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Board Classification and Shareholder Value: Evidence from Corporate Law Amendments

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Board Classification and Shareholder Value: Evidence from Corporate Law Amendments

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Dedication

To my parents—

For giving me unconditional love and support.

To my daughters—

For becoming the best daughters a dad could ever dream of.

To my wife—

For being my eternal love, my best friend, my *everything*...

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Board Classification and Shareholder Value: Evidence from Corporate Law Amendments

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This study examines the shareholder value impact of board classification. A classified board typically consists of three classes of directors who serve staggered three-year terms; by contrast, directors of a declassified board are elected annually. Prior studies find a negative correlation between classified boards and shareholder value, but do not establish causality. This study contributes direct and causal evidence using a natural experiment based on corporate law amendments that impose a board classification change. The market reaction surrounding legislative events identifies a perceived shareholder value change caused by the prospect of an exogenous shift in board classification. The results suggest that the market perceives classified boards as reducing shareholder value and declassified boards as improving it. This evidence is consistent with shareholder activists' argument that board declassification benefits shareholders.

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Chapter 1

Introduction

This study examines the shareholder value impact of board classification. A *classified* board (i.e., staggered board) typically consists of three classes of directors who serve staggered three-year terms; by contrast, directors of a *declassified* board are elected annually. Whether classified boards cause harm or bring economic benefits to shareholders is currently one of the most contentiously debated questions in corporate governance. On the one hand, classified boards can harm shareholder value because longer tenure may entrench directors and make them less accountable (McGurn, 2002). In addition, a staggered director election, which replaces one-third of the board members per year, acts as a formidable barrier to hostile takeovers (Bebchuk, Coates, and Subramanian, 2002; Bebchuk, 2013), thus weakening an effective external governance mechanism (Manne, 1965). On the other hand, classified boards can improve shareholder value in the long run because directors with longer terms can counter managerial myopia by pursuing projects of long-term value creation (Stein, 1989; Koppes, Ganske, and Haag, 1999; Bainbridge, 2006; Strine, 2006). These opposing conceptual arguments offer little guidance to evaluate the *net* shareholder value impact of classified boards; ultimately, we must rely on empirical evidence to answer this question. Nevertheless, results

from the existing empirical studies provide mixed evidence, suggesting both an increasing as well as decreasing effect of classified boards on shareholder value. More importantly, no previous studies offer directly causal evidence on the effect of board classification on shareholder value.[1]

Understanding the causal relation between board classification and shareholder value is important because of the current trend of board declassification. Inferring a causal relation from earlier empirical studies that show a negative correlation between classified boards and firm value, some policymakers and shareholder activists have called for corporate boards to declassify in recent years. In 2009, the U.S. Congress introduced bills proposing to ban classified boards, thereby federally mandating annual director elections.[2] Although these political measures failed, declassification pressure has not waned. In fact, board declassification is one of the most frequently submitted corporate governance-related shareholder proposal, garnering overwhelming support from shareholders, especially from long-term investors such as pension funds (Bebchuk, Cohen, and Ferrell, 2009; Cohen and Wang, 2013; Conference Board, 2013).[3] Acceding to the shareholders' demands, 322 S&P

[1]The term, *board classification*, can refer to the *structure* of the board describing the number of classes (e.g., "The two most common forms of board classification are three-class classified boards and single-class declassified boards.") or the *act* of converting a board into three classes (e.g., "The new law mandated board classification."). Additionally, *board declassification* means the *act* of converting a board into a single class (e.g., "A shareholder submitted a board declassification proposal.").

[2]Shareholder Bill of Rights Act of 2009; Shareholder Empowerment Act of 2009

[3]The Conference Board (2013) reports, "Average support level for proposals against staggered boards held high and steady at 78.5 percent of votes cast [in 2013], compared with 80.4 percent in 2012, confirming the issue as the most widely endorsed across ownership

1500 corporate boards have declassified between 2005 and 2013 (see Figure 1.1). This declassification trend is particularly pronounced among larger firms as the number of classified boards among S&P 500 firms fell from 302 in 2002 to 126 in 2012 (New York Times, 2012).

This study exploits amendments in state corporate laws to examine a direct and causal relation between board classification and shareholder value. Between 2009 and 2011, the legislatures of three states—Indiana (2009), Oklahoma (2010), and Iowa (2011)—enacted bills amending corporate laws to mandate a three-class board structure for publicly-traded domestic corporations. Moreover, in 2012, the Oklahoma Legislature repealed the 2010 law, effectively nullifying the earlier mandate. Two attributes of this natural experiment reinforce causality and improve identification. First, legislative events surrounding these law amendments provide the prospect of an exogenous shift in board classification. The exogeneity in the choice of board classification permits causal interpretation of the results for the firms affected by the legislation. Second, the proposed bills did not contain major provisions (other than the classification mandate) which would affect public companies incorporated in the three states. Therefore, this experiment allows a direct examination of the relation between board classification and shareholder value.

types." It also states that "Nearly all of [board declassification] proposals were submitted by pension funds ..." Cohen and Wang (2013) write, "[M]ajor institutional investors such as American Funds, BlackRock, CalPERS, Fidelity, TIAA-CREF, and Vanguard; and the two leading proxy advisers, ISS and Glass Lewis, all have policies favoring both the annual election of all directors and board [declassification] proposals." Bebchuk (2013) adds State Street to this list.

Given the exogenous source of variation in board classification, I examine the market reaction surrounding nine legislative events (i.e., treatments) to identify the perceived shareholder value impact. Suppose a treatment increases the *classification probability*—the probability of boards becoming classified. The effect of such treatment will be positive if board classification increases shareholder value and negative if it decreases shareholder value. Analogously, the effect of a treatment that decreases the classification probability will be the opposite. Out of the nine legislative events, six events increase the boards' classification probability, whereas one decreases it; the remaining two events increase the probability of board *declassification*. In all events, declassified boards are the treatment group and classified boards are the control group. I estimate the average treatment effect on the treated (ATT) by measuring a two-day differential cumulative abnormal return (CAR) between the two groups, using a sample pooled across all nine events. This ATT identifies the shareholder value change caused by the board classification shift.

Results suggest that the market perceives classified boards as hampering and declassified boards as improving shareholder value, consistent with shareholder activists' argument that board declassification benefits shareholders. The market reacts negatively as the probability of board classification increases. The two-day CAR of the declassified treatment group is -1.18% and the classified control group's two-day CAR is -0.37%; the ATT is -0.81 percentage point (pp). These results are robust to a number of additional tests, mitigating a possibility that the observed CAR difference falsely identifies

the treatment effect. Furthermore, a simulation analysis allows bidirectional interpretation of the results. That is, the ATT obtained can be interpreted as a negative shareholder value effect of classifying boards as well as a positive effect of declassifying boards.

This study contributes to the corporate governance literature by providing the first directly causal empirical evidence of the valuation impact of board classification. Prior literature consists mostly of association studies, making it difficult to establish a causal relation. Two studies exploiting natural experiments are exceptions, but they do not directly identify the shareholder value effect of classified boards. First, Larcker, Ormazabal, and Taylor (2011) focus on market reactions to a much broader set of corporate governance regulations rather than regulatory events specific to classified board mandates. Out of 18 regulatory and legislative events examined in their study, only three events involve classified board mandates; moreover, even those three contain other major corporate governance provisions (e.g., CEO/chair duality, majority voting, etc.) aimed broadly at empowering shareholders. By contrast, the legislative amendments included in this study mandate classified boards with no other major changes in the corporate laws. Second, Cohen and Wang (2013) use opposing Delaware court rulings that strengthen or weaken anti-takeover defenses to compare market reactions between the two groups of Delaware firms with classified boards, where one is more likely to be affected by the rulings than the other. This study differs from Cohen and Wang (2013) because rather than investigating shareholder value changes stemming from

one of the costs of classified boards (e.g., anti-takeover defenses), it examines how the variation in board classification itself affects the shareholder value, net of all costs and benefits. In addition, this study identifies the valuation impact of board classification by comparing market reactions between classified and declassified board firms, as opposed to two sets of classified board firms. Furthermore, the three states included in this study represent a wide range of governance environments existing outside of Delaware. The governing corporate laws in non-Delaware states are distinct from Delaware's and attract different types of firms (Daines, 2001). Therefore, this study contributes by providing a further examination of the shareholder value impact of classified boards for non-Delaware firms.

This study also has practical implications. Boards, shareholders, and policymakers demand empirical studies to assess whether firms could benefit from board declassification. The 2013 U.S. Steel proxy statement demonstrates such demand: both the shareholder proposing board declassification and the board recommending to vote against the proposal cite numerous academic studies to substantiate their arguments (United States Steel Corp., 2013). Moreover, Best Buy's board, in response to the 2012 declassification proposal, states, "There are valid arguments in favor of, and in opposition to, a classified board structure. ... [Therefore, the Board] is neither opposing nor supporting this Proposal and makes no voting recommendation to shareholders. (Best Buy Co Inc., 2012)" The directly causal interpretation offered by this study could stimulate discussions between boards and shareholders, and facilitate their

optimal board structure decision making. Broadly, the results of this study could provide a basis for a corporate governance policy on board classification.

This paper proceeds as follows. Chapter 2 explains the debate surrounding classified boards and develops a hypothesis. Chapter 3 outlines the background and events surrounding the four corporate law amendments of the three states. Chapter 4 describes the sample and data. Chapter 5 provides research methods and results of the analyses. Finally, Chapter 6 concludes.

Chapter 2

Classified Board Debate

2.1 Conceptual Arguments

The critics accuse classified boards of destroying shareholder value, because three-year staggered elections could make directors less accountable (McGurn, 2002).[1] Classified boards can also reduce shareholder value by forming a barrier to hostile takeovers: a three-class board can impede a takeover process by delaying the acquisition for at least two years (i.e., two annual shareholder meetings). This delay is costly to a potential acquirer; therefore, classified boards can dilute the effectiveness of the market for corporate control—an important external governance mechanism (Manne, 1965; Bebchuk et al., 2002; Bebchuk, 2013).

In spite of the agency costs and takeover deterrence, defenders of classified boards justify the three-class board structure by arguing that classified boards produce far-reaching benefits that outweigh those costs. A longer term

[1]Even though directors are rarely "voted out," shareholders' dissent—in the form of withheld votes during elections—are effective means to incentivize the board to take value-enhancing actions (e.g., CEO dismissals, strategy changes, etc.) (Del Guercio, Seery, and Woidtke, 2008). In this sense, a more frequent election can improve the boards' monitoring effectiveness. Nevertheless, there are no differences in director turnover rates between classified and declassified boards (Faleye, 2007).

for directors allows for stability and continuity in corporate leadership and its strategy, hence promoting long-term shareholder value (Koppes et al., 1999; Bainbridge, 2006; Strine, 2006). For example, classified boards' long-term vision enabled by longer tenure could counter managerial myopia and increase investments in long-run projects with higher net present values (e.g., R&D) (Stein, 1989).[2] This long-term view argument could partially explain why the majority of initial public offering firms adopt classified board structures (New York Times, 2012).[3]

Both sides of the conceptual arguments are reasonable. However, the *net* economic impact of classified boards is unclear, as Gompers, Ishii, and Metrick (2003) explain as follows:

> [C]onsider Classified Boards, ... If management uses this power judiciously, it could possibly lead to an increase in overall shareholder wealth; if management uses this power to maintain private benefits of control, then this provision would decrease shareholder wealth.

[2]The debate whether a three- or a one-year term of representatives is beneficial predates the current debate on corporate boards. Interestingly, the Founding Fathers had a similar contention about the term length of the office of the U.S. House of Representatives. The two-year term of U.S. House of Representatives was established as a "compromise between those who preferred annual elections and those who favored a longer, three-year term (Spalding and Forte, 2014)."

[3]New York Times (2012) reports that "86.4 percent of the companies going public [in 2012] have had a staggered board. This figure is up from a still high 64.5 percent in 2011."

In the end, we must rely on empirical evidence to substantiate these competing conceptual claims in order to evaluate the valuation impact of classified boards.

2.2 Empirical Evidence

The extant empirical literature documents mixed evidence supporting both the value decreasing as well as increasing effect of classified boards.

Earlier studies generally support the view that classified boards decrease shareholder value. Bebchuk and Cohen (2005) are the first to show a negative correlation between industry-adjusted Tobin's q and classified boards.[4] They argue that the negative correlation is evidence of the negative valuation impact of classified boards. Moreover, their results are statistically significant for firms whose charters establish the classification structure, but insignificant for companies whose (classified) boards are structured through bylaws. Considering that a charter requires concurrence from both shareholders and the board to amend but bylaws can be amended by shareholders alone, Bebchuk and Cohen (2005) claim that the negative impact to the firm is significant only if the shareholders alone cannot declassify the board. Faleye (2007) shows that the negative correlation exists even in complex firms (as proxied by high R&D expenditures) that would most likely benefit from classified boards' long-term perspective. Furthermore, he claims that longer tenure of directors reduces

[4]Bebchuk and Cohen's (2005) results are replicated in Bebchuk et al. (2009).

their accountability, which in turn leads to managerial entrenchment. As evidence, he shows that firms with classified boards are less likely to experience involuntary CEO turnovers. Those firms also offer less performance-sensitive CEO compensations, deter proxy contests, and are less receptive to shareholder proposals.

Cohen and Wang (2013) examine the market reaction to changes in the anti-takeover effectiveness of classified boards, by exploring two opposing Delaware court rulings that alter shareholders' ability to expedite annual meeting dates. When Air Products attempted to takeover Airgas, Airgas shareholders adopted a bylaw to shorten the period between two consecutive annual meetings to four months, in order to accelerate the acquisition. The Delaware Court of Chancery initially ruled that the bylaw change was legal, but this decision was later overturned by the Delaware Supreme Court. Cohen and Wang (2013) identify these events, which occurred in October and November, as exogenous shocks shifting classified boards' anti-takeover defense capability. Using the identification, they compare the returns of two groups of classified board firms whose annual meetings take place pre-March and post-September. They find positive abnormal returns in the post-September treatment group as classified boards' anti-takeover defense weakens and conclude that classified boards reduce firm value. Although their experiment offers a causal interpretation, the authors concede the limitation of their study as examining the valuation impact of the takeover defense effectiveness (of

classified boards) and not being able to answer how classified boards *per se* affect the shareholder value.

Recently, however, a number of studies have emerged in support of classified boards. Cremers, Litov, and Sepe (2014) claim that the value of firms adopting classified boards increases over time, while firms that adopt declassified boards decrease in value. Furthermore, this increase is more prominent among firms that require a long-term view (i.e., firms with more R&D, intangible assets, innovation and operational complexity). Unlike all the other studies that rely on RiskMetrics governance data beginning in 1990, Cremers et al. (2014) use hand-collected data, extending the period to as early as the late 1970s (and including all of the 1980s). Since many boards classified in the 1980s but rarely did since the 1990s, this extension allows comparison between shareholder value impact of board classification and that of board declassification.[5] Cremers et al. (2014) is the only study in the literature to examine the bidirectional impact. (The current study also offers bidirectional inferences in Section 5.2.1.) Despite presenting convincing empirical evidence suggesting that classified boards increase shareholder value, the authors acknowledge the limitation of their study as "a lack of directly causal evidence." Ge, Tanlu, and Zhang (2014) find that firms which declassify their boards suffer from reduced accounting performance (as measured by return on assets), compared to matched control firms that maintain the classified board

[5]Cremers et al. (2014) note that "the 1995-2002 time period used in much of the recent literature (e.g., Bebchuk and Cohen (2005); Faleye (2007); Bebchuk et al. (2009)) has very few instances of firms" declassifying.

structure. Moreover, contrary to evidence documented by Faleye (2007), they find R&D and CEO pay-for-performance sensitivity decrease for firms that declassify, suggesting longer tenure helps to increase long-term investments but does not cause entrenchment.

Larcker et al. (2011) conduct event studies surrounding 18 legislative and regulatory events relating to executive pay and proxy access. They find significant negative market reactions of classified board firms when 18 corporate governance reform events are pooled, and interpret the result as a classified board being a firm's optimal board structure choice rather than a product of managerial rent extraction. However, they do not find significant negative market reactions of classified board firms to legislative events surrounding the Shareholder Bill of Rights Act and the Shareholder Empowerment Act—two bills that specifically include a stipulation to ban classified boards at the federal level, along with other provisions that enhance shareholder control.[6] Bates, Becher, and Lemmon (2008) argue that classified boards may benefit shareholders even in a change-of-control situation. This is because classified boards can exert stronger negotiating power during a merger discussion due to their ability to impose a potentially high cost to the acquirer. As evidence of stronger negotiation power, they show that shareholders of firms with classified boards receive a higher proportion of surplus during takeovers. In addition, even though there is a reduced likelihood of takeover attempt for firms with

[6]Board classification structure is governed by state corporate laws. None of the 50 state statutes ban classified boards. (Koppes et al., 1999)

classified boards, they argue that this reduction is small and economically meaningless.

The extant literature presents contrasting empirical evidence with respect to the shareholder value effect of classified boards. Nevertheless, no previous studies examine a direct and causal relation between classified boards and shareholder value.

2.3 Hypothesis Development

Suppose a state legislature enacts a law mandating a classified board structure for all domestic corporations. If board classification contributes meaningfully to shareholder wealth, a law that mandates classified boards will affect the shareholder value of firms with declassified boards but not that of classified board counterparts. If the market perceives that the agency costs of imposing a classified board (e.g., entrenchment) outweigh the benefits provided by such board structure (e.g., long-term view, strategy/leadership continuity), it will react negatively to the stocks of the declassified treatment group relative to those of the classified control group. By contrast, if the market expects that mandating a three-class board structure creates net benefits for shareholders of declassified board firms, it will generate a positive return to the declassified treatment group (compared to the classified control group).

Moreover, enactment of a new law, repealing the earlier one that instituted the classified board mandate, should provide the opposite effect. Specifically, suppose the new repeal law applies only to previously declassified

board firms that were forced to change their board structure but does not pertain to previously classified ones. In this case, if the market believes declassification will bring back the net benefits lost from the earlier classification mandate, the stock return of the declassified treatment group will be positive versus that of the classified control group. By contrast, if the market expects that declassification will impose net costs to the shareholders, the declassified treatment group will experience a relatively negative return.

In both cases, declassified boards are the treatment group, classified boards are the control group, and the difference in market reactions between the two groups estimates the average treatment effect on the treated (ATT). The ATT will be positive if the board classification shift improves shareholder value but otherwise be negative. I take a neutral stance with respect to the relation between board classification and shareholder value and state a joint (non-directional) hypothesis as follows:

> H_{a1}: If board classification is value-decreasing (value-increasing), a law that mandates classified boards will negatively (positively) affect shareholder value of firms with declassified boards compared to value of firms with classified boards.

> H_{a2}: If board declassification is value-increasing (value-decreasing), a law that repeals an earlier board classification mandate will positively (negatively) affect shareholder value of firms with previously declassified boards compared to value of firms with previously classified boards.

Because the source of exogenous variation in the board classification structure is state corporate law amendments, other provisions contained in the new law may also affect firms incorporated in the state and generate abnormal returns. Nevertheless, as long as those provisions do not cause systematic abnormal return differences between the classified and declassified board firms, a simple difference in abnormal returns remains an unbiased estimate of the change in shareholder wealth.[7]

[7]In Subsection 3.3, I claim that four bills included in this study contain no major provisions applicable to public corporations, other than the classification mandate.

Chapter 3

Background and Events

3.1 State Legislative Process

Legislative processes vary from state to state; therefore, this subsection attempts to describe general procedure at a broad level.[1] All U.S. states, except for Nebraska, have a bicameral legislature (i.e., two legislative chambers, typically called the Senate and the House of Representatives). A bill can be introduced by either chamber, but both chambers must pass a unitary, identical form of the bill for enrollment. The enrolled bill finally becomes a law when the governor signs it.

A bill must be sponsored by a legislative member, but the idea of the bill can come from various sources, including corporations that lobby for a law which could benefit them. When a bill is initially introduced at the house of origin, only the title is read to the legislative members but the bill itself becomes available to the public. After this first reading, the bill is assigned to a committee for review. If the committee decides to examine the bill, it conducts a public hearing at which interested public parties may voice their

[1] Resources for the legislative processes specific to the states of Indiana, Oklahoma, and Iowa can be found in Appendix B.

opinions about the bill. After a lengthy public hearing process, the committee discusses the results of the hearing and votes whether to advance the bill. Only after the committee advances the bill, the entire legislative body begins to review it. Then the bill proceeds to a second (or third) reading, at which other legislative members can suggest amendments. After the final reading, the house of origin votes to pass or fail the bill.

If the bill passes the chamber of origin, it is sent to the second chamber where it undergoes the same processes. If the second chamber amends the bill, the bill must be returned to the first chamber, whose members can agree to the amendment or dissent from it. (Alternatively, they may even kill the bill by taking no action.) If the first chamber agrees, the bill is enrolled; however if the chamber dissents, both houses form a bipartisan, bicameral conference committee to reach an agreement. At this point, the bill can be enrolled only if the conference succeeds, and subsequently, members of both chambers vote in favor of the agreed bill. Otherwise, the bill dies.

Finally, an enrolled bill becomes a law when the governor signs it. (In the case of a gubernatorial veto, it becomes a law after the legislature overrides the veto.) The law becomes effective on the date designated within the text of the law. However, if an emergency clause is attached, the law becomes effective immediately upon the governor's signing.

3.2 Event Selection

Schwert (1981) argues that an abnormal stock price reaction to an

unanticipated change in regulation provides an unbiased estimate of a change in shareholder wealth. Abnormal stock price reaction to a regulatory event can be expressed as a joint, multiplicative function of the wealth effect of the regulation and the unanticipated change in the market's prior of the regulation implementation (Schwert, 1981). In the current setting where the corporate law is the regulation, the market will react to legislative events either when new information about legislation—more precisely, new information that is perceived to change the treatment firms' shareholder wealth—becomes available. The market will also respond when its anticipation of the law enactment changes.

