STAGGERED BOARDS AND FIRM VALUE, REVISITED

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ABSTRACT

This paper revisits the association between firm value and staggered boards. We document that firms adopting a staggered board increase in value, while de-staggering is associated with a decrease in value. The decision to adopt a staggered board is related to an *ex ante* lower firm value, which helps reconciling our novel results to prior cross-sectional studies. Our results are driven by firms more engaged in research and where firm-specific stakeholder investments are more important, suggesting that staggered boards may promote long-term value creation by serving as a credible commitment device towards investments in long-term projects and stronger stakeholder relationships.

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1. Introduction

Whether staggered (or classified) boards are a desirable governance arrangement for publicly traded firms is the subject of a long-standing debate, which shows no signs of waning. Unlike a unitary board, where all directors stand for reelection each year, in a staggered board directors are typically grouped into three different classes, with each class serving staggered three-year terms. Hence, staggered boards help to insulate directors from the threat of quick removal, because challengers need to win at least two election cycles to gain a board majority, as in each election cycle only a third of directors stand for reelection. For critics of staggered boards, such insulation is undesirable as it diminishes the accountability of directors (and managers), encouraging moral hazard such as shirking, empire building, and private benefits extraction by insiders (Manne, 1965; Jensen, 1988, 1993). Moreover, protection from removal could enable self-interested insiders to block value-increasing acquisitions (Easterbrook and Fischel, 1981) or preempt offers (Grossman and Hart, 1980). In contrast, defenders of staggered boards suggest that they are a means to encourage boards to pursue long-term value creation (Lipton, 1979; Koppes, Ganske, and Haag, 1999), avoiding situations in which "impatient" shareholders may pressure management to overinvest in short-term projects at the expense of long-term firm value (Stein, 1988, 1989; Bebchuk and Stole, 1993; Mizik and Jacobson, 2007).

This debate notwithstanding, the empirical literature has generally supported the "managerial entrenchment" view of staggered boards, showing that, in the cross-section, staggered boards tend to have lower firm value as measured by Tobin's Q (Bebchuk and Cohen, 2005; Faleye, 2007). This paper revisits this association, documenting that the negative *cross-sectional* association between staggered boards and firm value is reversed in the *time series*: staggering up (down) is associated with an increase (decrease) in firm value.

This result is robust to various methodologies, such as pooled panel regressions in levels with firm fixed effects, regressions of changes in Q on changes in board structure, using matched samples, and a portfolio approach. In particular, in pooled panel Tobin's Q regressions with firm fixed effects, staggering up (down) is associated with an increase (decrease) in Tobin's Q of 3.7% (t-statistic of 2.11). Compared to the previous literature, we are able to rely on a more comprehensive dataset for a large cross-section of firms from 1978 to 2011. In contrast to the 1995 – 2002 period typically used in prior studies with few instances of firms adopting a staggered board or de-staggering, our longer sample includes a significant number of changes in board structure, with 386 cases of staggering up and 309 cases of staggering down. Our results are driven by the latter part of our sample, which could be explained by legal changes increasing the importance of board structure over our time period. In particular, the Delaware Supreme Court validated the poison pill for the first time in the 1985 decision of *Moran vs. Household*, which Daines and Klausner (2001) and Bebchuk and Hart (2002) argue substantially increased the anti-takeover power of staggered boards. Finally, our firm value results are similar for both staggering up and staggering down decisions.

Reverse causality can help reconcile our time-series results with the cross-sectional results in the existing literature, as firms that staggered up in our sample tended to already have lower firm value than other firms in their industry before adopting a staggered board. After staggering up, the financial value of these firms tended to increase but insufficiently to erode the difference with other firms in their industry, generating the negative cross-sectional association between firm value and having a staggered board. Conversely, we find no significant association between lagged firm value and the decision to de-stagger.

Further, the performance of stock portfolios formed ex-post around changes in board structures (holdings stocks 18 – 36 months around the change) suggests abnormal returns that are economically consistent (though noisily so) with the *Q* regressions, as the portfolio of firms that staggered up (down) exhibits a positive (negative) abnormal return. These results can be interpreted as a long-term event study around changes in board structure. An advantage of long-term event studies is that they capture investors' ability to learn over time, rather than primarily at the proxy filing or the annual meeting date. Our results provide complementary evidence to existing short-term event studies that offer mixed and generally fairly weak evidence – with results varying by sample, event window, and method for computing abnormal returns.[1]

Our novel empirical evidence raises two questions on the relationship between board structure and firm value. On the one hand, given that almost all staggered board changes in our sample involve amendments to the corporate charter, which always need to be approved by both the board and the shareholders, why would shareholders approve staggered boards if they are associated with lower firm value and promote

[1] We discuss short-term event studies around changes in board structure, including Faleye (2007), Jarrell and Poulsen (1987), Mahoney and Mahoney (1993), and Guo, Kruse, and Nohel (2008), in sub-section 4.2.3 below.

entrenchment, as the existing literature suggests (Bebchuk and Cohen, 2005; Faleye, 2007)? On the other hand, given the recent wave of board destaggerings, why would shareholders vote to remove staggered boards – and why would the board consent to such a change – if destaggering is associated with decreases in long-term firm value, as our novel time series evidence suggests? Our attempt to answer these questions involves two related issues. First, changes to board structure are endogenous (Adams, Hermalin, and Weisbach, 2010), such that empirical results on staggered boards need to be interpreted with caution and could be due to selection effects. Second and relatedly, the role of staggered boards may differ across firms, such that shareholder and board support for changes to board structure may depend on firm-specific circumstances.[2]

We first check whether our main results might be due to basic selection effects by forming a matched sample of control firms in the same industry with both a very similar valuation and asset size as the treatment firms in the year before those treatment firms changed their board structure. Relative to these matched control firms, the valuation of firms that stagger up (down) increases (decreases) by 2.9% (t-statistic of 2.00) after two years and 4.7% (t-statistic of 2.65) after three years.

A general selection effect that could explain our results is that firms may be more likely to stagger up (down) if the corporate insiders have good (bad) information that is not yet incorporated into the short-term price. In case of anticipated long-term value increases, staggered boards may help protect the higher value from being expropriated in a short-term takeover, while destaggering in case of anticipated bad news may facilitate an acquisition at the current high price or allow easier shareholder pressure on directors. In both cases, the change in board structure would promote shareholder interests. Accordingly, this selection explanation seems inconsistent with the entrenchment view, which posits that staggered boards are adopted

[2] Concerning endogenous selection effects, the only study we are aware of that exploits arguably exogenous variation in board structure is Johnson, Karpoff, and Yi (2014), whose findings are in line with those of our paper. This study uses the identity of the law firm advising IPO firms as an instrument providing exogenous variation in firms with a staggered board at the IPO stage, and find that such firms have higher valuations and better performance, especially for firms with important stakeholder relationships. See also Baranchuk, Kieschnick and Mouissawi (2014), who find that IPO firms with more takeover defenses – including staggered boards – pursue more innovative strategies and have higher valuations. As our data consists of large, mature firms and our study focuses on changes in board structure after the IPO, we cannot apply this instrument and more generally do not have such exogenous variation. Short-term event studies focusing on systematic changes (i.e., changes that affect differently firms with a staggered board) provide mixed results. We discuss Larcker, Ormazabal, and Taylor (2011), Cunat, Gine, and Guadalupe (2012), and Cohen and Wang (2013) in sub-section 4.2.4 below.

by entrenched insiders who prioritize their own rather than shareholder interests.[3]

However, the above selection effect would be consistent with our competing hypothesis that staggered boards promote the creation of long-term value for shareholders by addressing what we call "the limited commitment problem." Building on the literature on managerial myopia (Laffont and Tirole, 1988; Stein, 1988, 1989; Mizik and Jacobson, 2007; Edmans, 2011; Manso, 2011), we argue that this problem arises out of informational asymmetry and strong exit rights that prevent public shareholders, attempting to maximize the value of their holdings, to credibly commit not to vote to remove the board in a proxy contest or sell their shares in a hostile takeover. This lack of shareholders' ability to commit to longer investment horizons, in turn, may induce directors and managers to give up profitable long-term projects that are more likely to be mispriced at the early stage, reducing long-term firm value but rendering short-term shareholder retribution or exit less likely. Further, changes in investment policy or takeovers may reduce the value of stakeholders' specific investments in the firm, if the specificity of those investments makes stakeholders vulnerable to changes in the firm's operating strategy (Johnson et al., 2014; Baranchuk et al., 2014). Under these circumstances, stakeholders would have incentives to either increase the cost of their involvement (Francis et al., 2010) or reduce their firm-specific investments (Stein, 1988, 1989; Edmans, 2011). A staggered board might help to mitigate these problems, serving as a unique commitment device through which shareholders bind themselves ex-ante to longer-term value creation alongside directors, managers, and other stakeholders (or, as in the selection effect discussed above, prevent good long-term projects from being appropriated by outside shareholders in the short-term).

The limited commitment explanation for the adoption of a staggered board suggests that the promotion of long-term projects (such as investments in innovation) and stronger stakeholder relationships (e.g. with customers, suppliers, employees and in strategic alliances) are the main channels through which a staggered board is associated with increased firm value – a hypothesis for which we find strong support in the data. Specifically, we document that the adoption (removal) of a staggered board has a stronger positive (negative)

[3] We also consider a different selection effect that could be consistent with the entrenchment view (i.e., where staggered boards lead to an increased risk of managerial moral hazard), namely where decreases in firm value after destaggering may be caused by an anticipation effect of future takeovers that did not materialize ex-post (Edmans, Goldstein, Jiang, 2012; Song and Walkling, 2000). We do not find any evidence consistent with this as discussed in Section 4.3.1.

association with firm value for firms where R&D and innovation is more important, and likewise for firms with stronger relationships with employees, customers and engaged in a strategic alliance.

We can now revisit the issue of board destaggering. Shareholder support for the constructive role served by staggered boards requires that shareholders trust directors not to misuse their longer terms opportunistically as well as confidence in the board's long-term investment strategy. On this view, an explanation that is different from the selection effect discussed above could exist for the recent wave of staggered board removals. Indeed, destaggering could indicate that shareholders have lost trust or confidence in their boards. Subsequent decreases in these firms' financial values confirm shareholder skepticism. However, our results on the importance of the limited commitment problem suggest that this skepticism may be partly self-fulfilling, i.e., that the decrease in firm value after destaggering may be partly due to an increased inability of shareholders to credibly commit towards long-term value creation.

In conclusion, our paper makes the following contributions. First, it is the first to consider the longer-term association between firm value and changes in staggered board structure, using a new and comprehensive sample for 1978 – 2011. Our main new empirical result is that firm value tends to increase (decrease) after firms adopt (repeal) a staggered board, especially for firms engaged in innovation and where stronger and more durable relationships with stakeholders are more important.

Second, we formulate the limited commitment problem explaining the channel through which staggered boards are positively related to firm value, consistent with Shleifer and Summers (1988) and Knoeber (1986).

Third, "one-size-fits-all" policies that unambiguously favor the repeal of staggered boards – the current policy of major institutional investors such as American Funds, Blackrock, CalPERS, Fidelity, TIAA-CREF, and Vanguard, as well as the two most prominent proxy advisors, ISS and Glass Lewis (Cohen and Wang, 2013) – do not reflect the findings of a large body of literature (including this paper) that shows that the relation between board features and firm value is nuanced and heterogeneous, with structural differences in how firms function (Adams et al., 2010). To this respect, our results highlight, in particular, the importance of investments in R&D (Eberhart et al., 2004; Bushee, 1998), strategic alliances (Bodnaruk et al., 2013), employees (Edmans, 2011), and large customers and suppliers (Johnson et al., 2014).

2. Theoretical Background

The managerial entrenchment and the long-term value creation views offer competing predictions of the way in which staggered boards affect firm value, based on a different understanding of a corporation's central conflict of interest. For the former, managerial moral hazard – the conflict of interest between the shareholders and those who control corporate resources – is the primary agency problem to be addressed. Accordingly, as staggered boards insulate directors from the disciplinary effects of the market for corporate control, staggering-up decisions are seen as opportunistic insider protection in the event of unsatisfactory firm performance. The main challenge to this view seems to be that amendments of board structure, such as adopting a staggered board, almost always involve amending the corporate charter, which always requires shareholder approval. This makes it puzzling why shareholders would approve of staggered boards if they increase insulation and entrench the directors and top management.

In contrast, the long-term value creation view focuses on asymmetric information problems that arise under the separation of ownership and control between firm insiders and outsiders. Considered from this different perspective, staggered boards (Lipton, 1979; Koppes, Ganske, and Haag, 1999) – and, more generally, antitakeover defenses (Laffont & Tirole, 1988; Stein, 1988, 1989) – emerge as a means to protect the board's informational advantage vis-à-vis dispersed shareholders and encourage the undertaking of long-term projects. Drawing on this view, we pose that the primary informational problem to be addressed is the shareholder's limited commitment problem, which is caused by the strong exit rights inherent to publicly traded shares and that this problem create a conflict of interest between the shareholders and the other stakeholders, including directors and managers.

Concerning the conflict with directors and managers, the problem arises in situations where currently observable firm outcomes are not fully informative about managerial performance, especially towards long-term value creation. Under the circumstances, the threat of quick removal may induce managers to overinvest in short-term projects out of the fear that informational asymmetry might make the market unable to accurately evaluate long-term investment strategies. R&D investments provide a typical example of the kind of projects managers might forego in the attempt to reduce the risk of removal (Mizik and Jacobson, 2007).

Indeed, such investments tend to be intrinsically affected by a higher level of asymmetric information (Daines and Klausner, 2001; Johnson and Rao, 1997; Pugh, Page, and Jahera, 1992), as R&D-related information is typically "soft" or non-verifiable (see Tirole, 2006). As a result, shareholders may rationally interpret the short-term outcomes (i.e., lower current earnings) accompanying significant R&D projects as evidence of poor managerial performance (Eberhart, Maxwell, and Siddique, 2004), which explains why managers might have incentives to pass up on such projects.

Concerning the conflict with other firm stakeholders, the strong exit rights of public shareholders may render longer-term firm-specific commitments by other stakeholders more expensive (Francis, Hasan, John, and Waisman, 2010) or more limited (Stein, 1988, 1989; Edmans, 2011). As illustrated by Johnson, Karpoff, and Yi (2014), typical cases include long-term suppliers or customers who are vulnerable to changes in the firm's operating strategy. As an illustrative example, in rejecting the 2003 hostile bid by Oracle, the directors of the software company PeopleSoft explicitly referred to, among other arguments, the risk that the bid could jeopardize the company's commitment to existing customers, who had made significant investments to use PeopleSoft's software and were relying on its continued support (see Arlen, 2007; Cremers, Nair and Peyer, 2008).

In exploring similar problems, Knoeber (1986) and Shleifer and Summers (1988), and more recently Johnson, Karpoff, and Yi (2014), have suggested a "bonding hypothesis" of takeover defenses according to which such defenses can bind the firm's commitment to stakeholders, reducing the possibility that a change in control will harm them and, ultimately, the shareholders.[4] Relatedly, our limited commitment hypothesis entails that staggered boards are *more committed* to the long-term strategies and stronger stakeholder relationships. The main challenge to this view arises from the recent wave of staggered board removals. Indeed, why would shareholders (let alone directors) approve to destagger if this decreases firm value?[5]

[4] See also Agrawal and Knoeber (1996), Coates (2001), Pontiff, Shleifer and Weisbach (1990), Cremers, Nair and Peyer (2008), Cen, Dasgupta and Sen (2013).

[5] As almost all staggered board provisions occur in the corporate charter, the actual removal of a staggered board requires the approval of both a majority of shareholders and the consent of the majority board of directors.

As both the managerial moral hazard problem and the limited commitment problem could be relevant simultaneously, the association between staggered boards and firm value is an empirical issue. Moreover, this association may not be homogenous across firms (or across time for a given firm). Firms may differ in the extent to which directors and the board are subject to managerial moral hazard, and likewise, firms may differ in the importance of the limited commitment problem. Relatedly, a major empirical challenge is that board structure is an endogenous choice (Adams, Hermalin, and Weisbach, 2010). For example, the decision to stagger up may be driven by current and prospective firm value and anticipated takeover attempts. We will discuss various attempts in the literature to deal with this endogeneity problem. However, as the results are mixed and often apply only to a fairly small sample of firms, none of these attempts seems capable of fully resolving the endogeneity problem in the long-term association between staggered boards and firm value in our main sample of mature firms. As an alternative, we will therefore assume an association and investigate the channels through which staggered boards could be associated with firm value under each of the two views under consideration. While this does not allow any causal interpretation, it could shed light on the kind of heterogeneity in the association between staggered boards and firm value in the data (and the extent to which this heterogeneity supports either view).

