

Empirical Studies of Corporate Law and Governance: Some Steps Forward and Some Steps Not

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Abstract

This chapter examines the empirical literature on corporate law and governance in the United States. Four areas of the US corporate governance literature are discussed: (i) state competition to produce corporate law, (ii) independent boards, (iii) takeover defenses, and (iv) the use of corporate governance indices. The chapter concludes that these areas of research reflect varying degrees of success. The literature on state competition has been a major success. We know much more in this area as a result of empirical analysis in this area than we did on the basis of theory alone. At the other extreme is the literature on takeover defenses and the related literature that uses governance indices as measures of governance quality. Those empirical literatures are plagued by misunderstandings of how takeovers and takeover defenses work, and many results are therefore not as informative as they appear to be. In between is the literature on the impact of an independent board. Here, empiricists faced perhaps insurmountable challenges in proving causation, but nonetheless exposed informative associations.

Keywords: empirical literature, corporate law, corporate governance, state competition, independent boards, takeover defenses, corporate governance indices, state incorporation, institutional shareholders, poison pills

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I. INTRODUCTION

Theory often does not get us very far in understanding corporate law and governance. Competing plausible theories offer conflicting answers on many questions. For most questions, therefore, we would ideally seek answers based on empirical analysis. But empirical analysis entails its own challenges. Causation is difficult to prove. Reverse causation is often a plausible interpretation of results, as are other endogenous relationships. In addition, unobservable factors are pervasive and the inability to control for them can make results unreliable. Consequently, to address many empirical questions, an exogenous shock would be needed in order to infer causation. But exogenous shocks can be uncooperative in targeting interesting corporate governance questions. Finally, many economists who engage in empirical research on corporate governance lack the knowledge of institutional and legal facts that is needed to carry out empirical analysis of corporate governance questions.

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Nonetheless, there are certainly areas of corporate law and governance in which we have learned a lot from empirical analysis. Even where imperfect, if econometric analysis reveals a theoretically reasonable correlation between a corporate governance structure and an outcome variable, and the analysis goes as far as one can go toward controlling for extraneous variables and alternative channels of causation, we can learn from the analysis. Over time, other less-than-perfect analyses may confirm the analysis, or fail to confirm it, so that in the aggregate we have a reasonably good answer to the question we are trying to answer.

On the other hand, a finding of a theoretically *implausible* correlation should not be taken seriously. Regrettably, along with the good empirical work that has been done on corporate governance, there have been too many instances of work by economists who do not understand the underlying institutional and legal arrangements. As a result, their hypotheses and tests have generated implausible results. Regrettably, other economists have followed and entire literatures have developed based on an incorrect understanding of the underlying facts. The literature on takeover defenses and state antitakeover statutes is an example—dating back thirty years and continuing today.¹ The use of governance indices, which I have discussed elsewhere and which I discuss below, is another.²

It is obviously not feasible to survey the entire empirical literature on corporate law and governance in one chapter, so I will adopt two somewhat arbitrary constraints. First, I will only discuss the literature on U.S. corporate law and governance.³ Second, I will address just four areas of the U.S. corporate governance literature—state competition to produce corporate law, independent boards, takeover defenses, and the use of corporate governance indices—to illustrate the good and the bad in empirical work in on corporate governance.

Studies of state competition have been the most productive. They have taken our knowledge of the world well beyond where it was when legal academics debated this topic on the basis of theory alone. Studies of board independence are more problematic. Econometric challenges are pervasive, but they are generally acknowledged and while few papers can convincingly claim to have identified causal relationships, some have done so, and the literature as a whole is large and collectively informative. The takeover defense topic is the most problematic area of the empirical corporate governance literature. It is here where economists' lack of knowledge of basic institutional and legal facts has resulted in numerous studies that simply cannot tell us anything because the research design is so out of line with the underlying processes being modeled. The design and use of corporate governance indices are a specific and

¹ See Emiliano Catan & Marcel Kahan, *The Law and Finance of Antitakeover Statutes*, 68 STAN. L. REV. 629 (2016); John C. Coates IV, *Takeover Defenses in the Shadow of the Pill: A Critique of the Scientific Evidence*, 79 TEX. L. REV. 271 (2000). Michael Klausner, *Fact and Fiction in Corporate Law and Governance*, 65 STAN. L. REV. 1325 (2013).

² Klausner, *supra* note 1.

³ Because of the greater data availability on US firms, a disproportionately large fraction of the empirical corporate governance literature has a US focus in any event.

pervasive instance of economists' lack of knowledge in this area. These indices do not measure corporate governance quality, and have been widely employed with no awareness of what they do or do not measure. The E Index, in fact, is a by-product of an article showing that three quarters of the elements included in the G Index are irrelevant. As I explain in Part IV of this chapter, the same is true of three of the six elements retained in what became the E Index.

II. STATE COMPETITION TO PROVIDE CORPORATE LAW

One of the longest running debates regarding corporate law in the U.S. was the question whether there is a “race to the bottom” or a “race to the top” among the fifty states in the enactment of corporate law. Does the evolution of state corporate law result in improvement or degradation? Plausible competing theories supported each of these propositions. So, if the question can be answered, it would be with empirical analysis.

When a company in the U.S. goes public, its pre-IPO management and shareholders together choose a state in which to incorporate and in doing so, they choose the corporate law of that state to govern the relationship between its post-IPO managers and shareholders. The incorporation decision is thus a choice of corporate law. Once the company is publicly held, its board decides on an ongoing basis whether to remain incorporated in its initial state of incorporation or to reincorporate in another state. Reincorporation requires the approval of both the board and shareholders. But at the time this debate started, public shareholders were viewed as passive followers of management preferences, and boards were seen as controlled by CEOs.

As of the mid-1970s, the prevailing view was that the states were racing to the “bottom” to convince management to choose them as a state of incorporation—meaning that they were viewed as enacting pro-management, anti-shareholder laws that we would characterize today as suboptimal. States enacted these laws, the theory went, in order to bring fees associated with incorporation into state coffers and income into a state’s corporate lawyers’ pockets. The content of the laws then perceived to serve managers’ parochial interests was primarily protection of management from liability risk—for example, the business judgment rule and rules allowing for a wide scope of indemnification.⁴

The competing view, held by most economics-oriented legal scholars beginning in the late 1970s, accepted the premise that states were racing to attract incorporations, but rejected the view that states did so by enacting suboptimal, pro-management laws. In the view of this more economically oriented group of legal academics, managers would gain by maximizing the value of their firms and thereby increasing the value of their shareholdings and compensation. Therefore pre-IPO managers and investors would initially incorporate their firms in states whose corporate law regimes maximized firm value. Then, after going public, firms’ managers would continuously monitor changes in corporate law around the country and re-incorporate if a better

⁴ William L. Cary, *Federalism and Corporate Law: Reflections upon Delaware*, 83 YALE L.J. 663, 663-68 (1974).

choice arose.⁵ Advocates of this view theorized that state competition, therefore, must be a race to the “top.”⁶

A third view, which entered the debate later, raised doubts about the competitiveness of the race. Although this view, also adopted by economically oriented scholars, was framed as a challenge to the theory that the race would reach the top, its logic applied as well to the race-to-the-bottom proposition. This challenge was based on the concept that corporate laws have network externality qualities, as discussed in Chapter XXX. One would expect the network externalities present in an entire corporate law regime—court decisions, legal expertise, and investor familiarity—to be even more important than those associated with a particular legal rule or a charter or bylaw term, which was the focus of Chapter XXX. If, in fact, state corporate law regimes provide network benefits, then once Delaware led the race one would expect its lead to widen and potentially become so dominant that no state would have a chance of gaining significant market share. If this occurred, why would another state run the race at all? The network externality theory implies that once Delaware acquired a substantial lead, as it had well before the “race” debate started in the 1970s, it would maintain that lead. There would be no point in other states challenging Delaware, and there was no reason to believe that Delaware would reach the “top.” The outcome, therefore, would not necessarily be an optimal corporate law regime, as the race-to-the-top theory maintained. This is not to say that Delaware could ignore the care and maintenance of its corporate law; if the law’s inherent quality were to fall too far behind that of other states, the network benefits that Delaware provides could be insufficient to attract additional incorporations or to deter exit to other states. There was a possibility that Delaware could be overtaken in the incorporation market. But Delaware would not have to run very fast to keep its leading position, and it would not have to produce an optimal corporate law, independent of the network benefits it provides.⁷

Roberta Romano provided the first major empirical analysis of state competition in the market for corporate law.⁸ In this path-breaking article, she found support for the race-to-the-top theory. She found that Delaware was the most common destination among public corporations

⁵ See Chapter XXX, Klausner, *The “Corporate Contract” Today*.

⁶ Ralph K. Winter, Jr., *State Law, Shareholder Protection, and the Theory of the Corporation*, 6 J. LEGAL STUD. 251 (1977).

⁷ For a more detailed explanation, see Michael Klausner, *Corporations, Corporate Law and Networks of Contracts*, 81 VA. L. REV. 757, 842-47 (1995) and Lucian Arye Bebchuk and Assaf Hamdani, *Vigorous Race or Leisurely Walk: Reconsidering the Competition over Corporate Charters*, 112 YALE L.J. 553 (2002).

⁸ Romano tracked the fifty states’ adoption of eight innovations in corporate law:

(1) the explicit elaboration of a standard for director and officer indemnification, (2) the exemption from stockholder vote of mergers involving a specified percentage of the corporation’s stock, (3) the elimination of appraisal rights in corporations whose shares trade on a national exchange, (4) antitakeover statutes, (5) the right of shareholders to take action non-unanimously without holding a meeting, and the permission to (6) stagger the board of directors, (7) eliminate cumulative voting, and (8) eliminate preemptive rights.

Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, 1 J.L. ECON. & ORG. 225, 233 (1985).

that changed their state of incorporation. She further found that reincorporation in Delaware was associated with an increase in share price. This result is consistent with Robert Daines' later finding that Delaware firms are valued more highly than firms incorporated elsewhere,⁹ a finding that Guhan Subramanian has contested.¹⁰

Looking at the supply side of the corporate law market, Romano found that state legislatures adopt legal innovations over time in an S-shaped pattern similar to that of firms adopting product innovations in competitive markets. This suggested a competitive market for the states' provision of corporate law. Romano further found that a state's responsiveness to corporate law innovations by other states was correlated with the state's dependence on corporate franchise fee revenues, again supporting the race-to-the-top theory. Delaware, for which franchise fees comprise a higher proportion of state revenues than they do in any other state, was the quickest to imitate other states' legal innovations. Importantly, however, Delaware was not an innovator. It maintained its lead by just keeping up with the competition.

Romano concluded that state competition in corporate law does, in fact, exist. She described Delaware's success as a self-reinforcing "first-mover advantage" stemming from a number of sources: the importance of franchise taxes to Delaware's budget; a large body of case law; experienced judges; and the familiarity of lawyers nationwide with Delaware law. These findings, however, are somewhat in tension with one another. If Delaware has these first-mover advantages in promoting shareholder interests, and it already held a commanding share of the incorporation market as of the mid-1980s, how much state competition is there likely to be? Why would a state bother to compete with Delaware? Why would any firm incorporate in a state other than Delaware? Does the Delaware legislature have slack with which to respond to the lobbying efforts of managers and others seeking to promote parochial interests that are not consistent with the maximization of firm value? If other states do not compete vigorously head-to-head with Delaware, will Delaware ever get to the "top"?

A series of articles published between 2002 and 2006 addressed the question whether there really is a race of any sort—to the top or the bottom.¹¹ One startling finding was that, contrary to the expectations of commentators on both sides of the race debate, there was no nationwide race among the fifty states. Instead, nearly all firms incorporate either in the state in which they are headquartered or in Delaware. Thus, if there is competition among states it would take the form of each state competing with Delaware for the incorporation of firms headquartered in that state. Putting Delaware aside, between 1978 and 2000, the four most

⁹ Robert Daines, *Does Delaware Law Improve Firm Value?*, 62 J. FIN. ECON. 525, 533-38 (2001).