This study focuses on the latter type of events: legislative events that primarily revise the market's prior of the law enactment probability without any changes in the information content of the legislation itself. I make this choice because the nature of legislation makes it difficult to pinpoint when relevant information about a law is revealed to the market. Unlike a corporate event which has a well-defined, single event date (e.g., an earnings or merger announcement), legislative processes usually involve public hearings, studies, and multiple legislative and administrative procedures, occurring over a lengthy period (Schwert, 1981; Binder, 1985).

A legislative idea is embodied in a bill, the passage of which becomes a law. Therefore, as the bill advances in the legislative process, the law enactment probability changes—increasing, in most cases. The market reaction to those legislative events will reflect the perceived shareholder value change

caused by the prospect of the implementation of the law. From a number of legislative events that update the enactment probability, I select the ones that meet the following criteria:

(i) the event would have been difficult for the market to anticipate; and

(ii) the effect of the event would have been clear to the market before the event occurs—that is, the market knows with certainty ex ante that the event taking place will increase (or decrease) the probability of the law enactment.

Events that satisfy these criteria are bill passages without amendments: an initial passage of the bill containing a provision regarding the classified board mandate (or its reversal); and a final passage of the bill immediately before enrollment. Additionally, an event, in which one chamber dissents to another's bill amendment, also qualifies. These three types of events are the results of legislative voting, which is often difficult to anticipate (hence satisfying the criterion (i)). Moreover, it is clear ex ante that the initial and the final passages increase the enactment probability, while the dissent reduces the probability (hence satisfying the criterion (ii)).

I exclude all intermediate passages—bill passages that is not the initial nor the final passage. Intermediate passages *must* accompany amendments; but it is difficult to predict the market reaction to the passage of an amended

bill (hence violating the criterion (ii)).[2] This difficulty arises because an amended bill passage may either increase or decrease the anticipated probability of the enactment.[3] Take Indiana's case, for example, where the House amended the Senate's original bill before passing. The passage itself would increase the probability of the bill becoming a law (as the bill is now further advanced in the legislative process), but the amendment (to the Senate's version of the bill) also creates a possibility for the Senate to dissent, which decreases the enactment probability. Since the net change in the enactment probability cannot be determined ex ante, we cannot predict the market's reaction. The following excerpt describing the Indiana legislative process articulates the probabilistic uncertainty surrounding an amended bill passage:

> A bill that survives the hazards of both houses but is amended in the second chamber in a manner that is unacceptable to the House of origin must go to a conference committee consisting of two members appointed from each House. The committee members attempt to reach an agreement that will be acceptable to legislators in both chambers. ... *Bills sometimes die because no such*

[2]Recall that an identical bill must be passed by both chambers for enrollment. Suppose a bill passes the chamber of origin and is sent to the second chamber. If the second chamber passes the bill in its current form (i.e., without amendment), that bill passage becomes a *final* passage. However, if the second chamber passes the bill with an amendment, the bill must be returned to the original chamber for another vote (since both chambers must agree on an identical bill). In this case, the second chamber's passage is not a final passage but is an *intermediate* one. Therefore, all intermediate passages must accompany amendments.

[3]Furthermore, an amendment may also change the market's perception of the shareholder wealth for the affected firms. Whether this expected value change is positive or negative depends on the contents of the amendment.

> *agreement can be reached* [emphasis added]. (Indiana Protection & Advocacy Services, 2014)

In addition, I exclude two other major steps in the legislative process: committee passages and gubernatorial approval of the bill. First, committee passages are excluded due to lengthy (multi-day) discussions and hearings that take place prior to the committee's vote.[4] Not only is it difficult to know when a committee's decision-relevant information is revealed during that time, but the market could have anticipated the committee's voting outcome in advance from these discussions and hearings (hence violating the criterion (i)). Next, even though the governor's signing is the last administrative step required to enact a bill into a law, gubernatorial vetoes have been rare in the sample states.[5] Such history renders the market to form an expectation of guaranteed gubernatorial approval (hence violating the criterion (i)), effectively making the final passage as the last step of the enactment process.

[4]For example, it took about a month for the Indiana Senate Judiciary Committee, the Oklahoma Conference Committee, and the Iowa Senate Judiciary Committee to deliberate on introducing the classification mandate (see Figures 3.1-3.4 for timeline of events).

[5]In Indiana and Iowa, during the five legislative session years leading to the event year, governors vetoed only 8 out of 925 (0.9%) and 8 out of 977 (0.8%) bills passed by their legislatures, respectively. Oklahoma had a slightly higher gubernatorial veto rate of 2.5% (76 out of 3,063 bills passed). These figures are calculated based on bill status data provided by each legislature (see Appendix B for data sources).

3.3 Corporate Law Amendments Mandating Classified Boards

Between 2009 and 2011, the legislatures of three states enacted bills amending corporate laws to mandate a three-class board structure for publicly-traded domestic corporations: Indiana (2009), Oklahoma (2010), and Iowa (2011). Moreover, in 2012, the Oklahoma Legislature repealed the 2010 law, effectively nullifying the earlier mandate. Two attributes of these law amendments reinforce causality and improve identification. First, legislative events surrounding these law amendments provide the prospect of an exogenous shift in board classification for the firms affected by the legislation. For these firms, the exogeneity in the choice of board classification offered by these law amendments permits causal interpretation of the valuation impact of board classification. Second, the proposed bills did not contain major provisions (other than the classification mandate) which would affect public companies incorporated in the three states. Therefore, this natural experiment also allows an examination of the directly causal relation between board classification and shareholder value.

3.3.0 The Precursor: Massachusetts Business Corporation Act Amendment (1990)

In 1990, the Massachusetts Legislature amended its Business Corporation Act to mandate classified boards. The Massachusetts law was enacted in order to block a British industrial conglomerate BTR PLC's hostile takeover attempt of Norton Co., a Massachusetts commercial abrasive manufacturer.

Even though the Massachusetts law change precedes law amendments of the three states, the law changes of the current study provide an improved natural experiment setting for three reasons: the first two stem from differences in the economic/market environments surrounding the two sets of legislations (due to a 30 year gap that separates the two time periods); the last reason comes from attributes of the laws themselves.

Firstly, the three states' law enactments are not related to a market-wide shift in the governance environment. A lack of broader, market-wide governance changes makes it more difficult for the market to anticipate legislative actions taken by the three states' legislatures. In the late 2010s, there are no significant, concerted state legislative activities that change the landscape of the market for corporate control. By contrast, the early 1990s was an era when an active takeover market of the 1980s had abruptly ended, and yet states continued to enact the "third-generation" anti-takeover laws in order to compete for corporate charters (Hölmstrom and Kaplan, 2001; Butler, 1988). The Massachusetts law amendment was part of that (much larger) trend; and therefore, the market could have anticipated well in advance an enactment of a law deterring takeovers.

Secondly, a recent surge in interest about board classification increases value relevance of legislative news regarding the board classification mandate and induces a larger market reaction in the current study's setting. The level of interest on the classified board issue demonstrates a stark contrast of the two periods. In the late 2010s, board declassification is not only one of the

most frequently submitted corporate governance-related proposals but is also widely-supported by shareholders (Bebchuk et al., 2009; Cohen and Wang, 2013; Conference Board, 2013). On the contrary, precatory declassification proposals just began to appear on corporate proxies in the early 1990s, but they were far from gaining majority support of shareholders (Koppes et al., 1999).

Lastly, the three states' law changes are better suited as exogenous treatments. These laws either mandatorily force firms to classify their boards (e.g., Oklahoma) or attach a board-empowered opt out provision (e.g., Indiana and Iowa). Even when the law allows (only) boards to choose the classification structure, the market would react as long as the boards' actions are difficult to predict ex ante. On the contrary, the Massachusetts law allowed shareholders to opt out of the board classification mandate: specifically, shareholders with a two-thirds supermajority vote could choose not to classify their board (without the board's consent) after (Doré, 2012). With such shareholder-empowered voluntary provision, the board classification choice becomes an endogenous choice from the shareholders' perspective. Additionally, the two-thirds supermajority condition could be argued to diminish or even completely cancel out the regulatory effect of the Massachusetts law because, even without such law, amending anti-takeover provisions such as classified boards established in the corporate charter or bylaws typically requires a 60-80% supermajority voting from shareholders (Matheson and Norberg, 1986). Therefore, the Massachusetts law did not impose any additional burden on the shareholders

trying to declassify their boards. Since there were no anticipated changes in shareholder wealth, the market would have not reacted to Massachusetts legislative events.

In summary, three factors—a lack of competing market-wide corporate control legislative changes, an increased interest toward the board classification issue, and law attributes that obstruct (endogenous) shareholder actions—provide more statistical power and plausible exogeneity to the natural experiment of the current study over the 1990 Massachusetts law amendment. In other words, these three aspects make it advantageous to exploit the four law amendments of the three states in order to identify the shareholder value impact of classified board mandates.

3.3.1 Indiana Business Corporation Law Amendment (2009)

The Indiana law mandates a three-class board structure for Indiana public corporations, unless the board adopts a bylaw expressing not to be governed by the classified board mandate, within 30 days of the law's effective date. The law states that only the board can adopt such bylaws—leaving shareholders without a voice in the firm's board classification choice.[6]

Even though lack of a *mandatory* provision may raise concerns, I argue that this minimally affects the quality of the natural experiment. First, it is

[6]Furthermore, the law gave boards that chose to opt out an opportunity to reconsider its decision: boards were allowed to rescind its previous opt out decision to become re-subject to the classification mandate.

difficult to conceive intuitively that the market would have been able to predict the board decisions ex ante. On the one hand, directors would want a longer term for a more stable directorship. But, on the other hand, directors would also be incentivized to listen to shareholders to be re-elected in the future. Empirically observing the boards' opt out decisions ex post, also suggest that it would have been difficult for the market to predict the boards' decisions during the legislative process: about 30% of the Indiana boards did not opt out; and among those who did, two-thirds decided to do so within 10 days of the deadline (about three months after the law enactment).[7] Second, even if the market did partially anticipate the boards' opt out decisions, that would cause the treatment effect to tend to zero (i.e., favoring the null hypothesis). A prior anticipation decreases the market's belief that the declassified board would receive the treatment. Such a prediction leads to less differential market reactions between the declassified treatment group and the classified control group. As a consequence, the market's prior anticipation makes it more difficult to identify the treatment effect.

Indiana Senate Bill 450 was introduced on January 14, 2009 to amend minor provisions of the Indiana Business Corporation Law (e.g., requirements for reporting director expense indemnification to shareholders). The classified board mandate was added during the Senate Judiciary Committee review, which concluded on February 12. The motivation for the Indiana Legislature

[7]Indiana board opt out decision dates are obtained from 8-K filings, Item 5.03 (Amendments to Articles of Incorporation or Bylaws). The 8-K disclosure reveals the date of a board meeting in which the (opt out) bylaw is adopted.

to include this mandate is unclear, as there is no documented evidence (unlike the other two states).[8]

The Senate passed the bill on February 19 (Event #1 *Indiana Initial Passage*). The House subsequently passed the bill with its own amendment on April 15. On April 21, the Senate voted against the House amendment (Event #2 *Indiana Senate Dissent*), and the bill was forwarded to the Conference Committee.[9] On April 29, the Senate finally concurred and passed the House-amended bill (Event #3 *Indiana Final Passage*). The governor signed the bill into law on May 12, and the law went into effect on July 1.

Event #1 Indiana Initial Passage and Event #3 Indiana Final Passage both increase the enactment probability, thus increasing the prospect of board classification (i.e., a declassified board becoming classified). By contrast, Event #2 Indiana Senate Dissent reduces the enactment probability as well as the classification prospect. Figure 3.1 shows a detailed timeline of the Indiana legislative events.

[8]At the time of the enactment, three Indiana corporations were under shareholder pressure to declassify their boards: Ball Corp., Lilly Eli & Co., and Horizon Bancorp (IN). It is possible that these companies could have lobbied for the mandate. However, to my knowledge, no documented evidence exists that any of these companies were directly involved in the drafting of the bill. Excluding these companies from the sample does not change the results of the study.

[9]According to the (Indiana) Journal of the Senate, the Senate convened at 1:37pm and adjourned at 5:00pm for an afternoon session, during which the dissent occurred; the journal does not report the exact time when the motion to dissent prevailed, and I could not find any other time-stamped records of the Indiana Senate Dissent event. (Subsection 5.1.1 defines the event day for an approximate event time period.)

3.3.2 Oklahoma General Corporation Act Amendment (2010) and the Repeal (2012)

The 2010 Oklahoma law mandates a three-class board structure for Oklahoma public companies. A feature that distinguishes the Oklahoma law from the other two states' is the mandatory aspect of the board classification provision. However, the classified board mandate provision is reversed two years later. The 2012 law repeals the earlier law by providing exemptions to the mandate if a company's shareholders approved board declassification before the 2010 law change. In other words, the 2012 law effectively restores the classification structure of all previously declassified boards.

The Oklahoma Senate Bill 1132, originally intended to reform the state's limited partnership statutes, was introduced to the Senate on February 2, 2009. Accordingly, the bill consists mostly of provisions unrelated to public corporations. The classified board mandate was added during a month-long final Conference Committee meeting that concluded on May 26, 2010, a few days before enrollment. The motivation for the Oklahoma Legislature to include the mandate was to relieve Chesapeake Energy Corp., an Oklahoma company, from continued shareholder declassification pressure. Chesapeake Energy's classified board was under pressure from a pension fund and admitted to having been involved in the bill-making process (Wall Street Journal, 2011).[10]

[10] A Wall Street Journal (2011) article titled "Oklahoma board rule benefits Chesapeake" exposed Chesapeake Energy's involvement in the drafting of the classified board mandate bill. The article quotes Chesapeake Energy's statement: "[The company] participated in drafting the new law, and that it supports staggered terms for directors because they

The Senate passed the bill on the same day (May 26) when the Conference Committee agreed to advance the bill (Event #4 *2010 Oklahoma Initial Passage*), and the House passed it the next evening on May 27 (Event #5 *2010 Oklahoma Final Passage*). The Oklahoma governor signed the bill into law on June 7. Due to an emergency provision, the law became effective immediately.

Two Oklahoma companies that had declassified boards, ONEOK, Inc. and OGE Energy Corp., were unaware of the law change and criticized the new law after its enactment (Wall Street Journal, 2011).[11] Succumbing to pressure from these companies, the House introduced the House Bill 2658 on February 6, 2012, proposing to repeal the 2010 law. The sole purpose of this bill was to revive declassified boards for firms that previously had a declassified board. The previously classified boards were unaffected by the new law and continued to be subject to the 2010 law. Therefore, declassified boards are considered the treatment group and classified boards are the control group.

The bill passed the House and the Senate on February 16, 2012 (Event #6 *2012 Oklahoma Repeal Initial Passage*) and on February 29 (Event #7 *2012 Oklahoma Repeal Final Passage*), respectively. With an emergency provision,

promote continuity of management and leadership." Chesapeake Energy had been pressured by a succession of shareholder proposals to declassify the board in its 2008 and 2009 annual shareholders' meetings.

[11]The Wall Street Journal (2011) reports, "ONEOK, Inc., the state's biggest company by sales, phoned Gov[ernor] Mary Fallin last month to complain." OGE Energy "also learned of the new corporate board requirement after it became law," and states the new law as a "setback." The company spokesman says, "We were disappointed. A lot of work had gone into making this transition [to a declassified board]."

the law became effective immediately after the governor signed the bill into law on March 1, 2012.

All four Oklahoma legislative events increase the enactment probability. Event #4 2010 Oklahoma Initial Passage and Event #5 2010 Oklahoma Final Passage increase the probability of board classification. Event #6 2012 Oklahoma Repeal Initial Passage and Event #7 2012 Oklahoma Repeal Final Passage increase the probability of reinstating declassified board structures in previously declassified boards. In other words, the two 2010 Oklahoma legislative events increase the probability of board *classification*, whereas the two 2012 events increase the probability of board *declassification*. Figures 3.2 and 3.3 show detailed timelines of the 2010 and the 2012 Oklahoma legislative events, respectively.

3.3.3 Iowa Business Corporation Act Amendment (2011)

The Iowa law mandates a three-class board structure for all Iowa public companies by enforcing amendments to the firms' articles of incorporation *without* shareholders' approval. However, similar to the Indiana law, the Iowa law offers the board (but not the shareholders) a choice to opt out within 40-days from the effective date of the law.[12]

[12]The Iowa law contains a sunset provision: the classified board mandate is set to expire on December 31, 2014. However, to prevent possibility of future board declassifications, the Iowa lawmakers provided a unique provision in the classified board mandate that enforces all Iowa public companies to change their articles of incorporation (without shareholders' approval). This provision effectively allows a company's board to continue to be classified even after the expiration of the statutory mandate.

Two bills, containing similar contents including the classified board mandate, were separately sponsored by both chambers of the Iowa Legislature: the House Study Bill 42 and the Senate Study Bill 1121 were introduced and assigned to the respective houses' Judiciary Committees on January 27 and February 16, 2011, respectively. The Senate Judiciary Committee advanced the Senate version of the bill sooner, on February 28 (as the Senate File 325).[13] The Iowa bill had a clear, well-publicized objective and beneficiary from its inception. Soon after a Canadian company's failed hostile takeover attempt of Casey's General Stores, Inc., an Iowa corporation, the Iowa Legislature drafted a bill mandating Iowa companies to adopt a classified board structure to deter future takeover attempts.[14] Although Casey's General Stores never admitted its involvement in the legislation process, it is difficult to argue that the bill was not intended to benefit the company: Doré (2012) states that the bill was "known as the 'Casey's Bill' by those who tracked its progress."[15] Due to the

[13]In the Iowa legislature, a bill that is under the initial review of a committee is referred to as a Senate/House Study Bill. A bill is numbered as a Senate/House File only after it passes the assigned committee.

[14]On September 30, 2010, Alimentation Couche-Tard Inc., Canada's largest convenience store chain, announced that it is no longer interested in acquiring the Iowa-headquartered and incorporated convenience store, Casey's General Stores, after a half year pursuit (Reuters, 2010). Casey's General Stores board rejected multiple offers from Alimentation Couche-Tard on the basis of Iowa's constituent statute: the board argued that the acquisition will hurt its employees and other stakeholders of the company (New York Times, 2010). Proponents of the bill argued had the Canadian company acquired Casey's General Stores, it would had restructured and eliminated "corporate headquarters, stores serving some of Iowa's most remote rural communities, and central Iowa distribution facilities that provide jobs to many of Casey's 23,000 employees" (Doré, 2012).

[15]A New York Times (2010) article titled "Why Casey's General Stores loves Iowa" reports that Casey's General Stores could "lobby hard' in the Iowa Legislature for implementing an anti-takeover measure. Local firms often lobby for anti-takeover statutes (Romano,

high level of publicity, the market may have partially anticipated the passage of the bill before the legislature voting. However, since adding non-events will bias against finding the treatment effect, the quality of the experiment would not suffer by adding the Iowa events.

The bill passed the Senate on March 7 (Event #8 *Iowa Initial Passage*). The House Judiciary Committee withdrew its own bill and advanced the Senate bill on March 21. The House passed the bill without amendments on the evening of the same day (Event #9 *Iowa Final Passage*). The governor signed the bill into law on March 23, and the law became effective immediately due to an emergency provision.

Both Iowa events (Event #8 Iowa Initial Passage and Event #9 Iowa Final Passage) increase the probability of enactment as well as the board classification probability. Figure 3.4 shows a detailed timeline of the Iowa legislative events.

1987; Karpoff and Malatesta, 1989; Carney, 1998), especially during change-of-control events (Butler, 1988).

Chapter 4

Sample and Data

4.1 Sample Construction, Sample Composition, and Data

The sample of the study consists of public companies incorporated in the states of Indiana, Oklahoma, and Iowa. The sample search begins by first identifying 106 proxy statement filers domiciled in those three states before to the law changes, from the U.S. Securities and Exchange Commission's Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system.[1] Among the 106 filers, 28 private/OTC-traded companies and 2 investment funds/trusts are dropped from the sample.[2] In the end, the sample consists of 76 firms: 48 Indiana (63.2%), 15 Oklahoma (19.7%), and 13 Iowa firms (17.1%)—I term this the *Initial Sample*.[3] Among the 76 boards, 45 (59.2%) are classified and

[1]The 106 companies are identified by searching for DEF 14A, DEFA14A, DEFC14A, DEFN14A, DEFR14A, and DEFM14A filers during a three-year window surrounding the year of the law change mandating classified boards. State of incorporation information is obtained from the SGML header files attached to proxy statements.

[2]I use Bloomberg Businessweek Public/Private Company Search website (http://investing.businessweek.com/research/common/symbollookup/symbollookup.asp) to check for the proxy statement filers' public/private ownership structures.

[3]Among the Initial Sample firms, one declassified board firm has dual-class shares and five (3 classified and 2 declassified boards) are controlled companies—firms whose majority shareholder has over 50% of shares outstanding. I do not exclude these firms, because this study aims to examine the effect of board classification on shareholder value for an average firm in the economy, given its existing governance attributes. Excluding these companies from the sample does not change the results of the study.

31 (40.8%) are declassified. The Indiana firms consist of 18 declassified and 30 classified boards. In Oklahoma at the time of the 2010 law amendment, 9 firm have declassified boards and 6 have classified boards. Between 2010 and 2012, 3 Oklahoma firms are delisted, reducing the number of Oklahoma firms to 12, comprised of 7 declassified and 5 classified boards. The Iowa firms are comprised of 4 declassified and 9 classified boards. Table 4.1 Panel A shows the Initial Sample construction process.