3. Data and Descriptive Statistics

3.1. Data

Our data come from several sources, with the main data sample covering the time period 1978-2011. Data availability varies with the different sources. We obtain data for the key independent variable of our study, i.e., *Staggered Board*, from two main sources, covering a total number of 3,023 firms. For the time period 1990-2011, as in prior studies on the value impact of staggered boards (Bebchuk and Cohen, 2005; Faleye, 2007; Masulis, Wang, and Xie, 2007), we use the corporate governance dataset maintained by Risk Metrics, which acquired the Investor Responsibility Research Center (IRRC).[6] For the time period 1978-1989, we use data from Cremers and Ferrell (2014), who hand-collected information on firm-level corporate governance

[6] During the period 1990-2006, IRRC published volumes in the following years: 1990, 1993, 1995, 1998, 2000, 2002, 2004, and 2006. We hand-checked the data on staggered boards in all missing years in the 1994 – 2006 time period using proxy statements from the SEC's EDGAR website, in order to capture the timing of changes in board structure. We start our hand checks in 1994 because electronic records on the SEC's website are only available since 1994.

provisions for these years, including information on the same provisions tracked by the IRRC for the period 1990-2011 and, in particular, on staggered boards. As observed by Cremers and Ferrell (2014), including pre-1990 data is valuable because the 1980s were characterized by significant time variation in corporate governance features (including board staggering), as a result of the important changes that took place in those years in takeover activity, the law surrounding the use of anti-takeover defenses, and the strength of shareholder rights.

Since our main focus is on the value relevance of staggered boards, the main dependent variable in our analysis is firm value. Consistent with many prior studies investigating the relation between governance arrangements and firm value (Demsetz and Lehn, 1985; Morck, Shleifer, and Vishny, 1988; Lang and Stultz, 1994; Yermack, 1996; Daines, 2001; and Gompers, Ishii, and Metrick, 2003), we measure firm value using Tobin's Q (*Q*), defined as the ratio of the market value of assets to the book value of assets (as in Fama and French, 1992) and using Compustat data. As an additional measure of changes to firm value, we use the stock returns surrounding changes of the staggered board structure, obtaining stock return data for both our equally weighted portfolio analysis and value weighted portfolio analysis from the CRSP database (see Section 4.2.3 below). From the same database, we also obtain data on the number of outstanding shares and share prices. Finally, in our analysis (see the Appendix) of the association of staggered boards with (in)voluntary CEO turnover, we employ CEO turnover data from Jenter and Kanaan (2010) over the time period 1993-2001 for all ExecuComp firms.

We provide brief definitions of all the controls and the interaction variables in Table 1. We always include the following control variables: *Ln (Assets), Delaware Incorporation, ROA*, *CAPX/Assets*, *R&D/ Sales* and *Industry M&A Volume*. The last control is used in order to verify the existence of an anticipation effect of future takeover activity (Edmans, Goldstein, Jiang, 2012). Our extended set of controls includes the G-Index and insider ownership, to replicate more closely Bebchuk and Cohen (2005). The G-Index is a composite of twenty-four provisions that measures the strength of shareholders rights, with a higher score indicating weaker shareholder rights. In computing *G-Index*, we remove *Staggered Board* (as in Bebchuk and Cohen, 2005) and *Poison Pill*, as we separately include these two provisions. We obtain *G-Index* data from Cremers and

Ferrell (2014) for 1978-1989 and the RiskMetrics dataset (formerly IRRC) for 1990-2011. We also note that insider ownership data substantially reduces our sample size, as Compact Disclosure (our data source until 2006) primarily covers NYSE and AMEX firms before 1995.

Table 2 presents descriptive statistics of all the variables we use. In the overall cross-section nearly 53% of all firms have a staggered board. The average *Q* in our sample is 1.581 with a standard deviation of 0.867. In unreported results we compare the averages of the control variables across the sample of firms with and without staggered boards, finding no substantial differences across the two samples. Pearson pairwise correlations for the main variables used in our analysis are provided in Online Appendix Table A.1.

3.2. Staggering and De-staggering

Figure 1 presents the percentage of firms with a staggered board in our sample each year from 1978 to 2011. We observe substantial time variation. In particular, the period of 1978 to 1983 is characterized by a slow trend of staggering up, which rapidly accelerates starting in 1984 until 1992. In the period 1992 – 2006, instead, there is a fairly stable ratio of firms with a staggered board, at around 60%. After 2006, the ratio of firms with a staggered board steadily declines, until reaching a percentage of about 45% in 2011.

Figure 2 aims to disentangle time variation from cross-sectional variation occurring from new firms entering the database. We do so by visualizing the dynamics of staggering up and staggering down within a specific cohort of firms through time (creating new cohorts roughly once a decade), where no new firms are entering each cohort subsequently while firms drop out of the sample due to M&A, privatizations, bankruptcies and other de-listings. We study the dynamics of six cohorts of firms (hence six lines are shown in Figure 2): (i) firms with a staggered board in 1978, (ii) firms without a staggered board in 1978, (iii) firms with a staggered board in 1990, (iv) firms without a staggered board in 1990, (v) firms with a staggered board in 2000, and (vi) firms without a staggered board in 2000.

Among the firms with a staggered board in 1978, only a few de-staggered until 2005, with nearly 93% remaining instead staggered in 2004 (out of the firms still in the sample). Starting from 2005, a large number of firms in this cohort have de-staggered, with only about 71% of the surviving firms remaining staggered in

2011.[7] Conversely, among the firms without a staggered board in 1978, almost half had staggered-up by 1989. About 40% of the firms in this cohort that adopted a staggered board in the early 1980s de-staggered in the following years, with the number of firms that de-staggered past 2005 reaching nearly 30% of the cohort sample.[8] Comparing the 1990 and 2000 cohorts to the 1978 cohort, we observe analogous trends. In particular, among the firms with a staggered board in 1990 and 2000, almost all remained staggered until 2005 and began to increasingly de-stagger afterward. We thus note that when a firm staggers up, it typically takes a while before it decides to de-stagger. For example, none of the firms that staggered up in the early 2000s has de-staggered in recent years. Lastly, in the 1995 – 2002 time period that has been the focus of most prior studies on staggered boards (e.g., Bebchuk and Cohen, 2005; Faleye, 2007; Bebchuk, Cohen, and Ferrell, 2009), there is little time variation in board structure.

4. Results

4.1. Staggered Boards and Firm Value

This sub-section considers the cross-sectional and time series association between staggered boards and firm value. As documented in the prior section, our dataset for a large cross-section of firms from 1978 to 2011 contains many changes in staggered board structures. The main empirical contribution of this sub-section is thus to consider the association between staggered boards and firm value using methods that rely on changes in the time series, including pooled panel Tobin's Q regressions with firm fixed effects and changes in *Q* regressions on changes in board structure in our full as well as a matched sample.

Additionally, we try to predict which firms adopt or remove a staggered board in order to reconcile our cross-sectional and time series evidence and consider reverse causality. For all tables, we consistently show the absolute value of the t-statistics of all coefficients based on robust standard errors clustered by firm. The motivation for employing standard errors clustered by firm is to incorporate the correlation of regression residuals across time for a given firm, which is particularly important for variables with little time variation

[7] The 1978 cohort of firms with a staggered board starts with 195 firms in 1978, from which 42 firms survive until 2011.
[8] The 1978 cohort with no staggered board contains 684 firms in 1978, from which 146 firms survive until 2011.

(Petersen, 2009). In Tables 3 and 4 only, we also provide the t-statistic based on robust standard errors that are not clustered, where t-statistics are considerably smaller when we cluster by firm

4.1.1. Cross-Sectional Analysis

Table 3 presents the results of the value impact of staggered boards in the cross-section of firms. Since our full panel covers 34 years of data, we are able to perform sub-sample analyses in order to establish robustness of cross-sectional results in different sample periods. Column (1) presents results for our full time period (1978-2011). Columns (2) through (4) present results for the following sub-periods: 1978 – 1989; 1990 – 2000; and 2001 – 2011. Column (5) presents results for the same time period used in Bebchuk and Cohen (2005), 1995 – 2002.

In Column (1), consistent with the findings of Bebchuk and Cohen (2005), we document that the association of *Staggered Board* and *Q* is negative and both statistically and economically significant, suggesting that firms with a staggered boards have a firm value that is 2.6% (= -0.041/1.581) lower. We find similarly negative coefficient estimates of *Staggered Board* across all three sub-periods (i.e., 1978 – 1989, 1990 – 2000, and 2001 – 2011), but the coefficient is only statistically significant (at 5% confidence level) for the 1990-2000 sample period. This suggests that the evidence that firms with staggered boards tend to have lower valuations in the cross-section is only apparent in the decade with almost no changes in board structure, while there is little evidence in the two decades with significant time variation (1978 – 1989 and 2001 – 2011).

Column (5) includes the same controls as in Bebchuk and Cohen (2005) with industry (using four-digit SIC codes) and year fixed effects.[9] Reflecting the lack of time series variation, the coefficient estimate of *Staggered Board* becomes insignificant with a t-statistics of 1.25 once we cluster the standard errors by firm. The economic significance, however, remains similar to that in Column (1), as having a staggered board is associated with a 2.6% (= -0.042/1.64) lower *Q* in Column (4). Overall, these results are consistent with Bebchuk and Cohen (2005), though they report stronger economic and statistical significance (though using robust standard errors that do not seem to be clustered).

[9] Bebchuk and Cohen (2005) use two-digit rather than four-digits SIC codes as we do. Our results remain the same even using two-digit or three-digit SIC codes or using the Fama – French 49 industry definitions.

4.1.2. Time Series Analysis

Table 4 considers the time series evidence by using the same pooled panel Tobin's Q regressions as in Table 3 but now with firm rather than industry fixed effects. Including firm fixed effects is equivalent to removing the time-invariant component in both *Q* and *Staggered Board* and all controls, reducing the potential bias resulting from omitted time-invariant variables at the firm level. Once we include firm fixed effects, we are essentially comparing the average firm value before versus after a change in staggered boards.

In contrast to the cross-sectional regressions, Table 4 shows a positive, statistically significant positive association between *Staggered Board* and *Q*. The economic magnitude of this positive association is also considerable. In Column (1), for example, the adoption of a staggered board is associated with an increase in *Q* of 3.7% (= 0.059/1.581).[10] The coefficient estimate of the staggered board in Column (1) remains significant when clustering standard errors at the firm level, with a t-statistic of 2.11.

Across different sub-sample periods, we naturally find weaker results in periods where there are few changes in staggered boards. This is particularly the case of Column (3), which presents results for the time period 1990-2000 and where the *Staggered Board* coefficient is insignificant. This is unsurprising, as the cohort analysis reported in Figure 2 above indicated very little variation in staggering-up (down) activity during the 1990s. The lack of statistical significance in Column (2) cannot be ascribed to limited time variation but suggests that the association between staggered boards and firm value was weaker at the beginning of our time period and grew stronger over time (potentially due to legal changes, see below). Column (5), using the period and controls in Bebchuk and Cohen (2005), presents only marginally-significant statistical evidence of a positive *Staggered Board* coefficient (significant at 10%), though with strong economic significance (with the adoption of a staggered board associated with a 7.2% = 0.119/1.644 increase in *Q*, where 1.644 is the average *Q* in this time period).

The firm fixed effects results in Panel A of Table 4 exploit only the 'within firm' variation (i.e., using firm fixed effects). As a robustness check, Panel B of Table 4 reports the 'between firm' coefficients of *Staggered Board*, i.e., an estimation that only exploits cross-sectional variation and ignores time series changes in

[10] In Online Appendix Table A.2, we use the extended set of controls in Bebchuk and Cohen (2005). Results are robust.

board structure within firms. The 'between firm' coefficients are quite similar to the results in Table 3, confirming that those pooled panel regression results with industry fixed effects essentially capture cross-sectional variation. Panel B of Table 4 also shows the variation decomposition of *Q*, indicating that the cross-sectional ('between firm') variation in *Q* is considerably larger than the time series variation in *Q* within firms.

We further investigate the time series dimension of the association between firm value and staggered boards by regressing changes in *Q* on changes in *Staggered Board*. We calculate the change in the firm value at the end of the fiscal year when the board change occurred to the firm value 1, 2, and 3 years later. Comparing how changes in value differ across time horizons can show over what time period the average effects documented in Panel A of Table 4 occur.

Table 5 confirms that firm value, as proxied by Tobin's Q, increases following the adoption of a staggered board and decreases following a decision to de-stagger. Column (1) shows that during the year in which stock market participants are likely to first learn about the staggering up (down) decision, this decision is associated with a positive (negative) change in firm value. Comparing the coefficient on the change in the staggered board across the subsequent four columns, we find that the increase (decrease) in firm value after staggering up (down) occurs gradually, rather than all in the first year. This suggests that market participants need some time to fully learn about the changed prospects of the firm that occur in the period following the change in board structure. The economic magnitude of the positive time series association between staggered boards and firm value in Table 5 is stronger than that reported in Panel A of Table 4.[11]

Next, we consider a potentially fundamental shift in the defense value of staggered boards. In the 1985 decision of *Moran v. Household*, the Delaware Supreme Court for the first time judicially validated the right of a firm's board to unilaterally adopt – and maintain indefinitely in place – a poison pill plan under which incumbents can significantly dilute the value of a hostile bidder's position. *Moran v. Household* substantially allowed boards "to just say no" to unsolicited bid acquisitions, as poison pills are quite effective takeover defenses (Lipton and Rowe, 2002). Relatedly, Daines and Klausner (2001) and Bebchuk and Hart (2002)

[11] In Table 5 we do not control for future changes in the controls, as we do in Table 4. In addition, when we use firm fixed effects in Table 4, we are effectively comparing the average level of *Q* after the change to the average level of *Q* before the change, i.e., we are estimating an average effect before-versus-after. In Table 5, instead, we are comparing the changes in the following years.

argue that poison pills enormously increased the defense value of staggering up decisions. In the poison pill era and for firms with a staggered board, any hostile bidder will need to win proxy fights for *at least* two consecutive annual meetings to gain board majority, which may turn out to be very costly for the bidder. Therefore, if staggered boards matter for takeovers, we would expect that the negative association between staggered boards and firm value to be substantially stronger post-1985.[12] Empirically, we confirm this in Columns 4-9 of Table 5, which show that the positive association between changes in firm value and changes in board structure only hold for the period after *Moran v. Household*.[13]

4.2 Endogeneity and Selection Effects

As remarked throughout this paper, board structure is an endogenous choice (Adams, Hermalin, and Weisbach, 2010). As a result, the above cross-sectional and time series results on the association between staggered boards and firm value need to be interpreted with caution, as endogeneity can lead to selection effects, where firms with particular characteristics are more likely to adopt or repeal a staggered board. This subsection examines whether selection effects explain the cross-sectional versus time series associations respectively, beginning by considering revere causality and the use of matching and then proceeding to discuss various attempts in the literature to deal with the endogeneity problem at hand.

4.2.1. Reverse Causality and the Cross-sectional Association between Staggered Boards and Firm Value

Our time series analyses suggest that the negative correlation identified in prior cross-sectional studies of the association of staggered boards with firm value might be due to reverse causality. In particular, if having a relatively low firm value induces some firms to adopt a staggered board (rather than a staggered board causing a low firm value), this could explain the cross-sectional result that firms with staggered boards tend to have

[12] Cremers and Ferrell (2014) argue that due to the *Moran v. Household* decision (in conjunction with the *Unocal* decision, also in 1985) the importance of shareholder rights increased after 1985 more generally. Before *Moran v. Household*, a hostile bidder could gain corporate control without the need to first replace a majority of the target's directors. After 1985, however, the only route left to a hostile bidder confronted with a hostile board – that now has a poison pill available – has become to first replace the directors (who have sole discretion about the use of a poison pill). As a result, the provisions in the G-Index measuring a firm's level of entrenchment (and, correspondently, the strength of shareholder rights) would have become more important after 1985. Consistent with this, Cremers and Ferrell (2014) find that the negative association between Q and the G-Index is only apparent in the poison pill era but not before.

[13] In unreported robustness checks, we find that using pre – versus post-1990 gives similar results, consistent with Table 4. When we separately consider staggering up and down decisions, both have similar coefficients that are statistically significant, showing that our results are not driven by either only adoptions of staggered boards or destaggering decisions.

low firm values. We investigate the reverse causality hypothesis between *Staggered Board* and *Q* by considering whether staggering and de-staggering decisions are related to pre-existing firm value.

