

Item #8

SEMINAR IN LAW AND ECONOMICS

Professors Louis Kaplow & Steven Shavell

Tuesday, November 4, 2003

**Pound 201**, 4:30 p.m.

## **THE COST OF ENTRENCHED BOARDS**

Lucian A. Bebchuk\* and Alma Cohen

\*Presenting

# The Costs of Entrenched Boards

Lucian A. Bebchuk<sup>\*</sup> and Alma Cohen<sup>\*\*</sup>

## Abstract

This paper investigates empirically how the value of publicly traded firms is affected by protecting management from removal. In a majority of US public companies, charter provisions establishing a staggered board protect the board from removal in a hostile takeover or a proxy contest. We find that staggered boards established by company charters are associated with a lower market value, with a median of about 6% of market value. Staggered boards that are established in company bylaws, which can be amended by shareholders and thus do not insulate incumbents from removal by determined shareholders, do not have a statistically significant association with reduced market value. We also find evidence consistent with charter-based staggered boards causing, and not merely reflecting, a lower firm value.

JEL Classification: G30, G34, K22

Key words: Corporate governance, Tobin's Q, firm value, agency costs, boards, directors, takeovers, tender offers, mergers and acquisitions, proxy fights, defensive tactics, antitakeover provisions, staggered boards, poison pills.

---

\* Harvard Law School and National Bureau of Economic Research (Bebchuk@law.harvard.edu).

\*\* National Bureau of Economic Research, Harvard Law School, and the Analysis Group (alcohen@nber.org).

For valuable discussions and suggestions, we are grateful to Allen Ferrell, Guhan Subramanian, Manuel Trajtenberg, and participants in a Harvard Law School seminar. We also wish to thank Andrew Metrick for providing us with data, and the NBER and the Harvard John M. Olin Center for Law, Economics, and Business for their financial support.

## 1. Introduction

The desirability of protecting the boards of publicly traded companies from removal by shareholders has long been the subject of much debate. Does the threat of removal align the interests of incumbent management with those of shareholders, thereby discouraging shirking, empire-building, the extraction of private benefits, and the rejection of beneficial acquisition offers? Or does the threat of removal reduce shareholder value by distracting management, encouraging “myopic” focus on short-term results, discouraging long-range planning, and weakening incumbents’ power to bargain for higher prices in negotiated sales? These questions are undoubtedly among the most important in corporate governance. The debate in the 1950s about proxy contests, the debates during the 1980s and 1990s about takeover defenses, and the current debate on shareholder access to the corporate ballot have all focused to a large extent on this issue.

The extent to which the boards of US public firms are now insulated from removal critically depends on whether they have, as a majority of them do, a charter provision establishing a staggered board. An effective staggered board can prevent shareholders from replacing a majority of the board of directors without the passage of at least two annual elections. It thus makes gaining control of a company – either in a stand-alone proxy contest or in a hostile takeover -- much more difficult.

Staggered boards have been encountering growing resistance from institutional investors during the past decade (Bebchuk (2003), Klausner (2003)). Since the early 1990s, shareholders of existing public companies have been reluctant to approve charter amendments establishing a staggered board (IRRC (2002)). Furthermore, shareholders have been increasingly voting in favor of precatory resolutions recommending the dismantling of

existing staggered boards, and such resolutions now obtain an average of 60% of shareholder votes (Georgeson Shareholder (2002)).

But staggered boards also continue to have many defenders (e.g., Koppes, Ganske, and Haag (1999)). A charter amendment requires initiation by the board, and boards commonly elect not to follow precatory shareholder resolutions against charter provisions establishing a staggered board. Defenders of staggered boards stress that staggered boards provide boards with stability and insulation from short-term pressures that are necessary for them to do their job well.

Over the years, participants in the debate over protecting boards from removal have identified many ways in which such protection can affect firm value. Protection from removal can affect the probability of an acquisition, the expected premium in an event of an acquisition, and, most importantly perhaps, the ex ante behavior of management; and the overall desirability of such protection depends on the aggregate impact of these effects on expected shareholder value. To shed light on the desirability of defenses, empirical work could attempt to investigate each of these effects. An alternative strategy, which we pursue, is to study the effect that protection from removal has on market value.

This market value reflects the market's expectations concerning the expected performance in the event that the firm remains independent, the expected probability of an acquisition (whether negotiated or hostile), and the expected premium in the event of an acquisition. Thus, to the extent that the market correctly understands the effects of protection from removal, they should be all reflected in market values. Thus, identifying the effects that protection from removal has on market values can shed light on (the market's assessment of) the overall impact of such protection on shareholder interests.

In particular, we study in this paper the association between staggered boards and market value during the period 1990-2001. We pay special attention to the second half of the 1990s and the beginning of the present decade, the years 1995-2001, both because this period might be of most interest to the contemporary reader and because the legal rules that make staggered boards a powerful takeover defense were firmly in place by the mid-1990s. Our data set is based on the companies followed by the Investor Responsibility Research Center, which publishes data about the governance provisions of all the companies in the S&P 500 as well as many other companies of significance.

We find that, controlling for other company characteristics including other governance arrangements, companies with a charter-based staggered board have significantly lower value (as measured by Tobin's Q). The reduction in market value that is associated with charter-based staggered boards is not merely statistically significant but also economically significant, with a median reduction in market value of about 6%. When the reductions in market values associated with charter-based staggered boards are aggregated over all firms that have them in 2001, the last year of the period of our study, they total about \$350 billion.

In contrast, staggered boards that are established in the company bylaws do not have a statistically significant association with a lower market value. As long as shareholders are sufficiently content with their board, bylaws-based staggered boards have similar effects on board composition as do charter-based staggered boards. However, because shareholders can generally amend their company's by-laws, bylaws-based staggered boards do not protect the board from removal by determined shareholders.

Correlation does not by itself establish causation, and we explore the question whether charter-based staggered boards bring about a lower market value or merely reflect the tendency of companies with a low value to have a charter-based staggered board. In

examining this question of causation, we are assisted by the fact that, since the beginning of the 1990s, shareholders of existing public companies have been rather reluctant to approve charter amendments that establish a staggered board in companies that did not have one already. For this reason, it is instructive to examine the association between charter-based staggered boards and firm value among the subset of firms (which constitute a majority of the firms in the IRRC universe) that went public prior to 1990.

Whether pre-1990 firms had a charter-based staggered board during the second half of the studied period depended substantially on whether they already had a staggered board in place in 1990. And whether firms had a charter-based staggered board in 1990 was presumably a product of their circumstances at or prior to 1990, but not a product of their value at the end of the 1990s. Studying pre-1990 companies, we find a negative correlation between their market values during 1995-2001 and whether they had a charter-based staggered board in 1990. This correlation holds even when one controls for firm value in 1990. While the question of causality (and the channels through which it operates) warrants further study, the evidence we find is consistent with a causal link running from staggered boards to lower market value.