To strengthen the exogeneity of the natural experiment, I further refine the Initial Sample by each event. This refinement procedure eliminates firm-event observations with probable confounding causes that could trigger abnormal market reactions. First, companies that lobby for or contribute to introducing a bill with a board classification mandate (or its repeal) are dropped, because a lobbying firm's stock price movement during legislative events may not signal the treatment effect but may rather indicate the market's affirmation to the company's lobbying power or political influence. That said, to the remaining non-lobbying firms, the prospect of a shift in board classification comes as an exogenous shock. Four firms are documented to have lobbied: Chesapeake Energy for the 2010 Oklahoma bill; ONEOK and OGE Energy for the 2012 Oklahoma Repeal bill; and Casey's General Stores for the Iowa bills. Next, I drop firms missing estimation period return data required for event study analyses.[4] Lastly, firms announcing earnings near

[4]Among various normal return models employed to check for robustness, the market-adjusted return model does not require estimation period returns. When using the market-adjusted return model, I include firms missing estimation period but having event period

events are eliminated, because abnormal returns of these firms' stocks could be the market's reactions to earnings surprises and not to the legislative events.[5] In addition to earnings announcements, I verify and find no other material corporate news from Factiva.[6] I construct the *Pooled Sample* by aggregating firm-event observations from all events. The Pooled Sample has a total of 187 observations, containing 75 declassified and 112 classified firm-events. Table 4.1 Panel B details the Pooled Sample construction process.[7]

Based on the SIC division classification, slightly less than half (48.7%) of the Initial Sample are financials firms. Manufacturing firms represent the next largest (28.9%) SIC division, and each of the remaining SIC divisions have 4 firms or fewer. Within each SIC division, the numbers of declassified and classified board firms seem fairly balanced, except for the financials: 11 financial firms have declassified and 26 have classified boards. This imbalance

returns. That sample contains 77 declassified and 116 classified firm-events, totaling 193 observations (see Subsection 5.1.3 for details about the robustness tests).

[5]Firms whose earnings announcement date falls within a $[t-1, t+1]$ window are eliminated. The main (pooled multi-event) analysis uses a two-day event window; therefore, the extended 3-day window captures market reactions to earnings news using the event window length (e.g., earnings announced after hours on day $t-1$ will be reflected on the $t+0$ stock returns; see Subsection 5.1.1 for event definitions.)

[6]I acknowledge that determining the "materiality" of news can be subjective. Rather than using an ad hoc judgment, I choose not to refine the sample any further.

[7]Irwin Financial Corp. stocks were traded during the Indiana legislative events, but was delisted before the Indiana estimation period. Among various normal return models employed for robustness checks, the market-adjusted return model does not require estimation period returns. Since the robustness checks focus on ensuring that the results are not driven by the event study assumptions rather than on cross-checking the results across different specifications, I include Irwin Financial in the Pooled Sample when using the market-adjusted return model. That sample contains 77 declassified and 116 classified firm-events, totaling 193 observations.

is due to a high number Depository Institutions (2-digit SIC: 60) maintaining classified boards: out of 27 firms, 21 have classified and 6 have declassified boards.[8] Apart from Depository Institutions, the remaining 2-digit SIC industry groups are split roughly equally between classified and declassified boards. Table 4.2 Panels A-C show industry composition of the Initial Sample using the following classifications: SIC division (Panel A), 2-digit SIC sector (Panel B), and the Fama-French 49 Industry (Panel C).

In terms of S&P indices membership, 9 firms (11.8%) belong to the S&P 500 index, 8 (10.5%) to the S&P MidCap 400, and 17 (22.4%) to the S&P SmallCap 600. Between the declassified treatment and classified control groups, the (within) proportional compositions of S&P indices memberships do not differ much. Nevertheless, slightly more classified board firms (48.9%) are members of the S&P Composite 1500 index than are declassified counterparts (38.7%), hinting a larger average firm size of the classified control group. Table 4.2 Panel D shows the S&P indices composition of the Initial Sample.

Information about corporate laws and legislative events are obtained from various sources such as LexisNexis, HeinOnline, and state legislature websites. Relevant legislative data such as law codes, different versions of bills (i.e., bill amendments), and dates/times of events are obtained from bill archives, bill action histories, legislative voting results, legislative journals, etc.

[8](Untabulated) State/Board classification-clustered composition data show that Indiana contributes to this disparity: 17 Indiana banks have classified boards, whereas only 3 have declassified boards.

A complete list of state legislative data resources is included in Appendix B. I collect sample companies' board-related data and SIC classification information from proxy statements and the attached header files, respectively (from EDGAR). Accounting and S&P indices membership data are from Compustat. Stock return data are from the Center for Research in Securities Prices (CRSP), except for the Fama-French 49 Industry portfolio returns, which are obtained from the Fama-French Data Library.

4.2 Treatment versus Control Group Comparison

It is necessary to compare the (declassified) treatment group and the (classified) control group for any intrinsic disparities (other than the board classification structure). Sample composition summary from Subsection 4.1 suggests a heavier concentration of financial firms as well as a higher ratio of S&P Composite 1500 index firms in the classified control group. This imbalance between the treatment and control in terms of industry and size is concerning. This is because the joint null hypothesis states that there should be no abnormal return differences between the treatment and control during the legislative events. Any fundamental differences between the two groups may contribute to divergent returns, thus falsely producing a treatment effect and incorrectly rejecting the null.[9] The concern is somewhat mitigated because one-third of the selected events contain treatments going the opposite

[9]In estimating the treatment effect surrounding changes in classified boards' anti-takeover effectiveness, Cohen and Wang (2013) use two distinct sets of classified board firms as a treatment and a control, and use declassified board firms as a placebo. Their reasoning is

direction; nonetheless, that fact alone is not reassuring. Therefore, I test for differences between the declassified treatment group and the classified control group along several dimensions of firm attributes.

Three types of firm attributes compared are financial/operating conditions, board characteristics, and non-event period stock returns. Firstly, financial/operating conditions are measured using six variables. *Total Assets* and *Market Capitalization* measure firm size. Valuation is assessed by *Book-to-Market*, which is the ratio of book value of common equity to *Market Capitalization*. *Return on Assets* (*ROA*) determines operating profitability; *ROA* is calculated by dividing operating income before depreciation by *Total Assets*. *CapEx-to-Sales*, obtained by dividing capital expenditures by sales, signifies growth opportunities of the firm (Yermack, 1996). *Leverage*, defined as long-term debt divided by *Total Assets*, evaluates capital structure.

Secondly, five measures gauge board characteristics. *Board Size* equals the total number of directors. *Board Independence*—the proportion of independent directors—is obtained by dividing the number of independent directors (as defined by the NYSE/NASDAQ exchange rules) by *Board Size*. A director's age represents experience, and the number of years a director served on the board (i.e., a director's tenure) is a proxy for entrenchment. *Director Avg. Age* and *Director Avg. Tenure* are board-level measures calculated by taking the averages of all directors' age and tenure, respectively. *CEO/Chair*

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that declassified and classified board firms "could be substantially different ... along several dimensions" (Cohen and Wang, 2013).

Duality is an indicator variable which equals 1 if the CEO also holds the chairman of the board title, or equals 0 if the two positions are separated; this variable approximates the CEO's stature and influence on the board.

Lastly, I compare daily returns during the non-event period.[10] Reported returns are *Raw*, *Market-Adjusted*, *Size-Adjusted*, and *Industry-Adjusted Returns*. The *Raw Return* is the CRSP (individual) stock return excluding dividends. The *Market-Adjusted Return* is defined as the *Raw Return* less the CRSP value-weighted return excluding dividends. The *Size-Adjusted Return* is the *Raw Return* less the CRSP Capitalization Decile portfolio return. The *Industry-Adjusted Return* is the *Raw Return* less the Fama-French 49 Industry value-weighted portfolio return.

Firms with declassified boards are smaller and less profitable than their classified counterparts, on average. The mean (median) *Total Assets* of declassified and classified board firms are \$3.9bn (\$1.2bn) and \$8.0bn (\$1.1bn), respectively. The mean (median) *Market Capitalization* of the declassified group is \$1.2bn (\$269.0mm), smaller than that of the classified group's \$2.5bn (\$249.8mm). The mean (median) *Book-to-Market* is 1.53 (1.85) for the declassified board firms and 0.94 (1.17) for firms with classified boards. The mean (median) *ROA* are 0.058 (0.090) and 0.065 (0.122) for the declassified board firms and the classified board firms, respectively. Both groups seem to face similar growth opportunities: the mean (median) *CapEx-to-Sales* are

[10] See Subsection 5.1.1 for the *non-event period* definition (also see footnote 4).

0.098 (0.023) and 0.092 (0.024) for declassified and classified board firms, respectively. Declassified board firms have a slightly higher mean (median) leverage ratio at 0.165 (0.103), compared to 0.122 (0.078) of classified board firms.

No noticeable differences exist in terms of board characteristics and non-event period returns. The mean *Board Size* is 9.1 and 9.6 for declassified and classified boards, respectively. The mean *Board Independence* is slightly lower for declassified boards at 75.6%, compared to classified boards' 78.9%. For both types of boards, the mean *Director Avg. Tenure* is about 10 years and the mean *Director Avg. Age* is about 61. Sixteen out of 31 declassified boards (51.6%) have a combined CEO/Chair leadership structure, compared to 23 out of 45 classified boards (51.1%). The non-event period mean daily return differences—declassified less classified—are -0.01, -0.02, -0.02, and -0.05 percentage points (pp) for *Raw*, *Market-Adjusted*, *Size-Adjusted*, and *Industry-Adjusted Returns*, respectively. Table 4.3 presents the summary statistics.

I test for differences in means (of each firm attribute variable) using Welch's t-test.[11] In addition, to abate concerns that extreme outliers in the sample might lead to attenuation bias and understate the significance of the

[11]Welch's t-test relaxes the *independent and identically distributed* samples assumption of Student's t-test and allows for unequal sample variances. This addresses the significant sample variance differences observed in the two firm size variables: *Total Assets* and *Market Capitalization*.

t-test, I use a (non-parametric) permutation test to complement the t-test.[12] The permutation test uses an empirical null distribution of all possible mean difference statistics, simulated with a resampling method. First, observations from both groups are aggregated and permuted. Next, the first 31 permuted observations (matching the treatment group size) are assigned to a pseudo-treatment group and the remaining 45 observations (matching the control group size) become a pseudo-control group. At the end, I obtain the difference in means of the two pseudo-groups. This single permutation procedure is repeated 100,000 times to generate an empirical null distribution of the difference in means statistic. A two-tailed p-value is the proportion of the number of the randomized differences in means out of the 100,000 simulated statistics, in which the randomized difference is greater than the absolute value of the observed difference, or is less than the negative absolute value of the observed difference.[13]

In general, the comparison test results reveal that no statistically significant differences in sample means exist for any variables measuring financial/operating conditions, board characteristics, and non-event daily stock

[12]The permutation test has its own limitation: unlike Welch's t-test, the permutation test requires two samples to have similar population variances. This is because the test conducts a permutation procedure which assumes observations being drawn from an *identical* distribution. Therefore, Welch's t-test and the permutation test complement each other (see Myers, Myers, and Skinner (2007) for a similar treatment vs. control comparison test).

[13]The permutation test generates a different empirical null distribution per every 100,000 resampling. Nevertheless, it is unlikely that the inferences would change at these high p-values. To verify, I re-construct empirical null distributions 100 times and find that the lowest p-value still rejects the null.

returns.[14] These results alleviate concerns about the possibility of divergent abnormal returns between the treatment and the control during the event period. The *Diff. in Means* column in Table 4.3 report the comparison test results. In addition, Figures 4.1 and 4.2 illustrate permutation test results of financial/operating measure and board characteristics variables, respectively.

[14]One exception to this claim is that I fail to reject the null of no differences in *Book-to-Market* means using the permutation test (with a two-tailed p-value of 0.097).

Chapter 5

Analyses

5.1 Pooled Multi-Event Analysis

Given the exogenous source of variation in board classification offered by the corporate law changes, examining the market reaction surrounding the legislative events with an event study methodology enables an estimation of perceived shareholder value impact.[1] Out of the nine legislative events identified in Subsection 3.3, six of them increase and one decreases the classification probability, and the remaining two events increase the declassification probability. Table 5.1 summarizes the probability changes in terms of enactment, classification, and declassification for the nine legislative events, and associates those probability changes to predict the direction of the ATT under the joint hypothesis. For example, when the Indiana Senate initially passes the bill (#1 Indiana Initial Passage), we can expect an increase in enactment probability since the passage advances the bill a step closer to becoming a law. Because the bill intends to classify previously declassified boards, the market's anticipation of board classification increases as the enactment probability increases. Given

[1]Since Schwert (1981), event study has become a common research design choice among scholars to analyze the economic effect (e.g., a shareholder value change) of regulation (Campbell, Lo, and MacKinlay, 1997). Bhagat and Romano (2002) survey the use of event studies in the empirical corporate law literature.

the increased board classification probability, if the market perceives that classifying boards increases shareholder value, the ATT will be positive. By contrast, if the market expects board classification to decrease shareholder value, then the ATT will be negative.

The main analysis is conducted using the Pooled Sample. A pooled analysis offers two advantages. First, by using the results from a pooled analysis, we can derive more generalized inferences, which helps to draw policy implications. Specifically, the pooling allows an examination of the average valuation impact caused by board classification shifts, across a wide range of firms under different governance environments (e.g., state corporate laws) and over different times (i.e., three years spanning from March 2009 to February 2012). Next, a pooled analysis also offers methodological advantages, helping to overcome identification challenges inherent in regulatory event studies. Certain features of regulation such as the event date uncertainty, event date clustering, a multitude of events, and a small sample size, contribute to attenuation bias (Schipper and Thompson, 1983; Binder, 1985; Campbell et al., 1997). To address these limitations, regulatory event studies frequently pool multiple events that are part of a larger event or have common regulatory goals.[2]

[2]For example, see Larcker et al. (2011); Cohen and Wang (2013); and Cohn, Gillan, and Hartzell (2014).

5.1.1 Research Design

I use a size-factor model to estimate normal (i.e., expected) returns. The size-factor model is similar to the market model, except that it uses the return of a portfolio consisting of similarly sized firms instead of the market-wide return when estimating normal returns. Given that the size-factor model takes into account a potential return divergence stemming from differences in firm size (Campbell et al., 1997), this model could be particularly beneficial for this study (i.e., added explanatory power and reduced possibility of false identification).[3] For the estimation, I use the Raw Returns and the CRSP Capitalization Decile portfolio returns over the non-event period. I define the non-event period as a one-year period beginning approximately 30 days after the last legislative event (including the board opt out decision dates).[4] I choose the post-event rather than the pre-event period as a non-event period for two reasons: the Indiana pre-event period overlaps with the global financial crisis of 2008; and financial firms represent a large proportion of the Indiana events sample.[5]

[3]See Campbell et al. (1997, 155-156) Subsection 4.3.3 for an explanation about the size-factor model.

[4]Following this definition, the non-event period becomes Oct. 1, 2009 - Sept. 30, 2010 (Indiana); July 1, 2010 - June 30, 2011 (Oklahoma); and June 1, 2011 - May 31, 2012 (Iowa).

[5]Given that the first Indiana legislative event occurs in Feb. 2009, a typical 250- or a 125-day pre-event estimation period would coincide with the global financial crisis of 2008. During this period, the S&P 500 Volatility Index (VIX), a predictive measure of market volatility, jumped from a year-low of 16.30 on May 15, 2008 to a historical high of 80.86 on Nov. 20, 2008. Additionally, 25 out of 48 Indiana firms (52.1%) are in the Finance, Insurance, and Real Estate SIC division. Taken together, I argue that such a high proportion of Indiana financial firms and an unusual spike in volatility makes the pre-event daily stock returns inadequate to estimate "normal" daily returns.

Estimates of the size-factor model parameters are obtained for each firm from a time-series regression over the non-event period. The acquired firm-specific model parameters are then applied to approximate a normal return. An abnormal return is defined as the event day Raw Return less the estimated normal return. For each event, daily abnormal returns of an individual stock are aggregated over a two-day ($[t+0, t+1]$) event window to obtain an individual firm-event cumulative abnormal return (CAR). I use a two-day event window to accommodate event time measurement errors (e.g., the approximate time period of the Indiana Senate Dissent event extending across two trading days). However, such benefits of a multi-day event window comes at the expense of attenuation. Due to the attenuation bias which could potentially decrease the event study test statistic, the use of a two-day event window is a more conservative method (Campbell et al., 1997).[6] The event day, $t+0$, is defined as follows:

- if the exact event time is known, the event day is the immediate trading day—the same day if before 4:00pm EST or the next trading day if after 4:00pm EST; or

[6]The attenuation bias is caused by a standard event study assumption of the zero abnormal return null. A multi-day event window increases the possibility of including non-event (i.e., zero abnormal return) days and, as a result, may decrease the test statistic. (Campbell et al., 1997)

- for an approximate event time period, the beginning time is the event time.[7]

I estimate the average treatment on the treated (ATT) as follows. First, individual firm-event CARs from three events predicted to lower classification probability (i.e., #2 Indiana Senate Dissent; #6 Oklahoma Repeal Initial Passage; and #7 Oklahoma Repeal Final Passages) are multiplied by -1, resulting in the adjusted-CAR.[8] Then, after pooling firm-event observations of all nine events, I regress the adjusted-CAR on the declassified board indicator variable, which equals 1 if a firm's board was declassified prior to the law amendment that mandated classified boards, or equals 0 if it was classified. The resulting estimated coefficient of the declassified board indicator variable represents the ATT. Appendix D formulates the ATT estimation procedure using the size-adjusted model.

Within a single event, abnormal returns may be correlated both cross-sectionally and temporally. With a market efficiency assumption, the time-

[7]According to this definition, the event days of the Indiana Initial Passage (Feb. 19, 2009, 6:20pm EST), the 2010 Oklahoma Final Passage (May 27, 2010, 6:02pm CST), and the Iowa Final Passage (Mar. 21, 2011, after 5:05pm CST) are Feb. 20, May 28, and Mar. 22, respectively. The Indiana Senate Dissent (Apr. 21, 2009, 1:37-5:00pm EST) event day is Apr. 21, because the beginning of the approximate event time period (1:37pm) falls within the trading hours of that day. Note that there are no two-day window event overlaps between any two legislative events.

[8]Multiplying -1 to the market reactions of event observations receiving an opposite treatment is a common methodological practice employed when pooling multiple regulatory events (e.g., Larcker et al. (2011); Cohen and Wang (2013); Cohn et al. (2014)). Yet this design implicitly assumes that when an opposite treatment is given, the *effect* of the treatment would also be opposite (in direction)—this may not necessarily be true. Therefore, I test validity of this assumption in Section 5.2.1.

series dependence is not of a great concern, especially in a short-window event study (Fama, 1991; Kothari and Warner, 2007). However, clustered event dates within an event are problematic for inferences (Campbell et al., 1997). Additionally, even if we assume that the time-series returns are uncorrelated (within the two-day event window), market reactions to two distinct legislative events of the same state's legislation could be correlated, as these legislative events share similar regulatory contents or target a similar set of firms. For example, the returns of the initial and the final passages of the 2009 Indiana bill, or the returns of the two final passages of the 2010 and 2012 Oklahoma bills, are likely to be correlated. Therefore, I estimate two-way clustered standard errors by event and state (Petersen, 2009). However, the benefits of using cluster-robust standard errors—a reduction in the standard error estimation bias—is only achievable under the asymptotic assumption (i.e., the number of clusters growing infinitely); when the number of clusters is too small, this could instead bias the estimated standard error downwards (Moulton, 1986; Angrist and Pischke, 2009). In that sense, a small number of state clusters could be problematic for inferences. To overcome this issue, I also estimate two-way clustered standard errors with Wild-bootstrapped state clusters, as suggested by Cameron, Gelbach, and Miller (2008).[9]

[9]State clusters are bootstrapped 1,000 times (with replacement).

5.1.2 Results

Overall, the pooled multi-event analysis results suggest that the market perceives classified boards as hampering and declassified boards as improving shareholder value for the treatment group. In other words, the shareholder value of firms that previously had declassified board before the law change declines when these boards are classified and increases when they are declassified.

The ATT is negative when the probability of board classification increases; this means that the market reacts negatively as declassified boards are more likely to become classified. As the classification probability increases, the mean two-day CAR of the declassified treatment group is -1.18%, while the mean two-day CAR of the classified control group is -0.37%. The ATT (the mean declassified treatment CAR less the mean classified control CAR) is negative at -0.81 percentage points (pp) and is statistically significant at the 1% (two-tailed) level (based on both the clustered and bootstrapped p-values). The statistically significant CAR of the treatment group, coupled with insignificant CAR of the control group, indicates that the ATT is a result of the market's reaction to treatment. From Table 5.2 Panel A, the column titled *Pooled Sample 2-day CAR* shows the results of the pooled multi-event analysis.

In summary, the market expects future shareholder values to decrease when directors' terms change from one to three-years. These results suggest that, in the aggregate, the costs of classified boards such as reduced effec-

tiveness of the market for corporate control and managerial entrenchment, outweigh the benefits provided by classified boards such as increased long-term investments for the boards that were previously declassified.

5.1.3 Robustness Tests

Event studies are widely accepted for estimating the valuation effect of corporate law changes, and short window event studies, in particular, are robust tools for measuring such effects (Campbell et al., 1997; Bhagat and Romano, 2002; Fama, 1991; Kothari and Warner, 2007),[10] Nevertheless, one could still argue that the ATT obtained from the pooled multi-event analysis is a random price movement unrelated to the treatment, or that it is derived from a specific event study model specification.[11] To essentially rule out this possibility, I conduct three robustness checks: a placebo test, a post-event analysis, and multiple model specification tests.

Firstly, I conduct a placebo test to check whether comparable classified and declassified board firms' stocks exhibit similar market reactions during the event window as the corresponding sample firms'. I match (with replace-

[10]Campbell et al. (1997) state that "[E]vent studies are used in the field of law and economics to measure the impact on the value of a firm of a change in the regulatory environment." Bhagat and Romano (2002) argue that the event study methodology "proved to be one of the most successful uses of econometrics in policy analysis." Kothari and Warner (2007) survey the event study methodology and conclude that a short horizon event study is generally well-specified and is not sensitive to return generating process assumptions (e.g., a choice of the normal model specification; assumptions about abnormal return correlations). Fama (1991) argues that event studies based on daily returns provide the "cleanest evidence we have on efficiency."

