. Coles et al., Boards: Does One Size Fit All?, 87 J. Fin. ECON. 329, 330-31 (2008); see also Renée B. Adams & Hamid Mehran, CORPORATE PERFORMANCE, BOARD STRUCTURE, AND THEIR DETERMINANTS IN THE BANKING INDUSTRY 3-4 (Fed. Reserve Bank of NY Staff Reports No. 330, Oct. 2011) (finding increased board size in the case of bank holding companies to be valuable as a company becomes more complex, perhaps as one means for directors with subsidiary relationships to help coordinate activities among different operating units), available at http://www.newyorkfed.org/research/staff_reports/sr330.pdf
positioned to pack the board with directors who are sympathetic to management, as well as to control the board’s agenda. Consequently, a board with a dual CEO-chairman may not be as effective in monitoring senior managers as a board where the chairman is independent. Perhaps, as a result, the U.S. practice of having a dual CEO-chairman appears to have started to decline.

Takeover protections also affect incentives by insulating the board and officers from removal, potentially resulting in poorer performance. We use the E Index, EINDEX$_{t,t}$, and the presence of a classified board, STAGGERED$_{t,t}$, as a proxy for board insulation. The E Index considers six features to be crucial indicators of entrenchment. Of the six, four are tied to limits on the shareholders’ voting power—whether or not the firm has a classified board, limits on the shareholders’ ability to amend the bylaws, and supermajority requirements for mergers and charter amendments. The remaining two are well-known takeover defenses—golden parachutes and poison pills.

The E Index’s authors found entrenching provisions to correlate with reduced stock returns. For example, in a firm with a classified board (also known as a “staggered” board), STAGGERED$_{t,t}$, the directors are divided into classes (usually capped at three), with only one class available for election each year. Since the elections are staggered, no more than one-third can be elected at a time and no one can replace a majority of directors in a single year—making the company less attractive to a hostile challenger. As a result, a classified board may cause a decline in firm value, but not in all cases. An insulated board may be better able to focus on valuable long-term projects without fear of takeover, even if they fail to boost short-term profits and share price. Board classification can also provide directors with an important

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204 See Williamson, supra note 155, at 260-62.
205 See Jensen, supra note 66, at 866-67; Thuy-Nga T. Vo, Rating Management Behavior and Ethics: A Proposal to Upgrade the Corporate Governance Rating Criteria, 34 J. CORP. L. 1, 13 (2008) (stating that companies assign separate individuals to the CEO and chair positions in order to enhance the board’s monitoring function).
206 See Kahan & Rock, supra note 24, at 1029-30.
207 See Henry G. Manne, Mergers and the Market for Corporate Control, 73 J. POL. ECON. 110, 112-19 (1965); see also Olubunmi Faley, Classified Boards, Firm Value, and Managerial Entrenchment, 83 J. FIN. ECON. 501, 503 (2007) (finding that firms with classified boards are less likely to replace poor performers, compensate managers based on performance, face proxy challenges, or implement advisory shareholder resolutions).
209 See Bebchuk et al., supra note 208, at 787, 813; see also Gompers et al., supra note 116, at 109-10 (finding that firms with the strongest shareholder rights in the 1990s outperformed firms with governance arrangements that favored senior managers). Empirical evidence, however, is equivocal on whether hostile takeovers (or the threat of takeover) provide effective means to discipline senior managers. See Macey, supra note 59, at 122; Jill E. Fisch, The Overstated Promise of Corporate Governance, 77 U. CHI. L. REV. 923, 942 n.100 (2010).
210 See Del. Code Ann. tit. 8, § 141(d) (2012). Boards can also be classified pursuant to a firm’s bylaws, although this option is less common since shareholders can directly amend the bylaws to eliminate the classified structure. See John C. Coates IV, Explaining Variation in Takeover Defenses: Blame the Lawyers, 89 CALIF. L. REV. 1301, 1392-93 (2001). Some states, such as New York, see N.Y. Bus. Corp. Law § 704(a) (2012), permit a board to be divided into four classes.
source of leverage in negotiating a higher acquisition price.213 In addition, the value of a classified board may depend on the nature of the firm. For example, large, complex firms are likely to benefit from the diverse perspective and advice that outside directors, with special knowledge or experience, bring to the board. Those directors are more likely to invest the time and effort needed to advise a CEO if the threat of removal is lowered. Under those circumstances, the benefits of a classified board can outweigh the costs of entrenchment.214

Similarly, adopting a poison pill can protect directors from replacement, potentially with the same effect as a classified board.215 Poison pill rights are issued to shareholders through a dividend. In a typical “flip over” pill, a firm’s shareholders (other than a prospective acquirer) can exercise the poison pill rights to purchase new shares from the firm at a substantial discount from their market price after the acquirer owns or tenders for a threshold amount of shares. The result, if the poison pill is exercised, is a substantial dilution of the acquirer’s ownership interest and increase in the cost of the takeover.216 Poison pills, therefore, reduce the probability of takeovers (particularly if coupled with a classified board), potentially entrenching directors and managers within the firm. Like a classified board, however, poison pills may also have benefits. Board longevity and the greater leverage the board has to negotiate a higher purchase price can enhance firm value.217

In Table 3, we show the effect of a lawyer-director on board structure and takeover protections.

213 See Guhan Subramanian, Bargaining in the Shadow of Takeover Defenses, 113 YALE L.J. 621, 629-30 (2003); see also Thomas W. Bates et al., Board Classification and Managerial Entrenchment: Evidence from the Market for Corporate Control, 87 J. FIN. ECON. 656, 658 (2008) (finding classified boards to be associated with a higher acquisition premium, but also a lower likelihood of receiving a bid and lower firm values).
215 See Bechuck et al., supra note 208, at 793-94.
217 See Tirole, supra note 156, at 434.
Table 3. Lawyer-Directors and Board Structure and Takeover Protections.

Table 3 sets forth ordinary least squares (OLS) and two-stage least squares (2SLS) regressions of various corporate governance characteristics (BOARDSIZE\(_{i,t}\) in Models (1)-(2); EINDEX\(_{i,t}\) in Models (3)-(4); CEOCHAIR\(_{i,t}\) in Models (5)-(6); and STAGGERED\(_{i,t}\) in Models (7)-(8)) on JD\(_{i,t-1}\) and Predicted JD\(_{i,t-1}\). Specifically, we use JD\(_{i,t-1}\) in the odd models and Predicted JD\(_{i,t-1}\) (as the predicted value in Model (1) of Table 1) in the even models. We also controlled for (but, for brevity, do not show) NYSE-Listed\(_{i,t-1}\), SIZE\(_{i,t-1}\), AVSALESGROWTH\(_{i,t-1}\), DIVIDENDS\(_{i,t-1}\), CASH\(_{i,t-1}\), INSTITUTIONAL OWN\(_{i,t-1}\), OUTSIDE_DIRECTORS\(_{i,t-1}\), and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). Observation count and a measure of fit (adjusted R-squared) are also shown. The ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

<table>
<thead>
<tr>
<th>Variables</th>
<th>OLS</th>
<th>2SLS</th>
<th>OLS</th>
<th>2SLS</th>
<th>OLS</th>
<th>2SLS</th>
<th>OLS</th>
<th>2SLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>JD(_{i,t-1})</td>
<td>0.31*** (7.93)</td>
<td>0.281*** (5.6)</td>
<td>0.02** (2.11)</td>
<td>0.033** (2.27)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predicted JD(_{i,t-1})</td>
<td>0.32* (1.93)</td>
<td>0.82* (1.70)</td>
<td>0.093** (2.07)</td>
<td>0.27** (2.10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>9,267</td>
<td>7,767</td>
<td>9,333</td>
<td>8,172</td>
<td>9,333</td>
<td>8,172</td>
<td>9,582</td>
<td>8,316</td>
</tr>
<tr>
<td>Adj. R-Squared</td>
<td>42.9%</td>
<td>42.9%</td>
<td>16.1%</td>
<td>16.1%</td>
<td>9.4%</td>
<td>10.1%</td>
<td>22.6%</td>
<td>23.4%</td>
</tr>
</tbody>
</table>

Overall, the results in Table 3 indicate that lawyer-directors help shape board structure and the adoption of takeover protections. The results tend to be more conservative—and potentially more protective—than when a lawyer is not on the board.

- Boards with at least one lawyer-director are larger in size, more likely to maintain a dual CEO-chairman position, and have more entrenchment provisions (such as a classified board, poison pill, and similar protections). The results based on Predicted JD\(_{i,t}\) are similar.

- Lawyer-directors increase board size by 3.4 percent in Model (1)\(^{218}\) and increase the E Index by nearly ten percent in Model (3).\(^{219}\) Their presence is also associated with a nearly 3.3 percent increase in the probability of having a CEO-chairman\(^{220}\) and a 5.6 percent increase in the probability of having a classified board.\(^{221}\)

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\(^{218}\) This amount is calculated as the coefficient estimate of 0.31 in Model (1) divided by the average board size of 9.06 (as set out in Appendix B, Panel A).

\(^{219}\) This amount is calculated as the coefficient estimate of 0.281 in Model (3) divided the average E Index of 2.79 (as set out in Appendix B, Panel A).

\(^{220}\) This amount is calculated as the coefficient estimate of 0.02 in Model (5) divided by the unconditional probability of having a CEO-Chairman of 0.60.

\(^{221}\) This amount is calculated as the coefficient estimate of 0.033 in Model (7) divided by the average probability of having a staggered board of 0.60 (as set out in Appendix B, Panel A).
Our results are consistent with lawyers on the board insulating directors and managers from oversight, potentially to the shareholders’ detriment. Yet, the effect, while statistically significant, is relatively small for board size and having a dual CEO-chairman—suggesting that lawyer-directors may not often seek changes in board structure. The increase is greater for the E Index and classified board. What this may indicate is a trade-off between the benefits of a lawyer-director—such as the positive impact on CEO compensation—and the costs of insulating the board from the shareholders. Alternatively, the shifts in E Index and classified board may reflect a more effective governance structure. A firm that values outside directors may benefit from greater protections against takeover. If the likelihood of removal is lowered, lawyer-directors and others may be more inclined to join the board and invest the effort needed to understand the business in order to more effectively advise the CEO. In either case, the question is whether changes in board structure and takeover protections, when there is a lawyer-director, result in a change in firm value. To anticipate our findings in Part IV, we find that the changes alone negatively affect firm value, and the addition of a lawyer-director does not produce a statistically significant result. Our qualitative findings, however, shift directionally from a decrease to an increase in firm value, so that board structure and takeover protections have a positive effect on firm value when a lawyer is on the board.

C. Stock Option Backdating

We next consider whether having a lawyer on the board affects the board’s integrity, using the litigation around stock option backdating as a proxy. Our focus, in particular, is on the accuracy of a company’s public financial disclosures. Investors must be able to rely on those disclosures in order to assess the value of their investments, as well as oversee how well the board and managers are performing. Undetected, improper disclosure may insulate the board and managers from shareholder oversight. Consequently, financial misconduct, when discovered, causes a substantial loss of a firm’s reputation that, in turn, results in a significant drop in earnings due to lower sales and higher contracting and financing costs.

Backdating involved a company’s grant of stock options, often to senior officers, as of a date preceding, and at a strike price below the stock’s value on, the actual date of grant. In

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222 See supra notes 212-214, 217, 222-223 and accompanying text.
223 See infra notes 321-323 and accompanying text.
224 In this Article, “integrity” refers to the board conducting itself in an honest manner. See ABA BUSINESS LAW SECTION, CORPORATE LAWS COMMITTEE, CORPORATE DIRECTOR’S GUIDEBOOK 6 (Hillary A. Sale & Holly J. Gregory eds., 6th ed. 2011).
226 See Jonathan M. Karpoff et al., The Cost to Firms of Cooking the Books, 43 J. FIN. & QUANT. ANALYSIS 581, 582 (2008).
227 For example, assume Company A’s compensation committee agrees to grant an option to the CEO on ten thousand shares of Company A stock on March 15, when the shares trade on the NYSE at $50/share. In the ordinary course, the option’s strike price would also be $50/share; the option would have been issued “at the money.” In this case, Company A’s shares traded at $40/share one month earlier, on February 15, and—in an effort to benefit the CEO—the relevant documentation stated that the CEO options were granted on February 15 with a strike price at the then-current market price of $40/share. At the time the options were actually issued (market price of $50/share), the option was already in-the-money by $10/share (reflecting the strike price of $40/share). Company A could have granted the CEO an in-the-money option on March 15, but it would have suffered negative tax and accounting
In most cases, backdating had adverse tax and accounting consequences, none of which were disclosed to the Internal Revenue Service, the firm’s auditors, or its shareholders, and in some cases, resulted in the company being required to restate its publicly reported earnings. Backdating also often ran afoul of the terms of the benefit plans under which the options were granted. When discovered, the implicated firms lost an average market value of $389 million during the 21-day period around the first announcement of the problem.

In Table 4 below, we estimated dummy variable models (Probit models) where the dependent variable was 1 if the corporation had option backdating litigation in the current fiscal year, and 0 otherwise.

**Table 4. Lawyer-Directors and Option Backdating Litigation.**

Table 4 presents a regression analysis with the dependent variable being the probability of stock option backdating litigation (OPTION_BACKDATING_LIT
t) and the main explanatory variables being either JD	 or Predicted JD	. Models (1) and (2) are Probit models showing the actual, rather than marginal, effects of the independent variables on the probability of stock option backdating litigation. We determined Predicted JD	 as the predicted value from Model (1) in Table 1. We also controlled for (but, for brevity, do not show) NYSE-Listed	, SIZE	, AVSALEGROWTH	, DIVIDENDS	, CASH	, OUTSIDE_DIRECTORS	, and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). Observation count and a measure of fit (pseudo R-squared) are also shown. The ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Dependent Variable: OPTION_BACKDATING_LIT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Instrumental Variables</td>
</tr>
<tr>
<td></td>
<td>Probit</td>
</tr>
<tr>
<td>JD</td>
<td>-0.94*** (3.02)</td>
</tr>
<tr>
<td>Predicted JD</td>
<td>-1.006*** (3.60)</td>
</tr>
<tr>
<td>Observations</td>
<td>9,333</td>
</tr>
<tr>
<td>Pseudo R-squared</td>
<td>15.9%</td>
</tr>
</tbody>
</table>


See Narayanan et al., supra note 228, at 1601.
Within our universe of companies, the probability of stock option backdating litigation was quite small, only 22 basis points.\textsuperscript{230} Note, however, that with a lawyer-director, the marginal effect was a 20.7 basis points reduction in probability.\textsuperscript{231} In other words, in relative terms, the presence of a lawyer-director diminished the likelihood of stock option backdating litigation by nearly 94 percent.\textsuperscript{232} A one standard deviation increase in Predicted $JD_{t+1}$ using Model (2) was associated with a 26 percent decline in the probability of backdating litigation.\textsuperscript{233}

The relationship between board independence and fraudulent disclosure is mixed. In theory, independent directors ensure the honesty of a firm’s financial reporting—a principal reason why listed firms are required to have an audit committee comprised of independent directors.\textsuperscript{234} In addition, there is evidence that independent directors help control fraud,\textsuperscript{235} but that evidence is also consistent with the possibility that fraud-doers simply avoid independent director oversight.\textsuperscript{236} The evidence is also mixed on financial reporting.\textsuperscript{237} Although not dispositive, our analysis suggests that a focus on only independence may be misplaced. A lawyer-director minimizes the probability of stock option backdating, consistent with the possibility that the training and experience of members of the board may also be an important part of the analysis.

IV. THE (POST-)MODERN CORPORATION—
RISK-TAKING, FIRM VALUE, AND THE MANAGING BOARD

It may be useful to quickly take stock of where we are. Lawyer-directors are special; their value extends beyond traditional monitoring and agency cost reduction. They bring to the board the ability to spot issues, and they provide a perspective on decisions based on training, experience, and judgment that non-lawyers may not have.\textsuperscript{238} Although CEO compensation can

\textsuperscript{230} This estimate is based on the unconditional probability as reported in Appendix B.

\textsuperscript{231} This is because the marginal effect in the Probit Model (1) in Table 4 is $-0.00207$, corresponding to the coefficient estimate of $-0.94$. The marginal effect of $JD_{t+1}$ is set out in Appendix C, Table 4—Option Backdating Regression.

\textsuperscript{232} This amount is calculated as the ratio of the marginal effect of $-0.00207$ to the average unconditional probability of option backdating of 0.0022 as reported in Appendix B.