In addition to identifying the association between staggered boards and market values, our research provides an insight into the features that drive the correlation recently identified in an influential study by Gompers, Ishii and Metrick (2003) between lower market value and a corporate governance index they constructed. This index was based on twenty-four issues, and the study did not identify what elements inside the “black box” of corporate governance are especially responsible for the identified correlation. We shed some light on this question by finding, controlling for other governance provisions, that charter-based staggered boards have a strong effect on market value and that this effect is several fold larger than the average

effect of other provisions in the constructed index. Thus, charter-based staggered boards are an important source of the identified correlation between market value and the constructed corporate governance index.

Our analysis is organized as follows. Section 2 discusses the institutional background, the questions we seek to examine, and the prior work on the subject. Section 3 describes our data, and Section 4 describes our results. Section 5 concludes.

## **2. Background, Motivation, and Prior Work**

### **2.1 The Key Role of Staggered Boards in Entrenching Incumbents**

There are two ways in which boards may be removed. One is a stand-alone proxy fight in which a rival team seeks to replace the current incumbents so as to run the company differently. Alternatively, a board may be removed as a result of a hostile takeover in which an outside buyer purchases a controlling block. Either way, how insulated directors are from the risk of removal depends on whether the company has an effective staggered board.

U.S. companies can have either a unitary board or a staggered board. In firms with a unitary board, all directors stand for election each year. In firms with a staggered board, directors are grouped into classes, with a single class of directors standing for election at each annual meeting of shareholders. Typically, a staggered board has three classes of directors, which in most states of incorporation is the largest number of classes permitted by state corporate law.

In many firms, however, a staggered board does not prevent replacement of the whole board at (or even before) the next annual meeting if shareholders are sufficiently determined

to do so. Shareholders can do so, notwithstanding the presence of staggered board, in three cases: (1) when the staggered board is established in the bylaws, which shareholders can typically amend, and not in the charter, which shareholders cannot amend without board initiative; (2) when the charter does not prevent shareholders from “packing” the board by increasing the number of board seats and filling them; and (3) when shareholders have the power to remove directors “without cause.”

We shall refer to a staggered board that shareholders cannot overcome in one of these three ways as an effective staggered board (ESB). Because we have data on whether staggered boards are established in the bylaws or in the charter, we can separate from the set of companies with staggered boards a subset of firms whose staggered boards do not provide an effective protection against removal by determined shareholders. This will enable us to test whether ineffective staggered boards indeed have a different effect than effective ones.

The way in which an ESB affects the prospect of removal via a stand-alone proxy contest is straightforward. It requires a rival team to win two elections to gain control of the board. Challengers considering running a stand-alone proxy contest already face considerable impediments (Bebchuk and Hart (2002)), and having to win two elections one-year apart makes the task all the more difficult. The need to win two such elections requires more resources and patience on the part of the challengers. Furthermore, it could also make shareholders more reluctant to vote for a dissident group the first time around, knowing that election of its slate would lead to a divided board for the next year and that the dissident group would not be able to gain control for another year, by which time some of the issues raised by the dissidents might be moot.

Effective staggered boards also have a major impact on the prospect of a hostile takeover because of the way in which the law of defensive tactics has developed. Prior to the



development and adoption of the poison pill defense, staggered boards were considered a mild takeover defense because they did not impede the acquisition of a control block. The development and acceptance of the poison pill, however, transformed the market for control. As long as a poison pill is in place, it practically prevents a hostile bidder from purchasing a majority of the target's shares.<sup>1</sup>

In the late 1980's and early 1990's, court decisions in Delaware and pill endorsement statutes in other states provided incumbents with substantial freedom to maintain a pill indefinitely and thus block a hostile offer as long as they are in office. In Delaware, the 1990 *Time* decision by the Delaware Supreme Court signaled its willingness to permit incumbents to "just say no," and by 1995 several vivid examples made it clear that Delaware courts would largely let incumbents to maintain a pill indefinitely (Subramanian (2004)). In other states, pill endorsement statutes were adopted in the late 1980s and the early 1990s.

Once the latitude to maintain pills indefinitely was firmly in place, a hostile bidder's main hope of acquiring the target over the objection of incumbents lay in the possibility of replacing the incumbent directors. By placing an attractive offer on the table, a hostile bidder can attempt to induce shareholders to replace the board with a team of directors (usually nominated by the hostile bidder itself) that announce their willingness to accept the offer. Thus, the extent to which incumbents are now protected from a hostile takeover critically

---

<sup>1</sup> Pills consist of stock warrants or rights that allow the holder to buy an acquirer's stock, the target's stock, or both, at a substantial discount from the market price. These rights only become exercisable in the event that an acquirer buys more than a certain percentage of the target's stock (typically 10 or 15%) without the target board's approval. These rights are explicitly not exercisable by the acquiring person, so the resulting dilution in his voting power and economic stake may make the acquisition of the target too expensive to pursue. The terms of poison pill rights make the acquisition of control, and suffering the resulting dilution, a losing proposition for the bidder as a practical matter.

depends on how long and how difficult it would be to replace the incumbents, and thus on whether an effective staggered board exists.

In particular, by preventing a majority of directors from being replaced before the passage of two annual elections, effective staggered boards impede hostile bidders in two ways. First, the bidder cannot be assured of gaining control, no matter how attractive its offer is, without waiting a period that is at least a year and might exceed two years; waiting so long might be rather costly for bidders that seek the target for synergy reasons or to engage in long-range planning. Furthermore, making an irrevocable offer that would be open for such a long period is quite costly to the bidder, and without making such an offer shareholders would be reluctant to vote for the bidder in the first election (Bebchuk and Hart, 2002). Indeed, there is evidence that, at least since 1996 and probably also prior to it, no hostile bidder has ever persisted long enough to win two elections (Bebchuk, Coates, and Subramanian (2003)).

Recent evidence establishes that an effective staggered board is indeed the key factor that determines the outcome of hostile bids (Bebchuk, Coates, and Subramanian (2003)). This evidence indicates that an ESB increases the odds of the target's remaining independent 12 months after a hostile bid from 31% to 64%, and has similarly dramatic effects on the odds of a target's still remaining independent 30 months after receiving a hostile bid. Other defenses, such as pre-bid poison pills, supermajority voting provisions, and fair price provisions, have much less significance for the outcome of hostile bids.

## **2.2 The Question: How Does Entrenchment Affect Firm Value?**

The above discussion indicates that, on both theoretical and empirical grounds, the strength of directors' protection from removal critically depends on whether the firm has an

effective staggered board. The question, however, is whether the protection from removal provided by effective staggered boards overall has a positive or a negative impact on firm value.