Table 6 presents the results of regressions explaining the adoption (removal) of a staggered board, including in the sample all firms that do not (do) have a staggered board up until and including the year in which they adopt (remove) a staggered board. Whenever a change in staggering (de-staggering) occurs in a firm, that firm is dropped from that sample after the year of such a change. We use two different non-linear specifications: a random effects probit model and the Cox proportional hazard model where the change in board structure is the "failure" event.[14] As everywhere else in the paper, we cluster the robust standard errors by firm. As shown by Column (2) in Table 6 for the Cox model, the hazard ratio of lagged *Q* of 0.422 means that a standard deviation increase in firm value is associated with a decrease of 57.8% in the probability of staggering up (with a t-statistics of 7.63). Similar results are obtained through the probit model (see Column (1)), where a standard deviation increase in the value of *Q* is associated with a 35.1% reduction in the probability of staggering up (with a t-statistic of 3.84).[15]

The results of Table 6 suggest that the choice of staggering up is primarily made by firms with a relatively low valuation before they adopt a staggered board. This indicates that the negative cross-sectional association between firm value and staggered boards is largely the result of such selection. It also reconciles the negative cross-sectional association to our newly documented positive time series association. The financial value of firms that staggered up in our sample, which was generally lower than that of other firms in the same industry before adopting a staggered board, increased after staggering up but insufficiently to erode the difference with these other firms. Concerning de-staggering decisions, both specifications in Columns (3) and (4) of Table 6 produce insignificant results. This indicates that firm value does not reliably predict staggering down.

Our reverse causality conjecture is further confirmed when we add the one-year lagged *Q* as an additional control to the pooled panel regressions with industry fixed effects regressions of Table 3, presented in Online Appendix Table A.2. If reverse causality affects the cross-sectional results, we would expect the

[14] See Greene (2000, 2004) on the efficiency of the random vs. fixed effects probit model estimator.
[15] Results are robust to using the extended set of controls used in Bebchuk and Cohen (2005).

identified negative impact to become considerably weaker once we control for lagged firm value. Consistent with this, in all specifications the cross-sectional association of *Staggered Board* and firm value becomes insignificant once we control for lagged firm value.

4.2.2 Changes in Q using a Matched Sample

Motivated by the results in the previous subsection on reverse causality, we create a matched sample for all firm-years that have either staggered up or staggered down (i.e., the treatment firms), where the control firms in the matched sample do not change their staggered board structure in the year that the treatment firms are matched to changes in their board structure (the event year).

We match the treatment to the control sample based on the following criteria. For each treatment firm, we create a set of control firms that (i) have the same Fama-French 49 industry in the event year, (ii) do not have dual class stocks in the event year, and (iii) have log book assets in the event year that is within plus or minus ten percent difference with that of the control firm. Within this set, the matched control firm is chosen that has the lowest difference in *Q* in the event year with the treatment firm. Next, we rerun the change in *Q* regressions like in Table 5 for the matched sample of treatment and control firms, reporting the results in Table 7.

The matched sample results in Table 7 are quite similar to the full sample results in Table 5. This indicates that controlling for the main selection effects found in Table 6 through the matched sample approach confirms our main result that the financial value of firms that adopt (remove) a staggered board goes up (down). For example, the increase (decrease) in firm value after two years equals 2.9% (= coefficient of 0.046 divided by the average *Q* of 1.581) with a t-statistic of 2.00, and after three years equals 4.7% (= 0.474/1.581) with a t-statistic of 2.65.

4.2.3 (Long-Term) Event Studies

Jarrell and Poulsen (1987), Mahoney and Mahoney (1993), Faleye (2007), Guo, Kruse, and Nohel (2008, 2012) conduct short-term event studies around the release of proxy filings announcing a vote to adopt or remove a staggered board. In general, measuring the market reaction to the release of new information is a useful way to mitigate endogeneity, though these results also need to be interpreted with caution. First, such announcements are themselves endogenous firm decisions and are often made in conjunction with other firm announcements (Cohen and Wang, 2013). Second, investors may learn about prospective changes to board structure over time, rather than primarily at the proxy filing date or the annual meeting (i.e., voting) date. Third, the results in this literature are generally statistically and economically fairly weak and vary by sample, time period, event window and method for computing abnormal returns.

For example, the event study sample used in Faleye (2007) includes data from 1986 and 2002 consisting mostly of proxy filings to hold a vote to adopt a staggered board (159 events), with only 24 proxy filings for de-staggerings. His results show fairly small and negative abnormal returns around announcements to hold a vote to adopt a staggered board, where both the size and statistical significance depend on the event window. This is in line with Jarrell and Poulsen (1987) and Mahoney and Mahoney (1993), who also find negative but generally insignificant abnormal returns. Likewise, Guo, Kruse, and Nohel (2008) report abnormal returns around announcement to destagger that are insignificant on average. In addition, these proxy filings were chosen ex-post, conditional on subsequent changes to board structure, even though at the proxy filing date, the market may have had considerable uncertainty about whether these changes would indeed happen.

Keeping with our focus on the long-term association between firm value and staggered boards, we conduct a long-term event study around changes in board structure that provides complementary evidence to these existing short-term event studies. Following prior studies (Gompers, Ishii, and Metrick, 2003; Bebchuk, Cohen, and Ferrell, 2009; and Cremers and Ferrell, 2013), Table 8 reports the abnormal returns of portfolios buying (selling) stocks of firms around the time they stagger up (down). We consider portfolios that only use staggered board information at the time this was public information, as well as portfolios that are constructed with perfect foresight of subsequent changes in board structure. An important limitation is that the results are fairly noisy due to the limited number of stocks in each portfolio (on average 13 – 23 stocks).

We construct a "long" portfolio that buys stock of firms around the time that they stagger up and another "short" portfolio that buys stock of firms around the time that they de-stagger. We consider different periods over which to hold stocks surrounding board changes. First, we include all stocks of firms that have (de-)staggered their boards starting 6 months before the fiscal year-end of the year in which the firm has reported its board being (de-)staggered for the first time, and hold these for 12 months (i.e., "*6m12*"). In many cases, the changes in board structure will already be public knowledge at the time of portfolio construction. Second, we include all stocks of firms that have (de-)staggered their boards starting 12 months before the fiscal year-end of the year in which the firm has reported its board being (de-)staggered for the first time, and again hold these stocks for 12 or 24 months (i.e., "*12m12*" and "*12m24*", respectively). Third, in Online Appendix Table A.4 Panel B, we include all stocks of firms that have (de-)staggered their boards starting 18 months before the fiscal year-end of the year in which the firm has reported its board being (de-)staggered for the first time, and hold these stocks for 12, 18 and 24 months afterwards (i.e., "*18m12*", "*18m18*", and "*18m24*", respectively). These most likely include the period in which shareholders first learned about the proposed change and voted to approve the change.

We present results based on three different pricing models using monthly factor returns from the website of Ken French: (i) the four-factor Carhart (1997) model, (ii) the three-factor Fama-French model and (iii) the market model (including only the market return). For each model, we present the equally-weighted monthly alphas to the long portfolio, short portfolio, and long minus short portfolio.[16]

Using the four-factor model, the monthly alpha to the long "*6m12*" portfolio is statistically significant at nearly 52 basis points per month, while the short portfolio return is not significant at 6.2 basis points per month. The results are similar if we employ either the three-factor Fama-French model or the CAPM. We observe a similar magnitude to the "*12m12*" portfolios, with nearly 53 basis points monthly alpha for the long portfolio (although not statistically significant), but in this case we also find a negative monthly alpha of nearly 30 basis points to the short portfolio. Jointly, the long minus short "*12m12*" portfolio has a monthly alpha of 1.24%, which is statistically significant and corresponds to nearly 16% annual excess return. We obtain analogous results for the "*12m24*" portfolio, under all three of the pricing models considered.

[16] Online Appendix Table A.3, Panel A (B) presents results for value (equal)-weighted portfolios, which are similar.

Overall, the results of our long-term event study in Table 8 are consistent with our results using *Q*, even if the alpha estimates are quite noisy due to the limited number of stocks in each portfolio.[17] Combined with our change-in-*Q* regressions in Tables 5 and 7, they suggest that investors learn about prospective changes to board structure over time, rather than primarily at the proxy filing date or the annual meeting date.

4.2.4 Other Evidence on Causality from the Literature

The ensuing discussion considers and partly revisits four closely-related studies, each introducing a different way to address the endogeneity problem in the association between firm value and staggered boards. Overall, the results of these studies are mixed, as two of them report results suggesting that staggered boards improve firm value, while other two present results indicating the opposite. In addition, some results appear to be driven by relatively few observations and accordingly seem to lack robustness in our replication. Another result considers IPO firms and as such is not easily applicable to the mature firms in our main sample. In addition, this latter result does not consider changes to board structure. We thus conclude that these attempts cannot fully resolve the endogeneity problem in our set-up.

First, Larcker, Ormazabal, and Taylor (2011) consider the stock market reaction to 18 events concerning corporate governance regulations in the period 2007 – 2009, which they argue collectively "represent an exogenous shock to equilibrium governance practices (page 432)." In particular, they document a negative stock return announcement effect of proposals for proxy access reform, including a proposal to eliminate staggered boards, observing that their results are "inconsistent with the market viewing the elimination of staggered boards as value increasing. If anything, the results suggest the opposite. The elimination of the option to have a staggered board is value decreasing (page 433)."

Second, Cunat, Gine, and Guadalupe (2012) consider not only short-term abnormal returns, but also long-term changes in performance in a study focusing on close votes on shareholder-sponsored proposals. Arguing that the passing of such proposals "is akin to an independent random event ('locally' exogenous) and

[17] While the stock returns have generally weak statistical significance (due to the rather low number of stocks included in the portfolios), the economic magnitudes are generally similar. For example, the equal-weighted long-short portfolio that buys (sells) stock of firms staggering up (down) surrounding the 24-month period around these changes in board structure generates an annual four-factor alpha of 5.15% (t-statistic of 1.44). This is quite similar to the economic magnitude of changes in Tobin's Q associated with a change in staggered board in Table 5.

therefore uncorrelated with firm characteristics",[18] they document, among other results, significant long-term performance improvements after shareholders narrowly vote in favor of shareholder-sponsored proposals to reduce antitakeover provisions, including proposals to remove a staggered board. However, they do not separate proposals concerning staggered board removals from those pertaining to other reductions in antitakeover provisions.

We show in Online Appendix Table A.5 that we can replicate the main results of Cunat, Gine, and Guadalupe (2012) pertaining to *Q*, and further show that once we separate out proposals, we find no statistically significant evidence of increases in *Q* following narrow shareholder approval of proposals to remove staggered boards.[19] Further, results using close votes on shareholder-sponsored proposals also need to be interpreted with caution, for three different reasons: (i) these results are arguably driven by relatively few observations,[20] (ii) corporations where these votes are close may be different from other firms and this may introduce selection effects when considering the relevance of these results for firms more generally, and (iii) shareholder-sponsored proposals are not binding, and in almost all cases, a repeal of a staggered board requires both shareholder and board approval. As a result, the market reaction after close votes of these shareholder-sponsored proposals are a combination of the market learning about both the potential repeal of a staggered board and a potential increase in shareholder pressure from shareholders who arguably want to change the functioning of the board of directors (albeit with considerable disagreement among shareholders).

Third, Cohen and Wang (2013) propose that the legislation surrounding Air Products' attempt to acquire Airgas in 2010 provides two further systematic events related to staggered boards. The first is an October 2010 ruling by the Delaware Chancery Court, which temporarily seemed to weaken the insulation effect of

[18] We thank Cunat, Gine, and Guadalupe for substantial help in implementing our replication.

[19] In Column (1), we find that close shareholder approval of a shareholder-sponsored proposal to increase shareholder rights (i.e., lower the G-Index, including proposals to repeal a staggered board) is associated with a decrease in the firm's book-to-market of 8.54% three years later and 6.20% four years later. These estimates are quite similar to those reported in Cunat, Gine and Guadalupe (2012) of -9.70% and -9.41%, respectively. In Column (2), we show the analogous results using *Q* rather than book-to-market. In Column (4), we show the results for *Q* if we separate our proposals to repeal a staggered board from other G-Index related proposals, and only find significance for the latter, with increase economic and statistical magnitudes compared to the results in Column (2) where these proposals are not separated.

[20] It is not obvious though that the difference in results across proposal types is driven by lack of data or power. Defining 'close votes' as shareholder votes between 49-51 percent, there are 31 'close calls' for proposals to remove a staggered board (out of 445 total) and 45 'close calls' for proposals to remove other antitakeover provisions (out of 881 total). Results for the former are insignificant and for the latter are fairly strongly statistically insignificant, while the number of close calls seems similar across groups.

staggered boards. The second is a subsequent ruling by the Delaware Supreme Court in November 2010, which reversed the Chancery Court's decision. Combining the two-day abnormal returns of the two events, Cohen and Wang (2013) report evidence (statistically significant at 10%) consistent with staggered boards causing a lower firm value. However, while we can replicate their main results as reported in their paper, our replications in Online Appendix Table A.6 suggest that these results are not robust to either sample construction or industry fixed effects. The sensitivity of these results to sample construction and changing fixed effects is perhaps unexpected, given that the sample of firms in Cohen and Wang (2013) is fairly small, with 77 treatment firms and 62 control firms, especially considering the noise associated with two-day abnormal returns.

Fourth, as previously mentioned, a final instrument proposed by the literature is the identity of an IPO firm's law firm (Coates, 2001). Johnson, Karpoff, and Yi (2014) hand-collect this information for a large set of IPO firms for 1997 – 2005.[21] Using the law firm instrument, they find that firm value at the IPO is positively related to the use of takeover defenses for firms with stronger stakeholder relationships, while their results continue to hold if only staggered boards are considered and other takeover defenses are ignored. While this particular instrument seems applicable only to IPO firms rather than the mature firms in our sample, it seems noteworthy that using a different set of firms and employing a novel instrument yields cross-sectional results that are consistent with our time series results.

4.3 Which Channels Drive the Association between Firm Value and Changes in Board Structure?

As discussed in Section 2, an alternative to resolving the endogeneity of board structure is to investigate the channels through which staggered boards could be associated with long-term firm value under the entrenchment view and the limited commitment view, respectively.

4.3.1. Entrenchment Channels

Under the entrenchment view, a primary channel through which staggered boards would relate to firm value is through takeovers, as positive (negative) changes in firm value after adopting (removing) a staggered

[21] They write in the introduction: "an IPO firm's law firm can help to explain the number of takeover defenses it deploys. In addition, IPO firms tend to choose their lawyers well before the IPO. This implies that law firm identity and characteristics meet both relevance and exclusion criteria as instruments for the number of takeover defenses."

board may be partly due to an anticipation effect of future takeovers that may or may not materialize (Edmans, Goldstein, Jiang, 2012). Importantly, this approach considers both the notion that staggering up may occur as a result of opportunistic managers and destaggering may occur as a result of shareholder pressure, both of which circumstances may relate to anticipated future takeovers (Edmans, Goldstein, Jiang, 2012; Cremers, Nair, and John, 2008; Song and Walkling, 2000). In particular, boards may opportunistically use takeover anticipation to convince shareholders to adopt a staggered board in order to negotiate from a stronger position with potential acquirers, which could explain the subsequent increase in firm value. Reversely, the decrease in firm value upon destaggering may be due to anticipated takeovers not occurring. In examining the possibility of a takeover channel, we consider various specifications (see Online Appendix Table A.7), but find no evidence consistent with this possibility.

First, we interact the *Staggered Board* dummy with M&A intensity in the firm's industry, which we use as a proxy for takeover importance (following Cremers and Ferrell, 2014, who show that the interaction of M&A intensity with the G-Index is negatively associated with firm value). If added to the specifications considered in Tables 3 and 4, the interaction of *Staggered Board* with *Industry M&A Volume* is consistently insignificant (see Column (1) in Online Appendix Table A.7). Second, analogous interactions with market-wide M&A volume are likewise consistently insignificant (see Column (2)). Third, our results are in general unlikely to be driven by firms in our sample that are taken over, as they are robust to *ex post* removing all firms from the sample if they are taken over during our sample time period (see Column (3)). Fourth, our results are robust to replacing Q at the fiscal year-end with Q calculated from the last available CRSP market price (using the delisting price if available) whenever a firm is dropped from our sample in the next fiscal year (see Column (4)). This incorporates any takeover premium received by target shareholders. Fifth, increased use of other takeover defenses cannot explain the positive coefficient of the *Staggered Board* dummy either, using interactions with the *G-index* or *Poison Pill* (see Columns (5) and (6), respectively)).[22]

Taken together, these results seem consistent with Edmans, Goldstein, and Jiang (2012), who find that the "trigger effect" of future takeover activity seems to dominate the "anticipation effect", i.e., low firm value

[22] Further, using data from Jenter and Kanaan (2010), Online Appendix Table A.7 shows no evidence that staggered boards change the likelihood or reduce the performance sensitivity of (in-) voluntary CEO turnover.

tends to attract more takeover activity, rather than (the expectation of) more takeover activity resulting in higher firm value. Further, these results are consistent with Bates, Becher, and Lemmon (2008), who find that firms with a staggered board have very similar transaction outcomes compared to firms with unitary boards. For example, they document that firms with a staggered board, once targeted, have a similar likelihood to be acquired as well as similar bid returns, hence concluding that "the economic effect of bid deterrence on the value of the firm is quite small. Overall, the evidence is inconsistent with the conventional wisdom that board classification is an anti-takeover device that facilitates managerial entrenchment (page 656)."