[11]Pooling market reactions across multiple events, some of which are predicted to deliver the opposite effects, also helps to repudiate such claims.

ment) each sample firm with three out-of-sample governance/size-matched firms. To determine the similarity among states' governance environment, I group 50 states and the District of Columbia based on the strengths of their anti-takeover defensive tactics statutes—pill endorsement and other constituency/directors' duties statutes—as reported by Barzuza (2009). Table 5.3 shows the resulting 13 governance clusters. Each sample state belongs to a distinct cluster, representing a wide range of governance environments: Oklahoma is one of the states with the most shareholder-friendly governance environment as no anti-takeover defensive tactics statutes exist. Indiana, by contrast, has very strong anti-takeover laws—intermediately strong pill endorsement statutes and strong other constituency/directors' duties statutes. Iowa falls in between the two. In sum, these three governance clusters represent 64.4% of all U.S. firms.[12] The following example illustrates the matching process: HNI Corp. is an Iowa classified board firm with $998 million in total assets. Iowa's anti-takeover statutes are similar to ten other states'. Among firms incorporated in those ten states, I find a potential match whose total assets are closest to $998 million and verify the firm's board classification structure from its proxy statement. (I repeat the process until I obtain three matched firms). The match results are Churchill Downs (a Kentucky corporation with $1,018 million in total assets); SI Financial Group (a Connecticut corporation; $926 mm); and The Greenbrier Companies (an Oregon corporation; $1,073

[12] 55.2% of U.S. firms are incorporated in Delaware, which has a similar governance environment to Oklahoma. Within the 44.8% non-Delaware firms, the three governance clusters represent 26.3% of (non-Delaware) firms.

mm). These three firms—all of which have classified boards—are added to the classified placebo group. In the end, I have a declassified placebo group and a classified placebo group, each three times the size of the sample counterpart. Furthermore, since the Delaware's governing environment may be different from that of other states (Daines, 2001; Bebchuk, Cohen, and Ferrell, 2002), I create another set of declassified/classified placebo groups consisting of matched firms not incorporated in Delaware.[13]

Secondly, I conduct a post-event analysis to verify the persistence of the treatment effect. The post-event window is defined as a four-week (trading) period following the two-day event window ($[t+0, t+1]$). The sustaining treatment effect is (somewhat arbitrarily) measured with weekly CARs by conducting event studies using the 5-day($[t+0, t+5]$), 10-day ($[t+0, t+10]$), 15-day ($[t+0, t+15]$), and 20-day ($[t+0, t+20]$) post-event windows.[14]

Lastly, I conduct the pooled multi-event analysis using various return generating model specifications: the constant-mean return model; the market

[13]The absence of anti-takeover statutes in Delaware may not signify the same governance environment as in other states without anti-takeover statutes. This is because Delaware has "a well-developed body of case law" that can substitute for "an antitakeover statute explicitly authorizing the use of poison pills or for an antitakeover constituency statute" (Bebchuk et al., 2002).

[14]Post-event windows contain the event window. In performing the post-event analyses, I do not conduct additional sample refinements to eliminate confounding corporate events (i.e., earnings announcements). This design allows a time-series comparison among identical samples regardless of the event window length. The downside is that the post-event analysis results could include market reactions to confounding events that might affect the treatment and control groups differently.

model; the market-adjusted return model; and the Fama-French/Carhart four-factor model (Fama and French, 1993; Carhart, 1997).

The results of multiple robustness tests suggest that the observed ATT is not due to a random market movement. The placebo test results reveal that the market does not react differently between classified board and declassified board firms, matching on governance and size. In the first test, when Delaware firms are included as matched firms, the declassified placebo group experiences a -0.37% two-day CAR and the classified placebo group shows a -0.46% two-day CAR. The differential market reactions between the two is 0.09 pp (insignificant). The results do not differ when Delaware firms are excluded from the matching process: the declassified and classified placebo groups show -0.56% and -0.40% two-day CARs, respectively; the difference is insignificant at -0.16 pp. The column titled *Governance/Size-Matched Samples (Placebo) 2-day CAR* in Table 5.2 Panel A shows the results of the placebo test results.

Additionally, the treatment effect persists throughout the 20-day post-event window, reinforcing the argument that the two-day CAR difference observed in the pooled multi-event analysis is not a random stock price movement but indeed reflects the treatment effect. In the post-event analysis, the CAR differences between the treatment and control groups continue to be negative and statistically significant, in three out of four (arbitrarily) chosen post-event windows. Table 5.2 Panel B shows the post-event analysis results. Figure 5.1 plots market reactions of the 2-, 5-, 10-, 15-, and 20-day post-event windows. Figure 5.2 shows the 40-day pre- and post-event window. The 20-day post-

event window plot shows that the CAR differences remain negative throughout the period, never breaching the zero line from below. The 40-day pre- and post-event window plot allows visual comparison of the market reactions before and after the treatment: the two adjoining treatment and control CARs over the 20-day pre-event window contrasts with the wide divergence of the two during the 20-day post-event window.

Lastly, I find that the pooled multi-event analysis results are not sensitive to the choice of normal return generating model specifications.[15] Table 5.4 reports these results.

5.2 Subsample Event Analyses

I conduct further robustness checks by analyzing the treatment effect with subsampling. The first subsampling mechanism uses the direction of classification probability change and the second does by state. Due to small sample size in these subsamples, it is difficult to expect any statistically meaningful results from these subsample event analyses. (Recall that the pooling method was employed to overcome the shortcomings of regulatory event studies in the first place—particularly with respect to the small sample size and event date clustering.) Hence, the focus of this section is to confirm whether the direction of the observed ATT from the pooled multi-event analysis is sustained at these subsamples.

[15] All four models produce significant results using two-way clustered standard errors. However, only the market model shows a significant bootstrapped p-value.

5.2.1 Bidirectional Event Analysis

Although the pooled multi-event analysis is useful as it offers a more generalized interpretation of the results and provides methodological benefits, its results do not guarantee bidirectional inferences. That is, I cannot claim that the ATT obtained from the pooled multi-event analysis can be interpreted as the shareholder value effect of a board *classification* treatment as well as the effect of a board *declassification* treatment. Therefore, I conduct a bidirectional event analysis to ensure that the pooled multi-event analysis results can be interpreted both ways for the treatment group.

5.2.1.1 Research Design

For the purpose of testing a joint, bidirectional hypothesis, a joint significance test is necessary. I take advantage of the two sets of events predicted to receive opposing treatments. The Pooled Sample is divided into the Classification Probability Increasing Subsample containing six events that increase classification probability, and the Declassification Probability Increasing Subsample comprising three events that either increase declassification probability or decrease classification probability. I conduct two subsample analyses to estimate a pair of ATTs using the event study methodology described in Subsection 5.1.1; the only difference in research design is that I do not multiply -1 to the CARs of the Declassification Probability Increasing Subsample.

Both ATTs obtained from analyzing the Classification Probability Increasing Subsample and the Declassification Probability Increasing Subsample, provide signs consistent with the direction predicted by the ATT of the pooled multi-event analysis. The ATT of the Classification Probability Increasing Subsample is -0.39 pp; the negative sign suggests that classifying boards affects shareholder value negatively. By contrast, the ATT of the Declassification Probability Increasing Subsample is 1.50 pp, indicating the shareholder value-increasing effect of board declassification.

Even though the event study results can be applied to estimate the sign (and magnitude) of the ATTs for the two opposing treatments, they alone cannot provide reliable bidirectional inferences due to a potential bias in standard error estimation. The Declassification Probability Increasing Subsample contains only two states; therefore, clustering standard errors by state is not likely to be dependable (even with bootstrapping). To address this issue, I use a simulation analysis to test the joint statistical significance of the pair of ATTs acquired from above, following Cohen and Wang (2013). Specifically, given the ATT pair, (-0.39, 1.50), a p-value indicates the likelihood of observing a two-day differential CARs (i) as small as -0.39 pp, from the Classification Probability Increasing Subsample, *and* (ii) as large as 1.50 pp, from the Declassification Probability Increasing Subsample, on two random (i.e., non-event) consecutive days. (I also report simulated p-values of the two subsamples separately.) Two sets of simulated ATTs are generated over the non-event period for the two subsamples. Each set of simulated data,

containing approximately 250 days of non-event ATTs, will be approximately normal. The two simulated distributions in conjunction, will form a joint bivariate distribution—created by pairing each ATT from one distribution with all ATTs from the other distribution.

5.2.1.2 Results

The simulation analysis results confirm the joint statistical significance of the observed pair of ATTs. The simulated (one-tailed) p-value is 0.024: the likelihood of observing the given pair of ATTs from the Classification and Declassification Probability Increasing Subsamples during non-event period is less than 2.4%. Table 5.5 presents the simulation analysis results and statistics of each simulated ATT distribution. Figure 5.3 visualizes the simulated joint distribution using a bivariate Gaussian kernel density estimation.

Taken together, these results validate the use of the pooled multi-event analysis results to infer the effect of board classification as well as declassification for shareholder values for the treatment group firms.

5.2.2 State-Level Event Analysis

5.2.2.1 Research Design

The state-level event analysis follows the research design in Subsection 5.1.1, except for the standard error estimation method. For this analysis, standard errors are clustered by event only.

I conduct further robustness checks by analyzing the treatment effect at the state-level. Due to small sample size, it is difficult to expect any statistically significant results from the state-level event analysis. (Recall that the pooling method was employed to overcome the shortcomings of regulatory event studies in the first place—particularly with respect to the small sample size and event date clustering.) Hence, the focus of this section is to confirm whether the direction of the observed ATT from the pooled multi-event analysis is sustained at the state level. The state-level event analysis follows the research design in Subsection 5.1.1, except for the standard error estimation method. For this analysis, standard errors are clustered by event only.

5.2.2.2 Results

Overall, state-level event analysis results weakly confirm that the signs of the treatment effects are consistent with the direction predicted by the ATT from the pooled multi-event analysis. The Indiana and Oklahoma events produce consistently negative signs of the ATT, confirming the negative shareholder impact of classified boards. Even during the 20-day post-event window, the Indiana and Oklahoma events show persistent treatment effects. On the contrary, in Iowa, the treatment effect is reversed. Nevertheless, it is difficult to interpret Iowa results as contradictory evidence due to circumstances surrounding the Iowa legislative events. Unlike the other two states' bills, the Iowa bill was heavily publicized (Doré, 2012), and seemed to have had at least some support from both chambers from its inception (given that both

chambers introduced two similar bills). Due to these factors, the market could have anticipated the passage of the Iowa bill prior to the legislature voting. Therefore, the Iowa results may be interpreted as a non-event due to prior anticipation. Table 5.6 shows the results of the state-level event analysis.

The state-level event analysis results should be interpreted with caution, as they do not provide any statistically significant results. The lack of statistical power makes it difficult to make conclusive inferences about the relation between board classification and shareholder value at the state level. However, this is not necessarily problematic, because the question of interest is whether classified or declassified boards improve or hamper shareholder value, *on average*, across a wide range of firms governed by different corporate laws over different time periods. In other words, this study does *not* intend to examine whether board classification affects shareholder wealth for firms incorporated in a particular state with its unique set of governing laws. That question covers a more granular topic, of importance in itself, which could improve our understanding of the heterogenous impact of board classification. However, that topic is beyond the scope of the current study.

Chapter 6

Conclusion

This study examines the direct and causal relation between board classification and shareholder value. Using four corporate law amendments of Indiana, Oklahoma, and Iowa that occurred between 2009 and 2012 as a natural experiment, the study identifies the perceived shareholder value impact caused by the prospect of an exogenous shift in board classification. The results show evidence consistent with the argument that classifying boards reduces perceived shareholder value and declassifying boards increases the value to the shareholders, for firms with declassified boards. It is important to note that the effects of the law amendments are confined to those firms that had declassified boards before the law amendments; therefore, one must exercise caution when drawing policy implications using the results of this study, especially for the shareholder value effect for declassifying classified boards. An additional caveat is that this study estimates the *average* effect of the treatment on the treated; therefore, its results do *not* imply that classified boards are unilaterally beneficial for *all* firms in the economy. To further our understanding of the heterogenous relation between board classification and shareholder value, future studies must question which types of firms (or which firm characteristics) would benefit from declassified or classified boards.

Answers to those questions would produce more efficient policy implications than the one suggested by the current study.

Tables & Figures

Panel A: Initial Sample Construction				
	Indiana	Oklahoma	Iowa	Total
SEC proxy statement filers incorporated in the state	61	20	25	106
less Private/OTC-traded companies	(12)	(5)	(11)	(28)
less Investment funds/trusts	(1)	-	(1)	(2)
Initial Sample	48	15*	13	**76**
Declassified boards	18	9	4	**31**
Classified boards	30	6	9	**45**

*Three Oklahoma firms are delisted between 2010 and 2012. This reduces the 2012 Oklahoma Repeal events sample size to 12 (7 declassified and 5 classified boards).

Table 4.1: Sample Construction.

This table shows the construction process of the Initial Sample (Panel A) and the Pooled Sample (Panel B). The sample of the study consists of public companies incorporated in the states of Indiana, Oklahoma, and Iowa. The sample search begins by first identifying 106 proxy statement filers domiciled in those three states from the SEC EDGAR system. From these filers, 28 private/OTC-traded companies and 2 investment funds/trusts are dropped. The remaining 76 firm observations are termed the Initial Sample. For each event, the Initial Sample is further refined by eliminating firm-event observations with probable confounding causes that could trigger abnormal market reactions. Firstly, companies that lobby for or contribute to the introduction of a bill with a board classification mandate (or its reversal) are dropped. Secondly, firms missing estimation period return data are dropped. Lastly, I eliminate firms announcing earnings near each event. I aggregate the remaining 187 firm-event observations—this is the Pooled Sample.

Panel B: Pooled Sample Construction

State (Year)	Indiana (2009)						Oklahoma (2010)				Oklahoma (2012)				Iowa (2011)				**Pooled Sample**		
Event	#1		#2		#3		#4		#5		#6		#7		#8		#9		#1-9		
Board Classification*	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	**Declassified**	**Classified**	**Total**
Initial Sample	18	30	18	30	18	30	9	6	9	6	7	5	7	5	4	9	4	9	94	130	224
less Lobbying firms**	-	-	-	-	-	-	-	(1)	-	(1)	(2)	-	(2)	-	(1)	-	(1)	-	(6)	(2)	(8)
less Firms missing estimation period return data***	-	(2)	-	(2)	-	(2)	(2)	-	(2)	-	-	-	-	-	-	-	-	-	(4)	(6)	(10)
less Earnings announcement firms†	-	-	(2)	(3)	(6)	(7)	-	-	-	-	-	-	(1)	-	-	-	-	-	(9)	(10)	(19)
Total	18	28	16	25	12	21	7	5	7	5	5	5	4	5	3	9	3	9	**75**	**112**	**187**

*D: Declassified; C: Classified

**Chesapeake Energy Corp. (2010 Oklahoma); ONEOK, Inc. and OGE Energy Corp. (2012 Oklahoma); and Casey's General Stores, Inc. (Iowa).

***Firms missing estimation period but having event period returns are included in analyses using the market-adjusted model; that sample contains 193 observations (77 declassified and 116 classified firm-events).

†An earnings announcement firm is defined as a company who announces earnings within a $[t-1, t+1]$ window.

Table 4.1: Sample Construction. (cont.)

Panel A: SIC Division

			Board Classification		State		
	SIC Division	N	Declassified	Classified	Indiana	Oklahoma	Iowa
	Finance, Insurance, and Real Estate	37	11	26	25	4	8
	Manufacturing	22	11	11	16	2	4
	Mining	4	1	3	-	4	-
	Retail Trade	4	2	2	3	-	1
	Transportation, Communications, Electric, Gas, and Sanitary Services	4	3	1	2	2	-
	Services	3	2	1	1	2	-
	Wholesale Trade	2	1	1	1	1	-
	Total	76	31	45	48	15	13

Panel B: SIC Sector

2-digit			Board Classification		State		
SIC	SIC Sector	N	Declassified	Classified	Indiana	Oklahoma	Iowa
60	Depository Institutions	27	6	21	20	3	4
63	Insurance Carriers	7	3	4	3	-	4
13	Oil and Gas Extraction	4	1	3	-	4	-
36	Electronic and Other Electrical Equipment and Components, except Computer Equipment	3	2	1	2	1	-
37	Transportation Equipment	3	-	3	2	-	1
38	Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks	3	2	1	2	1	-
49	Electric, Gas, and Sanitary Services	3	3	-	1	2	-
24	Lumber and Wood Products, except Furniture	2	2	-	2	-	-
25	Furniture and Fixtures	2	1	1	1	-	1
28	Chemicals and Allied Products	2	-	2	1	-	1
35	Industrial and Commercial Machinery and Computer Equipment	2	2	-	2	-	-
39	Miscellaneous Manufacturing Industries	2	1	1	2	-	-
50	Wholesale Trade-Durable Goods	2	1	1	1	1	-
56	Apparel and Accessory Stores	2	-	2	2	-	-
27	Printing, Publishing, and Allied Industries	1	-	1	-	-	1
33	Primary Metal Industries	1	1	-	1	-	-
34	Fabricated Metal Products, except Machinery and Transportation Equipment	1	-	1	1	-	-
48	Communications	1	-	1	1	-	-
55	Automotive Dealers and Gasoline Service Stations	1	1	-	-	-	1
58	Eating and Drinking Places	1	1	-	1	-	-
61	Non-depository Credit Institutions	1	1	-	1	-	-
65	Real Estate	1	-	1	-	1	-
67	Holding and Other Investment Offices	1	1	-	1	-	-
72	Personal Services	1	-	1	-	1	-
80	Health Services	1	1	-	-	1	-
87	Engineering, Accounting, Research, Management and Related Services	1	1	-	1	-	-
	Total	76	31	45	48	15	13

Table 4.2: Sample Composition.

Panel C: Fama-French 49 Industry						
		Board Classification		State		
Fama-French 49 Industry	N	Declassified	Classified	Indiana	Oklahoma	Iowa
Banking	28	7	21	21	3	4
Insurance	7	3	4	3	-	4
Petroleum and Natural Gas	4	1	3	-	4	-
Automobiles and Trucks	3	-	3	2	-	1
Retail	3	1	2	2	-	1
Utilities	3	3	-	1	2	-
Business Supplies	2	1	1	1	-	1
Construction Materials	2	2	-	2	-	-
Electronic Equipment	2	2	-	1	1	-
Machinery	2	2	-	2	-	-
Measuring and Control Equipment	2	2	-	1	1	-
Wholesale	2	1	1	1	1	-
Business Services	1	1	-	1	-	-
Chemicals	1	-	1	-	-	1
Communication	1	-	1	1	-	-
Electrical Equipment	1	-	1	1	-	-
Healthcare	1	1	-	-	1	-
Medical Equipment	1	-	1	1	-	-
Personal Services	1	-	1	-	1	-
Pharmaceutical Products	1	-	1	1	-	-
Printing and Publishing	1	-	1	-	-	1
Real Estate	1	-	1	-	1	-
Recreation	1	1	-	1	-	-
Restaurants, Hotels, and Motels	1	1	-	1	-	-
Shipping Containers	1	-	1	1	-	-
Steel Works, etc.	1	1	-	1	-	-
Trading	1	1	-	1	-	-
Others	1	-	1	1	-	-
Total	76	31	45	48	15	13

Panel D: S&P Indices						
		Board Classification		State		
S&P Index	N	Declassified	Classified	Indiana	Oklahoma	Iowa
S&P 500	9	3	6	6	2	1
S&P MidCap 400	8	4	4	6	1	1
S&P SmallCap 600	17	5	12	11	1	5
Non-S&P Composite 1500	42	19	23	25	11	6
Total	76	31	45	48	15	13

Table 4.2: Sample Composition. (cont.)

Table 4.2: Sample Composition. (cont.)

This table presents the Initial Sample composition in terms of industry and S&P indices memberships: SIC division (Panel A), SIC (2-digit) sector (Panel B), the Fama-French 49 Industry (Panel C), and S&P indices membership (Panel D). A company's SIC is obtained from its SEC filings. The Fama-French 49 Industry classification is from the Fama-French Data Library. The S&P indices membership is obtained from the Compustat Index Constituent History file.