\textsuperscript{233} This amount is the marginal effect coefficient of $-0.0032$ (which corresponds to the estimated coefficient of $-1.006$), multiplied by the standard deviation in Predicted $JD_{t+1}$ (or $\hat{JD}_{t+1}$) of 0.179 as reported in the Appendix B, divided by the average unconditional probability of option backdating of 0.0022 as reported in Appendix B. The marginal effect of Predicted $JD_{t+1}$ is set out in Appendix C, Table 4—Option Backdating Regression.

\textsuperscript{234} See supra note 71 and accompanying text.

\textsuperscript{235} See, e.g., Patricia M. Dechow, Richard G. Sloan & Amy P. Sweeney, Causes and Consequences of Earnings Manipulation: An Analysis of Firms Subject to Enforcement Actions by the SEC, 13 CONTEMP. ACCT. RES. 1, 21, 30 (1996); Mark S. Beasley, An Empirical Analysis of the Relation Between the Board of Director Composition and Financial Statement Fraud, 71 ACCT. REV. 443, 455-56 (1996); Hatice Uzun, Board Composition and Corporate Fraud, FIN. ANAL. J., May/June 2004, at 33, 41-42 (2004). Not all studies have found a correlation between independence and a reduction in illegal activities. For example, one study found that firms with a majority of outside directors were not involved in fewer illegal acts than firms with a majority of inside directors. See Idalene F. Kesner et al., Board Composition and the Commission of Illegal Acts: An Investigation of Fortune 500 Companies, 29 ACAD. MGMT. J. 789, 795 (1986).

\textsuperscript{236} See Bhagat & Black, supra note 15, at 933.

\textsuperscript{237} See id.

\textsuperscript{238} See supra notes 6-7 and accompanying text.
increase with a lawyer-director, it is also more likely to be made up of stock and other instruments that provide the CEO with risk-reducing incentives. In addition, lawyer-directors bring important management benefits to the firm, including an expertise in litigation and regulation. Businesses with intangible assets, such as patents, are more likely to include lawyer-directors who can assist in protecting those assets, and firms involved in other types of litigation are also more likely to have a lawyer on the board. Lawyer-directors also influence a firm’s board structure and takeover protections. Although the changes may weaken shareholder oversight over directors and officers, they can also encourage a wider range of outside directors to join the board, providing valuable advice to the CEO. Finally, using stock option back-dating as a proxy, board integrity (in relation to public financial disclosures) also benefits from having a lawyer on the board.

In this Part, we consider the effect of having a lawyer-director on firm risk-taking and firm value. Our particular concern is whether the level of risk that results from having a lawyer-director increases or decreases firm value. We also focus on the channels through which a lawyer-director can influence both outcomes.

A. Risk-Taking

At the outset, one might ask whether diversified shareholders should value the change in risk-taking that results from having a lawyer on the board. Within the contractarian model, investors can inexpensively manage risk on their own by diversifying their holdings across a portfolio of firms. On that basis, it may not be efficient for a lawyer-director to manage risk on the investors’ behalf, unless they can do so in ways that shareholders cannot duplicate for themselves. Directors and managers, for example, are able to access confidential information, giving them an edge over shareholders in assessing and managing a firm’s risk. As with risk management generally, they can use that information to reduce the firm’s cash flow instability, freeing up capital that would otherwise be set aside against the risk of future losses. Increased cash flow predictability may also permit firms to make additional value-enhancing investments using internal funds that are less costly than equity or debt, increasing firm value over time.

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239 See supra Table 2, Panel B, and notes 191-193 and accompanying text.

240 See supra Table 2, Panel A, and notes 182-189 and accompanying text.

241 See supra Table 1 and note 138 and accompanying text.

242 See supra Table 1 and note 137 and accompanying text; see also Ronald Gilson, The Devolution of the Legal Profession: A Demand Side Perspective, 49 MD. L. REV. 869, 899-903 (1990) (explaining the value to a corporation of having in-house legal knowledge, rather than relying on outside counsel). Greater complexity also raises the probability of having a lawyer on the board. See supra Table 1 and note 141 and accompanying text.

243 See supra notes 212-214, 217, 222-223 and accompanying text.

244 See supra Table 4 and notes 224-237 and accompanying text.

245 See Fama & Jensen, supra note 51, at 302-03.


247 See Brian W. Nocco & Rene Stulz, Enterprise Risk Management: Theory and Practice, 18 J. APPLIED CORP. FIN. 8, 11-14 (Fall 2006).

and, as the investments generate new revenues, further reducing the firm’s cost of financing. In addition, the firm may lower the real costs of financial distress—such as bankruptcy costs, indirect costs from a decline in market competitiveness, and risk premiums demanded by customers, suppliers, and employees. The firm can also increase its debt capacity without requiring the increase in the cost of debt predicted by the Miller-Modigliani irrelevancy propositions. Finally, shareholders may be better able to manage their own portfolio risk, reducing their expected returns on equity and, in turn, the firm’s cost of capital. None of those real benefits can be duplicated by the shareholders. A value-maximizing firm, therefore, has an incentive to manage its risk-taking to the extent that doing so creates greater value for its shareholders.

In Table 5, Panel A, below, we relate two dependent variables, ZSCORE$_{i,t}$ and IMPLVOL$_{i,t}$, to proxies for having a lawyer-director on the board. ZSCORE$_{i,t}$ and IMPLVOL$_{i,t}$ are distinct measures of risk; Z-Score is a measure of the risk of insolvency, and implied volatility is a more general measure of risk. Note that a higher Z-Score is interpreted as a

Note that a higher Z-Score is interpreted as a
lower risk of bankruptcy, while higher implied volatility is interpreted as a higher level of corporate risk. Z-Score is also an historical measure of risk (because it is calculated on the basis of historical accounting data), whereas implied volatility is a forward-looking measure of risk (because it is derived from traded option prices). The proxies for having a lawyer-director are JD_{i,t}, Predicted JD_{i,t}, JD_{OUTSIDE_{i,t}} (when a lawyer-director is not an employee), JD_{CHAIRMAN_{i,t}} (when a lawyer-director is also chairman of the board), JD_{RISKCOM_{i,t}} (when a lawyer-director is a member of the board’s risk management committee), and JD_{CHAIR RISKCOM_{i,t}} (when a lawyer-director is chairman of the board’s risk management committee).

As Panel A indicates, in general, having a lawyer on the board results in lower risk-taking, and the risk-reducing effect is even more significant when the lawyer-director has a more prominent role on the board. In addition, we find that lawyer-directors who are insiders (for example, lawyer-CEOs who are also directors) are more likely to reduce corporate risk than outside lawyer-directors.

traded, standardized European-style call options with a 90-day maturity on that company’s shares, and then averaging the implied volatility for each calendar year.

The correlation between the two dependent variables is -0.189. Although they measure different aspects of corporate risk, higher levels of bankruptcy risk (a lower Z-Score) are associated with higher levels of corporate risk (higher implied volatility). The correlation coefficient is negative because Z-Score is a measure of safety and implied volatility is a measure of risk.
Table 5. Risk-Taking and Lawyer-Directors.
Panel A. This panel presents summary coefficient estimates of regressions of two measures of risk-taking—ZSCORE_{it} and IMPLVOL_{it}—to different specifications of lawyer-directors on the board: JD_{it-1}, Predicted JD_{it-1}, JD_OUTSIDE_{it-1}, JD_CHAIRMAN_{it-1}, JD_CHAIR_RISKCOM_{it-1}, and JD_RISKCOM_{it-1}. We calculated Predicted JD_{it-1} using Model (1) in Table 2. We also controlled for (but, for brevity, do not show) CEO DELTA_{it-1}, CEO VEGA_{it-1}, NYSE-Listed_{it-1}, SIZE_{it-1}, AVSALESGROWTH_{it-1}, DIVIDENDS_{it-1}, CASH_{it-1}, OUTSIDE_DIRECTORS_{it-1}, and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). Observation count and a measure of fit (adjusted R-squared) are also shown. The “***”, “**”, and “*” indicate significance at the 1%, 5%, and 10% levels, respectively.

<table>
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<th>Variable:</th>
<th>( \text{ZSCORE}_{it} )</th>
<th>( \text{IMPLVOL}_{it} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( JD_{it-1} )</td>
<td>0.11***</td>
<td>-0.004**</td>
</tr>
<tr>
<td></td>
<td>(3.77)</td>
<td>(2.33)</td>
</tr>
<tr>
<td>Predicted ( JD_{it-1} )</td>
<td>0.31**</td>
<td>-0.053**</td>
</tr>
<tr>
<td></td>
<td>(2.49)</td>
<td>(2.10)</td>
</tr>
<tr>
<td>( JD_OUTSIDE_{it-1} )</td>
<td>0.084***</td>
<td>-0.002**</td>
</tr>
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<td></td>
<td>(2.89)</td>
<td>(2.66)</td>
</tr>
<tr>
<td>( JD_CHAIRMAN_{it-1} )</td>
<td>0.57**</td>
<td>-0.019***</td>
</tr>
<tr>
<td></td>
<td>(2.74)</td>
<td>(3.23)</td>
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<tr>
<td>( JD_CHAIR_RISKCOM_{it-1} )</td>
<td>0.11***</td>
<td>-0.004**</td>
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<tr>
<td></td>
<td>(3.43)</td>
<td>(3.3)</td>
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<tr>
<td>( JD_RISKCOM_{it-1} )</td>
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<td>(2.95)</td>
<td>(2.21)</td>
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<tr>
<td>Observations</td>
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<tr>
<td>Adj. R-squared (%)</td>
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<td>51.4%</td>
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</table>

-44-
Table 5’s regression analysis included the same control variables as in Table 2—NYSE-Listed$_{i,t-1}$, SIZE$_{i,t-1}$, AVSALES GROWTH$_{i,t-1}$, DIVIDENDS$_{i,t-1}$, CASH$_{i,t-1}$, OUTSIDE DIRECTORS$_{i,t-1}$, and year and industry indicator variables. We expected those variables to influence a firm’s risk choices. Listing on the NYSE, NYSE-Listed$_{i,t-1}$, relates to risk, since listed firms are subject to higher levels of corporate governance regulation (and related litigation).\textsuperscript{258} Firms with large total assets, SIZE$_{i,t-1}$, tend to be more conservative in their investment choices, because their investments are greater—and potentially less risky—than the investments of average firms (assuming that a project’s riskiness is inverse to its size).\textsuperscript{259} Firms with high average sales growth, AVSALES GROWTH$_{i,t-1}$, are more likely to take on new (and potentially risky) investments in order to continue growing.\textsuperscript{260} Firms, however, that have an established history of paying dividends, DIVIDENDS$_{i,t-1}$, are more likely to pursue conservative projects in order to maintain the cash flow necessary to continue doing so.\textsuperscript{261} In addition, firms that generate significant cash reserves, CASH$_{i,t-1}$, may be established in their industry and, therefore, less willing to pursue risky ventures. Self-interested managers, however, may decide to invest those reserves in risky projects that are value-destroying, in which case, firms with greater CASH$_{i,t-1}$ may also take on greater risk.\textsuperscript{262} In controlling for the proportion of outside directors on the board, OUTSIDE DIRECTORS$_{i,t-1}$, our goal was to determine whether the effect of lawyer-directors is analogous to the effect of any other outside director or whether lawyer-directors have special features.

In addition, we controlled for CEO DELTA$_{i,t-1}$ and CEO VEGA$_{i,t-1}$.\textsuperscript{263} Those variables were used to check whether there is still a role for lawyer-directors to reduce risk after controlling for CEO incentives. Empirically, a higher CEO DELTA$_{i,t-1}$ has corresponded to lower corporate risk,\textsuperscript{264} and CEOs with higher CEO VEGA$_{i,t-1}$ are more likely to implement riskier policies (such as greater investment in research and development).\textsuperscript{265}

Our findings show that a lawyer-director, under all proxies for having a lawyer on the board, reduces risk as measured by ZSCORE$_{i,t}$ and IMPLVOL$_{i,t}$. Turning to the economic significance of the results, we also found:

- Based on the coefficients in Panel A, adding a lawyer-director results in a 6.6 percent increase in Z-Score\textsuperscript{266} and a one percent decrease in implied volatility.\textsuperscript{267} Since implied volatility is a generic measure of risk and Z-Score measures bankruptcy risk, we can

\textsuperscript{258} See supra note 124 and accompanying text.
\textsuperscript{259} See Kose John et al., Corporate Governance and Risk-Taking, 63 J. FIN. 1679, 1681(2008).
\textsuperscript{260} See id.
\textsuperscript{262} See id.
\textsuperscript{263} We also considered INSTITUTIONAL OWN$_{i,t-1}$ but did not include it as a formal control since it was statistically insignificant.
\textsuperscript{264} See Jeffrey Coles et al., Managerial Incentives and Risk-Taking, 79 J. FIN. ECON. 431, 432 (2006). For a description of delta, see supra note 177 and accompanying text.
\textsuperscript{265} See id. For a description of vega, see supra note 178-179 and accompanying text.
\textsuperscript{266} This amount is equal to the coefficient estimate of 0.11 divided by the average Z-Score of 1.659 (as set out in Appendix B, Panel A).
\textsuperscript{267} This amount is equal to the coefficient estimate of -0.004 divided by average implied volatility of 0.401 (as set out in Appendix B, Panel A).
conclude that a lawyer-director’s presence has a greater impact on reducing the risk of corporate default.

- Our results on the economic impact on risk remain significant if we use Predicted JD_{i,t-1}. A one standard deviation increase in Predicted JD_{i,t-1} is associated with a 3.3 percent increase in Z-Score, indicating a reduction in bankruptcy risk. Likewise, a one standard deviation increase in Predicted JD_{i,t-1} is associated with a 2.4 percent decrease in implied volatility.

- The foregoing results are higher still if the lawyer-director is also the board’s chairman. In that instance, Z-Score rises significantly, by 34.3 percent, while implied volatility drops by 4.75 percent.

- Note that the economic effect of non-executive lawyer-directors (JD_OUTSIDE_{i,t}) on risk reduction is less significant than the impact of JD_{i,t}. This result means that executive lawyer-directors (such as lawyer-CEOs who are also directors) are likely to reduce corporate risk more significantly than outside lawyer-directors.

- Our results on lawyer-directors and corporate risk-taking are robust after controlling for all firm-specific characteristics.

Next, in Panels B, C, and D, we considered the channels through which a lawyer-director could lower risk. Our hypothesis was that lawyer-directors affect risk through CEO compen-

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268 This amount is calculated as the coefficient estimate of 0.31, multiplied by one standard deviation in Predicted JD_{i,t-1} of 0.179, divided by an average Z-Score of 1.659 (as set out in Appendix B, Panel A).

269 This amount is calculated as the coefficient estimate of -0.053, multiplied by one standard deviation in Predicted JD_{i,t} of 0.179, divided by average implied volatility of 0.401 (as set out in Appendix B, Panel A). Note that the overall explanatory power, as captured by the R-squared statistics, of the model using Predicted JD_{i,t-1} is higher than that of the model using JD_{i,t}. This indicates that the model for Predicted JD_{i,t-1} resolves the endogeneity concern arising from such model being determined simultaneously with bankruptcy risk (Z-Score) and corporate risk (implied volatility).

270 This amount is equal to the coefficient estimate of 0.57 divided by the average Z-Score of 1.659 (as set out in Appendix B, Panel A).

271 This amount is equal to the coefficient estimate of -0.019 divided by the average implied volatility of 0.401 (as set out in Appendix B, Panel A).

272 When we restrict JD_{i,t} to exclude JD_OUTSIDE_{i,t}, the coefficient estimate of lawyer-directors that are not JD_OUTSIDE_{i,t} is still significant at the 1% level and increases from 0.11 to 0.12. In terms of economic significance, this means that the presence of an executive lawyer-director is associated with a 7.2 percent increase in Z-Score (that is, 0.12/1.659, where 1.659 is the average Z-Score (as set out in Appendix B, Panel A)). Likewise, the presence of an executive lawyer-director is associated with an increase in firm value. See infra note 315 and accompanying text.