Simply put, the expected value of a given firm's shares at a given point in time is defined by

$$EV = \left[ \begin{array}{c} \text{The firm's} \\ \text{cash flow in} \\ \text{the current} \\ \text{period} \end{array} \right] + \left[ \begin{array}{c} \text{The probability} \\ \text{that the firm will} \\ \text{remain} \\ \text{independent} \\ \text{in the next period} \end{array} \right] \times \left[ \begin{array}{c} \text{The expected value} \\ \text{of the firm in the} \\ \text{next period in the} \\ \text{event that it} \\ \text{remains independent} \\ \text{in that period} \end{array} \right] + \left[ \begin{array}{c} \text{The probability} \\ \text{that the firm will} \\ \text{be acquired in} \\ \text{the next period} \end{array} \right] \times \left[ \begin{array}{c} \text{The expected} \\ \text{premium in} \\ \text{the event that} \\ \text{the firm will} \\ \text{be acquired in} \\ \text{the next period} \end{array} \right]$$

The debate on the subject has been going on for the last twenty-five years, with participants identifying many ways in which protection from removal can affect value (see Bebchuk (2002) for a recent survey). Such protection can affect each of the terms on the right hand side of the above formula. Among other things, such protection has the following effects:

(i) Management behavior and incentives: Most importantly perhaps, protection from removal can affect how incumbents run the firm, which in turn affects the current and future profitability of the firm (and thus affecting elements (1) and (3) above). On the one hand, protection might hurt shareholders by weakening the disciplinary threat of removal and thereby increase shirking, empire-building, and extraction of private benefits by incumbents (Manne (1965)). On the other hand, protection might encourage management to invest in long-term projects (Stein (1988), Bebchuk and Stole (1992)) and to avoid deadweight and inefficient actions that it might otherwise undertake to reduce the likelihood of a takeover bid (Arlen and Talley (2003)).

(ii) The Probability of an Acquisition: On the one hand, such protection might hurt shareholders by enabling a self-serving management team to block a hostile acquisition in order to retain management's independence (Easterbrook and Fischel (1981)), and by discouraging potential acquirers from searching for companies and making offers for them (Grossman and Hart (1980)). On the other hand, protection from removal might enable a loyal board to reject an offer that management's private information suggests is inadequate (Lipton (1979)), and it might encourage search by targets for beneficial opportunities to be acquired (Bebchuk (1982)).

(iii) Acquisition premia: On the one hand, protection from removal might help shareholders by strengthening incumbents' bargaining power and enabling them to extract higher acquisition premia (Stulz (1988)). However, management might have a significant bargaining power even without protection from removal (Bebchuk (2002), Subramanian (2003))) and, furthermore, incumbents might use whatever additional power comes with such protection to extract side payments for themselves rather than higher premia for shareholders (Bebchuk (2002), Hartzell, Ofek, and Yermack (2001)).

One strategy for an empirical investigation of the overall desirability of protection from removal is to study one or more of the particular effects listed above, and some prior work has done so. An alternative strategy, which is the one we pursue, is to focus to study the effect that defenses have on market values. To the extent that the market correctly understands the effects of defenses, the market value of any given firm should equal EV, and thus reflect fully the elements (1)-(5) above. We shall therefore test below the hypothesis that staggered boards are associated with lower market value, but that this effect is smaller or non-existent for staggered boards that are bylaws-based and thus ineffective protection against removal.

## 2.3 Prior Empirical Work

Financial economists have done a significant amount of work over the past two decades on the effects of takeover defenses on firm value and performance. But they have not identified the effect on firm value of effective staggered boards, the key determinant of entrenchment in the modern landscape of control contests.

There is a significant body of work on how the passage of state antitakeover statutes affected the value of firms (see, e.g., Karpoff and Malatesta (1989), and see Gartman (2000) for a survey of this body of work), as well as on how the passage of state antitakeover statutes affected management's tendency to take actions favorable to it, such as making executive compensation schemes less performance-sensitive (e.g., Bertrand and Mullainathan (1999, 2003)). However, state anti-takeover statutes are not the key determinant of the level of protection from removal that management enjoys in any given company. All the impediments established by standard state antitakeover statutes can be overcome if a hostile bidder can get shareholders to replace the incumbent board. Thus, even when a firm's state of incorporation has all five standard antitakeover statutes, incumbents have relatively limited protection from removal if the corporate charter does not establish a staggered board. Recent evidence indeed indicates that a target's state of incorporation is not a key determinant of the outcome of hostile offers (Bebchuk, Coates, and Subramanian (2003)).

Another set of studies examines how the adoption of a poison pill affected stock prices (see, e.g., Ryngaert (1988)). One problem with such event studies is that, when a firm adopts a poison pill, its stock price might be influenced by inferences that investors make as to management's private information about the likelihood that a bid will be made. Furthermore,

and most important for our purposes, having a pill in place cannot be expected to affect substantially the level of protection from removal enjoyed by incumbents (Coates (2000)). Virtually all firms can put a poison pill in place after a hostile bid has been launched – a “morning after pill” – without the need for a shareholder vote; thus, boards that do not have a pill at any given point in time do still enjoy the protection of a “shadow” or “off-the-shelf” pill. Furthermore, as explained, once a bid is launched, the extent to which a pill can protect against the bid depends on the extent to which the firm’s charter protects the board from being voted out by shareholders.

Garvey and Hanka (1999), Johnson and Rao (1997), and Borokohovich, Brunarski, and Parrino (1997) study the effects of antitakeover charter provisions. However, they lump together effective staggered boards, which we predict to have significant effects, with antitakeover arrangements, such as fair price arrangements, that theory predicts should have only mild or insignificant effects. Indeed, in the modern landscape of takeover contests, provisions like fair price arrangements are largely irrelevant. With incumbents permitted to maintain poison pills, hostile bidders cannot purchase a controlling block without first replacing incumbents with a board willing to accept the offer, and fair price arrangements generally do not apply to takeover bids approved by the board. The considered studies also rely in part on data from the 1980’s, i.e., prior to the legal developments that permitted incumbents to maintain pills indefinitely and thus gave effective staggered boards their anti-takeover potency.

Bebchuk, Coates, and Subramanian (2002, 2003) do study the effects of effective staggered boards using data from recent years. But this study focuses only on one part of the overall effect that such defenses have on shareholder value. In particular, these studies find that effective staggered boards have a negative effect on shareholder returns after a hostile bid

is made (Bebchuk, Coates, and Subramanian (2003)) and do not have a statistically significant effect on premia in negotiated acquisitions (Bebchuk, Coates, and Subramanian (2002)). We supplement this work, whose findings are consistent with others, by investigating the overall impact that effective staggered boards have on shareholders.

Finally, in a recent study that our results complement, Gompers, Ishii, and Metrick (2003) identify substantial correlation between firm value during the 1990s and a broad-based index (G) of twenty four corporate governance provisions. This study, however, does not isolate the effects of any given provision, thus not identifying which arrangements drive the association between the G index and lower firm value.

There are theoretical reasons to expect some of the provisions in the G index to matter much more than others, and indeed to expect some of the provisions to be, at least partly, a product of the others. For example, business combination statutes, control-share acquisition laws, and fair price provisions – three elements of the G index -- are inapplicable once a bidder succeeds in replacing the board, which bidders must in any event do when incumbents are armed with a poison pill. In terms of endogeneity, some of the arrangements forming the G index can be unilaterally installed by incumbent directors without shareholder approval; this is the case, for example, with respect to change-in-control provisions in compensation contracts, golden parachutes, pension parachutes, and severance arrangements – four important provisions elements of the G index. Whether incumbents adopt such provisions might depend on how insulated management is by other arrangements, such as the existence of charter-based staggered boards, that incumbents cannot adopt without shareholder approval.