¹⁰ Guhan Subramanian, *The Disappearing Delaware Effect*, 20 J. L. ECON. & ORG. 32 (2004).

¹¹ Marcel Kahan, *The Demand for Corporate Law: Statutory Flexibility, Judicial Quality, or Takeover Protection?*, 22 J.L. ECON. & ORG. 340 (2006); Lucian Arye Bebchuk & Alma Cohen, *Firms' Decisions Where to Incorporate*, 46 J.L. & ECON. 383 (2003); Guhan Subramanian, *The Influence of Antitakeover Statutes on Incorporation Choice: Evidence on the "Race" Debate and Antitakeover Overreaching*, 150 U. PA. L. REV. 1795 (2002); Robert Daines, *The Incorporation Choices of IPO Firms*, 77 N.Y.U. L. Rev. 1559 (2002).

successful states at attracting incorporation by out-of-state firms at the IPO stage garnered a total of only 3.5% of firms going public.¹² For firms already public as of 1999, only two states other than Delaware had more than 1% of total out-of-state incorporations. Delaware had 58%.¹³ Consequently, there is little out-of-state franchise tax revenue at stake for any state other than Delaware. There may be more potential in-state revenues in large states, but large states are likely to have large budgets in which potential franchise taxes do not make a dent. These findings suggest that states' may have no incentive to compete with Delaware.

In an article entitled *The Myth of State Competition in Corporate Law*, Marcel Kahan and Ehud Kamar concluded that the amount of franchise tax revenue at stake for any state other than Delaware is too small to matter. Moreover, they found that no state other than Delaware takes significant steps to attract incorporations or to gain significant revenues from incorporation.¹⁴ They based their conclusions on an analysis of states' franchise tax structures, their tax receipts, patterns by which laws are adopted across states, and states' marketing efforts.¹⁵ This paper was not empirical in the sense of compiling statistics and running regressions, but it was deeply empirical in the sense of delving into facts in fifty states in order to determine whether they are participating in any sort of race. Kahan and Kamar's analysis essentially ended the debate. The states are not racing against one another to attract incorporations—neither by trying to appeal to managers' parochial interests nor trying to appeal to their joint interest with shareholders in maximizing firm value.

As Kahan and Kamar's article was going to press, Nevada was preparing to make a play for incorporation revenue by offering a corporate law that Michal Barzuza has termed "liability-free" for officers and directors. As Barzuza explains and documents, Nevada has targeted a niche of firms whose managers want to be largely free of liability risk in their exercise of fiduciary duty. She and David Smith further find that firms attracted to incorporate in Nevada make good use of the liability-free environment; they are disproportionately more likely than other firms to engage in accounting misstatements.¹⁶ Nevada's market share, however, is in the single digits. Perhaps Nevada will attract more firms seeking liability-lite. We will see. But Nevada's efforts do not challenge the overall story of the race that never was.

Even if there is no race, however, all states have corporate law and firms still choose between incorporating in Delaware or in their home state. There is still the demand side of the

¹²Daines, *supra* note 9, at 1573.

¹³ Lucian Bebchuk & Alma Cohen, *Firms' Decisions Where to Incorporate*, 46 J.L. & Econ. 388 (2003).

¹⁴ Marcel Kahan & Ehud Kamar, *The Myth of State Competition in Corporate Law*, 55 STAN. L. REV. 679, 748-49 (2002).

¹⁵ *Id.* at 687-99.

¹⁶ Michal Barzuza & David Smith, *What Happens in Nevada? Self-Selecting into Lax Law*, 27 REV. FIN. STUD. 3594 (2014); Michal Barzuza, *Market Segmentation: The Rise of Nevada as a Liability-Free Jurisdiction*, 98 VA. L. REV. 935 (2012).

market for corporate law. What factors influence firm's decisions? Are firms choosing between Delaware and their home state based on differences in corporate law or something else?

The choice of Delaware incorporation provides law and legally-related network benefits—a large and continuously growing body of case law, a specialized judiciary that has a steady flow of corporate law cases with which to maintain its skills and knowledge, a large number of lawyers with expertise, and more. But what about firms choosing to incorporate in their headquarters state? Some states keep more in-state incorporations and some states keep fewer. What drives these differences? The fact that the location of a firm's headquarters plays such an overwhelming role in incorporation decisions suggests that differences in state law is not the primary focus of firms' incorporation decisions. As Robert Daines said in a paper on state competition, Oregon retains almost 70% of IPO firms headquartered there, but in twenty years only three out-of-state firms incorporated in Oregon when they went public.¹⁷ If the attraction of Oregon were its corporate laws, then out-of-state firms would presumably see the attraction and incorporate there. There must be other explanations.

In three articles, Daines, Bebchuk and Cohen, and Kahan offer some other empirically based explanations for in-state incorporation, most of which are not based on the content of a state's corporate law. One is that local lawyers who advise firms in their IPOs have their clients incorporate in-state, perhaps in order to retain their business. A second explanation is that in-state firms want to be in a position to influence the corporate law under which they operate. They may believe that if they incorporate at home they will be able to influence their state legislature to enact laws that favor them. This is consistent with Romano's finding, in 1987, that the enactment of state antitakeover statutes was responsive to domestically incorporated firms.¹⁸ Daines finds evidence that firms concerned about future takeovers tend to incorporate in-state and suggests that they may expect to find favor in the state legislature or in the courts when they seek to ward off hostile bidders. Bebchuk and Cohen find that large firms headquartered in small states tend to incorporate in-state, from which they infer that such firms expect to have influence over future changes in corporate law. Kahan, on the other hand, finds some support for the proposition that in-state incorporation is influenced by the quality of state law at the time of incorporation. Specifically, he finds that flexibility to opt out of statutory rules tends to attract more in-state incorporations, and the quality of a state's courts does as well.¹⁹

In sum, empirical work on state incorporation has moved us well beyond the theory-based "race" debate. We have learned that a race among the states may have occurred at one

¹⁷ Daines, *supra* note 9, at 1576.

¹⁸ Roberta Romano, *The Political Economy of State Takeover Statutes*, 73 VA. L. REV. 111 (1987).

¹⁹ Marcel Kahan, *supra* note 11, at 363-64. Bebchuk and Cohen, and Subramanian find that antitakeover statutes are an attraction for in-state incorporation as well. Bebchuk & Cohen, *supra* note 11, at 404-20; Guhan Subramanian, *The Influence of Antitakeover Statutes on Incorporation Choice: Evidence on the "Race" Debate and Antitakeover Overreaching*, 150 U. PA. L. REV. 1795, 1846, 1852-53 (2002). Kahan, however, attributes this finding to a methodological problem and finds no such association.

time, but that by the time the debate got started the race was long over and Delaware dominated the market. We have also learned that while Delaware incorporation appears to be value-enhancing compared to incorporation elsewhere, Delaware's incentive to reach the "top" is weak as a result of its self-perpetuating lead in the market. A reasonable inference from the empirical work is that much of Delaware's value comes from its network benefits, or what Romano had earlier called "first-mover advantages"—its high volume of case law, expert judiciary, expert bar, and familiarity among investors—and that these benefits unique to Delaware render useless efforts by other states' to compete. Nonetheless, Romano found that Delaware is not complacent. It's legislature is quick to follow when other states enact a new law to respond to a new situation.

III. INDEPENDENT DIRECTORS

Another battle that raged at a theoretical level in the corporate governance arena was about independent boards. This was not so much a battle among academics but rather a battle between institutional shareholders and advocates for management. Institutional shareholders viewed boards as monitors of management and therefore in need of independence. Management advocates, on the other hand, viewed boards as part of a cohesive management team that could be disrupted by too much independence. One could imagine either role for a board, and hence reasonably view independence as either a virtue or a vice. One could also imagine some boards performing both roles well. Moreover, one could have different views for different companies, depending on the presence of other monitoring mechanisms. Legal academics took positions on one side or another based on a mix of theory, intuition and ideology.²⁰

Congress, the SEC and the stock exchanges settled this debate by fiat in 2002 and 2003. In 2002, Congress enacted the Sarbanes Oxley Act (SOX), which imposed independence requirements on audit committees, and in 2003, the SEC approved New York Stock Exchange and NASDAQ rules requiring that a majority of public company board members be independent and that all compensation, nominating and governance committee members be independent.²¹ The stock exchange rules specified criteria by which director independence would be determined. They also required independent directors to meet regularly without management present.

²⁰ Mel Eisenberg has been the champion of the monitoring board. See Melvin Eisenberg, *THE STRUCTURE OF THE CORPORATION* 140-48 (1976); Melvin Eisenberg, *Legal Models of Management Structure in the Modern Corporation: Officers, Directors, and Accountants*, 63 *Cal. L. Rev.* 375 (1975). Stephen Bainbridge has been an advocate of the board as a more "collegial body using consensus-based decisionmaking." Stephen M. Bainbridge, *A Critique of the NYSE's Director Independence Listing Standards*, 30 *SEC. REG. L. J.* 370, 384 (2002); Stephen M. Bainbridge, *Independent Directors and the ALI Corporate Governance Project*, 61 *GEO. WASH. L. REV.* 1034 (1993).

²¹ <https://www.sec.gov/rules/sro/34-48745.htm>. The stock exchange rules requiring independence do not apply in the case of "controlled" companies in which at least 50% of the voting power is held by the controller. For expositional convenience, I will call a board with a majority of independent directors an "independent board."

At the time these rules were adopted, there was no empirical basis to support the proposition that board independence was value-enhancing. For that reason, among others, Roberta Romano referred to the SOX-mandated governance requirements as “quack corporate governance.”²²

The lack of evidence was not due to a lack of effort. Many empiricists had tried to measure the impact of independent boards on firm conduct and performance. Empirical analysis of whether independent boards were beneficial to corporations was plagued by inherent methodological problems. Even if an association between independent boards and firm value or performance were found, causation was difficult if not impossible to prove.

Prior to the stock exchange mandates, a firm’s choice to have an independent board was an endogenous choice. There are any number of causal relationships between board independence and firm performance. CEOs of firms that performed well might have had greater confidence than those at firms that performed poorly, and might therefore have been more likely to give in to institutional shareholder pressure to nominate more independent directors. Or CEOs of firms that performed well may not have wanted to rock the boat by bringing on more independent directors, and shareholders may not have pressured them to do so because performance was good. Conversely, CEOs of firms that performed poorly might have been more likely to add independent directors to their boards, either in response to shareholder pressure or in order to get more strategic advice. Or CEOs of firms that performed poorly may have opposed nomination of independent directors in order to avoid the pressure and risk to their careers that could ensue. The nature and direction of causation were thus ambiguous. Furthermore, additional problems arise as a result of the inability to observe true independence among directors. A director who meets the legal requirements of independence could well have a relationship with a CEO or a personality that makes him or her an unlikely monitor.²³

It is also possible that the benefit of an independent board differs across such factors as industry, firm size, geography, and other less observable factors. The value of an independent board would likely vary as well with the presence of other monitoring mechanisms. Yet another complication is the danger that an independent director, say a CEO from another company, may have conflicts of interest that compromise the contributions he can make to the board. This danger could vary across firms and the fields in which they operate.

²² Roberta Romano, *The Sarbanes-Oxley Act and the Making of Quack Corporate Governance*, 114 Yale L. J. 1521 (2005). On the other hand, even before SOX, the fraction of independent directors on boards, and thus the number of boards with a majority of independent directors, increased substantially. Gordon reports that the median representation of independent directors on boards prior to the time SOX went into effect was 75%. Jeffrey N. Gordon, *The Rise of Independent Directors in the United States, 1950-2005: Of Shareholder Value and Stock Market Prices*, 59 STAN. L. REV. 1465 (2007).

²³ See *In re Oracle Corp. Derivative Litigation (Oracle)*, 824 A.2d 917 (Del. Ch. 2003) (contextual analysis of independence in which relationship between two directors and certain board members leads court to conclude the two are not independent.)