273 We performed a first-difference regression in order to verify the robustness of our results on the relationship between a lawyer-director and risk-taking. Our principal concern was that firm characteristics, other than those we had identified, could drive the relationship. If that were the case, we could not infer a causal relationship between having a lawyer-director and a reduction in risk-taking. Through a first-difference regression, we were able to test whether an idiosyncratic feature of the firm is what determined the correlation. The model allowed us to test the isolated effect that a lawyer-director has on risk. See JAMES HAMILTON, TIME SERIES ANALYSIS 1 (1994); WOOLDRIDGE, supra note 148, at 279. The results are set out in Appendix D, which indicates that the relationship was positive and statistically significant.
sation and efficient litigation management. Recall that lawyer-directors change a firm’s CEO incentive structures (CEO DELTA$_{i,t-1}$ and CEO VEGA$_{i,t-1}$) and so, in Panel B, we analyzed the impact of that change on a firm’s risk-taking. In Panels C and D, because the probability of future litigation is a determinant of having a lawyer-director, we also analyzed the combined impact of lawyer-directors and litigation on a firm’s risk-taking.

Table 5. Risk-Taking and Lawyer-Directors.

Panel B. This panel presents summary coefficient estimates of regressions similar to those in Table 5, Panel A, with the dependent variables being ZSCORE$_{i,t}$ and IMPLVOL$_{i,t}$, and interactions of CEO DELTA$_{i,t}$ and CEO VEGA$_{i,t}$ with the main explanatory variables JD$_{i,t-1}$, JD_OUTSIDE$_{i,t-1}$, JD_CHAIRMAN$_{i,t-1}$, JD_RISKCOM$_{i,t-1}$, and JD_CHAIR_RISKCOM$_{i,t-1}$. For brevity, we only report the interactions. We also controlled for (but, for brevity, do not show) CEO DELTA$_{i-1}$, CEO VEGA$_{i-1}$, NYSE-Listed$_{i-1}$, SIZE$_{i-1}$, AVSALESGROWTH$_{i-1}$, DIVIDENDS$_{i-1}$, CASH$_{i-1}$, OUTSIDE_DIRECTORS$_{i-1}$, year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). The *** , ** , and * indicate significance at the 1%, 5%, and 10% levels, respectively.

<table>
<thead>
<tr>
<th></th>
<th>Interactions with CEO DELTA$_{i,t}$</th>
<th>Interactions with CEO VEGA$_{i,t}$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Z-SCORE$_{i,t}$</td>
<td>IMPLVOL$_{i,t}$</td>
</tr>
<tr>
<td>JD$_{i,t-1}$</td>
<td>0.0001***</td>
<td>-0.0001**</td>
</tr>
<tr>
<td></td>
<td>(3.95)</td>
<td>(2.28)</td>
</tr>
<tr>
<td>Predicted JD$_{i,t-1}$</td>
<td>0.0001*</td>
<td>-0.0001**</td>
</tr>
<tr>
<td></td>
<td>(1.73)</td>
<td>(2.1)</td>
</tr>
<tr>
<td>JD_OUTSIDE$_{i,t-1}$</td>
<td>0.0001*</td>
<td>-0.0001**</td>
</tr>
<tr>
<td></td>
<td>(1.73)</td>
<td>(2.1)</td>
</tr>
<tr>
<td>JD_CHAIRMAN$_{i,t-1}$</td>
<td>0.0001**</td>
<td>-0.0001*</td>
</tr>
<tr>
<td></td>
<td>(2.11)</td>
<td>(1.94)</td>
</tr>
<tr>
<td>JD_RISKCOM$_{i,t-1}$</td>
<td>0.0001**</td>
<td>-0.0001*</td>
</tr>
<tr>
<td></td>
<td>(2.53)</td>
<td>(1.88)</td>
</tr>
<tr>
<td>JD_CHAIR_RISKCOM$_{i,t-1}$</td>
<td>0.0001*</td>
<td>-0.0001*</td>
</tr>
<tr>
<td></td>
<td>(1.64)</td>
<td>(1.93)</td>
</tr>
</tbody>
</table>

To test the first channel (CEO compensation), we studied the impact on risk-taking of the interaction between having a lawyer-director and CEO incentives—CEO DELTA$_{i,t-1}$ and CEO VEGA$_{i,t-1}$. We expected higher CEO DELTA$_{i,t-1}$ to lower corporate risk-taking and for its interaction with JD$_{i,t-1}$ to further reduce the level of risk incurred by the firm. We also expected higher levels of CEO VEGA$_{i,t-1}$ to increase corporate risk-taking, but for that effect to be reversed if a lawyer is on the board.

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274 See supra Table 2, Panel A, and notes 182-189 and accompanying text.
275 See supra Table 1 and notes 137-138 and accompanying text.
• As anticipated, CEO DELTA_{t-1} increases Z-Score and decreases implied volatility. Its interaction with JD_{t-1} further increases Z-Score and further decreases implied volatility. More importantly, the presence of a lawyer-director increases the risk-reducing effect of CEO DELTA_{t-1} on Z-Score by 64 percent\(^{276}\) and on implied volatility by 121 percent.\(^{277}\)

• Next, as anticipated, the effect of CEO VEGA_{t-1} is to increase risk. Its interaction with JD_{t-1} reduces risk, as measured by Z-Score, by nearly 92 percent and reduces risk, when measured as implied volatility, by nearly 30 percent.\(^{278}\)

• We see consistent results when we examine the alternative roles played by lawyer-directors, such as chairman of the board or chairman of the risk management committee.

We also investigated the effect on corporate risk of a lawyer-director’s influence on board structure and takeover protections using the same controls as in Table 5, Panel B.\(^{279}\) BOARDSIZE\(_{t-1}\), EINDEX\(_{t-1}\), and STAGGERED\(_{t-1}\) have a negative impact on corporate risk-taking.\(^{280}\) We obtained the same qualitative results when we considered the effect of a lawyer-director on those variables.\(^{281}\) Conversely, having a CEO who is also chairman of the board,

\(^{276}\) This amount is calculated as the ratio of the coefficient of JD_{t-1} * CEO DELTA_{t-1} of 0.0001 to the coefficient of CEO DELTA_{t-1} of 0.000156.

\(^{277}\) This amount is calculated as the ratio of the coefficient of JD_{t-1} * CEO DELTA_{t-1} of -0.0001 to the coefficient of CEO DELTA_{t-1} of -0.0000826.

\(^{278}\) The economic effect on Z-Score is estimated as the ratio of the coefficient estimate for JD_{t-1} * CEO VEGA_{t-1} of 0.0001 to the CEO VEGA_{t-1} coefficient estimate of -0.0001. The economic effect on implied volatility is estimated as the ratio of the coefficient estimate for JD_{t-1} * CEO VEGA_{t-1} of -0.0001 to the CEO VEGA_{t-1} coefficient estimate of 0.00033.

\(^{279}\) Those results are not tabulated, since most of the coefficient estimates are not statistically significant.

\(^{280}\) In particular, we find that:

1. BOARDSIZE\(_{t-1}\) has a positive effect on ZSCORE\(_{t-1}\). This effect is statistically significant at the 5% level and corresponds to 2.5 percent increase in ZSCORE\(_{t-1}\). The economic effect is obtained by (a) multiplying (i) the coefficient estimate of BOARDSIZE\(_{t-1}\) (0.018) by (ii) one standard deviation in BOARDSIZE\(_{t-1}\) (2.3), and (b) dividing by the average ZSCORE\(_{t-1}\) (1.66). Similarly, BOARDSIZE\(_{t-1}\) has a negative effect on IMPLVOL\(_{t-1}\). The effect is statistical significant at the 1% level and corresponds to a two percent decrease in IMPLVOL\(_{t-1}\). The economic significance is obtained by (a) multiplying (i) the coefficient estimate of BOARDSIZE\(_{t-1}\) (0.006) by (ii) one standard deviation in BOARDSIZE\(_{t-1}\) (1.35), and (b) dividing by the average IMPLVOL\(_{t-1}\) (0.401).

2. EINDEX\(_{t-1}\) has a positive effect on ZSCORE\(_{t-1}\). This effect is not statistically significant but corresponds to a 0.4 percent increase in ZSCORE\(_{t-1}\). The economic effect is obtained by (a) multiplying (i) the coefficient estimate of EINDEX\(_{t-1}\) (0.005) by (ii) one standard deviation in EINDEX\(_{t-1}\) (1.35), and (b) dividing by the average ZSCORE\(_{t-1}\) (1.66). Similarly, EINDEX\(_{t-1}\) has a negative effect on IMPLVOL\(_{t-1}\). The effect is statistically significant at the 1% level and corresponds to a two percent decrease in IMPLVOL\(_{t-1}\). The economic significance is obtained by (a) multiplying (i) the coefficient estimate of EINDEX\(_{t-1}\) (-0.006) by (ii) one standard deviation in EINDEX\(_{t-1}\) (1.35), and (b) dividing by the average IMPLVOL\(_{t-1}\) (0.401).

3. STAGGERED\(_{t-1}\) has a positive effect on ZSCORE\(_{t-1}\). This effect is statistically significant at the 10% level and corresponds to 2.1 percent increase in ZSCORE\(_{t-1}\). The economic effect is obtained by dividing the coefficient estimate of STAGGERED\(_{t-1}\) (0.035) by the average ZSCORE\(_{t-1}\) (1.66). Similarly, STAGGERED\(_{t-1}\) has a negative effect on IMPLVOL\(_{t-1}\). The effect is statistically significant at the 5% level and corresponds to a 2.5 percent decrease in IMPLVOL\(_{t-1}\). The economic significance is obtained by dividing the coefficient estimate of STAGGERED\(_{t-1}\) (-0.01) by the average IMPLVOL\(_{t-1}\) (0.401).

In particular:

1. When BOARDSIZE\(_{t-1}\) is interacted with a lawyer-director, the effect on ZSCORE\(_{t-1}\) is not statistically significant, but its economic significance corresponds to a 2.1 percent increase in ZSCORE\(_{t-1}\). The economic effect is obtained by (a) multiplying (i) the coefficient estimate of the interacting variable (0.015) by (ii) one standard
CEOCHAIR_{i,t-1} increases corporate risk-taking, but the result is reversed when there is a lawyer on the board.\footnote{282}

In Panels C and D, we studied the influence of lawyer-directors on risk through their management of litigation. We split litigation into two panels. In the first, we included patent litigation, PATENT_LIT_{i,t}. In the second, we included SECURITIES_LAW_{i,t} (securities law litigation), CLASSACTION_{i,t} (class action litigation), and ACCOUNTING_LIT_{i,t} (accounting malpractice litigation). Patent litigation can reduce risk by defining the ownership boundaries of a firm’s assets, in particular, intangible assets like patents.\footnote{283} We expected that having a lawyer on the board would have a risk-reducing effect, which would be stronger for firms with more intangible assets. The second three categories were expected to increase firm risk by potentially reducing firm profitability. Accordingly, we expected lawyer-directors to help manage litigation efficiently, and by doing so, reduce the impact of such litigation on firm risk.

 deviation in BOARDSIZE_{i,t-1} (2.3), and (b) dividing by the average ZSCORE_{i,t} (1.66). When BOARDSIZE_{i,t-1} is interacted with a lawyer-director, the effect on IMPLVOL_{i,t} is statistically significant at the 5% level and its economic effect corresponds to 1.1 percent decrease in IMPLVOL_{i,t}. The economic effect is obtained by (a) multiplying (i) the coefficient estimate of the interacting variable (0.002) by (ii) one standard deviation in BOARDSIZE_{i,t-1} (2.3), and (b) dividing by the average IMPLVOL_{i,t} (0.401).

(2) When EINDEX_{i,t-1} is interacted with a lawyer-director, the effect on ZSCORE_{i,t} is not statistically significant, but its economic significance corresponds to 2.3 percent increase in ZSCORE_{i,t}. The economic effect is obtained by (a) multiplying (i) the coefficient estimate of the interacting variable (0.028) by (ii) one standard deviation in EINDEX_{i,t-1} (1.35), and (b) dividing by the average ZSCORE_{i,t} (1.66). When EINDEX_{i,t-1} is interacted with a lawyer-director, the effect on IMPLVOL_{i,t} is statistically insignificant and its economic effect corresponds to a 1% decrease in IMPLVOL_{i,t}. The economic effect is obtained by (a) multiplying (i) the coefficient estimate of the interacting variable (-0.003) by (ii) one standard deviation in EINDEX_{i,t-1} (1.35), and (c) dividing by the average IMPLVOL_{i,t} (0.401).

(3) When STAGGERED_{i,t-1} is interacted with a lawyer-director, the effect on ZSCORE_{i,t} is not statistically significant, but its economic significance corresponds to a 0.12 percent increase in ZSCORE_{i,t}. The economic effect is obtained by dividing (a) the coefficient estimate of the interacting variable (0.002) by (b) the average ZSCORE_{i,t} (1.66). When STAGGERED_{i,t-1} is interacted with a lawyer-director, the effect on IMPLVOL_{i,t} is still statistically insignificant, but its economic effect corresponds to a 1.25 percent decrease in IMPLVOL_{i,t}. The economic effect is obtained by dividing (a) the coefficient estimate of the interacting variable (-0.005) by (b) the average IMPLVOL_{i,t} (0.401).

\footnote{282} Specifically, CEOCHAIR_{i,t-1} has a negative effect on ZSCORE_{i,t}. That effect is statistically significant at the 10% level and corresponds to a 4.5 percent decrease in ZSCORE_{i,t}. The economic effect is obtained by dividing (a) the coefficient estimate of CEOCHAIR_{i,t-1} (-0.074) by (b) the average of ZSCORE_{i,t} (1.66). Similarly, CEOCHAIR_{i,t} has a positive effect on IMPLVOL_{i,t}. The effect is statistically significant at the 10% level and corresponds to a 1.7 percent increase in IMPLVOL_{i,t}. The economic significance is obtained by dividing (a) the coefficient estimate of CEOCHAIR_{i,t-1} (0.007) by (b) the average IMPLVOL_{i,t} (0.401). When CEOCHAIR_{i,t-1} is interacted with a lawyer-director, the effect on ZSCORE_{i,t} is not statistically significant, but its economic significance corresponds to a 2.71 percent increase in ZSCORE_{i,t}. The economic effect is obtained by dividing (a) the coefficient estimate of the interacting variable (0.045) by (b) the average ZSCORE_{i,t} (1.66). Similarly, when CEOCHAIR_{i,t-1} is interacted with a lawyer-director, the effect on IMPLVOL_{i,t} is not statistically significant, but its economic effect corresponds to a 2.2 percent decrease in IMPLVOL_{i,t}. The economic significance is obtained by dividing (a) the coefficient estimate of the interacting variable (-0.009) by (b) the average IMPLVOL_{i,t} (0.401).

\footnote{283} Notwithstanding a patent explosion that began in the 1980s, see Bronwyn H. Hall, Exploring the Patent Explosion, in ESSAYS IN HONOR OF EDWIN MANSFIELD: THE ECONOMICS OF R&D, INNOVATION, AND TECHNOLOGICAL CHANGE 195, 197 (Albert N. Link & F. M. Scherer eds., 2005), 99 percent of patent owners never file suit to enforce their rights, see Mark A. Lemley, Rational Ignorance at the Patent Office, 95 NW. U. L. REV. 1495, 1501 (2001). Litigated patents are most likely among the most valuable patents to a firm, see John R. Allison et al., Valuable Patents, 92 GEO. L. J. 435, 435-37, 439-43 (2004), as are those patents the firm chooses to renew, see Kimberly A. Moore, Worthless Patents, 20 BERKELEY TECH. L.J. 1521, 1526 (2005).
Table 5. Risk-Taking and Lawyer-Directors.

**Panel C.** This panel presents summary coefficient estimates from regressions similar to those in Table 5, Panel A, with the dependent variables being ZSCORE$_{i,t}$ and IMPLVOL$_{i,t}$ and the main explanatory variables being JD$_{i,t-1}$, PATENT_LIT$_{i,t-1}$, and the interaction between these two variables in Models (1) and (2); and JD$_{i,t-1}$, INTANGIBLE ASSETS$_{i,t-1}$, PATENT_LIT$_{i,t-1}$, and the interactions among these three variables in Models (3) and (4). We also controlled for (but, for brevity, do not show) CEO DELTA$_{i,t-1}$, CEO VEGA$_{i,t-1}$, NYSE-Listed$_{i,t-1}$, SIZE$_{i,t-1}$, AVSALESGROWTH$_{i,t-1}$, DIVIDENDS$_{i,t-1}$, CASH$_{i,t-1}$, OUTSIDE_DIRECTORS$_{i,t-1}$, year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). Observation count and a measure of fit (adjusted R-squared) are also shown. The *, **, and *** indicate significance at the 1%, 5%, and 10% levels, respectively.