Our study will provide a glimpse into the “black box” of corporate governance. Our hypothesis is that staggered boards make a significant contribution to the negative correlation between the G index and low firm value that Gompers-Ishii-Metrick identified.

### **3. The Data**

#### **3.1 Sources**

Our data set includes all the companies for which there was information in one of the volumes published by the Investor Responsibility Research Center (IRRC). The IRRC volumes were published in 1990, 1993, 1995, 1998, 2000, and 2002. Each volume includes between 1,400 and 1,800 firms, with some changes in the list of included firms from volume to volume.

Each of the IRRC volumes included all the firms in the S&P 500 at the time of the volume’s publication, plus additional firms that the IRRC viewed as important. In any given year of publication, the firms in the IRRC volume accounted for the lion’s share of the U.S. stock market capitalization.

The IRRC volumes provide data, now largely available at WRDS, about various corporate governance provisions for each included company, as well as the company’s state of incorporation. The IRRC data that is available at WRDS indicates whether each company has a staggered board but does not distinguish (following Gompers-Ishii-Metrick (2003)) between charter-based and bylaws-based staggered boards. However, the information whether a staggered board is established in the charter or in the bylaws is provided in the IRRC volumes themselves and we had it hand-coded.



Because IRRC did not publish volumes in each year, we filled for missing years by assuming that the governance provisions reported in any given year were in place also in the year preceding the volume's publication. In the case of 1991 and 1996, for which there was no IRRC volume in the subsequent year, we assumed that the governance provisions were the same as reported in the IRRC volumes published 1990 and 1995 respectively. We verified that using different "filling" methods does not change the results.

Data about firm financials was taken from Compustat. Data about the age of firms was taken from the dataset of Gompers-Ishii-Metric, who in turn estimated it based on the date in which pricing information about a firm first appeared in CRSP.

We excluded firms with a dual class structure, where the holding of superior voting rights might be the key for entrenching incumbents. We also excluded real estate investment trusts (REITs), which have their own special governance structure and entrenching devices. Our dataset includes both financial and nonfinancial firms, but running our regressions on a subset including only nonfinancial firms (as done by Daines (2001)) yields similar results throughout.

We focus on the association between staggered boards and firm values during the period 1990-2001, with 1990 being the year of publication of the first IRRC volume and 2001 being the last year for which Compustat had financial data about the lion's share of the firms in our dataset. We pay special attention to the sub-period 1995-2001 because the legal rules that made effective staggered boards so powerful were firmly in place by the mid-1990s (Subramanian (2004)), and because firm values in this later period provide us with a way to explore the issue of causality.

### 3.2. Summary Statistics

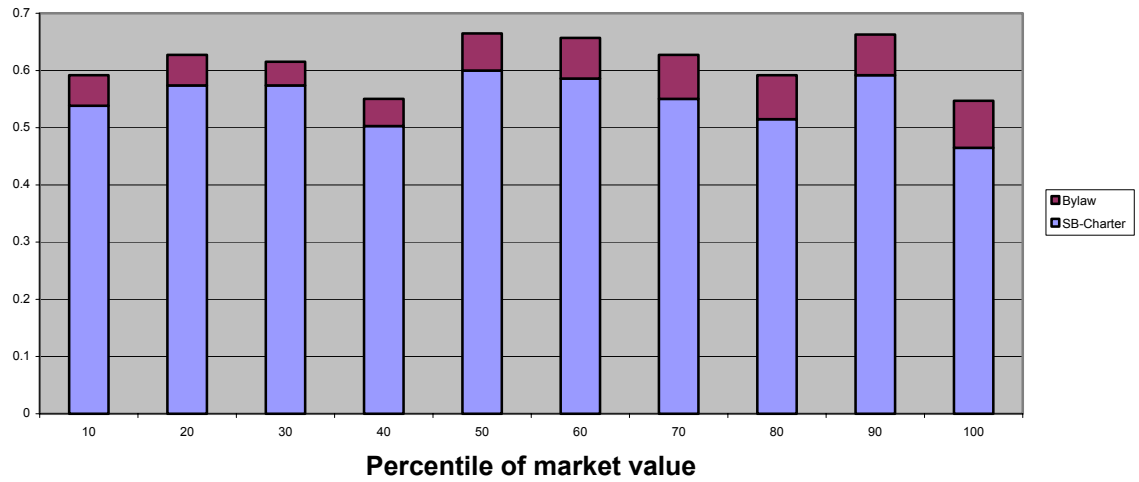
Table 1 provides summary statistics for the percentage of firms with charter-based and bylaws-based staggered boards in our data. Throughout the period 1990-2001, the percentage of firms in our dataset that have a staggered board is about 60%. Among the staggered boards, 9%-12% are bylaws-based -- and thus do not protect the board from removal by determined shareholders.

**Table 1: Incidence of Staggered Board**

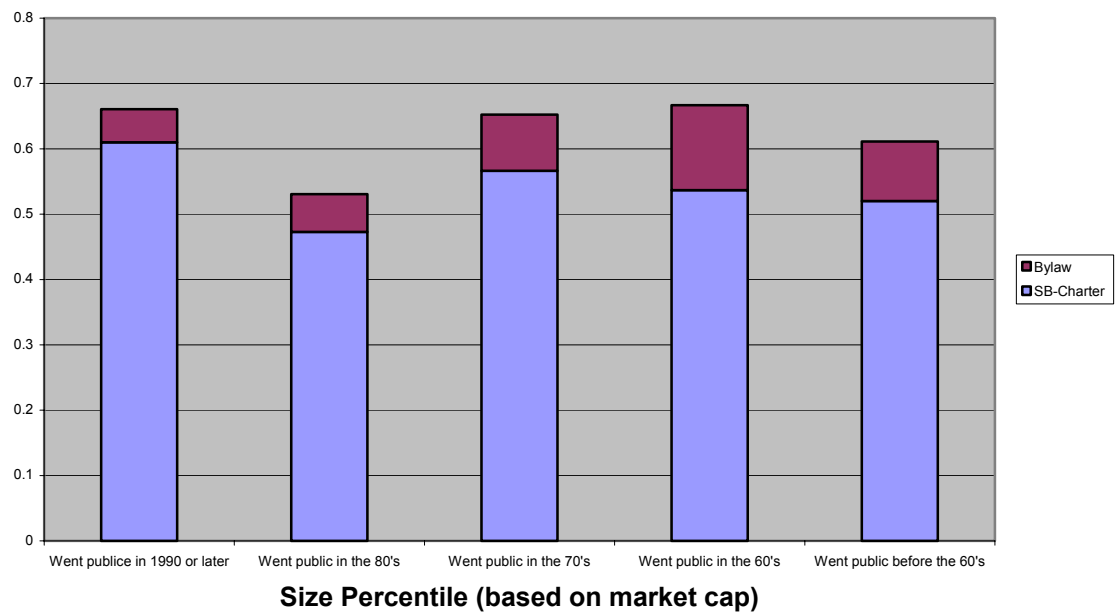
Year	No Staggered Board	Charter-based Staggered Board	Bylaws-based Staggered Board
1990	41.9%	52.3%	5.8%
1993	40.2%	52.6%	7.2%
1995	38.6%	54.0%	7.4%
1998	41.0%	53.5%	5.5%
2000	39.6%	54.5%	5.8%
2002	38.4%	54.9%	6.7%

Let us now provide some summary statistics about the incidence of staggered boards in different subsets of our data, focusing on firms in 2001 (the picture is similar for earlier years). Figure 1 and Figure 2 depict the presence of staggered boards in different subsets of the data defined by market capitalization and firm age. As these two figures indicate, when we divide firms into different segments by market capitalization or age, staggered boards have a substantial presence in each segment. When we divided firms into groups based on industry sectors, we found that staggered boards similarly have a large presence in each industry sector.