The entrenchment interpretation of staggered boards seems also inconsistent with self-selection as a potential explanation of our results. As adopting (repealing) a staggered board is associated with a subsequent increase (decrease) in firm value, a selection effect that would be consistent with these results is that firms could be more likely to stagger up (down) if there is good (bad) private information that is not yet incorporated into the short-term price. Staggering up in case of anticipated long-term value increases may help protect the higher long-term value from being expropriated in a short-term takeover. Destaggering in case of anticipated bad news may facilitate an acquisition before the bad news is fully realized or increase shareholder power to remove directors in the near term.

In both cases, the change in board structure seems inconsistent with the interests of entrenched insiders who prioritize their own rather than shareholder interests. If directors want to adopt a staggered board against shareholder interests, then the right circumstances to do so would seem to be either when directors have private information of future bad news (where adopting a staggered board prevents their short-term removal) or right after (rather than before) goods news has been released that increases the stock price and thereby shareholder confidence. Indeed, if directors are entrenched and only willing to give up staggered boards under strong shareholder pressure, we would expect that boards are more likely to give in to such pressure after, rather than before, the realization of privately-anticipated bad news, in the hope that the bad news will not materialize. Conversely, the possibility of the self-selection effect discussed above seems consistent with the interests of existing shareholders, and, in particular, fully consistent with our hypothesis that staggered boards serve as a useful ex-ante commitment device of shareholders towards long-term value creation.

4.3.2 Commitment Channels

Under our hypothesis that staggered boards can serve as a commitment device of the shareholders to mitigate their limited commitment problem, the two primary channels through which staggered boards would be associated with firm value are investments in long-term projects and the importance of firm-specific relationships with employees, customers, suppliers, and in strategic alliances (see Section 2).

We first consider corporate investments in long-term projects in Table 9. The two main proxies are *R&D/Sales*, the intensity of corporate expenditures on research and development activities, and the *Ranked Patent Citation Count* from the NBER U.S. Patent Citations data file, which measures the relative importance of the firm's innovative research assets. Both proxies aim to capture the relevance of relatively long-term corporate investments that are likely harder to evaluate in the short-term (Bushee, 1998; Chan, Lakonishok, and Sougiannis, 2001; Eberhart, Maxwell, and Siddique, 2004). As these two main proxies are more relevant in some industries than others, as a robustness check we also employ two alternative proxies, namely *Firm Size* (the log of total revenue) and *Intangibles/Assets* (the log of 1 minus the ratio of the book value of plant, property and equipment over total assets). We acknowledge that these alternative proxies are much harder to interpret and less directly related to long-term projects, but are intended as 'catch-all' measures of the complexity of firm operations and asymmetric information (Core, Holthausen, and Larcker, 1999; Duru, Wang, and Zhao, 2013).

We interact the *Staggered Board* dummy with each of these four proxies in pooled panel *Q* regressions with year and firm fixed effects, plus our standard controls. The results are consistent with the long-term projects channel, as changes in staggered board structure are considerably more strongly related to firm value for firms that are more engaged in research and development, innovative research, or with (arguably) more complex operations. The interaction with *R&D/Sales* (see Column (1) in Table 9) has a positive and both statistically and economically significant coefficient. Firms whose *R&D/Sales* is one standard deviation higher than the mean (i.e., "high R&D" firms) experience a 6.8% (=1.956*0.0552/1.581) higher level of *Q* after staggering up relative to firms whose *R&D/Sales* is at the mean.[23] Compared to the direct economic effect of *Staggered Board*, the economic effect of *Staggered Board* for high R&D firms is nearly one and half times as high.[24] Similarly, firms that have one standard deviation higher *Ranked Patent Citation Count* have a 3.10% (=0.226*0.2171/1.581) higher *Q* if they stagger up compared to firms with mean (i.e., very low) patent counts (see Column (2) in Table 9).

The two alternative proxies provide further support. Firms with *Intangible Assets/ Total Assets* that are one standard deviation higher than the mean present a 4.84% (=0.164*0.4665/1.581) higher *Q* if they stagger up relative to firms with average intangible assets (see Column (3)). Finally, firms whose *Firm Sales* is one standard deviation higher than the average tend to have a 3.35% (= 0.036*1.4713 /1.581) higher *Q* if they stagger up relative to firms with average size (see Column (4)).

The second channel suggested by the limited commitment problem is the relevance of firm-specific investments by stakeholders such as employees, customers and suppliers. We consider four different proxies to capture the importance of stakeholder relationships. The first two proxies are at the firm level and time-varying. Both proxies are adopted following Johnson, Karpoff, and Yi (2014). First, *Large Customer* is a proxy for the importance of customers in creating financial value, measured as a dummy that equals one if the firm has at least one customer accounting for 10% or more of its sales according to the historic Compustat Segment tapes (available for 1985-2011). Second, *Strategic Alliance* measures whether the corporation has a long-term partnership with another business (Bodnaruk, Massa, and Simonov, 2013), and is an indicator variable equal to one if there is an announcement in the current fiscal year that the firm is a participant in one, and zero otherwise. The information on strategic alliances is obtained from SDC M&A database for 1978-2011. We only include strategic alliances with up to three partners (representing 97% of all strategic alliances). Since data prior to 1985 is very sparse, we start the sample in 1985.

The third and fourth proxies, *Labor Productivity* and *Contract Specificity*, are at the industry-level with more limited and no time variation, respectively. The use of industry-level proxies is a useful complement to firm-

[23] We obtain this estimation by multiplying the coefficient of the interacting variable (i.e., 1.956) by the standard deviation of *R&D/Sales* (0.0552), divided by the average *Q* (1.581) in the sample for Column (1).

[24] The economic effect of *Staggered Board* on *Q* for all firms in Column (1) is a 4.49% (=0.071/1.581) increase of *Q*, calculated as the ratio of the coefficient estimate of 0.071 on *Staggered Board* divided by the average *Q*.

level proxies, where selection effects may be more severe. *Labor Productivity* comes from the U.S. Bureau of Labor Statistics (using the four-digit SIC code), and is available for only a subset of firms' industries. This proxy aims to measure which industries have a higher marginal product of labor and, hence, more firm-specific investments by the employees. *Contract Specificity* is borrowed from Nunn (2007), and measures the fraction of inputs (i.e., products and services) that are not sold on an organized exchange or reference priced in a trade publication, and for which the market thus appears less complete.[25] The engagement in these contracts thus requires more firm-specific investments and more firm commitment, proxying for firm-specific investments by suppliers.

Table 10 presents the results of interacting the *Staggered Board* dummy with each of these four stakeholder-relationship proxies in pooled panel *Q* regressions with year and firm fixed effects, plus our standard controls. These results support the stakeholder channel, as generally the positive association between staggered boards and firm value is stronger or only apparent for firms where stakeholder relationships appear to be most important.

First, the interaction of *Staggered Board* and *Large Customer* in Column (1) of Table 10 has a positive and both statistically and economically significant coefficient equal to 6.1% (calculated as ratio of coefficient estimate 0.097 divided by average *Q* of 1.581; t-statistic of3.01). This indicates that decisions to adopt or remove a staggered board are on average associated with a substantially larger increases and decreases, respectively, in firm value for firms with a large customer. Second, the coefficient of the interaction with *Strategic Alliance* equals 3.5% (i.e., 0.056/1.581; t-statistic of 1.90, statistically significant at 10%), suggesting that the positive association between staggered boards and firm value is nearly twice as strong for firms engaged in a strategic alliance than for firms without such long-term engagement. Third, the interaction between *Staggered Board* and *Labor Productivity*, see Column (3), is also positive and both strongly statistically and economically significant. Economically, the coefficient implies that if a firm is in an industry whose *Labor Productivity* is a standard deviation above the average, the adoption of a staggered board is associated with a

[25] Our data for *Contract Specificity* is at the industry level for 1997 and made available at Nathan Nunn's website. See http://scholar.harvard.edu/nunn/pages/data-0. An important limitation is that this variable is only available for about a quarter of the industries in our sample and set as missing otherwise.

3.9% greater increase in firm value compared to firms in industries with average *Labor Productivity*.[26] Fourth and finally, the interaction with *Contract Specificity* in Column (4) also has a positive coefficient, but this is statistically marginally insignificant (t-stat of 1.62, with an associated p-value of 10.5%). *Contract Specificity* is available only for about a quarter of the industries in our sample, which might help explain the lack of statistical evidence.

5. Conclusion

This paper revisits the association between staggered boards and firm value. First, we document a positive time series association, as firm value tends to become higher (lower) after firms adopt (repeal) a staggered board, especially for firms engaged in long-term projects and with important stakeholder relationships. Reverse causality can reconcile this new result with the existing cross-sectional evidence that firms with staggered boards tend to have a lower value. In Cox hazard regressions, we can explain about 60% of staggering up decisions using a standard deviation change in *Q*, indicating that firms that adopted a staggered board generally already had a lower firm value than other firms in their industry beforehand. The average increase in value after staggering up erodes but does not fully bridge the gap with the value of other firms in their industry.

Second, regressions of changes in *Q* over one, two, three and four years subsequent to changes in board structure suggest that these changes in value appear fairly slowly over time. A longer-term event study using portfolios that buy (sell) stocks of firms around the time they adopt (remove) a staggered board gives consistent but statistically noisy evidence that stock prices tend to go up (down) around staggering up (down) events. These long-term event study results provide complementary evidence to the short-term event literature that has produced mixed results.

Third, we revisit several studies considering potential exogenous variation in staggered boards or potential exogenous variation in the association between board structure and firm value, finding mixed results. Using a matched sample approach, we find that our time series results cannot be explained by basic

[26] The economic significance of the interacted impact of *Labor Productivity* and *Staggered Board* on *Q* is calculated by dividing the regression coefficient of 0.0994, times the standard deviation of *Labor Productivity* of 0.62, by the sample average *Q* during 1978-2011 of 1.581.

selection effects.

Fourth, assuming such association, we consider two non-exclusive views on the possible channel through which such association may occur. Under the entrenchment view, staggered boards increase agency costs related to the managerial moral hazard problem. However, we find no evidence that this channel can explain our results, and argue that the bilateral nature of staggered boards (almost all of which appear in the corporate charter, changes of which can only be initiated by the board and require shareholder approval) makes an entrenchment interpretation of our results difficult.

We next formulate the limited commitment problem, where the strong exit rights of public shareholder complicate firm-specific investments in long-term projects and stakeholder relationships, such that staggered boards can serve as a useful *ex ante* device to commit shareholders towards the longer-term. Using a variety of proxies, staggered boards have a stronger positive association with financial value for firms where long-term projects in research and innovation are more important and for firms with stronger relationships with employees, customers and suppliers. These results appear consistent with our limited commitment explanation of the positive empirical association between staggered boards and firm value. While staggered boards may increase entrenchment, our results suggest that this is a second-order effect, especially for firms where shareholders' commitment to the longer-term is important.

Finally, our results are consistent with the conclusion of a rather large body of literature that the relation between board structure and firm value is nuanced and heterogeneous. However, current one-size-fits-all policies unambiguously favor the repeal of staggered boards and the annual election of directors, failing to reflect the findings of such heterogeneity.

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FIGURE 1:
PERCENTAGE OF FIRMS WITH A STAGGERED BOARD

The chart below shows the percentage of firms with a staggered board in our sample, each year from 1978 to 2011. Excluded from the sample are firms that have dual class shares.

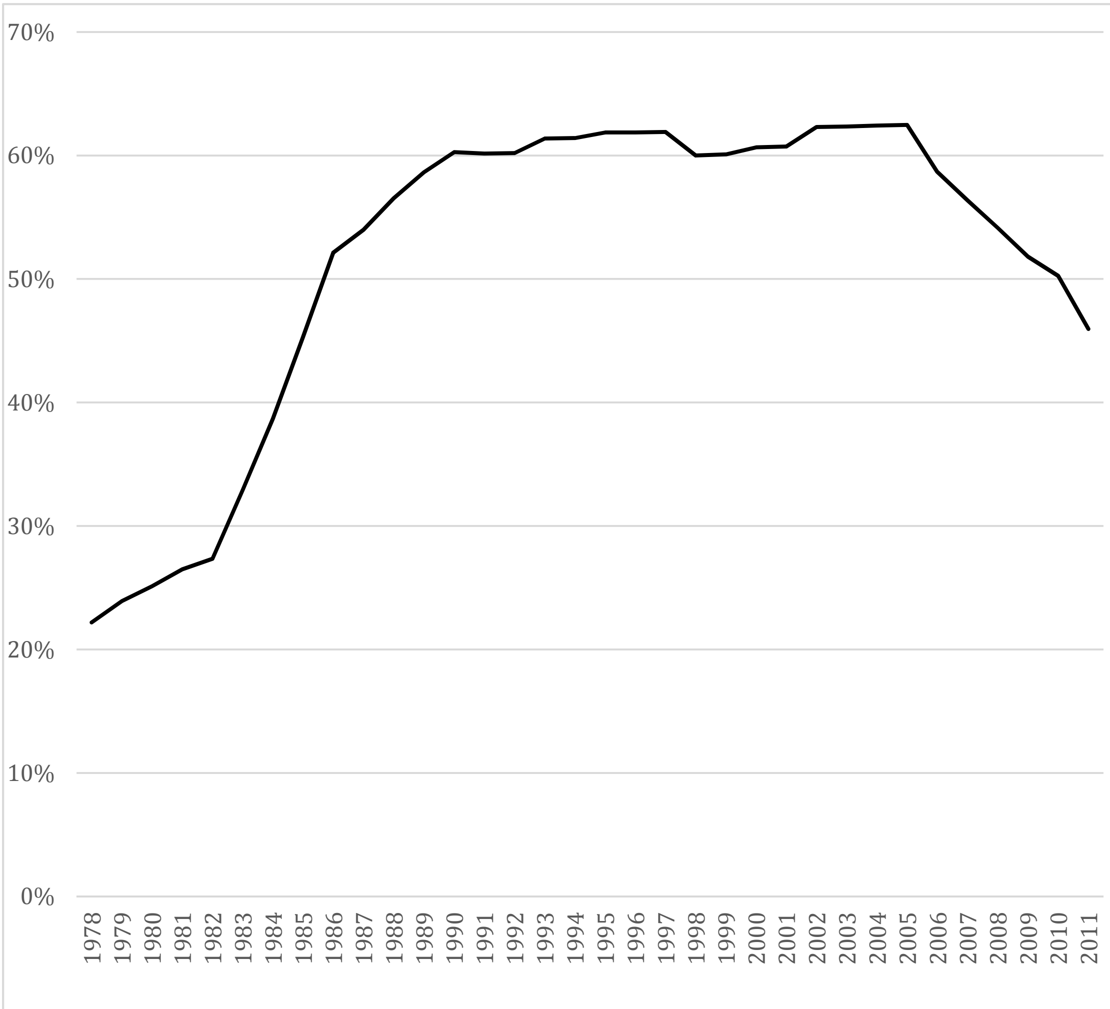

FIGURE 2:
COHORT ANALYSIS FOR STAGGERING UP AND DE-STAGGERING

Figure 2 documents the percentage of firms with a staggered board each year for six cohorts of firms: (i) firms with a staggered board in 1978 ("SB in 1978"), (ii) firms without a staggered board in 1978 ("No SB in 1978"); (iii) firms with a staggered board in 1990 ("SB in 1990"), (iv) firms without a staggered board in 1990 ("No SB in 1990"), (v) firms with a staggered board in 2000 ("SB in 2000"), and lastly (vi) firms without a staggered board in 2000 ("No SB in 2000"). The figure shows the annual percentage with a staggered board *within* each cohort as a percentage of those firms that remain in our sample that year.