<table>
<thead>
<tr>
<th>Variable:</th>
<th>Z-Score$_{i,t}$</th>
<th>IMPL-Vol$_{i,t}$</th>
<th>Z-Score$_{i,t}$</th>
<th>IMPL-Vol$_{i,t}$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
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<tr>
<td>PATENT_LIT$_{i,t-1}$</td>
<td>0.1203*</td>
<td>-0.002*</td>
<td>0.124**</td>
<td>-0.0006*</td>
</tr>
<tr>
<td></td>
<td>(1.71)</td>
<td>(1.74)</td>
<td>(2.6)</td>
<td>(1.74)</td>
</tr>
<tr>
<td>INTANGIBLE ASSETS$_{i,t-1}$</td>
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<td>0.005*</td>
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<td>(2.89)</td>
<td>(1.84)</td>
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</tr>
<tr>
<td>JD$_{i,t-1}$</td>
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<td>-0.0021*</td>
<td>0.107***</td>
<td>-0.002***</td>
</tr>
<tr>
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<td>(3.4)</td>
<td>(1.71)</td>
<td>(3.52)</td>
<td>(2.76)</td>
</tr>
<tr>
<td>PATENT_LIT$<em>{i,t-1}$ * INTANGIBLE ASSETS$</em>{i,t-1}$</td>
<td>0.07**</td>
<td>-0.03**</td>
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<td>(2.30)</td>
<td>(1.74)</td>
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<tr>
<td>PATENT_LIT$<em>{i,t-1}$ * JD$</em>{i,t-1}$</td>
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<td>-0.0141*</td>
<td>0.0167**</td>
<td>-0.013**</td>
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<td>(1.98)</td>
<td>(1.81)</td>
<td>(2.19)</td>
<td>(1.61)</td>
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<tr>
<td>JD$<em>{i,t-1}$ * PATENT_LIT$</em>{i,t-1}$ * INTANGIBLE ASSETS$_{i,t-1}$</td>
<td>0.5225**</td>
<td>-0.007**</td>
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<tr>
<td></td>
<td>(2.32)</td>
<td>(2.29)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Observations | 11,743 | 8,132 | 11,743 | 8,132 |
Adj. R-squared | 26.3% | 51.1% | 26.7% | 51.5% |

Our findings in Panel C support our hypothesis. First, as shown in Models (1) and (3), patent litigation increases Z-Score (in other words, decreases risk), as does its interaction with JD$_{i,t-1}$. Second, in Models (2) and (4), patent litigation decreases implied volatility (in other words, decreases risk), as does its interaction with JD$_{i,t-1}$. Third, we note the relative economic effect of JD$_{i,t-1}$ on risk through its interaction with patent litigation. Using Model (1), for example, the presence of a lawyer-director increases the risk-reducing effect of patent litigation by an additional 60 percent. The relative economic effect is even stronger when measured

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284 This amount is the ratio of the coefficient estimates, 0.072 and 0.1203.
through implied volatility in Model (2). There, the risk-reducing effect of patent litigation is amplified by nearly 700 percent\textsuperscript{285} if there is a lawyer-director. In Model (3), the relative economic effect of patent litigation on risk-taking if there is a lawyer-director is 421 percent greater for firms having a high level of intangible assets compared to firms with a low level of intangible assets.\textsuperscript{286} Similar calculations of the relative economic effect on implied volatility in Model (4) yield a relative risk reduction of nearly 117 percent.\textsuperscript{287}

In Panel D, we studied the effect of a lawyer-director on risk when considering non-patent litigation. Our findings also support our hypothesis:
Table 5. Risk-Taking and Lawyer-Directors.

**Panel D.** This panel presents summary coefficient estimates of regressions similar to those in Table 5, Panel A, with the dependent variables being \( Z_{\text{SCORE}_{i,t}} \) and \( \text{IMPLIED}_{i,t} \) and the main explanatory variables being \( JD_{i,t-1} \) and \( \text{SECURITIES}_\text{LIT}_{i,t-1} \), \( \text{CLASSACTION}_\text{LIT}_{i,t-1} \), and \( \text{ACCOUNTING}_\text{LIT}_{i,t-1} \). Each litigation category is also interacted with \( JD_{i,t-1} \). We also controlled for (but, for brevity, do not show) CEO \( \Delta_{i,t-1} \), CEO \( \Delta_{i,t-1} \), NYSE-Listed\(_{i,t-1} \), SIZE\(_{i,t-1} \), AVSALES\(_{GROWTH_{i,t-1} \), DIVIDENDS\(_{i,t-1} \), CASH\(_{i,t-1} \), OUTSIDE_\text{DIRECTORS}_{i,t-1} \), and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). For brevity, observation count and a measure of fit (adjusted R-squared) are not shown. The *, **, and *** indicate significance at the 1%, 5%, and 10% levels, respectively.

<table>
<thead>
<tr>
<th>Dependent Variables:</th>
<th>( Z_{\text{SCORE}_{i,t}} )</th>
<th>( \text{IMPLIED}_{i,t} )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Securities Law Litigation (SECURITIES_LIT(_{i,t} ))</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( JD_{i,t-1} )</td>
<td>0.0721**</td>
<td>-0.0007**</td>
</tr>
<tr>
<td></td>
<td>(2.43)</td>
<td>(2.26)</td>
</tr>
<tr>
<td>( \text{SECURITIES}<em>\text{LIT}</em>{i,t-1} )</td>
<td>-0.4717***</td>
<td>0.0514***</td>
</tr>
<tr>
<td></td>
<td>(3.33)</td>
<td>(5.31)</td>
</tr>
<tr>
<td>( \text{SECURITIES}<em>\text{LIT}</em>{i,t-1} \times JD_{i,t-1} )</td>
<td>0.376**</td>
<td>-0.0056*</td>
</tr>
<tr>
<td></td>
<td>(2.25)</td>
<td>(1.74)</td>
</tr>
<tr>
<td><strong>Class Action Litigation (CLASSACTION_LIT(_{i,t} ))</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( JD_{i,t-1} )</td>
<td>0.0755**</td>
<td>0.0018*</td>
</tr>
<tr>
<td></td>
<td>(2.47)</td>
<td>(1.72)</td>
</tr>
<tr>
<td>( \text{CLASSACTION}<em>\text{LIT}</em>{i,t-1} )</td>
<td>-0.2972***</td>
<td>0.0453***</td>
</tr>
<tr>
<td></td>
<td>(2.83)</td>
<td>(5.94)</td>
</tr>
<tr>
<td>( \text{CLASSACTION}<em>\text{LIT}</em>{i,t-1} \times JD_{i,t-1} )</td>
<td>0.204***</td>
<td>-0.0152*</td>
</tr>
<tr>
<td></td>
<td>(2.73)</td>
<td>(1.89)</td>
</tr>
<tr>
<td><strong>Accounting Malpractice Litigation (ACCOUNTING_LIT(_{i,t} ))</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( JD_{i,t-1} )</td>
<td>0.0873***</td>
<td>-0.0009**</td>
</tr>
<tr>
<td></td>
<td>(2.97)</td>
<td>(2.31)</td>
</tr>
<tr>
<td>( \text{ACCOUNTING}<em>\text{LIT}</em>{i,t-1} )</td>
<td>-0.5813**</td>
<td>0.0877***</td>
</tr>
<tr>
<td></td>
<td>(2.45)</td>
<td>(4.92)</td>
</tr>
<tr>
<td>( \text{ACCOUNTING}<em>\text{LIT}</em>{i,t-1} \times JD_{i,t-1} )</td>
<td>0.357**</td>
<td>-0.0262**</td>
</tr>
<tr>
<td></td>
<td>(2.24)</td>
<td>(2.14)</td>
</tr>
</tbody>
</table>
Accounting malpractice, securities law, and class action litigation increase a firm’s level of risk as measured by Z-Score or implied volatility. That increase is economically meaningful. For example, if there is accounting malpractice litigation, bankruptcy risk is raised by nearly 35 percent;\(^{288}\) for securities law litigation, bankruptcy risk is raised by 28.4 percent;\(^{289}\) and for class action litigation, bankruptcy risk is raised by 17.9 percent.\(^{290}\) Calculating the corresponding impact on implied volatility, we obtained 21.9 percent for accounting malpractice litigation,\(^ {291}\) 12.9 percent for securities law litigation,\(^ {292}\) and 11.3 percent for class action litigation.\(^ {293}\)

The effect of litigation on risk drops in the presence of a lawyer-director. For example, lawyer-directors decrease the effect of accounting malpractice litigation on bankruptcy risk from a 35 percent increase to a 13.5 percent increase.\(^ {294}\) Similarly, having a lawyer-director reduces the effect of securities law litigation on bankruptcy risk from a 28.4 percent increase to a mere 5.8 percent increase.\(^ {295}\) Finally, for class action litigation, the presence of a lawyer-director reduces bankruptcy risk from a 17.9 percent increase to a 5.6 percent increase.\(^ {296}\) Similar calculations confirm similar results for implied volatility.

\(^ {288}\) This amount is the ratio of the coefficient of ACCOUNTING_LIT\(_{t,t-1}\) of -0.5813 divided by the average Z-Score of 1.659 (as set out in Appendix B, Panel A).

\(^ {289}\) This amount is the ratio of the coefficient of SECURITIES_LIT\(_{t,t-1}\) of -0.4717 divided by the average Z-Score of 1.659 (as set out in Appendix B, Panel A).

\(^ {290}\) This amount is the ratio of the coefficient of CLASSACTION_LIT\(_{t,t-1}\) of -0.2972 divided by the average Z-Score of 1.659 (as set out in Appendix B, Panel A).

\(^ {291}\) This amount is the ratio of the coefficient of ACCOUNTING_LIT\(_{t,t-1}\) of 0.0877 divided by the average implied volatility of 0.401 (as set out in Appendix B, Panel A).

\(^ {292}\) This amount is the ratio of the coefficient of SECURITIES_LIT\(_{t,t-1}\) of 0.0514 divided by the average implied volatility of 0.401 (as set out in Appendix B, Panel A).

\(^ {293}\) This amount is the ratio of the coefficient of CLASSACTION_LIT\(_{t,t-1}\) of 0.0453 divided by the average implied volatility of 0.401 (as set out in Appendix B, Panel A).

\(^ {294}\) The reduction of the effect of ACCOUNTING_LIT\(_{t,t-1}\) on Z-Score from 35 percent to 13.5 percent, a drop of 21.5 percent, is calculated as the coefficient estimate for ACCOUNTING_LIT\(_{t,t-1}\) \* JD\(_{t,t-1}\) of 0.357 plus the coefficient estimate of ACCOUNTING_LIT\(_{t,t-1}\) of -0.5813, the sum of which is then divided by the average Z-Score of 1.659 (as set out in Appendix B, Panel A). Note that this finding is consistent with the view that independent directors look to ensure that a company’s financial disclosure is accurate. See Fisch, supra note 209, at 932. One study found that independence alone does not result in a decline in the probability of a company’s earnings restatement. Rather, the probability of restatement significantly declines if a board or audit committee has an independent director with financial expertise. See Anup Agrawal & Sahiba Chadha, Corporate Governance and Accounting Scandals, 48 J.L. & ECON. 371, 374 (2005).

\(^ {295}\) The reduction of the effect of SECURITIES_LIT\(_{t,t-1}\) on Z-Score from 28.4 percent to 5.8 percent, a drop of 22.6 percent, is calculated as the coefficient estimate for SECURITIES_LIT\(_{t,t-1}\) \* JD\(_{t,t-1}\) of 0.376 plus the coefficient estimate of SECURITIES_LIT\(_{t,t-1}\) of -0.4717, the sum of which is then divided by the average Z-Score of 1.659 (as set out in Appendix B, Panel A).

\(^ {296}\) The reduction of the effect of CLASSACTION_LIT\(_{t,t-1}\) on Z-Score from 17.9 percent to 5.6 percent, a drop of 12.3 percent, is calculated as the coefficient estimate for CLASSACTION_LIT\(_{t,t-1}\) \* JD\(_{t,t-1}\) of 0.204 plus the coefficient estimate of CLASSACTION_LIT\(_{t,t-1}\) of -0.2972, the sum of which is then divided by the average Z-Score of 1.659 (as set out in Appendix B, Panel A). Note that this finding is consistent with the finding that more independent boards are less likely to be subject to shareholder lawsuits. See Eric Helland & Michael Sykuta, Who’s Monitoring the Monitor? Do Outside Directors Protect Shareholders’ Interests?, 40 FIN. REV. 155, 157 (2005).
The greater stability (as implied by higher Z-Score and lower implied volatility) means that firms can efficiently increase their borrowing capacity. Based on the empirical analysis we performed for risk (Table 5, Panel A), we found that the presence of a lawyer-director corresponds with a 10.5 percent increase in leverage, which is statistically significant at the 1% level. That increase is consistent with our earlier discussion of the real benefits of lowering the costs of financial distress.

In addition to reducing financing costs, the higher levels of borrowing may also provide a monitoring benefit. Most corporate debt is private, and most private lenders are banks. Banks can monitor corporate performance at low cost, relying on loan covenants—early warning “trip wires” that assist in managing credit risk—to oversee the board and senior managers.

Debt governance is also evolving with changes in the private credit markets. With greater liquidity, lenders can increasingly rely on the price of outstanding credit instruments to assess a firm’s credit quality. Thus, if a borrower acts in a way that changes the price of its loans or other credit instruments, those changes will influence the terms on which lenders subsequently agree to extend credit. Actions that increase credit risk, consequently, will increase a borrower’s cost of capital. Although covenants continue to play an important role, some portion of the traditional reliance may be offset by the “real time” discipline provided by fluctuations in the cost of capital.

The greater reliance on debt governance may help to offset the negative effect of board structure and takeover protections which accompany a lawyer-

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298 We compute this magnitude as the coefficient estimate of 0.021 divided by average leverage of 0.20.
299 We compute leverage as the ratio of book debt to total assets. See Eugene Fama & Kenneth French, Testing Trade-off and Pecking Order Predictions About Dividends and Debt, 15 Rev. Fin. Stud. 1, 8-9 (2002). Book debt is defined as total assets minus total liabilities and preferred stock plus deferred taxes and convertible debt. We drop firm-year observations where the resulting book leverage is greater than one. All data used to compute leverage were retrieved from the Compustat database.
300 See supra notes 245-254 and accompanying text.
director,\textsuperscript{308} providing an efficient substitute for the potential decline in public market discipline.\textsuperscript{309}

To summarize, our study finds that lawyer-directors lower firm risk, using $ZSCORE_{i,t}$ and $IMPLVOL_{i,t}$ as measures of risk-taking. The risk-reducing effect is even more significant when the lawyer-director is also the board’s chairman or chairman of the risk management committee. In addition, inside lawyer-directors are more likely to reduce corporate risk more significantly than outside lawyer-directors. Their ability to reduce risk is principally through changes in CEO compensation ($CEO\ \text{DELTA}_{i,t-1}$ and $CEO\ \text{VEGA}_{i,t-1}$), the efficient management of distributive litigation ($SECURITIES\_LAW_{i,t}$, $CLASSACTION_{i,t}$, and $ACCOUNTING\_LIT_{i,t}$) and litigation that helps define the ownership boundaries of a firm’s intangible assets ($PATENT\_LIT_{i,t}$), and their influence on board structure and takeover protections. The greater stability means that firms can efficiently increase their borrowing capacity, which can lower their cost of capital, as well as provide a monitoring benefit. As a result, we have the potential for an organizational structure—based on the particular characteristics of a lawyer-director—that provides greater value to shareholders.

In fact, as we discuss in the next section, having a lawyer on the board increases firm value.\textsuperscript{310} Importantly, the effect is significant even after controlling for other, outside directors. Lawyer-directors provide a particular value in excess of what is provided by non-lawyer outsiders.\textsuperscript{311} That value is even greater when the lawyer-director is also an employee of the firm, such as a director who is also a lawyer-CEO or lawyer-CFO.\textsuperscript{312}

\textsuperscript{308} See supra Table 3 and notes 218-221 and accompanying text.
\textsuperscript{309} See Jensen, supra note 66, at 852.
\textsuperscript{310} See infra Table 6, Panel A, and notes 313-317 and accompanying text.
\textsuperscript{311} See supra note 105 and accompanying text.
\textsuperscript{312} See infra note 315 and accompanying text.
B. Tobin’s Q and Firm Value

Our prior analyses considered the impact of lawyer-directors on executive incentives, litigation, and risk-taking. The analyses, however, did not reveal whether lawyer-directors are efficient. In Table 6, Panel A, we considered the effect of lawyer-directors on firm value, as measured by Tobin’s Q.
Table 6. Lawyer-Directors and Firm Value.