In light of these methodological challenges it is not surprising that studies that attempted to uncover a relationship between board independence and firm value or performance failed to yield a clear result. Studies by Bhagat and Black,²⁴ Hermalin and Weisbach²⁵ and Baysinger and Butler²⁶ all found no correlation. Of course this does not mean there was no relationship. It just means that econometric methods could not be used to reject the null hypothesis that independent boards are unrelated to firm value or performance.

One study, however, used the SOX and stock exchange independence requirements as an exogenous shock in order to analyze the value of board independence for firms that had not voluntarily adopted an independent board before doing so became mandatory. For these firms, the adoption of independent boards was not an endogenous choice; it was imposed on them by the enactment of SOX and the adoption of the related stock exchange rules. This study, by Chhaochharia and Grinstein, found that the board independence mandates had a positive effect on firms that were forced to accept independent boards. Among firms that scored lowest on the authors' measure of board and committee independence prior to SOX and the stock exchange rules, there was a statistically significant and economically substantial increase in abnormal returns when the rules went into effect.²⁷

It is difficult to know the extent to which Chhaochharia and Grinstein's results are generalizable to other firms. By the time the stock exchange independence rules went into effect, a large majority of firms already had independent boards. Linck, Netter and Yang find that as of the end of 2003, when the SEC approved the stock exchange rules, fewer than 10% of boards did not have a majority of independent directors, and those that did not were disproportionately small firms.²⁸ The firms on which the Chhaochharia and Grinstein is based, therefore, may well have been systematically atypical, and the reasons behind their having non-independent boards could explain why the mandatory imposition of independent boards on them had a positive impact.

²⁴ Bernard Black & Sanjai Bhagat, *The Non-Correlation Between Board Independence and Long-Term Firm Performance*, 27 J. CORP. L. 231 (2002).

²⁵ Benjamin Hermalin & Michael Weisbach, *The Effect of Board Composition and Direct Incentives on Firm Performance*, 20 FIN. MGMT. 101 (1991);

²⁶ Barry Baysinger & Henry Butler, *Corporate Governance and the Board of Directors: Performance Effects of Changes in Board Composition*, 1 J. L. ECON & ORG. 101 (1985).

²⁷ Vidhi Chhaochharia & Yaniv Grinstein, *Corporate Governance and Firm Value: The Impact of the 2002 Governance Rules*, 62 J. Fin. 1789 (2007). Additional studies of the impact of SOX, which do not focus on board independence but rather SOX as a whole, include Haidan Li, Morton P. K. Pincus & Sonja O. Rego, *Market Reactions to Events Surrounding the Sarbanes-Oxley Act of 2002 and Earnings Management*, 51 J. L. & ECON. 111 (2008); Pankaj K. Jain & Zabihollah Rezaee, *The Sarbanes Oxley Act of 2002 and Capital Market Behavior: Early Evidence*, 23 CONTEMP. ACCT. RES. 629 (2006); Ivy Xiying Zhang, *Economic Consequences of the Sarbanes-Oxley Act of 2002*, AEI Brookings Joint Center for Regulatory Studies (2005).

²⁸ James Linck, Jeffrey Netter and Tina Yang, *The Effects and Unintended Consequences of the Sarbanes-Oxley Act on the Supply and Demand for Directors*, 22 REV. FIN. STUD. 3287, 3313 (2009). This figure comes from their Disclosure sample, which includes are firms that file with the SEC.

Other studies looked at the relationship between board independence and performance of specific tasks. These studies produced some evidence that independent boards were slightly better, for example, at firing poorly performing CEOs than were non-independent boards, but the evidence was not strong.²⁹ Studies also found that, among firms that received tender offers and offers of management buyouts, those with independent boards realized higher returns than those with non-independent boards.³⁰ Yet another group of studies looked at returns to bidders in tender offers, and found evidence that bidders with independent boards were less likely to overpay in a tender offer.³¹ Each of these studies, however, faced the inevitable methodological difficulties affecting those focused on firm value and performance.³²

In sum, empirical studies of independent boards faced what, for the most part, may be insurmountable empirical challenges. Perhaps future studies can test more precise hypotheses regarding where and when independent boards are valuable. It remains to be seen whether one can observe and collect data that reflect the differences relevant to that sort of refinement. Within the limits of what has been done, however, researchers have generated some useful information—hints that independent boards performed some jobs well.

IV. TAKEOVER DEFENSES

Takeover defenses have been a third topic of intense debate in corporate governance since the 1980s. Institutional shareholders have battled management over the adoption of defenses. Management lobbied state legislatures for, and institutional shareholders lobbied against, the adoption antitakeover statutes. Firms continue to litigate management's use of takeover defenses when bidders mount hostile takeovers. And academics continue to debate the value of takeover defenses in law journals and finance journals.

As is true of other corporate governance debates, theory can only go so far. Empirical research has long shown that target shareholders reap substantial gains from hostile

²⁹ Michael Weisbach, *Outside Directors and CEO Turnover*, 20 J. FIN. ECON. 431 (1988).

³⁰ James Cotter, Anil Shivdasani & Marc Zenner, *Do Independent Directors Enhance Target Shareholder Wealth During Tender Offers?*, 43 J. FIN. ECON. 195 (1997); Chun Lee, Stuart Rosenstein, Nanda Rangan & Wallace Davidson III, *Board Composition and Shareholder Wealth: The Case of Management Buyouts*, 21 FIN. MGMT. 58 (1992).

³¹ John Byrd & Kent Hickman, *Do Outside Directors Monitor Managers: Evidence From Tender Offer Bids*, 32 J. FIN. ECON. 195 (1992); Victor You, Richard Caves, Michael Smith & James Henry, *Mergers and Bidders' Wealth: Managerial Factors*, in THE ECONOMICS OF STRATEGIC PLANNING: ESSAYS IN HONOR OF JOEL DEAN (Lacy Glenn Thomas, III ed. 1986).

³² For a summary of this literature, see Benjamin E. Hermalin & Michael S. Weisbach, *Boards of Directors as an Endogenously Determined Institution: A Survey of the Economic Literature*, FED. RES. BANK N.Y. ECON. POL'Y REV., Apr. 2003; Sanjai Bhagat & Bernard Black, *The Uncertain Relationship Between Board Composition and Firm Performance*, 54 BUS. LAW. 921 (1999).

acquisitions.³³ Takeover defenses, therefore, would reduce target shareholder value to the extent they deter bids or allow management to defeat a value-increasing bids. Moreover, if managers feel less pressure from the takeover threat, then all shareholders in the aggregate may be worse off even in the absence of an actual takeover bid. On the other hand, to the extent management uses takeover defenses to reject low bids or to negotiate higher bids, then the presence of the defense could promote shareholder value in firms that receive bids.

Legal academics initially lined up on one side of the debate or the other with only theory to offer, and there were plausible theories on both sides.³⁴ The question whether takeover defenses tend to be value-enhancing or value-decreasing in the hands of management is therefore an empirical question. It is a question as much about the behavior of target management when using defenses, which of course will vary, as it is a question about the mechanical impact of a takeover defense. From an empirical perspective, when we look at the impact of defenses on firm value, the two are combined—the mechanical potential of a defense and management’s use of the defense, at the mean or median.

Many economists have tried to analyze the empirical relationship between takeover defenses and firm value. Those efforts began in the 1980s and continue today. But the institutional and legal setting of takeovers and takeover defenses is complex, and few economists have mastered the complexity. As a result, much of the empirical literature in this area is fatally flawed.

In a nutshell, the institutional and legal facts one must understand in order to analyze takeover defenses empirically are the following:

- A poison pill, also known as shareholder rights plans, is a complete bar to a takeover so long as a target board keeps it in place.³⁵

³³ For summaries of early studies that show this, see Gregor Andrade et al., *New Evidence and Perspectives on Mergers*, J. ECON. PERSP., Spring 2001, at 103; Sanjai Bhagat et al., *Hostile Takeovers in the 1980s: The Return to Corporate Specialization*, BROOKINGS PAPERS ON ECON. ACTIVITY, no. 1, 1990, at 1; Gregg A. Jarrell et al., *The Market for Corporate Control: The Empirical Evidence Since 1980*, J. ECON. PERSP., Winter 1988, at 49; and Michael C. Jensen & Richard S. Ruback, *The Market for Corporate Control: The Scientific Evidence*, 11 J. FIN. ECON. 5 (1983). Although acquirers’ gains are small and sometimes negative, the research summarized in these articles has also shown that total gains to the shareholders of the target and the acquirer are large.

³⁴ See, e.g., Frank H. Easterbrook & Daniel R. Fischel, *The Proper Role of a Target’s Management in Responding to a Tender Offer*, 94 HARV. L. REV. 1161 (1981); Ronald J. Gilson, *A Structural Approach to Corporations I: The Case Against Defensive Tactics in Tender Offers*, 33 STAN. L. REV. 819 (1981); Lucian A. Bebchuk, Comment, *The Case for Facilitating Competing Tender Offers*, 95 HARV. L. REV. 1028, 1047 (1982); Martin Lipton, *Takeover Bids in the Target’s Boardroom*, 35 BUS. LAWYER 101 (1979).

³⁵ The detailed mechanics of the pill are unimportant, but the basic mechanism is to massively dilute the shares of a would-be acquirer when the acquirer’s shareholding crosses a specified threshold—for example, 20% of outstanding shares. The prospect of dilution stops the acquirer in its tracks until the pill is withdrawn.

- Poison pills were validated by the Delaware Supreme Court in 1985³⁶ and in most other states by 1990.³⁷
- A board can adopt a pill unilaterally at any time, including after a hostile bid has been made.³⁸ No shareholder approval is required, and the legal treatment of a pill is the same regardless of when it is adopted.
- A board can withdraw a pill unilaterally at any time, and often announces that it will do so if a bid is high enough.
- A board can keep a pill in place indefinitely in response to bid.³⁹
- If a bidder cannot convince a target board to withdraw a pill, its only option is to initiate a shareholder vote to replace the board with new directors of its own choosing (who will likely withdraw the pill and allow the takeover to go forward).
- It follows therefore that a takeover defense that could have an impact at the margin is one that impedes a shareholder vote to replace a majority of the board of directors. *This is the key point on which the rest of this discussion hinges.*
- The following defenses can impede that shareholder vote:
 - A staggered board provided for in a firm’s charter can delay the replacement of a target board for up to two years.⁴⁰

³⁶ *Moran v. Household Int’l, Inc.*, 500 A.2d 1346 (Del. 1985) (upholding the use of a poison pill where no bid is imminent). *Moran* involved the earliest version of the poison pill (a “flip-over” pill), which was quickly replaced by the more powerful “flip-in” pill and pills that had both flip over and flip in functionality. But the logic of *Moran* applied to flip in pills and the court never differentiated between the two in ruling on pills after *Moran*.

³⁷ See Catan & Kahan, *supra* note 1, at 637 (2016).

³⁸ In *Moran*, the court said “The Board has no more discretion in refusing to redeem the Rights than it does in enacting any defensive mechanism.” 500 A.2d 1346, 1354 (Del. 1985).

³⁹ This rule became clear as a result of *Paramount Communications, Inc. v. Time Inc.*, 571 A.2d 1130 (Del. 1989). For a discussion of the implications, see Jeffrey N. Gordon, *Corporations, Markets, and Courts*, 91 COLUM. L. REV. 1931 (1991).

⁴⁰ The staggered board could be provided for in a firm’s bylaws so long as shareholders cannot, as a practical matter, amend that provision of the bylaws. Since the law requires firms to allow shareholders to amend bylaws unilaterally by majority vote, this means the staggered board provision in the bylaws would have to be subject to a supermajority vote requirement for amendment. The combination of the supermajority requirement and inside ownership of the firm’s shares (which can change over time) could make the staggered board invulnerable to shareholder action.