**Figure 1: Staggered Board Incidence and Market Capitalization**



**Figure 2: Staggered Board Incidence among Different Cohorts**



Figures 1 and 2 also indicate that staggered boards that are bylaws-based exist in each of the firm groups. However, the fraction of staggered boards that are bylaws-based tends to be smaller among firms with lower market capitalization and among firms that went public in the past one or two decades.

Table 2 provides some summary statistics about the characteristics of companies with charter-based staggered boards, bylaws-based staggered boards, and no staggered boards. The figures in the table are means, with standard deviations (where relevant) in brackets. As the Table indicates, firms with charter-based staggered boards tend to be smaller (as measured by market value, assets, and membership in the S&P 500).

**Table 2: Company Characteristics**

Variable	All Firms	Firms with Charter-based Staggered Boards	Firms with Bylaws-based Staggered Boards	Firms without a Staggered Board
Company age	26.8 (18.9)	26.1 (18.3)	31.4 (18.9)	26.9 (19.8)
Market value (in millions)	6328 (24149)	4204 (12473)	6697 (19556)	9288 (34799)
Assets (in millions)	11079 (55145)	7302 (29423)	8213 (18188)	16893 (80715)
Fraction of S&P500 firms	22.1%	21%	30.8%	22.3%
Percent of firms incorporate in Delaware	60.7%	62.9%	40.6%	60.4%

As Table 2 also indicates, about 60% of the firms in our dataset are incorporated in Delaware. The percentage of staggered boards is the same among both Delaware and non-Delaware firms. However, the fraction of staggered boards that are bylaws-based is somewhat smaller among Delaware firms than among non-Delaware firms. Delaware firms are also on average “younger,” consistent with the evidence that Delaware incorporation is more common among firms that went public in the 1990s (Bebchuk and Cohen (2003)).

## 4. Results

### 4.1. The Association between Staggered Boards and Firm Value

In studying the association between staggered boards and firm value, we use Tobin's Q as the measure of firm value. In doing so we follow earlier work on the association between corporate arrangements and firm value (Demsetz and Lehn (1985), Morck, Shleifer and Vishny (1988), Lang and Stulz (1994), Yermack (1996), Daines (2001), and LaPorta et al. (2001)). We use the definition of Q that was used by Kaplan and Zingales (1997) and subsequently also by Gompers, Ishii, and Metrick (2003) and Subramanian (2004).<sup>2</sup>

Our dependent variable (following Gompers-Ishii-Metrick (2003)) is "relative Q," which is a firm's Q divided by the median Q in the firm's industry in the observation year, expressed in logs. We defined a firm's industry by the firm's 2-digit primary SIC code. Alternative specification of our regressions, with log Q as the dependent variable and SIC codes as industry fixed effects, yield similar results throughout. Also, using the Fama-French classification of industry groups, rather than SIC two-digit codes, yields similar results throughout.

We use a number of standard controls: the assets of the firm (in logs), the age of the firm (in logs) (see Shin and Stulz (2000)), whether the firm is in the S&P 500 (which Morck and Yang (2001) found to be positively correlated with firm value), dummies for 2-digit SIC

---

<sup>2</sup> According to this specification, Q is equal to the market value of assets divided by the book value of assets (Compustat item 6), where the market value of assets is computed as the book value of assets (Compustat item 6) plus the market value of common stock (Compustat item 24 \* Compustat item 25) less the sum of book value of common stock (Compustat item 60) and balance sheet deferred taxes (Compustat item 74).

codes, and year fixed effects. Initially, we use only one governance-related control – namely, whether the firm is incorporated in Delaware and thus subject to Delaware corporate law.

We ran two regressions, one for the period 1990-2001 and one for 1995-2001. We used, as we did in all subsequent regressions, White (1980) robust standard errors to account for potential heteroskedasticity.<sup>3</sup> The results are displayed in Table 3, columns 1 and 5 respectively.

---

<sup>3</sup> We also ran the regressions, both here and subsequently, as fixed-effect regressions. Using both the random and the between specifications, all the results obtained for the coefficient of charter-based staggered boards are similar to the ones reported above.

Because firms do not vary much in their corporate governance characteristics during the studied period, there is little point in using within regressions which focus on the variation over time within each given firm (in such regressions,  $G$ ,  $G^*$ , staggered board, and S&P membership naturally all drop out).

**Table 3: Staggered Boards and Firm Value**

OLS regression. Dependent variable: log(relative Q)

	1990-2001				1995-2001			
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Classified Board – Charter	-0.039*** 0.008	-0.030*** 0.008	-0.030*** 0.008	-0.034*** 0.008	-0.048*** 0.01	-0.035*** 0.011	-0.036*** 0.011	-0.038*** 0.01
Classified Board – Bylaw	-0.01 0.013	-0.001 0.013	-0.001 0.103	-0.006 0.013	-0.008 0.02	0.004 0.02	0.004 0.02	-0.0002 0.02
G*		-0.005*** 0.002				-0.007*** 0.002		
Log(G*)			-0.046*** 0.014				-0.062*** 0.019	
G* Top Half				-0.020*** 0.007				-0.035*** 0.011
Log(assets)	-0.069*** 0.003	-0.068*** 0.003	-0.068*** 0.003	-0.069*** 0.003	-0.072*** 0.004	-0.071*** 0.004	-0.071*** 0.004	-0.071*** 0.004
Log(company age)	-0.063*** 0.005	-0.058*** 0.005	-0.058*** 0.005	-0.060*** 0.005	-0.068*** 0.006	-0.062*** 0.006	-0.062*** 0.006	-0.063*** 0.006
SP-500	0.40*** 0.01	0.40*** 0.010	0.40*** 0.010	0.40*** 0.010	0.452*** 0.013	0.450*** 0.013	0.451*** 0.013	0.453*** 0.013
Delaware incorporation	0.0001 0.008	-0.001 0.008	-0.0008 0.008	-0.0001 0.008	0.003 0.01	0.001 0.011	0.0006 0.01	0.001 0.01
SIC-2 fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	14438	14438	14438	14438	8970	8970	8970	8970
Adj-R <sup>2</sup>	0.3668	0.3674	0.3673	0.3671	0.4278	0.4285	0.4284	0.4285

\*, \*\*, \*\*\* Significant at 10%, 5%, and 1% confidence level, respectively.

