

WHITHER DELAWARE?

LIMITED COMMITMENT AND THE FINANCIAL VALUE OF CORPORATE LAW

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ABSTRACT

This paper provides novel evidence concerning the association between firm value (as measured by Tobin's Q) and (re)incorporation. First, the positive *cross-sectional* Delaware *incorporation* effect documented in prior studies becomes negative when we control for Delaware incorporation at the IPO stage. Second, we consistently find that in the *time series* the Delaware *reincorporation* effect has a negative association with firm value, while reincorporation in managerial-friendly jurisdictions (i.e., "Managerial States") has a positive association with firm value. To explain our new results, we explore whether a state's response to a firm's limited commitment problem may better capture how state corporate laws affect firm value. The limited commitment problem concerns potential conflicts of interests between shareholders and other stakeholders, including managers. Such a problem arises out of the shareholders' failure to credibly commit to long-term investments given their ability to sell their shares in public markets whenever this benefits them. Consistent with our hypothesis, we find that the decreased (increased) financial value for firms reincorporating in Delaware (Managerial States) is driven by firms where the limited commitment problem seems most relevant, i.e., firms engaged in R&D, firms with a large customer, firms in industries requiring relationship-specific investments, and firms in relationship industries. Conversely, the negative Delaware effect is substantially reduced in firms where the limited commitment problem is likely to be less pertinent, i.e., firms with weaker shareholder rights and/or more antitakeover defenses and firms with dual class stock.

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1. Introduction

For at least 40 years, a large body of literature has debated the effects of state competition for corporate charters and the value of state corporate laws. The common assumption of these studies is that interstate competition affects the way state corporate laws respond to managerial moral hazard, i.e., the agency problem arising between shareholders and managers out of the separation of ownership from control (Jensen and Meckling, 1976). Nevertheless, scholars have been sharply divided about the importance of interstate competition, and particularly whether interstate competition fosters a “race to the top” that maximizes firm value (Winter, 1977; Easterbrook and Fischel, 1991; Romano, 1985, 1993) or a “race to the bottom” that pushes states to cater to managers at the expense of shareholders (Cary, 1974; Bebchuk, 1992; Bebchuk and Ferrell, 1999, 2001).

Delaware has long been at the core of this debate – as the state firmly holding the dominant share of the (re)incorporation market – especially starting from the early 1980s, due to event studies documenting that financial value is higher for Delaware firms than for firms incorporated elsewhere (Dodd and Leftwich, 1980; Romano, 1985; Peterson, 1988; Netter and Poulsen, 1989; Wang, 1996; Heron and Lewellen, 1998). Consistent with these studies, Robert Daines finds that financial value as measured through Tobin’s Q is higher for Delaware firms than for firms incorporated elsewhere in the cross-section of firms (Daines, 2001). Supporters of the race to the bottom view, however, have argued that both sets of studies fail to provide conclusive evidence on the higher financial value of Delaware law, due to both methodological and endogeneity concerns (Bebchuk and Ferrell, 2001; Gompers, Ishii, and Metrick, 2003; Subramanian, 2002; Bebchuk, Cohen, and Ferrell, 2002).

In this paper, we provide novel evidence concerning the association between firm value (as measured by Tobin’s Q) and (re)incorporation, both *in* and *out of* Delaware and other U.S. states. Using a panel of over 10,000 U.S. firms for the period 1994-2012 and over 80,000 firm-year observations – hence employing a database with historical incorporation information for *all* publicly traded firms in the U.S. – we first document that the *cross-sectional* Delaware *incorporation* effect is positive only in the 1990s (associated with 8% higher Q , confirming the result in Daines, 2001), negative in the 2000s (associated with 4% lower Q), and statistically insignificant during the full 1994-2012 period.

Our next main new finding is that in the *time series* the Delaware *reincorporation* effect has a negative association with financial value, at economically and statistically significant levels, while reincorporation in managerial-friendly legislations (i.e., “Managerial States”) has a substantial economically and statistically significant positive association with firm value.¹ This comparison group of 19 “Managerial States” consists of jurisdictions whose state law can be distinguished from Delaware law based on the adoption of more restrictions on shareholder rights and the market for corporate control, typically in the form of more stringent antitakeover statutes.

These time series results are identified from 560 firms reincorporating into or out of Delaware versus any of the Managerial States. Using pooled panel Tobin’s Q regressions with firm fixed effects, reincorporation into Delaware is associated with a decrease in Tobin’s Q of 26% (t-statistic of 4.85), while reincorporation into a Managerial State is associated with an increase in Tobin’s Q of 25% (t-statistic of 4.06). Regressions using changes in Tobin’s Q on changes in the state of incorporation give similar results.

We then attempt to reconcile the insignificant cross-sectional Delaware incorporation result in the full sample with the negative time series Delaware reincorporation result. We do so by showing that firm value is partly endogenous to both incorporation (i.e., at the IPO stage) and *reincorporation* (i.e., after the IPO stage) decisions, indicating that already valuable firms are more likely to (re)incorporate into Delaware rather than Delaware law causing firms to have a higher financial value.

First, firms with a high value at the end of their fiscal IPO year tend to be incorporated in Delaware. Next, once we control for Delaware incorporation at the IPO, we find a large negative cross-sectional association between firm value and Delaware incorporation. This means that firms that *reincorporated* into (out of) Delaware after their IPO have lower (higher) financial values in the cross-section of firms after (before) reincorporation, consistent with the time series evidence (which only considers incorporation changes after the IPO). Since firms incorporating at the IPO represent a large share of Delaware firms (Daines and Klausner, 2001; Coates, 2001), our results suggests that the positive Delaware effect reported in prior studies might be largely

¹ In addition, we also consider California in our time series analysis of firm reincorporations, but find that results for California reincorporations are subsumed by Delaware reincorporations.

driven by especially valuable IPO firms choosing to incorporate in Delaware. The existence of such selection bias, however, could not explain the time series results, as firm value tends to go down (up) in the time series after incorporation into (out of) Delaware, unless firms reincorporating into (out of) Delaware tend to be overvalued (undervalued) and such overvaluation (undervaluation) is reduced after reincorporation.

Our new time series results challenge the view that Delaware law improves firm value, while at the same time raising the question of how one could interpret the positive association between firm value and reincorporation in Managerial States. We propose and test the hypothesis that the corporate laws of Managerial States provide a better response to two agency problems – namely the limited commitment problem and the moral hazard problem – and the tradeoff between them. These twin agency problems both arise from the separation of ownership and control in the context of asymmetric information and incomplete contracts. Whereas the moral hazard problem focuses on potential conflicts of interest between managers and shareholders, the limited commitment problem concerns potential conflicts of interests between public shareholders and other stakeholder groups such as directors and top management, employees, bondholders, preferred equity holders, and customers (see Mayer, 2013, for a book-length survey and discussion).

The limited commitment of the shareholders in publicly traded companies comes from their ability to sell their shares whenever this benefits them, resulting in a change in control and/or investment policy and, hence, making their commitment to longer-term investment horizons not credible to other stakeholders (Agrawal and Knoeber, 1996; Cremers, Litov, and Sepe, 2014). For example, shareholders may accept an LBO or a significant takeover premium, which may result in a significant loss to bondholders and other stakeholders (Billet, King, and Mauer, 2004; Cremers, Nair, and Wei, 2007; Warga and Welch, 1993). As another example, shareholders may have limited incentives to be fully informed or evaluate the performance of top management over longer time periods, endangering the corporation's ability to engage in long-term research and development (Stein, 1988, 1989; Mizik and Jacobson, 2007; Edmans, 2009; Bushee, 1998).

The potential exit of shareholders in the short-term complicates the longer-term commitments that corporations need to sustain with other stakeholder groups. Indeed, in

response to the limited commitment from the shareholders, other stakeholders are likely to increase the cost of their involvement and/or reduce the level of their investment (Francis, Hasan, John, and Waisman, 2010), resulting in lower firm value. Viewed through this lens, Managerial States that reduce shareholder rights and further remove directors from takeover pressure – and hence reduce the likelihood that shareholder exit may result in a change in control and investment policy – might be better equipped to constrain a firm’s commitment problem than jurisdictions like Delaware, which has less restrictive anti-takeover laws and which allows wider discretion for shareholders to pressure management and the board (Daines, 2001; Coates, 2001; Romano, 2001).

On the other hand, stronger shareholder rights and greater exposure to the market for corporate control reduce managerial entrenchment and thus lessen the moral hazard problem. The ensuing trade-off between these twin agency problems suggests that incorporation in a Managerial State could involve higher agency costs from increased managerial moral hazard due to the board’s greater insulation from disciplining market forces. Nevertheless, the positive effect on firm value we document in the time series for firms reincorporating into a Managerial State seems to indicate that such an increase in moral hazard is more than compensated by the benefits accruing from more strongly committing all stakeholders to the corporation, which thus empirically emerges as the dominant corporate agency problem.

We test our hypothesis about the implications of the twin agency problems using a variety of firm-level proxies for the respective importance of each problem and the tradeoff between them. As we do not have exogenous variation in reincorporation decisions, our main identification in our empirical tests rests on identifying those firms where the limited commitment problem vis-à-vis the moral hazard problem seems especially relevant. In addition, we try to further mitigate endogeneity concerns by focusing on industry-level proxies or proxies for firm-level characteristics that are less at the discretion of management.

For the centrality of the limited commitment problem, we employ four different proxies. First, we consider whether the firm is engaged in research and development, which is generally long-term in nature. Second, we consider whether the firm has any large customers, i.e., at least one customer accounting for 10% or more of its sales, which we use as a proxy for the importance of (long-term) firm customers in creating financial value (as in Johnson, Karpoff, and

Yi, 2014). Third, we consider the contract specificity measure introduced by Nunn (2007) based on the proportion of a firm's intermediate inputs that is not sold on an organized exchange, identifying firms in industries requiring relationship-specific and thus more committed investments. Fourth and finally, we distinguish between relationship and non-relationship industries using the coding in Cremers, Nair, and Peyer (2008), who code for industries generally characterized by longer-term relationships between the corporation and stakeholders such as employees, customers, and suppliers.

Next, in order to examine the tradeoff between the twin agency problems, we employ two proxies. First, as exposure to the market for corporate control can mitigate managerial moral hazard, while at the same time aggravating the limited commitment problem, we use the industry-wide level of takeover activity in the previous year. Second, we consider firms with institutional investors owning at least 5% of outstanding shares. On the one hand, these investors are likely to have both the resources and incentives to be able to effectively monitor management, hence reducing the room for managerial moral hazard (Cremers and Nair, 2005; Tirole, 2006). On the other, they are less exposed to the collective action problems that affect diffused shareholder actions (Agrawal and Knoeber, 1996; Knoeber, 1986), which makes the threat of board removal more serious and in turn exacerbates the limited commitment problem. Finally, as a robustness check for the relative importance of the moral hazard problem, we also consider the propensity of boards to replace the CEO after poor performance, as more managerial entrenchment points to more moral hazard (Bebchuk and Fried, 2004).

Empirically, we find strong evidence that the increased financial value for firms reincorporating into Managerial States and/or reincorporating out of Delaware is driven by firms where the limited commitment problem seems most relevant. In particular, the increase in Tobin's Q after such reincorporations is considerably higher for firms engaged in R&D, for firms with a large customer, for firms in industries requiring relationship-specific investments, and for firms in relationship industries.

Further, our analysis of the tradeoff between the twin agency problems seems to confirm that the limited commitment problem dominates the moral hazard problem. First, while the negative (positive) association of reincorporation in Delaware (Managerial States) is lower in periods of significant M&A activity, the economic effect is limited and the overall effect still

remains negative (positive) at economically and statistically significant levels. This result suggests that while Delaware firms might benefit more (relative to Managerial States firms) from reduced managerial moral hazard upon increases in M&A activity, moral hazard remains an economically minor problem with a second order economic association relative to the limited commitment problem. Second, the value of firms with an institutional block owner declines (increases) more after that firm reincorporates into Delaware (a Managerial State) than firms without such block owner. Again, this result supports our hypothesis that the limited commitment problem is the primary channel through which state corporate law influences firm value. Board insulation also seems unrelated to a board's propensity to replace the CEO after poor performance, as we document that incorporation in a Managerial State does not decrease the likelihood and performance sensitivity of either voluntary or forced CEO turnover relative to incorporation in Delaware.

In conclusion, our analysis suggests that state corporate law only matters to a firm's financial value when the limited commitment problem is relevant, implying that governance features that promote substantial board insulation should significantly reduce (or, potentially, eliminate) the negative Delaware effect we document. In support of this, the negative Delaware effect is substantially lower for firms with weaker shareholder rights (i.e., more antitakeover defenses as proxied by the *G-Index*) and disappears for firms with a controlling shareholder (as proxied by the issuance of dual class stock).

The remainder of the paper is organized as follows. In Section 2, we discuss the related literature. In Section 3, we present our sample and summary statistics. In Section 4, we discuss our empirical results, and Section 5 concludes.

2. Related Literature

Our work primarily relates to the literature examining the effect of interstate competition for corporate charters on firm value and actual (re)incorporation decisions and the literature investigating the relation between antitakeover defenses (and antitakeover laws) and firm performance. Section 2.1 and 2.2 briefly surveys these literatures.

2.1. Effect of Interstate Competition for Charters on Corporations

An extensive scholarship has investigated the relation between interstate competition and firm value. Theoretical contributions offer two contrasting explanations of this relation and derive similarly contrasting policy considerations. Race-to-the-top scholars praise interstate competition as the “genius of American corporate law” (Romano, 1985), contending that competition induces states to adopt value-enhancing laws that constrain managerial moral hazard in order to attract a larger number of (re)incorporations (Winter, 1977; Easterbrook and Fischel, 1991; Romano, 1985, 1993). Supporters of the opposing “race to the bottom” view argue instead that states compete by catering to the interest of managers – the constituency with the largest influence over (re)incorporation decisions – and advocate the federalization of corporate law (Cary, 1974; Bebchuk, 1992; Bebchuk and Ferrell, 1999, 2001).²

Empirical contributions have primarily focused on analyzing how firm value is affected by reincorporation into Delaware and are similarly divided. Event studies of Delaware reincorporation (Dodd and Leftwich, 1980; Romano, 1985; Peterson, 1988; Netter and Poulsen, 1989; Wang, 1996; Heron and Lewellen, 1998) have been largely criticized for failing to exclude confounding events, i.e., events that tend to accompany a firm’s reincorporation decisions, such as merger and acquisition programs, dividend increases, and higher takeover probability (Bebchuk, Cohen, and Ferrell, 2002; Subramanian, 2002; Daines, 2001). Similarly, while Daines (2001) reports that firms incorporated in Delaware have higher financial value, subsequent studies have reached opposite results. Gompers, Ishi, and Metrick (2003) find incorporation into Delaware to be associated with a lower Tobin’s Q during the 1990s. Bebchuk, Ferrell, and Cohen (2002) contend that the large fluctuation in size of the Delaware effect indicates that Daines’ evidence might be affected by a selection bias, and Subramanian (2004) finds that the Delaware effect is driven by small firms and disappears after 1996.

Other related empirical studies focus on the determinants of reincorporation decisions. Bebchuk and Cohen (2003) find that firms display substantial home-state preferences when incorporating and that anti-takeover protections are correlated with greater success in the (re)incorporation market (i.e., both relative to a state’s ability to retain local firms and attract out-

² Other views of interstate incorporation competition have appeared as well. Black (1990) has argued that a firm’s incorporation decision is unimportant as corporate actors can eliminate differences among jurisdictions by contracting for customized governance arrangements. Bratton and McCahery (1995) and Carney (1998) have instead taken a middle-ground view and highlighted the importance of various constituencies in preserving Delaware’s dominance, although not necessarily to the detriment of shareholders (Bratton and McCahery, 1995; Carney, 1998).

of-state incorporations). Consistently, Subramanian (2002) finds that managers tend to migrate to (and are reluctant to migrate away from) states with more anti-takeover statutes. Barzua and Smith (2014) document that Nevada (re)incorporation is associated with lower firm value and a higher probability of firms restating their financial results, suggesting that managers who expect to misbehave may have incentives to reincorporate in states with laxer (i.e., more manager-oriented) corporate law standards such as Nevada. However, Litvak (2014) finds that Nevada and Delaware firms tend to exhibit relatively comparable financial performances once the value of Delaware firms is controlled for out-of-state incorporators, suggesting that firms that decide to incorporate outside their home states are systematically different.