In addition, for a staggered board to be effective, shareholders must not have the ability to remove a director for cause, and they must not be able to “pack” the board by enlarging it and electing new members that constitute a majority. Under Delaware law, removal without cause is impermissible for a company with a staggered board, unless provided for in a firm’s charter. Del. Code Ann. tit. 8, § 141(k)(1). Under other state laws, removal without cause is permissible unless the charter prohibits it. Model Bus. Corp. Act § 8.08. Shareholders will be unable to pack the board if the charter either sets a maximum board size that is low enough in relation to the board’s current size to prevent packing, or if the charter provides that the board will set the board size, or if the charter does not allow shareholders to fill empty board seats. Under Delaware law, the size of a board may be set in the charter or bylaws and vacancies may be filled as provided in the charter or bylaws. Del. Code Ann. Tit. 8, §142(e). Sometimes the term “effective staggered board” is used to refer to a staggered board that shareholders cannot unilaterally eliminate in any of these ways. One study showed that about 90% of staggered boards are effective.

- A restriction on shareholders' ability to vote in between annual meetings, either by calling a shareholder meeting or voting by written consent in lieu of a meeting, can delay the replacement of a target board for up to one year.⁴¹
- A prohibition on the removal of directors without cause can also delay the replacement of a target board for up to one year.⁴²

These institutional and legal facts imply certain limitations regarding empirical studies of poison pills, staggered boards and other defenses—limitations that many studies violate and thus produce results that are uninformative. (I use the term “facts” rather than the more common term, “institutional detail” to make clear that these points are not details and that designing studies inconsistent with these points is not an option.)

1. Poison Pills Studies

Between 1986 and 1996, twelve event studies were published on the impact the adoption of a poison pill had on share value.⁴³ There is an inherent problem with all of these studies—and with *any* effort to measure the impact of a poison pill. A board of directors can adopt a pill unilaterally at any time. If a firm does not have a pill at the moment, it can have one later today. All that must be done is for the firm's board to adopt one. If firm does not already have a pill, it certainly will adopt one if and when it receives an unwanted bid. Even if the target management is amenable to a sale, it needs a pill in place in order to negotiate a price if there is any chance that a target will “go hostile” in the lingo of M&A lawyers. One study confirmed that among targets of hostile takeover attempts, every target had adopted a pill either before the bid was made or in response to the bid.⁴⁴ Consequently, while a poison pill is an effective defense against a hostile takeover, the adoption of a pill is a *nonevent*, and an event study will not measure its impact. Coates explained this point in a critique of the empirical corporate governance literature on takeover defenses as of 2000.⁴⁵ As he explained the point, all firms have a “shadow pill” in the sense that all firms can adopt a pill at any time. Consequently, the fact that a pill will be in

Bebchuk & Cohen, *supra* note 11, at 419. For simplicity in this chapter, I will use the term “staggered board” to refer to an effective staggered board.

⁴¹ Board elections at annual meetings are mandatory, so shareholders can vote to replace their board at the next annual meeting. Voting by written consent and voting at a special meeting are governed either by the terms of a firm's charter or the default rule of the state in which the firm is incorporated. If the law of a state disallows or restricts either means of voting, it can be overridden in a charter provision. The election of new directors in a vote by written consent requires a majority of shares outstanding to be voted in favor, whereas in a vote at a special or annual meeting, only a majority of shares voted is required.

⁴² Even if shareholders can call a special meeting or vote by written consent in lieu of a meeting, they must be able to either removing sitting directors or pack the board as explained above in order to elect a majority of the board.

⁴³ See Coates, *supra* note 1, at Appendix A (listing the results of these studies).

⁴⁴ See Lucian Arye Bebchuk, John C. Coates & Guhan Subramanian, *The Powerful Antitakeover Force of Staggered Boards: Theory, Evidence, and Policy*, 54 STAN. L. REV. 887, 926-27 (2002).

⁴⁵ Coates, *supra* note 1, at 286-91.

place whenever it is needed is baked into the price of all shares continuously. As will be evident below, Coates' explanation made little impression on economists writing in this field.

Not surprisingly, the results of pill-adoption event studies ranged from finding no significant abnormal returns to finding statistically significant but economically small returns, both negative and positive.⁴⁶ The studies that found a statistically significant negative effect on share prices were those that used the earliest sample period.⁴⁷ Robert Comment and William Schwert's study, which was the largest at the time, found statistically significant negative effects only in 1984 (when only nine pills were adopted).⁴⁸ As the authors suggested, this may have reflected the market's initial lack of understanding regarding how the pill would work.⁴⁹

More recently, there have been additional studies of poison pills. These have been motivated by studies based on corporate governance indices, discussed in Part IV, which include poison pills among their elements. In a broad study of takeover defenses, Cremers and Ferrell found that firms that had adopted poison pills had a lower value than those that did not.⁵⁰ For reasons described above, it is doubtful that the direction of causation runs from pill adoption to firm value. Such a relationship would mean the market does not understand that all firms have "shadow pills" despite the fact that the law has been clear on this point for many years. Cremers and Ferrell recognize that the direction of causation could run in the opposite direction, reporting "very modest" support for an inference that firms with low valuation tend to adopt pills

Emiliano Catan has recently looked more closely at the relationship between poison pills and firm value—cross-sectionally and within-firm over time using quarterly data—in a sample period of 1996 to 2014.⁵¹ In order to separate the adoption of a pill from the announcement of a takeover offer, he focuses only on the adoption of "clear day" pills—pills adopted when there is no publicly known takeover bid in the offing. Catan finds that firms adopt clear-day pills *after* their value has fallen. Moreover, his firm fixed effects results suggest that this dynamic drives cross-sectional differences in value between firms with and without pills. This empirical finding is consistent with the fact that pill adoption is a nonevent and should not affect share value. The inference is further supported by Catan's second finding—that when firms drop their pills, there is no impact on firm value.

⁴⁶ *Id.* at 280-86 (summarizing results of pill studies).

⁴⁷ *Id.* at 284 ("Studies of early pill adoptions show (weak) negative results, whereas the only studies of pill adoptions after 1986 show no statistically significant results for their full samples.")

⁴⁸ Robert Comment & G. William Schwert, *Poison or Placebo? Evidence on the Deterrence and Wealth Effects of Modern Antitakeover Measures*, 39 J. FIN. ECON. 3, 20 tbl.2, 21 (1995).

⁴⁹ *Id.* at 21.

⁵⁰ Martijn Cremers & Allen Ferrell, *Thirty Years of Shareholder Rights and Firm Value*, 69 J. FIN. 1167 (2014).

⁵¹ Emiliano Catan, *The Insignificance of Clear-Day Poison Pills*, (September 7, 2016), <http://ssrn.com/abstract=2836223>.

One might still ask why firms adopt poison pills on a clear day rather than waiting until a hostile bid is made. The answer is that there is no harm in doing so, and no harm in waiting. Some firms adopt pills on a clear day and some wait. Since all firms will adopt a pill if it is needed, it does not matter when they adopt it. Catan found that after 2004, when ISS threatened to recommend “withhold” votes for members of boards that adopted clear-day pills (or re-adopted them after they expired), clear-day pill adoptions nearly vanished, even though an ISS threat is highly unlikely to result in a board member losing his or her seat, and even though there was no good reason for ISS to make the threat.⁵² So even a small threat apparently pushed the balance against adopting pills on a clear day.

2. *Studies of Staggered Boards*

Since a poison pill allows a board to resist a takeover bid indefinitely, if it chooses to do so, a bidder’s only response is to give target shareholders an opportunity to remove and replace at least a majority of the target’s directors. In a company with dispersed shareholders and dispersed votes, a staggered board is the strongest impediment to doing so.⁵³ With a staggered board in place, two shareholder elections must occur at two consecutive annual meetings in order to replace a majority of the target’s board. This can take two years to occur. It is generally understood that a staggered board is a near bulletproof defense if the target board continues to resist a hostile takeover. In the case of *Air Products and Chemicals v. Airgas, Inc.*, William Chandler, former Chancellor of the Delaware Court of Chancery stated, “no bidder to my knowledge has ever successfully stuck around for two years and waged two successful proxy contests to gain control of a classified board in order to remove a pill.”⁵⁴

Is a staggered board value-decreasing or value-enhancing? Once again, there is theory on both sides. With a staggered board, directors can prevent a takeover from occurring, even if the takeover would be beneficial for shareholders. Since at least 1990, it has been clear that courts will not interfere.⁵⁵ A staggered board may therefore deter a would-be acquiror from attempting to takeover a target in the first place. Furthermore, with this protection from the takeover threat, a company’s board and management may feel less pressure to perform and thus may fail to maximize share value on an ongoing basis. On the other hand, if a board is diligent and loyal and management is motivated to promote shareholder interests, a staggered board can allow a company to make long-term investments without concern that the market will undervalue those

⁵² Stephen Choi, Jill Fisch, Marcel Kahan & Edward Rock, *Does Majority Voting Improve Board Accountability?*, 83 U. CHI. L. REV. *forthcoming* 2016.

⁵³ Dual class shares with management holding the super-voting shares would be a stronger defense, but this is not common.

⁵⁴ *Air Products and Chemicals, Inc. v. Airgas, Inc.*, 16 A.3d 48 (2011).

⁵⁵ *Paramount Communications, Inc. v. Time Inc.*, 571 A.2d 1130 (Del. 1989)

investments and thereby expose the company to a takeover at too low a price. In addition, a staggered board might enhance a target's bargaining power in negotiating a sale with an acquiror. So a staggered board could increase *or* decrease firm value, depending on how a firm's board and management are expected to respond to acquisition offer. One's view on the question in general depends on one's view of how boards and management tend to respond to hostile bids—and of course boards and managers differ, so the empirical question is about averages.

Despite the fact that economists had been studying takeover defenses since the 1980s, the first empirical study of staggered boards was not published until 2002 (by law professors). This study, by Bebchuk, Coates, and Subramanian, found that staggered boards had a negative impact on shareholder value for a sample of firms that received hostile takeover bids between 1996 and 2000.⁵⁶ The authors found that firms with staggered boards were more likely to reject bids and remain independent, and that remaining independent meant lower returns to shareholders as compared with companies that were acquired. They found no evidence of greater bargaining power for targets with staggered boards; when companies with staggered boards were sold, the premiums they commanded were no different from those of firms without staggered boards. The aggregate result of these impacts for firms that received hostile bids meant an average loss of 8% to 10% in share value attributable to a staggered board. In another study, Bebchuk and Cohen directly compared the value of companies with and without staggered boards between the years 1995 and 2002 and confirmed this conclusion, finding that staggered boards were associated with lower Tobin's Q than firms with annually elected boards.⁵⁷

To a large extent, these findings have been confirmed and refined by others. Faleye confirmed that staggered boards are associated with lower firm value and further found that staggered boards are worse at firing poorly performing CEOs than are annually elected boards.⁵⁸ Masulis, Wang and Xie found that firms with staggered boards make value-destroying acquisitions more than do firms with annually elected boards.⁵⁹

In general, staggered boards thus seem to reduce firm value—or more precisely, target boards have used them to reduce firm value, and the market has expected them to do so, at least during the sample periods of these studies. As in other areas of corporate governance research, there are methodological challenges. Each of the studies described above considers the possibility that the choice of a staggered board is endogenous—that low value, poorly

⁵⁶ Bebchuk Coates & Subramanian, *supra* note 44.

⁵⁷ Lucian Bebchuk & Alma Cohen, *The Costs of Entrenched Boards*, 78 J. Fin. Econ. 409 (2005). Tobin's Q is a measure of firm value. It is defined as the market value of common equity plus the book values of preferred equity and long-term debt divided by the book value of assets.

⁵⁸ See Olubunmi Faleye, *Classified Boards, Firm Value, and Managerial Entrenchment*, 83 J. FIN. ECON. 501, 522-26 (2007).