As Columns 1 and 5 of Table 3 indicate, charter-based staggered boards are associated, at 99% confidence, with a lower firm value. This is the case for both the longer period and the more recent period.<sup>4</sup> Consistent with our theoretical predictions, bylaws-based staggered boards do not have a statistically significant correlation with firm value.

---

<sup>4</sup> We also ran annual regressions to check whether the coefficient of charter-based staggered boards fluctuated during the period of study. We found that the level of the coefficient was stable throughout the period 1992-2001. It was lower in 1990 and 1991, the two years in the beginning of the period in which the “just say no” power has not yet firmed up, which is why the level of the coefficient of charter-based staggered boards is slightly lower for 1990-2001 than for 1995-2001.

It should be noted that our data enables us to identify only some of the staggered boards that are ineffective against removal by determined shareholders – namely, those staggered boards that are established in the bylaws rather than in the charter. Thus, there are likely some charter-based staggered boards that are ineffective because shareholders can pack the board or remove the board without cause. The coefficient of charter-based staggered boards therefore likely provides an under-estimate of the correlation between effective staggered boards and firm value.

The non-governance controls in our regressions have the same coefficients as in earlier studies in the literature. Firms with more assets are associated with lower relative Q. Younger firm age is associated with higher relative Q. And inclusion in the S&P 500 index is associated with higher relative Q.

A finding that is by itself interesting is that incorporation in Delaware does not have a statistically significant association with firm value. Whether Delaware incorporations are associated with higher firm value is a question that has already attracted some attention because of its potential implications for the long-standing debate on regulatory competition among states. Daines (2001) finds positive association between firm value and Delaware incorporation during the period 1981-1996. However, Bebchuk and Cohen (2003) find no such correlation in 1999, and Subramanian (2004) finds that such association did not exist during the 1990s except for small firms during the period of 1991-1996. But none of these three studies controlled, as we do, for several parameters that are significantly correlated with firm value – charter-based staggered boards, firm age, and inclusion in the S&P 500.



## 4.2. Controlling for Other Governance Provisions

We next turn to the issue of controlling for corporate governance provisions other than staggered boards. The presence of staggered boards is correlated with a higher G index, an index that is correlated with reduced firm value. Thus, the question arises whether our findings that charter-based staggered boards are correlated with lower firm value are simply driven by other management-favoring provisions that companies with charter-based staggered boards might have.

To control for other governance provisions, we used the corporate governance index G that was constructed by Gompers, Ishii, and Metrick (2003). We divided this index into two components – the staggered boards element and the rest of the index. G is constructed by adding one point for each management-favoring provision (among the set of 24 possible management-favoring provisions) that a firm has. Having a staggered board (whether charter-based or bylaws-based) adds one point to the index. We therefore defined for each firm a parameter  $G^*$ , which is equal to the firm's governance index G minus the contribution of the firm's staggered board if any – i.e., equal to G minus 1 if the firm has a staggered board and to G otherwise.

Columns 2 and 6 display the results of the regressions, for 1990-2001 and for 1996-2001 respectively, when  $G^*$  is added as an independent variable. In both regressions,  $G^*$  is significant at a 99% confidence level, consistent with the possibility that charter-based staggered boards do not fully drive the correlation between higher G and lower firm value. Notwithstanding the inclusion of  $G^*$ , the coefficient of charter-based staggered boards remain statistically significant at a 99% confidence level in both regressions. The coefficient of

bylaws-based staggered boards remains statistically insignificant (as it is in all the regressions in Table 3).

We should note that charter-based staggered boards are correlated not only with G but also with G\*. Charter-based staggered boards and G\* have a stable positive correlation of 0.31-0.34 during the period 1990-2001. Because the correlation between charter-based staggered boards and G\* introduces a problem of co-linearity to our regressions, it biases our results against finding significance for either one of these parameters. Thus, even if the introduction of G\* had made the coefficients of charter-based staggered boards no longer significant, it would not have eliminated the possibility that staggered boards are in fact significant. We do not have to address this problem, however, because the coefficient of charter-based staggered boards remains negative and statistically significant despite the stacking of the deck against such a finding. Note that the significance of charter-based staggered boards when G\* is included indicates that, to the extent that the association between charter-based staggered boards and lower market value is due to the former causing the latter, charter-based staggered boards affect firm value at least partly through channels other than through affecting elements of G\*.

It should also be noted that the introduction of G\* reduces by about 1/3 the magnitude of the coefficient of charter-based staggered boards. However, in both of the regressions, the coefficient of charter-based staggered boards remains large and, in particular, is five times larger than the coefficient for an average one-point increase in G\*. This result indicates that charter-based staggered boards play a relatively large role compared with the average role of other provisions included in the G index.

Columns 3 and 7 display the results of regressions (for 1990-2001 and 1995-2001 respectively) in which  $\log(G^*)$  rather than  $G^*$  is used as a control. As these two columns indicate, using this different functional form produces similar results.

Finally, Columns 4 and 8 of Table 3 display the results of regressions (for 1990-2001 and 1995-2001 respectively) in which, instead of  $G^*$  or  $\log(G^*)$ , we use as a control a dummy variable indicating whether the firm's level of  $G^*$  exceeds the median level (i.e., whether the firm is in the top half of the firms in terms of  $G^*$ ). As the two columns indicate, charter-based staggered boards remain significant at 99% confidence. Interestingly, the coefficient of charter-based staggered boards is slightly *higher* than the coefficient associated with being in the top half of firms in terms of  $G^*$ . This result is, again, an indication that charter-based staggered boards play a more important role in driving the correlation between higher  $G$  and lower firm value.<sup>5</sup>

### 4.3. Economic Significance

How economically significant is the association between staggered boards and reductions in market value? Using the results of the regressions in Column 6-8 of Table 3, we calculated for each firm that had a charter-based staggered board at the end of our period of study (2001) its predicted relative  $Q$ , and in turn its market value, assuming it did not have a staggered board.

---

<sup>5</sup> In unreported regressions, we used as controls dummies based on dividing the firms in our dataset into smaller groups based on their levels of  $G^*$ , including dividing these firms into separate groups for each possible level of  $G^*$ . None of these specifications had a substantial effect on the magnitude and significance of the coefficient of charter-based staggered boards.

Our estimates indicate that the median percentage reduction in market value at the end of our study period was about 6-7%. When these reductions are aggregated over all the firms that had a charter-based staggered board in 2001 when the period of our study ends, they total about \$350 billion.

#### **4.4. Exploring Causation**

We now turn to the question of causation. What explains the identified correlation between charter-based staggered boards and lower firm value? Do charter-based staggered board bring about a lower firm value – or are charter-based staggered boards simply adopted by firms with lower value?

In exploring this question, we are helped by the fact that, unlike many other corporate governance provisions included in the G index, charter provisions that establish a staggered board cannot be adopted by a board without shareholder approval. For example, a board has the power to install a poison pill or to adopt a compensation arrangement that includes, say, change-of-control provisions or golden parachutes. Thus, a firm's not having one of these provisions at time T must reflect an (implicit) time-T decision by the board not to have them in place.