Panel A: Financial/Operating Conditions										
				Diff. in Means						
				t-test	Perm. test					
	N	Mean	St. Dev.	*p*-value	*p*-value	Min.	Q_1	Median	Q_3	Max.
Total Assets ($mm)	76	6,314.9	19,988.2			20.6	432.5	1,134.1	4,506.4	163,136.0
Treatment (Declassified)	31	3,892.5	5,552.4	0.304	0.517	20.6	162.6	1,187.8	6,260.1	23,516.8
Control (Classified)	45	7,983.7	25,554.1			107.4	463.5	1,121.9	3,007.4	163,136.0
Market Capitalization ($mm)	76	1,974.7	5,941.6			5.8	40.6	259.4	1,216.3	44,138.3
Treatment (Declassified)	31	1,217.0	1,954.6	0.282	0.432	5.8	39.6	269.0	1,797.0	8,356.4
Control (Classified)	45	2,496.7	7,542.3			11.4	40.7	249.8	709.3	44,138.3
Book-to-Market	76	1.19	1.50			-5.27	0.56	0.93	1.36	8.33
Treatment (Declassified)	31	1.53	1.85	0.122	0.097	0.37	0.64	0.90	1.27	8.33
Control (Classified)	45	0.94	1.17			-5.27	0.51	1.01	1.65	2.69
ROA	76	0.062	0.110			-0.243	0.013	0.024	0.105	0.620
Treatment (Declassified)	31	0.058	0.090	0.772	0.793	-0.243	0.016	0.036	0.116	0.219
Control (Classified)	45	0.065	0.122			-0.242	0.012	0.020	0.091	0.620
CapEx-to-Sales	76	0.094	0.284			0.000	0.008	0.023	0.041	1.923
Treatment (Declassified)	31	0.098	0.344	0.939	0.917	0.000	0.007	0.021	0.039	1.923
Control (Classified)	45	0.092	0.239			0.000	0.009	0.024	0.041	1.080
Leverage	76	0.139	0.145			0.000	0.024	0.097	0.232	0.605
Treatment (Declassified)	31	0.165	0.169	0.233	0.207	0.000	0.018	0.103	0.285	0.605
Control (Classified)	45	0.122	0.124			0.000	0.030	0.078	0.158	0.564

Panel B: Board Characteristics										
				Diff. in Means						
				t-test	Perm. test					
	N	Mean	St. Dev.	*p*-value	*p*-value	Min.	Q_1	Median	Q_3	Max.
Board Size	76	9.4	2.8			5.0	7.0	9.0	11.0	19.0
Treatment (Declassified)	31	9.1	2.9	0.463	0.442	5.0	7.0	8.0	11.5	16.0
Control (Classified)	45	9.6	2.8			5.0	7.0	9.0	11.0	19.0
Board Independence	76	0.776	0.122			0.500	0.670	0.820	0.880	0.920
Treatment (Declassified)	31	0.756	0.126	0.260	0.249	0.540	0.630	0.800	0.860	0.920
Control (Classified)	45	0.789	0.119			0.500	0.710	0.830	0.890	0.920
Director Avg. Age (years)	76	60.6	4.3			43.4	58.6	60.6	62.9	71.7
Treatment (Declassified)	31	60.1	4.5	0.391	0.390	43.4	58.6	60.6	62.5	71.1
Control (Classified)	45	61.0	4.1			48.9	58.6	60.5	63.5	71.7
Director Avg. Tenure (years)	76	10.1	4.3			1.0	7.0	9.5	12.7	26.9
Treatment (Declassified)	31	9.7	4.9	0.495	0.479	2.0	6.8	9.0	11.6	26.9
Control (Classified)	45	10.4	3.9			1.0	7.9	10.0	13.7	18.2
CEO/Chair Duality (0/1)	76	0.51	0.50			0.0	0.0	1.0	1.0	1.0
Treatment (Declassified)	31	0.52	0.51	0.966	0.816	0.0	0.0	1.0	1.0	1.0
Control (Classified)	45	0.51	0.51			0.0	0.0	1.0	1.0	1.0

Panel C: Non-Event Period Daily Stock Returns

Table 4.3: Summary Statistics and Treatment vs. Control Comparison.

Panel C: Non-Event Period Daily Stock Returns									
				Diff. in Means					
				t-test					
	N	Mean	St. Dev.	*p*-value	Min.	Q_1	Median	Q_3	Max.
Raw Return (%)	18,497	0.08	3.43		-31.43	-1.40	0.00	1.43	71.57
Treatment (Declassified)	7,646	0.08	3.79	0.937	-26.17	-1.47	0.00	1.48	71.57
Control (Classified)	10,851	0.09	3.15		-31.43	-1.33	0.00	1.39	47.76
Market-Adj. Return (%)	18,497	0.04	3.21		-32.01	-1.24	-0.05	1.17	72.38
Treatment (Declassified)	7,646	0.03	3.56	0.714	-25.48	-1.24	-0.06	1.15	72.38
Control (Classified)	10,851	0.05	2.95		-32.01	-1.24	-0.04	1.19	46.31
Size-Adj. Return (%)	18,497	0.04	3.14		-31.98	-1.16	-0.06	1.11	72.06
Treatment (Declassified)	7,646	0.03	3.51	0.672	-25.58	-1.20	-0.08	1.10	72.06
Control (Classified)	10,851	0.05	2.86		-31.98	-1.13	-0.04	1.11	46.99
Industry-Adj. Return (%)	18,497	0.04	3.24		-31.39	-1.21	-0.04	1.17	73.26
Treatment (Declassified)	7,646	0.01	3.55	0.335	-25.62	-1.19	-0.06	1.09	73.26
Control (Classified)	10,851	0.06	3.00		-31.39	-1.23	-0.02	1.22	46.48

Table 4.3: Summary Statistics and Treatment vs. Control Comparison. (cont.)

This table reports summary statistics of the Initial Sample firms' financial/operating conditions (Panel A), board characteristics (Panel B), and non-event period daily stock returns (Panel C). *Total Assets* and *Market Capitalization* are reported in $ millions. *Book-to-Market* is the ratio of book value of common equity to *Market Capitalization*. *ROA* is calculated by dividing operating income before depreciation by *Total Assets*. *CapEx-to-Sales* is capital expenditure divided by sales. *Leverage* is defined as long-term debt divided by *Total Assets*. *Board Size* equals the total number of directors. *Board Independence* is obtained by dividing the number of independent directors by *Board Size*. *Director Avg. Age* is the average age of directors in a board. *Director Avg. Tenure* is the average number of years a given firm's directors served on its board. *CEO/Chair Duality* is an indicator variable which equals 1 if the CEO is also the chairman of the board, or equals 0 otherwise. *Raw Return* is the CRSP (individual) stock return excluding dividends. *Market-Adjusted Return* is defined as *Raw Return* less the CRSP value-weighted return excluding dividends. *Size-Adjusted Return* is *Raw Return* less the CRSP Capitalization Decile portfolio return. *Industry-Adjusted Return* is *Raw Return* less the Fama-French 49 Industry value-weighted portfolio return. The returns are reported in percentages (%). The non-event period is defined as a one-year period beginning approximately 30 days after the last legislation-relevant event (Indiana: Oct. 1, 2009 - Sept. 30, 2010; Oklahoma: July 1, 2010 - June 30, 2011; Iowa: June 1, 2011 - May 31, 2012). For each variable, I

Table 4.3: Summary Statistics and Treatment vs. Control Comparison. (cont.)

compare the difference in means between the declassified treatment group and the classified control group, and report the two-tailed p-values of Welch's t-test and permutation test (*Perm. Test*) under the *Diff. in Means* column. The permutation test uses an empirical null distribution of all possible mean difference statistics, simulated with a resampling method. Firstly, observations from both groups are aggregated and permuted. Secondly, the first set of permuted observations (matching the treatment group size) are assigned to a pseudo-treatment group and the remaining observations (matching the control group size) become a pseudo-control group. Lastly, I obtain the difference in means of the two pseudo-groups. This single permutation procedure is repeated 100,000 times to generate an empirical null distribution of the difference in means statistic. A two-tailed p-value is the proportion of the number of the randomized differences in means out of the 100,000 simulated statistics, in which the randomized difference is greater than the absolute value of the observed difference, or is less than the negative absolute value of the observed difference. Firm financials are obtained from Compustat, as of the fiscal year end date immediately prior to the law changes mandating classified boards. Board-related information is collected from the latest proxy statements filed to the SEC before those law changes. Stock return data are from CRSP, except for the Fama-French 49 Industry portfolio return data, which are from the Fama-French Data Library.

State (Year)	Legislation Objective	Event	Enactment Prob. Chg.	Classification Prob. Chg.	Declassification Prob. Chg.	Predicted ATT under (One-sided) Alternative Hypotheses	
						Board Classification Increases Wealth	Board Classification Decreases Wealth
Indiana (2009)	To classify declassified boards	#1 Initial Passage	+	+	−	+	−
		#2 Senate Dissent	−	−	+	−	+
		#3 Final Passage	+	+	−	+	−
Oklahoma (2010)	To classify declassified boards	#4 Initial Passage	+	+	−	+	−
		#5 Final Passage	+	+	−	+	−
Oklahoma Repeal (2012)	To declassify previously declassified boards	#6 Initial Passage	+	−	+	−	+
		#7 Final Passage	+	−	+	−	+
Iowa (2011)	To classify declassified boards	#8 Initial Passage	+	+	−	+	−
		#9 Final Passage	+	+	−	+	−

Table 5.1: Predicted Average Treatment Effect on the Treated.

Table 5.1: Predicted Average Treatment Effect on the Treated. (cont.)

This table summarizes directional predictions of probability changes in terms of enactment, classification, and declassification for the nine legislative events, and associates those probability changes to predict the average treatment effect on the treated (ATT) under opposing directional (one-sided) alternative hypotheses. The *Legislation Objective* column states whether a proposed bill is intended to classify or to declassify boards. The column labeled *Enactment Prob. Chg.* predicts whether an event happening would increase (+) or decrease (−) the probability of the law enactment. The column labeled *Classification Prob. Chg.* shows whether an event occurring would increase (+) or decrease (−) the probability of boards becoming classified; similarly, the *Declassification Prob. Chg.* column shows the change in probability of boards becoming declassified. The two columns under *Predicted ATT under (One-sided) Alternative Hypotheses* show predicted directions of the ATT, supposing each alternative hypothesis is true: the left column shows the predicted ATT if board classification (declassification) is expected to increase (decrease) shareholder wealth; and the right column presents the predicted ATT if board classification (declassification) is perceived as decreasing (increasing) the wealth. The plus (+) sign denotes a positive ATT (i.e., the declassified treatment abnormal return less the classified control abnormal return is positive) and the minus (−) sign indicates a negative ATT. The shaded rows mark the events whose ATT is predicted to be opposite from the other events (in non-shaded rows).

Panel A: Pooled Multi-Event Analysis and Placebo Tests

Classification Prob. Chg.	Declassification Prob. Chg.	Sample / Treatment/Control	Pooled Sample 2-day CAR N	%/pp	$(t)/[p]$	Governance/Size-Matched Samples (Placebo) 2-day CAR: Including Delaware Firms N	%/pp	$(t)/[p]$	Excluding Delaware Firms N	%/pp	$(t)/[p]$
Increasing	Decreasing	Treatment (D)	75	-1.18**	(3.06)	225	-0.37	(0.60)	225	-0.56	(1.02)
		Control (C)	112	-0.37	(1.14)	336	-0.46	(1.47)	336	-0.40	(1.22)
(+)	(−)	ATT (D-C)		-0.81***	(9.92)		0.09	(0.16)		-0.16	(0.28)
		[Clustered p]			[0.000]			[0.872]			[0.778]
		[Bootstrapped p]			[0.002]			[0.609]			[0.258]

Panel B: Post-Event Analysis

Classification Prob. Chg.	Declassification Prob. Chg.	Post-Event Window / Treatment/Control	N	5-day CAR $[t+0, t+5]$ %/pp	$(t)/[p]$	10-day CAR $[t+0, t+10]$ %/pp	$(t)/[p]$	15-day CAR $[t+0, t+15]$ %/pp	$(t)/[p]$	20-day CAR $[t+0, t+20]$ %/pp	$(t)/[p]$
Increasing	Decreasing	Treatment (D)	75	-2.15***	(5.04)	-2.21***	(3.37)	0.05	(0.03)	-0.21	(0.19)
		Control (C)	112	1.43**	(2.81)	1.14	(1.75)	1.79	(1.72)	2.96	(1.69)
(+)	(−)	ATT (D-C)		-3.58***	(4.06)	-3.35**	(2.56)	-1.74	(1.17)	-3.17**	(2.47)
		[Clustered p]			[0.004]		[0.034]		[0.275]		[0.039]
		[Bootstrapped p]			[0.002]		[0.002]		[0.264]		[0.002]

Table 5.2: Pooled Multi-Event Analysis.

Table 5.2: Pooled Multi-Event Analysis. (cont.)

This table shows the results of the pooled multi-event analysis, the placebo tests, and the post-event analysis. The *Classification (Declassification) Prob. Chg.* column shows whether an event occurring would increase (+) or decrease (−) the probability of boards becoming classified (declassified). The *2-*, *5-*, *10-*, *15-*, and *20-day CAR* columns report market reactions of the declassified treatment group and the classified control group (or also, their governance/size-matched sample firms), as if all firms experience an increase in the classification probability. To measure the average treatment effect on the treated (ATT), I first obtain estimates of the size-factor model parameters for each firm from a time-series regression using the CRSP (individual) stock return excluding dividends and the CRSP Capitalization Decile portfolio returns over the post-event period. The acquired firm-specific model parameters are then applied to approximate a normal return. An abnormal return is the CRSP (individual) stock return excluding dividends less the normal return. The daily abnormal returns of an individual stock are aggregated over the event window to obtain an individual firm-event cumulative abnormal return (CAR). Next, the CARs of three events predicted to lower classification probability are multiplied by -1. Using aggregated firm-event observations from all (nine) events, I regress the adjusted-CAR on the declassified board indicator variable, which equals 1 if a firm's board was declassified prior to the law amendment that mandated classified boards, or equals 0 if it was classified before that law change. The resulting estimated coefficient of the declassified board indicator variable represents the ATT. Market reactions are reported in percentages (%); ATTs are reported in percentage points (pp). t-statistics appear in parentheses and p-values in brackets. The *Clustered p* row reports p-values based on two-way (event and state) clustered standard errors Petersen (2009); the *Bootstrapped p* row reports p-values based on the two-way clustered standard errors with Wild-bootstrapped state clusters Cameron et al. (2008). ***, **, and * denote two-tailed statistical significance levels (based on clustered p-values) at 0.01, 0.05, and 0.10, respectively.

Sample State	Governance Cluster		Firms Incorporated* (Including DE)		Firms Incorporated* (Excluding DE)		Strengths of Anti-takeover Statutes**	
		States	N	(%)	N	(%)	Pill Endorsement Statutes	Other Constituency/ Directors' Duties Statutes
OK	**#1**	**AL, AK, AR, CA, DC, DE, KS, MT, NH, OK, WV**	**4,222**	**(55.2%)**				
		AL, AK, AR, CA, DC, KS, MT, NH, OK, WV			**270**	**(7.3%)**	•	•
-	#2	NE	4	(0.1%)	4	(0.1%)	•	Weak
-	#3	AZ, LA, MN, MS, MO, NM, ND, TX, VT, WY	409	(5.4%)	409	(11.1%)	•	Intermediate
-	#4	NY	245	(3.2%)	245	(6.6%)	Weak	Weak
-	#5	CO, MI, SC, UT, WA	284	(0.7%)	284	(1.5%)	Intermediate	•
-	#6	NC	54	(3.7%)	54	(7.7%)	Weak	Strong
-	#7	FL, ME, WI	228	(3.0%)	228	(6.2%)	Intermediate	Weak
IA	**#8**	**CT, HI, IA, ID, IL, KY, NJ, OR, RI, SD, TN**	**356**	**(4.7%)**	**356**	**(9.6%)**	**Intermediate**	**Intermediate**
-	#9	MA	480	(6.3%)	480	(13.0%)	Intermediate	Intermediate +
-	#10	NV	382	(5.0%)	382	(10.4%)	Intermediate	Strong −
IN	**#11**	**IN, OH, PA**	**345**	**(4.5%)**	**345**	**(9.3%)**	**Intermediate**	**Strong**
-	#12	GA	69	(0.9%)	69	(1.9%)	Strong	Weak
-	#13	MD, VA	564	(7.4%)	564	(15.3%)	Strong	Strong
		Total	7,642		3,690			

*The number of firms incorporated per state is obtained from (Barzuza, 2009, Table 5)

**Degree of shareholder friendliness: • (No statutes) [Most shareholder friendly] > Weak > Intermediate > Intermediate+ > Strong− > Strong [Least shareholder friendly]

Table 5.3: State Anti-Takeover Defensive Tactics Statutes.

This table shows the anti-takeover defensive tactics statutes of the 50 states and the District of Columbia as reported by (Barzuza, 2009, Table 6). To match the sample states with other states that have similar governance environment, I group states with resembling anti-takeover defensive tactics statutes. Each row in the table constitute a governance cluster, comprised of state(s) imposing similar governing laws to the board during a takeover. (Sample states' clusters are shaded.) The *Firms Incorporated* columns show the number of firms incorporated in each cluster (with or without Delaware). Two types of statutes codify and restrict directors' duties during a change-of-control situation: pill endorsement and other constituency/directors' duties statutes. The *Strengths of Anti-Takeover Statutes* column shows the strengths of these statutes, as defined by (Barzuza, 2009, Subsection II.C). A stronger anti-takeover statute means that the law is less shareholder friendly. A dot indicates no such statutes exist.

Return Generating Model (Normal Return Measure)	Classification Prob. Chg.	Declassification Prob. Chg.	Predicted ATT	Treatment/ Control	N	2-day CAR %/pp	2-day CAR (t/p)
Constant Mean Return Model	Increasing (+)	Decreasing (−)	Decreasing (−)	Treatment (D)	75	-3.08*	(2.07)
				Control (C)	112	-1.69	(1.74)
				ATT (D-C)		-1.39**	(2.48)
				[Clustered p]			[0.038]
				[Bootstrapped p]			[0.468]
Market Model (CRSP Value-weighted Return)	Increasing (+)	Decreasing (−)	Decreasing (−)	Treatment (D)	75	-1.60*	(2.14)
				Control (C)	112	-0.70	(1.13)
				ATT (D-C)		-0.90***	(6.72)
				[Clustered p]			[0.000]
				[Bootstrapped p]			[0.002]
Market-Adjusted Return Model (CRSP Value-weighted Return)	Increasing (+)	Decreasing (−)	Decreasing (−)	Treatment (D)	77	-1.76*	(1.94)
				Control (C)	116	-0.73	(1.21)
				ATT (D-C)		-1.03**	(3.25)
				[Clustered p]			[0.012]
				[Bootstrapped p]			[0.494]
Fama-French/Carhart Four-Factor Model	Increasing (+)	Decreasing (−)	Decreasing (−)	Treatment (D)	75	-1.43**	(2.45)
				Control (C)	112	-0.13	(0.55)
				ATT (D-C)		-1.30***	(3.72)
				[Clustered p]			[0.006]
				[Bootstrapped p]			[0.252]

Table 5.4: Pooled Multi-Event Analysis (Multiple Model Specification Test)

Table 5.4: Pooled Multi-Event Analysis (Multiple Model Specification Test) (cont.)

This table shows the pooled multi-event analysis results using various return generating model assumptions. The *Classification (Declassification) Prob. Chg.* column shows whether an event occurring would increase (+) or decrease (−) the probability of boards becoming classified (declassified). The *2-day CAR* column reports market reactions of the declassified treatment group and the classified control group, as if all firms experience an increase in the classification probability. ATT is obtained as follows. (a) Estimates of the market model parameters are obtained for each firm from a time-series regression using the *Raw Return* and the CRSP value-weighted return excluding dividends over the post-event period. (b) Estimates of the Fama-French/Carhart four-factor model parameters are obtained for each firm from a time-series regression using four factors—*SMB* (Small minus Big), *HML* (High minus Low), R_f (risk-free rate), and *UMD* (Up minus Down Momentum)—and the *Raw Return* over the post-event period. For these two models, the acquired firm-specific model parameters are then applied to approximate a normal return. (c) For the constant mean return model, the normal return is the mean *Raw Return* over the post-event period. (d) For the market-adjusted return model, the normal return is the *Market-Adjusted Return* during the event period. Finally, for all models, an abnormal return is the the *Raw Return* less the normal return. Daily abnormal returns of an individual stock are aggregated over the event window to obtain an individual firm-event cumulative abnormal return (CAR). Next, CAR's from three events predicted to lower classification probability are multiplied by -1. Using aggregated firm-event observations from all (nine) events, I regress (adjusted) CAR on the declassified board indicator variable, which equals 1 if a firm's board was declassified prior to the law amendment that mandated classified boards, or equals 0 if it was classified before that law change. The resulting estimated coefficient of the declassified board indicator variable represents ATT. t-statistics appear in parentheses and p-values in brackets. The *Clustered p* row reports p-values based on two-way (event and state) clustered standard errors (Petersen, 2009); the *Bootstrapped p* row reports p-values based on the two-way clustered standard errors with Wild-bootstrapped state clusters (Cameron et al., 2008). ***, **, and * denote two-tailed statistical significance levels (based on clustered p-values) at 0.01, 0.05, and 0.10, respectively.

Subsample	Classification Prob. Chg.	Declassification Prob. Chg.	Predicted ATT	Treatment/ Control	N	2-day CAR (%/pp)	2-day CAR [Sim. p]	Simulated ATT (pp) Mean	St. Dev.	Min.	Q_1	Median	Q_3	Max.
				Treatment (D)	50	0.06								
Class. Prob.	Increasing	Decreasing	Decreasing	Control (C)	77	0.45								
Increasing	(+)	(−)	(−)	ATT (D-C)		-0.39	[0.406]	-0.12	1.30	-3.41	-0.97	-0.01	0.77	4.59
				Treatment (D)	25	3.66								
Declass. Prob.	Increasing	Increasing	Increasing	Control (C)	35	2.17								
Increasing	(−)	(+)	(+)	ATT (D-C)		1.50*	[0.060]	-0.10	1.01	-2.82	-0.81	-0.15	0.55	3.16
				Paired ATT		(-0.39, 1.50)**	[0.024]							

Table 5.5: Bidirectional Event Analysis.

Table 5.5: Bidirectional Event Analysis. (cont.)