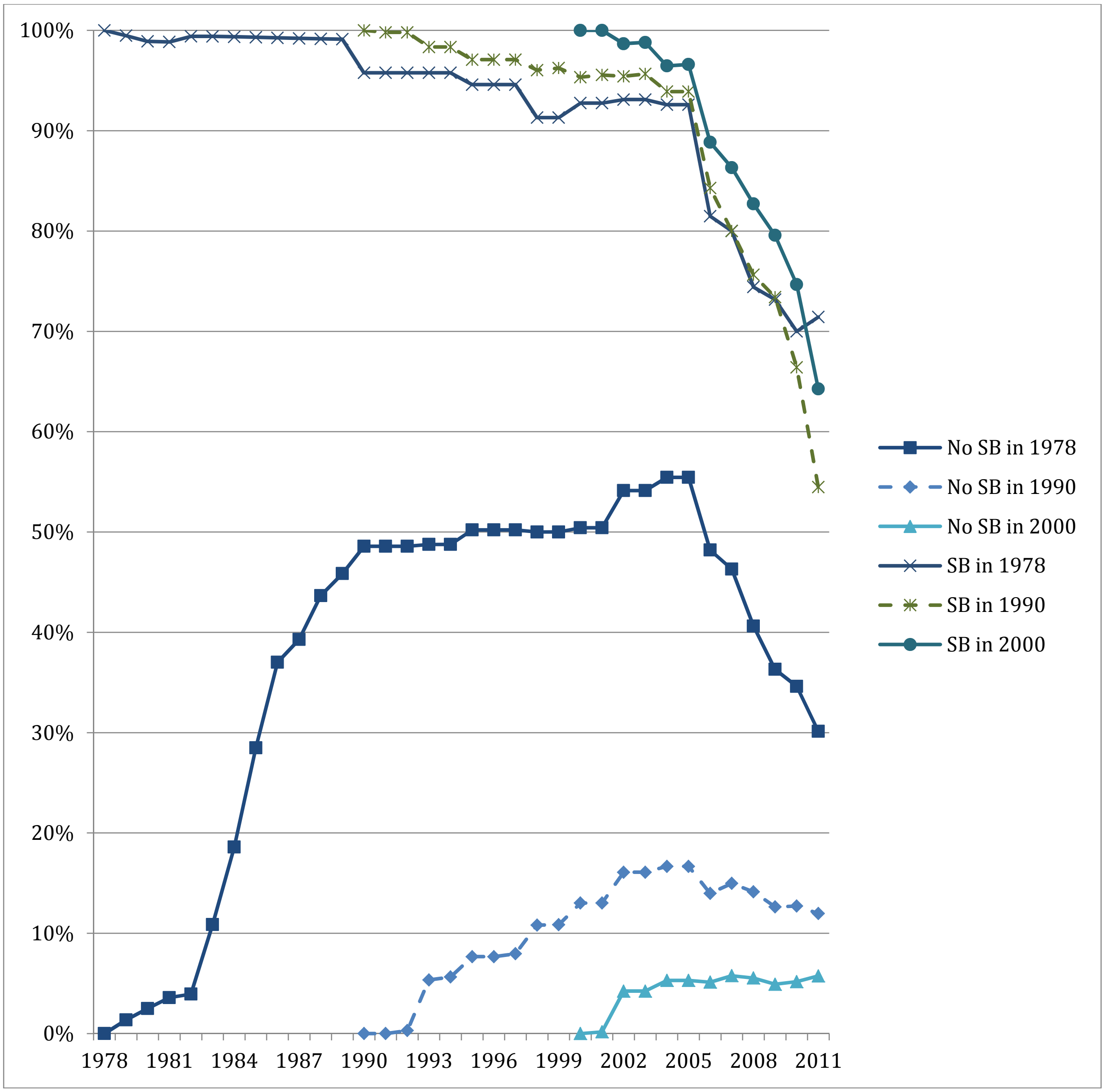

TABLE 1: DEFINITIONS OF VARIABLES

Table 1 presents brief definitions of the main variables that appear in the analysis.

Dependent Variables:	
Tobin's Q$_{[t]}$	Market value of assets (Total Assets – Book Equity + Market Equity) divided by book value of assets. Calculation follows Fama and French (1992). Source of data is Compustat annual data file.
Monthly Returns on long (short) portfolio "6m12"	Monthly return of a portfolio created by stocks that stagger up (down) their boards. Portfolio is created by including all stocks of firms that have (de)staggered their board for 12 months, starting 6 months before the fiscal year-end of the year in which the company has reported its board being (de-)staggered for the first time. Returns are either equally or value weighted.
Monthly Returns on long (short) portfolio "12m12"	Analogous to "6m12", but now including all stocks of firms that have (de)staggered their board for 12 months, starting 12 months before the fiscal year-end of the year in which the company has reported its board being (de-)staggered.
Monthly Returns on long (short) portfolio "12m24"	Analogous to "12m12", but now including all stocks of firms that have (de)staggered their board for 24 months.
(Forced) CEO Turnover$_{[t]}$	Defined as one if there is an (in) voluntary CEO departure in the Jenter and Kanaan (2010) data file; as zero otherwise. Data are available for 1993-2001.

Independent Variables:	
Board Size$_{[t]}$	Number of director seats. Data are from RiskMetrics and are available for 1996-2001.
CAPX/ Assets$_{[t]}$	Capital Expenditure$_{[t]}$/ Total Assets$_{[t]}$.
Delaware Incorporation$_{[t]}$	Indicator variable if the company is incorporated in Delaware.
Excess Returns$_{[t]}$	Annual returns for each firm at the fiscal year end date net of market return for the same period. Data for stock returns are from CRSP. Data for market returns are from Ken French's online data library. This variable is then winsorized at 2.5% in each tail of its distribution.
G-Index (minus staggered board)$_{[t]}$	Sum of 23 (i.e., 24 when excluding staggered board) governance provisions indicators in the corporate charter or bylaws introduced by Gompers, Ishii, and Metrick (2003).
Insider Ownership$_{[t]}$	The insider ownership in year t is the percentage of shares owned by insiders from all shares. Collected from Compact Disclosure for 1986-2006. We supplement these data with ownership by the top five officers of the firm from ExecuComp for 2007-2011.
Ln (Age) $_{[t]}$	Natural logarithm of firm age, calculated as the difference in year t and the first year the company appeared in the CRSP database.
Ln (Assets) $_{[t]}$	Natural logarithm of total book assets in year t.
Majority of Independent Directors Indicator$_{[t]}$	Equals one when a majority of directors are independent, zero otherwise. Data are from Risk Metrics and are available for 1996-

	2001.
Industry M&A Volume$_{[t]}$	The ratio of mergers & acquisitions' dollar volume in SDC to the total market capitalization from CRSP for a calendar year, as per a given Fama-French 49 industry. The CRSP annual industry market capitalization is for ordinary stocks only and excludes ADRs and REITs. We only include SDC transactions that are completed and where buyer achieves control of the target.
Poison Pill$_{[t]}$	Anti-takeover provision obtained from the Cremers and Ferrell (2014) database for 1993-2011.
R&D/ Sales$_{[t]}$	R&D$_{[t]}$/ Sales$_{[t]}$.
ROA$_{[t]}$	EBITDA$_{[t]}$/Total Assets$_{[t]}$.
Staggered Board$_{[t]}$	Indicator variable equal to one (zero otherwise) if the board is staggered in year t. Data are obtain from Cremers and Ferrell (2014) for 1978-1989, and from Risk Metrics, SharkRepellent.net and hand collection for 1990-2011.

Interacted Variables:

Firm Sales$_{[t]}$	Ln (Sales) in year t.
Ln(Intangible Assets/ Total Assets$_{[t]}$*)*	Ln[(Total Assets$_{[t]}$ - Net PP&E$_{[t]}$)/ Total Assets$_{[t]}$].
Ranked Patent Citation Count$_{[t]}$	Annually ranked patent citation count. Data are available for 1978-2003. Citations are calculated following Hall, Jaffe, and Trajtenberg (2001). Source is the NBER U.S. Patent Citations data file. We divide the ranked patent citation count by 1,000.
Contract Specificity	Industry-level fraction of the inputs that are sold on an organized exchange in the Nunn (2007) data file, available for 1997 only, see http://scholar.harvard.edu/nunn/pages/data-0.
Labor Productivity	Data on output per hour from the Bureau of Labor Statistics, see http://www.bls.gov/bls/productivity.htm. Available for 400 selected industries in manufacturing, mining, utilities, wholesale and retail trade, and services.
Large Customer	Indicator variable equal to one if there is at least one customer accounting for at least 10% of the consolidated sales of the firm in that fiscal year. The source of the data is the Compustat Customer Segments. Data are available since 1985.
Strategic Alliance	Indicator variable equal to one if the firm is in a strategic alliance. We only include strategic alliances with up to three partners. Source of data is SDC Strategic Alliances. Data are available since 1985.

TABLE 2: DESCRIPTIVE STATISTICS FOR MAIN DEPENDENT AND INDEPENDENT VARIABLES.

Table 2 presents sample descriptive statistics for the main dependent and independent variables as well as the interacted variables. *Staggered Board-Charter*$_{[t]}$ and *Staggered Board-Bylaws*$_{[t]}$ statistics are presented for the entire sample, i.e., including observations without staggered board. All continuous variables are winsorized at two and half percent in both tails.

Dependent Variables:	**Mean**	**Median**	**St. Dev.**	**Min**	**Max**	**Obs.**
$Q_{[t]}$	1.581	1.282	0.867	0.725	4.660	31,574
$\Delta Q_{[t-1, t]}$	-0.006	0.007	0.453	-1.886	1.582	28,328
$\Delta Q_{[t-1, t+1]}$	-0.015	0.010	0.585	-2.421	1.941	28,328
$\Delta Q_{[t-1, t+2]}$	-0.017	0.013	0.664	-2.708	2.181	26,181
$\Delta Q_{[t-1, t+3]}$	-0.024	0.011	0.722	-2.889	2.349	24,150
$\Delta Q_{[t-1, t+4]}$	-0.030	0.013	0.768	-3.048	2.394	22,232

Independent Variables:	**Mean**	**Median**	**St. Dev.**	**Min**	**Max**	**Obs.**
CAPX/ Assets$_{[t]}$	0.060	0.050	0.050	0	0.200	31,574
Delaware Incorporation$_{[t]}$	0.550	1	0.500	0	1	31,574
G-Index (minus staggered board)$_{[t]}$	7.680	8	3.200	1	18	23,525
Insider Ownership$_{[t]}$	0.070	0.03	0.100	0	1	21,216
Ln (Age) $_{[t]}$	2.870	3	0.980	0	4.450	27,754
Ln (Assets) $_{[t]}$	7.290	7.170	1.560	4.550	11.050	31,574
Industry M&A Volume$_{[t]}$	0.027	0.010	0.050	0	0.359	31,574
R&D/ Sales$_{[t]}$	0.030	0	0.055	0	0.230	31,574
ROA$_{[t]}$	0.140	0.140	0.080	-0.050	0.320	31,574
Staggered Board$_{[t]}$	0.530	1	0.500	0	1	31,574

Interacted Variables:	**Mean**	**Median**	**St. Dev.**	**Min**	**Max**	**Obs.**
Ln(Intangible Assets/ Total Assets$_{[t]}$)	-0.490	-0.335	0.467	-2.114	-0.003	31,337
Ranked Patent Citation Count$_{[t]}$	0.370	0.340	0.217	0.105	1.041	15,338
Firm Sales$_{[t]}$	7.227	7.149	1.471	3.896	10.944	31,558
Contract Specificity$_{[t]}$	0.912	0.968	0.143	0.146	1	9,628
Labor Productivity$_{[t]}$	1.360	1.040	0.704	0.295	3.660	24,880
Large Customer 10%$_{[t]}$	0.300	0	0.460	0	1	26,205
Strategic Alliance$_{[t]}$	0.210	0	0.410	0	1	26,205

TABLE 3: FIRM VALUE AND STAGGERED BOARDS

Table 3 presents annual pooled panel *Q* regressions on *Staggered Board* with industry and year dummies and control variables. Columns (1)-(4) include the following control variables: *Staggered Board*$_{[t-1]}$, *Ln (Assets)*$_{[t-1]}$, *Delaware Incorporation*$_{[t-1]}$, *ROA*$_{[t-1]}$, *CAPX/Assets*$_{[t-1]}$, *R&D/ Sales*$_{[t-1]}$, and *Industry M&A Volume*$_{[t-1]}$. Column (5) adds these control variables: *G-Index*$_{[t-1]}$, *Ln (Firm Age)*$_{[t-1]}$, *Insider Ownership*$_{[t-1]}$, and *Insider Ownership*$^2_{[t-1]}$. The analysis includes the following sub-periods: 1978-2011, 1978-1989, 1990-2000, 2001-2011, and 1995-2002. All variables are defined in Table 1. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively. T-statistics based on robust standard errors clustered by firm are reported in their absolute value between "(.)". For the key independent variable—*Staggered Board*$_{[t-1]}$— we also show the t-statistic based robust standard errors that are not clustered reported between "[.]".

Dep. Variable: $Q_{[t]}$					
Variables	(1)	(2)	(3)	(4)	(5)
Period:	1978-2011	1978-1989	1990-2000	2001-2011	1995-2002
Staggered Board$_{[t-1]}$	-0.041**	-0.009	-0.073**	-0.026	-0.042
(firm cluster)	*(2.38)*	*(0.51)*	*(2.52)*	*(1.06)*	(1.17)
[no cluster]	*[4.98]*	*[0.96]*	*[4.33]*	*[1.94]*	*[1.83]*
G-Index$_{[t-1]}$					-0.005
					(0.57)
Ln (Assets)$_{[t-1]}$	-0.027***	-0.027***	-0.006	-0.042***	0.052***
	(3.74)	(3.33)	(0.44)	(4.11)	(3.24)
Ln (Firm Age)$_{[t-1]}$					-0.050
					(1.34)
Delaware Incorporation$_{[t-1]}$	0.014	0.026	0.016	0.009	-0.010
	(0.76)	(1.26)	(0.49)	(0.31)	(0.28)
Insider Ownership$_{[t-1]}$					0.318
					(0.95)
Insider Ownership$^2_{[t-1]}$					-0.179
					(0.37)
ROA$_{[t-1]}$	5.073***	2.7***	5.859***	5.306***	5.939***
	(32.74)	(15.98)	(22.75)	(24.06)	(19.11)
CAPX/Assets$_{[t-1]}$	-0.263	-0.251	-0.521	0.227	-1.048**
	(1.14)	(1.23)	(1.22)	(0.58)	(2.17)
R&D/ Sales$_{[t-1]}$	4.231***	4.669***	6.158***	3.823***	5.499***
	(12.01)	(5.19)	(10.31)	(9.33)	(7.17)
Industry M&A Volume$_{[t-1]}$	-0.235***	0.009	-0.137	-0.273***	0.129
	(3.04)	(0.10)	(0.92)	(2.74)	(0.85)
# of firms in regression	3,023	1,079	1,420	2,116	992
N	31,574	8,500	9,617	13,457	5,253
Adjusted R-Squared	0.50	0.49	0.57	0.49	0.61

TABLE 4, PANEL A: FIRM VALUE AND STAGGERED BOARDS – CONTROLLING FOR FIRM FIXED EFFECTS

Table 4, Panel A presents annual pooled panel *Q* regressions on *Staggered Board* with firm and year dummies and control variables. Columns (1)-(4) include the following control variables: *Staggered Board*$_{[t-1]}$, *Ln (Assets)*$_{[t-1]}$, *Delaware Incorporation*$_{[t-1]}$, *ROA*$_{[t-1]}$, *CAPX/Assets*$_{[t-1]}$, *R&D/ Sales*$_{[t-1]}$, and *Industry M&A Volume*$_{[t-1]}$. Column (5) adds these control variables: *G-Index*$_{[t-1]}$, *Ln (Firm Age)*$_{[t-1]}$, *Insider Ownership*$_{[t-1]}$, and *Insider Ownership*$^2_{[t-1]}$. The analysis includes the following sub-periods: 1978-2011, 1978-1989, 1990-2000, 2001-2011, and 1995-2002. All variables are defined in Table 1. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively. T-statistics based on robust standard errors clustered by firm are reported between "(.)". For the key independent variable—*Staggered Board*$_{[t-1]}$— we also show the t-statistic based robust standard errors that are not clustered reported between "[.]".