Panel A. This panel presents OLS and Tobit model regressions of Tobin’s Q on the main independent variables JD<sub>i,t-1</sub>, Predicted JD<sub>i,t-1</sub> (as the predicted value in Model (1) of Table 1), JD_OUTSIDE<sub>i,t-1</sub>, JD_CHAIRMAN<sub>i,t-1</sub>, JD_CHAIR_COMPCOM<sub>i,t-1</sub>, and JD_COMPCOM<sub>i,t-1</sub>. Model (1) and Models (4)-(7) present OLS estimates, and Model (3) presents 2SLS estimates. We controlled for (but, for brevity, do not show) NYSE-Listed<sub>i,t-1</sub>, SIZE<sub>i,t-1</sub>, AVSALESGROWTH<sub>i,t-1</sub>, DIVIDENDS<sub>i,t-1</sub>, CASH<sub>i,t-1</sub>, OUTSIDE_DIRECTORS<sub>i,t-1</sub>, and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). Model (2) presents Tobit estimates (accounting for truncation at zero of the dependent variable) and does not control for industry fixed effects. Observation count and a measure of fit (adjusted R-squared for OLS and 2SLS and pseudo R-squared for the Tobit analyses) are also shown. The ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

<table>
<thead>
<tr>
<th>Variable:</th>
<th>OLS</th>
<th>Tobit</th>
<th>2SLS</th>
<th>OLS</th>
<th>OLS</th>
<th>OLS</th>
<th>OLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>JD&lt;sub&gt;i,t-1&lt;/sub&gt;</td>
<td>0.271***</td>
<td>0.274***</td>
<td>1.749***</td>
<td>0.261***</td>
<td>0.038**</td>
<td>0.13***</td>
<td>0.152***</td>
</tr>
<tr>
<td>Predicted JD&lt;sub&gt;i,t-1&lt;/sub&gt;</td>
<td>(6.02)</td>
<td>(6.14)</td>
<td>(4.21)</td>
<td>(6.19)</td>
<td>(3.10)</td>
<td>(4.41)</td>
<td>(4.07)</td>
</tr>
<tr>
<td>JD_OUTSIDE&lt;sub&gt;i,t-1&lt;/sub&gt;</td>
<td></td>
<td></td>
<td></td>
<td>0.261***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JD_CHAIRMAN&lt;sub&gt;i,t-1&lt;/sub&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.038**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JD_CHAIR_COMPCOM&lt;sub&gt;i,t-1&lt;/sub&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.13***</td>
<td></td>
</tr>
<tr>
<td>JD_COMPCOM&lt;sub&gt;i,t-1&lt;/sub&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.152***</td>
</tr>
<tr>
<td>Observations</td>
<td>10,458</td>
<td>10,558</td>
<td>8,676</td>
<td>10,457</td>
<td>10,457</td>
<td>10,457</td>
<td>10,457</td>
</tr>
<tr>
<td>Adj. R-squared</td>
<td>18.1%</td>
<td>-</td>
<td>18.6%</td>
<td>16.5%</td>
<td>17.1%</td>
<td>17.2%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Pseudo R-squared</td>
<td>-</td>
<td>2.9%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Panel A shows the effect of lawyer-directors on firm value. We controlled for NYSE-Listed\(_{t-1}\), SIZE\(_{t-1}\), AVSALESGROWTH\(_{t-1}\), DIVIDENDS\(_{t-1}\), CASH\(_{t-1}\), OUTSIDE_DIRECTORS\(_{t-1}\), year, and industry indicator variables, except for Tobit Model (2). In both the OLS and Tobit model\(^{313}\) regressions of Tobin’s Q on JD\(_{t}\), Model (1) and Model (2) show that the presence of a lawyer-director statistically increases firm value. Turning to the economic significance of the results, we also found:

- Having a lawyer on the board increases Tobin’s Q by 9.5 percent.\(^{314}\) When we restrict JD\(_{t}\) to exclude JD_OUTSIDE\(_{t}\), having a lawyer-director who is also a company executive increases Tobin’s Q by 10.2 percent.\(^{315}\)

- Our results are comparable if we use alternative specifications of lawyer-director participation on the board, such as a lawyer-director also being chairman of the board or the compensation committee.

- There is an even stronger effect in Model (3), utilizing Predicted JD\(_{t-1}\). A one standard deviation increase in Predicted JD\(_{t-1}\) is associated with a nearly 10.9 percent increase in Tobin’s Q.\(^{316}\)

- Our results on lawyer-directors and firm value are robust after controlling for all firm-specific characteristics.\(^{317}\)

Next, in Panels B and C, we examined the two channels through which lawyer-directors could enhance firm value. Those two channels are the choice of CEO incentives (Panel B) and litigation management (Panel C).

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\(^{313}\) A Tobit model is a non-linear model proposed by James Tobin that allows for truncation of the dependent variable at zero (a non-negative dependent variable) and describes the relationship between the dependent variable and a set of independent variables. The truncation is needed because the dependent variable (the Tobin’s Q), representing the ratio of the firm’s market value divided by the replacement cost of its assets, cannot be negative. For the Tobit model, see James Tobin, *Estimation of Relationships for Limited Dependent Variables*, 26 ECONOMETRICA 24 (1958); see also Takeshi Amemiya, *Tobit Models: A Survey*, 24 J. ECONOMETRIC 3 (1984).

\(^{314}\) This amount is calculated as the coefficient estimate of 0.271 divided by the average of Tobin’s Q of 2.86 (as set out in Appendix B, Panel A).

\(^{315}\) When we restrict JD\(_{t}\) to exclude JD_OUTSIDE\(_{t}\), the coefficient estimate of lawyer-directors who are not JD_OUTSIDE\(_{t}\) is still significant at the 1% level, increasing from 0.271 to 0.292. The economic significance amount is calculated as the estimated coefficient of 0.292 divided by the average of Tobin’s Q of 2.86 (as set out in Appendix B, Panel A). Note that the presence of an executive lawyer-director is also associated with an increased reduction in firm risk-taking. See supra note 272 and accompanying text.

\(^{316}\) This amount is calculated as the value of the coefficient, 1.749, multiplied by the standard deviation in Predicted JD\(_{t-1}\), 0.179, divided by the average of Tobin’s Q of 2.86 (as set out in Appendix B, Panel A).

\(^{317}\) We performed a first-difference regression on the relationship between having a lawyer-director and firm value. The results are set out in Appendix D, which indicates that the relationship is positive and statistically significant.
Table 6. Lawyer-Directors and Firm Value.

Panel B. This panel presents summary coefficient estimates of regressions similar to those in Table 6, Panel A, with the dependent variable being Tobin’s Q and the explanatory variables being JD$_{i,t-1}$, JD_OUTSIDE$_{i,t-1}$, JD_CHAIRMAN$_{i,t-1}$, JD_CHAIR_COMPCOM$_{i,t-1}$, and JD_COMPCOM$_{i,t-1}$, all interacted with CEO DELTA$_{i,t-1}$ and CEO VEGA$_{i,t-1}$. We controlled for (but, for brevity, do not show) NYSE-Listed$_{i,t-1}$, SIZE$_{i,t-1}$, AVSALES$_{i,t-1}$, DIVIDENDS$_{i,t-1}$, CASH$_{i,t-1}$, OUTSIDE_DIREC$_{i,t-1}$, and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). The *** , **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

<table>
<thead>
<tr>
<th>Interactions of CEO VEGA$_{i,t-1}$</th>
<th>Dep. Variable: TOBIN$_{i,t}$</th>
<th>Interactions of CEO DELTA$_{i,t-1}$</th>
<th>Dep. Variable: TOBIN$_{i,t}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>JD$_{i,t-1}$</td>
<td>0.0017***</td>
<td>JD$_{i,t-1}$</td>
<td>0.0001*</td>
</tr>
<tr>
<td></td>
<td>(3.72)</td>
<td></td>
<td>(1.92)</td>
</tr>
<tr>
<td>JD_OUTSIDE$_{i,t-1}$</td>
<td>0.0015***</td>
<td>JD_OUTSIDE$_{i,t-1}$</td>
<td>0.0002*</td>
</tr>
<tr>
<td></td>
<td>(3.62)</td>
<td></td>
<td>(1.69)</td>
</tr>
<tr>
<td>JD_CHAIRMAN$_{i,t-1}$</td>
<td>0.0013*</td>
<td>JD_CHAIRMAN$_{i,t-1}$</td>
<td>0.0002***</td>
</tr>
<tr>
<td></td>
<td>(1.69)</td>
<td></td>
<td>(3.11)</td>
</tr>
<tr>
<td>JD_CHAIR_COMPCOM$_{i,t-1}$</td>
<td>0.0018***</td>
<td>JD_CHAIR_COMPCOM$_{i,t-1}$</td>
<td>0.0001**</td>
</tr>
<tr>
<td></td>
<td>(3.29)</td>
<td></td>
<td>(2.45)</td>
</tr>
<tr>
<td>JD_COMPCOM$_{i,t-1}$</td>
<td>0.0012***</td>
<td>JD_COMPCOM$_{i,t-1}$</td>
<td>0.0003**</td>
</tr>
<tr>
<td></td>
<td>(3.85)</td>
<td></td>
<td>(1.97)</td>
</tr>
</tbody>
</table>

As Panel B indicates, even though CEO incentives can lead to an increase in firm value, that increase is amplified when a lawyer is on the board. More precisely, Panel B shows that CEO VEGA$_{i,t-1}$ and CEO DELTA$_{i,t-1}$ increase Tobin’s Q, but a lawyer-director amplifies the economic effect of CEO VEGA$_{i,t-1}$ on Tobin’s Q by nearly 47.4 percent and the economic effect of CEO DELTA$_{i,t-1}$ on Tobin’s Q by nearly 47.6 percent. The influence of a lawyer-director is even greater if she has a prominent position on the board, such as chairman of the compensation committee.

We also investigated the effects on firm value of a lawyer-director’s influence on board structure and takeover protections using the same controls as in Table 6, Panel B. BOARDSIZE$_{i,t-1}$, EINDEX$_{i,t-1}$, CEOCHAIR$_{i,t-1}$, and STAGGERED$_{i,t-1}$ have a negative impact on

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318 The correspondent coefficients are 0.00358 and 0.00021, both significant at the one percent level.
319 This amount is the ratio of the coefficient estimate of the interaction CEO VEGA$_{i,t-1}$ * JD$_{i,t-1}$ (0.0017) to the estimate of the coefficient of CEO VEGA$_{i,t-1}$ (0.00358).
320 This amount is the ratio of the coefficient estimate of the interaction CEO DELTA$_{i,t-1}$ * JD$_{i,t-1}$ (0.0001) to the estimate of the coefficient of CEO DELTA$_{i,t-1}$ (0.00021).
321 The results are not tabulated, since most of the coefficient estimates are not statistically significant.
Tobin’s Q. However, when those variables are interacted with a lawyer-director, our qualitative findings are the opposite.

Previously, Table 5, Panels C and D, showed the effect of a lawyer-director on reducing risk through the litigation channel. Although lawyer-directors may be better able to manage litigation than non-lawyers, we could not conclude from Table 5 whether the reduction in risk was efficient. The next panel shows the effect of litigation on firm value when there is a lawyer-director.

\[322\] In particular, we find that:

(i) BOARDSIZE\(_{i,t-1}\) has a negative effect on Tobin’s Q. This effect is not statistically significant, but corresponds to a 1.7 percent decrease of the Tobin’s Q. The economic effect is obtained by (a) multiplying (i) the coefficient estimate of BOARDSIZE\(_{i,t-1}\) (-0.0212) by (ii) one standard deviation in BOARDSIZE\(_{i,t-1}\) (2.3), and (c) dividing by the average Tobin’s Q (2.86).

(ii) EINDEX\(_{i,t-1}\) has a negative effect on Tobin’s Q. This effect is statistically significant at the 1% level and corresponds to a 2.9 percent decrease in Tobin’s Q. The economic effect is obtained by (a) multiplying (i) the coefficient estimate of EINDEX\(_{i,t-1}\) (-0.0612) by (ii) one standard deviation in EINDEX\(_{i,t-1}\) (1.35), and (c) dividing by the average Tobin’s Q (2.86).

(iii) CEOCHAIR\(_{i,t-1}\) has a negative effect on Tobin’s Q. This effect is not statistically significant, but corresponds to a 2.5 percent decrease in Tobin’s Q. The economic effect is obtained by dividing (a) the coefficient estimate of CEOCHAIR\(_{i,t-1}\) (-0.0714) by (b) the average Tobin’s Q (2.86).

(iv) STAGGERED\(_{i,t-1}\) has a negative effect on Tobin’s Q. This effect is statistically significant at the 5% level and corresponds to a 4.8 percent decrease in Tobin’s Q. The economic effect is obtained by dividing (a) the coefficient estimate of STAGGERED\(_{i,t-1}\) (-0.1362) by (b) the average Tobin’s Q (2.86).

\[323\] In particular:

(i) When BOARDSIZE\(_{i,t-1}\) is interacted with a lawyer-director, the effect on Tobin’s Q is not statistically significant, but its economic effect corresponds to a 1.79 percent increase in Tobin’s Q. This economic effect is obtained by (a) multiplying (i) the coefficient estimate of the interacting variable (0.0223) by (ii) one standard deviation in BOARDSIZE\(_{i,t-1}\), and (c) dividing by the average Tobin’s Q (2.86).

(ii) When EINDEX\(_{i,t-1}\) is interacted with a lawyer-director, the effect on Tobin’s Q is not statistically significant, but corresponds to a 1.65 percent increase in Tobin’s Q. The economic effect is obtained by (a) multiplying (i) the coefficient estimate of the interacting variable (0.035) by (ii) one standard deviation in EINDEX\(_{i,t-1}\) (1.35), and (c) dividing by the average Tobin’s Q (2.86).

(iii) When CEOCHAIR\(_{i,t-1}\) is interacted with a lawyer-director, the effect on Tobin’s Q is not statistically significant, but corresponds to a 1.601 percent increase in Tobin’s Q. The economic effect is obtained by dividing (a) the coefficient estimate of the interacting variable (0.0458) by (b) the average of Tobin’s Q (2.86).

(iv) When STAGGERED\(_{i,t-1}\) is interacted with a lawyer-director, the effect on Tobin’s Q is statistically significant at the 10% level and its economic effect corresponds to a 0.339 percent increase in Tobin’s Q. The economic effect is obtained by dividing (a) the coefficient estimate of the interacting variable (0.097) by (b) the average of Tobin’s Q (2.86).

\[324\] See supra Table 5, Panels C and D.
Table 6. Lawyer-Directors and Firm Value.
Panel C. This panel presents the impact on Tobin’s Q of JD\textsubscript{i,t-1} and PATENT\_LIT\textsubscript{i,t-1}, SECURITIES\_LIT\textsubscript{i,t-1}, CLASSACTION\_LIT\textsubscript{i,t-1}, and ACCOUNTING\_LIT\textsubscript{i,t-1}, where the litigation variables are also interacted with JD\textsubscript{i,t-1}. We controlled for (but, for brevity, do not show) NYSE-Listed\textsubscript{i,t-1}, SIZE\textsubscript{i,t-1}, AVSALES\textsubscript{GROWTH}\textsubscript{i,t-1}, DIVIDENDS\textsubscript{i,t-1}, CASH\textsubscript{i,t-1}, OUTSIDE\_DIRECTORS\textsubscript{i,t-1}, and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). Observation count and a measure of fit (adjusted R-squared) are also shown. The ***", **", and ‘’ indicate significance at the 1%, 5%, and 10% levels, respectively.