This table shows the bidirectional event analysis results. The Pooled Sample is divided into two subsamples: the *Class. Prob. Increasing* Subsample containing six events that increase classification probability; and the *Declass. Prob. Increasing* Subsample comprising three events that either decrease classification probability or increase declassification probability. The *Classification (Declassification) Prob. Chg.* column shows whether an event occurring would increase (+) or decrease (−) the probability of boards becoming classified (declassified). The *Predicted ATT* column shows the predicted direction of the average treatment effect on the treated (ATT), consistent with the pooled multi-event analysis results. (Evidence from the pooled multi-event analysis suggests that classifying boards decreases shareholder value; hence the *Predicted ATT* has the opposite sign from the *Classification Prob. Chg.*) The *2-day CAR* column reports market reactions of the declassified treatment group and the classified control group, separately for the two subsamples. The market reactions are reported without any adjustments. The *Simulated ATT* column reports summary statistics of the simulated distributions of non-event period ATT. To simulate an ATT, I first obtain estimates of the size-factor model parameters for each firm from a time-series regression using the CRSP (individual) stock return excluding dividends and the CRSP Capitalization Decile portfolio returns over the post-event period. The acquired firm-specific model parameters are then applied to approximate a normal return during the post-event period. An abnormal return is the CRSP (individual) stock return excluding dividends less the normal return. The daily abnormal returns of an individual stock are aggregated over a two-day event window to obtain an individual firm-event cumulative abnormal return (CAR). For each subsample, I aggregate firm-event observations and regress the CAR on the declassified board indicator variable, which equals 1 if a firm's board was declassified prior to the law amendment that mandated classified boards, or equals 0 if it was classified before that law change. The resulting estimated coefficient of the declassified board indicator variable represents the ATT. The simulated p-value (*Sim* p), appearing in brackets, is the (joint) likelihood of observing the given (pair of) ATT(s) when a random observation is drawn from the simulated (joint) distribution. Market reactions are reported in percentages (%); ATTs are reported in percentage points (pp). ***, **, and * denote one-tailed statistical significance levels (based on the simulated p-value) at 0.01, 0.05, and 0.10, respectively.

Subsample	Classification	Predicted	Treatment/		2-day CAR		5-day CAR		10-day CAR		15-day CAR		20-day CAR	
(State)	Prob. Chg.	ATT	Control	N	%/pp	(t)	%/pp	(t)	%/pp	(t)	%/pp	(t)	%/pp	(t)
			Treatment (D)	46	-1.60	(0.71)	-1.03	(0.41)	-1.39	(1.68)	0.24	(0.12)	1.15	(0.35)
Indiana	Increasing	Decreasing	Control (C)	74	-0.68	(0.52)	0.87**	(3.36)	1.24	(0.57)	2.12	(0.72)	3.20	(1.02)
	(+)	(−)	ATT (D-C)		-0.92	(0.66)	-1.91	(0.74)	-2.64	(0.94)	-1.88	(0.91)	-2.05	(0.83)
			Treatment (D)	23	-0.72	(0.95)	0.30	(0.34)	-3.29*	(2.25)	-2.83	(0.88)	-2.72	(1.09)
Oklahoma	Increasing	Decreasing	Control (C)	20	0.42	(0.40)	0.59	(0.41)	3.28*	(2.25)	2.15	(1.33)	1.85*	(1.88)
	(+)	(−)	ATT (D-C)		-1.14	(0.84)	-0.28	(0.19)	-6.57***	(10.39)	-4.98*	(2.24)	-4.57**	(2.82)
			Treatment (D)	6	0.25	(0.61)	1.37	(1.68)	1.04*	(5.17)	0.86	(0.32)	-0.31	(0.09)
Iowa	Increasing	Decreasing	Control (C)	18	0.06	(0.10)	-0.18	(0.09)	-0.79	(1.63)	-1.50***	(32.22)	-2.73	(2.28)
	(+)	(−)	ATT (D-C)		0.20	(1.10)	1.55	(1.37)	1.83**	(6.32)	2.36	(0.86)	2.42	(1.02)

Table 5.6: State-Level Event Analysis.

Table 5.6: State-Level Event Analysis. (cont.)

This table shows the state-level event analysis results. The *Classification Prob. Chg.* column shows whether an event occurring would increase (+) or decrease (−) the probability of boards becoming classified. The *Predicted ATT* column shows the predicted direction of the average treatment effect on the treated (ATT), consistent with the pooled multi-event analysis results. (Evidence from the pooled multi-event analysis suggests that classifying boards decreases shareholder value; hence the *Predicted ATT* has the opposite sign from the *Classification Prob. Chg.*) The *2-, 5-, 10-, 15-, and 20-day CAR* columns report market reactions of the declassified treatment group and the classified control group, as if all firms experience an increase in the classification probability. To measure the average treatment effect on the treated (ATT), I first obtain estimates of the size-factor model parameters for each firm from a time-series regression using the CRSP (individual) stock return excluding dividends and the CRSP Capitalization Decile portfolio returns over the post-event period. The acquired firm-specific model parameters are then applied to approximate a normal return. An abnormal return is the CRSP (individual) stock return excluding dividends less the normal return. The daily abnormal returns of an individual stock are aggregated over the event window to obtain an individual firm-event cumulative abnormal return (CAR). Next, the CARs of three events predicted to lower classification probability are multiplied by -1. Using firm-event observations aggregated at the state level, I regress the adjusted-CAR on the declassified board indicator variable, which equals 1 if a firm's board was declassified prior to the law amendment that mandated classified boards, or equals 0 if it was classified before that law change. The resulting estimated coefficient of the declassified board indicator variable represents the ATT. Market reactions are reported in percentages (%); ATTs are reported in percentage points (pp). t-statistics appear in parentheses. Standard errors are clustered by event. ***, **, and * denote one-tailed statistical significance levels at 0.01, 0.05, and 0.10, respectively.

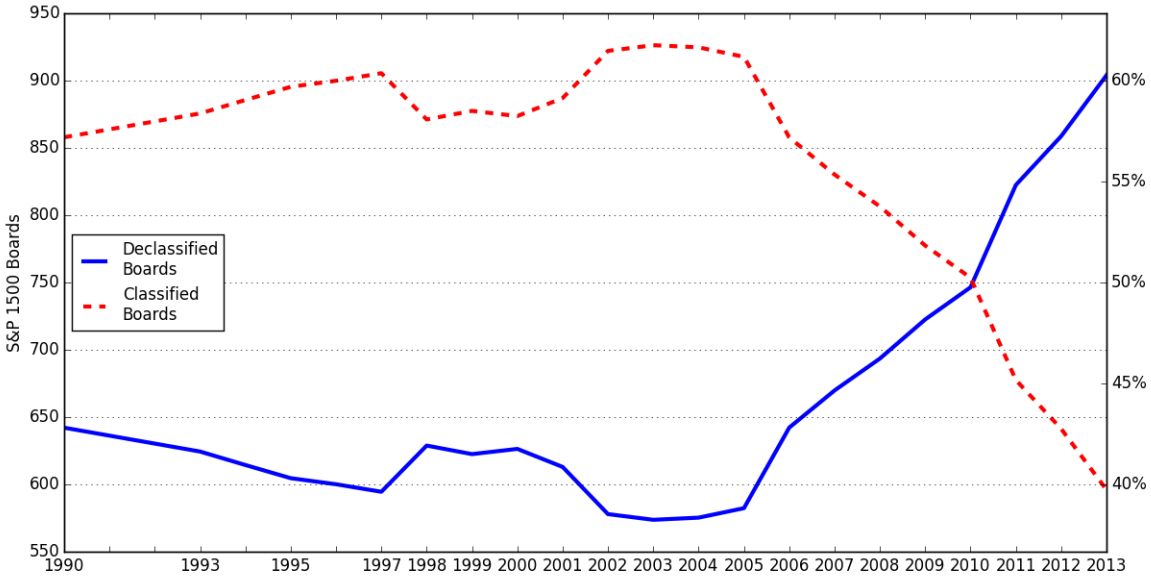
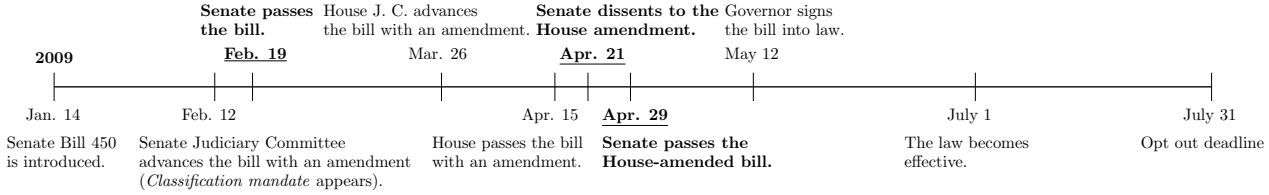


Figure 1.1: Board Declassification Trend (1990-2013).

This figure shows the declassification trend of S&P 1500 boards between 1990 and 2013. A solid line represents declassified boards and a dashed line shows classified boards. In 2005, 582 (38.8%) S&P 1500 firms had declassified boards and 918 (61.2%) firms had classified boards. During an eight-year span between 2005 and 2013, 322 S&P 1500 boards were declassified due to shareholder activism. As a consequence, as of 2013, there are 904 declassified (60.3%) and 596 classified (39.7%) boards. The 1990-2006 data are from the RiskMetrics Governance legacy file, and the 2007-2013 data are from the RiskMetrics Governance file. RiskMetrics collects governance-related data of S&P 1500 firms, but the scope of coverage varies by year. Therefore, to enable year-over-year comparison, I normalize the total firm count to 1500 and report the normalized figures. (The time-series changes in the S&P 1500 Composite index constituents are ignored.) Figures for 1991, 1992, 1994, and 1996 are interpolated, because RiskMetrics does not provide data for those years.



Date	Time (EST)	Event	Enactment Prob. Chg.	Classification Prob. Chg.	Satisfy Event Selection Criteria?
2/12/2009		Senate Judiciary Committee advances the bill with an amendment. (*Board classification mandate* appears in the amended bill.)	+	+	
2/19	**6:20pm**	**Senate passes the bill.**	+	+	**Y (Event #1)**
3/26		House Judiciary Committee advances the bill with an amendment.	?	?	
4/15		House passes the bill with the amendment.	?	?	
4/21	**1:37-5:00pm**	**Senate dissents to the House amendment.**	−	−	**Y (Event #2)**
4/29	**1:13pm**	**Senate agrees and passes the House-amended bill.**	+	+	**Y (Event #3)**
5/12		Governor signs the bill into law.	+	+	
7/1		The law becomes effective.			
7/1-7/31		30-day opt out period			

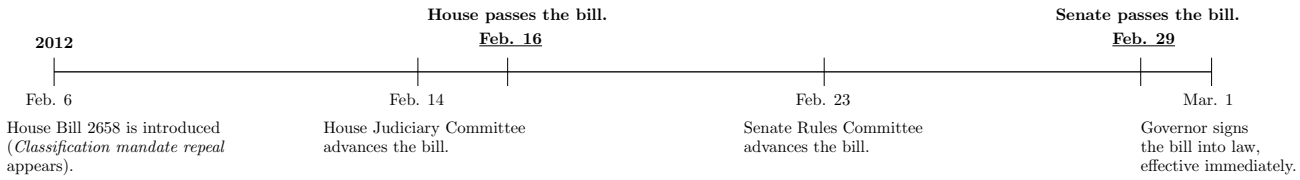
Figure 3.1: Event Timeline of the 2009 Indiana Business Corporation Law Amendment.

This figure details a series of legislative events surrounding the 2009 Indiana corporate law amendment. Three events are included in the study: Indiana Initial Passage (Event #1), Indiana Senate Dissent (Event #2), and Indiana Final Passage (Event #3). From the (top) timeline, these events appear in bold texts with underlined dates. The (bottom) table provides the exact time or approximate time period (in Eastern Standard Time (EST)) of the selected events, indicated with bold texts and shaded rows. The column labeled *Enactment Prob. Chg.* predicts whether an event happening would increase (+) or decrease (−) the probability of the law enactment. The column labeled *Classification Prob. Chg.* shows whether an event occurring would increase (+) or decrease (−) the probability of boards becoming classified. A question mark (?) means that the direction of the probability change is unclear ex ante. The Indiana corporate law mandates boards to classify. Therefore, as the bill advances in the legislature, the chance of declassified boards becoming classified increases; analogously, as the probability of enactment declines, the probability of declassified boards becoming classified decreases. (In other words, for the Indiana events, the *Classification Prob. Chg.* has the same sign as the *Enactment Prob. Chg.*)

Date	Time (CST)	Event	Enactment Prob. Chg.	Classification Prob. Chg.	Satisfy Event Selection Criteria?
4/27/2010		Conference committee granted.	+		
5/26/2010		Conference committee advances the bill. (*Board classification mandate* appears in the agreed bill.)	+	+	
	10:04am	**Senate passes the bill.**	+	+	**Y (Event #4)**
5/27	**6:02pm**	**House passes the bill.**	+	+	**Y (Event #5)**
6/7		Governor signs the bill into law. The law becomes effective immediately.	+	+	

Figure 3.2: Event Timeline of the 2010 Oklahoma General Corporation Act Amendment.

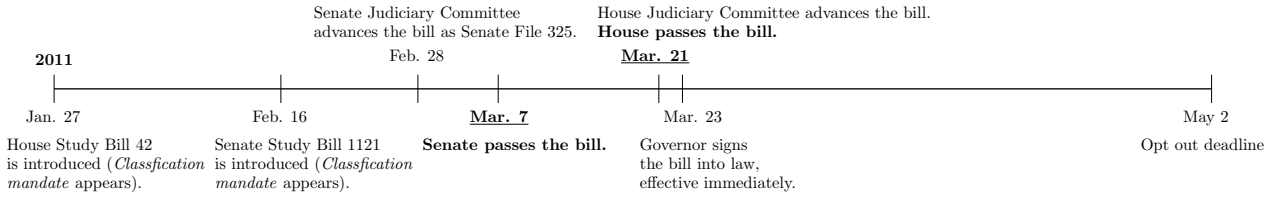
This figure details a series of legislative events surrounding the 2012 Oklahoma corporate law amendment. Two events are included in the study: 2010 Oklahoma Initial Passage (Event #4) and 2010 Oklahoma Final Passage (Event #5). From the (top) timeline, these events appear in bold texts with underlined dates. The (bottom) table provides the exact time (in Central Standard Time (CST)) of the selected events, indicated with bold texts and shaded rows. The column labeled *Enactment Prob. Chg.* predicts whether an event happening would increase (+) or decrease (−) the probability of the law enactment. The column labeled *Classification Prob. Chg.* shows whether an event occurring would increase (+) or decrease (−) the probability of boards becoming classified. The 2010 Oklahoma law mandates boards to classify. Therefore, as the bill advances in the legislature, the chance of declassified boards becoming classified increases. (In other words, for the 2010 Oklahoma events, the *Classification Prob. Chg.* has the same sign as the *Enactment Prob. Chg.*)



Date	Time (CST)	Event	Enactment Prob. Chg.	Classification Prob. Chg.	Satisfy Event Selection Criteria?
2/6/2012		The repeal bill is introduced by the House. (*Board classification mandate repeal* appears in the bill.)	+	−	
2/14		House Judiciary Committee advances the bill.	+	−	
2/16	**10:17am**	**House passes the bill.**	+	−	**Y (Event #6)**
2/23		Senate Rules Committee advances the bill.	+	−	
2/29	**2:14pm**	**Senate passes the bill.**	+	−	**Y (Event #7)**
3/1		Governor signs the bill into law. The law becomes effective immediately.	+	−	

Figure 3.3: Event Timeline of the 2012 Oklahoma General Corporation Act Amendment.

This figure details a series of legislative events surrounding the 2010 Oklahoma corporate law amendment. Two events are included in the study: 2012 Oklahoma Repeal Initial Passage (Event #6) and 2012 Oklahoma Repeal Final Passage (Event #7). From the (top) timeline, these events appear in bold texts with underlined dates. The (bottom) table provides the exact time (in Central Standard Time (CST)) of the selected events, indicated with bold texts and shaded rows. The column labeled *Enactment Prob. Chg.* predicts whether an event happening would increase (+) or decrease (−) the probability of the law enactment. The column labeled *Classification Prob. Chg.* shows whether an event occurring would increase (+) or decrease (−) the probability of boards becoming classified. The 2012 law provides exemptions to the board classification mandate for firms that had declassified boards prior to the 2010 law amendment. Hence, the treatment effect is reversed and the advancement of the bill decreases the classification probability. (That is, for the 2012 Oklahoma Repeal events, the *Classification Prob. Chg.* has the opposite sign as the *Enactment Prob. Chg.*)



Date	Time (CST)	Event	Enactment Prob. Chg.	Classification Prob. Chg.	Satisfy Event Selection Criteria?
1/27/2011		The House Study Bill is introduced by the House. (*Classification mandate* appears in the bill.)	+	+	
2/16		The Senate Study Bill is introduced by the Senate. (*Classification mandate* appears in the bill.)	+	+	
2/28		Senate Judiciary Committee advances the (Senate Study) bill.	+	+	
3/7	**2:05-2:50pm**	**Senate passes the bill.**	+	+	**Y (Event #8)**
3/21		House Judiciary Committee advances the (Senate) bill.			
	after 5:05pm	**House passes the bill.**	+	+	**Y (Event #9)**
3/23		Governor signs the bill into law. The law becomes effective immediately.	+	+	
3/23-5/2		40-day opt out period		−	

Figure 3.4: Event Timeline of the 2011 Iowa Business Corporation Act Amendment.

This figure details a series of legislative events surrounding the 2011 Iowa corporate law amendment. Two events are included in the study: Iowa Initial Passage (Event #8) and Iowa Final Passage (Event #9). From the (top) timeline, these events appear in bold texts with underlined dates. The (bottom) table provides the approximate time period (in Central Standard Time (CST)) of the selected events, indicated with bold texts and shaded rows. The column labeled *Enactment Prob. Chg.* predicts whether an event happening would increase (+) or decrease (−) the probability of the law enactment. The column labeled *Classification Prob. Chg.* shows whether an event occurring would increase (+) or decrease (−) the probability of boards becoming classified. The Iowa corporate law mandates boards to classify. Therefore, as the bill advances in the legislature, the probability of declassified boards becoming classified increases. (In other words, for Iowa events, the *Classification Prob. Chg.* has the same sign as the *Enactment Prob. Chg.*)

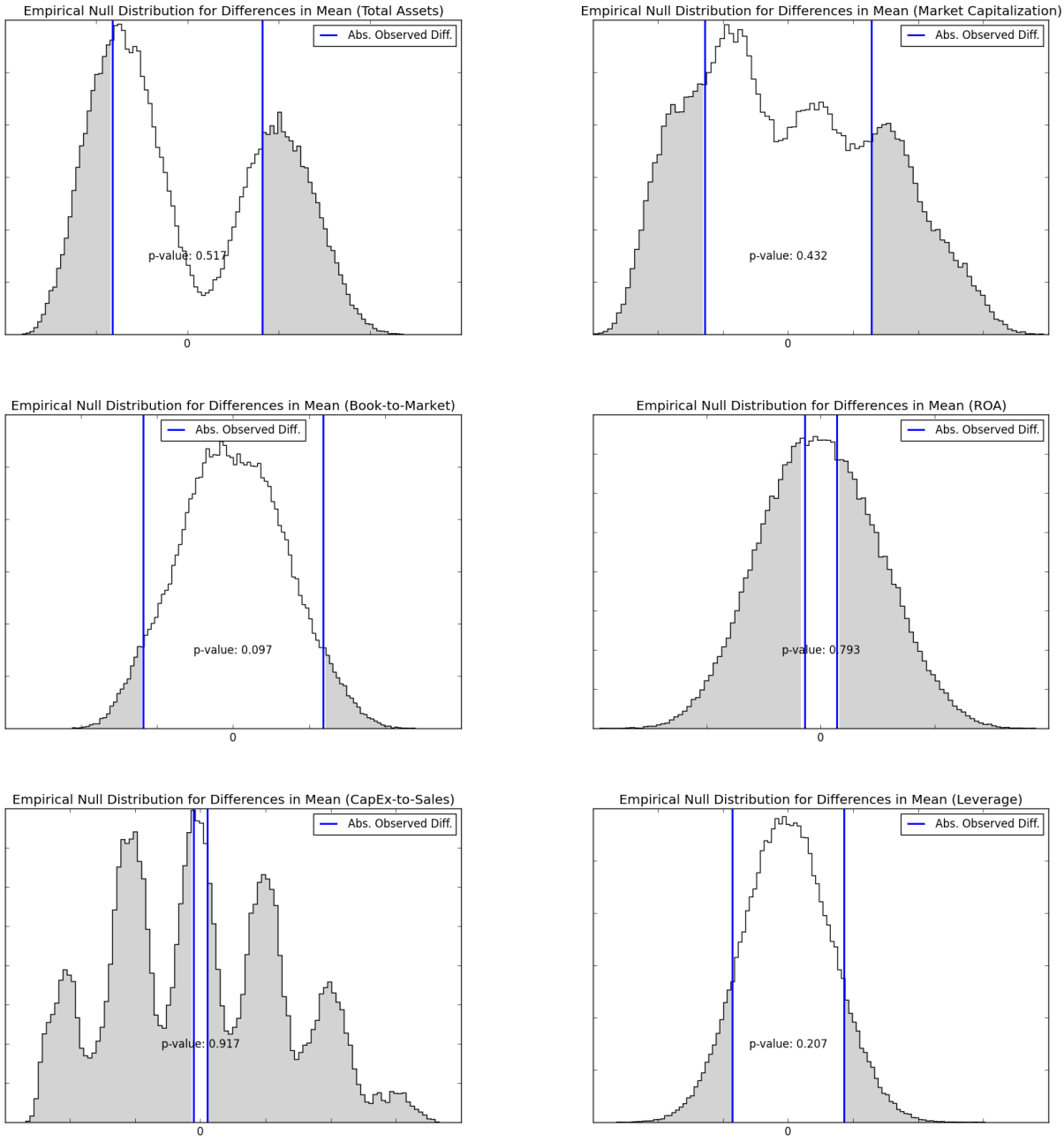


Figure 4.1: Permutation Test of Financial/Operating Conditions Variables.

Figure 4.1: Permutation Test of Financial/Operating Conditions Variables. (cont.)