Dep. Variable: *Q*$_{[t]}$					
Variables	(1)	(2)	(3)	(4)	(5)
Period:	1978-2011	1978-1989	1990-2000	2001-2011	1995-2002
Staggered Board$_{[t-1]}$	0.059**	0.034	0.008	0.083**	0.119*
(firm cluster)	*(2.11)*	*(1.26)*	*(0.11)*	*(2.19)*	(1.82)
[no cluster]	*[4.65]*	*[2.35]*	*[0.17]*	*[3.43]*	*[2.15]*
G-Index$_{[t-1]}$					-0.005
					(0.33)
Ln (Assets)$_{[t-1]}$	-0.215***	-0.13***	-0.174***	-0.353***	-0.396***
	(12.01)	(4.55)	(4.65)	(11.04)	(8.10)
Ln (Firm Age)$_{[t-1]}$					0.327
					(1.59)
Insider Ownership$_{[t-1]}$					0.562
					(1.27)
Insider Ownership$^2_{[t-1]}$					-0.742
					(1.06)
ROA$_{[t-1]}$	2.939***	1.316***	2.79***	1.705***	2.071***
	(20.27)	(10.5)	(11.34)	(8.39)	(7.74)
CAPX/Assets$_{[t-1]}$	0.102	0.134	-0.686**	-0.075	-0.907**
	(0.60)	(0.80)	(2.36)	(0.26)	(2.19)
R&D/ Sales$_{[t-1]}$	1.445***	2.03	3.256***	0.561	0.423
	(2.72)	(1.26)	(3.41)	(0.95)	(0.35)
Industry M&A Volume$_{[t-1]}$	-0.248***	-0.042	-0.27*	-0.15	0.129
	(3.59)	(0.45)	(1.84)	(1.56)	(0.93)
# of firms in regression	3,023	1,079	1,420	2,116	992
N	31,574	8,500	9,617	13,457	5,253
Adjusted R-Squared	0.71	0.70	0.77	0.77	0.80

TABLE 4, PANEL B: FIRM VALUE AND STAGGERED BOARDS – BETWEEN ESTIMATORS

Table 4, Panel B presents the 'between firms' estimator (i.e., exploiting cross-sectional variation only and ignoring time series variation within firms) of the *Staggered Board* coefficient in annual pooled panel *Q* regressions on *Staggered Board* with year dummies and control variables. Columns (1)-(4) include the following control variables: $Staggered\ Board_{[t-1]}$, $Ln\ (Assets)_{[t-1]}$, $Delaware\ Incorporation_{[t-1]}$, $ROA_{[t-1]}$, $CAPX/Assets_{[t-1]}$, $R\&D/Sales_{[t-1]}$, and $Industry\ M\&A\ Volume_{[t-1]}$. Column (5) adds these control variables: $G\text{-}Index_{[t-1]}$, $Ln\ (Firm\ Age)_{[t-1]}$, $Insider\ Ownership_{[t-1]}$, and $Insider\ Ownership^2_{[t-1]}$. The analysis includes the following sub-periods: 1978-2011, 1978-1989, 1990-2000, 2001-2011, and 1995-2002. All variables are defined in Table 1. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively. T-statistics based on robust standard errors clustered by firm are reported between "(.)". The table also reports the panel standard deviation decomposition for *Q* in its cross-sectional (between firms) and time series (within firms) dimensions.

Dep. Variable: $Q_{[t]}$					
Variables	(1)	(2)	(3)	(4)	(5)
Period:	1978-2011	1978-1989	1990-2000	2001-2011	1995-2002
			Between-estimator		
$Staggered\ Board_{[t-1]}$	-0.057**	-0.015	-0.733**	-0.043	-0.12***
	(2.18)	(0.61)	(1.94)	(1.38)	(3.32)
Number of firms	3,027	1,080	1,422	2,117	1,734
R-Squared	0.51	0.43	0.52	0.44	0.45
			Panel Standard Deviation Decomposition for $Q_{[t]}$		
Overall	0.87	0.49	0.98	0.90	0.98
Between	0.80	0.44	0.96	0.84	0.90
Within	0.50	0.27	0.46	0.44	0.43

TABLE 5: FIRM VALUE AND STAGGERED BOARDS– FIRST DIFFERENCE REGRESSIONS.
FUTURE CHANGES IN Q VS. PAST CHANGES IN CONTROL VARIABLES (INCLUDING TRANSITION YEAR)

Table 5 presents pooled panel first difference regressions with the dependent variable being the change in *Q* from t to t+1 in Column (1) (i.e., $\Delta Q_{[t, t+1]}$), the change in *Q* from t to t+2 in Column (2) (i.e., $\Delta Q_{[t, t+2]}$), and the change in *Q* from t to t+3 in Column (3) (i.e., $\Delta Q_{[t, t+3]}$). As independent variables, we include the following: Δ *Staggered Board*$_{[t-1,t]}$, Δ *Ln (Assets)*$_{[t-1,t]}$, Δ *ROA*$_{[t-1,t]}$, Δ *CAPX/Assets*$_{[t-1,t]}$, Δ *R&D/ Sales*$_{[t-1,t]}$, and Δ *Industry M&A Volume*$_{[t-1,t]}$. Sample period is 1978-2011 in columns 1-3, 1978-1985 in columns 4-6 and 1986-2011 in columns 7-9. Standard errors are clustered at the firm level. Results are robust to an adjustment to the standard errors for autocorrelation as in Newey-West (where the adjustment includes up to sixth lags). T-statistics (in their absolute value) of the regression coefficients are shown in parentheses below the coefficient estimates. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively. All control variables are defined in Table 1. Included but not shown are industry fixed effects using the Fama-French 49 industry definitions. The number of firms per regression model is noted per each column. Our sample for Column (1) includes 386 cases of staggering up and 309 cases of staggering down.

Dep. Variable:	$\Delta Q_{[t, t+1]}$	$\Delta Q_{[t, t+2]}$	$\Delta Q_{[t, t+3]}$	$\Delta Q_{[t, t+1]}$	$\Delta Q_{[t, t+2]}$	$\Delta Q_{[t, t+3]}$	$\Delta Q_{[t, t+1]}$	$\Delta Q_{[t, t+2]}$	$\Delta Q_{[t, t+3]}$
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	1978 – 2011			1978 – 1985			1986 – 2011		
Δ *Staggered Board*$_{[t-1, t]}$	0.0315*	0.0804***	0.125***	0.0189	0.0157	0.0234	0.0153	0.0710**	0.117***
	(1.94)	(3.02)	(4.30)	(0.99)	(0.47)	(0.64)	(0.73)	(2.05)	(3.14)
Δ *Ln(Assets)*$_{[t-1, t]}$	-0.314***	-0.548***	-0.595***	-0.143***	-0.252***	-0.304***	-0.335***	-0.590***	-0.640***
	(-14.12)	(-16.95)	(-15.71)	(-4.23)	(-5.03)	(-5.00)	(-13.97)	(-16.97)	(-15.56)
Δ *ROA*$_{[t-1, t]}$	-0.349***	-0.865***	-1.284***	-0.114	-0.119	-0.266	-0.362***	-1.014***	-1.495***
	(-3.95)	(-8.61)	(-10.77)	(-1.28)	(-0.86)	(-1.57)	(-3.44)	(-8.66)	(-10.48)
Δ *CAPX/Assets*$_{[t-1, t]}$	-0.924***	-0.902***	-1.204***	-0.0427	-0.108	-0.387**	-1.220***	-1.195***	-1.529***
	(-6.26)	(-5.06)	(-6.59)	(-0.35)	(-0.79)	(-2.34)	(-6.51)	(-5.24)	(-6.54)
Δ *R&D/ Sales*$_{[t-1, t]}$	0.648	0.445	0.158	2.071	-1.586	-2.112	0.595	0.346	0.0218
	(1.50)	(0.87)	(0.26)	(0.91)	(-0.78)	(-0.83)	(1.36)	(0.67)	(0.04)
Δ *Industry M&A Volume*$_{[t-1,t]}$	-0.0611	-0.130***	-0.173***	0.341***	-0.276**	0.0188	-0.0797*	-0.128***	-0.185***
	(-1.52)	(-2.98)	(-3.88)	(3.76)	(-2.43)	(0.18)	(-1.91)	(-2.84)	(-3.99)
N	27,767	25,794	23,900	4,516	4,417	4,278	23,251	21,377	19,622
Adjusted R-Squared	0.018	0.032	0.032	0.013	0.014	0.016	0.020	0.035	0.035

TABLE 6: FIRM VALUE AND STAGGERED BOARDS: REVERSE CAUSALITY TESTS

Table 6 presents regressions explaining the adoption (in Columns (1) and (2)) and removal (in Columns (3) and (4)) of a staggered board as a function of the valuation of the firm (as captured by $Q_{[t-1]}$) plus other characteristics. The sample for Columns (3)-(4) ((1)-(2)) includes all firms that do (not) have a staggered board up until (and including) the year in which they remove (adopt) the staggered board if there is any such change, and are dropped from the sample afterwards. Each panel shows the results for two different models. Columns (1) and (3) use a random effects Probit model, with robust standard errors clustered by firm and reporting marginal effects. Columns (2) and (4) use the Cox proportional hazard model (see Greene, 2000) and reports the hazard ratio using robust standard errors clustered at firm level (after standardizing the continuous variables to have zero mean and unit variance). All columns in both panels include the following control variables: $Q_{[t-1]}$, *Ln (Assets)*$_{[t-1]}$, *Delaware Incorporation*$_{[t-1]}$, *ROA*$_{[t-1]}$, *CAPX/Assets*$_{[t-1]}$, *R&D/ Sales*$_{[t-1]}$ and *Industry M&A Volume*$_{[t-1]}$. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively. T-statistics (in their absolute value) are shown in parentheses below the coefficient estimates based on robust standard errors clustered by firm. All variables are defined in Table 1. The sample in the table refers to the time period 1978-2011.

	Random Effects Probit Model	*Cox Model*	*Random Effects Probit Model*	*Cox Model*
Dep. Variable:	*Pr (Stagger in period t)*		*Pr (De-stagger in period t)*	
Variables	(1)	(2)	(3)	(4)
$Q_{[t-1]}$	-0.007***	0.422***	0.001	0.856
	(3.84)	(7.63)	(0.68)	(1.48)
Ln (Assets) $_{[t-1]}$	-0.0003	1.11*	0.007***	1.830***
	(0.47)	(1.69)	(12.70)	(6.22)
Delaware Incorporation$_{[t-1]}$	-0.001	0.790**	0.003	1.021
	(0.54)	(2.14)	(1.73)	(0.14)
ROA$_{[t-1]}$	0.033*	1.471***	-0.019	1.049
	(1.79)	(5.05)	(1.35)	(0.46)
CAPX/Assets$_{[t-1]}$	0.057**	1.124**	-0.031	1.029
	(2.29)	(2.45)	(1.45)	(0.48)
R&D/ Sales$_{[t-1]}$	-0.071**	0.898	0.003	0.993
	(2.44)	(1.54)	(0.15)	(0.09)
Industry M&A Volume$_{[t-1]}$	0.065***	1.016	-0.028	0.956
	(3.21)	(0.23)	(1.55)	(0.42)
Percentage Effect	*-35.1%*	*-57.8%*	*-6.2%*	*-14.4%*
# of firms in regression	1,784	1,651	1,813	1,494
N	15,359	14,535	17,368	13,462
Pseudo R-Squared	-	0.04	-	0.027
Wald Chi-Squared (p-value)	51.3 (0.00)	-	163.4 (0.00)	-

TABLE 7: FIRM VALUE AND STAGGERED BOARDS–FIRST DIFFERENCE REGRESSIONS IN MATCHED SAMPLE

Table 7 presents pooled panel first difference regressions with the dependent variable being the change in *Q* from t to t+1 in Column (1) (i.e., $\Delta Q_{[t, t+1]}$), the change in *Q* from t to t+2 in Column (2) (i.e., $\Delta Q_{[t, t+2]}$), and the change in *Q* from t to t+3 in Column (3) (i.e., $\Delta Q_{[t, t+3]}$) for the sample of all firm-years that have either staggered up or staggered down and a matched sample of firm-years that do not change their staggered board structure. We match the two samples by imposing the following consecutive criteria: the treatment and the control firm (1) have the same Fama-French 49 industry in the event year, (ii) are both non-dual class firms in the event year, (3) have logarithm of book assets in the event year that is within plus or minus ten percent difference and (4) have the lowest difference in *Q* in the event year. All dependent variables are adjusted for the annual average of the corresponding variable in the cross-section. As independent variables, we include the following: Δ *Staggered Board*$_{[t-1,t]}$, Δ *Ln (Assets)*$_{[t-1,t]}$, Δ *ROA*$_{[t-1,t]}$, Δ *CAPX/Assets*$_{[t-1,t]}$, Δ *R&D/ Sales*$_{[t-1,t]}$, and Δ *Industry M&A Volume*$_{[t-1,t]}$. Sample period is 1978-2011, but it varies per column due to availability of lagged data as reported for each column. Standard errors are clustered at firm level. Results are robust to an adjustment to the standard errors for autocorrelation as in Newey-West (where the adjustment includes up to sixth lags). T-statistics (in their absolute value) of the regression coefficients are shown in parentheses below the coefficient estimates. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively. All control variables are defined in Table 1. Included but not shown are industry fixed effects as per the Fama-French 49 industry definitions. Our sample for Column (1) includes 338 cases of staggering up and 271 cases of staggering down, which are matched to firms that do not change their staggered board structure in the event period.

Dep. Variable:	$\Delta Q_{[t, t+1]}$	$\Delta Q_{[t, t+2]}$	$\Delta Q_{[t, t+3]}$
Variables	(1)	(2)	(3)
Δ *Staggered Board*$_{[t-1, t]}$	0.021	0.046**	0.075**
	(1.45)	(2.00)	(2.65)
Δ *Ln(Assets)*$_{[t-1, t]}$	-0.030	-0.127	-0.203*
	(0.35)	(1.11)	(1.82)
Δ *ROA*$_{[t-1, t]}$	-0.046	-0.586	-0.295
	(0.14)	(1.23)	(0.70)
Δ *CAPX/Assets*$_{[t-1, t]}$	-0.430	-0.602*	-1.456
	(0.88)	(1.82)	(0.53)
Δ *R&D/ Sales*$_{[t-1, t]}$	4.311*	6.972**	2.693
	(1.80)	(2.15)	(0.92)
Δ *Industry M&A Volume*$_{[t-1,t]}$	-0.001	0.185	0.560
	(0.00)	(0.53)	(1.49)
N	1,110	957	878
Adjusted R-Squared	0.019	0.066	0.058

TABLE 8: PORTFOLIO ANALYSIS

Table 8 presents abnormal returns of equally weighted monthly portfolios of firms that have staggered up (in the 'long' portfolio) and firms that have de-staggered (in the 'short' portfolio) around board staggering and de-staggering events in our sample of firms during the time period 1978-2011. The long (short) portfolios are composed as follows. For portfolio "*6m12*" ("*12m12*"), we include all stocks of firms that have (de-)staggered their boards starting 6 (12) months before the fiscal year-end of the year in which the firm has reported its board being (de-)staggered for the first time, and hold these stocks for 12 months. Portfolio *"12m24"* is constructed like "12m12" except that stocks are held for 24 months. We use three models: the four factor Carhart (1997) model (i.e., Momentum, HML, SMB, and market return), the three factor Fama-French model (i.e., HML, SMB, and market return), and the market model (i.e., CAPM). For each model, we present the returns to the (i) long portfolio, (ii) short portfolio, and (iii) long minus short portfolio. The absolute values of the t-statistics are based on robust standard errors and are presented in parentheses below the coefficients. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively. The number of stocks in the long and short portfolios is averaged across all months.