2.2. The Relation between Takeover Defenses and Firm Performance

How board insulation and anti-takeover measures (and/or antitakeover laws) affect firm value and performance has received much attention in the finance literature. Advocates of shareholder empowerment argue that corporate models that allow board insulation are undesirable as they lead to increased moral hazard by unconstrained managers (Manne, 1965) and may block value-increasing acquisition attempts (Easterbrook and Fischel, 1981; Grossman and Hart, 1980) – ultimately reducing firm value (Gompers, Ishi, Metrick, 2003; Cremers and Nair, 2005; Bebchuk, Cohen, and Ferrell, 2009; Cremers and Ferrell, 2014). Stein (1988, 1989) derives the opposite prediction, suggesting that further insulation from shareholder and takeover pressure might be beneficial to promote the undertaking of valuable longer-term investments and avoid instances of rational managerial myopia (see also Laffont and Tirole, 1988). Using a different argument, Cremers, Litov, and Sepe (2014) derive the same prediction. They argue that board insulation can credibly commit shareholders to longer-term investment horizons, avoiding that managers may overinvest in short-term projects to appease shareholders.

Other studies examine the relation between takeover defenses and specific investments, with a particular focus on firm innovation. These studies support two opposed hypotheses. The first hypothesis posits that an increased takeover threat is beneficial to discipline managers and keep them focused on pursuing valuable innovations (Jensen and Ruback, 1983; Jensen 1988). Consistent with this hypothesis, Bertrand and Mullainathan (2003) find that state antitakeover laws decrease shareholder monitoring and lead to a decline in overall productivity and profitability. Atanassov (2014) also finds a significant decline in the number of patents and citations per patent for firms incorporated in states that pass antitakeover laws relative to firms

incorporated in states that do not. Similarly, Chakraborty, Rzakhanov, and Sheikh (2013) find that an increase in antitakeover provisions is negatively related to firm performance in innovation.

The second hypothesis builds on the well-established insights of hold-up theory that when investments are relationship-specific, under-investment occurs if contracts cannot be enforced (Klein, Crawford, and Alchian, 1978; Williamson 1979, 1985; Grossman and Hart, 1986; Hart and Moore, 1990). This hypothesis thus contends that the threat of managerial dismissal inherent in takeover pressure may deprive managers of the incentives to pursue specific investments – and, in particular, investments in innovation. Knoeber (1986) and Shleifer and Summers (1988) show theoretically that the adoption of anti-takeover measures may serve to incentivize managerial specific investments by committing the firm to a business strategy that cannot easily be reverted through a takeover. Johnson, Karpoff, and Yi (2014) suggest that board insulation may serve as a bonding mechanism in context where the likelihood of a takeover might have negative effects on a firm’s long-term relationships with its customers, suppliers, and strategic partners. Cen, Dasgupta, and Sen (2013) find that the passage of antitakeover laws results in better operating performance for firms having long-term relationships with large customers. Baranchuck, Kieschnick, and Moussawi (2014) find that providing incumbents with more protection from early termination promotes incentives for innovation. Finally, Manso (2011) and Laux (2012) show that the pursuit of long-term objectives, such as investments in innovation, tends to imply poor short-term performance, calling for a policy of tolerance for short-term failure as a means to give managers incentive to invest in innovation.

3. Data and Descriptive Statistics

In section 3.1 we describe the main data sources and variables used in our analysis. Preliminary evidence about incorporations and re-incorporations follows in section 3.2.

3.1. Data and Descriptive Statistics

Our data sample as used in our main analysis consists of all publicly traded firms in Compustat’s database of industrial firms between 1994 and 2012 that are headquartered in the United States, are not in regulated industries or in the financial industry (removing firms with SIC codes between 4900 and 4943 and between 6000 and 6200), and have no missing data

necessary to compute Tobin's Q or any of our standard controls (e.g., book value of assets, book value of common equity, equity market capitalization, book value of total debt, capital expenditures and book value of plant, property, and equipment).

Data on financial information and current incorporation state for our final sample are from the CRSP/Compustat merged database as available through WRDS. This database, however, does not provide historical incorporation information. Our historical incorporation data comes from two other Compustat database. The first is the COMPHIST database with Compustat header history, with effective dates starting around 2007. This database is available on WRDS. The second source is the CSTHIST database, which contains header history from the legacy CRSP/Compustat merged database. The effective dates in the CSTHIST database start in 1994, and this database is not available on WRDS but was accessed directly from CRSP. As far as we could ascertain, we appear to be the first academic paper using the historical incorporation information in the CSTHIST database. Our final basic sample of consists of 11,501 firms and over 83,000 firm-year observations for 1994 - 2012.

Our analysis compares firms incorporated in Delaware (indicated by the dummy variable *DE*, set to one for firms incorporated in Delaware), in one of the Managerial States (as defined below, using the dummy variable *MS*, set to one for firms incorporated in a Managerial State), in California (using the dummy *CA*) and using all other firms incorporated elsewhere as a control group. In selecting U.S. states in addition to Delaware, we focus on the group of Managerial States and California as they present the most significant variance in the regulation of takeover – i.e., the adoption of antitakeover statutes imposing rules on bidders wishing to acquire target companies. This allows us to overcome the general objection that computing differences in state corporate laws is problematic given the substantial similarity of the various state corporate law regimes (Bebchuk, Cohen, and Ferrell, 2002).

Researchers examining the effects of state antitakeover statutes have largely taken the view that these statutes are detrimental to shareholder interest as they provide excessive protection against takeovers and, hence, promote managerial entrenchment (for a survey, see Gartman, 2000). Consistently, advocates of the race-to-the-top view argue that one of the reasons Delaware has won the incorporation race is that Delaware has among the mildest of antitakeover

statutes (Daines, 2001; Romano, 2001).³ In selecting corporate law regimes that provide a substantially different alternative to Delaware, we thus opt for – at one end of the spectrum – California, which has adopted no anti-takeover statutes and is traditionally described as the jurisdiction with the most shareholder-friendly corporate regime (Subramanian, 2002; Jagannathan and Pritchard, 2011). At the other end of the spectrum, we select the group of Managerial States, i.e., the states with the most restrictive antitakeover statutes and that hence are more managerial-friendly.

Specifically, we classify a state as managerial if (i) it scores 5 on an anti-takeover protection index that attaches to each state a score from 0 to 5 depending on how many out of the five standard anti-takeover statutes⁴ that state has adopted (Bebchuk and Cohen, 2003), *or* (ii) it has adopted a business combination statute, which imposes a 5 year moratorium on certain types of transactions – such as mergers, divestitures, consolidations, share exchanges, leases, transfers, liquidations, dissolutions, and asset sales – between the target firm and the acquirer⁵ (Atanassov, 2013; Bertrand and Mullainathan, 2003; Karpoff and Malatesta, 1989), *or* (iii) it has adopted a so-called extreme statute, i.e., an unusual and very restrictive statute (Daines, 2001; Bebchuk and Cohen, 2003; Subramanian, 2002; Barzuza and Smith, 2014). The states that are classified as managerial according to the first criterion include Idaho, Indiana, Maryland, Nevada, Pennsylvania, South Dakota, Tennessee, and Wisconsin. The states that are classified as managerial according to the second criterion include Connecticut, Georgia, Indiana, Massachusetts, Maryland, Michigan, Missouri, Nebraska, New Jersey, New York, Pennsylvania, Rhode Island, Tennessee, and Washington. The states that are classified as managerial according to the third criterion include Massachusetts, Ohio, and Pennsylvania.⁶

³ Delaware only has a business combination statute with a 3 year limit and is not applicable to a bidder who has bought 85% of outstanding shares.

⁴(1) *Control-Share-Acquisition Statutes* (i.e., requiring the bidder to win approval of a majority of disinterested shares); (2) *Fair-Price Statutes* (requiring the bidder to pay a certain price for the remaining shares to prevent two-tier acquisitions with a low back-end); (3) *Business Combination Statutes* (prohibiting acquirers from merging with the acquired company for a certain number of years, i.e., 3 to 5 years); (4) *Poison-Pill-Endorsement Statutes* (explicitly authorizing the use of the poison pill defense); and (5) *Constituency Statutes* (authorizing the use of defensive tactics in the name of non-shareholder constituencies, i.e., employees or creditors). State takeover regulation also consists of judge-made law that is difficult to incorporate empirically – e.g. because its application may depend on particular circumstances.

⁵ This moratorium prevents bidders from gaining access to the target’s assets for the purpose of financing acquisition debt, making hostile takeovers extremely difficult to pursue.

⁶ Pennsylvania and Ohio adopted statutes that enable the “disgorgement” or “recapture” of all the short-term profits made by a successful bidder on stock purchases, which has a strong antitakeover force. Massachusetts adopted a

Consistent with many prior studies investigating the relation between firm-level provisions 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 (i.e., the main dependent variable in our analysis) using Tobin's Q (Q), defined as the ratio of the market value of assets to the book value of assets at the end of the fiscal year (as in Fama and French, 1992) and using Compustat data. Following Daines (2001), in order to minimize the existence of a possible selection bias and sensitivity to outliers, we trim observations with Tobin's Q values in the upper and lower 5% of the sample.

We include a variety of explanatory variables, for which we provide brief definitions in Panel A of Table 1, to control for factors that we expect to directly affect Tobin's Q. Following the prior literature, we always include the following control variables using Compustat data: the log of the book value of total assets (*Log Assets*), book leverage as the ratio of the sum of total short-term and long-term debt over the book value of total assets (*Leverage*), the ratio of capital expenditures over the book value of total assets (*CAPX/Assets*), the ratio of research and development expenditures over the book value of total assets (*R&D/Assets*) plus a dummy for whether the firm is engaged in R&D and thus R&D expenditures are not missing (*Engaged in R&D*), and finally the ratio of the book value of property, plant, and equipment over the book value of total assets (*PPE/Assets*).

In investigating the importance of the limited commitment problem as a channel through which state law affects firm value, we use the following four proxies: *Engaged in R&D*, *Large Customer*, *Relationship Industry*, and *Contract Specificity*. Following Johnson, Karpoff, and Yi (2014), we define *Large Customer* as a dummy variable set equal to one if the firm has at least one customer accounting for 10% or more of its sales, which we use a proxy for the importance of firm customers in creating financial value. This data comes from the Compustat Segments – Customer database available on WRDS. About 31% of firms in our sample have a *Large Customer*. The dummy *Relationship Industry* comes from Cremers, Nair, and Peyer (2008), who provide a list of 2-digit industries characterized by longer-term commitments between the firm and its stakeholders such as employees, suppliers, and customers. About 47% of the firms in our

statute that mandated the adoption of a staggered board, which can delay hostile acquisitions for two annual meetings and, hence, discourage potential bidders.

sample are in a *Relationship Industry* as defined by Cremers, Nair, and Peyer (2008). *Engaged in R&D*, *Large Customer*, and *Relationship Industry* are available for the full sample.

Following Nunn (2007), we also employ *Contract Specificity* as a proxy for relationship-specific investments. This data is at the industry level for 1997 and made available at Nunn's website.⁷ Firms in industries with higher *Contract Specificity* use a higher 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, rendering firm-specific relationships with suppliers more important. This variable is only available for about a quarter of the industries in our sample and set as missing otherwise.

The four dummies for the importance of the limited commitment problem generally do not have high correlations with each other, with the exception of *Contract Specificity* and *Relationship Industry*, which have a rank correlation of 58%. However, it is still useful to keep both proxies, as *Contract Specificity* is only available for a subset of our sample but is based on more detailed information than *Relationship Industry*. The rank correlation between *Engaged in R&D* with *Contract Specificity* and *Relationship Industry* equals 35% and 11%, respectively, indicating that in industries where research and development is done are more likely to be contract-specific and a bit more likely characterized by long-term relationships between the corporations and its stakeholders. The rank correlations between *Large Customer* and the other three proxies are positive but small (11% or lower).

In investigating the tradeoff between managerial moral hazard and limited commitment problem, we employ two proxies, *M&A in Industry* and *5% Block Ownership*. *M&A in Industry* is the ratio of mergers & acquisitions' dollar volume in the SDC database to the total market capitalization from CRSP for the previous calendar year, calculated for each of the 49 Fama-French industries. The CRSP annual industry market capitalization is for ordinary stocks only and excludes ADRs and REITs, and we only include transactions in SDC where the buyer achieves control of the target. The variable *5% Block Ownership* contains the percentage of institutional block ownership, i.e., the percentage of outstanding shares owned by institutions that each own at least 5% of outstanding shares. We construct *5% Block Ownership* by using the aggregated holdings in the 13F filings in the quarter of the firm's fiscal year, which we retrieve

⁷ See <http://scholar.harvard.edu/nunn/pages/data-0>.

from Thomson as available on WRDS.

As a robustness check for the relative importance of managerial moral hazard, we also consider the propensity of the board to replace the CEO using the variables *CEO Turnover* and *Forced CEO Turnover*. We define *CEO Turnover* and *Forced CEO Turnover* as two dummy variables equal to one if, respectively, there was a voluntary CEO departure or the CEO was forced to leave office in the relevant observation year. Our source for both variables is the database as constructed in Jenter and Kanaan (2010) with data available only for a subset of firms in 1993 – 2001, with a total of 141 forced CEO turnovers and 894 total CEO replacements (out of a total of 1,669 firms in the sample). In the analysis of (in)voluntary CEO turnover, following Faleye (2007), our regressions control for *Abnormal Returns*, which is the fiscal year stock return minus the beta times the market return (estimated using daily stock returns), in addition to the standard controls described above.

Finally, in investigating the robustness of our hypothesis that state corporate law only matters when the limited commitment problem is relevant, we employ two proxies, the *G-Index* and *Dual Class*. Both these variables are used in a separate sample with a longer time series but much more limited cross-section, namely the 1978 – 2007 dataset also used in Cremers and Ferrell (2014), who combine data for the largest 900 or so firms in 1978 – 1989 with the sample of around 1,500 large firms from RiskMetrics data in the period 1990 – 2007. The *G-Index*, introduced by Gompers, Ishii, and Metrick (2003), is a composite of twenty-four provisions that measure the strength of shareholders rights by adding one point if any of the provisions included in the index is present. Higher *G-Index* scores indicate weaker shareholder rights or a larger number of antitakeover measures. *Dual Class* is a dummy variable indicating whether or not the firm has dual class stock, i.e., unequal voting rights where a controlling shareholder can control the firm.

For both samples, we require no missing information for these variables: state of incorporation, the book value of total assets, the market value of equity, the book value of equity, and the book value of total debt. For the 1994 – 2012 sample, we also remove firms with more than one permno in CRSP to avoid firms with dual class stock (it is possible that we still keep some firms with dual class stocks where only one of the classes is included in CRSP). Table 1 presents descriptive statistics of all our variables. In Panel A, we use the 1994 – 2012 sample for

all Compustat firms, which consists of about 11,501 firms and over 83,000 firm-year observations for 1994 - 2012. In Panel B of Table 1, we show descriptive statistics for the variables used with our 1978 – 2007 dataset from Cremers and Ferrell (2013) consisting of close to 1,877 firms and about 26,000 firm-year observations. As this smaller sample is only used at the end of the paper, the shorter sample of all Compustat firms is our main sample and is used unless it is explicitly mentioned that results are for the longer sample instead.

3.2. *Incorporations and Re-incorporations*

As a starting point, Figure 1, Panel A presents the percentage of firms by state of incorporation in our all-Compustat sample each year from 1994 to 2012. It quantifies the well-known fact that Delaware largely dominates the incorporation market, with the percentage of firms incorporated in the state having steadily increased from 1994 to 2012. In 1994, about 52% of all publicly traded firms incorporated in Delaware, with its share of incorporations growing through the 1990s and 2000s until reaching a percentage of about 65% in 2012. Incorporations in Managerial States, instead, remain fairly stable throughout our full time period, at around 24% on average (declining from about 27% in 1994 to 23% in 2012). California incorporation steadily decreased from around 5% in the 1990s to around 2% in the late 2000s.