<table>
<thead>
<tr>
<th>Variable</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATENT_LIT\textsubscript{i,t-1}</td>
<td>0.2428***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECURITIES_LIT\textsubscript{i,t-1}</td>
<td>-0.1091**</td>
<td>-0.1056**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLASSACTION_LIT\textsubscript{i,t-1}</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>ACCOUNTING_LIT\textsubscript{i,t-1}</td>
<td></td>
<td>-0.1779***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATENT_LIT\textsubscript{i,t-1} * JD\textsubscript{i,t-1}</td>
<td>0.0332**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECURITIES_LIT\textsubscript{i,t-1} * JD\textsubscript{i,t-1}</td>
<td></td>
<td>0.1687***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLASSACTION_LIT\textsubscript{i,t-1} * JD\textsubscript{i,t-1}</td>
<td></td>
<td></td>
<td>0.0686**</td>
<td></td>
</tr>
<tr>
<td>ACCOUNTING_LIT\textsubscript{i,t-1} * JD\textsubscript{i,t-1}</td>
<td></td>
<td></td>
<td></td>
<td>0.5478***</td>
</tr>
<tr>
<td>JD\textsubscript{i,t-1}</td>
<td>0.2406***</td>
<td>0.2213***</td>
<td>0.2369***</td>
<td>0.2322***</td>
</tr>
</tbody>
</table>

Observations 10,409 10,409 10,409 10,409
Adjusted R-squared 18.2% 17.6% 17.9% 18.4%
Relative Economic Effect 13.2% Reversal 154.6% Reversal 64.9% Reversal 307.9%

Securities law, class action, and accounting malpractice litigation reduce Tobin’s Q (all coefficients are statistically significant at least at 5%). When there is a lawyer-director, however,
the result is reversed (all coefficients are statistically significant at least at 5%). Patent litigation has a positive impact on firm value, and when there is a lawyer-director, the impact is even higher.

To evaluate the economic importance of the results, we referred to the estimates of Relative Economic Effect appearing in the bottom row of Panel C.

- Lawyer-directors increase the effect of patent litigation on firm value by 13.2 percent.

- Accounting malpractice litigation reduces firm value, but the result is reversed when there is a lawyer-director. In that case, there is a 308 percent increase in the effect of accounting malpractice litigation on firm value compared to when no lawyer is on the board.

- Securities law and class action litigation reduces firm value, but the result is also reversed when there is a lawyer-director. In that case, there is an almost 155 percent and 65 percent increase in the effect of such litigation on firm value compared to when no lawyer is on the board.

Our results tell us that, on average, a lawyer-director increases firm value by 9.5 percent, an increase that rises to 10.2 percent when the lawyer-director is also a corporate officer. She does so primarily through her effect on CEO compensation and litigation, both of which cause a reduction in firm risk-taking to more efficient levels as indicated by the rise in Tobin’s Q. Her influence on board structure and takeover protections may also add to firm value. The influence of a lawyer-director is even greater if she has a prominent position on the board.

The results also tell us that director composition is important to understanding the board’s value to shareholders. The board’s primary function as an agency-cost-reducer may have been appropriate in the past, but companies have grown too complex for value-maximizing boards to simply act as monitors. For some firms, greater management by the board and alternatives to traditional monitoring can increase firm value more efficiently than the standard construct. To

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This finding is consistent with an earlier study which showed that firms convicted of engaging in illegal corporate behavior experience lower accounting returns over five years and slower sales growth during years three to five. Multiple convictions increase the negative effect on longer-term performance. See Melissa S. Baucus & David A. Baucus, Paying the Piper: An Empirical Examination of Longer-Term Financial Consequences of Illegal Corporate Behavior, 40 ACAD. MGMT. J. 129, 146-47 (1997). Thus, managing investigations (as well as minimizing illegal activities) can enhance firm value.

Relative Economic Effect is the ratio of (i) the economic effect of the litigation category interacted with JD_{i,t-1} to (ii) the economic effect of the same litigation category.

This amount is calculated as the ratio of the coefficient estimate of PATENT_LIT_{i,t-1} * JD_{i,t-1} in Model (1) of 0.0332 to the coefficient estimate of PATENT_LIT_{i,t-1} of 0.2428.

This amount is calculated as the ratio of the coefficient estimate of ACCOUNTING_LIT_{i,t-1} * JD_{i,t-1} in Model (4) of 0.5478 to the coefficient estimate of ACCOUNTING_LIT_{i,t-1} of -0.1779.

This amount is calculated as the ratio of the coefficient estimate of SECURITIES_LIT_{i,t-1} * JD_{i,t-1} in Model (2) of 0.1687 to the coefficient estimate of SECURITIES_LIT_{i,t-1} of -0.1091.

This amount is calculated as the ratio of the coefficient estimate of CLASSACTION_LIT_{i,t-1} * JD_{i,t-1} in Model (3) of 0.0686 to the coefficient estimate of CLASSACTION_LIT_{i,t-1} of -0.1056.
that extent, our results caution against a one-size-fits-all approach to the board. Interfering with the ability of shareholders, directors, and other stakeholders to order their own affairs may impose a less-efficient, less-flexible model of corporate governance on organizations with vastly different needs and characteristics.

Our results fly in the face of regulatory and quasi-regulatory requirements that, except for financial literacy, focus predominantly on a director’s independence as a means to enhance board oversight and firm value. To some extent, our study may simply reflect the need for board composition to be flexible in order to respond to changes in business environment. Rising levels of regulation and litigation may make lawyer-directors today’s “flavor of the month.” Lawyer-directors, however, appear to add more than simply their litigation skills. We also find that lawyer-directors have a risk-reducing effect on CEO compensation and the overall level of risk a firm will assume. In addition, we find that lawyer-directors have a positive effect on board structure and takeover protections that could otherwise cause a decline in firm value. Those outcomes appear to be less a response to litigation and regulation, and more the product of efforts by lawyer-directors to enhance internal governance. The result is greater firm value, but now based on the particular management skills and experience that directors bring to the job.

What we do not know is whether the current cost-benefit balance of having a lawyer-director is optimal—in other words, whether or not a decline in the size of the board, a further increase in the number of independent directors, or a weakening of the firm’s takeover protections would provide even more value. What our study shows, however, is that who is on the board—and the particular training, skills, and experience they bring as a director—can matter as much, or perhaps even more, to firm value than whether a director is independent.

CONCLUSION

This Article is the first to analyze the value of a lawyer on the board of a public corporation. A lawyer-director’s effect on risk-taking and firm value is significant, primarily through changes in CEO compensation and how litigation is managed. Our goal has not been to advocate that boards should include lawyers among their ranks. Rather, we have used lawyer-directors to begin unpacking the black box that houses the board within the standard framing of the firm. Within it, we find that board composition is an important, but perhaps underappreciated, element of firm value.

331 See supra notes 70-71 and accompanying text.
332 See supra note 206 and accompanying text. Recall that inside lawyer-directors—perhaps due to their superior knowledge of the company—have an even greater effect on risk-taking and Tobin’s Q than outsiders. See supra notes 272, 315 and accompanying text.
333 See supra notes 16, 41, 81-83 and accompanying text.
334 See supra note 101 and accompanying text.
335 See supra Table 2, Panel A, and notes 182-189 and accompanying text.
336 See supra Table 5, Panel B, and notes 276-278 and accompanying text.
337 See supra notes 321-323 and accompanying text.
338 Two of us, however, are lawyers, and would be excellent additions to any board.
The result is a natural arbitrage opportunity. Knowing that, on average, adding a lawyer-director increases firm value suggests, for example, that a smart investor should buy call options on firms with no lawyer-directors, particularly if the firms are in industries where lawyers are often on the board, INDUSTRY JD, or the firms’ non-lawyer directors serve on boards that have a lawyer-director, JD NETWORK. Both are predictors of the presence of a lawyer-director and the benefits that can arise after a lawyer joins the board. Likewise, value-maximizing firms should encourage lawyers to join their boards. So why does this apparent arbitrage persist?

One possibility is that market participants are unaware of the value of a lawyer-director. They may understand the board to be dominated by the CEO—a view that is largely outdated—or they may understand the board’s value to be limited to monitoring and agency cost reduction. A greater appreciation of the skills and experience that lawyer-directors bring to managing the corporation may quickly close the arbitrage opportunity.

Another, more likely, possibility is that factors outside the corporation affect when a lawyer will join the board. Recall that a lawyer faces greater-than-average risks, compared to non-lawyers, when she becomes a director—as do the insurance companies who provide liability coverage to lawyer-directors and their firms. Those insurers are likely to strongly discourage a lawyer from joining a board or increase the premiums they charge in light of the greater risks that may result. Individual costs, as a result, may outweigh the benefits, particularly if the lawyer is an independent director, in light of the regulatory and quasi-regulatory limits on the work she and her firm can do for the corporation. In other words, rather than just misdirection, today’s focus on independence can lower a firm’s ability to increase value by limiting the skills and experience available within the pool of prospective directors.

Going forward, a greater appreciation of the value of board composition and the directors’ managing function will help balance the focus on independence. Clearly, there is a role for directors to continue their monitoring function. But the particular value of lawyer-directors is significant even after controlling for other, outside directors, and inside lawyer-directors provide an even greater value. Consequently, beyond independence, a complete analysis of today’s board must also take account of the incremental value that results from the particular skills and experience represented among the directors.

339 See supra notes 24, 62 and accompanying text.
340 See supra note 99 and accompanying text.
341 See supra notes 70-71 and accompanying text.
342 See supra note 105 and accompanying text.
343 See supra note 315 and accompanying text.
Appendix A—Definitions of Variables

Below we present brief definitions of the main variables that appear in this Article. For purposes of these definitions, \(i\) indexes = firms, \(j\) indexes = 2-digit SIC code industries, and \(t\) indexes = years in the panel.

**Key Explanatory Variables**

\( \text{JD}_{i,t} = 1 \) if a legally trained board members is present on the board, 0 otherwise.

\( \text{Predicted JD}_{i,t} \) (or \( \hat{\text{JD}}_{i,t} \)) = Predicted incidence of \( \text{JD}_{i,t} \) based on the Probit model estimated in Table 1, Column (1). In this model, we include two groups of independent variables. The first group includes those variables that are relevant determinants of \( \text{JD}_{i,t} \) and that are also used as control variables in the model regressions in Tables 2, 5, and 6. These variables are \( \text{GENERAL} \text{ _LIT}_{i,t}, \text{ SIZE}_{i,t}, \text{ NYSE}_{i,t}, \text{ COMPLEXITY}_{i,t}, \text{ INSTITUTIONAL} \text{ OWN}_{i,t}, \) as well as year indicator variables and industry indicator variables. The second group includes \( \text{JD NETWORK}_{i,t}, \text{ SOX}_{i,t}, \) and \( \text{INDUSTRY JD}_{i,t} \). These three variables are exclusive determinants (or excluded instrumental variables) of the likelihood of having a lawyer-director.\(^{344}\) For this reason, they are never included as control variables in the model regressions in Tables 2, 5, and 6.

**JD Board Roles**

\( \text{JD\_OUTSIDE}_{i,t} = \) Indicator variable equal to 1 if all lawyer-directors are non-employees, and 0 otherwise.

\( \text{JD\_CHAIRMAN}_{i,t} = \) Indicator variable equal to 1 if one lawyer-director is board chairman, and 0 otherwise.

\( \text{JD\_CHAIR\_COMPCOM}_{i,t} = \) Indicator variable equal to 1 if one lawyer-director is chairman of the board’s compensation committee.

\( \text{JD\_CHAIR\_RISKCOM}_{i,t} = \) Indicator variable equal to 1 if one lawyer-director is chairman of the board’s risk management committee.

\( \text{JD\_COMPCOM}_{i,t} = \) Indicator variable equal to 1 if at least one lawyer-director is a member of the board’s compensation committee.

\( \text{JD\_RISKCOM}_{i,t} = \) Indicator variable equal to 1 if at least one lawyer-director is a member of the board’s risk management committee.

\(^{344}\) See supra note 149.
**Board Characteristics**

\textbf{OUTSIDE DIRECTORS}_{i,t} = \text{Proportion of outside directors on the board, calculated as the ratio of outside directors on the board over the total number of directors on the board. The value of this variable is bound between 0 and 1.}

\textbf{BOARDSIZE}_{i,t} = \text{Number of board members.}

\textbf{CEOCHAIR}_{i,t} = \text{Indicator variable equal to 1 if the CEO is also board chairman.}

\textbf{EINDEX}_{i,t} = \text{Entrenchment Index (E Index).}^{345} \text{ Higher values of this index imply higher levels of managerial entrenchment.}

\textbf{STAGGERED}_{i,t} = \text{Indicator variable equal to 1 if the board is staggered.}

**CEO Compensation Measures**

\textit{All variables below are Winsorized at one percent in each tail of the corresponding distribution.}^{346}

\textbf{CEOSALARY}_{i,t} = \text{Log of CEO Salary as reported in Execucomp. The variable is further Winsorized at one percent in each tail of its distribution.}

\textbf{CEO-DELTA}_{i,t} = \text{Percent change in the value of the CEO option portfolio for a one percent increase in stock price.}^{347} \text{ The variable is further Winsorized at one percent in each tail of its distribution.}

\textbf{CEO-VEGA}_{i,t} = \text{Percent change in the value of the CEO option portfolio for a one percent increase in the volatility of the returns on the underlying stock.}^{348} \text{ The variable is further Winsorized at one percent in each tail of its distribution.}

\textbf{CEO-EXCESSCOMP}_{i,t} = \text{CEO Excess Compensation, defined as residual in the OLS regression: } \log(\text{Salary}_{i,t} + \text{Bonus}_{i,t}) = b_1 \log(\text{Sales}_{i,t}) + b_2 (\text{CEO stock}_{i,t} + \text{option ownership}_{i,t} \text{ (\%)})

+ b_3 \text{Age}_{i,t} + b_4 \text{Years as CEO}_{i,t} + b_5 \text{ROA}_{i,t} + b_6 \text{ROA}_{i,t-1} + b_7 (\text{Excess stock return}_{i,t}) + b_8 (\text{Excess stock return}_{i,t-1}) + g^*(\text{Industry dummies}) + h^*(\text{Year dummies}).^{349}

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345 See supra note 208 and accompanying text.

346 Winsorization is the process of transforming a variable’s distribution by limiting extreme values in the statistical data in order to reduce the effect of possible outliers. This methodology was introduced in Cecil Hastings, Jr. et al., \textit{Low Moments for Small Samples: A Comparative Study of Order Statistics}, 18 ANNALS OF MATHEMATICAL STAT. 413 (1947). The technique is implemented by setting all outliers to a pre-specified percentile of the data. For example, a 95 percent Winsorisation would imply setting all data below the 2.5th percentile to the 2.5th percentile and data above the 97.5th percentile to the 97.5th percentile.

347 This measure is calculated using the same method as in Core & Guay, supra note 181.

348 This measure is calculated using the same method as in Core & Guay, supra note 181.

349 This measure is computed as excess compensation to a benchmark as in Philip Berger et al., \textit{Managerial Entrenchment and Capital Structure Decisions}, 52 J. FIN. 1411 (1997).
CEO Salary = SALARY as defined in the ExecuComp Database. In particular, SALARY indicates the CEO salary as presented in the annual DEF 14A statements prepared by the company and made publicly available by the SEC.

Risk Measures
All non-indicator variables below are Winsorized at one percent in each tail of the corresponding distribution.

\[ \text{ZSCORE}_{it} = (3.3 \times \frac{\text{EBIT}}{\text{Assets}} + 1 \times \frac{\text{Revenue}}{\text{Assets}} + 1.4 \times \frac{\text{Retained Earnings}}{\text{Assets}} + 1.2 \times \frac{\text{NWC}}{\text{Assets}}. \]

\[ \text{IMPLVOL}_{it} = \text{The average annual implied volatility for standardized call options of 90 days maturity. The data is from the Option Metrics database. The variable is further Winsorized at one percent in each tail of its distribution.} \]

\[ \text{TObIN}_{it} = \text{Tobin’s Q, defined as the ratio of the market value of assets to the book value of assets.} \]

Other Variables Definitions
All non-indicator variables below are Winsorized at one percent in each tail of the corresponding distribution.

\[ \text{AVSALESgrowth}_{it} = \text{Average sales growth over the preceding three fiscal years. The source of the data is the Compustat database.} \]

\[ \text{CASH}_{it} = \text{Defined as the ratio of cash to total assets. The source of the data is the Compustat database.} \]

\[ \text{COMPLEXITY}_{it} = \text{Number of Operating Segments recorded in the Compustat Business Segment Historical File.} \]

\[ \text{DIVIDENDS}_{it} = \text{Defined as the ratio of dividends to book equity. The source of the book equity data is the Compustat database.} \]

\[ \text{INSTITUTIONAL OWN}_{it} = \text{Percentage of stock held by institutional investment managers. The source of the data is the Thomson Financial database of Form 13F filings with the SEC, which provides institutional stock holdings and transactions as reported on Form 13F.} \]

\[ \text{INTANGIBLE ASSETS}_{it} = \text{The lowest decile of the ratio of tangible assets to total assets, where tangible assets are defined as property, plant, and equipment. The source of the data is the Compustat database.} \]

\[ \text{NYSE-Listed}_{it} = \text{Indicator equal to 1 if the firm is listed on the New York Stock Exchange and 0 otherwise. The source of the data is the Compustat database.} \]

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\(^{350}\) See supra note 116.