	Four-Factor Model			Three-Factor Model			Market Factor Model		
Portfolio *"6m12"*									
	Long	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*
Alpha (Monthly)	0.516**	0.062	0.416	0.442*	-0.016	0.447	0.738**	0.141	0.479
	(2.04)	(0.19)	(0.95)	(1.72)	(0.05)	(1.05)	(2.57)	(0.43)	(1.13)
Average # Firms	*13*	*15.2*	-	*13*	*15.2*	-	*13*	*15.2*	-
N	321	224	211	321	224	211	321	224	211
Adj. R-Squared	0.613	0.587	0.010	0.611	0.571	0.011	0.532	0.526	0.001

	Four-Factor Model			Three-Factor Model			Market Factor Model		
Portfolio *"12m12"*									
	Long	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*
Alpha (Monthly)	0.529	-0.293	1.235**	0.388	-0.425	1.296**	0.581*	-0.256	1.266***
	(1.54)	(1.08)	(2.24)	(1.13)	(1.59)	(2.47)	(1.85)	(0.93)	(2.65)
Average # Firms	*12.8*	*16.1*	-	*12.8*	*16.1*	-	*12.8*	*16.1*	-
N	319	237	216	319	237	216	319	237	216
Adj. R-Squared	0.466	0.62	0.002	0.459	0.606	0.005	0.416	0.575	0.011

	Four-Factor Model			Three-Factor Model			Market Factor Model		
Portfolio *"12m24"*									
	Long	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*
Alpha (Monthly)	0.401**	0.039	0.419	0.292*	-0.067	0.407	0.525***	0.039	0.461*
	(2.30)	(0.17)	(1.44)	(1.65)	(0.31)	(1.45)	(2.7)	(0.18)	(1.68)
Average # Firms	*23.7*	*22.5*	-	*23.7*	*22.5*	-	*23.7*	*22.5*	-
N	388	350	349	388	350	349	388	350	349
Adj. R-Squared	0.679	0.623	0.001	0.671	0.617	0.004	0.603	0.593	0.001

TABLE 9. FIRM VALUE AND STAGGERED BOARDS
INTERACTIONS OF STAGGERED BOARD WITH INVESTMENTS AND OPERATIONAL COMPLEXITY

Table 9 presents time-series analysis as in Table 4 that includes interactions with variables that capture investments and operational complexity. We include the following control variables: *Ln (Assets)*$_{[t-1]}$, *Delaware Incorporation*$_{[t-1]}$, *ROA*$_{[t-1]}$, *CAPX/Assets*$_{[t-1]}$, and *R&D/Sales*$_{[t-1]}$, and *Industry M&A Volume*$_{[t-1]}$ which we do not show for brevity (unless a variable is being interacted with *Staggered Board*$_{[t-1]}$). The interacted variables include the following: *R&D/ Sales*$_{[t]}$, *Intangible Assets/ Total Assets*$_{[t]}$, *Ranked Patent Citation Count*$_{[t]}$, and *Firm Size*$_{[t]}$. The sample period is 1978-2011. Individual interactions vary in their availability, as noted by the observation count and year span for each estimated column. All continuous variables in the interaction terms (*R&D/ Sales*$_{[t]}$, *Intangible Assets/Total Assets*$_{[t]}$, and *Firm Sales*$_{[t]}$) are demeaned prior to calculating their interactions with *Staggered Board*$_{[t-1]}$. Estimation is using pooled panel *Tobin's Q*$_{[t]}$ regressions. We include year and firm fixed effects. All interaction and control variables are defined in Table 1. T-statistics (in their absolute value) are shown in parentheses below the coefficient estimates and are based on robust standard errors clustered at the firm level. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively.

Dep. Variable: *Q*$_{[t]}$								
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Staggered Board$_{[t-1]}$	0.071**	0.059**	-0.024	0.072**	0.026	0.025	0.034	0.055**
	(2.44)	(2.11)	(0.96)	(2.43)	(0.68)	(0.64)	(1.28)	(2.00)
R&D/ Sales$_{[t-1]}$	0.39	1.45***						
	(0.56)	(2.72)						
Ln(Intangible Assets/ Total Assets$_{[t-1]}$*)*			-0.143	-0.047				
			(1.64)	(0.31)				
Ranked Patent Citation Count$_{[t-1]}$					0.035	0.156**		
					(0.38)	(2.47)		
Firm Sales$_{[t-1]}$							-0.208***	-0.190***
							(10.46)	(10.97)
R&D/ Sales$_{t-1}$ * *Staggered Board*$_{[t-1]}$	1.956**							
	(2.54)							
Ln(Intangible Assets/Total Assets$_{[t-1]}$*)* * *Staggered Board*$_{[t-1]}$			0.164***					
			(3.51)					
Ranked Patent Citation Count$_{[t-1]}$ * *Staggered Board*$_{[t-1]}$					0.226*			
					(1.90)			
Firm Sales$_{[t-1]}$ * *Staggered Board*$_{[t-1]}$							0.036**	
							(2.29)	
Sample Period	1978 -2011		1978 -2011		1978 -2003		1978 -2011	
N	31,574	31,574	27,519	27,519	15,338	15,338	31,558	31,558
Adjusted R-squared	0.72	0.71	0.74	0.74	0.73	0.73	0.71	0.71

TABLE 10. FIRM VALUE AND STAGGERED BOARDS
INTERACTIONS OF STAGGERED BOARD WITH EXECUTIVE COMPENSATION

Table 10 presents pooled panel *Q* regressions with firm and year fixed effects that includes interactions with variables that proxy for stakeholder commitment. We always include the following control variables: *Ln (Assets)*$_{[t-1]}$, *Delaware Incorporation*$_{[t-1]}$, *ROA*$_{[t-1]}$, *CAPX/Assets*$_{[t-1]}$, *R&D/Sales*$_{[t-1]}$, and *Industry M&A Volume*$_{[t-1]}$ which we do not show for brevity (unless a variable is being interacted with *Staggered Board*$_{[t-1]}$). The interacted variables include the following: *Large Customer*$_{[t-1]}$, *Strategic Alliance*$_{[t-1]}$, *Labor Productivity*$_{[t-1]}$, and *Contract Specificity*$_{[t-1]}$. The sample period is 1985-2011 for Columns (1)-(4), and 1997-2011 for Columns (5) and (6). All variables are defined in Table 1. T-statistics (in their absolute value) based on robust standard errors clustered by firm are shown in parentheses. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively.

Dep. Variable: $Q_{[t]}$								
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Staggered Board$_{[t-1]}$	0.052	0.08**	0.066**	0.079**	-0.049	0.095***	-0.249	0.083
	(1.37)	(2.24)	(1.93)	(2.22)	(0.91)	(2.46)	(1.45)	(1.47)
Large Customer$_{[t-1]}$	-0.105***	-0.047***						
	(3.82)	(2.79)						
Strategic Alliance$_{[t-1]}$			-0.29	0.004				
			(1.33)	(0.28)				
Labor Productivity$_{[t-1]}$					-0.227***	-0.177***		
					(8.31)	(7.71)		
Contract Specificity$_{[t-1]}$							-0.726**	-0.748**
							(2.01)	(2.09)
Large Customer$_{[t-1]}$ *	0.097***							
Staggered Board$_{[t-1]}$	(3.01)							
Strategic Alliance$_{[t-1]}$*			0.056*					
Staggered Board$_{[t-1]}$			(1.90)					
Labor Productivity$_{[t-1]}$ *					0.099***			
Staggered Board$_{[t-1]}$					(3.74)			
Contract Specificity$_{[t-1]}$ *							0.362	
Staggered Board$_{[t-1]}$							(1.62)	
Table 3 Controls Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	26,205	26,205	26,205	26,205	24,880	24,880	9,628	9,628
Adjusted R-Squared	0.716	0.716	0.715	0.715	0.748	0.748	0.695	0.695

ONLINE APPENDIX TABLES TO CREMERS, LITOV, AND SEPE (2015)

APPENDIX TABLE A.1: CORRELATIONS OF KEY DEPENDENT AND INDEPENDENT VARIABLES

Table A.1 shows Pearson pairwise correlations with p-values between parentheses. Variable descriptions are given in Table 1.

	Q	*Staggered Board*	*Staggered Board-Charter*	*Staggered Board-Bylaws*	*Ln (Assets)*	*Delaware Incorporation*	*ROA*	*CAPX/ Assets*	*R&D/ Sales*
Staggered Board	0.023	1.000							
	(0.00)								
Staggered Board-Charter	0.037	0.864	1.000						
	(0.00)	*(0.00)*							
Staggered Board-Bylaws	-0.032	0.274	-0.241	1.000					
	(0.00)	*(0.00)*	*(0.00)*						
Ln (Assets)	-0.063	-0.032	-0.009	-0.034	1.000				
	(0.00)	*(0.00)*	*(0.12)*	*(0.00)*					
Delaware Incorporation	0.090	0.006	0.029	-0.067	0.042	1.000			
	(0.00)	*(0.26)*	*(0.00)*	*(0.00)*	*(0.00)*				
ROA	0.411	-0.022	-0.027	0.034	-0.042	-0.033	1.000		
	(0.00)	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*			
CAPX/Assets	0.003	-0.047	-0.051	0.032	-0.040	-0.026	0.347	1.000	
	(0.66)	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*		
R&D/ Sales	0.329	-0.025	-0.007	-0.052	-0.114	0.135	-0.148	-0.137	1.000
	(0.00)	*(0.00)*	*(0.21)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*	
Industry M&A	0.009	0.045	0.050	-0.007	0.020	0.020	-0.058	-0.046	0.029
	(0.11)	*(0.00)*	*(0.00)*	*(0.21)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*	*(0.00)*

APPENDIX TABLE A.2: FIRM VALUE AND STAGGERED BOARDS: CONTROLLING FOR LAGGED Q

Table A.2 shows a replication of Bebchuk and Cohen (2005) with two different sets of control variables and across different time periods. Columns (1)-(3), (5), and (6) include the following control variables: $Q_{[t-1]}$, *Staggered Board*$_{[t-1]}$, *Ln (Assets)*$_{[t-1]}$, *Delaware Incorporation*$_{[t-1]}$, *ROA*$_{[t-1]}$, *CAPX/Assets*$_{[t-1]}$, and *R&D/ Sales*$_{[t-1]}$, and *M&A Volume*$_{[t-1]}$ Column (4) adds these control variables: *G-Index*$_{[t-1]}$, *Ln (Firm Age)*$_{[t-1]}$, *Insider Ownership*$_{[t-1]}$, and *Insider Ownership*$^2_{[t-1]}$. The analysis includes the following sub-periods: 1978-1989, 1990-2000, 2001-2011, 1995-2002, 1978-1985, and 1986-2011. Estimation is using pooled panel *Tobin's* $Q_{[t]}$ regressions where year and industry fixed effects are always included. All control variables are defined in Table 1. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively, based on robust standard errors clustered by firm.

	(1)	(2)	(3)	(4)	(5)	(6)
Period:	1978-1989	1990-2000	2001-2011	1995-2002	1978-1985	1986-2011
$Q_{[t-1]}$	0.802***	0.694***	0.756***	0.676***	0.771***	0.756***
	(39.13)	(38.52)	(66.69)	(32.71)	(37.13)	(83.57)
Staggered Board$_{[t-1]}$	-0.001	-0.009	-0.010	-0.016	0.002	-0.008
	(0.15)	(0.69)	(1.13)	(0.87)	(0.28)	(1.17)
G-Index$_{[t-1]}$				0.000		
				(0.06)		
Ln (Assets)$_{[t-1]}$	-0.007**	0.007	-0.01***	0.018**	-0.007**	-0.003
	(2.36)	(1.28)	(2.78)	(2.27)	(2.45)	(1.04)
Ln (Firm Age)$_{[t-1]}$				-0.005		
				(0.25)		
Delaware Incorporation$_{[t-1]}$	0.007	-0.009	-0.01	-0.002	0.009	-0.007
	(0.99)	(0.65)	(0.98)	(0.13)	(1.29)	(1.01)
Insider Ownership$_{[t-1]}$				0.171		
				(1.01)		
Insider Ownership$^2_{[t-1]}$				0.011		
				(0.04)		
ROA$_{[t-1]}$	0.28***	1.153***	0.582***	1.205***	0.34***	0.691***
	(3.38)	(6.94)	(5.53)	(5.74)	(3.98)	(8.78)
CAPX/Assets$_{[t-1]}$	-0.424***	-0.442**	-0.606***	-0.75***	-0.394***	-0.38***
	(4.54)	(2.25)	(3.48)	(3.04)	(3.91)	(3.41)
R&D/ Sales$_{[t-1]}$	1.497***	1.846***	0.577***	1.552***	1.561***	0.714***
	(4.76)	(5.54)	(3.63)	(3.70)	(4.19)	(5.07)
Industry M&A Volume$_{[t-1]}$	-0.156*	-0.041	-0.156*	0.136	-0.09	-0.119*
	(1.87)	(0.30)	(1.81)	(1.11)	(0.78)	(1.90)
N	7,479	8,596	12,389	5,027	5,083	23,381
Adjusted R-Squared	0.76	0.76	0.77	0.77	0.75	0.77
Year Effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm Effect	No	No	No	No	No	No
Industry Effect	Yes	Yes	Yes	Yes	Yes	Yes
# of firms in regression	1,028	1,290	1,971	943	929	2,517

APPENDIX TABLE A.3: PORTFOLIO ANALYSIS

Table A.3 presents abnormal returns of portfolios of firms that have staggered up (in the 'long' portfolio) and firms that have de-staggered (in the 'short' portfolio). Panel A presents results for the value-weighted *"6m12"*, *"12m12"*, and *"12m24"* portfolios, and for the equally weighted returns for portfolios *"18m12"*, *"18m18"* and *"18m24"* in Panel B. The long (short) portfolios are composed every month as follows. For portfolios *"6m12"*, *"12m12"*, and *"12m24"* we follow the procedure described in Table 8. For portfolio *"18m12"*, we include all stocks of firms that have (de-)staggered their boards starting 18 months before the fiscal year-end of the year in which the firm has reported its board being (de-)staggered for the first time, and hold these stocks for 12 months. Portfolio *"18m18"* and *"18m24"* are analogously formed, except that we hold the stocks for 18 and 24 months, respectively. We use three models: the four factor Carhart (1997) model (i.e., Momentum, HML, SMB, and market return), the three factor Fama-French model (i.e., HML, SMB, and market return), and the market model (i.e., CAPM). For each model, we present the returns to the (i) long portfolio, (ii) short portfolio, and (iii) long minus short portfolio. The absolute values of the t-statistics are based on robust standard errors and are presented in parentheses below the coefficients. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively.

PANEL A: PORTFOLIO ANALYSIS –VALUE WEIGHTED RETURNS

	Four-Factor Model			Three-Factor Model			Market Factor Model		
Portfolio *"6m12"*									
	Long	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*
Alpha (Monthly)	-0.004	-0.132	0.253	-0.047	-0.171	0.278	-0.006	-0.123	0.251
	(0.01)	(0.43)	(0.53)	(0.13)	(0.56)	(0.58)	(0.02)	(0.4)	(0.51)
Average # Firms	*13*	*15.2*	-	*13*	*15.2*	-	*13*	*15.2*	-
N	321	224	211	321	224	211	321	224	211
Adj. R-Squared	0.453	0.546	0.038	0.454	0.543	0.041	0.443	0.533	0.001

	Four-Factor Model			Three-Factor Model			Market Factor Model		
Portfolio *"12m12"*									
	Long	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*
Alpha (Monthly)	0.231	-0.349	1.363**	0.125	-0.398	1.263**	0.232	-0.416	1.34**
	(0.58)	(1.28)	(2.35)	(0.34)	(1.54)	(2.34)	(0.68)	(1.58)	(2.57)
Average # Firms	*12.8*	*16.1*	-	*12.8*	*16.1*	-	*12.8*	*16.1*	-
N	319	237	216	319	237	216	319	237	216
Adj. R-Squared	0.388	0.602	0.035	0.386	0.603	0.036	0.38	0.592	0.001

	Four-Factor Model			Three-Factor Model			Market Factor Model		
Portfolio *"12m24"*									
	Long	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*
Alpha (Monthly)	-0.008	-0.167	0.154	-0.06	-0.129	0.054	0.024	-0.165	0.149
	(0.04)	(0.69)	(0.50)	(0.28)	(0.53)	(0.17)	(0.12)	(0.67)	(0.47)
Average # Firms	*23.7*	*22.5*	-	*23.7*	*22.5*	-	*23.7*	*22.5*	-
N	388	350	349	388	350	349	388	350	349
Adj. R-Squared	0.584	0.557	0.047	0.583	0.558	0.042	0.577	0.535	0.001

APPENDIX TABLE A.3, PANEL B: PORTFOLIO ANALYSIS –ADDITIONAL PORTFOLIOS ("18M12", "18M18", AND "18M24"), EQUALLY WEIGHTED RETURNS

	Four-Factor Model			Three-Factor Model			Market Factor Model		
Portfolio *"18m12"*									
	Long	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*
Alpha (Monthly)	0.574	0.066	0.414	0.275	-0.086	0.357	0.496	0.096	0.399
	(1.52)	(0.21)	(0.72)	(0.75)	(0.28)	(0.65)	(1.45)	(0.31)	(0.77)
Average # Firms	*13.04*	*15.70*	-	*13.04*	*15.70*	-	*13.04*	*15.70*	-
N	318	231	216	318	231	216	318	231	216
Adj. R-Squared	0.455	0.561	-0.015	0.429	0.545	-0.011	0.397	0.507	-0.003