⁵⁹ See Ronald W. Masulis, Cong Wang and Fei Xie, *Corporate Governance and Acquirer Returns*, 62 J. FIN. 1851, 1853, 1867-69 (2007).

performing firms may adopt staggered boards to protect management. Each responds to the possibility in reasonable but inevitably imperfect ways. First, they note that shareholders must approve the adoption of staggered boards, and that this is unlikely to happen if a firm is performing poorly. Second, they analyze firms that had had staggered boards at least several years before the years in which value was measured. Another methodological concern is the use of Tobin's Q to measure and compare firm values. This measure is considered by some economists to be an unreliable measure of value.⁶⁰

There are, however, recent studies that find a positive relationship between a staggered board and firm value for certain types of firms. Johnson, Karpoff and Yi analyze staggered boards adopted at the IPO stage and infer that they are used as commitment devices by firms that have important long-term relationships with suppliers or customers.⁶¹ They find that the use of staggered boards by firms that have those relationships enhances value. Cremers, Litov and Sepe analyze public companies over 33-year period, from 1978 to 2011, and reach a similar conclusion.⁶² They infer that staggered boards are used by firms to maintain commitments to long-term investments and long-term relationships. Daines, Li and Wang also reach a similar conclusion, using as a natural experiment a 1990 Massachusetts statute that imposed staggered boards on all companies incorporated in that state.⁶³ They found that the statute caused an increase in firm value over the next 15 years for small firms and firms with relatively high R&D investment.

All in all, studies of staggered boards have advanced our understanding beyond the realm of theory. As a matter of mechanics, staggered boards give a board the power to thwart value-increasing takeovers. For the most part, the market seems to believe boards will exercise that power—hence, the negative correlation between staggered boards and firm value. But for a subset of firms that rely on long-term investment or long-term relationships, there is recent evidence that the market believes this resistance can be value-enhancing. For this subset of firms, staggered boards are associated with increased firm value.

⁶⁰ See Phillip Dybvig & Mitch Warachka, *Tobin's q Does Not Measure Firm Performance: Theory, Empirics, and Alternatives* (March 2015) <http://ssrn.com/abstract=1562444>.

⁶¹ William C. Johnson, Jonathan M. Karpoff & Sangho Yi, *The bonding hypothesis of takeover defenses: Evidence from IPO firms*, 117 J. FIN. ECON. 307 (2015).

⁶² Martijn Cremers, Lubomir Litov & Simone Sepe, *Staggered Boards and Long-Term Value, Revisited*, (March 2016), <http://ssrn.com/abstract=2674679>. Data on the years 1978 to 1985 is not relevant to analysis because the antitakeover impact of a staggered board did not begin until the advent of the pill. As explained above, the power of the staggered board lies in the obstacle it poses for an acquiror to have target shareholders replace their board with a board that is willing to disable the firm's pill.

⁶³ Robert Daines, Shelly Xin Li & Charles C.Y. Wang, *Can Staggered Boards Improve Value? Evidence from the Massachusetts Natural Experiment*, (September 2015), <http://ssrn.com/abstract=2836463>.

3. *Studies of Other Takeover Defenses*

As explained above, a poison pill is freely available to a board facing a takeover threat, and so long as it is in place it is a complete bar to a takeover. A hostile acquiror must either convince a target board to agree to an acquisition, or it must mount a proxy contest to have target shareholders replace their board with one that will agree to be acquired. The only additional takeover defense that is useful, therefore, is one that impedes the ability of the acquiror to have target shareholders replace their board—with a staggered board being the primary example. Any other defense is, at best, redundant with the pill, and in fact other defenses are less effective than a pill.

Due to a lack of understanding regarding how takeover defenses work, however, many economists have published empirical analyses of other apparent defenses that have no impact on shareholders' ability to replace a board. Once the pill was held to be legally valid, these defenses could have no impact on a firm's exposure to a hostile takeover. Some examples are fair price charter provisions and supermajority vote requirements to approve a merger. These studies began in the late 1980s and continue to be published today. Early studies of takeover defenses were problematic in several ways. Some considered only ineffective defenses; some combined ineffective defenses with staggered boards to create a single takeover-defense or "charter amendment" variable; and some considered staggered boards prior to the advent of the pill, when staggered boards did not provide meaningful takeover protection.⁶⁴ Yet others counted up how many defenses a firm had and used that number as a measure of its takeover exposure—more defenses were understood to mean less exposure.⁶⁵ None of these approaches makes substantive sense, and therefore the results of these studies are uninformative. More recent articles continue to refer to the conflicting results of the 1980s and 1990s as a puzzle, as opposed to a reflection of methodological errors.⁶⁶ The confusion thus continues—most rampantly in the use of corporate governance indices, discussed in Part IV, which include takeover defenses that have no impact.

There are, however, two other takeover defenses that *can* have an impact at the margin. The first is a combination of two charter provisions that prevent shareholders from voting to replace a

⁶⁴ See, e.g., Brent W. Ambrose & William L. Megginson, *The Role of Asset Structure, Ownership Structure, and Takeover Defenses in Determining Acquisition Likelihood*, 27 *J. Fin. & Quant. Anal.* 575 (1997); Kenneth A. Borokhovich, Kelly R. Brunarski & Robert Parrino, *CEO Contracting and Antitakeover Amendments*, 52 *J. Fin.* 1495 (1997). Mark Johnson & Ramesh Rao, *The Impact of Antitakeover Amendments on Corporate Financial Performance*. 32 *FIN. REV.* 659 (1997).

⁶⁵ See, e.g., Borokhovich et al, *supra* note 60; Laura Casares Field & Jonathan M. Karpoff, *Takeover Defenses of IPO Firms*, 57 *J. FIN.* 1857 (2002).

⁶⁶ For example, Olubunmi Faleye, in framing his 2007 study of staggered boards, refers to two studies of this sort in the 1980s and 1990s that reached opposite results as raising an unresolved empirical question. Faleye, *supra* note ___, at 502.

board in between annual shareholder meetings: (a) a prohibition on shareholders calling a special meeting and (b) a prohibition on shareholders acting by written consent in lieu of a meeting.⁶⁷ If both these limitations on shareholder voting are present, an acquirer must wait until the target's next annual meeting to mount a proxy contest to replace the target board. The second defense is a charter provision that allows shareholders to replace board members only for cause, which means wrongdoing that goes beyond a difference in judgment regarding whether to allow a takeover to occur. In effect, this provision also requires an acquirer to wait until the next annual meeting to have shareholders replace their board. This delay is not as severe as the delay created by a staggered board, but it could be meaningful. Interestingly, no one has yet studied the actual impact of these restrictions on shareholder voting.

4. Studies of State Antitakeover Statutes

Studies of the impact of state antitakeover statutes entail the same types of errors as do studies of firm-lever takeover defenses other than staggered boards. Emiliano Catan and Marcel Kahan have recently provided a detailed analysis of this literature, with a focus on the most common and most commonly studied statutes—business combination statutes, fair price statutes and control share acquisition statutes.⁶⁸ As they say, “[c]orporate lawyers and academics generally dismiss these antitakeover statutes as irrelevant.”⁶⁹ Regarding empirical studies of antitakeover statutes, they state: “The way financial economists approach takeover defenses results in a highly distorted view of takeover protections supplied by state law.”⁷⁰

Catan and Kahan's explanation is the same as that provided here with respect to charter-based takeover defenses. Once the poison pill was validated, the only defense that could have an impact would be one that impeded shareholder votes to replace a target board. With the exception of a few states that mandate staggered boards, state antitakeover statutes do not do that, and never did. Therefore, after the advent of the pill and the states' validation of the pill, state antitakeover statutes had no impact on a firm's exposure to hostile takeovers.⁷¹ They were irrelevant. Catan and Kahan explained the point well:

Business combination, fair price, and control share acquisition statutes apply once a raider has become a major shareholder But if, as a result of the flip-in pill, a raider never

⁶⁷ Dual-class stock is another antitakeover defense that can have an impact, but it is rarely present.

⁶⁸ Catan & Kahan, *supra* note 1.

⁶⁹ *Id.* at 632.

⁷⁰ *Id.* at 648.

⁷¹ The studies discussed here did not cover state statutes mandating staggered boards nor those that provided for staggered boards as default rules. The covered business combination statutes, fair price statutes, and control share acquisition statutes.

acquires a significant stake, any statute that deals with what a raider can do *once it becomes* a major shareholder becomes moot. Similarly, flip-over pills, which make business combinations once a raider has acquired a large stake prohibitively expensive, render business combination and fair price statutes superfluous [because they do the same thing]. Control share acquisition statutes, moreover, do not even purport to offer meaningful protection against hostile bids that are opposed by the board of the target but are favored (as most “hostile” bids are) by a majority of the target’s shareholders.⁷²

The Delaware Supreme Court held pills to be valid in 1985. For a few years after that, other state courts split on the validity of the pill, but by 1990, twenty-four states had validated the pill and none had invalidated it. Those states that validated the pill accounted for the vast majority of firms’ states of incorporation.⁷³ Consequently, even if one assumes that the validity of the pill was still in doubt in the other 26 states, which would be an unrealistic assumption, the window of time and the scope of firms that can be used to study the impact of a state antitakeover statutes is very narrow. None of the studies performed to date focuses on state antitakeover statutes within these constraints.

Nonetheless, empirical studies that purport to show impacts of state antitakeover statutes are numerous⁷⁴ and continue to be written today.⁷⁵ These studies are so flawed as to be utterly uninformative. Catan and Kahan use the term “nonsensical.”⁷⁶ Catan and Kahan replicated a study by Marianne Bertrand and Sendhil Mullainathan to determine whether the firms they identified as being subject to business combination statutes were also incorporated in states that had validated the poison pill, in which case the business combination statute would have no impact at the margin. They found that this was true of over 50% of the firms whose takeover

⁷² Catan & Kahan, *supra* note 1, at 638-39. Flip-in pills would dilute an acquiror’s shareholding in a target once that shareholding reaches a specified threshold. Flip-over pills would dilute an acquiror’s interest in the combined company when the acquiror merges with the target, just as a business combination statute would. Today, pills are flip-in.

⁷³ *Id.* at 637, 658.

⁷⁴ Catan and Kahan provide citations to many of these. The following are some examples: Julian Atanassov, *Do Hostile Takeovers Stifle Innovation? Evidence from Antitakeover Legislation and Corporate Patenting*, 68 J. FIN. 1097 (2013); Marianne Bertrand & Sendhil Mullainathan, *Enjoying the Quiet Life? I: Corporate Governance and Managerial Preferences*, 111 J. POL. ECON. 1043 (2003); Gerald T. Garvey & Gordon Hanka, *Capital Structure and Corporate Control: The Effect of Antitakeover Statutes on Firm Leverage*, 54 J. FIN. 519 (1999); Xavier Giroud & Holger M. Mueller, *Does Corporate Governance Matter in Competitive Industries?*, 95 J. FIN. ECON. 312 (2010); Kose John & Lubomir Litov, *Managerial Entrenchment and Capital Structure I: New Evidence*, 7 J. EMP. LEG. STUD. 693 (2010).

⁷⁵ Todd A. Gormley & David A. Matsa, *Playing It Safe? Managerial Preferences, Risk, and Agency Conflicts*, 122 J. FIN. ECON. 431 (2016); Jonathan M. Karpoff & Michael D. Wittry, *Institutional and Legal Context in Natural Experiments: The Case of State Antitakeover Laws* (June 30, 2015) <http://ssrn.com/abstract=2493913>.

⁷⁶ Catan & Kahan, *supra* note 1, at 645.

protection Bertrand and Mullainathan had attributed to business combination statutes.⁷⁷ For this reason and others, Catan and Kahan found that Bertrand and Mullainathan’s analysis of the impact of business combination statutes was fatally flawed. This mistake was a result of their misunderstanding of how business combination statutes and poison pills work and how they relate to one another.

In sum, the empirical literature on takeover defenses is a mixed bag. Studies of staggered boards have been relatively well conceived and informative. They face inevitable methodological challenges but these studies have moved us beyond intuition, theory and ideology. Other studies of takeover defenses have been fundamentally flawed and uninformative. Beginning with early event studies of the poison pill and extending to studies of state antitakeover statutes today, these studies reflect a regrettable (and avoidable) failure on the part of economists to learn the institutional and legal facts of the takeover context. As discussed in the next section, this problem is present as well in the design and use of corporate governance indices.