This figure illustrates the permutation test results of six financial/operating conditions variables: *Total Assets*, *Market Capitalization*, *Book-to-Market*, *ROA*, *CapEx-to-Sales*, and *Leverage*. *Book-to-Market* is the ratio of book value of common equity to *Market Capitalization*. *ROA* is calculated by dividing operating income before depreciation by *Total Assets*. *CapEx-to-Sales* is obtained by dividing capital expenditures by sales. *Leverage* is defined as long-term debt divided by *Total Assets*. The permutation test uses an empirical null distribution of all possible mean difference statistics, simulated with a resampling method. Firstly, observations from both groups are aggregated and permuted. Secondly, the first set of permuted observations (matching the treatment group size) are assigned to a pseudo-treatment group and the remaining observations (matching the control group size) become a pseudo-control group. Lastly, I obtain the difference in means of the two pseudo-groups. This single permutation procedure is repeated 100,000 times to generate an empirical null distribution of the difference in means statistic. A two-tailed p-value is the proportion of the number of the randomized differences in means out of the 100,000 simulated statistics, in which the randomized difference is greater than the absolute value of the observed difference, or is less than the negative absolute value of the observed difference. The shaded areas in the tails of the empirical null distribution depict the p-value. Firm financials are obtained from Compustat, as of the fiscal year end date immediately prior to the law changes mandating classified boards.

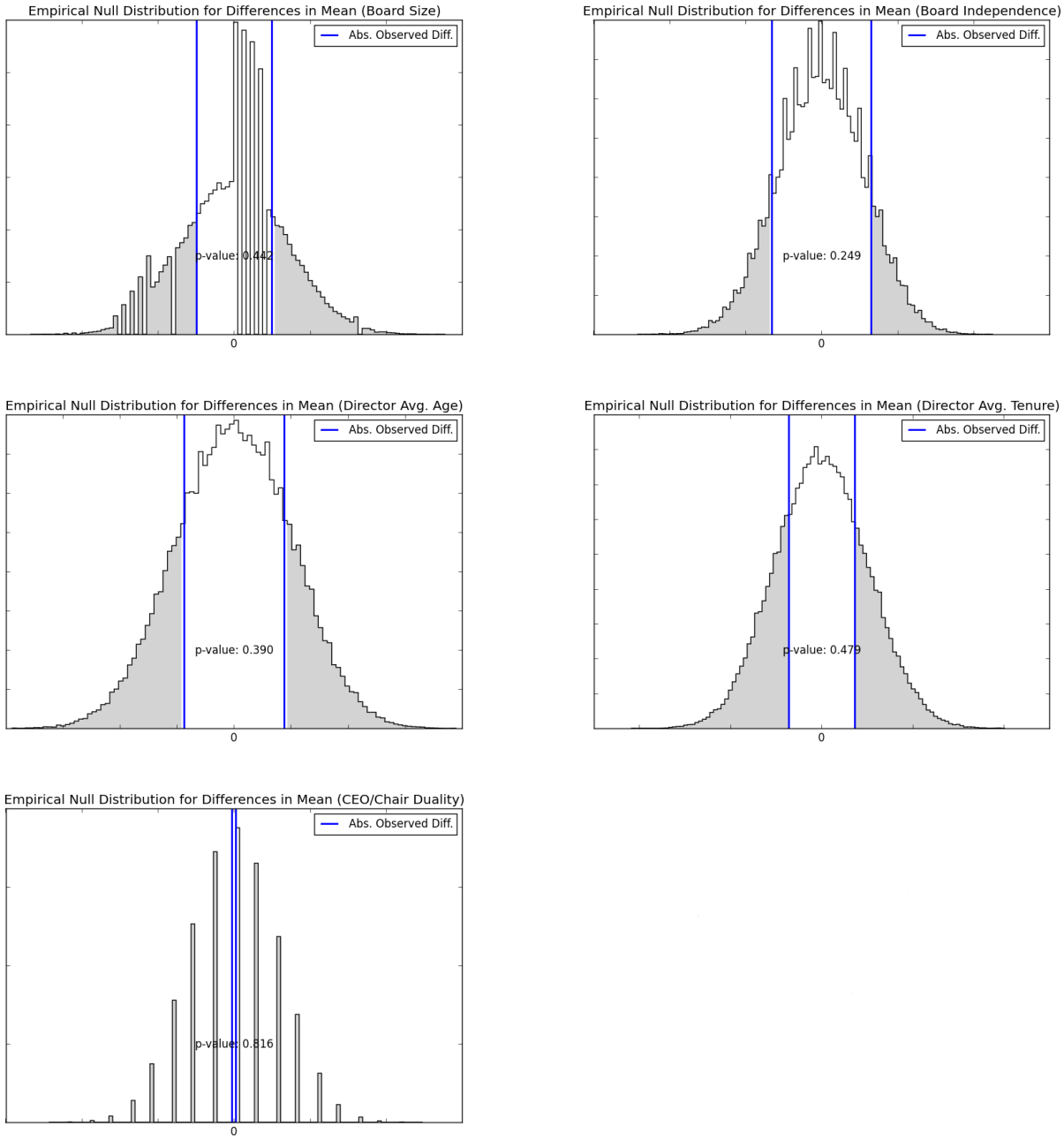


Figure 4.2: Permutation Test of Board Characteristics Variables.

Figure 4.2: Permutation Test of Board Characteristics Variables. (cont.)

This figure illustrates the permutation test results of five board characteristics variables: *Board Size*, *Board Independence*, *Director Avg. Age*, *Director Avg. Tenure*, and *CEO/Chair Duality*. *Board Size* equals the total number of directors. *Board Independence* is the proportion of independent directors (as defined by the NYSE/NASDAQ exchange rules) of the board. *Director Avg. Age* and *Director Avg. Tenure* are board-level measures calculated by taking the averages of all directors age and of the number of years directors served on the board, respectively. CEO/Chair Duality is an indicator variable which equals 1 if the CEO also holds the chairman of the board title, or equals 0 if the two positions are separated. The permutation test uses an empirical null distribution of all possible mean difference statistics, simulated with a resampling method. Firstly, observations from both groups are aggregated and permuted. Secondly, the first set of permuted observations (matching the treatment group size) are assigned to a pseudo-treatment group and the remaining observations (matching the control group size) become a pseudo-control group. Lastly, I obtain the difference in means of the two pseudo-groups. This single permutation procedure is repeated 100,000 times to generate an empirical null distribution of the difference in means statistic. A two-tailed p-value is the proportion of the number of the randomized differences in means out of the 100,000 simulated statistics, in which the randomized difference is greater than the absolute value of the observed difference, or is less than the negative absolute value of the observed difference. The shaded areas in the tails of the empirical null distribution depict the p-value. Firm financials are obtained from Compustat, as of the fiscal year end date immediately prior to the law changes mandating classified boards.

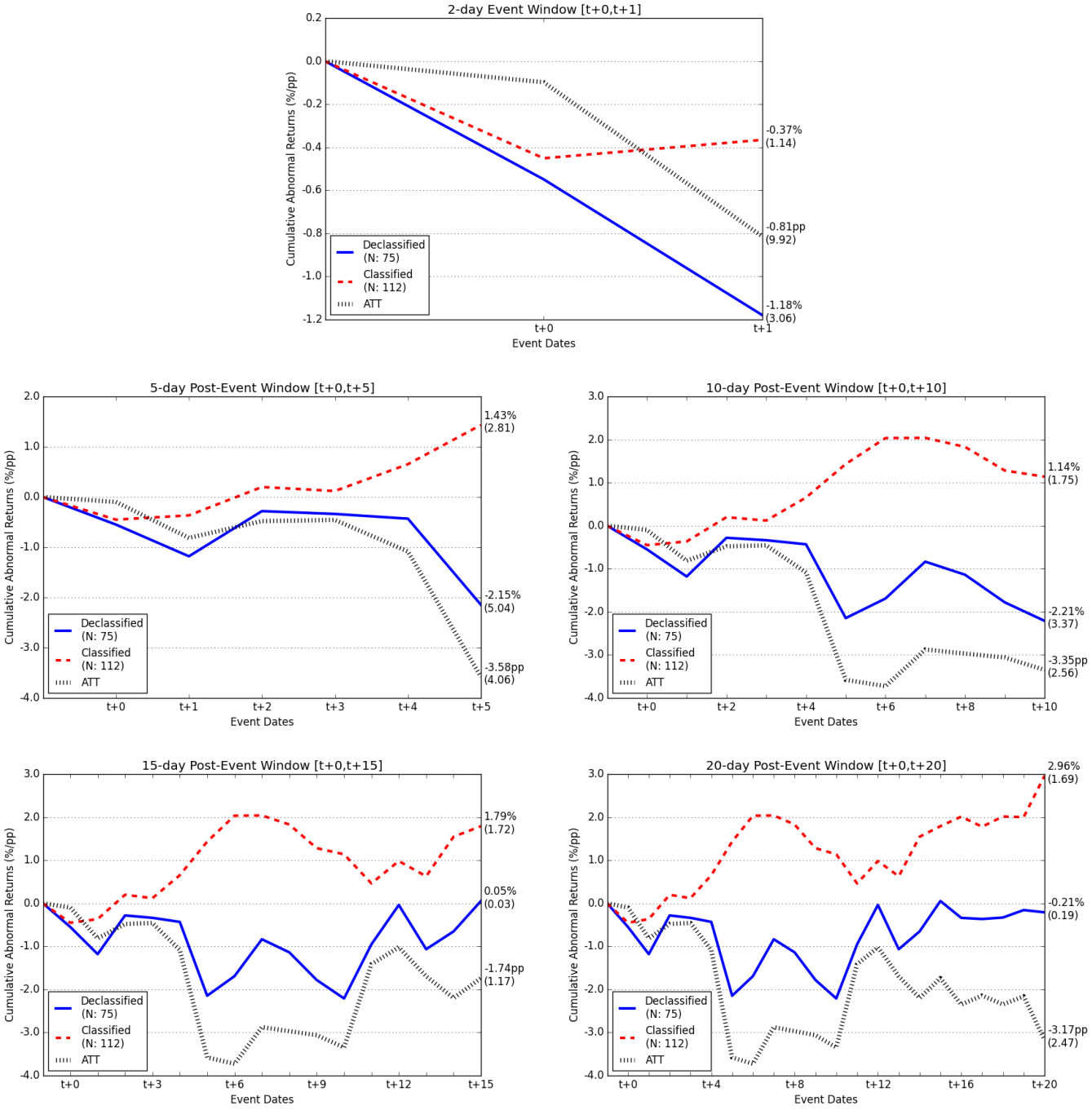


Figure 5.1: Pooled Multi-Event Analysis.

Figure 5.1: Pooled Multi-Event Analysis. (cont.)

This figure shows the results of pooled multi-event analysis and the post-event analysis. The (top) two-day event window graph depicts treatment effect of the pooled-multi event analysis. The (bottom four) 5-, 10-, 15-, and 20-day post-event window graphs show the enduring treatment effects during the post-event window. Market reactions are reported as if all firms experience an increase in the classification probability. A solid line represents the multi-day cumulative abnormal returns (CAR) (%) of the declassified treatment group, and a dashed line indicates the CAR (%) of the classified control group. The average treatment effect on the treated (ATT) (pp) is shown as a dotted line. Market reactions and the corresponding t-statistic (in parenthesis) are shown on the right vertical axis. t-statistic is obtained using a two-way (event and state) clustered standard error estimation Petersen (2009).

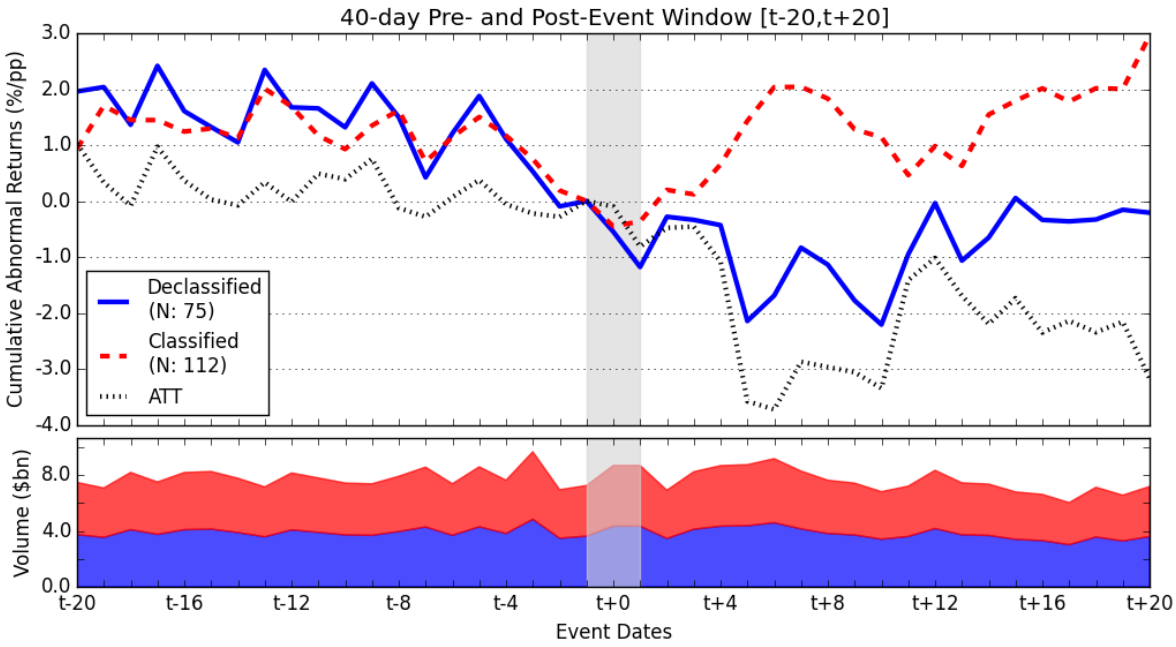


Figure 5.2: Persistence of the Average Treatment Effect on the Treated.

This figure shows persistence of the average treatment effect on the treated (ATT). The 40-day pre- and post-event window graph visually compares differential market reactions of the declassified treatment group and classified control group during the 20-day pre-event and 20-day post-event windows (the subgraph shows trading volume in $ billions). Market reactions are reported as if all firms experience an increase in the classification probability. A solid line represents the multi-day cumulative abnormal returns (CAR) (%) of the declassified treatment group, and a dashed line indicates the CAR (%) of the classified control group. The ATT (pp) is shown as a dotted line. Market reactions and the corresponding t-statistic (in parenthesis) are shown on the right vertical axis. t-statistic is obtained using a two-way (event and state) clustered standard error estimation Petersen (2009). A darker shaded region in the subgraph represents aggregated trading volume of the declassified treatment group and a lighter region shows aggregated trading volume of the classified control group. A rectangular region with the lightest shade represents the two-day event window.

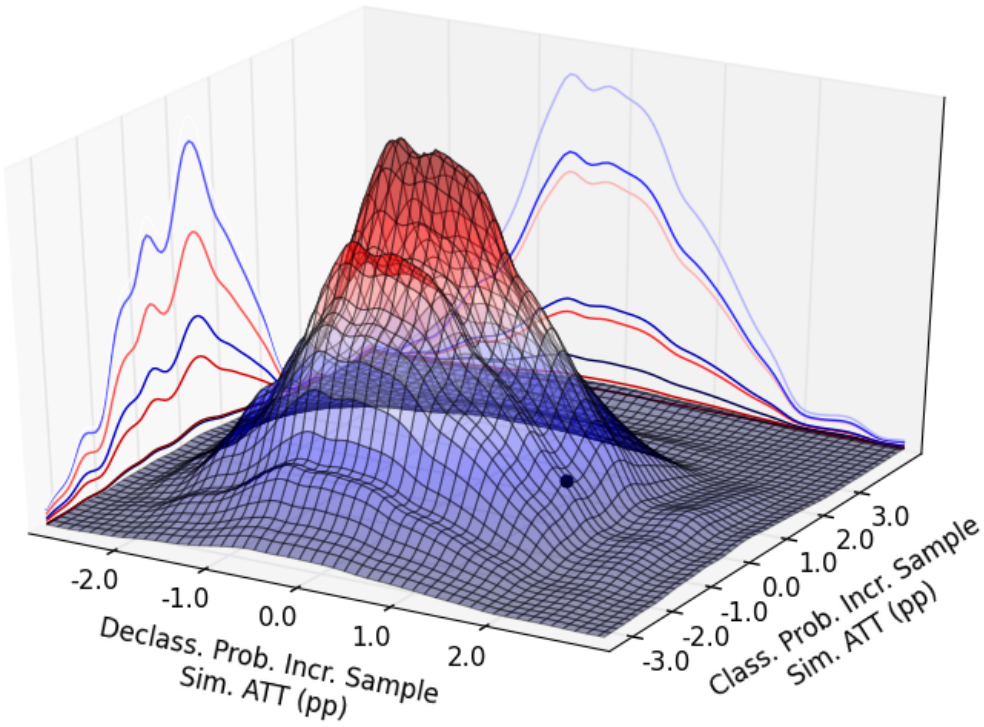


Figure 5.3: Bidirectional Event Analysis.

Figure 5.3: Bidirectional Event Analysis. (cont.)

This figure depicts the bidirectional event analysis results. The Pooled Sample is divided into two subsamples: the Classification Probability Increasing Subsample containing six events that increase classification probability; and the Declassification Probability Increasing Subsample comprising three events that either decrease classification probability or increase declassification probability. I form a joint distribution of simulated non-event period average treatment on the treated (ATT) for the Classification Probability Increasing Subsample and the Declassification Probability Increasing Subsample. The bivariate distribution shown above visualizes the simulated joint distribution using a bivariate Gaussian kernel density estimation (with a covariance factor of 0.16). The two horizontal axes, *Class. Prob. Incr. Sample Sim. ATT* and *Declass. Prob. Incr. Sample Sim. ATT*, plots the simulated distributions of the Classification Probability Increasing Subsample and the Declassification Probability Increasing Subsamples, respectively. The black dot is the observed ATT (of the pooled multi-event analysis). To simulate an ATT, I first obtain estimates of the size-factor model parameters for each firm from a time-series regression using the CRSP (individual) stock return excluding dividends and the CRSP Capitalization Decile portfolio returns over the post-event period. The acquired firm-specific model parameters are then applied to approximate a normal return during the post-event period. An abnormal return is the CRSP (individual) stock return excluding dividends less the normal return. The daily abnormal returns of an individual stock are aggregated over a two-day event window to obtain an individual firm-event cumulative abnormal return (CAR). For each subsample, I aggregate firm-event observations and regress the CAR on the declassified board indicator variable, which equals 1 if a firm's board was declassified prior to the law amendment that mandated classified boards, or equals 0 if it was classified before that law change. The resulting estimated coefficient of the declassified board indicator variable represents the ATT. ATTs are reported in percentage points (pp).

Appendices

Appendix A

Board Declassification Shareholder Proposal Examples

A.1 United States Steel Corp. 2013 Definitive Proxy Statement

Proposal No. 4 Recommendation of Elimination of Classified Board of Directors

The Treasurer of the State of North Carolina, on behalf of the State of North Carolina Equity Investment Fund Pooled Trust, advised the Corporation that it intends to present the following shareholder proposal at the annual meeting. The address of the proponent and the number of shares of the Corporation's common stock which it owns are available upon request to U. S. Steel Shareholder Services, 15th Floor, 600 Grant Street, Pittsburgh, PA 15219-2800.

Proposal to Repeal Classified Board

RESOLVED, that shareholders of United States Steel Corporation urge the Board of Directors to take all necessary steps (other than any steps that must be taken by shareholders) to eliminate the classification of the Board of Directors and to require that all directors elected at or after the annual meeting held in 2014 be elected on an annual basis. Implementation of this

proposal should not prevent any director elected prior to the annual meeting held in 2014 from completing the term for which such director was elected.

Supporting Statement

The proponent of this resolution is the State of North Carolina Equity Investment Fund Pooled Trust. The Shareholder Rights Project submitted the resolution on behalf of the North Carolina State Treasurer.

The resolution urges the board of directors to facilitate a declassification of the board. Such a change would enable shareholders to register their views on the performance of all directors at each annual meeting. Having directors stand for elections annually makes directors more accountable to shareholders, and could thereby contribute to improving performance and increasing firm value.

According to data from FactSet Research Systems, the number of S&P 500 companies with classified boards declined by more than two-thirds from 2000 to 2012, and during the period January 1, 2011 to June 30, 2012:

- More than 50 S&P 500 companies brought management proposals to declassify their boards to a vote at annual meetings;
- More than 50 precatory declassification proposals passed at annual meetings of S&P 500 companies; and
- The average percentage of votes cast in favor of shareholder proposals to declassify the boards of S&P 500 companies exceeded 75%.

The significant shareholder support for declassification proposals is consistent with empirical studies reporting that:

- Classified boards are associated with lower firm valuation (Bebchuk and Cohen, 2005; confirmed by Faleye (2007) and Frakes (2007));
- Takeover targets with classified boards are associated with lower gains to shareholders (Bebchuk, Coates, and Subramanian, 2002);
- Firms with classified boards are more likely to be associated with value-decreasing acquisition decisions (Masulis, Wang, and Xie, 2007); and
- Classified boards are associated with lower sensitivity of compensation to performance and lower sensitivity of CEO turnover to firm performance (Faleye, 2007).

Although one study (Bates, Becher and Lemmon, 2008) reports that classified boards are associated with higher takeover premiums, this study also reports that classified boards are associated with a lower likelihood of an acquisition and that classified boards are associated with lower firm valuation.

Please vote for this proposal to make directors more accountable to shareholders.

The Board's Statement in Opposition

The Board recommends voting **AGAINST** the advisory proposal to declassify the Board of Directors of the Corporation. The advisory proposal has been

submitted to the Corporation by the Harvard Shareholder Rights Project (the "SRP") on behalf of the proponent. It is identical to dozens of other declassification proposals that have been submitted by the SRP to other corporations.

We believe the "one size fits all" governance structure advocated by the SRP is not in the best interests of our shareholders. We have maintained our classified Board structure for almost our entire corporate history, dating back to 1901. It is a structure that has served our shareholders well throughout our history, and we believe that it would be a mistake to change it now.