Figure 1, Panel B shows the percentage of firms by state of incorporation at the IPO each year from 1994 to 2012. Reporting evidence on IPO incorporation choices is important to understand how states fare in the corporate charter market, in addition to studying the reincorporation choices of generally more mature firms. Consistent with prior studies (Daines and Klausner, 2001; Daines, 2001; Coates, 2001; Subramanian, 2002), we document that the breakdown by state of IPO incorporation is even more concentrated than the breakdown for mature firms, with Delaware's share continuing to increase: from about 54% of IPO firms incorporating in Delaware in 1994 to more than 80% in 2012. Correspondently, the ratio of IPO firms incorporating in Managerial States has declined from about 28% in 1994 to about 14% in 2012. The ratio of IPO firms incorporating in California has declined from about 3% in 1994 to below 1% in 2012.

Figure 1, Panel C focuses on the percentage of market capitalization by state of incorporation, showing that firms with larger market capitalization are more likely to be incorporated into Delaware, at steady percentages of between 60% and 65% throughout our time

period. The share of firms incorporating in Managerial States weighted by market capitalization is in line with the equal-weighted incorporation percentages reported in Figure 1, Panel A.

Figure 2 presents the annual numbers of reincorporations *into* Delaware, Managerial States, and California (in Panel A) and *out of* these jurisdictions (in Panel B) in the time period 1996-2011.⁸ For reincorporations into Delaware and Managerial States (see Figure 2, Panel A), we observe substantial time variation. Delaware received 356 total reincorporations over this period, with 16 reincorporating firms in 1996, up to 32 in 1997, then down to 24 in 1999 and up again to 42 in 2001 (which is the highest number of Delaware reincorporations during the time period 1996-2011). We then document a substantial drop in the Delaware's market share among reincorporations in the late 2000s.

Migration into Managerial States presents a similarly unstable pattern, although the total number of reincorporations into these states is only 150, which is significantly lower than reincorporations into Delaware. Across time, the highest annual number of reincorporations into Managerial States equals 18 in 2000. About 60% of the firms reincorporating into Managerial States were previously incorporated in Delaware. Among Managerial States, the most popular choice is Maryland (receiving 63 reincorporations), then Nevada (with 19) and Pennsylvania (with 11), while the following states receive no reincorporating firms: Idaho, South Dakota, Tennessee, Connecticut, Nebraska, New Jersey, and Rhode Island. In contrast, the number of reincorporations into California is very limited, with only four firms reincorporating into California over this period, with two of these in 2004.

Figure 2, Panel B shows the numbers of reincorporations by the state firms reincorporate *out of*. While we continue to observe substantial time variation, the patterns of migration *from* Delaware, Managerial States, and California seem more consistent than the patterns of migration *into* these states. The total number of firms leaving Delaware equals 126, while the number of firms leaving any of the Managerial States (and not reincorporating into another Managerial State) equals 187. Given the relatively low number of firms incorporated in California, the number of firms leaving California seems high at 128 over our time period. The highest annual numbers of reincorporations out of Delaware is 15 in 2000, while the lowest is 2 in 2003.

⁸ We start in 1996, as there are no firms for which the state of incorporation in our data is different in 1995 relative to 1994 or where it is different in 1996 relative to 1995. That means that for reincorporations, our data effectively starts in 1996.

Table 2 presents the reincorporation transition matrix for our sample of firms, showing the original state (group) of incorporation and destination state of incorporation for a total of 560 reincorporations over the period 1996-2011.⁹ This allows us to take into account the existence of potential variations among states, unlike prior reincorporation studies that typically divide the incorporation market between Delaware and non-Delaware firms, lumping together all non-Delaware states. Delaware received a total of 356 out of 560 reincorporating firms, or about 63% market share among reincorporations (ignoring a very small number of reincorporations across two different Managerial States) – consistent with Subramanian (2002), who finds a 56% Delaware market share among reincorporations.¹⁰ It also shows that most reincorporations to Delaware were from Managerial States (149 reincorporations, or about 40% of all firms reincorporating into Delaware and about 25% of total reincorporations) and California (118 reincorporations, or about 33% of all firms reincorporating into Delaware and about 21% of total reincorporations).

Managerial States¹¹ received a total of 150 reincorporating firms, or about 25% market share among reincorporations, with most reincorporating firms being from Delaware (93, or 62% all of firms reincorporating into Managerial States and about 15% of total reincorporations). In contrast, California received only 4 reincorporating firms, while presenting the highest number of migration away from a state (with 180 California firms reincorporating elsewhere or about 32% of total migrations away from a state). Consistent with Subramanian (2002), we find that almost all firms (92%) leaving California reincorporated into Delaware. Thus, the most significant migration patterns in the 1996-2011 time period were into Delaware and away from California, while reincorporations into and out of Managerial States tended to balance out.

4. Results

4.1. Corporate Law and Firm Value

This section considers the cross-sectional and time series association between firm value

⁹ As a comparison, Subramanian (2002) finds 373 reincorporations between 1991 and 2001.

¹⁰ Earlier studies report, instead, higher migration rates to Delaware, generally between 80% and 90% (Dodd and Leftwich, 1980; Kaouris, 1995; Romano, 1985),

¹¹ As specified in subsection 3.1 above, the Managerial States receiving reincorporating firms exclude Idaho, SouthDakota, Tennessee, Connecticut, Nebraska, New Jersey, and Rhode Island, for which we document no reincorporations between 1996 and 2011.

(as measured by Tobin's Q) and (re)incorporation, both *in* – and *out of* – Delaware and other U.S. states. As documented in the prior section, our dataset for a large cross-section of firms from 1994 to 2012 contains many changes in firm reincorporations, i.e., original states of incorporation and destination states of incorporation. Hence, the main empirical contribution of this section is an improved identification of the association between firm incorporation and firm value using pooled panel Tobin's Q regressions with firm fixed effects that is identified using reincorporations, as well as changes in Q regressions on changes in the state of (re)incorporation.

Additionally, we try to predict which firms are more likely to (re)incorporate into Delaware in order to reconcile our cross-sectional and time series evidence and consider reverse causality. For all tables, we consistently show 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 (Petersen, 2009).

4.1.1. Cross Sectional Analysis

Table 3, Panel A presents the results of the association between Tobin's Q and Delaware incorporation (*DE*) in the cross-section of firms, using pooled panel regressions and our full time period (1994-2012). Column (1) presents the results for a regression that only included *DE*, Column (2) adds year fixed effects, and Columns (3) through (5) control for both year and industry fixed effects at the 4-digit SIC level. Column (4) also controls for *Log Assets*, *Leverage*, *CAPX/Assets*, *R&D/Assets*, *Engaged in R&D*, *PPE/Assets*. Finally, Column (5) considers whether the association between firm value and Delaware incorporation is different in the second half of our sample (2002-2012).

The results in Column (1) show that with no controls at all, firms incorporated in Delaware have on average a 19.6% higher Tobin's Q than other firms. Controlling for year fixed effects in Column (2) makes no difference, but once we also control for industry fixed effects in Column (3), we no longer find statistically significant differences between the Tobin's Q of firms incorporated in Delaware relative to firms incorporated in other states. Adding firm-level controls in Column (4) gives the same result, with a *DE* coefficient of 1.25% and a t-stat of 0.68.

Next, we verify whether our cross-sectional results may be driven by a disappearing Delaware effect (Subramanian, 2004; Bebchuk and Cohen, 2003), adding the interaction of *DE*

and a dummy that is equal to one for years after 2001. Column (5) shows that the coefficient for Delaware incorporation is positive and statistically significant during 1994-2001 (*DE* coefficient of 6.61% with a t-stat of 2.87). Conversely, as indicated by the coefficient on the interaction of *DE* and the 2002-2012 dummy of -11.3% (t-stat of 4.27), the association between firm value and Delaware incorporation appears to be negative and statistically significant in the second half of our sample. The positive and significant association between Delaware incorporation and firm value for 1994 – 2001 confirms the results in Daines (2001).

Table 3, Panel B extends our cross-sectional analysis so to include both an examination of the association of firm value with incorporation in a Managerial State and California, controlling for firms with Delaware incorporation and further controlling for the state where the corporate headquarters is located. Prior studies suggest that firms are more likely to remain in their headquarter state if that state has certain antitakeover statutes (Subramanian, 2002; Bebchuk and Cohen, 2003). Accordingly, we include a control dummy variable for the headquarter state in all specifications in Table 3, creating a dummy *Incorp=Headq* that is equal to one for firms that are incorporated in the same state as where their headquarter is located. Across firms incorporated in Delaware, only 0.5% of firms also have their corporate headquarters in Delaware. On the other extreme, firms incorporated in California almost always have their corporate headquarters in California (96%). Thus, it is only for Managerial States that there is significant variation, with 65% of firms incorporated in a Managerial State also having their headquarters in that state, such that it is only for firms incorporated in a Managerial State that we can consider whether *Incorp=Headq* matters for the association between state of incorporation and firm value.

Adding state headquarter location dummies does not change the previous results for Delaware incorporation. In particular, the *DE* coefficient in Column (1) remains insignificant, confirming the existence of no statistically significant differences in the value of firms that are incorporated in Delaware relative to firms that are incorporated in other states. In Column (2), we find no statistically significant association between incorporation in Managerial States and firm value. Also in this case, not including state headquarter location dummies gives basically identical results. The results in Column (3) show that incorporation in California is associated with statistically significant higher firm value. Specifically, California firms exhibit a 11.2% higher Tobin's Q than firms incorporated elsewhere, and not including state headquarter location

dummies gives similar results.

In Column (4), we combine the *DE*, *MS* and *CA* dummies, and again find no statistically significant association between Delaware incorporation and firm value. In Column (5), we add the interaction of incorporation in a Managerial State and being incorporated in the state where the corporate headquarters is located, plus the *Incorp=Headq* dummy itself, finding that both are insignificant with again no statistically significant association between incorporation into Delaware and firm value.

In Column (6), we again estimate whether the associations between state of incorporation and firm value is different in the second half of the sample. As in Table 3, Panel A (see Column (5)), the Delaware incorporation coefficient is positive and statistically significant during 1994-2001, while it is negative and statistically significant during 2002-2012. The Managerial States coefficient remains statistically insignificant both before and after 2002. The California coefficient is positive and statistically significant only until 2001, while it is statistically insignificant in the second part of our time period (i.e., the sum of coefficients of *CA* and its interaction with a dummy for 2001-2012 is insignificant). This latter result seems to suggest that the positive California effect documented for the time period 1994-2001 is likely attributable to the information technology ‘bubble’ of the 1990s, which later collapsed in 1999-2001. That is, systematic differences between California firms and firms incorporated elsewhere during the 1990s – when the commercial growth of the Internet exploded and California became home to most newly founded U.S. high-tech companies – would explain the higher financial value of Californian firms in those years, rather than the purported benefits of California law.

4.1.2. Time Series Analysis

In Table 4, we consider the time series evidence using firm fixed effects, which effectively allows us to compare the average firm value before versus after reincorporation. The time series analysis in Panel A of Table 4 with firm fixed effects controls for any firm characteristic that is time invariant and hence reduces the potential bias resulting from unobserved firm heterogeneity and mitigates related endogeneity concerns (at least relative to the cross-sectional results). Our main finding, shown in Column (1), is that the time series association of Delaware reincorporation with firm value is negative, at a statistically and economically significant level. Specifically, reincorporation into Delaware is associated with a

decrease in Tobin's Q of 26% (t-statistic of 4.85). Estimating the overall Delaware effect on firm value, this result captures both the decreased value of firms after they reincorporate *into* Delaware and the increased value of firms after they reincorporate *out of* Delaware.

In Column (2) we disentangle the change in firm value for firms reincorporating into versus out of Delaware by adding the dummy $DE*INTO$ (which equals one for firms not initially incorporated in Delaware that reincorporated into Delaware in our sample). As we find that the coefficient of $DE*INTO$ is insignificant (coefficient of -4.62% with a t-stat of 0.51), the decrease in firm value for firms reincorporating into Delaware is statistically similar to the increase in firm value for firms reincorporating out of Delaware. These results suggests that firms reincorporating into Delaware experience a remarkably large decrease in firm value, while firms leaving Delaware experience an equally remarkable increase in Tobin's Q .

Column (3) shows that reincorporation in Managerial States has a substantial economically and statistically significant positive association with firm value. Specifically, reincorporation into these states is associated with an increase in Tobin's Q of 24.8% (t-statistic of 4.06). This shows that firm value tends to increase substantially after firms reincorporate into a Managerial State and that likewise firm value decreases on average after they reincorporate out of a Managerial State. Column (4) considers whether the increase in value for firms reincorporating into a Managerial State is different on average from the decrease in value upon reincorporating out of a Managerial State. The coefficient on $MS*INTO$ equals 12.6% with a t-stat of 1.13, suggesting that firms reincorporating into a Managerial State experience a larger, but statistically insignificant increase in firm value.

Next, Column (5) shows that reincorporation in California also has a substantial economically and statistically significant positive association with firm value, with a coefficient of CA that equals 56.7% with a t-stat of 4.63.¹² However, once one considers the number of reincorporations into and out of California, what appears as a positive California effect is likely to be a reflection of the negative Delaware effect. As discussed in subsection 3.2 above, Table 2 documents that over the period 1996-2011 California received only 4 reincorporating firms, such

¹² The economic magnitude is substantial. California-incorporated firms have an average Tobin's Q of 2.3 in our sample, and the group of California-incorporated firms reincorporating into Delaware have an average Tobin's Q (while being incorporated in California) of 2.8. That means that these firms experience a drop in average Q of about 20% ($=0.567/2.8$).

that it is unsurprising that we find a weaker effect for these firms in Column (6). In addition, California also experienced the highest number of migrations away from a state. Specifically, 128 California firms reincorporated elsewhere during 1996-2011, with 118 out of those 128 firms reincorporating into Delaware. Given these reincorporation patterns, the higher financial value we document for California firms seems fully attributable to the decrease in firm value after reincorporation out of California and into Delaware, rather than to a value-enhancing effect of California law. Statistically, there is insufficient data to separately estimate the change in value associated with reincorporations into or out of California that do not involve firms that are incorporated in Delaware before or after this change. Hence, in the remainder of the paper we will focus on examining the effect on firm value of (re)incorporations into and out of Delaware and Managerial States.¹³

In Table 4, Panel B and Table 4, Panel C we further investigate the time series dimension of the association between firm value and incorporation changes using changes in Tobin's Q (i.e., ΔQ) in the next 1, 2, 3 and 4 years after changes in, respectively, Delaware incorporation (i.e., ΔDE) and Managerial States incorporation (i.e., ΔMS). For example, ΔDE (and, similarly, ΔMS) equals 1 in the first year after the firm reincorporates into Delaware, equals -1 in the first year after the firm reincorporated out of Delaware, and equals 0 otherwise. In both panels, we control for the industry-wide movements – by adjusting the Tobin's Q by the median Q of all firms in the same industry that year – and for market-wide changes by adding year fixed effects.

Starting with Table 4, Panel B, Columns (1) through (4) examine reincorporations into Delaware, while Columns (5) through (8) examine reincorporations out of Delaware. These pooled panel regressions of changes in firm value on changes in Delaware incorporation confirm that firm value, as proxied by Tobin's Q , decreases following a firm's decision to reincorporate into Delaware and increases following a firm's decision to reincorporate out of Delaware. Specifically, reincorporation into Delaware is associated with a decrease in Tobin's Q of 10.1% (t-stat of 1.46, see Column 1) in the year after reincorporation and a decrease of 28% (t-stat of 2.45, see Column 4) in Tobin's Q in the fourth year after reincorporation. These results suggest that the change in firm value surrounding reincorporation into Delaware takes several years to take effect, as indicated by the weaker economic and statistical results in Column (1) and (2).

¹³ We test whether Q changes associated with reincorporations into/out of Delaware, the Managerial States and California are different in the second part of our sample, and find no statistically significant differences.

Conversely, the change in firm value surrounding reincorporation out of Delaware is monotonically increasing over time, as indicated by the strong economically and statistically significant results of Column (5) through (8). Specifically, reincorporation out of Delaware is associated with an increase in Tobin's Q of 15% (t-stat of 2.69, see Column 5) in the year after reincorporation and an increase of 25% (t-stat of 3.05, see Column 8) in Tobin's Q in the fourth year after reincorporation. Lastly, in unreported results examining the overall effect of Delaware reincorporation (i.e., the effect of both reincorporations into and out of Delaware), we consistently find that Delaware reincorporation is associated with a monotonically increasing and economic significant decrease in Tobin's Q.