	Four-Factor Model			Three-Factor Model			Market Factor Model		
Portfolio *"18m18"*									
	Long	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*
Alpha (Monthly)	0.576*	0.047	0.642	0.394	-0.116	0.66*	0.603**	0.052	0.655*
	(1.85)	(0.20)	(1.52)	(1.34)	(0.51)	(1.66)	(2.18)	(0.22)	(1.78)
Average # Firms	*18.21*	*20.46*	-	*18.21*	*20.46*	-	*18.21*	*20.46*	-
N	366	307	297	366	307	297	366	307	297
Adj. R-Squared	0.53	0.634	-0.012	0.512	0.621	-0.009	0.465	0.572	-0.002

	Four-Factor Model			Three-Factor Model			Market Factor Model		
Portfolio *"18m24"*									
	Long	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*	*Long*	*Short*	*Long - Short*
Alpha (Monthly)	0.395**	0.247	0.258	0.258	0.109	0.272	0.546**	0.292	0.34
	(2.00)	(1.13)	(0.85)	(1.35)	(0.52)	(0.94)	(2.55)	(1.30)	(1.19)
Average # Firms	*23.87*	*23.56*	-	*23.87*	*23.56*	-	*23.87*	*23.56*	-
N	389	349	349	389	349	349	389	349	349
Adj. R-Squared	0.665	0.621	-0.003	0.652	0.604	0.00	0.565	0.562	-0.003

APPENDIX TABLE A.4: STAGGERED BOARDS AND CEO TURNOVER

Table A.7 reports logistic regressions of *Forced CEO Turnover* in Columns (1)-(4) and *CEO Turnover* in Columns (5)-(8). As independent variables we include: *Staggered Board*$_{[t]}$, *Excess Returns*$_{[t-1]}$, and their interaction. We also control in Columns (3), (4), (7), and (8) for: *Majority of Independent Directors Indicator*$_{[t]}$, *CEO-Chairman Duality*$_{[t]}$, *Insider Ownership*$_{[t]}$, *Poison Pill*$_{[t]}$, *Delaware Incorporation*$_{[t]}$, and *Board Size*$_{[t]}$ following the list of control variables in Faleye (2007). In Columns (1), (2), (5) and (6) we control for: *Majority of Independent Directors Indicator*$_{[t]}$, *CEO-Chairman Duality*$_{[t]}$, *Poison Pill*$_{[t]}$, *Delaware Incorporation*$_{[t]}$, and *Board Size*$_{[t]}$. All variables are defined in Table 1. We present estimates of marginal effects. T-statistics based on standard errors clustered by firm are shown in parentheses. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively, in two tailed tests.

	Pr (Forced CEO Turnover$_{[t]}$*)*				*Pr (CEO Turnover*$_{[t]}$*)*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Staggered Board$_{[t]}$	0.001	0.002	0.002	0.006	-0.002	-0.002	-0.003	-0.003
	(0.49)	(0.62)	(0.83)	(1.6)	(0.22)	(0.2)	(0.33)	(0.41)
Excess Returns$_{[t-1]}$	-0.022***	-0.024***	-0.022***	-0.029***	-0.047***	-0.048***	-0.05***	-0.046***
	(6.38)	(3.9)	(6.07)	(5.09)	(5.35)	(3.56)	(5.44)	(3.3)
Staggered Board$_{[t]}$ * *Excess Returns*$_{[t-1]}$		0.003		0.012		0.001		-0.007
		(0.35)		(1.37)		(0.05)		(0.37)
Majority of Independent Directors Indicator$_{[t]}$	0.006	0.006	0.004	0.004	0.023	0.023	0.019	0.019
	(1.22)	(1.22)	(0.68)	(0.71)	(1.23)	(1.23)	(0.9)	(0.89)
CEO-Chairman Duality$_{[t]}$	0.002	0.002	0.003	0.003	-0.001	-0.001	-0.004	-0.004
	(0.57)	(0.55)	(0.71)	(0.65)	(0.12)	(0.12)	(0.37)	(0.35)
Insider Ownership$_{[t]}$			0.003	0.003			-0.138***	-0.139***
			(0.18)	(0.2)			(3.24)	(3.25)
Poison Pill$_{[t]}$	0.004	0.004	0.005*	0.005*	0.005	0.005	0.004	0.004
	(1.58)	(1.58)	(1.78)	(1.77)	(0.72)	(0.72)	(0.56)	(0.56)
Delaware Incorporation$_{[t]}$	0.003	0.003	0.004	0.004	0.009	0.009	0.008	0.008
	(1.16)	(1.16)	(1.55)	(1.56)	(1.32)	(1.32)	(1.14)	(1.14)
Board Size$_{[t]}$	-0.00039	-0.00038	-0.0003	-0.0002	0.004***	-0.00038	0.003**	0.003**
	(0.96)	(0.94)	(0.63)	(0.56)	(3.93)	(3.93)	(2.57)	(2.56)
N	6,552	6,552	5,573	5,573	6,552	6,552	5,573	5,573
Pseudo R-2	0.045	0.045	0.05	0.052	0.012	0.012	0.017	0.017
Number of turnover events	112	112	92	92	594	594	510	510
Sample period (years)	1996-2001	1996-2001	1996-2001	1996-2001	1996-2001	1996-2001	1996-2001	1996-2001

APPENDIX TABLE A.5: REPLICATION OF CUNAT, GINE AND GUADALUPE (2012)

Table A.5 reports our replications and extension of the results in column (3) of Table VIII in Cunat, Gine, and Guadalupe (2012), on the long-run effect on the firm's *Book-to-Market* (in columns (1) and (3)) and *Q* (in columns (2) and (4)) of a close shareholder vote to approve a shareholder-sponsored proposal related to corporate governance. For the details of the sample construction and methodology, see Cunat, Gine, and Guadalupe (2012). In columns (1) and (2), we separate all corporate governance proposals related to G-Index provisions from all other proposals as done in Cunat, Gine, and Guadalupe (2012). In columns (3) and (4), we further separate proposals to repeal a staggered board from other G-Index related proposals. All specifications include firm fixed effects. T-statistics (in their absolute values) based on robust standard errors clustered by firm are provided.

		Book-to-Market	*Tobin's Q*	*Book-to-Market*	*Tobin's Q*
		(1)	(2)	(3)	(4)
Year of meeting, t	G-Index	0.00274	-0.00126	-0.00529	0.0236
		(0.43)	(0.08)	(0.67)	(1.18)
One year later, t+1	G-Index	-0.0323	-0.00484	-0.00953	-0.0572
		(1.25)	(0.10)	(0.27)	(0.83)
Two years later, t+2	G-Index	-0.0209	0.0440	-0.0195	0.0509
		(0.72)	(0.94)	(0.49)	(0.76)
Three years later, t+3	G-Index	-0.0854***	0.117**	-0.0602	0.159**
		(2.78)	(2.16)	(1.40)	(2.20)
Four years later, t+4	G-Index	-0.0620*	0.153**	-0.0651	0.220**
		(1.66)	(2.00)	(1.29)	(2.29)
Year of meeting, t	Other	-0.00543	-0.0360	-0.00534	-0.0391
		(0.39)	(1.28)	(0.38)	(1.40)
One year later, t+1	Other	-0.0397	0.121	-0.0413	0.136
		(0.49)	(1.39)	(0.52)	(1.60)
Two years later, t+2	Other	-0.0533	0.0327	-0.0512	0.0519
		(0.76)	(0.33)	(0.72)	(0.51)
Three years later, t+3	Other	-0.0255	0.0428	-0.0249	0.0657
		(0.46)	(0.53)	(0.44)	(0.81)
Four years later, t+4	Other	0.0701	-0.00176	0.0697	0.0109
		(1.08)	(0.02)	(1.07)	(0.10)
Year of meeting, t	Staggered			0.0171	-0.0420
	Board			(1.35)	(1.48)
One year later, t+1	Staggered			-0.0596	0.103
	Board			(1.13)	(0.91)
Two years later, t+2	Staggered			-0.0175	0.0876
	Board			(0.28)	(0.94)
Three years later, t+3	Staggered			-0.117**	0.0938
	Board			(2.08)	(0.84)
Four years later, t+4	Staggered			-0.0341	0.0955
	Board			(0.57)	(0.64)
N		10,356	10,356	10,356	10,356
R-squared		0.706	0.824	0.707	0.825

APPENDIX TABLE A.6: REPLICATION AND EXTENSION OF COHEN AND WANG (2013)

Table A.6, Panel A shows the construction of the Cohen and Wang (2013) replication sample and the extended replication sample. Each replication sample is prepared as follows. For the main replication sample, we compile a list of all Delaware-incorporated firms with staggered boards that have no dual class stock. Of these, we keep the firms that have available meeting dates from Institutional Shareholder Services (ISS) for 2010. We then separate the included firms into control and treatment groups based on the last year's meeting date month (i.e., control group comprised of firms with last year's meeting date in January, February or March; treatment group comprised of firms with last year's meeting date in September, October, November or December). We further exclude REITs and require non-missing factor model estimates and at least two days raw returns. For the extended sample, we add to the main replication sample all observations with missing ISS meeting dates for 2010, for which the predict meeting dates is January, February, March, September, October, November or December. We predict the meeting date as the DEF14A filing date from SEC website plus 38 calendar days. This predictive approach is based on the average difference between DEF14A filing date and the meeting date of 38 days in the main replication sample. We then hand-check the observations to confirm that relevant meeting dates are in January, February, March, September, October, November or December and retain only those that fit that requirement. We further remove REITs and require non-missing four factor model estimates and at least two event days' raw returns.

Main Replication Sample:				# of firms
1. Www.SharkRepellent.net file of firms with staggered board information on 1/2013				7,527
2. Keep DE-incorporated firms				4,131
3. Keep firms with staggered boards				2,106
4. Keep only non-dual class firms				1,549
5. Keep firms with meeting dates available from ISS (for 2010)				674
6. Keep firms with meeting dates in months 1,2,3 or 9,10,11, and 12				128
7. Keep non-REITS (i.e., not SIC = 6798)				128
8. Require non-missing four factor model estimates and at least two event days raw				**122**
	Treatment:	**66**	With returns for both events:	**120**
	Control:	**56**	With returns for one event:	**2**
			Total Obs.:	**242**
Additional Firms in Extended Sample:				
9. File from step (4) but with missing meeting dates for 2010 from ISS				875
10. Firms with predicted meeting date in months 1,2,3,9,10,11,12 with missing 2010 ISS meeting dates & non-missing DEF 14A file date from www.sec.gov.				47
10.1. Exclude obs. where hand check in (10) is unsuccessful, i.e., no proxy filing date				6
10.2. Hand-checked meeting dates for data from file in (10)				41
11. Remaining firms after removing REITS (SIC=6798)				40
12. Remaining firms with hand-collected verified meeting date where month of meeting date in (1,2,3,9,10,11,12)				33
13. Require non-missing four factor model estimates and at least two event days raw				**23**
	Treatment:	**21**	With returns for both events:	**22**
	Control:	**2**	With returns for one event:	**1**
			Total Obs.:	**45**

APPENDIX TABLE A.6, PANEL B: REPLICATION AND EXTENSION OF COHEN AND WANG (2013)

Table A.6, Panel B shows the results of the replication of Table 1 in Cohen and Wang (2013) in a sample of 122 firms in columns (1) and (2) and in an extended sample of 145 firms in columns (3) and (4). The table reports OLS regression estimates pooling the October 8, 2010 and November 23, 2010 ruling returns of two-day risk-adjusted ruling announcement returns on a treated indicator variable (*Treated*) and an indicator variable for the second event date (*Event #2*). We pool the two events and multiply risk-adjusted returns on the second event date by -1. Risk-adjusted returns are computed in two steps. First, each firm's loadings on the Fama and French (1993) three factors and the Fama and French (1996) up-minus-down (UMD) momentum factor are estimated using the most recently available 120 trading days' data ending on or prior to June 30, 2010. Second, risk-adjusted announcement window returns are obtained by taking the residuals from a cross-sectional regression of raw announcement window returns on the estimated factor sensitivities. All specifications include industry fixed effects. We report results estimated with six-digit Global Industry Classification Standard (GICS) industry fixed effects in the first sub-panel, with Fama-French 49 industries fixed effects in the second panel, and with 4-digits SIC industries fixed effects in the third sub-panel. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively, based on robust standard errors clustered by the industry definition noted above each sub-panel. T-statistics (in their absolute value) are shown in parentheses below the coefficient estimates.

GICS industries

Variable	(1)	(2)	(3)	(4)
Treated Indicator	0.0036	0.0078*	0.0017	0.0062
t-stat	(1.09)	(1.93)	(0.52)	(1.54)
Event #2 Indicator	0.0003	0.0003	-0.0002	-0.0001
	(0.10)	(0.08)	(0.09)	(0.05)
N	242	242	285	285
Adjusted R-Squared	-0.0031	0.0433	-0.0061	0.0134

Note: Observations are 285 (not 287) in (3)-(4) as GICS is missing for PERMNO = 62296.

Fama-French 49 industries

Variable	(1)	(2)	(3)	(4)
Treated Indicator	0.0036	0.0035	0.0016	0.0018
t-stat	(1.42)	(1.18)	(0.58)	(0.62)
Event #2 Indicator	0.0003	0.0003	0.000	0.0001
	(0.09)	(0.10)	(0.00)	(0.02)
N	242	242	287	287
Adjusted R-Squared	-0.0031	0.0274	-0.0062	0.0127

SIC 4-digits industries

Variable	(1)	(2)	(3)	(4)
Treated Indicator	0.0036	0.0079	0.0016	0.0016
t-stat	(1.05)	(0.61)	(0.47)	(0.14)
Event #2 Indicator	0.0003	0.0003	0.000	0.000
	(0.09)	(0.07)	(0.00)	(0.01)
N	242	242	287	287
Adjusted R-Squared	-0.0031	-0.0439	-0.0062	-0.102

APPENDIX TABLE A.7 STAGGERED BOARD AND THE TAKEOVER CHANNEL

Table A.7 presents time-series analysis as in Table 4 that includes interactions with the demeaned *Industry M&A Volume*$_{[t-1]}$ in Column (1), with demeaned *Annual M&A Volume*$_{[t-1]}$ in Column (2) with *Governance Index*$_{[t-1]}$ in Column (5), and with *Poison Pill*$_{[t-1]}$ in Column (6). Column (3) excludes all firms that were ex-post taken over, and Column (4) modifies *Q* with a measure that is defined by using market value of equity based on the closing price before the last year in which the firm is taken over. We do not include *Annual M&A Volume[t-1]* in Column (2) as the regression includes year fixed effects. We include the following control variables: *Ln (Assets)*$_{[t-1]}$, *Delaware Incorporation*$_{[t-1]}$, *ROA*$_{[t-1]}$, *CAPX/Assets*$_{[t-1]}$, *R&D/Sales*$_{[t-1]}$, and demeaned *Industry M&A Volume*$_{[t-1]}$, which we do not show for brevity (unless a variable is being interacted with *Staggered Board*$_{[t-1]}$). The sample period is 1978-2011. Individual interactions vary in their availability, as noted by the observation count and year span for each estimated column. Robust standard errors are clustered at the firm level. T-statistics (in their absolute value) are shown in parentheses below the coefficient estimates. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% levels by ***, **, and *, respectively.

Dep. Variable: $Q_{[t]}$						
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Staggered Board$_{[t-1]}$	0.059**	0.059**	0.094***	0.061**	0.077**	0.103***
	(2.12)	(2.10)	(2.76)	(1.97)	(2.57)	(2.61)
Staggered Board$_{[t-1]}$ * *Industry M&A Volume*$_{[t-1]}$	0.029					
	(0.22)					
Industry M&A Volume$_{[t-1]}$	-0.265**					
	(2.56)					
Staggered Board$_{[t-1]}$ * *Annual M&A Volume*$_{[t-1]}$		0.014				
		(0.03)				
Governance Index$_{[t-1]}$					-0.015**	
					(2.40)	
Poison Pill$_{[t-1]}$						-0.032
						(1.03)
Governance Index$_{[t-1]}$ * *Staggered Board*$_{[t-1]}$					0.004	
					(0.64)	
Poison Pill$_{[t-1]}$ * *Staggered Board*$_{[t-1]}$						-0.007
						(0.20)
Table 3 Controls Included	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	31,574	31,574	20,818	31,574	23,525	25,011
Adjusted R-Squared	0.714	0.714	0.720	0.450	0.710	0.720