In contrast, amending a firm's charter requires a vote of shareholder approval. Furthermore, during the 1990's, shareholders were generally reluctant to approve charter provisions establishing a staggered board. Recognizing this reluctance, management of existing companies without such provisions generally did not even attempt to get such provisions adopted ((Klasuner (2003))). During 1991-2001, the annual percentage of firms in which management bring a proposal to adopt a such a provision was less than 0.5%; in 2000,

among the 4000 firms whose voting is followed by the IRRC, only ten had a vote on a proposal to staggered the board. In six of these firms, management had over 35% of the shares, and of the remaining four attempts, only one was successful.

Thus, if a firm did not have a charter-based staggered board in the beginning of the period we study, its management was generally unable to adopt such a staggered board later on. A firm's not having a charter-based board at any given time  $T$  in our period of study thus does not indicate a time- $T$  decision by management not to have such a protective arrangement; it might simply reflect the fact that the company did not have such an arrangement in the beginning of the 1990's.

Note that, whereas shareholders were generally unwilling to permit existing firms to adopt charter-based staggered boards during the 1990's, shareholders did not have the power to cause the dismantling of staggered boards in firms that had them when the decade started. While the shareholders of many firms with a charter-based staggered board have passed resolutions in favor of de-staggering the board, such resolutions are precatory, and management commonly ignores them. Thus, for firms that existed prior to 1990, whether they had a charter-based staggered board at the end of the studied period we was not primarily a product of decisions made at the end of the decade in light of circumstances prevailing at the time; rather, it primarily reflected the firms' "initial condition," i.e., whether they had a charter-based staggered board in 1990.

We therefore re-ran our earlier regressions limiting ourselves to firms that went public prior to 1990 and focusing only on observations during the period 1995-2001. Column 1 of Table 4 displays the results in the case in which we use  $G^*$  as control. (The results are similar if we use the other  $G^*$ -based controls we used in Table 3.)

**Table 4: Pre-1990 Charter Decisions and Firm Value**

OLS regression. Dependent variable: log(relative Q)

Variables:	(1)	(2)	(3)
Classified Board – Charter	-0.042*** 0.011		
Classified Board – Bylaw	0.005 0.02		
Classified Board – Charter90		-0.030** 0.011	-0.022** 0.011
Classified Board – Bylaw90		-0.029 0.023	-0.016 0.025
Log relative Q90			0.48*** 0.014
G*	-0.001 0.002	-0.005** 0.0022	-0.0002 0.002
Add charter			
Repeal charter			
Log(assets)	-0.049*** 0.005	-0.034*** 0.005	-0.022*** 0.005
Log(company age)	-0.087*** 0.01	-0.071*** 0.010	-0.039*** 0.010
SP-500	0.39*** 0.014	0.36*** 0.014	0.28*** 0.015
Delaware incorporation	-0.012 0.01	-0.010 0.012	-0.008 0.011
SIC-2 FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Number of observations	6940	6029	4928
Adj-R <sup>2</sup>	0.4853	0.4975	0.3367

\*, \*\*, \*\*\* Significant at 10%, 5%, and 1% confidence level, respectively.

As before, we find that the coefficient of charter-based staggered boards is significant at 99% significance and has the same magnitude as in the regressions of Table 3. The coefficient of bylaws-based staggered boards remains insignificant, although its magnitude is larger than before. All the non-financial controls have the same signs and significance as before, and Delaware incorporations continue not to be statistically significant.

Interestingly, in this regression, the coefficient on  $G^*$  is not statistically significant. Because of the co-linearity between  $G^*$  and charter-based staggered boards, we are reluctant to infer that the provisions in  $G^*$  have no effect on market value in pre-1990 firms; we simply flag it as one that warrants further investigation.

We next ran a regression in which, instead of dummies indicating whether a firm had a charter-based staggered board or bylaws-based staggered board in the year in which value is observed, we included dummies indicating whether the firm had such provisions in 1990 (the earliest point in time for which there is data about corporate governance provisions in the IRRC volumes). Clearly, a firm's 1990 provisions could not have reflected the firm's circumstances in the second half of the 1990s or in the beginning of the subsequent decade. The results, which are displayed in Column 2 of Table 4, indicate that having a charter-based staggered board in 1990 is correlated (at 95% confidence) with lower firm values during 1995-2001, and that having a bylaws-based staggered board in 1990 does not have a statistically significant association with firm values during 1995-2001.

It might be argued that, although having a charter-based staggered board in 1990 could not have reflected a low firm value in the late 1990s, a firm's having such a provision in 1990 might have been caused by its having a low value in 1990. Because a low value in 1990 could have led management to wish seek protection from takeovers, a low value in 1990 could be correlated with a low value five or ten years down the road. To explore this possibility, we ran another regression in which we used  $\log(\text{relative } Q)$  in 1990 as an additional control.

The results of this regression are displayed in Column 3 of Table 4. The results indicate that  $\log(\text{relative } Q)$  in 1990 is indeed positively correlated (with 95% confidence) with  $\log(\text{relative } Q)$  in 1995-2001. However, even when controlling for  $\log(\text{relative } Q)$  in 1990, having a staggered board in 1990 remains statistically significant at 95% confidence.

Again, this finding is consistent with charter-based staggered boards bringing about a reduction in value rather than merely reflecting it.

## 5. Concluding remarks

This paper has investigated empirically whether substantial protection from removal – such as charter-based staggered boards now provide to a majority of US companies – enhances or reduces the value of firms. This question has been long debated, and defenders and opponents of management insulation have identified many ways in which management insulation could affect value, some positive and some negative. Putting this long-standing question to an empirical test, we find that charter-based staggered boards are associated with a lower market value. The reduction in market value associated with charter-based staggered boards is economically meaningful, with a median reduction of about 6%.

Exploring the question of causality, we find evidence that is consistent with charter-based staggered boards causing, and not merely reflecting, lower firm value. Our evidence lends support to institutional investors’ policy not to vote in favor of charter amendments establishing a staggered board and to vote in favor of precatory resolution to dismantle staggered boards. Why firms going public often include staggered boards in their charters remains to be studied.<sup>6</sup>

Bylaws-based staggered boards do not have the negative correlation with firm value that characterizes charter-based staggered boards. In the ordinary course of events, bylaws-based staggered boards guarantee the continuity and stability in board composition that

---

<sup>6</sup> Bebchuk (2003) and Klausner (2003) attempt to put forward explanations for the inclusion of staggered boards in the charters of IPO firms.



supporters of staggered boards applaud. However, bylaws-based staggered boards cannot insulate the board from removal by determined shareholders, and such insulation appears to be associated with lower firm value.

By way of limitation, our analysis does not identify the effects of levels of protection from removal more moderate than those arising from effective staggered boards. Of the firms that do not have effective staggered boards, some have (1) arrangements under which shareholders can remove the company immediately, and some have (2) arrangements under which shareholders can remove the board only at the next annual meeting. We do not identify which of these two groups (1) and (2) has higher market value, focusing only on the consequences of having the considerable level of protection provided by effective staggered boards. Comparing groups (1) and (2) in terms of market value is a worthwhile topic for further research.