Protecting Shareholder Value

We are engaged in a highly cyclical industry, requiring substantial investment in fixed assets, which has resulted in high volatility in our earnings and share price. These industry fundamentals make it imperative to have a structure in place that enhances the Board's ability to maximize shareholder value in the context of a potential takeover of the Corporation. A classified Board structure increases the Board's ability to evaluate the fairness of any offer, to protect shareholders from abusive or coercive offers, and, where appropriate, to negotiate on behalf of our shareholders; it does not preclude a successful takeover.

The proponent cites five empirical studies, two of which were co-authored by the Director of the SRP, to support the proposition that classified boards are associated with lower firm valuations. However, the findings of these studies

have been questioned, and in some cases refuted, by more recent studies. A 2011 study entitled "The Impact of Classified Boards on Firm Value: The New Evidence" contradicts the studies cited by the proponent and finds no evidence of a negative correlation between classified boards and firm value (Ahn, Hong, and Kim, 2011). This study further concludes that if there is any correlation, classified boards actually enhance firm value. A 2012 study found that classified boards are value-enhancing in large and diversified firms such as the Corporation (Ahn and Shrestha, 2012). The authors noted that the previous studies (such as those cited by the proponent) provide an incomplete picture of the effects of classified boards on firm value, and that the effects vary depending on a firm's particular attributes; for firms such as the Corporation, with a high percentage of tangible capital assets and relatively low research expenditures, a classified board was found to enhance firm value. According to the authors, their study adds to the growing literature that argues that the one-size-fits-all approach to board structure is misguided. A study of banking corporations published in November 2012 similarly found that classified boards can enhance value. That study reached the conclusion that annual elections of all directors, coupled with related legal constructs, correlated with poorer bank performance leading to more government bailouts, while banks whose charters required classified boards demonstrated superior financial performance, and were less likely (by between 19 and 26 percentage points) to need to be bailed out (Ferreira, Kershaw, Kirchmaier, and Schuster, 2012). Another study published in 2012 found that classified boards significantly reduce the cost

of debt, reduce managerial risk-taking, and improve financial transparency (Chen, 2012).

Many other studies support this more recent research. An article published in The Business Lawyer in 2010 analyzed data from many studies, including those cited by the SRP (Murphy, 2010). Based on a review of dozens of studies, the author concluded that it ordinarily seems prudent to leave the classified board in place as a counterweight to precipitous decision-making. The author also concluded that proposals to repeal classified boards should be judged on a case-by-case basis. The evidence cited in this article refutes the categorical one-size-fits-all approach favored by the SRP. A study published in The Journal of Financial Economics in 2008 found that shareholders of companies with classified boards receive a larger proportional share of the total value gains from a merger than do shareholders of companies without classified boards (Bates, Becher, and Lemmon, 2008). The authors of that study concluded that board classification may improve the relative bargaining power of a target company's management on behalf of shareholders, and further concluded that calls for declassifying boards seem to be unwarranted and potentially damaging to shareholders.

We believe that the evidence cited in these more recent studies calls into question the studies cited by the SRP and supports our conclusion that our classified Board structure continues to serve the best interests of our shareholders.

Continuity and Stability

The experience our Board members gain through three-year terms gives them a better understanding of our industry, our Corporation and our culture. The steel industry has undergone, and continues to undergo, rapid and fundamental change. Throughout the Corporation's 112-year history, we have enjoyed profitable periods and survived industry-shaping events that have claimed many of our competitors. We believe that our classified Board structure helps us to thrive in a changing business environment while preserving our core values.

Our classified Board structure ensures that at any time, approximately two-thirds of our Board members have no less than a year of familiarity with our business and with the "Gary Principles" that guide our conduct. These principles, adopted more than one hundred years ago under our first chairman, Judge Elbert Gary, continue to form the bedrock of our business, and are the basis of our core values, which are listed below:

- Safety,
- Diversity and inclusion,
- Environmental stewardship,
- Focus on cost, quality and customers, and
- Results and accountability.

Our Board's commitment to these core values has enhanced our relationship with all of our stakeholders, including shareholders, customers and employees. The United Steelworkers Union (the "Union"), which represents the vast majority of our hourly employees in North America, has recognized the positive impact of our classified Board on employee relations. In our 2012 labor agreement, which continues the Union's right to suggest two individuals for nomination to our Board, the Union states its belief "that a declassification of the Board could jeopardize the current positive relationship between the parties." The Board shares this concern, in that annual elections of all directors could result in a Board with less knowledge of our industry, our culture and our values.

Accountability to Shareholders

Our Board does not believe that its accountability to shareholders would now be enhanced by annual elections. Our Board members represent all of our shareholders and not any special interest group or constituency. Our Board members are committed to acting in the best interests of our shareholders. The fiduciary duties of our Board members do not vary depending on the terms for which they are elected.

Our Board meets the highest standards of accountability and independence, and is regularly refreshed by the addition of new members with new ideas. Our Board today is well-balanced among relatively new members and more experienced members. We currently have twelve Board members, of whom all

but one is independent. Of our eleven independent Board members, service on our Board ranges from less than one year to more than ten years.

We have adopted director qualification standards, which are set forth in our Corporate Governance Principles, to help ensure that the nominees to our Board reflect our high governance standards, are prepared to serve the interests of all of our shareholders and are accountable to no special interest groups. Once Board members are elected, they are evaluated annually by the full Board, in a process that is overseen by our Corporate Governance & Public Policy Committee. We believe that our corporate governance practices, which we evaluate and refresh where appropriate on a continual basis, reflect our commitment to accountability and serve the interests of all of our shareholders.

Conclusion

Our Board has carefully evaluated our classified board structure, and has determined that its continuation is in the best interests of our shareholders. Therefore, we recommend that you vote **AGAINST** this proposal.

A.2 Best Buy Inc. 2012 Definitive Proxy Statement

ITEM OF BUSINESS NO. 5 — SHAREHOLDER PROPOSAL RECOMMENDING DECLASSIFICATION OF OUR BOARD OF DIRECTORS

The Nathan Cummings Foundation, a beneficial owner of 600 shares of our common stock as of November 29, 2011, the date of its submission to us, intends to submit a resolution to shareholders for approval at the Meeting.

We will provide the proponent's address to any shareholder promptly upon receiving an oral or written request. The affirmative vote of a majority of the shares voted at the Meeting is required for approval of the shareholder proposal (the "Proposal"). The text of the proponent's resolution and supporting statement appear below, printed verbatim from its submission, and we accept no responsibility for it:

"RESOLVED, that shareholders of Best Buy Co., Inc. urge the Board of Directors to take all necessary steps (other than any steps that must be taken by shareholders) to eliminate the classification of the Board of Directors and to require that all directors elected at or after the annual meeting held in 2013 be elected on an annual basis. Implementation of this proposal should not prevent any director elected prior to the annual meeting held in 2013 from completing the term for which such director was elected."

SUPPORTING STATEMENT

This resolution was submitted by the Nathan Cummings Foundation. The Harvard Law School Shareholder Rights Project represented and advised the Nathan Cummings Foundation in connection with this resolution.

The resolution urges the board of directors to facilitate a declassification of the board. Such a change would enable shareholders to register their views on the performance of all directors at each annual meeting. Having directors stand for elections annually makes directors more accountable to shareholders, and could thereby contribute to improving performance and increasing firm value.

Over the past decade many S&P 500 companies have declassified their board of directors. According to data from FactSet Research Systems, the number of S&P 500 companies with classified boards declined by more than 50%; and the average percentage of votes cast in favor of shareholder proposals to declassify the boards of S&P 500 companies during the period January 1, 2010 - June 30, 2011 exceeded 75%.

The significant shareholder support for proposals to declassify boards is consistent with empirical studies reporting that classified boards could be associated with lower firm valuation and/or worse corporate decision making. Studies report that:

- Classified boards are associated with lower firm valuation (Bebchuk and Cohen, 2005; confirmed by Faleye (2007) and Frakes (2007));
- Takeover targets with classified boards are associated with lower gains to shareholders (Bebchuk, Coates, and Subramanian, 2002);
- Firms with classified boards are more likely to be associated with value-decreasing acquisition decisions (Masulis, Wang, and Xie, 2007); and
- Classified boards are associated with lower sensitivity of compensation to performance and lower sensitivity of CEO turnover to firm performance (Faleye, 2007).

Please vote for this proposal to make directors more accountable to shareholders.

BOARD OF DIRECTORS STATEMENT IN RESPONSE TO THE SHAREHOLDER PROPOSAL

The Company's Board of Directors has considered the Proposal set forth above recommending declassification of the Board, and has determined to neither oppose nor support the Proposal, nor to provide a voting recommendation to shareholders. The Proposal is advisory in nature and would act as a recommendation to the Board if approved by shareholders. The Board understands that staggered terms for directors is a controversial topic, and that there are valid arguments in favor of, and in opposition to, a classified board structure. The Board would like to use this Proposal to provide an opportunity for shareholders to express their views on the topic without any influence that a voting recommendation from the Board might have.

Supporters of a classified board structure contend that such a structure can provide stability and continuity of leadership, and enable a board to respond to takeover bids more effectively by making it more difficult for an unsolicited bidder to gain control of the Company. Opponents of a classified board structure contend that the structure can diminish shareholder accountability and may facilitate entrenchment of the board.

The affirmative vote of at least a majority of the voting power of the shares present, in person or by proxy, and entitled to vote (excluding broker non-votes) is required to approve the Proposal. Shareholders should be aware that approval of the Proposal would not necessarily result in a declassified Board. If shareholders voted in favor of the Proposal, the Board, consistent with its

fiduciary duties, would reexamine its position with respect to our classified board structure. Should the Board then determine to declassify the Board, it would need to submit a proposal to the shareholders for approval of an amendment to the relevant sections of our Amended and Restated Articles of Incorporation and Amended and Restated By-Laws.

The Board of Directors is neither opposing nor supporting this Proposal and makes no voting recommendation to shareholders.

IT IS INTENDED THAT, UNLESS OTHERWISE INSTRUCTED, THE SHARES REPRESENTED BY THE PROXY (OTHER THAN BROKER NON-VOTES) WILL BE VOTED "ABSTAIN" ON THE PROPOSAL RECOMMENDING DECLASSIFICATION OF OUR BOARD OF DIRECTORS.

Appendix B

State Legislative Data Resources

State	Data	Source (Website)*
Indiana	Indiana General Assembly	https://iga.in.gov/
	Legislative Process	http://iga.in.gov/information/bill_becomes_law/
		http://iga.in.gov/information/stats/senate-bill-diagram/
		http://www.in.gov/ipas/2425.htm
		http://www.in.gov/gov/files/BillintoLaw.pdf
	Legislative Session Archives	http://www.in.gov/legislative/2414.htm
	Legislative Session Archives (Downloadable)	http://www.in.gov/legislative/reports/
	- Bill Placement Register	http://www.in.gov/legislative/reports/YYYY/BRGTOT.TXT
	- (Senate) Bill Action History	http://www.in.gov/legislative/reports/YYYY/BACTS.TXT
	- Bills in Conference	http://www.in.gov/legislative/reports/YYYY/BIC.TXT
	- Last Action Report	http://www.in.gov/legislative/reports/YYYY/BLASTACT.TXT
	- (Senate) Committee Assignments	http://www.in.gov/legislative/reports/YYYY/BLS.TXT
	- (House) Committee Assignments	http://www.in.gov/legislative/reports/YYYY/BLH.TXT
Oklahoma	Oklahoma State Legislature	http://www.oklegislature.gov/
	Legislative Process	http://www.okhouse.gov/information/CourseOfBills.aspx
		http://www.okhouse.gov/Documents/How an Idea Becomes a Law.pdf
		http://www.okhouse.gov/Documents/idea becomes a law_tabloid.pdf
	Bill Tracking Reports	http://www.oklegislature.gov/AdvancedSearchForm.aspx
Iowa	Iowa General Assembly	https://www.legis.iowa.gov/
	Legislative Process	https://www.legis.iowa.gov/docs/resources/HowABillBecomesALaw.pdf
	Bill Tracking Tools	https://www.legis.iowa.gov/legislation/billTracking
	- Bill History	https://www.legis.iowa.gov/legislation/billTracking/billHistory
	- Disposition of Bills	https://www.legis.iowa.gov/legislation/billTracking/billDisposition
	- Bill Version Tracking	https://www.legis.iowa.gov/legislation/billTracking/billVersions

*'YYYY' in file names represents a 4-digit year.

Appendix C

Three Corporate Law Amendments Mandating Classified Boards

I. Indiana P.L. 133-2009, 24

SECTION 24. IC 23-1-33-6 IS AMENDED TO READ AS FOLLOWS [EFFECTIVE JULY 1, 2009]: Sec. 6.

. . .

(c) A corporation that has a class of voting shares registered with the Securities and Exchange Commission under Section 12 of the Securities Exchange Act of 1934 shall provide for staggering the terms of directors in accordance with this section unless, not later than thirty (30) days after the later of:

(1) July 1, 2009; or

(2) the time when the corporation's voting shares are registered with the Securities and Exchange Commission under Section 12 of the Securities Exchange Act of 1934;

the board of directors of the corporation adopts a bylaw expressly electing not to be governed by this subsection. However, an election not to be governed by this subsection may be rescinded by a subsequent action of the board

of directors unless the original articles of incorporation contain a provision expressly electing not to be governed by this subsection.

(d) If the board fails to provide for the staggering of the terms of directors as required by subsection (c), the board must be staggered as follows:

(1) The first group comprises one-third (1/3) of the directors or one-third (1/3) of the directors rounded to the nearest higher whole number if the number of directors is not divisible by three (3) without any remaining.

(2) The second group comprises one-third (1/3) of the directors or one-third (1/3) of the directors rounded to the nearest higher whole number if the number of directors is not divisible by three (3) without two (2) remaining.

(3) The third group comprises one-third (1/3) of the directors or one-third (1/3) of the directors rounded to the nearest lower whole number if the number of directors is not divisible by three (3) without any remaining.

The directors shall be placed into the groups established by this subsection alphabetically by last name.

II. Oklahoma Laws 2010, Ch. 384, 105.

BOARD OF DIRECTORS; POWERS; NUMBER; QUALIFICATIONS; TERMS AND QUORUM; COMMITEES; CLASSES OF DIRECTORS; NOT FOR PROFIT; CORPORATEIONS; RELIANCE UPON BOOKS; ACTION WITHOUT MEETING; ETC.

D.

. . .

2. a. Any domestic corporation with both:

(1) a class of voting stock listed or traded on a national securities exchange or registered under Section 12(g) of the Securities Exchange Act of 1934, 15 U.S.C. Section 78a et seq., as amended, and

(2) one thousand (1,000) or more shareholders of record, shall have a board of directors that is divided into two or three classes, as set forth in the certificate of incorporation or bylaws of such corporation, the term of office of each such class to expire as provided in paragraph 1 of this subsection. If such a domestic corporation does not have a certificate of incorporation or bylaw dividing its board of directors pursuant to this paragraph, the board shall automatically be divided into three classes consisting of a number of directors as nearly equal in number as possible, with the directors of such corporation placed sequentially one at a time into each class beginning with the first class, alphabetically by last name.

b. This paragraph shall cease to apply to any domestic corporation after such corporation either:

(1) ceases to, have any class of voting stock listed or traded on a national securities exchange or registered under Section 12(g) of the Securities Exchange Act of 1934, 15 U.S.C. Section 78a et seq., as amended, or

(2) ceases to have one thousand (1,000) or more shareholders of record on the last business day of each month. for a consecutive twelve-month period.

3. On or after January 1,2015, an election not to be governed by paragraph 2 of this subsection may be made by a resolution adopted by the board of directors and approved by a vote of the shareholders at a special or annual meeting. Approval by shareholders shall require the favorable vote of a majority of the outstanding stock entitled to vote thereon, and a majority of the outstanding stock of each class entitled to vote thereon as a class, or such greater number or proportion required to amend a provision in the corporation's certificate of incorporation or bylaws that divides the board of directors into classes.

III. Iowa 2011 Acts, Ch 2, 6

Sec. 6. 490.806A Public corporations - staggered terms.

1. Except as provided in subsection 2, and notwithstanding anything to the contrary in the articles of incorporation or bylaws of a public corporation, the terms of directors of a public corporation shall be staggered by dividing the number of directors into three groups, as nearly equal in number as possible. The first group shall be referred to as "class I directors", the second group shall be referred to as "class II directors", and the third group shall be referred to as "class III directors".

a. On or before the date on which a public corporation first convenes an annual shareholders' meeting following the time the public corporation becomes subject to this subsection, the board of directors of the public corporation shall by majority vote designate from among its members directors to serve as class I directors, class II directors, and class III directors.

b. The terms of directors serving in office on the date that the public corporation becomes subject to this subsection shall be as follows:

(1) Class I directors shall continue in office until the first annual shareholders' meeting following the date that the public corporation becomes subject to this subsection, and until their successors are elected. The shareholders' meeting shall be conducted not less than eleven months following the last annual shareholders' meeting conducted before the public corporation became subject to this subsection.

(2) Class II directors shall continue in office until one year following the first annual shareholders' meeting described in subparagraph (1), and until their successors are elected.

(3) Class III directors shall continue in office until two years following the first annual shareholders' meeting described in subparagraph (1), and until their successors are elected.

c. At each annual shareholders' meeting of a public corporation subject to this subsection, the successors to the class of directors whose term expires at

that meeting shall be elected to hold office for a term of three years following such meeting and until their successors are elected.

d. The board of directors of a public corporation subject to this subsection shall adopt an amendment to its articles of incorporation as provided in section 490.1005A.

e. Notwithstanding this subsection, the articles of incorporation of a public corporation may confer upon the holders of preferred shares the right to elect one or more directors pursuant to section 490.804, who shall serve for such term, and have such voting powers, as shall be stated in the articles of incorporation.

2. Every public corporation shall be subject to subsection 1, unless it is exempt pursuant to this subsection.

a. (1) In order for a public corporation in existence on the effective date of this Act to be exempt from subsection 1, its board of directors must adopt a resolution or take action under section 490.821 expressly making an election to be exempt from the provisions of subsection 1. Such resolution or action must be adopted or taken within forty days after the effective date of this Act.

(2) Upon adopting the resolution or taking board action under section 490.821, the public corporation is no longer subject to subsection 1, effective immediately unless otherwise provided for in the resolution or by the board action.

b. If on the effective date of this Act the articles of incorporation of the public corporation already provide for staggering the terms of its directors under section 490.806, the public corporation shall be exempt from the provisions of subsection 1. In such event, no further corporate action is required, and the public corporation is not required to amend or modify any provision of its articles of incorporation or bylaws in order to be exempt from subsection 1.

c. A corporation that becomes a public corporation on or after the effective date of this Act is exempt from the provisions of subsection 1.

Appendix D

Estimation of the Average Treatment Effect on the Treated Using the Size-Factor Model

The size-factor model estimates a normal return using the return of a portfolio consisting of stocks of firms similar in market values.[1] Estimates of the size-factor model parameters are obtained for each firm i (belonging to CRSP Capitalization Decile j) from a time-series regression over the estimation period:

$$r_{i,t} = \alpha_i + \beta_i \cdot r_{j,t} + \varepsilon_{i,t}, \tag{D.1}$$

where $r_{i,t}$ is the firm i's stock return excluding dividends on (estimation) day t (from CRSP) and $r_{j,t}$ is the return of the CRSP Capitalization Decile j portfolio on the same day. The acquired firm-specific model parameters (for firm i), $\hat{\alpha}_i$ and $\hat{\beta}_i$, are then applied to approximate the normal return given the CRSP Capitalization Decile j's portfolio return on event day t: $\hat{\alpha}_i + \hat{\beta}_i \cdot r^*_{j,t}$.[2]

An abnormal return of firm i at event day t, $AR_{i,t}$, is defined as the the event day CRSP individual return excluding dividends less the estimated

[1] See (Campbell et al., 1997, 155-156) Subsection 4.3.3 for an explanation about the size-factor model.

[2] The star superscript (*) on a return variable denotes an event window day return.

normal return:

$$AR_{i,t} \equiv r^*_{i,t} - (\hat{\alpha}_i + \hat{\beta}_i \cdot r^*_{j,t}). \tag{D.2}$$

For each firm i experiencing event k, the τ-day cumulative abnormal return (CAR) is defined as the time-series sum of daily abnormal returns over the event window:

$$CAR_{i,k} \equiv \sum_{t=0}^{\tau-1} AR_{i,t}, \tag{D.3}$$

where $AR_{i,t}$ is the abnormal return estimated with the size factor model (from Equation D.2).

The average treatment effect on the treated (ATT) is estimated as follows. First, individual firm-event CAR's from three events predicted to lower classification probability (i.e., the Indiana Senate Dissent; the Oklahoma Repeal Initial and Final Passages) are multiplied by -1:

$$\widetilde{CAR}_{i,k} \equiv \begin{cases} -CAR_{i,k}, & \text{if } k \text{ is Event \#2, \#6, or \#7;} \\ CAR_{i,k}, & \text{otherwise.} \end{cases} \tag{D.4}$$

Then, using firm-event observations of all nine events, I regress $\widetilde{CAR}_{i,k}$ on the declassified board indicator variable, D_i, which equals 1 if firm i's board was declassified prior to the law amendment that mandated classified boards, or equals 0 if it was classified before that law change:

$$\widetilde{CAR}_{i,k} = \alpha_p + \beta_p \cdot D_i + \varepsilon_{i,k}. \tag{D.5}$$

The resulting estimated coefficient of the declassified board indicator variable, $\hat{\beta}_p$, represents the ATT. To address cross-sectional and temporal correlations among cumulative abnormal returns ($CAR_{i,k}$), I estimate standard

errors with two-way clusters (by event and state) (Petersen, 2009). Furthermore, to mitigate the possibility of underestimated standard errors due to a small number of state clusters (Moulton, 1986; Angrist and Pischke, 2009), I complement the two-way clustered standard errors with a Wild-bootstrapped state clusters (Cameron et al., 2008), where state clusters are bootstrapped 1,000 times (with replacement).

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