\(^{351}\) See supra note 117.
RDSALES_{it} = The ratio of Research and Development (R&D) expenses to sales. The source of the data is the Compustat database.

SIZE_{it} = Log of total assets (Compustat item AT) at the start of the year. The source of the data is the Compustat database.

**Litigation Risk Variables**

GENERAL\_LIT_{it} = Estimated probability of securities law and class action litigation (as recorded in Audit Analytics),\textsuperscript{352} calculated as $e^{SUE}/(1+e^{SUE})$, where

\[
SUE_i = -7.883 + 0.566 \times FPS_i + 0.518 \times Assets_{t-1} + 0.982 \times Sales\ Growth_{t-1} + 0.379 \times Return_{t-1} - 0.108 \times Returnskewness_{t-1} + 25.635 \times Returnstddev_{t-1} + 0.00007 \times Turnover_{t-1}.
\]

FPS = 1 if the firm is in the biotech (SIC codes 2833–2836 and 8731–8734), computer (3570–3577 and 7370–7374), electronics (3600–3674), or retail (5200–5961) industry, and 0 otherwise;  
Assets = Total assets;  
Return = Market-adjusted 12-month stock return;  
Returnskewness = Skewness of the firm’s 12-month return;  
Returnstddev = Standard deviation of the firm’s 12-month return;  
Sales Growth = Current year sales less last year’s sales, scaled by total assets at the beginning of the current year;  
Turnover = Daily trading volume accumulated over the fiscal year, scaled by the beginning of the year’s shares outstanding (in thousands).

**Litigation Categories**

The source of data is the Audit Analytics (AA) Litigation files. Each category is defined as an indicator variable that includes the actual litigation categories (as presented in the AA Litigation files) noted in the description section. We note in parentheses the relevant AA Litigation category code.

<table>
<thead>
<tr>
<th>Litigation Category</th>
<th>Description (as presented in AA Litigation files)</th>
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<tr>
<td>SECURITIES_LIT_{it}</td>
<td>Securities Laws (41)</td>
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<tr>
<td>CLASSACTION_LIT_{it}</td>
<td>Class Action (1)</td>
</tr>
<tr>
<td>PATENT_LIT_{it}</td>
<td>Patent Law (35), Trademark Law (44), Copyright Law (12)</td>
</tr>
</tbody>
</table>

ACCOUNTING_LIT_{i,t} = Accounting Malpractice (2)

OPTION_BACK DATING_LIT_{i,t} = Stock Options Backdating (55)

**Excluded Instruments**

INDUSTRY JD_{i,t} = Industry (2-digit SIC code) cumulative density function of the likelihood of having lawyer-director(s) for any given year t and industry j. We use this variable for each observation (for each corporation i in year t, where corporation i is a member of industry j in year t).

JD NETWORK_{i,t} = An indicator variable equal to 1 if at least one board member in any given year was also on another board in the prior year that included a lawyer-director.

SOX_{i,t} = Equal to 1 after adoption of the Sarbanes-Oxley Act of 2002, and 0 otherwise.
### Appendix B—Selected Summary Data

#### Appendix B—Panel A

Below we report selected summary data related to our analyses. These data are based on the Fama-French 49 industry portfolios, excluding financial firms.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Average</th>
<th>Median</th>
<th>St. Dev.</th>
<th>10th Percentile</th>
<th>90th Percentile</th>
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</thead>
<tbody>
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<td><strong>Lawyer-Director Variables</strong></td>
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</tr>
<tr>
<td>$JD_{i,t}$</td>
<td>0.41</td>
<td>0</td>
<td>0.49</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Predicted $JD_{i,t}$</td>
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<td>0.438</td>
<td>0.179</td>
<td>0.22</td>
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<td><strong>Key Dependent Variables</strong></td>
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<td></td>
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<tr>
<td>CEO VEGA$_{i,t}$</td>
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<td>22.95</td>
<td>123.10</td>
<td>0.0</td>
<td>189.5</td>
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<tr>
<td>CEO DELTA$_{i,t}$</td>
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<td>145.2</td>
<td>1,226.6</td>
<td>14.9</td>
<td>1,080.6</td>
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<td>ZSCORE$_{i,t}$</td>
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<td>1.803</td>
<td>1.843</td>
<td>0.288</td>
<td>3.400</td>
</tr>
<tr>
<td>IMPLVOL$_{i,t}$</td>
<td>0.401</td>
<td>0.402</td>
<td>0.186</td>
<td>0.235</td>
<td>0.688</td>
</tr>
<tr>
<td>TOBIN$_{i,t}$</td>
<td>2.86</td>
<td>2.14</td>
<td>2.60</td>
<td>0.83</td>
<td>5.69</td>
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<tr>
<td>BOARDSIZE$_{i,t}$</td>
<td>9.06</td>
<td>9</td>
<td>2.3</td>
<td>6</td>
<td>12</td>
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<tr>
<td>CEOCHAIR$_{i,t}$</td>
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<td>1</td>
<td>0.49</td>
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<tr>
<td>EINDEX$_{i,t}$</td>
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<tr>
<td>STAGGERED$_{i,t}$</td>
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<td>0.12</td>
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<tr>
<td>LEVERAGE$_{i,t}$</td>
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<td>0.19</td>
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<tr>
<td>GENERAL_LIT$_{i,t}$</td>
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<td>SECURITIES_LIT$_{i,t}$</td>
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<td>CLASSACTION_LIT$_{i,t}$</td>
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<td>OPTION_BACKDATING_LIT$_{i,t}$</td>
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<td>SIZE$_{i,t}$</td>
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<td>7.2</td>
<td>1.603</td>
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<td>COMPLEXITY$_{i,t}$</td>
<td>1.47</td>
<td>1</td>
<td>1.23</td>
<td>1</td>
<td>3</td>
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<td>INDUSTRY JD$_{i,t}$</td>
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<td>0.39</td>
<td>0.138</td>
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<td>JD NETWORK$_{i,t}$</td>
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<td>NYSE$_{i,t}$</td>
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First-difference Variables

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<td>∆ZSCORE_{i,t}</td>
<td>-0.06</td>
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<td>∆IMPLVOL_{i,t}</td>
<td>0.099</td>
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<td>∆TOBIN_{i,t}</td>
<td>-0.15</td>
<td>-0.03</td>
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Appendix B—Panel B

This Panel shows personal characteristics, committee assignments, leadership roles, and compensation of lawyer-directors.

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<th>Variables</th>
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<td>Age</td>
<td>62.8</td>
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<tr>
<td>Gender (Percent male)</td>
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<tr>
<td>Number of Board Members</td>
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<td>1.31</td>
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<tr>
<td>Committee Assignments</td>
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<td>Number of Committees Assigned</td>
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<td>Audit Comm. Member</td>
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<td>Nominating/Governance Comm.</td>
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<td>Member</td>
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<tr>
<td>Compensation Comm. Member</td>
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<td>Risk Comm. Member</td>
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<tr>
<td>Nominating/Governance Comm. Chair</td>
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<td>0.44</td>
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<tr>
<td>Compensation Comm. Chair</td>
<td>0.14</td>
<td>0.34</td>
</tr>
<tr>
<td>Risk Comm. Chair</td>
<td>0.14</td>
<td>0.35</td>
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<tr>
<td>Compensation (in US$ thousands)</td>
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<tr>
<td>Cash (Salary)</td>
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<tr>
<td>Equity (Stock &amp; Options)</td>
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<tr>
<td>Total Annual Compensation</td>
<td>176.64</td>
<td>256.12</td>
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Appendix C—Analytical Descriptions of Regression Models

Table 1—Predictive Model

In Table 1, we start with the estimation of a model of the factors that drive the appointment of lawyer-directors on board. We refer to it as a first-stage regression. Our model is defined as follows:

\[
\Pr(JD_{it} = 1) = \Phi(\alpha_1 + \alpha_2 X_{it-1} + \alpha_3 Z_{it-1} + \varepsilon_{it}),
\]

where \(X_{it-1}\) is a matrix of control variables including firm characteristic covariates (such as \(\text{GENERAL} \_\text{LIT}_{i,t-1}\), \(\text{NYSE-Listed}_{i,t-1}\), \(\text{COMPLEXITY}_{i,t-1}\), and \(\text{INSTITUTIONAL} \_\text{OWN}_{i,t-1}\)), year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios, excluding financial firms), \(Z_{it-1}\) is a matrix of excluded instrumental variables (independent variables that appear only in Equation (1) above and in none of the subsequent models, such as \(\text{JD NETWORK}_{i,t-1}\), \(\text{SOX}_{i,t-1}\), and \(\text{INDUSTRY JD}_{i,t-1}\)), \(\Phi(.)\) is the cumulative distribution function of the standard normal distribution, and \(\varepsilon_{it}\) is the error term. The estimation of \(\alpha_1\), \(\alpha_2\), and \(\alpha_3\) is performed through maximum likelihood.

Table 2 (Panels A and B)—CEO Compensation Regressions

In Table 2, we investigate the impact of having a lawyer-director on CEO incentives. We estimate the following equation:

\[
y_{it} = \beta_1 + \beta_2 \times JD_{it-1} + \beta_3 \times X_{it-1} + \varepsilon_{it},
\]

where \(y_{it}\) can be any of the following dependent variables: \(\text{CEO DELTA}_{i,t}\) and \(\text{CEO VEGA}_{i,t}\) (in Panel A) or \(\text{CEOSALARY}_{i,t}\) and \(\text{CEO-EXCESSCOMP}_{i,t}\) (in Panel B), and where \(X_{it-1}\) is a matrix of control variables including \(\text{NYSE-Listed}_{i,t-1}\), \(\text{SIZE}_{i,t-1}\), \(\text{AVSALESGROWTH}_{i,t-1}\), \(\text{DIVIDENDS}_{i,t-1}\), \(\text{CASH}_{i,t-1}\), and \(\text{OUTSIDE DIRECTORS}_{i,t-1}\), and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). Equation (2) is estimated for all models in Panel A except Models (2) and (8); Equation (2) is also estimated for Models (1) and (3) in Panel B.

In Panel A, we also estimate Equation (2) by replacing \(JD_{i,t-1}\) with each of the following independent variables: \(\text{JD OUTSIDE}_{i,t-1}\), \(\text{JD CHAIRMAN}_{i,t-1}\), \(\text{JD CHAIR COMPCOM}_{i,t-1}\), and \(\text{JD COMPCOM}_{i,t-1}\).

---

353 In Models (2)-(6) in Table 1, in order to predict the inclusion of a lawyer-director, we also substitute \(\text{GENERAL} \_\text{LIT}_{i,t-1}\) for each of the following litigation categories: \(\text{PATENT} \_\text{LIT}_{i,t-1}\), \(\text{SECURITIES} \_\text{LIT}_{i,t-1}\), \(\text{CLASSACTION} \_\text{LIT}_{i,t-1}\), and \(\text{ACCOUNTING} \_\text{LIT}_{i,t-1}\).

354 We estimate Equation (1) using the Probit (or non-linear) method and the ordinary least squares (OLS) method.
In Table 2, Panel B, we study CEOSALARY\(_{i,t}\) and CEO-EXCESSCOMP\(_{i,t}\). In Panel B, Model (2) presents a two-stage least squares (2SLS) analysis, where JD\(_{i,t-1}\) is replaced by Predicted JD\(_{i,t-1}\), as determined by Equation (1),\(^{355}\) in Equation (2). We, therefore, have the following second-stage equation for Models (2) and (8) in Panel A and for Models (2) and (4) in Panel B:

\[
y_{it} = \beta_1 + \beta_2 \times \text{Predicted JD}_{i,t-1} + \beta_3 \times X_{i,t-1} + \varepsilon_{it}. \tag{3}
\]

**Table 3—Board Structure and Takeover Protection Regressions**

In Table 3, we estimate Equations (2) and (3) above, where \(y_{it}\) is each of the following variables: BOARDSIZE\(_{i,t}\), EINDEX\(_{i,t}\), CEOCHAIR\(_{i,t}\), and STAGGERED\(_{i,t}\); and the matrix \(X_{i,t-1}\) includes the following controls: NYSE-Listed\(_{i,t-1}\), SIZE\(_{i,t-1}\), AVSALESgrowth\(_{i,t-1}\), DIVIDENDS\(_{i,t-1}\), CASH\(_{i,t-1}\), INSTITUTIONAL OWN\(_{i,t-1}\), OUTSIDE DIRECTORS\(_{i,t-1}\), and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios).

**Table 4—Option Backdating Regression**

In Model (1) of Table 4, we estimate the following equation:

\[
\Pr(OPTION\_BACKDATING\_LIT_{it} = 1) = \Phi(\alpha_1 + \alpha_2 \times J D_{i,t-1} + \alpha_3 \times X_{i,t-1} + \varepsilon_{it}), \tag{4}
\]

where \(X_{i,t-1}\) is the matrix of the following control variables: NYSE-Listed\(_{i,t-1}\), SIZE\(_{i,t-1}\), AVSALESgrowth\(_{i,t-1}\), DIVIDENDS\(_{i,t-1}\), CASH\(_{i,t-1}\), OUTSIDE DIRECTORS\(_{i,t-1}\), and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). \(OPTION\_BACKDATING\_LIT_{it}\) is an indicator variable equal to 1 if corporation \(i\) had option backdating litigation in year \(t\), and where \(\Phi(.)\) is the cumulative distribution function of the standard normal distribution, and where \(\varepsilon_{it}\) is the error term. The estimation of \(\alpha_1\), \(\alpha_2\), and \(\alpha_3\) is performed through maximum likelihood. In Model (2), we also estimate Equation (4) with independent variable Predicted JD\(_{i,t-1}\).

The marginal effect of JD\(_{i,t-1}\), i.e., \(ME_{JD_{i,t-1}} = -0.00207\), is calculated as the difference between (i) the predicted probability of option backdating if JD\(_{i,t-1}=1\), i.e., \(Pr(OPTION\_BACKDATING\_LIT_{i,t} = 1|X_{i,t-1}, JD_{i,t-1} = 1)\), and (ii) the predicted probability of option backdating if JD\(_{i,t-1}=0\), i.e., \(Pr(OPTION\_BACKDATING\_LIT_{i,t} = 1|X_{i,t-1}, JD_{i,t-1} = 0)\).

Since the predicted probabilities are computed using Equation (4), \(ME_{JD_{i,t-1}}\) is the difference between (i) \(\Phi(\hat{\alpha}_1 - 0.94 \times 1 + \hat{\alpha}_3 \times \bar{X}_{i,t-1})\) and (ii) \(\Phi(\hat{\alpha}_1 - 0.94 \times 0 + \hat{\alpha}_3 \times \bar{X}_{i,t-1})\), where \(\hat{\alpha}_1\) and \(\hat{\alpha}_3\) are the estimated model coefficients and \(\bar{X}_{i,t-1}\) is the matrix of average values of the control variables.

\(^{355}\) We refer to Equation (2) as a second-stage equation since Predicted JD\(_{i,t-1}\) is the independent variable estimated through the first-stage regression in Equation (1).
The marginal effect of Predicted JD_{t-1}, i.e. $\frac{\partial}{\partial \text{Predicted JD}_{t-1}} = -0.0032$, is computed as follows:

$$ME_{\text{Predicted JD}_{t-1}} = \lim_{\Delta \to 0} \left[ \frac{Pr(\text{OPTION BACKDATING LIT}_{t,t} = 1|X_{t,t-1}, \text{Predicted JD}_{t-1} + \Delta)}{-Pr(\text{OPTION BACKDATING LIT}_{t,t} = 1|X_{t,t-1}, \text{Predicted JD}_{t-1})} \right] / \Delta.$$ 

Using Equation (4), (i) $Pr(\text{OPTION BACKDATING LIT}_{t,t} = 1|X_{t,t-1}, \text{Predicted JD}_{t-1} + \Delta)$ is equal to $\Phi(\alpha - 1.006 \times (\text{Predicted JD}_{t-1} + \Delta) + \beta_3 \bar{X}_{t-1})$ and (ii) $Pr(\text{OPTION BACKDATING LIT}_{t,t} = 1|X_{t,t-1}, \text{Predicted JD}_{t-1})$ is equal to $\Phi(\alpha_1 - 1.006 \times \text{Predicted JD}_{t-1} + \beta_3 \bar{X}_{t-1})$, where $\alpha$ and $\alpha_1$ are the estimated coefficients and $\bar{X}_{t-1}$ is the matrix of average values for the control variables. The limit’s value estimation is done by a first-order Taylor series approximation, known also as the delta method.