V. CORPORATE GOVERNANCE INDICES

The use—or, as I will explain, misuse—of corporate governance indices has reached epidemic proportions.⁷⁸ The “Governance” or “G” Index created by Gompers, Ishii and Metrick (GIM)⁷⁹ and the “Entrenchment” or “E” Index created by Bebchuk, Cohen and Ferrell (BCF)⁸⁰ are used in hundreds articles covering a wide range of corporate governance topics. Yet the G and E Indices reflect the same mistakes described above, with some additional mistakes that similarly reflect a failure to understand institutional arrangements and legal rules. For the most part, the elements of the G and E Indices have no impact on entrenchment, or on anything else of importance to corporate governance.

⁷⁷ Id. at 648-49.

⁷⁸ Lucian Bebchuk’s website provides links to 307 studies (including a few of his own) that use the E Index as of July 2016. <http://www.law.harvard.edu/faculty/bebchuk/studies.shtml> The G Index was developed before the E Index and presumably has at least as many users. The epidemic quality of these indices’ diffusion through the empirical governance literature is apparently due at least in part to what I understand has become a standard referee request: “The authors should control for governance with a governance index.”

⁷⁹ Paul Gompers, Joy Ishii & Andrew Metrick, *Corporate Governance and Equity Prices*, 118 Q. J. Econ. 107 (2003).

⁸⁰ Lucian Bebchuk, Alma Cohen & Allen Ferrell, *What Matters in Corporate Governance*, 22 Rev. Fin. Stud. 783 (2009)

It is doubtful that anyone familiar with the details of corporate charters, bylaws and state corporate law would have initiated a research program with the hypothesis that the elements contained in the G Index would correlate with firm value or firm performance, let alone the possibility of a causal relationship. The elements of the G Index are a hodgepodge of provisions that range from trivial to important, and from theoretically positive to theoretically negative to theoretically ambiguous in their impact on corporate governance. GIM did not select the elements of their index based on a substantive judgment regarding their functionality. Instead, as they explained, they took a list of governance provisions that the Investor Responsibility Research Center (IRRC) tracked for a sample of firms over time, and they combined them into twenty-four elements that became the G Index. A firm received one point for each IRRC element that it had adopted directly or through operation of state law, and the sum of the firm's points was its G Index score. GIM then performed an econometric analysis that produced surprising results: Firms with low scores (supposedly better governance) had higher value and higher investment returns than firms with high scores (supposedly worse governance). A few years later, BCF analyzed the GIM results and showed that three quarters of the G Index elements were empirically irrelevant to those results. The fact that 18 elements of the G Index were not correlated with firm value or performance was not surprising to those of us familiar with the Index. But the fact that six elements were correlated *was* surprising. As discussed in detail in Section IV.2 below, there is no functional reason why most of those six elements should have any relationship to firm value or investment performance. BCF nonetheless reported correlations and christened these six elements the "E Index." From there, the G and E Indices took on lives of their own and became embedded in the empirical corporate governance literature as a measure of governance quality. None of the economists who have used the indices in this way have questioned their validity, nor have they attempted to understand what the indices mean.

Before explaining why the G and E Indices do not measure management entrenchment or any other aspect of governance quality—a discussion that is necessarily detailed and may challenge the attention span of some readers—I will review the empirical findings regarding the relationship between the G and E Indices and firm value, including recent studies that have begun to look for explanations for the GIM and BCF results. While those of us familiar with the IRRC provisions included in these indices would not have headed down this path at the start, now that we are here, GIM and BCF have presented us with a puzzle: What lies behind the GIM and BCF correlations?

1. Empirical Findings Regarding the G and E Indices

As a threshold matter, what did the governance indices intend to measure? GIM describe the G Index as measuring the extent to which a firm has “reduce[d] shareholder rights,”⁸¹ and at another point as measuring “the balance of power between shareholders and managers.”⁸² Neither of these descriptions is very precise, but in setting the context of their study, they explain: “The rise of the junk bond market in the 1980s . . . enable[ed] hostile-takeover offers for even the largest public firms. In response, many firms added takeover defenses and other restrictions of shareholder rights.”⁸³ So it seems GIM thought they were measuring a firm’s exposure to hostile takeovers. BCF describe their E Index more precisely as containing elements that “*appear to provide incumbents at least nominally with protection from removal or the consequences of removal*”⁸⁴—again, through a hostile takeover or the threat of one. By using the words “appear to” and “at least nominally,” BCF hint at the point I make here.

GIM analyzed the correlation of the G Index with firm value and investor returns. Their results were startling and drew the attention of everyone involved in corporate governance research. If an investor had shorted firms in the worst decile of G Index score and held shares in the best decile, he or she would have reaped a return of 8.5% per year from 1990 to 1999. GIM further found that in each sample year firms with bad scores—a lot of supposed protection—had substantially lower value than those with good scores. For example, in 1999, a one-point increase in a firm’s G Index score (meaning one more supposedly entrenching element), was associated with an 11.4% lower value, as measured by Tobin’s Q. GIM were careful not to attribute a causal explanation to these differences. They investigated alternative explanations and concluded that the evidence was insufficient to draw a conclusion regarding causation. One thing they did not do, however, was to analyze the function of the G Index elements—what do they actually do? Doing so would have led them to exclude the possibility of a causal relationship with respect to nearly all G Index elements.

BCF took the first step toward looking more closely at the GIM analysis. They found that out of the 24 elements of the G Index, 18 are empirically irrelevant. Six elements, discussed in Section B below, account for GIM’s results. Using those six elements, BCF’s long-short strategy would have yielded a 7.4% annual return in equal weighted portfolios, and 14.8% return in value-weighted portfolios. Like GIM, BCF also found a strong correlation between the E Index and firm value, measured by Tobin’s Q. BCF went a step beyond GIM in analyzing causation by looking at the correlation between E Index scores as of 1990 and firm value between 1998 and 2002, thereby reducing the possibility of reverse causation. They find that the

⁸¹ Id. at 109.

⁸² Id. at 144.

⁸³ See id. at 108.

⁸⁴ Bebchuk et al, *supra* note 75, at 788 (emphasis added).

higher a firm's E Index score in 1990 the lower its value between 1998 and 2002 (controlling for value in 1990), from which they suggest a causal relationship between the E Index and firm value.

The literature has gone in two directions with the G and E Indices. A large and growing number of papers blindly add one or both indices to regressions as a measure of good or bad corporate governance. A few, however, have tried to analyze the GIM and BCF results more deeply. The latter path is well worth following. The starting point, as I explain in detail in Section B below, should be that there can be no causal relationship between the indices and firm value or firm performance—assuming an efficient market and reasonably knowledgeable market participants. The relevant research question, therefore, is: If not causation, what explains the GIM and BCF results? A few papers have shed important light on this question.⁸⁵

A paper that is not directly about the indices but that nonetheless may answer much of the puzzle is Catan's recent paper on poison pills, discussed in Section III.1, above. He finds that poison pills—an element of both the E and G Indices—tend to be adopted *after* a firm's value declines.⁸⁶ This finding is consistent with the nature of poison pills, discussed in Section III.1. A board can adopt a pill unilaterally at any time. If a firm is performing poorly, its board could decide to adopt a pill just in case it attracts a hostile acquiror. It could of course wait until a hostile acquiror appears, but there is no harm (and no benefit) to doing so in advance. Catan's finding and the inherent nature of pills together dispel any notion that a pill causes a drop in firm value.⁸⁷ Thus, to the extent poison pills are driving the empirical correlation between the G and E Indices and firm value, the explanation is not that a change in index score causes a change in firm value.

Cremers and Ferrell have provided further refinement of the GIM and BCF results, also focusing on poison pills.⁸⁸ Their sample period runs from 1978 to 2006, which allows for more

⁸⁵ In the interest of brevity, I focus only on papers that try to explain the relationship GIM and BCF found between index scores and firm value, and not at papers that try to explain the GIM and BCF findings regarding investment returns.

⁸⁶ Catan, *supra* note 48. This empirical finding alone does not strictly rule out the possibility that poison pills also have an unobserved impact on firm value—for example, preventing firm value from declining further than it had. One might also wonder whether the drop in firm value reflects the market's anticipation of a firm adopting of a pill. But in light of what I have explained regarding the power of boards to adopt, drop and re-adopt pills, these explanations are not plausible--the adoption of the pill is a nonevent.

⁸⁷ Some economists will argue that firm value may have declined prior to the adoption of the pill because the market anticipated the pills' adoption, and declined in response. Therefore, they would claim, despite the temporal order between pill adoption and decline in firm value, pills do cause a drop in firm value. This story, however, is implausible in light of the nature of pills. Since every firm can and will adopt a pill by the time it is needed, the adoption of a pill is not an event that market participants need to anticipate. In fact, to the extent pill adoption could signal an imminent hostile bid, it could trigger an *increase* in share value.

⁸⁸ *Id.*

within-firm variation and therefore more power in their firm fixed effects models.⁸⁹ In addition, they cluster standard errors at the firm level, which is a methodological advance that has become standard practice since the time BCF published their article. Cremers and Ferrell find that the presence of a poison pill explains much of the negative correlation between the G and E Index and firm value. They show this in both cross-sectional regressions and time series regressions with firm fixed effects. For firms that have adopted poison pills, no other element of the indices has a significant correlation with firm value. Taking this result together with Catan's, the implication is that for firms that adopted a poison pill, the negative relationship that GIM and BCF find between firm value and the G and E indices is not causal. (Cremers and Ferrell report some evidence of reverse causation as well.)

Cremers and Ferrell, however, also find that for firms that have not (yet) adopted a poison pill, the E Index (minus the pill) is associated with lower firm value—though with statistical significance of only 10%. This warrants further investigation for two reasons. First, since firms that have not adopted a pill can and will do so if they receive a hostile bid, it is not apparent why they should be different with respect to the impact of the G Index elements. Second, in firm fixed effects models Cremers and Ferrell find no statistically significant relationship between firm value and three E Index elements: supermajority vote requirements to amend a charter, to amend bylaws, and to approve a merger. Moreover, they find a *positive* relationship between staggered boards and Q. This leaves only golden parachutes to explain the negative relationship between firm value and the E Index for firms that have not adopted poison pills. More work is needed to untangle these relationships. Nonetheless, Cremers and Ferrell have moved us considerably closer to understanding the GIM and BCF results in a way that is consistent with what we know about how the elements of the E Index work.

Fox, Gilson and Palia (FGP) have also weighed in recently with a draft paper that attempts to explain the GIM results.⁹⁰ At this point, their explanation falls short. But their claim is similar to a claim often made casually (in conference discussions, for example) in trying to construct a causal explanation for the GIM and BCF. I therefore address it here.

FGP make a signaling argument: Firms that have good index scores signal to the market that their managers are good. FGP limit their claim to the narrow period of time surrounding the corporate accounting scandals of the early 2000s, proposing that a signal regarding the quality of management during that period may somehow have been stronger than in normal times. I will return to their specific point below. The general claim is that a firm with a good index score

⁸⁹ The results of relevance to this discussion are from 1985 on, the period following the *Moran v. Household International* case in Delaware, which validated the poison pill and more generally allowed target management to defend against a hostile takeover.

⁹⁰ Merritt Fox, Ronald Gilson & Darius Palia, *Corporate Governance Changes As a Signal: Contextualizing the Performance Link* (July 6, 2016), <http://ssrn.com/abstract=2807926>.

(meaning a relatively low number of G or E Index elements) sends a signal that it will accept a value-increasing takeover bid and thereby drives the value of the firm higher.

The term “signal” has been used in two ways with respect to the adoption of a poison pill—a supposedly *negative* signal from a governance perspective. One usage is what Catan has called a “keep out” sign.⁹¹ The presence of a pill may be a communication to would-be acquirors that a firm’s board would not welcome a takeover bid. But as Catan says, “[j]ust as a “keep out” sign is unlikely to deter anyone who is bent on trespassing, the fact that a firm has adopted a pill is unlikely to do much to deter any potential suitor who is determined to go hostile”⁹² Coates used the term “signal” in the same way in his critique of the takeover defense literature in 2000. He further noted that the pill may not mean “keep out”; it may instead mean “if you come in, you will have to negotiate a good price with me.” So if the presence of a pill sends any sort of signal, it is a soft and ambiguous one.