Next, in Table 4, Panel C, Columns (1) – (4) examine reincorporations into the group of Managerial States, and Columns (5) – (8) reincorporations out of the group of Managerial States. These pooled panel regressions of changes in firm value on changes in Managerial States incorporation confirm that firm value, as proxied by Tobin's Q, increases (decreases) following a firm's decision to reincorporate into (out of) a Managerial State. The results for reincorporations into the Managerial States are monotonically increasing over time, as indicated by the strong economically and statistically significant results of Column (1) – (4). Specifically, reincorporation into a Managerial State is associated with an increase in Tobin's Q of 21.8% (t-stat of 3.16, see Column 1) in the year after reincorporation and with an increase in Tobin's Q of 35.1% (t-stat of 3.32, see Column 4) in the fourth year after reincorporation.

The results for incorporation out of Managerial States are consistent as Columns (5) through (8) show that leaving a Managerial State is associated with a decrease in firm value, although statistically insignificant. However, in unreported results examining the overall effect of reincorporation in Managerial States (i.e., the effect of both reincorporations into and out of Managerial States), we find that reincorporation in such states is associated with a monotonically increasing and economic significant increase in Tobin's Q. The combined evidence from Table 4, Panel B and Panel C thus suggests that changes in firm value associated with reincorporations are significantly negative for Delaware and significantly positive for Managerial States.

4.1.3. Reverse Causality

Since firm value may be endogenous to incorporation decisions, one possible explanation for the positive cross-sectional association of firm value with Delaware incorporation reported by

prior studies – confirmed only in the sub-period 1994-2001 in our sample – is that it might be due to reverse causality. In particular, the cross-sectional association between firm value and Delaware incorporation could be attributable to already valuable firms incorporating into Delaware rather than Delaware law causing firms to have a higher financial value. The existence of a similar selection bias, however, could not explain the time series results, as firm value tends to go down (up) in the time series after reincorporation into (out of) Delaware, unless firms reincorporating in Delaware tend to be overvalued and such overvaluation is reduced after Delaware reincorporation.

We investigate the reverse causality hypothesis between Delaware incorporation and Tobin's Q by considering whether a firm's decision to (re)incorporate into Delaware is related to ex-ante high firm value. We begin by separately considering the decision to incorporate into Delaware at the IPO and the decision to reincorporate into or out of Delaware subsequently. As we do not observe the pre-IPO firm value or other firm characteristics, we use the Tobin's Q and other firm characteristics at the end of the firm's first fiscal year after the IPO as a rough proxy. Testing reverse causality on a restricted sample of IPO firms is important as firms incorporating at the IPO stage represent a large share of Delaware firms (Daines and Klausner, 2001; Coates, 2001). Further, the IPO stage is the time at which the hypothesized selection bias is more likely to operate (Daines, 2001). For reincorporations – for which we documented large associated changes in firm value in the previous subsection – we use the firm value and other firm characteristics at the end of the previous fiscal year to predict a reincorporation over the next year using Cox proportional hazard models. For both specifications, we adjust the Tobin's Q for the median Q that year of all firms in our sample with the same 4-digit SIC industry code.

The empirical results to explain incorporations and predict reincorporations are presented in Table 5. Columns (1) and (2) present marginal likelihoods for the coefficients in logit regressions for whether or not the firm incorporates in Delaware at the IPO. We have 3,724 IPOs with all required data in our sample, and 70% of those firms incorporate in Delaware at their IPO. As shown in Column (1), highly valued IPOs are more likely to incorporate in Delaware, as the Q coefficient has a marginal likelihood of 2.5% with a t-stat of 5.23. Economically, this means that a standard deviation increase in the value of Q for the sample of IPO firms (2.77) is associated with a 6.9% increase in the probability of incorporating in Delaware at the IPO. A possible explanation for why valuable IPO firms may prefer Delaware incorporation rests in the

largely flexible nature of Delaware law (Veasey and Di Guglielmo, 2005; Kamar, 1998), which makes it more contractible than the mandatory statutory provisions of other states that cannot be privately changed. Indeed, firms at the IPO stage (i.e., entrepreneurs) are likely to prefer default provisions that allow for efficient Coasian bargaining over the details of a given IPO transaction – i.e., giving them the freedom to privately order governance features so to reflect firm-specific needs (Daines, 2002) – to the less permissive corporate law models of other states. We also find that firms with larger assets, lower leverage and capital expenditures, more R&D expenditures and fewer intangibles are more likely to incorporate in Delaware at the IPO. Controlling for year fixed effects in Column (2) gives similar results.

Columns (3) and (4) in Table 5 report the marginal likelihoods for the coefficients in Cox proportional hazard models, where ‘failure’ means that the firm reincorporates in the next year. Column (3) predicts decisions to reincorporate into Delaware after the IPO for the sample of firms that are currently not incorporated in Delaware, using as the sample all firms not incorporated in Delaware. Upon reincorporation into Delaware, that firm is dropped from the sample afterwards. The marginal likelihood for the Q coefficient equals 0.057 with a t-stat of 0.89, which is statistically insignificant and shows that we find no evidence that higher valued firms are more likely to reincorporate into Delaware. Similarly, Column (4) predicts decisions to reincorporate out of Delaware, using as the sample only firms currently incorporated in Delaware (and where firms are removed from the sample after they reincorporate outside of Delaware). The marginal likelihood of the Q coefficient equals -0.080 with a t-stat of 1.50, which again is statistically insignificant.

The results of Table 5 suggest that highly valued IPO firms tend to incorporate in Delaware at the IPO. This could create a positive cross-sectional association between firm value and Delaware incorporation. Firm value is not strongly correlated with reincorporation decisions, meaning that firms that choose to reincorporate outside their home states do not seem to have a systematically higher or lower value relative to firms that do not. Hence, reverse causality seems unlikely to be related to our time series results.

In order to further investigate whether the reverse causality of highly valued IPOs choosing Delaware can explain a positive cross-sectional association between firm value and Delaware incorporation, in Table 6 we present the results for pooled panel Q regressions using

only the 3,724 firms who are in our sample starting with their IPO, for a total of 22,072 firm-year observations. This ‘IPO sample’ contains 184 reincorporations, 126 into Delaware and 51 out of Delaware. Columns (1) – (4) use year and industry fixed effects, and Columns (5) – (6) use year and firm fixed effects.

Column (1) of Table 6 shows that in the cross-section (i.e., with industry fixed effects), the *DE* coefficient equals 1.12% with a t-stat of 0.28, indicating that the value of firms incorporated in Delaware is on average similar to that of other firms in our IPO sample. Column (2) adds the dummy *DE@IPO*, which equals one if the firm was incorporated in Delaware at the IPO and is still incorporated in Delaware, resulting in a *DE* coefficient equal to -25.7% (t-stat of 3.19) and a *DE@IPO* coefficient of 26.1% (t-stat of 3.38). That means that firms that incorporated in Delaware at the IPO and remain incorporated in Delaware have a firm value that is no different from other firms (summing up the *DE* and *DE@IPO* coefficients), while firms that incorporated in Delaware at the IPO and are no longer incorporated in Delaware have on average a 26.1% higher value of *Q*, and firms that incorporated outside of Delaware at the IPO and are now incorporated in Delaware have on average a 25.7% lower value of *Q*. These results thus reconcile our cross-sectional and time series results.

Columns (3) and (4), showing time-series regressions with firm fixed effects, confirm the above results. Column (3) shows that the overall Delaware effect for our IPO sub-sample (i.e., the effect resulting from both reincorporation into and out of Delaware) in the time series is negative and statistically significant. Note that this negative effect is stronger than the negative Delaware effect reported for our full sample in the time series (see Table 4, Panel A, Column 1), with a decrease in Tobin’s *Q* of about 53.5%.¹⁴ Similarly to Column (2), Column (4) controls for firms that incorporated into Delaware at the IPO stage, separating the Delaware effect in the time series for Delaware IPOs and non-Delaware IPOs. The decrease in firm value upon reincorporation into Delaware for firms that did not incorporate in Delaware at the IPO is particularly negative and statistically significant, with a notable decrease in Tobin’s *Q* for those firms of about 64% (compared to an average *Q* in this sample of about 2). The increase in firm value upon reincorporation out of Delaware for firms incorporated in Delaware at the IPO is

¹⁴ The *DE* coefficient reported for our full sample in the time series in Table 4-A, Column 1 is about 27%.

about half of that, with the coefficient of the overall Delaware effect being equal to -29% ($= -0.638 + 0.345$).

4.2. *The Twin Agency Problems*

Our main new findings are that reincorporation into (out of) Delaware is associated to a substantial reduction (increase) in firm value and that reincorporation into (out of) Managerial States is, on the contrary, associated to an increase (reduction) in firm value. These findings cast a doubt on both the race-to-the-top and the race-to-the-bottom views of interstate competition for corporate charters. Both of these arguments focus on managerial moral hazard as the main channel through which state corporate law affects firm value. The race-to-the-top argument claims that Delaware has won the incorporation race by offering value-increasing laws that effectively curb managerial moral hazard, which is inconsistent with the negative Delaware effect we document in the time series. The race-to-the-bottom argument claims, instead, that interstate competition induces states to adopt value-decreasing pro-management rules in order to attract more incorporations, which is inconsistent with the positive Managerial States effect we document in the time series.

In this section, we explore whether a state's response to two twin agency problems – rather than moral hazard alone – may solve the apparent puzzle posed by our time-series results, providing a novel explanation to how a state's corporate law affects firm value. In addition to the problem of managerial moral hazard, we suggest that the financial value of a state's corporate law might depend on its ability to address the limited commitment problem that arises between public shareholders and other stakeholder groups (Mayer, 2013; Cremers, Litov, Sepe, 2014).

The limited commitment problem arises out of the ability of shareholders to sell their shares in public markets in the short-term, increasing the likelihood of a future change in control and/or investment policy and making shareholders unable to firmly commit to longer-term strategies. This can cause other stakeholders to increase the cost of their performance or reduce the level of their investments and efforts. The result over time is a decline in the value created by the firm, as the contractual protection of stakeholder claims seems unlikely to fully solve the limited commitment problem. First, since contracts are incomplete, stakeholders might be unable to write state-contingent contracts that eliminate the risk of expropriation by shareholders (Mayer, 2013). Second, since the cost of current stakeholder expropriation is borne by future

shareholders, existing shareholders might lack incentives for pursuing contractual solutions to the limited commitment problem. Third, and most importantly, shareholders' rapid exit rights create the risk that those who make the promises today may vanish tomorrow, complicating the contracting with other corporate stakeholders. Unlike at the IPO stage, where all involved parties – including the shareholders-entrepreneurs – share a relationship-specific interest that limit the re-deployability of their investments, shareholders of more mature firms have virtually unrestricted exit rights, which limits the availability of efficient contractual solution to the limited commitment problem.

From this perspective, the corporate law of Managerial States – with weaker shareholder rights and less takeover pressure on directors – might be better at constraining the limited commitment problem than jurisdictions, like Delaware, with milder anti-takeover laws and hence an increased likelihood of future changes in control and investment policy. Nonetheless, by insulating boards from shareholder and market pressure, Managerial States may also bring about increased managerial moral hazard relative to Delaware.

The above analysis suggests that the choice of the level of shareholder rights and exposure to the market for corporate control may involve a tradeoff between these twin agency problems (see also Kadhyrzanova and Rhodes-Kropf, 2011). Nonetheless, the gradual increase in firm value after reincorporation into a Managerial State seems to indicate that the risk of increased managerial moral hazard to which these firms are exposed is more than compensated by the benefits accruing from more strongly committing all stakeholders to long-term firm value. That is, our time-series evidence seems to suggest that the limited commitment problem is the first-order information problem for the firms reincorporating in our sample.

In the following subsections, we test our twin agency problems theory by first considering several proxies for the centrality of a firm's limited commitment problem – such as engaging in R&D, having large customers, operating in an industry with less complete markets, and pursuing investments that involve longer-term commitment with the firm's stakeholders – and then looking at different empirical proxies – exposure to the market for corporate control and the presence of large institutional investors – for the tradeoff between the limited commitment problem and the moral hazard problem.

4.2.1. Testing the Limited Commitment Problem

The limited commitment problem would be most severe for firms where the nature of the business requires more commitment between the corporation and one or more of its stakeholders. Empirically, we try to capture the need for such commitment using four different proxies: *Engaged in R&D*, *Large Customers*, *Contract Specificity*, and *Relationship Industry* (all defined in Panel A of Table 1). Table 7 shows the results of pooled panel Q regressions on, respectively, *DE* and *MS* dummies with and without the interactions with these commitment proxies (plus our standard controls). The results for the interactions with *DE* are presented in Panel A of Table 7, and the results for the interactions with *MS* are in Panel B of Table 7. Three of these proxies (i.e., all but *Large Customers*) are at the industry-level and thus have the advantage that they are arguably not (fully) under the firm's control, mitigating endogeneity concerns.

The results strongly support the view that the negative association between Delaware reincorporation and firm value is primarily due to firms where the limited commitment problem is more severe. The results further suggest that the corporate law model of Managerial States helps to commit shareholders and boards to the creation of longer-term firm value, as reincorporation into a Managerial State is more strongly and positively related to changes in firm value for firms where the nature of the business requires more commitment between the corporation and its stakeholders.

The coefficient on the interaction between *Engaged in R&D* and *DE* equals -15.4% (t-stat of 2.52), and is thus strongly statistically and economically significant (see Column 1 of Panel A of Table 7). This indicates that firms that are engaged in research and development experience a 15.4% greater decline in firm value when reincorporating into Delaware. Second, in Column (2), we find that the interaction of *Large Customers* (i.e., customers accounting for 10% or more of a firm's sales) and *DE* has a negative and both statistically and economically significant coefficient equal to -10.1% (t-stat of 3.27). This means that a firm reincorporating out of Delaware has a 10.1% greater increase in firm value if it has a large customer compared to firms likewise reincorporating out of Delaware without a large customer.

Third (see Column 3), the interaction of *Contract Specificity* (as defined in Nunn, 2007) with *DE* has a negative and again both statistically and economically significant coefficient. Economically, the coefficient implies that if a firm reincorporates into Delaware and it is in an industry whose *Contract Specificity* is a standard deviation above the average, this

reincorporation is associated with a 24% ($=-1.15*0.203$) greater decline in firm value compared to firms in industries with average *Contract Specificity*. A higher *Contract Specificity* means that firms have contracts with suppliers that are more incomplete. The engagement in these contracts thus require more firm-specific investments and more firm commitment, as firm-specific investments involve sunk costs that cannot be transferred to other firms or businesses (or their transfer is limited) once they are incurred (Williamson, 1985). As a result, incumbent managers, as well as other stakeholders, will have less incentive to undertake such specific investments if they might fear that potential acquirers will dismiss them and expropriate them of the benefits of their sunk costs.