**Table 5 (Panels A, B, C, and D)—Risk-Taking Regressions**

In Table 5, Panel A we estimate Equation (2) above where the dependent variable is either IMPLVOL_{i,t} or ZSCORE_{i,t}. We include the following control variables: CEO DELTA_{i,t-1}, CEO VEGA_{i,t-1}, NYSE-Listed_{i,t-1}, SIZE_{i,t-1}, AVSALESGROWTH_{i,t-1}, DIVIDENDS_{i,t-1}, CASH_{i,t-1}, OUTSIDE DIRECTORS_{i,t-1}, and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios). In Panel A, the independent variables are JD_{i,t-1}, \text{Predicted JD}_{t-1}, JD\_OUTSIDE_{i,t-1}, JD\_CHAIRMAN_{i,t-1}, JD\_CHAIR\_RISKCOM_{i,t-1}, and JD\_RISKCOM_{i,t-1}.

In Panel B, we interact the following independent variables with CEO DELTA_{i,t-1} and CEO VEGA_{i,t-1} (where each of these two variables are Covariate1_{it-1} in Equation (5) below): JD_{i,t-1}, \text{Predicted JD}_{t-1}, JD\_OUTSIDE_{i,t-1}, JD\_CHAIRMAN_{i,t-1}, JD\_CHAIR\_RISKCOM_{i,t-1}, and JD\_RISKCOM_{i,t-1} (where each of these variables are Covariate2_{it-1} in Equation (5) below). The interactions with CEO DELTA_{i,t-1} are in Models (1) and (2), and the interactions with CEO VEGA_{i,t-1} are in Models (3) and (4) of Panel B. We estimate these interactions through the following equation:

$$y_{it} = \beta_1 + \beta_2 \times \text{Covariate1}_{it-1} + \beta_3 \times \text{Covariate1}_{it-1} \times \text{Covariate2}_{it-1} + \beta_4 \times \text{Covariate2}_{it-1} \times X_{it-1} + \epsilon_{it},$$

where $X_{it-1}$ is a vector of control variables that include the following: CEO DELTA_{i,t-1}, CEO VEGA_{i,t-1}, NYSE-Listed_{i,t-1}, SIZE_{i,t-1}, AVSALESGROWTH_{i,t-1}, DIVIDENDS_{i,t-1}, CASH_{i,t-1}, and OUTSIDE DIRECTORS_{i,t-1}, and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios), and where $y_{it}$ is either ZSCORE_{i,t} or IMPLVOL_{i,t}.

In Table 5, Panel C, we perform several regressions where we include interactions of JD_{i,t-1} with PATENT\_LIT_{i,t-1} (in Models (1) and (2)) and interactions of INTANGIBLE\_ASSETS_{i,t-1}, PATENT\_LIT_{i,t-1}, and JD_{i,t-1} (in Models (3) and (4)).

---

Models (1) and (2), therefore, are as follows:

\[ y_{it} = \beta_1 + \beta_2 \times JD_{it-1} + \beta_3 \times JD_{it-1} \times PATENT\_LIT_{it-1} + \]
\[ + \beta_4 \times PATENT\_LIT_{it-1} + \beta_5 \times X_{it-1} + \epsilon_{it}, \]  
\[(6)\]

where \(X_{it-1}\) is a matrix of control variables including firm characteristics (such as CEO DELTA_{i,t-1}, CEO VEGA_{i,t-1}, NYSE-Listed_{i,t-1}, SIZE_{i,t-1}, AVSALES\_GROWTH_{i,t-1}, DIVIDENDS_{i,t-1}, CASH_{i,t-1}, and OUTSIDE \_DIRECTORS_{i,t-1}), and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios), and where \(y_{it}\) is ZSCORE_{i,t} or IMPLVOL_{i,t}.

Models (3) and (4) are estimated as follows:

\[ y_{it} = \beta_1 + \beta_2 \times JD_{it-1} + \beta_3 \times INTANGIBLE\_ASSETS_{it-1} + \beta_4 \times JD_{it-1} \times \]
\[ PATENT\_LIT_{it-1} + \beta_5 \times INTANGIBLE\_ASSETS_{it-1} \times PATENT\_LIT_{it-1} + \beta_6 \times \]
\[ JD_{it-1} \times INTANGIBLE\_ASSETS_{it-1} + \beta_7 \times JD_{it-1} \times INTANGIBLE\_ASSETS_{it-1} \times \]
\[ PATENT\_LIT_{it-1} + \beta_8 \times X_{it-1} + \epsilon_{it}, \]  
\[(7)\]

where \(X_{it-1}\) is a matrix of controls including CEO DELTA_{i,t-1}, CEO VEGA_{i,t-1}, NYSE-Listed_{i,t-1}, SIZE_{i,t-1}, AVSALES\_GROWTH_{i,t-1}, DIVIDENDS_{i,t-1}, CASH_{i,t-1}, and OUTSIDE \_DIRECTORS_{i,t-1}, and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios), and where \(y_{it}\) is either ZSCORE_{i,t} or IMPLVOL_{i,t}.

In Table 5, Panel D, we estimate three separate regressions, summarized as follows:

\[ y_{it} = \beta_1 + \beta_2 \times JD_{it-1} + \beta_3 \times JD_{it-1} \times Covariate3_{it-1} + \]
\[ + \beta_4 \times Covariate3_{it-1} + \beta_5 \times X_{it-1} + \epsilon_{it}, \]  
\[(8)\]

where Covariate3_{it-1} is each of the following three litigation categories: SECURITIES\_LIT_{i,t-1}, CLASSACTION\_LIT_{i,t-1}, and ACCOUNTING\_LIT_{i,t-1}, and where \(y_{it}\) is either ZSCORE_{i,t} or IMPLVOL_{i,t}, and \(X_{it-1}\) is the same matrix of control variables as in Equation (7).

**Table 6 (Panels A, B, and C)—Firm Valuation Regressions**

In Table 6, Panel A, we estimate Equations (2) and (3) where \(y_{it}\) is Tobin’s Q. In addition, we estimate the same equations by substituting JD_{it-1} in Equation (2) with the following independent variables: JD\_OUTSIDE_{i,t-1}, JD\_CHAIRMAN_{i,t-1}, JD\_CHAIR\_COMPCOM_{i,t-1}, and JD\_COMPCOM_{i,t-1}. The matrix \(X_{it-1}\) includes the following controls: NYSE-Listed_{i,t-1}, SIZE_{i,t-1}, AVSALES\_GROWTH_{i,t-1}, DIVIDENDS_{i,t-1}, CASH_{i,t-1}, OUTSIDE \_DIRECTORS_{i,t-1}, and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios).

In Table 6, Panel B, we estimate Equation (5) above where \(y_{it}\) is Tobin’s Q, Covariate1_{it-1} is either CEO DELTA_{i,t-1} or CEO VEGA_{i,t-1}, and Covariate2_{it-1} is each of the
following variables: $JD_{i,t-1}$, $JD\_OUTSIDE_{i,t-1}$, $JD\_CHAIRMAN_{i,t-1}$, $JD\_CHAIR\_COMPCOM_{i,t-1}$, and $JD\_COMPCOM_{i,t-1}$. The matrix $X_{i,t-1}$ includes the following controls: $NYSE\_Listed_{i,t-1}$, $SIZE_{i,t-1}$, $AVSALES\_GROWTH_{i,t-1}$, $DIVIDENDS_{i,t-1}$, $CASH_{i,t-1}$, $OUTSIDE\_DIRECTORS_{i,t-1}$, and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios).

In Table 6, Panel C, we estimate Equation (8) above where $y_{it}$ is Tobin’s Q and $\text{Covariate}_3_{i,t-1}$ is each of the following litigation categories: $\text{PATENT}\_\text{LIT}_{i,t-1}$, $\text{SECURITIES}\_\text{LIT}_{i,t-1}$, $\text{CLASSACTION}\_\text{LIT}_{i,t-1}$, and $\text{ACCOUNTING}\_\text{LIT}_{i,t-1}$. The matrix $X_{i,t-1}$ includes the following controls: $NYSE\_Listed_{i,t-1}$, $SIZE_{i,t-1}$, $AVSALES\_GROWTH_{i,t-1}$, $DIVIDENDS_{i,t-1}$, $CASH_{i,t-1}$, $OUTSIDE\_DIRECTORS_{i,t-1}$, and year and industry fixed effects (industry is defined using the Fama-French 49 industry portfolios).
Appendix D—Robustness Analysis

In this Appendix, we perform a first-difference regression to verify the robustness of our results regarding the impact of JD_{i,t-1} on each of the following variables: ZSCORE_{i,t}, IMPLVOL_{i,t}, and Tobin’s Q (the dependent variables).

In order to address the impact of JD_{i,t-1} on each of the dependent variables, we calculate the difference between each variable observed at time t minus the value of the same variable observed at time t − 1. This approach allows us to isolate the specific effect in which we are interested by controlling for firm-specific effects.

Analytically, the first-difference regression we perform for risk taking is:

\[
\Delta y_{it} = \beta_1 + \beta_2 \times \Delta JD_{it-1} + \beta_3 \times \Delta X_{it-1} + \varepsilon_{it},
\]

where \( \Delta \) is the first-difference operator for each variable observed at time t and t − 1, \( y_{it} \) can be either ZSCORE_{i,t} or IMPLVOL_{i,t}, and the matrix \( X_{it-1} \) includes the following controls: CEO DELTA_{i,t-1}, CEO VEGA_{i,t-1}, SIZE_{i,t-1}, AVSALESgrowth_{i,t-1}, DIVIDENDS_{i,t-1}, and CASH_{i,t-1}. Note that we exclude year and industry fixed effects\(^{357}\) as well as \( \Delta \text{NYSE-Listed}_{i,t-1} \).

The results obtained from Equation (9) are shown below in Appendix Table D—Panel A and Panel B.

**Appendix D—Panel A. Lawyer-Directors and Risk-Taking.**

First-difference regressions of dependent variables \( \Delta \text{ZSCORE}_{i,t} \) and \( \Delta \text{IMPLVOL}_{i,t} \) on independent variable \( \Delta JD_{i,t-1} \). We control for \( \Delta \text{CEO DELTA}_{i,t-1}, \Delta \text{CEO VEGA}_{i,t-1}, \Delta \text{SIZE}_{i,t-1}, \Delta \text{AVSALESgrowth}_{i,t-1}, \Delta \text{DIVIDENDS}_{i,t-1}, \text{and} \Delta \text{CASH}_{i,t-1} \). Observation count and a measure of goodness of fit (adjusted R-squared) are shown. The ‘***’, ‘**’, and ‘*’ indicate significance at the 1%, 5%, and 10% levels, respectively.

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\(^{357}\) See WOOLDRIDGE, supra note 148, at 279 (discussing how time and industry fixed effects become constant and, therefore, irrelevant in a first-difference model).
Dependent Variables:

<table>
<thead>
<tr>
<th>Variable</th>
<th>ΔZ-SCORE_{i,t}</th>
<th>ΔIMPL-VOL_{i,t}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Δ JD_{i,t-1}</td>
<td>0.007**</td>
<td>-0.027***</td>
</tr>
<tr>
<td></td>
<td>(2.18)</td>
<td>(3.21)</td>
</tr>
<tr>
<td>Δ CEO DELTA_{i,t-1}</td>
<td>0.033</td>
<td>-0.022*</td>
</tr>
<tr>
<td></td>
<td>(1.53)</td>
<td>(1.74)</td>
</tr>
<tr>
<td>Δ CEO VEGA_{i,t-1}</td>
<td>0.323***</td>
<td>0.029</td>
</tr>
<tr>
<td></td>
<td>(2.98)</td>
<td>(0.49)</td>
</tr>
<tr>
<td>Δ SIZE_{i,t-1}</td>
<td>-0.306***</td>
<td>-0.49***</td>
</tr>
<tr>
<td></td>
<td>(4.51)</td>
<td>(3.26)</td>
</tr>
<tr>
<td>Δ AVSALESGROWTH_{i,t-1}</td>
<td>1.646***</td>
<td>-0.487</td>
</tr>
<tr>
<td></td>
<td>(11.41)</td>
<td>(1.32)</td>
</tr>
<tr>
<td>Δ DIVIDENDS_{i,t-1}</td>
<td>0.031***</td>
<td>-0.001</td>
</tr>
<tr>
<td></td>
<td>(3.13)</td>
<td>(0.1)</td>
</tr>
<tr>
<td>Δ CASH_{i,t-1}</td>
<td>1.013***</td>
<td>-0.138</td>
</tr>
<tr>
<td></td>
<td>(5.81)</td>
<td>(0.50)</td>
</tr>
</tbody>
</table>

Observations: 8,258 8,258
Adj. R-squared: 11.7% 11.7%

We find that the coefficient ΔJD_{i,t-1} is always positive and statistically significant. Concerning its economic significance, we report that a one standard deviation increase in ΔJD_{i,t-1} (0.263) is associated with a standard deviation increase of 22 basis points in ΔZSCORE_{i,t} (calculated as 0.263, multiplied by the coefficient estimate of 0.007, divided by the standard deviation of ΔZSCORE_{i,t}, i.e., 0.8196) and a standard deviation decrease of 37 basis points in ΔIMPLVOL_{i,t} (calculated as 0.263, multiplied by the coefficient estimate of -0.027, divided by the standard deviation of ΔIMPLVOL_{i,t}, i.e., 1.949).

Using the same methodology, we evaluate the impact of JD_{i,t-1} on Tobin’s Q. Therefore, we estimate Equation (9) above where y_{i,t} is Tobin’s Q and the matrix X_{i,t-1} includes the following controls: SIZE_{i,t-1}, AVSALESGROWTH_{i,t-1}, DIVIDENDS_{i,t-1}, and CASH_{i,t-1}.

Appendix D—Panel B. Lawyer-Directors and Firm Value.

First-difference regressions of dependent variable ΔTobin’s Q on independent variable ΔJD_{i,t-1}. We control for ΔSIZE_{i,t-1}, ΔAVSALESGROWTH_{i,t-1}, ΔDIVIDENDS_{i,t-1}, and ΔCASH_{i,t-1}. Observation count and a measure of goodness of fit (adjusted R-squared) are shown. The ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.
<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>∆ TOBIN&lt;sub&gt;it&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td></td>
</tr>
<tr>
<td>∆ JD&lt;sub&gt;it-1&lt;/sub&gt;</td>
<td>0.241*** (3.34)</td>
</tr>
<tr>
<td>∆ SIZE&lt;sub&gt;it-1&lt;/sub&gt;</td>
<td>-0.5557*** (4.59)</td>
</tr>
<tr>
<td>∆ AVSALES&lt;sub&gt;it-1&lt;/sub&gt;</td>
<td>0.140 (0.73)</td>
</tr>
<tr>
<td>∆ DIVIDENDS&lt;sub&gt;it-1&lt;/sub&gt;</td>
<td>0.040 (1.18)</td>
</tr>
<tr>
<td>∆ CASH&lt;sub&gt;it-1&lt;/sub&gt;</td>
<td>1.2565*** (4.95)</td>
</tr>
<tr>
<td>Observations</td>
<td>8,858</td>
</tr>
<tr>
<td>Adj. R-squared</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

We find that the coefficient ∆JD<sub>it-1</sub> is always positive and statistically significant. Concerning its economic significance, we report that a one standard deviation increase in ∆JD<sub>it-1</sub> is associated with a nearly 3.2 percent of standard deviation increase in Tobin’s Q (calculated as 0.263, multiplied by the coefficient estimate of 0.241, divided by the standard deviation of ∆TOBIN<sub>it</sub>, i.e., 2.0006).