The second type of signaling claim employs the classic concept of a “credible” or “costly” signal that Michael Spence developed.⁹³ This seems to be what FGP have in mind—a credible *positive* signal by good managers. For a governance index score to reflect a credible signal, however, the underlying governance elements of the score must have some bite. Management must have taken some underlying action that would impose costs on bad managers but not on good managers. With the exception of an unstaggered board (vs. a staggered board), however, the elements of these indices impose no cost on *any* managers—either because they have no significant impact (most G Index elements) or because they can be unilaterally undone by management (disabling a pill, for example). So, the classic signaling concept has no application to the takeover defense context.

FGP recognize that the elements of the G and E Index generally have no bite and that an index score therefore cannot reflect a costly or credible signal. They argue, however, that an *improvement* in a firm’s index score nonetheless can *under some circumstances* send a credible signal that a firm’s managers are good managers rather than bad managers, and that this signal increases firm value. The circumstances FGP propose are those in which there is extreme uncertainty regarding the quality of management.

FGP’s hypothesis was motivated by the observation that during the period of the Enron, Worldcom and other scandals—2001 and 2002—a firm fixed effect model shows a large

⁹¹ Catan, *supra* note 48, at 26.

⁹² *Id.*

⁹³ Michael Spence, *Job Market Signaling*, 87 Q. J. ECON. 355 (1973).

correlation between G Index score and firm value, measured by Q. That is, firms whose index score changed, one way or the other, during these two years had large changes in firm value.

FGP's paper is still in progress, but they face serious challenges both theoretically and empirically. As a theoretical matter, they must show that the G Index improvements that occurred in 2001 and 2002 reflected underlying changes that exposed bad management to costs and good management to no costs. De-staggering boards, for example, would support their hypothesis—if that is what drives the high correlation during these two years. Destaggered a board increases a firm's exposure to the threat of a takeover if the firm's shares are trading at a price lower than the value an acquiror would place on them. Good managers would be confident about maintaining maximal or near maximal share value, or they would be agreeable to a sale at a value-increasing price. They, therefore, would not be concerned about a takeover offer. So they may live with an annually elected, rather than a staggered, board. In contrast, bad managers who do not want to sell would not be so confident. De-staggering a board, therefore, would be relatively costless for good managers but costly for bad ones. It would therefore fit FGP's theory.⁹⁴

On the other hand, dropping a poison pill would not fit FGP's theory because a board that drops its pill can always re-adopt one—and *will* re-adopt one when faced with a hostile takeover bid. Dropping a pill is therefore costless for all managers. Consequently, it is not a credible signal. If the market rewarded firms for dropping their pills, then bad managers would drop theirs, knowing full well that they can adopt one if a hostile bidder arrives. Presumably, the market knows this, and therefore will not reward any firms that drop their pills.

Nearly all elements of the G Index are similarly costless to adopt or drop, and therefore cannot be the basis of FGP's signaling theory. FGP, however, argue that while pills and nearly all other G Index elements are generally costless, there may be situations in which they are costly. Specifically, they suggest that otherwise toothless measures such as dropping a pill, may grow teeth in extreme situations like that of 2001 and 2002, when the market was uncertain about management quality. As this chapter goes to press, their draft on SSRN does not explain how teeth appeared in these situations.⁹⁵

⁹⁴ Cremers et al, *supra* note 57, Figures 1 and 2.

⁹⁵ In a footnote, FGP speculate that, while the presence or absence of a pill is irrelevant in general, a later re-adoption of a pill might "tarnish management and hurt its chances in the proxy fight against the potential hostile acquirer." *Id.* at n. 9. This is incorrect. Even if a target management is willing to sell to an acquiror, a firm must first adopt a pill in order to negotiate a price. If management does not negotiate price, they certainly will be tarnished. Moreover, if a target firm does not adopt a pill—that is, if it remains passive—there will be no proxy fight. The bidder will simply make a tender offer at its chosen price and each shareholder will be free to accept it or not. This is what a pill is intended to prevent. A proxy fight arises in response to a pill, as an effort to elect a new board that will disable the pill. FGP's concern, therefore, is outside the realm of possibility. It is true that if a target board resists an attractive bid, shareholders and the market will not look kindly on them. But that is true regardless

Empirically, FGP's interpretation of the 2001 and 2002 index data is doubtful as well. The most likely explanation for the high correlation between changes in G Index score and firm value in those years is not that *good* managers took actions that credibly signaled their *good* quality. Instead, it is most likely that as firms performed poorly during this difficult period, many adopted poison pills—making their index scores worse. Cremers and Ferrell have shown that much of the correlation between the indices and firm value is attributable to poison pills, and Catan has shown that poison pills tend to be adopted after declines in firm value.⁹⁶ Not only does a poison pill generally fail to fit FGP's signaling theory, but FGP's hypothesis assumes a *positive* signal—a change that *improves* a firm's G Index score.

2. Why The G and E Indices Fail To Measure Entrenchment or Governance Quality

The G Index is comprised of twenty-two firm-level provisions and six provisions of state antitakeover statutes, which are combined into twenty-four elements.⁹⁷ A firm is scored based

of whether, at some time in the past, the board had adopted and then dropped a poison pill—as opposed to adopting one for the first time in response to the hostile offer.

⁹⁶ See Catan, *supra* note 48, at 14.

⁹⁷ The G Index includes the following elements:

- Blank check preferred stock
- Staggered board
- Shareholders' inability to call a special meeting
- Prohibition on shareholder voting by written consent
- Change in control provision in executive compensation plan
- Golden parachutes
- Indemnification agreements with officers and directors
- Indemnification of officers and directors in bylaws
- Exculpation of outside directors for violations of the duty of care (e.g., under Del. Code Ann. tit. 8, § 102(b)(7))
- Executive severance agreements not contingent on change of control
- Restrictions, such as supermajority vote requirement, on bylaw amendments by shareholders
- Restrictions, such as supermajority vote requirement, on charter amendments by shareholders
- Absence of cumulative voting
- Absence of confidential voting by shareholders
- Supermajority shareholder vote required for mergers
- Unequal voting based on duration of shareholding (not dual-class stock)
- Antigreenmail charter provision
- Nonshareholder constituency charter provision
- Fair price charter provision or applicable state statute
- Pension parachute
- Poison pill
- Silver parachute
- Antigreenmail statutory provision applies
- Business combination statute applies
- Nonshareholder constituency statute applies
- Cash-out statute applies

on how many of these elements are present in its charter, bylaws or the law of the state in which the firm is incorporated. The assumption underlying the index is that the more elements a firm has in its charter, bylaws or elsewhere, the more it is protected from hostile takeovers.

It is implausible that, as a general matter, a firm with a larger number of G Index elements protects management from hostile takeovers more than a firm with a smaller number of G Index elements. Particular elements of the index provide protection (notably, a staggered board), but the vast majority do not. Moreover, the G Index suffers from the flawed conception that *more* elements matter more—that the accumulation of individually entrenching elements layers on more protection at the margin from hostile takeovers or worse governance in some other sense. As explained in Part III, this is simply not true.

The E Index consists of six G Index elements that BCF found to be the underlying empirical drivers of the GIM results.⁹⁸ By omitting eighteen G Index elements, which were not only empirically irrelevant to governance but also functionally irrelevant, the E Index is an improvement on the G Index. But the E Index suffers from the same flaws as the G Index on a smaller scale. Five of the six E Index elements are either entirely or nearly irrelevant as measures of entrenchment or governance quality more generally.

So what exactly is wrong with the elements of the G and E Indices? Since the E Index is a subset of the G Index, I will answer this question with respect to the broader G Index and in doing so cover the subset of G Index elements that constitute the E Index. For clarity, in the discussion below, each E Index element will be in **bold** type initially. I will also recap with a summary of why the E Index is fundamentally flawed.

The flaws in the G index fall into the following categories, each of which is explained further below: (1) Some elements can have no impact on management entrenchment; (2) nearly all other elements can have no impact on entrenchment if a firm has a staggered board, (3) some elements can have an impact on entrenchment only under limited and unusual circumstances; and (4) some elements are either of no relevance to entrenchment or they have an affirmatively beneficial

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- Fair price statute applies
 - Control share acquisition statute applies

⁹⁸ The E Index includes the following elements:

- Poison pill
- Staggered board
- Golden parachutes
- Supermajority shareholder vote requirement for bylaw amendments
- Supermajority shareholder vote requirement for on charter amendments
- Supermajority shareholder vote requirement for mergers

impact on governance. Consequently, neither the G Index nor the E Index is a plausible measure of management entrenchment (or any other governance quality).

A. Takeover-Related Elements with No Takeover-Related Impact

As explained in Part III, the following elements of the G Index have no impact on a firm's exposure to a hostile takeover:

- **Poison pill in advance of an actual bid**
- Coverage by a business combination statute
- Coverage by a fair price statute or charter provision
- Coverage by a control share acquisition statute
- Coverage by a cash-out statute (which is equivalent to a fair price statute).

The presence of a pill at any point in time before a hostile takeover bid is made is of no consequence, as discussed in Part III. What matters is that when a hostile bid occurs, the target firm has a pill. The pill allows target management to resist a bid indefinitely or while negotiating a higher price. Once a bid is made, the target board has plenty of time to adopt a pill. All it takes is a board resolution. Therefore at any time prior to the point at which a bid is made, a firm without a pill is no more exposed to a takeover threat than a firm with a pill. The board of the firm without a pill will certainly adopt one if a hostile bid is made. Consequently, inclusion of a poison pill in the G and E indices is incorrect.

Once a firm adopts a poison pill, the pill provides complete protection from a hostile takeover so long as it is in place. Consequently, the other provisions listed above have no impact on entrenchment (or anything else). Each provides protection that is not only redundant with that of a pill but less powerful than a pill as well.

Because a pill provides complete protection as long as it is in place, the only governance measures that affect a firm's exposure to a hostile takeover are those that impede a shareholder vote to replace a firm's board with a new board that will disable the pill. None of the elements listed above do that.

The G Index also includes the following provisions:

- **A supermajority shareholder vote to amend a charter**
- **A supermajority shareholder vote to approve a merger**

The first of these—a supermajority to amend a charter—is of no consequence with respect to takeover exposure. As a matter of law, a charter amendment requires both board approval and shareholder approval. Since board approval is needed, there is no way for shareholders to amend

a charter regardless of whether a majority or supermajority vote is needed. If there is anything in the charter than entrenches management—a staggered board, for example—it will stay there unless the board decides to amend the charter to eliminate it, in which case a shareholder vote of approval is sure to follow with or without a supermajority requirement.⁹⁹

A supermajority vote to approve a merger is also of no consequence and does not belong in the indices. A shareholder vote on a merger can come up in the context of a hostile takeover only after a bidder has succeeded in a tender offer for a majority of the target's shares—that is, a majority of the target's shareholders have already sold their shares to an acquiror. (No shareholder vote is needed for this to happen.) If the acquiror wants to buy the remaining shares, which is typically the case, it must conduct a “back end merger.” This requires a vote of the target shareholders. A majority of the target's votes are already held by the acquiror, and they will obviously be voted in favor of the merger, but if there is a supermajority vote requirement, it is theoretically possible that a large enough minority of shareholders will hold out so that the supermajority threshold (say, 80%) will not be met. Who would hold out? Target insiders, perhaps. But to what end? Their firm is already controlled by the acquiror and they are either out of their jobs or they certainly will be out of jobs if they vote against the merger. Perhaps there is an outside blockholder unrelated to management. But if so, an acquiror will have gotten that blockholder's support in advance. Perhaps a hedge fund could buy up the target's shares after the tender offer in an effort to shake down the acquiror for a higher back-end price. Theoretically, this could happen but it never has. And for a supermajority vote requirement to entrench management, an acquiror must be deterred from the start, which means it must foresee this happening. Not too likely, especially during the period of the GIM and BCF studies.