Our analysis also helps to understand what drives the negative correlation between firm value and a governance index based on twenty-four provisions that prior work has identified. Our evidence indicates that charter-based staggered boards significantly contribute to this negative correlation. Charter-based staggered boards are a key feature of the current landscape of corporate governance, and they deserve much attention from future work.

## References

- Arlen, Jennifer and Eric Talley (2003), “Unregulable Defenses and the Peril of Shareholder Choice,” *University of Pennsylvania Law Review* (forthcoming).
- Bebchuk, Lucian A., 2002, “The Case Against Board Veto in Corporate Takeovers,” *University of Chicago Law Review*, 69, 973-1034.
- Bebchuk, Lucian A., 2003, “Why Firms Adopt Antitakeover Arrangements,” forthcoming, *University of Pennsylvania Law Review*.
- Bebchuk, Lucian A., John C. Coates IV and Guhan Subramanian, 2003, “The Power of Takeover Defenses,” NBER Working Paper No. \_.
- Bebchuk, Lucian A., and Alma Cohen, 2003, "Firms' Decisions Where to Incorporate," forthcoming, *Journal of Law and Economics*, 46.
- Bebchuk, Lucian A., and Oliver Hart, 2002, “Takeover Bids vs. Proxy Fights in Contests for Corporate Control,” NBER Working Paper No. 8633.
- Bebchuk, Lucian A, and Lars Stole, 1993, "Do Short-Term Managerial Objectives Lead to Under- or Over-Investment in Long-Term Projects?," *Journal of Finance*, 48, 719-729.
- Bertrand, Marianne, and Sendhil Mullainathan, 2003, “Enjoying the Quiet Life? Managerial Behavior Following Anti-Takeover Legislation,” *Journal of Political Economy*, forthcoming.
- Bertrand, Marianne, and Sendhil Mullainathan, 1999, “Is There Discretion in Wage Setting?” *Rand Journal of Economics*, 30, 535–554.
- Borokhovich, Kenneth, Kelly Brunarski, and Robert Parrino, 1997, “CEO Contracting and Antitakeover Amendments,” *Journal of Finance*, 52, 1495-1517.
- Coates IV, John C., 2000, “Takeover Defenses in the Shadow of the Pill: A Critique of the Scientific Evidence,” *Texas Law Review*, 79, 271-382.
- Comment, Robert and G. William Schwert, 1995, “Poison or Placebo? Evidence on the Deterrence and Wealth Effects of Modern Antitakeover Statutes,” *Journal of Financial Economics*, 39, 3-43.

- Daines, Robert, 2001, "Does Delaware Law Improve Firm Value?" *Journal of Financial Economics*, 62, 559-571.
- Demsetz, Harold, and Kenneth Lehn, 1985, "The Structure of Corporate Ownership: Causes and Consequences," *Journal of Political Economy*, 93, 1155-1177.
- Easterbrook, Frank and Daniel Fischel, 1981, "The Proper Role of a Target's Board in Responding to a Tender Offer," *Harvard Law Review*, 94, 1161.
- Gartman, Grant A., 2000, *State Antitakeover Law*, Investor Responsibility Research Center, Washington D.C.
- Garvey, Gerald T., and Gordon Hanka, 1999, "Capital Structure and Corporate Control: The Effect of Antitakeover Statutes on Firm Leverage," *Journal of Finance*, 54, 519-546.
- Georgeson Shareholder, *Annual Corporate Governance Review*, available at <http://www.georgesonshareholder.com>.
- Gompers, Paul, Joy Ishii, and Andrew Metrick, 2003, "Corporate Governance and Equity Prices," *Quarterly Journal of Economics*, 118, 107-155.
- Grossman, Sanford and Oliver Hart, 1980, "Takeover Bids, the Free-Rider Problem, and the Theory of the Corporation," *The Bell Journal of Economics*, 11, 42-64.
- Hartzell, Jay, Eli Ofek, and David Yermack, 2001, "What's in It for Me?: Personal Benefits Obtained by CEOs Whose Firms Are Acquired, Working Paper, NYU Business School.
- Johnson, Mark S., and Ramesh P. Rao, 1997, "The Impact of Antitakeover Amendments on Corporate Financial Performance," *Financial Review*, 32, 659-690.
- Kaplan, Steven N., and Luigi Zingales, 1997, "Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints?" *Quarterly Journal of Economics*, 112, 169-216.
- Karpoff, Jonathan M., and Paul H. Malatesta, 1989, "The Wealth Effects of Second-Generation State Takeover Legislation," *Journal of Financial Economics*, 25, 291-322.
- Klausner, Michael, 2003, "Institutional Shareholders, Private Equity, and Anti-takeover Protection at the IPO Stage," *University of Pennsylvania Law Review* (forthcoming).
- Koppes, Richard H., Lyle G. Ganske and Charles T. Haag, 1999, "Corporate Governance Out of Focus: The Debate over Classified Boards," *Business Lawyer*, 54, 1023-1055.

- Lang, Larry H. P., and Rene' M. Stulz, 1994, "Tobin's Q, Corporate Diversification, and Firm Performance," *Journal of Political Economy*, 102, 1248–1280.
- LaPorta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny, 2002, "Investor Protection and Corporate Valuation," *Journal of Finance*, 57, 1147-1170.
- Lipton, Martin (1979), "Takeover Bids in the Target's Boardroom," *The Business Lawyer*, 35, 101-134.
- Morck, Randall, Andrei Shleifer, and Robert Vishny, 1988, "Management Ownership and Market Valuation: An Empirical Analysis," *Journal of Financial Economics*, 20, 293–315.
- Morck, Randall, and Fan Yang, 2001, "The Mysterious Growing Value of the S&P 500 Membership," NBER Working Paper No. 8654.
- Institutional Responsibility Research Center (IRRC) (1990, 1993, 1995, 1998, 2000, 2002), *Corporate Takeover Defenses*.
- Ryngaert, Michael, 1988, "The Effect of Poison Pill Securities on Shareholder Wealth," *Journal of Financial Economics*, 20, 377-417.
- Subramanian, Guhan, 2004, "The Disappearing Delaware Effect," *Journal of Law, Economics & Organization* (forthcoming).
- Subramanian, Guhan, 2003, "Bargaining in the Shadow of Takeover Defenses," *Yale Law Journal* (forthcoming).
- Shin, Hyun-Han and René Stulz, 2000, "Firm Value, Risk, and Growth Opportunities," NBER Working Paper No. 7808.
- Stein, Jeremy, 1988, "Takeover Threats and Managerial Myopia," *Journal of Political Economy*, 96, 61-80.
- Stulz, Rene, 1988, "Managerial Control of Voting Rights," *Journal of Financial Economics*, 20, 25-54.
- White, H, 1980, "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity," *Econometrica*, 48, 817-838
- Yermack, David, 1996, "Higher Market Valuation for Firms with a Small Board of Directors," *Journal of Financial Economics*, 40, 185–211.