Fourth and finally, the coefficient on the interaction between *Relationship Industry* and *DE* equals -11.3% (t-stat of 2.04) in Column (4). Consistent with our prior results on the interactions of *Engaged in R&D*, *Large Customers* and *Contract Specificity*, this also suggest that firms that are, in general, more engaged in longer-term stakeholder relationships are less valuable when they reincorporate into Delaware. Indeed, stakeholders at these firms – including employees, suppliers, and customers – will tend to be more affected by the potential adverse effects of a future change in control (Johnson, Karpoff, and Yi, 2014), which is more likely to take place in jurisdictions such as Delaware where boards are more exposed to the market for corporate control.¹⁵

Next, we interact the *Managerial States* with the four proxies for the importance of the limited commitment problem, showing results in Panel B of Table 7. In all four cases, the interaction coefficients have the opposite signs from those in Panel A with similar economic but generally weaker statistical significance. The interactions with *Engaged in R&D* and *Large Customer* are both strongly statistically significant at the 5% level. The interactions with *Contract Specificity* is statistically insignificant with a t-stat of 1.44 (p-value of 15%) and the

¹⁵ Throughout the paper, the robust standard errors in the tables are clustered by firm. However, *Contract Specificity* and *Relationship Industry* vary only at the industry-year and the industry level, respectively. If we independently double cluster the standard errors, the statistical significance of the results is generally but not always reduced, and doing so does not invalidate any of our conclusions. For example, independently double clustering the standard errors by year and industry for *Contract Specificity* has opposite consequences for its interactions with *DE* versus *MS*, resulting in a t-stat of the coefficient of the interaction *DE*Contract Specificity* of 1.45 with a p-value of 14% (so it becomes marginally insignificant). On the contrary, in Panel B of Table 7, independently double clustering by year and industry makes the interaction of *MS* with *Contract Specificity* statistically significant at 10%, with a t-stat of 1.89 (so that it becomes significant). Finally, independently double clustering standard errors by firm and industry – the most conservative – gives a t-stat of the coefficient of the interaction *DE*Relationship Industry* of 1.79, such that this remains statistically significant at 10%.

interaction with *Relationship Industry* is also insignificant with a t-stat of 1.14 (p-value of 26%). The weaker statistical significance relative to the *DE* interactions may be related to the lower number of reincorporations into and out of the Managerial States compared to Delaware. Nonetheless, the coefficients on the four interactions with *MS* confirm our hypothesis that the increase of firm value upon reincorporation into a Managerial State is larger if the firm is engaged in R&D, has a large customer, or is in an industry with more contract-specificity or longer-term stakeholder relationships.

Our results are consistent with prior studies finding that antitakeover defenses and antitakeover laws might be beneficial to encourage large customers to optimally invest in long-term relationships (Johnson, Karpoff, and Yi, 2014; Cen, Dasgupta, and Sen, 2013). They are also consistent with studies finding that managers react to the increased threat of dismissal that usually accompany low stock prices by underinvesting in intangible assets and R&D investments, as such investments are affected by a higher level of asymmetric information and, therefore, are less likely to be capitalized by the market (Stein, 1988; Edmans, 2009, 2011; Cremers, Litov, and Sepe, 2014). Finally, they also seem to support organizational theories that emphasize the role of employees in the modern corporation and, more specifically, the growing importance of long-term investments in human capital (relative to investments in physical capital) in the creation of long-term firm value (Zingales, 2000; Porter, 1992).

4.2.2. Testing the Tradeoff between the Limited Commitment Problem and Managerial Moral Hazard

Our two proxies for the tradeoff between the limited commitment problem and the managerial moral hazard problem are, first, a proxy for industry-level M&A activity and, second, whether the firm has institutional investors owning at least 5% of outstanding shares. Indeed, the moral hazard problem is arguably less severe for firms that are more exposed to the market for corporate control. At the same time, the threat of a takeover may aggravate the limited commitment problem, as relationships with stakeholders such as employees, customers, and suppliers may get disrupted in a takeover (Cremers, Nair, and Peyer, 2008; Cen, Dasgupta, and Sen, 2013). As a result, our proxy of industry-wide takeover activity in the previous year – that previous research has shown to predict future takeover activity for firms in the same industry – directly considers the trade-off between these twin agency problems. Another advantage of this

proxy is that (being at the industry level) it is unlikely to be endogenous to firm decisions, which mitigates endogeneity concerns.

In addition, we consider firms with institutional investors owning at least 5% of outstanding shares. These investors are more likely to have both the resources and incentives to be able to effectively monitor management, hence reducing the room for managerial moral hazard (Cremers and Nair, 2005; Tirole, 2006). However, when ownership is more concentrated, the threat of board removal – and, more generally, of a change in control – is also likely to be more serious, as institutional investors are less exposed to the collective action problems that affect dispersed shareholder actions (Agrawal and Knoeber, 1996; Knoeber, 1986). This, in turn, may exacerbate the limited commitment problem. First, the firm’s managers may become overly preoccupied with (excess) monitoring by the largest institutional investors and develop perverse incentives to boost short-term earnings in order to secure the cooperation of such investors (Tirole, 2006). Second, other corporate stakeholders might become less willing to contribute firm-specific inputs if they anticipate that the presence of large institutional investors may more easily lead to the expropriation of their sunk costs for contributing those inputs. As a result, the large institutional investor proxy also speaks to the tradeoff between both agency problems.¹⁶

Table 8 presents the results for pooled panel Q regressions with *M&A in Industry* (see Columns 1 and 2) and *5% Block Ownership* (see Columns 3 and 4) interactions with the *DE* and *MS* dummies, respectively. In Column (1), the coefficient of *DE* equals -29.6 % (t-stat of 4.87) and on its interaction with *M&A in Industry* equals 0.301 (t-stat of 2.57), suggesting that the decreased firm value associated with Delaware (re)incorporation is slightly lower for firms with significant M&A activity in their industry that year. Specifically, the coefficients suggest that reincorporation into Delaware is associated with a decrease in firm value of 29.6% for firms in years with no M&A activity in their industry. If the M&A activity is one standard deviation (0.0807) higher, then the firm value associated with Delaware reincorporation is 27.2% lower ($= -0.296 + 0.301 * 0.0807$). This result seems to indicate that the disciplining effect exerted on the

¹⁶ Blockholders appear endogenously depending on firm decisions. However, when we add *5% Block Ownership* to the logit and Cox proportional hazard specifications in Table 5 to explain Delaware (re)incorporations, we find that these are not related to the presence of an institutional block holder. This reduces endogeneity concerns.

managerial moral hazard problem by more exposure to the market for corporate control does matter, but is economically minor or a second order association.¹⁷

Combined with our time series findings, this result further seems to suggest that jurisdictions, such as Delaware, which provide for more board exposure to market pressure, may increase firm value in the short term but are unable to sustain the creation of long-term value. On the one hand – consistent with the assumption that takeovers tend to produce high abnormal returns to target shareholders – periods of intense M&A activity increases the value of Delaware firms. On the other hand, however, Delaware firms exhibit a lower firm value in the time series, indicating that the short-term advantage produced by more exposure to the market for corporate control cannot compensate for the disadvantage such exposure produces in the long run by exacerbating the limited commitment problem – especially in circumstances in which this problem seems more pertinent such as when a firm is engaged in R&D, has a large customer, or is in an industry with more contract-specificity or longer-term stakeholder relationships.

Column (2) shows opposite results for the Managerial States. The coefficient on *MS* equals 2.77% (t-stat of 4.07) and on its interaction with *M&A in Industry* equals -0.409 (t-stat of 2.95),¹⁹ suggesting that the higher firm value associated with (re)incorporation in a Managerial State is slightly less pronounced for firms with significant M&A activity in their industry that year. Specifically, the coefficients suggest that reincorporation into a Managerial State is associated with an increase in firm value of 27.7% for firms in years with no M&A activity in their industry. If the M&A activity is one standard deviation (8.07%) higher, then the firm value associated with reincorporation in a Managerial State is 24.2% higher ($=0.275-0.409*0.0807$). This suggests that firms incorporated in a Managerial State may benefit a bit less from the disciplining effects of the market for corporate control as their boards are more insulated. Nonetheless, such firms still exhibit a higher financial value relative to firms incorporate elsewhere, again consistent with the hypothesis that the limited commitment problem dominates the managerial moral hazard problem.

¹⁷ Statistically, it is arguable, as well. As *M&A in Industry* only varies at the industry-year level, one could use independently double-clustered standard errors by year and industry here, rather than clustering by firm. Using independently double-clustered standard errors by year and industry results in a t-stat of the coefficient of *DE* M&A in Industry* of 1.05), and in a t-stat of the coefficient of *Managerial State* M&A in Industry* of 1.25. Under this alternative methodology, we thus obtain that the more beneficial effect exerted on managerial moral hazard by Delaware law (relative to the laws of Managerial States) is reduced, which further supports our hypothesis that the limited commitment problem is the first order problem.

Columns (3) and (4) show the results for the *5% Block Ownership* interaction with the *DE* and *MS* dummies, respectively. In Column (3), the coefficient on *DE* equals -22.3% (t-stat of 3.98) and on its interaction with *5% Block Ownership* equals -30.6% (t-stat of 3.02) in Column (3), showing that the value of firms with an institutional block owner declines substantially more after that firm reincorporates into Delaware than firms without such block owner. This suggests that while more monitoring by large institutional investors may be beneficial to reduce managerial moral hazard, this benefit seems more than offset by the increase in the limited commitment problem that arises in firms with large institutional investors – at least in jurisdictions such as Delaware with milder antitakeover laws (and thus more board exposure to shareholder and market pressure), which are also likely to exacerbate the limited commitment problem.¹⁸

Consistently, Column (4) shows that the coefficient of *MS* equals 20.7% (t-stat of 3.24) and on its interaction with *5% Block Ownership* has a positive coefficient of 39.4% (t-stat of 3.57), suggesting that in Managerial States where boards are further insulated from market pressure, firms with large institutional investors benefit from added monitoring from such investors, while being less penalized by the more severe limited commitment problem to which they are subject – arguably because in Managerial States the latter problem is more effectively addressed by state corporate laws than elsewhere.

Next, as a robustness check for the relative importance of the managerial moral hazard problem, we investigate whether state corporate law is associated with the likelihood and performance sensitivity of forced CEO turnover. Indeed, a board's ability and decision to fire the CEO after poor performance indicates that the board is able to properly perform its monitoring function. Accordingly, if incorporating in a Managerial State substantially exacerbates the problem of managerial moral hazard, we would expect that both the likelihood and the performance sensitivity of forced CEO turnover be significantly lower for firms incorporated in

¹⁸ One potential explanation for why a more active market for corporate control seems to reduce managerial moral hazard more than the presence of a large institutional investor is that a firm's incorporation into Delaware may be related to expectations of future takeover activity. Hence, the beneficial effect on firm value that we document in the interaction of *DE* and *M&A in Industry* may be partly due to an anticipation effect (Edmans, Goldstein, Jiang, 2012; Cremers, Nair, and John, 2008; Song and Walkling, 2000). As mentioned above, takeovers usually produce high abnormal returns to the target shareholders. Hence, the positive valuation effect we document for *DE*M&A in Industry* could be driven by an anticipation effect of increased probability of future takeover activity for firms incorporated in Delaware relative to firms incorporated elsewhere.

those states. Conversely, if incorporating into Delaware mitigates the problem of managerial moral hazard, we would expect that both the likelihood and the performance sensitivity of forced CEO turnover be significantly higher in Delaware relative to other states.

Table 9 presents the marginal likelihood results for Cox proportional hazard models on the likelihood and performance sensitivity of CEO replacements, considering only forced CEO turnovers in Columns (1) and (2) and all CEO replacements in Columns (3) and (4). Forced turnovers are more likely after bad performance, but there is indication that these are more or less likely for firms incorporated in Delaware or a Managerial State. The marginal likelihood for the interaction between *MS* and *Abnormal Return* equals 1.397 with a t-stat of 1.21, providing some but statistically weak (p-value of 22%) evidence that the performance sensitivity is larger for firms incorporated in a Managerial State. CEO replacements in general are also more likely after bad performance, as shown in Columns (3) and (4). We find that firms incorporated in Delaware are less likely to replace their CEO (*DE* marginal likelihood of -0.124% with a t-stat of 1.94 in Column 3), and some weak evidence that their performance sensitivity is larger (*DE*Abnormal Return* has a marginal likelihood of 0.23 with a p-value of 18% in Column 4, which is economically minor compared to the marginal likelihood of *Abnormal Return* of -0.652).

In unreported results, we similarly find that pay-for-performance incentives in the CEO's compensation – which have been theoretically and empirically shown to mitigate managerial moral hazard (Holmstrom, 1979; Grossman and Hart, 1983; Jensen and Murphy, 1990a; 1990b) – appear as effective in Delaware as in Managerial States. Indeed, in estimating pool panel *Q* regressions on, respectively, *DE* and *MS* with and without the interactions with three proxies for pay-for-performance incentives – *CEO Delta*, *CEO Vega*, and *CEO's Total Compensation* – we find no statistically significant differences between the *DE* and *MS* coefficients. This result suggests that board insulation from market forces does not affect a board's ability to negotiate compensation arrangements with executives in the best interest of their shareholders or, put differently, does not increase an executive's ability to extract excessive remuneration.

Overall, both proxies for the relative importance of moral hazard suggest that state corporate laws that further insulate the board from the threat of removal do not substantially affect a board's ability to effectively perform its monitoring functions. This does not mean that

corporate law models like those of the Managerial States – with weaker shareholder rights and less board exposure to market pressure – do not affect managerial moral hazard costs. Rather, the results of Table 9 suggest that the weakened ability of Managerial States to control the managerial moral hazard problem is not radically exacerbating such problem – consistent with the interpretation of our time series evidence as indicating that the increased moral hazard accompanying reincorporation in a Managerial State is more than compensated by the benefits accruing from more strongly committing all stakeholders to the corporation.

4.2.3. Delaware Reincorporation, Dual Class Stock, and Shareholder Rights

The interaction analysis performed in Tables 7 and 8 documents that the decreased financial value for firms reincorporating into Delaware is driven by firms where the limited commitment problem seems most relevant and that such problem empirically dominates the managerial moral hazard problem in the tradeoff between the twin agency problems. This analysis suggests that in firms where the limited commitment problem is less pertinent, state corporate law should matter less to financial value.

We employ two proxies to empirically capture circumstances in which the limited commitment problem is likely to be less relevant, namely the *G-Index* and whether the firm has outstanding dual class stock. As explained in Section 3.1 above, the *G-index* measures limitations to shareholder rights using a composite of twenty-four variables (adding one point if any variable is present), where a higher score indicates more restrictions on shareholder rights or a larger number of anti-takeover measures. Since the limited commitment problem arises out of the risk that shareholders may renege on prior commitments toward the corporation and its other stakeholders, by causing a change in the firm’s investment policy – whether through exit (i.e., a change in control) or by exercising direct and indirect pressure on management (i.e., forcing a change in investment policy) – a firm that scores high on the *G-Index* is arguably less exposed to the limited commitment problem. Indeed, weaker shareholder rights and/or further board insulation will make it more difficult for shareholders to renege on their prior commitments.

The presence of a controlling shareholder, as proxied by the issuance of dual class stock, is also likely to mitigate the relevance of the limited commitment problem. Dual class stock implies that a firm has unequal voting rights, with one class of stocks being given substantial voting control. As a result, firms with dual class stocks (i.e., with a controlling shareholder) have

boards that are substantially insulated from outside shareholders and thus external pressure. Moreover, the controlling shareholder with superior voting rights is likely to have better incentives to commit to long-term firm projects, which may provide significant stability and mitigate the limited commitment problem. First, controlling shareholders bear higher exit costs, since the cost of selling a large block is typically greater (Demsetz, 1983; Shleifer and Vishny, 1986). Second, as controlling shareholders often hold board seats (Holderness and Sheehan, 1988), they tend to be more informed about a firm's corporate affairs and hence better able to evaluate management performance over both short-term and long-term periods. Third, especially when controlling shareholders serve as directors, they are likely to be subject to reputational sanctions for renegeing on prior commitments (Adams, Hermalin, and Weisbach, 2010).

In order to use data on the *G-Index* and dual class stock, we employ an extended dataset from 1978 to 2007 as used in Cremers and Ferrell (2013), who combine hand-collected governance data for 1978-1989 with the 1990 – 2007 RiskMetrics data. The main limitation of this dataset is that it only includes the largest firms, such that we have few reincorporations for Managerial States and can only empirically consider reincorporations involving Delaware. Specifically, this 1978-2007 sample of large firms includes 172 reincorporations into Delaware and 33 reincorporations out of Delaware, and a total number of 285 changes in firm reincorporations.¹⁹

Table 10 presents results for panel *Q* regressions on *DE* with and without the interactions with the *G-Index* and *Dual Class* (plus our ordinary controls). We start in Columns (1) and (2) by reporting results for panel *Q* regressions on *DE* without interactions, controlling for industry and year fixed effects and for firm and year fixed effects respectively. Consistent with our time-series results for the dataset 1994-2012, we find that the coefficient for *DE* over the time period 1978-2007 is negative in both the cross-section (see Column (1)) and the time-series (see Column (2)). Specifically, Delaware incorporation is associated with a decrease in firm value of almost 4.92% (t-stat of 1.84) in the cross-section and 14.3% (t-stat of 2.21) in the time series.