B. *Treatment of Firms with Staggered Boards*

As explained above, a **staggered board** in conjunction with a pill is a nearly complete defense to a hostile takeover. It imposes a roughly two-year delay on an acquiror seeking to have target shareholders replace their board with a board that will disable the target's pill. For firms with staggered boards, no other takeover defense can have a protective impact at the margin.¹⁰⁰ This means that for all firms with staggered boards, the presence of other elements just runs up the score without adding additional protection from hostile takeovers. On the other hand, it would make no sense to give firms a total score of only 1 for having the strongest takeover mechanism in place and none of the remaining ones that provide no protection at the margin anyway. This is just one respect in which the premise of tallying up a score for takeover-related elements that are not additive makes no sense.

⁹⁹ It is possible that the board will want to amend the charter and that a supermajority requirement is so high that the shareholders fail to muster enough votes to carry out the amendment. But this scenario is not a scenario involving management protection.

¹⁰⁰ The exception to this statement is dual class stock, which is rare.

C. Takeover-Related Elements with an Impact Only Under Limited Circumstances

Some takeover-related elements of the G Index can have an impact on management entrenchment, but only under limited circumstances. Two of these elements, discussed in Part III, are those that prevent shareholders from voting to replace board members between annual meetings, and thereby delaying an acquiror for up to one year. These elements are (a) a prohibition on shareholders calling a special meeting, and (b) a prohibition on their voting by written consent in lieu of a meeting (or, equivalently, a requirement that such votes be unanimous). These provisions are relevant, however, in only two circumstances. First, they are relevant only for firms without staggered boards. The law governing staggered boards requires that directors be elected *at annual meetings only*.¹⁰¹ Second, each is relevant only if the other is present; one alone is useless.¹⁰² Therefore, one point for either provision alone is not appropriate, nor is assigning two points for both.

Another example of an element that is relevant only under certain circumstances is a **supermajority vote requirement for bylaw amendments**. The analysis here is complicated. As a threshold matter, this provision can be relevant only if the combination of the supermajority threshold and inside share ownership are such that it would be difficult to get a sufficient number of outside shareholder votes. For example, if an 80% vote is required to amend a firm's bylaws, and management (or outside shareholder allies) hold over 20% of the firm's shares, then management can effectively veto changes to the bylaws. If management holds 15% it would still be difficult to get enough votes to amend. Since inside ownership changes over time and could change specifically in the context of a takeover-related event, this is not a straightforward item of data.

Assuming that the supermajority threshold is high enough to matter, the next condition that must be met for the supermajority to be relevant to entrenchment is that there is something in the bylaws that entrenches management, or equivalently, that there is something in the relevant state

¹⁰¹ Model Bus. Corp. Act § 8.06 (2007); Del. Code Ann. tit. 8, § 141(d) (2013). As discussed in the next Subpart, these provisions can be useful for a company with an ineffective staggered board, where shareholders might be able to replace the board immediately by passing a bylaw amendment. It is also possible that, for companies with an effective staggered board, one of these provisions could be used for a bylaw amendment that would facilitate an earlier takeover at the margin. This is what shareholders attempted (unsuccessfully) to do in *Airgas, Inc. v. Air Products & Chemicals, Inc.*, 8 A.3d 1182 (Del. 2010), but especially following *Airgas*, such use of these provisions will not have a substantial impact on entrenchment.

¹⁰² There are relatively minor differences between the two. A vote by written consent requires a majority of outstanding shares, whereas a vote at a special meeting requires only a majority of shares cast. On the other hand, a vote by written consent can be carried out more quickly than a vote at a special meeting. The duration of the delay would depend on when the takeover bid begins in relation to the target's next annual meeting and the extent to which the state law governing the target allows it to delay its annual meeting.

default rules that is entrenching. In either case, to the extent the supermajority provision prevents the shareholders from amending the bylaws to undo the entrenchment, the offending protective mechanism will remain present. A staggered board is the primary example.¹⁰³ Occasionally, bylaws rather than charters provide for a staggered board. If a firm's bylaws provide for a staggered board and that bylaw provision is protected by a supermajority provision, then the supermajority provision is relevant to management entrenchment. But BCF report both that 5% to 7% of firms in their sample have staggered boards provided for in their bylaws¹⁰⁴ and, separately, that 32% to 40% of firms have supermajority provisions applicable to bylaw amendments.¹⁰⁵ Unless these additional supermajority provisions protect an entrenching bylaw provision, they should not be included in the index. Moreover, including this supermajority provision in the index means that a firm with both a staggered board provision in its bylaws and a supermajority requirement for amending its bylaws will receive two points, and a firm with a staggered board provided for in its charter will receive only one point, yet the level of entrenchment is the same.¹⁰⁶

Even if there is no entrenching provision in a firm's bylaws at a particular time (or an equivalent provision adopted by default from state law), most firms' charters allow their boards to amend bylaws unilaterally—along with shareholders, who always have a unilateral right as well. Consequently, one might ask whether a supermajority vote requirement for shareholder amendments exposes shareholders to such unilateral amendments by boards with no opportunity for shareholders to undo the damage with their own amendment. This scenario is possible but not with respect to seriously entrenching amendments. In Delaware, a board cannot amend bylaws to create a staggered board, and in states that have adopted the Model Business Corporation Act in its original or revised form, a staggered board must be provided for in the charter, not the bylaws.¹⁰⁷ In addition, any other board-imposed amendment must be in line with the board's fiduciary duty to shareholders and consistent with the corporate statute and the firm's charter.¹⁰⁸ If an amendment somehow shields management from a hostile takeover, a court will subject it to serious scrutiny. Consequently, a board's opportunity to amend bylaws this way is not substantial. Therefore if there is nothing in the bylaws (or a state default rule) to protect, a supermajority requirement to amend bylaws should not be given credit in an index as entrenching.

¹⁰³ For firms with annually elected boards, then the two provisions that prevent shareholders from voting outside of annual meetings are the other examples.

¹⁰⁴ Bebchuk & Cohen, *supra* note 52, at 419.

¹⁰⁵ Bebchuk et al, *supra* note 76, at 797.

¹⁰⁶ Indeed, the entrenchment of a charter-embedded staggered board is greater because it cannot be undone by a board majority vote. A shareholder vote will always be required, which will add time and uncertainty to a bid.

¹⁰⁷ Delaware General Corporation Law § 141(d); Model Business Corporation Act §8.06; Revised Model Business Corporation Act §8.06.

¹⁰⁸ *Chesapeake Corp. v. Shore*, 771 A.2d 293 (Del.Ch. 2000).

Golden parachutes could well be included in Section A, among the E Index provisions with no impact on entrenchment. Since 1984, golden parachutes are subject to a tax if they are greater than three times an executive's base compensation.¹⁰⁹ Consequently, most golden parachutes are at this level. Consequently, golden parachutes alone will not impose a high enough cost to deter a hostile bid. It is possible that, when added to other forms of change-of-control payments, such as accelerated options, golden parachutes happen to become important at the margin. It is also true that some golden parachutes are larger than the tax-penalty limit and companies absorb the tax liability. So it is technically possible that a golden parachute of the right size relative to the gains available to an acquiror, in combination with other costs of a takeover, could deter an acquiror. But if this were the basis for including golden parachutes in the G or E index, one would have to include only very large ones.

A second potential reason to consider golden parachutes as a negative factor in corporate governance is that they *may* make management indifferent to a takeover at a low price. This seems to be what BCF had in mind. If a golden parachute makes management indifferent to a hostile takeover at a low price and as a result relieves management of pressure to manage the company well, then the golden parachute would be detrimental to shareholders. But will three times base salary have this incentive effect on CEOs and other senior managers? It seems unlikely. Moreover, a golden parachute is expected to reduce management resistance to a takeover bid—that is, it has an anti-entrenchment impact.¹¹⁰

In sum, golden parachutes can be either a positive or negative influence on corporate governance and firm value—and they may have no influence in either direction. Their impact at the margin depends on other factors. To score a golden parachute as entrenching, especially without considering other factors, is incorrect.

D. Elements That Are Unrelated to Takeover-Defense and Affirmatively Good for Corporate Governance

The G Index also contains several elements that are not takeover defenses, that have no bearing on management entrenchment whatsoever, and that are widely understood to be beneficial from a governance standpoint. Three such elements protect board members and managers from litigation and liability risk: (i) director indemnification provided for in bylaws, (ii) director indemnification provided by agreement, and (iii) exculpation of outside directors for monetary liability for violation of the duty of care. All of these protections have exceptions for

¹⁰⁹ Internal Revenue Code, §280G.

¹¹⁰ See Marcel Kahan & Edward B. Rock, How I Learned to Stop Worrying and Love the Pill: Adaptive Responses to Takeover Law, 69 U. CHI. L. REV. 871 (2002).

actions that directors or officers have taken in bad faith.¹¹¹ They are not licenses to steal. It is widely agreed that directors and officers should be protected from the expense of shareholder lawsuits, which are often non-meritorious, even if this protection can also extend to individuals who have engaged in misconduct. Indeed, without such protection, it would be difficult to attract outside directors and perhaps even top-level officers to public companies, and those who are attracted would take few risks, regardless of the rewards to shareholders.

E. *The E Index*

The E Index contains the following elements of the G Index:

- Staggered board
- Supermajority to amend bylaws
- Golden parachute
- Supermajority to amend charter
- Supermajority to approve a merger
- Poison pill

Summarizing what has just been explained above, a staggered board has the greatest justification for being present in the Index. Although some recent studies have found that staggered boards can have a positive impact on firm value, other studies find that they are generally entrenching. A supermajority requirement to amend bylaws can, under highly limited circumstances, be entrenching. But treating them as entrenching without taking account of those circumstances is inaccurate. The impact of golden parachutes is even more contingent, and possibly positive. The two other supermajority requirements are not entrenching. And finally, the presence or absence of a poison pill at any point in time is of no consequence and therefore should not be in the index.

So the final tally of E Index elements that can potentially have an impact on entrenchment is three out of six. And of those three, two are highly contingent. Moreover, one of those two—golden parachutes—can have positive impact on governance. If researchers want to know whether these three elements have an impact on governance, or if they believe they do *ex ante* in a particular circumstance, there is no reason to combine them into an index. Each can enter a regression separately and each can be refined to capture situations in which they matter.

¹¹¹ See Del. Code Ann. tit. 8, § 145 (allowing companies to indemnify individuals who acted in good faith).

While a governance index must simplify complex relationships, the simplification must reflect an understanding of how the elements of the index work. This is not the case with the G Index or the E Index. Their elements do not have any justification in terms of how corporate governance works. These problems, coupled with the fact that researchers mechanically use the indices without understanding them, has resulted in widespread and ongoing confusion in the empirical governance literature.

CONCLUSION

Empirical analysis of corporate governance has taken the field beyond the exchange of theoretical assertions and ideological pronouncements that often characterize legal scholarship, and it has the potential to take us farther. There are methodological barriers that warrant modesty with respect to the interpretation of results and even more so policy prescriptions. But econometricians will continue to develop methods that reduce those barriers.

A greater problem, though one that can (in theory) be corrected, is the fact that many economists working in this area do not understand the institutional and legal context of their research. This is not only a problem with individual economists who write these articles, it is a problem in the finance and economics research infrastructure. The editors and the referees are no better informed than the authors submitting papers for publication, nor are business school and economics department colleagues who are impressed by publications in top journals.¹¹²

Catan and Kahan described the situation well: “[J]ust as managers suffer from agency costs that distort behavior, academics (in finance, but also in law—ourselves included) have incentives that can distort behavior. And for empiricists, one of the potential distortions is to embrace variables that can be easily employed in an empirical test and to pay little heed to arguments that the variable has no theoretical validity.”

¹¹² I should report one exception. I once was asked to write a referee report for a finance journal on a paper on takeover defenses. Moreover, in response to my report, the editor followed up with a call in which he asked me to explain much of what I have said here.

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