Next, Column (3) and (4), respectively, present the results for the cross-sectional and time series *Q* regressions on *DE* with and without its interaction with the *G-Index*. The

¹⁹ In this sample, there are 14 dual class firms that reincorporate into Delaware (out of a total of 172) and 2 dual class firms that reincorporate out of Delaware (out of a total of 33). There are only 48 reincorporations into a Managerial State and only 16 out of a Managerial State, and using these give statistically insignificant results.

coefficient on *DE* is equal to -10.1% (t-stat of 3.01) in the cross-section (see Column 3) and to -15.7% (t-stat of 2.38) in the time series (see Column 6). The *DE*G-Index* interaction is, instead, positive and statistically significant both in the cross-section (with a coefficient of 0.78%, t-stat of 1.85) and the time series (with a coefficient of 1.12%, t-stat of 1.62). Consistent with our results for *Dual Class*, these results suggests that the decrease in firm value associated with Delaware (re)incorporation is reduced for firms with weaker shareholder rights and/or more antitakeover defenses (i.e., firms with a higher score on the G-Index).

Specifically, the coefficients in Column (4) suggest that reincorporation into Delaware is associated with a time-series decrease in firm value of at least 10.1% ($=-0.157+0.0112*5$) for ‘democracy’ firms with strong shareholder rights and/or less antitakeover defenses (i.e., firms with a G-Index of 5 or less). However, for ‘dictatorship’ firms with a G-Index score of 14 or higher, there is no decrease in firm value associated with reincorporation into Delaware²⁰ – again consistent with our hypothesis that corporate law only matters to financial value when the limited commitment problem is relevant.

Finally, Columns (5) and (6), respectively, present the results for the cross-sectional and time series *Q* regressions on *DE* with the interaction with *Dual Class*. The *DE*Dual Class* interactions are positive and sufficiently large to offset the negative coefficient on *DE*. For example, the coefficients in Column (6) suggest that firms with dual class stock reincorporating into (out of) Delaware increase (decrease) 10.5% ($=0.263-0.158$, which difference is statistically significant) in value, while firms with equal voting rights reincorporating into (out of) Delaware decrease (increase) 15.8% (t-stat of 2.58) in value. Our finding of a statistically significant increase in financial value for firms with dual class stock when they (re)incorporate into Delaware is consistent with our hypothesis that corporate law only matters to financial value when the limited commitment problem is relevant, which is less likely to be the case for firms where the presence of a controlling shareholder adds credibility to the firm’s commitment to long-term investment strategies.

²⁰ Instead, we document a small increase of at least 0.26% ($=-0.157+0.0112*14$). The use of G-Index scores of 5 and 14 and the ‘democracy’ versus ‘dictatorship’ terms follows Gompers, Ishii and Metrick (2001). The calculations of the economic association between firm value and reincorporation into Delaware are assuming that the G-Index does not change due to the reincorporation, which is unlikely to be typical, and are only meant as illustrations.

5. Conclusion

Both advocates of the race-to-the-bottom and the race-to-the-top views in the long-standing debate on interstate competition agree that the primary channel through which state corporate law influences a firm's financial value is through its ability to control the classic agency problem of managerial moral hazard. These views differ only in assessing the incentives that interstate competition provides for controlling managerial moral hazard. Largely based on empirical studies supporting the existence of a positive association of Delaware incorporation to firm value, race-to-the-top advocates argue that interstate competition promotes rules that benefit shareholders. Conversely, race-to-the-bottom advocates argue that interstate competition induces states to cater to managers, resulting in value-decreasing managerial-friendly rules such as excessively restrictive antitakeover statutes.

In this paper, we challenge the shared assumption that a state's response to managerial moral hazard is the main channel through which corporate law is related to financial value. Using a comprehensive database with historical incorporation information for all publicly traded firms in the U.S over the time-period 1994-2012, we show, first, that the well-known cross-sectional Delaware effect becomes negative once we control for Delaware incorporation at the IPO stage and, second, that in the time series the Delaware reincorporation effect has a negative association with firm value, while reincorporation into Managerial States has a positive association with firm value. In particular, using firm fixed effect regressions, we find that reincorporation into Delaware is associated with a decrease in Tobin's Q of 26% (t-statistic of 4.85), while reincorporation into Managerial States is associated with an increase in Tobin's Q of 25% (t-statistic of 4.06). Regressions using changes in Tobin's Q on changes in the state of incorporation give similar results. These surprising results challenge both the race-to-the-top and the race-to-the-bottom arguments. On the one hand, the negative Delaware effect we document is inconsistent with the claim that Delaware has won the incorporation race by offering value-increasing laws. On the other, the positive Managerial States effect we document is inconsistent with the claim that managerial-friendly rules reduce firm value.

Overall, our analysis suggests that something has been missing from the interstate incorporation debate to date. While we cannot demonstrate any causal link (i.e., reincorporation decisions are endogenous), we explore the possibility that the financial value of state corporate

laws primarily depends on a different agency problem, namely the limited commitment problem. Such a problem arises out of the shareholders' ability to sell their shares in public markets whenever this benefits them, which makes them unable to credibly commit to long-term projects. Anticipating the risk that shareholder exit in the short-term may result in a future change in control and investment policy, other stakeholders, including managers, have incentives to sub-optimally invest in the firm, which reduces firm value. Viewed through this lens, Managerial States that further insulate directors from the consequences of shareholder exit might be better equipped to constrain a firm's commitment problem than jurisdictions like Delaware, which has less restrictive anti-takeover laws.

We find empirical support for the limited commitment hypothesis, as we document that the decreased (increased) financial value for firms reincorporating in Delaware (Managerial States) is driven by firms where the limited commitment problem seems most relevant, i.e., firms engaged in R&D, firms with a large customer, firms in industries requiring relationship-specific investments, and firms in relationship industries with long-term connections between the corporation and one or more of its stakeholders. Conversely, the negative Delaware effect is substantially reduced in firms where the limited commitment problem is likely to be less pertinent, i.e., firms with weaker shareholder rights and/or more antitakeover defenses and firms with a controlling shareholder.

From a broader perspective, our analysis reopens the debate on the normative desirability of a shareholder-driven corporate law model, which has encountered mounting success among both U.S. academics and regulators in recent years. Indeed, the governance practice of U.S. corporations has been largely reshaped in the past ten years by a series of new regulations that have sustained shareholder empowerment and simultaneously eroded the corporate power of boards of directors and managers. The shift began with the Sarbanes-Oxley Act's introduction of new requirements for director independence, followed by the enactment of Delaware legislation granting shareholders greater access to the ballot box, and, most notably, by the Dodd-Frank Act's introduction of say-on-pay shareholder votes and new proxy access rules. Supporting these reforms, advocates of shareholder empowerment argue that shifting corporate authority to shareholders serves to maximize firm value, as shareholders' residual-claimant position give them the best incentives to provide value-enhancing inputs (Hansmann and Kraakman, 2001; Bebchuk, 2005). Thus stronger shareholder powers to dismiss the board – whether directly by

increasing shareholder internal governance levers (Bebchuk, 2005; 2007) or indirectly by ensuring the existence of an active market for corporate control (Manne, 1965; Easterbrook and Fischel, 1981; Bebchuk and Cohen, 2003) – are desirable to retain the benefits of having specialized managers, while drastically reducing the agency costs of the separation of ownership from control.

Underlying this argument is the fundamental assumption that managerial moral hazard is the master – if not the sole – corporate agency problem (Romano, 1984). The empirical evidence, however, suggests that the limited commitment problem is the first-order problem. As a result, contrary to what shareholder empowerment advocates presume, the benefits arising from vesting shareholders with real authority over the corporate decision-making are likely to be more than offset by the negative externalities that such a corporate model produces – exacerbating a firm’s commitment issues and ultimately reducing rather than maximizing firm value. Moreover, “Coasean bargaining” is unlikely to be an available solution in such circumstances as the inability of shareholders to make credible commitments negates the necessary premise for ex-post efficient contracting with other corporate stakeholders, including managers. This is because shareholders’ rapid exit rights create the risk that those who make the promises today may vanish tomorrow, while reputational sanctions are an unlikely threat for institutional investors. In a world where fund managers focus on quarterly earnings per share, exit from low-performing investments may increase, rather than decrease, a fund’s reputation.

Our empirical results about valuable IPOs being more likely to opt for Delaware incorporation are consistent with this conclusion. The relationship-specific features of IPO transactions make efficient bargaining feasible, with the choice of a more flexible corporate law, such as Delaware law, maximizing firm value. However, in more mature firms, where shareholders have virtually unconstrained exit rights, the focus of Delaware law on incentivizing private contracting – by privileging legal standards to iron rules – runs contrary to the classic prescription of Kydland and Prescott (1977) that the room for discretionary decision-making should be limited when economic actors have incentives to renege on prior commitments and the anticipation of this risk reduces *ex ante* welfare.

This analysis raises a series of novel questions. First, shouldn’t the market anticipate the negative Delaware effect? How should one assess the overall impact of interstate competition?

What is the direction that a corporate law reform should take, if any is needed? While further research is warranted to answer to these questions, our empirical results suggest that investor appetite for short-term gains may explain the continuing success of Delaware in the incorporation race, as laws that promote a more active market for corporate control are likely to increase an investor's short-term returns, although potentially at the expense of the creation of long-term firm value (as suggested by the results in our paper). Concerning the role of interstate competition, our empirical analysis does not allow us to conclude whether competition leads to the production of better or worse corporate law. Indeed, while the laws of Managerial States seem to display a positive effect on firm value, in 2012 sixty-five percent of U.S. corporations were incorporated in Delaware, which we document to have a negative association with firm value. We can conclude, however, that the question with which the state-competition literature has wrestled for the past four decades – does competition reduces or exacerbate managerial moral hazard? – may not be the right question. Finally, our results also challenge the shareholder-empowerment direction undertaken by recent corporate law reforms, as such reforms seem ill-suited to address the limited commitment problem and may potentially exacerbate it.

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FIGURE 1:

PERCENTAGE OF FIRMS, IPOs, AND MARKET CAPITALIZATION BY STATE OF INCORPORATION.

Panel A shows the percentages of firms by state of incorporation for all the firms in our all-Compustat sample each year from 1994 to 2012. Panel B shows the percentage of firms by state of incorporation at the IPO each year from 1994 to 2012. Panel C shows the percentages of market capitalization by state of incorporation.

Figure 1, Panel A. Percentage of Firms by State of Incorporation

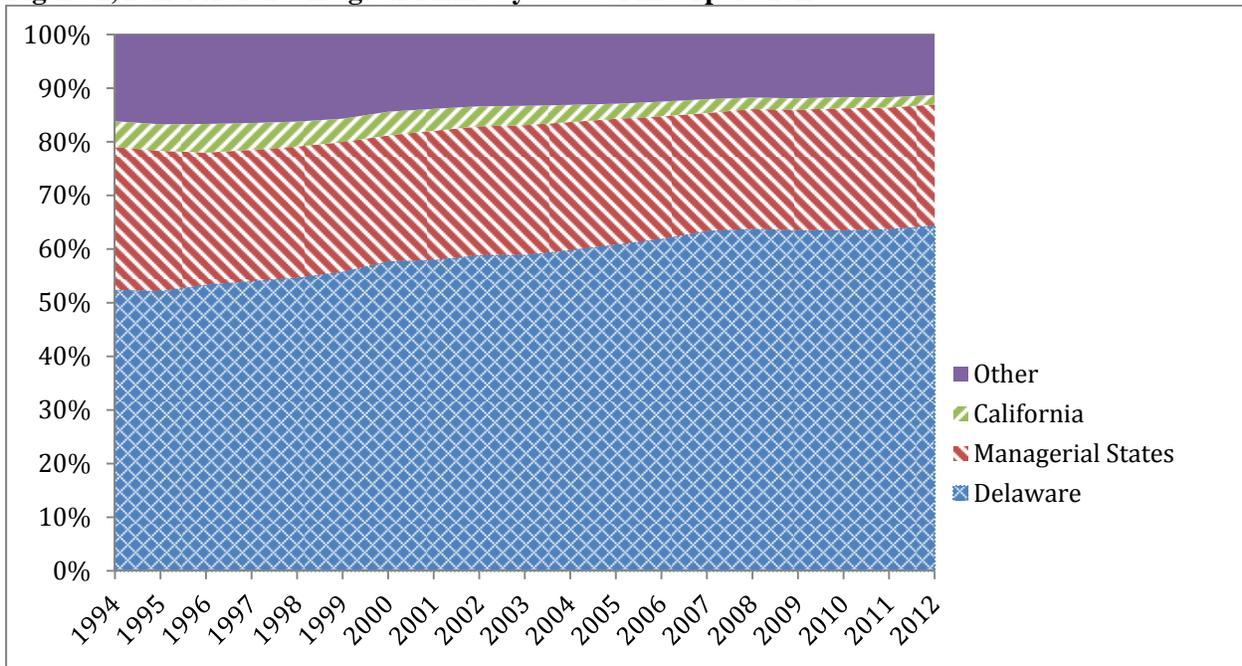


Figure 1, Panel B. Percentage of IPOs by State of Incorporation

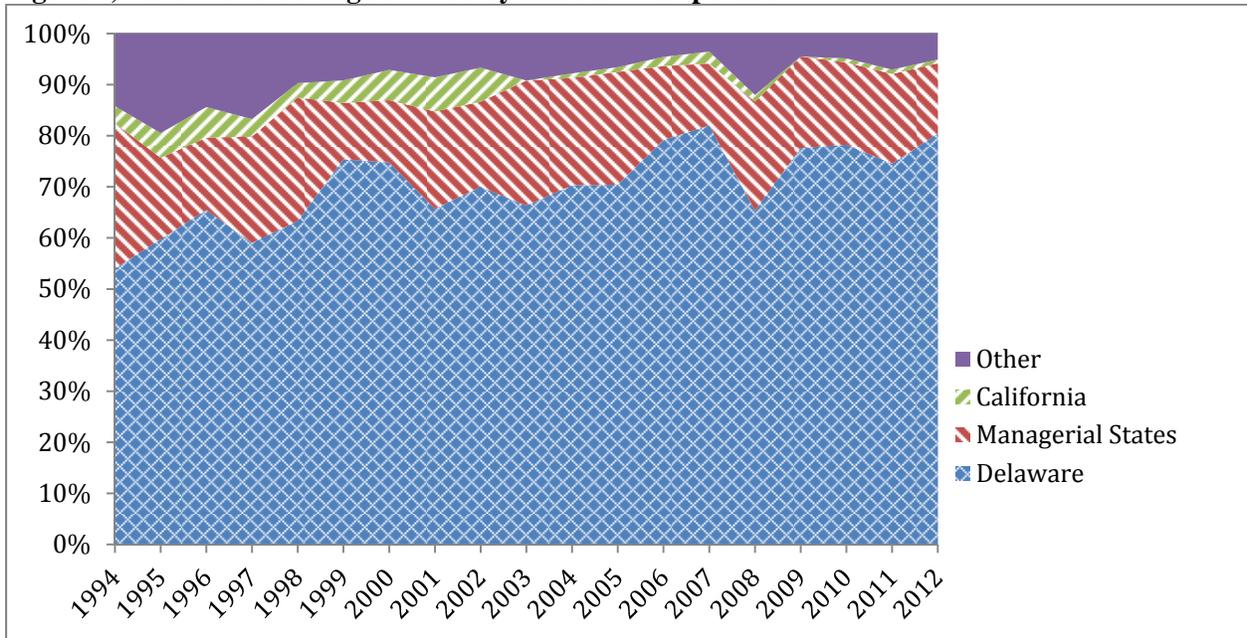


Figure 1, Panel C. Percentage of Market Capitalization by State of Incorporation

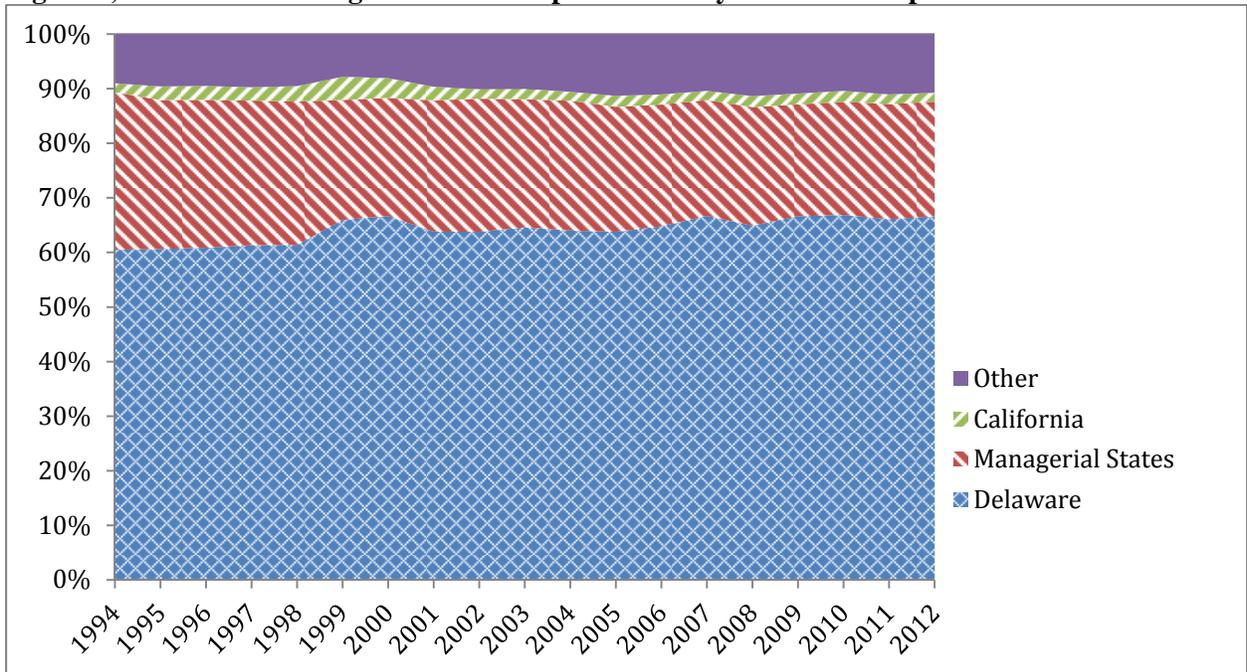


FIGURE 2:
REINCORPORATIONS IN – AND OUT OF – BY STATE

Figure 2 presents the annual numbers of reincorporations *into* Delaware, Managerial States, and California (in Panel A) and *out of* these jurisdictions (in Panel B). The time period is 1996-2011.

Figure 2, Panel A. Number of Reincorporations by State Re-Incorporated Into

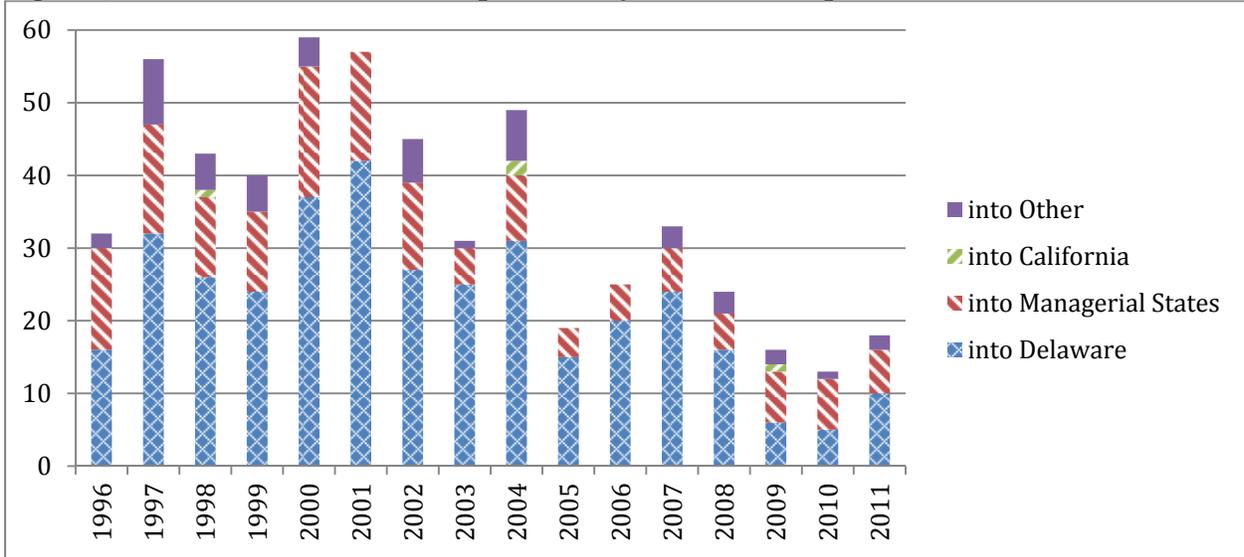


Figure 2, Panel B. Number of Reincorporations by State Re-Incorporated Out of

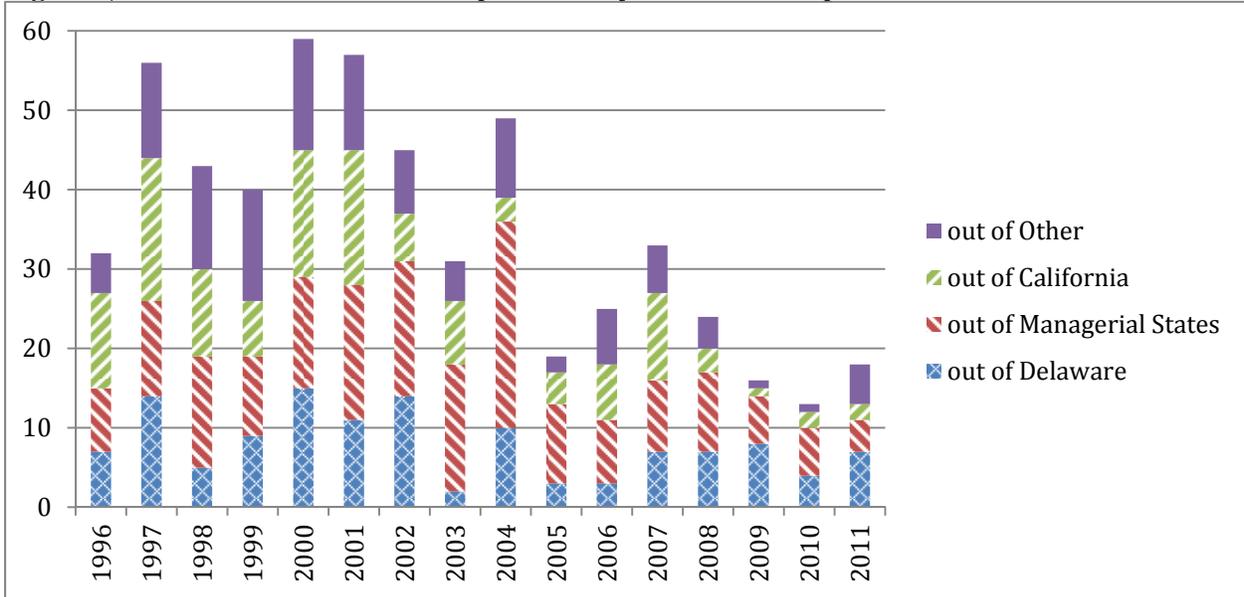


TABLE 1, PANEL A: DEFINITIONS OF VARIABLES

Panel A of Table 1 presents brief definitions of the main variables that appear in the analysis. All continuous variables are winsorized at 1% in both tails (or as specified).

Dependent Variables:

<i>Tobin's Q</i>	Defined as the market value of assets (i.e., total assets – book equity + market equity) divided by the book value of assets at the end of the fiscal year. Calculation follows Fama and French (1992). This variable is then winsorized at 5% in each tail of its distribution. Source of data is Compustat annual data file.
<i>CEO Turnover</i>	Defined as one if there is a voluntary CEO departure in the Jenter and Kanaan (2010) data file; as zero otherwise. Data are available for the time period 1993-2001.
<i>Forced CEO Turnover</i>	Defined as one if there is an involuntary CEO departure in the Jenter and Kanaan (2010) data file; as zero otherwise. Data are available for the time period 1993-2001.

Independent Variables:

<i>CA</i>	Defined as one if the company is incorporated in California; as zero otherwise.
<i>DE</i>	Defined as one if the company is incorporated in Delaware; as zero otherwise.
<i>Managerial State</i>	Defined as one if the company is incorporated in a Managerial State; as zero otherwise. Managerial States include Connecticut, Georgia, Idaho, Indiana, Maryland, Massachusetts, Michigan, Missouri, Nebraska, Nevada, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Tennessee, South Dakota, Washington, Wisconsin.
<i>Abnormal Returns</i>	Annual returns for each firm at the fiscal year end date net of market returns for the same period. Data for stock returns are from CRSP. Data for market returns is from Ken French's online data library. This variable is then Winsorized at 2.5% in each tail of its distribution. Data are available for the time period 1993-2001.
<i>CAPX/ Assets</i>	Capital Expenditure/ Total Assets.
<i>Leverage</i>	Ratio of the sum of total short-term and long-term debt over total book assets.
<i>Log (Assets)</i>	Natural logarithm of total book assets.
<i>PPE/Assets</i>	Ratio of the book value of property, plant, and equipment over total book assets.

<i>R&D/ Assets</i>	Ratio of research and development expenditures over the total book assets.
<i>Engaged in R&D</i>	Defined as one when a firm has R&D expenditures; as zero otherwise (i.e., set to zero if R&D expenditures are missing).
Interacted Variables:	
<hr/>	
<i>5% Block Ownership</i>	Percentage of outstanding shares owned by institutions that each owns at least 5% of outstanding shares. Source is Thomson as available on WRDS, which provides data on aggregated holdings in the 13F filings.
<i>Contract Specificity</i>	Defined as one if the firm is an industry that uses a higher fraction of inputs that are not sold on an organized exchange or reference priced in a trade publication in the Nunn (2007) data file. Data is available for 1997.
<i>Dual Class</i>	Defined as one if the firm has dual class stock. Data are from the Cremers and Ferrell (2014) dataset RiskMetrics, available for 1978-2007.
<i>G-Index</i>	Sum of 24 governance provisions indicators in the corporate charter or bylaws introduced by Gompers, Ishii, and Metrick (2003). Data are from the Cremers and Ferrell (2014) dataset and RiskMetrics, available for 1978-2007.
<i>Large Customer</i>	Defined as one if the firm has a least one customer accounting for 10% or more of its sales. Source is Compustat Segments – Customer database on WRDS.
<i>M&A in Industry</i>	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. If no M&A activity per given industry-year is reported in SDC, we assume it to be zero. We only include transactions where buyer achieves control of the target.
<i>Relationship Industry</i>	Defined as one if the firm is a 2-digit industry characterized by longer-term commitments between the firm and its stakeholders such as employees, suppliers, and customers as coded in the Cremers, Nair, and Peyer (2008) appendix; and zero otherwise.
<i>Engaged in R&D</i>	Defined above.

TABLE 1, PANEL B: DESCRIPTIVE STATISTICS.

Panel B of Table 1 shows descriptive statistics (the mean and the standard deviation) for the main variables in two samples. First is our main data sample, which consists of 11,501 firms and over 83,000 firm-year observations for 1994 - 2012. The second samples consists of the 1978 – 2007 dataset from Cremers and Ferrell (2014), consisting of 1,877 firms and over 26,000 firm-year observations.

Variable	1994 - 2012 Sample		1978-2011 Sample	
	Mean	Std.Dev.	Mean	Std.Dev.
<i>Tobin's Q</i>	1.945	1.359	1.511	0.804
<i>DE</i>	0.583	0.493	0.486	0.500
<i>MS</i>	0.239	0.426	0.263	0.440
<i>CA</i>	0.037	0.189	0.013	0.112
<i>Log Assets</i>	5.485	2.084	7.331	1.593
<i>Leverage</i>	0.221	0.229	0.508	0.189
<i>CAPX/Assets</i>	0.051	0.065	0.062	0.045
<i>R&D/Assets</i>	0.056	0.124	0.021	0.045
<i>Engaged in R&D</i>	0.581	0.493	0.470	0.499
<i>PPE/Assets</i>	0.228	0.230	0.352	0.225
<i>Large Customer</i>	0.312	0.463		
<i>Contract Specificity</i>	0.665	0.203		
<i>Relationship Industry</i>	0.467	0.499		
<i>5% Block Ownership</i>	0.156	0.151		
<i>M&A in Industry</i>	0.031	0.074		
<i>Abnormal Return</i>	0.037	0.561		
<i>Forced CEO Turnover</i>	0.014	0.119		
<i>CEO Turnover</i>	0.078	0.268		
<i>Dual Class</i>	0.000	0.000	0.075	0.263
<i>G-Index</i>			8.070	3.429

TABLE 2: REINCORPORATION TRANSITION MATRIX

Table 2 shows the reincorporation transition matrix for our sample of firms, showing the original state (group) of incorporation and destination state of incorporation for a total of 560 reincorporations over the period 1996-2011.

		OUT OF				TOTAL INTO
		<i>DE</i>	<i>MS</i>	<i>CA</i>	Other	
INTO	<i>DE</i>	-	149	118	89	356
	<i>MS</i>	93	-	9	48	150
	<i>CA</i>	2	2	-	0	4
	Other	31	36	1	-18	50
TOTAL OUT OF		126	187	128	119	560

TABLE 3, PANEL A: FIRM VALUE AND CORPORATE LAW - DELAWARE INCORPORATION

Table 3, Panel A presents results for the association between Delaware incorporation (i.e., *DE*) and firm value between 1994 and 2012, using pooled panel Tobin's Q regressions. Column (1) presents results for a regression that only includes *DE*. Column (2) controls for year fixed effects, while Columns (3) through (5) control for both year and industry fixed effects at the 4-digit SIC level. Column (4) also includes the following controls: *Log Assets*, *Leverage*, *CAPX/Assets*, *R&D/Assets*, *Engaged in R&D*, *PPE/Assets*. Column (5) considers whether the association between firm value and Delaware incorporation is different in the second half of our sample (2002-2012). T-statistics of the regression coefficients are shown in parentheses below the coefficient estimates. All independent and 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)
Dependent variable:	<i>Tobin's Q</i>				
<i>DE</i>	0.196*** (8.76)	0.206*** (9.18)	0.0269 (1.38)	0.0125 (0.68)	0.0661*** (2.87)
<i>DE*2002 -2012</i>					-0.113*** (-4.27)
<i>Log Assets</i>				-0.00643 (-1.17)	-0.00646 (-1.17)
<i>Leverage</i>				-0.379*** (-8.70)	-0.378*** (-8.69)
<i>CAPX/Assets</i>				3.349*** (25.73)	3.341*** (25.64)
<i>R&D/Assets</i>				2.139*** (21.52)	2.140*** (21.56)
<i>Engaged in R&D</i>				0.152*** (6.63)	0.152*** (6.62)
<i>PPE/Assets</i>				-0.860*** (-14.06)	-0.862*** (-14.10)
Fixed Effects	None	Year	Year, SIC	Year, SIC	Year, SIC
N	85,856	85,856	83,258	83,257	83,257
R-sq	0.005	0.036	0.241	0.288	0.288

TABLE 3, PANEL B: FIRM VALUE AND CORPORATE LAW – INCORPORATION IN DELAWARE, MANAGERIAL STATES, AND CALIFORNIA

Table 3, Panel B presents results for the association between firm value and, respectively, Delaware incorporation (i.e., *DE*), Managerial State incorporation (i.e., *MS*), and California incorporation (i.e., *CA*) between 1994 and 2012 and using pooled panel Tobin's Q regressions. *Incorp=Headq.* is a dummy equal to one for firms that are incorporated in the same state as where their headquarters are located. *MS-Incorp=Headq.* is a dummy equal to one for firms incorporated in a Managerial State that is also the state where their headquarters are located. We always control for headquarter state fixed effects and year and industry fixed effects. We also always include the following controls: *Log Assets*, *Leverage*, *CAPX/Assets*, *R&D/Assets*, *Engaged in R&D*, *PPE/Assets*. All independent and 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)
Dependent variable:	<i>Tobin's Q</i>					
<i>DE</i>	0.00655 (0.35)			0.0253 (0.88)	-0.00746 (-0.14)	0.0918*** (2.77)
<i>MS</i>		-0.0218 (-0.94)		0.00354 (0.10)	-0.00895 (-0.15)	0.000603 (0.02)
<i>CA</i>			0.112** (2.04)	0.134** (2.20)	0.140** (2.28)	0.247*** (3.49)
<i>MS-Incorp=Headq.</i>					0.00724 (0.10)	
<i>DE*2002-2012</i>						-0.146*** (-3.76)
<i>MS*2002-2012</i>						-0.00255 (-0.06)
<i>CA*2002-2012</i>						-0.304*** (-3.40)
<i>Incorp=Headq.</i>					-0.0396 (-0.68)	
State-headquarter Fixed Effects:	yes	yes	yes	yes	yes	yes
Year and Industry Fixed Effects:	yes	yes	yes	yes	yes	yes
Standard controls Included:	yes	yes	yes	yes	yes	yes
N	83,251	83,251	83,251	83,251	83,251	83,251
R-sq	0.290	0.290	0.290	0.290	0.290	0.291

TABLE 4, PANEL A: FIRM VALUE AND CORPORATE LAW – FIRM FIXED EFFECTS.

Table 4, Panel A presents results for the association between firm value and, respectively, Delaware incorporation (i.e., *DE*), Managerial State incorporation (i.e., *MS*), and California incorporation (i.e., *CA*) between 1994 and 2012, using pooled panel Tobin’s Q regressions and controlling for firm fixed effects. We also always include the following controls: *Log Assets*, *Leverage*, *CAPX/Assets*, *R&D/Assets*, *Engaged in R&D*, *PPE/Assets*. The dummy *DE*INTO* equals one for firms not incorporated in Delaware that reincorporated into Delaware, and *MS*INTO* and *CA*INTO* are defined analogously. All independent and 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)
Dependent variable:	<i>Tobin’s Q</i>					
<i>DE</i>	-0.262*** (-4.85)	-0.228*** (-4.33)				
<i>DE*INTO</i>		-0.0462 (-0.51)				
<i>MS</i>			0.248*** (4.06)	0.189** (2.07)		
<i>MS*INTO</i>				0.126 (1.13)		
<i>CA</i>					0.567*** (4.63)	0.584*** (4.59)
<i>CA*INTO</i>						-0.428*** (-2.83)
<i>Log Assets</i>	-0.260*** (-19.01)	-0.260*** (-18.99)	-0.262*** (-19.19)	-0.263*** (-19.23)	-0.261*** (-18.95)	-0.261*** (-18.94)
<i>Leverage</i>	-0.382*** (-7.97)	-0.382*** (-7.97)	-0.383*** (-8.00)	-0.383*** (-8.01)	-0.378*** (-7.88)	-0.378*** (-7.88)
<i>CAPX/Assets</i>	2.082*** (16.34)	2.082*** (16.34)	2.089*** (16.40)	2.088*** (16.40)	2.084*** (16.36)	2.083*** (16.35)
<i>R&D/Assets</i>	0.374*** (2.91)	0.374*** (2.91)	0.373*** (2.91)	0.373*** (2.90)	0.374*** (2.90)	0.374*** (2.90)
<i>Engaged in R&D</i>	0.0368 (-0.94)	0.0370 (-0.94)	0.0404 (-1.03)	0.0403 (-1.03)	0.0414 (-1.06)	0.0409 (-1.05)
<i>PPE/Assets</i>	-0.872*** (-10.30)	-0.873*** (-10.31)	-0.873*** (-10.34)	-0.871*** (-10.30)	-0.874*** (-10.28)	-0.872*** (-10.27)
Fixed Effects:	Year, Firm					
N	85,850	85,850	85,850	85,850	85,850	85,850
R-sq	0.618	0.618	0.618	0.618	0.618	0.618

TABLE 4, PANEL B AND C: CHANGES IN FIRM VALUE AND CORPORATE LAW

Table 4, Panel B presents pooled panel first difference regressions with the dependent variables being the change in Tobin's Q (i.e., ΔQ) in the next 1, 2, 3, and 4 years after changes in the independent variable DE (i.e., ΔDE). All dependent variables are adjusted for the median Q in the firm's industry that year. All specifications also include year fixed effects. As additional independent variables, we include the following: $\Delta \text{Log Assets}$, $\Delta \text{Leverage}$, $\Delta \text{CAPX/Assets}$, $\Delta \text{R\&D/Assets}$, $\Delta \text{Engaged in R\&D}$, $\Delta \text{PPE/Assets}$. Sample period is 1994-2012, but it varies per column due to availability of lagged data and is reported for each column. Columns (1) – (4) present results for firms not incorporated into Delaware before the decision to reincorporate (i.e., $\Delta DE*INTO$, which is a dummy equal to one for firms incorporate elsewhere that decide to reincorporate into Delaware). Columns (5) – (8) present results for firms incorporated into Delaware before the decision to reincorporate (i.e., $\Delta DE*OUT$, which is a dummy equal to one for firms incorporate in Delaware that decide to reincorporate elsewhere). Table 4, Panel C includes analogous regressions for reincorporations into and out of the Managerial States, using the analogously defined $\Delta MS*INTO$ and $\Delta MS*OUT$. Robust standard errors are clustered at the firm level. All dependent, independent, and control variables are defined in Table 1. T-statistics 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.

Panel B. Changes in Firm Value and Reincorporations Into and Out of Delaware

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable:	<i>ΔTobin's Q (Median-Adjusted at the Industry-Year Level)</i>							
Sample	All firms not incorporated in DE before the change				All firms incorporated in DE before the change			
Years ahead for change	1	2	3	4	1	2	3	4
<i>ΔDE*INTO</i>	-0.108 (-1.46)	-0.102 (-1.00)	-0.277** (-2.57)	-0.280** (-2.45)				
<i>ΔDE*OUT</i>					0.150*** (2.69)	0.115** (1.97)	0.219*** (2.81)	0.251*** (3.05)
<i>ΔLog Assets</i>	-0.346*** (-12.35)	-0.558*** (-15.34)	-0.612*** (-13.72)	-0.700*** (-13.89)	-0.447*** (-20.47)	-0.640*** (-19.38)	-0.628*** (-16.17)	-0.687*** (-15.13)
<i>ΔLeverage</i>	0.243*** (3.17)	0.601*** (6.21)	0.638*** (5.54)	0.776*** (5.98)	0.367*** (5.86)	0.571*** (7.40)	0.626*** (6.85)	0.750*** (7.48)
<i>ΔCAPX/Assets</i>	-0.655*** (-3.67)	-0.976*** (-5.13)	-0.851*** (-4.35)	-0.847*** (-3.89)	-0.719*** (-5.05)	-0.795*** (-4.38)	-0.792*** (-4.18)	-1.005*** (-5.00)
<i>ΔR&D/Assets</i>	0.411 (1.39)	0.789** (2.22)	0.382 (1.11)	-0.351 (-1.08)	0.0455 (0.28)	0.248 (1.35)	-0.0234 (-0.12)	-0.536** (-2.47)
<i>ΔPPE/Assets</i>	-0.00520 (-0.04)	0.192 (1.14)	0.290 (1.50)	0.181 (0.82)	-0.232** (-2.07)	0.0692 (0.42)	-0.00100 (-0.01)	0.164 (0.85)
N	26,835	23,234	20,177	17,588	36,467	30,974	26,372	22,415
R-sq	0.038	0.060	0.055	0.054	0.069	0.082	0.074	0.067

Panel C. Changes in Firm Value and Reincorporations Into and Out of Managerial States

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable:	<i>ΔTobin's Q (Median-Adjusted at the Industry-Year Level)</i>							
Sample	All firms not incorporated in MS before the change				All firms incorporated in MS before the change			
Years ahead for change	1	2	3	4	1	2	3	4
<i>ΔMS*INTO</i>	0.218*** (3.16)	0.219** (2.51)	0.262*** (3.05)	0.351*** (3.32)				
<i>ΔMS*OUT</i>					-0.0435 (-0.48)	-0.120 (-1.09)	-0.0931 (-0.67)	-0.168 (-1.09)
<i>ΔLog Assets</i>	-0.434*** (-22.31)	-0.645*** (-22.38)	-0.653*** (-19.22)	-0.719*** (-18.14)	-0.312*** (-8.37)	-0.465*** (-10.22)	-0.494*** (-8.41)	-0.592*** (-9.26)
<i>ΔLeverage</i>	0.365*** (6.41)	0.596*** (8.42)	0.655*** (7.83)	0.786*** (8.49)	0.167* (1.86)	0.523*** (4.85)	0.520*** (3.87)	0.660*** (4.41)
<i>ΔCAPX/Assets</i>	-0.742*** (-5.90)	-0.935*** (-6.11)	-0.905*** (-5.76)	-0.942*** (-5.60)	-0.501** (-2.06)	-0.586** (-2.41)	-0.467* (-1.80)	-0.900*** (-3.03)
<i>ΔR&D/Assets</i>	0.0620 (0.41)	0.212 (1.25)	-0.133 (-0.74)	-0.643*** (-3.32)	0.752* (1.91)	1.757*** (3.07)	1.717*** (3.43)	0.554 (1.07)
<i>ΔPPE/Assets</i>	-0.144 (-1.36)	0.163 (1.16)	0.145 (0.96)	0.150 (0.87)	-0.155 (-1.00)	-0.0807 (-0.42)	-0.0528 (-0.23)	0.197 (0.85)
N	47,755	40,685	34,754	29,691	15,547	13,523	11,795	10,312
R-sq	0.064	0.080	0.072	0.065	0.031	0.053	0.048	0.050

TABLE 5: FIRM VALUE AND DELAWARE INCORPORATION– REVERSE CAUSALITY TEST.

Table 5 presents reverse causality regressions to explain the decision to incorporate into Delaware at the IPO stage (in Columns (1) and (2)) and the decision to reincorporate into or out of Delaware subsequently (in Columns (3) and (4)) as a function of the valuation of the firm (as captured by Q) plus other characteristics. Columns (1) - (2) include a sample of 3,724 IPOs and use logit regressions for whether or not the firm incorporates into Delaware at the IPO. Columns (3) - (4) include our full sample and use Cox proportional hazard models (see Greene, 2000), reporting the marginal likelihood of the hazard ratio using robust standard errors clustered at the firm level, adjusting the Tobin's Q for the median Q that year of all firms in our sample with the same 4-digit SIC industry code. All columns also include the following controls: *Log Assets*, *Leverage*, *CAPX/Assets*, *R&D/Assets*, *Engaged in R&D*, *PPE/Assets*. All variables are defined in Table 1. The sample in the table refers to the time period 1994-2012. T-statistics 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.

	(1)	(2)	(3)	(4)
	Logit		COX	
	Dependent: <i>DE</i>	<i>DE</i>	Enter DE	Leave DE
Sample	IPO	IPO	Outside DE	DE Incorp.
Fixed Effects	No	Year	No	No
<i>Tobin's Q</i>	0.025*** (5.23)	0.025*** (4.91)	0.057 (0.89)	-0.080 (1.50)
<i>MS</i>			0.037 (0.16)	
<i>CA</i>			5.419*** (3.24)	
<i>Log Assets</i>	0.069*** (12.48)	0.062*** (10.61)	0.074 (1.20)	-0.004 (0.87)
<i>Leverage</i>	-0.212*** (5.69)	-0.195*** (5.08)	-0.319 (0.73)	0.112 (1.39)
<i>CAPX/Assets</i>	-0.263** (2.10)	-0.310** (2.34)	2.863 (1.58)	0.025 (0.08)
<i>R&D/Assets</i>	0.551*** (5.60)	0.511*** (5.18)	2.944*** (2.89)	-0.841 (1.77)
<i>Engaged in R&D</i>	0.008 (0.47)	0.013 (0.68)	-0.118 (0.54)	0.039 (1.55)
<i>PPE/Assets</i>	0.166*** (3.18)	0.185*** (3.44)	-0.893 (1.55)	-0.223 (1.77)
N	3,724	3,724	35,792	50,001
Pseudo R-sq	0.057	0.0731	0.0759	0.0626

**TABLE 6. FIRM VALUE AND DELAWARE INCORPORATION –
INCORPORATIONS AND REINCORPORATIONS OF IPOs**

Table 6 presents pooled panel Tobin's Q regressions for 3,724 firms that are in our 1994-2012 sample starting with their IPO. This "IPO sample" contains 184 reincorporations, 126 into Delaware and 56 out of Delaware. Column (1) presents results for the association between *DE* and firm value using year and industry fixed effects. Column (2) adds the dummy *DE@IPO*, which is equal to one for firms incorporated into Delaware at their IPO that are still incorporate into Delaware, to disentangle the effect on firm value for such firms versus firms incorporated into Delaware at their IPO that are no longer incorporated into Delaware. Column (3) presents results for the association between *DE* and firm value using year and firm fixed effects. Like Column (2), Column (4) adds the dummy *DE@IPO*, but with year and firm fixed effects. All columns also include the following controls: *Log Assets*, *Leverage*, *CAPX/Assets*, *R&D/Assets*, *Engaged in R&D*, *PPE/Assets*. All independent and control variables are defined in Table 1. T-statistics 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.

	(1)	(2)	(3)	(4)
Dependent variable:	<i>Tobin's Q</i>			
<i>DE</i>	-0.0112 (-0.28)	-0.257*** (-3.19)	-0.512*** (-4.78)	-0.638*** (-4.25)
<i>DE@IPO</i>		0.261*** (3.38)		0.345* (1.71)
<i>Log Assets</i>	-0.0598*** (-5.04)	-0.0609*** (-5.08)	-0.313*** (-11.02)	-0.313*** (-10.89)
<i>Leverage</i>	-0.211*** (-2.75)	-0.210*** (-2.71)	-0.262*** (-2.97)	-0.255*** (-2.88)
<i>CAPX/Assets</i>	3.022*** (13.16)	3.032*** (13.04)	1.658*** (6.56)	1.700*** (6.60)
<i>R&D/Assets</i>	1.495*** (10.28)	1.480*** (10.11)	0.00483 (0.02)	0.0110 (0.05)
<i>Engaged in R&D</i>	0.148*** (-2.83)	0.153*** (-2.88)	-0.0837 (0.89)	-0.0997 (1.06)
<i>PPE/Assets</i>	-1.135*** (-9.38)	-1.135*** (-9.29)	-1.307*** (-6.51)	-1.339*** (-6.61)
Fixed effects	Year, Industry		Year, Firm	
N	22,072	22,072	22,072	22,072
R-sq	0.311	0.313	0.607	0.608

TABLE 7. FIRM VALUE AND CORPORATE LAW – TESTING THE LIMITED COMMITMENT PROBLEM

Table 7, Panel A and Panel B shows the results of pooled panel Tobin’s Q regressions on, respectively, *DE* and *MS* with the interactions with variables that capture firms for which the limited commitment problem is most pertinent: *Engaged in R&D*, *Large Customers*, *Contract Specificity*, and *Relationship Industry*. We always include the following controls: *Log Assets*, *Leverage*, *CAPX/Assets*, *R&D/Assets*, *Engaged in R&D*, *PPE/Assets*. The sample period is 1994-2012. We include year and firm fixed effects. All variables are defined in Table 1. Robust standard errors are clustered at the firm level. T-statistics 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.

Panel A. Limited Commitment Proxies Interactions with Delaware Incorporation

	(1)	(2)	(3)	(4)
Dependent variable:	<i>Tobin’s Q</i>			
<i>DE</i>	-0.315*** (-5.15)	-0.225*** (-4.06)	0.445 (1.38)	-0.210*** (-3.48)
<i>DE*Engaged in R&D</i>	-0.154** (-2.52)			
<i>DE*Large Customer</i>		-0.101*** (-3.27)		
<i>DE*Contract Specificity</i>			-1.150** (-2.16)	
<i>DE*Relationship Industry</i>				-0.113** (-2.04)
<i>Large Customer</i>		-0.0243 (-1.04)		
<i>Contract Specificity</i>			13.78 (0.55)	
<i>Engaged in R&D</i>	0.123** (2.33)	0.0468 (1.19)	0.0322 (0.43)	0.0375 (0.96)
Standard Controls Included	Yes	Yes	Yes	Yes
Fixed Effects	Year, Firm	Year, Firm	Year, Firm	Year, Firm
N	85,850	85,850	21,664	85,850
R-sq	0.618	0.619	0.592	0.613

Panel B. Limited Commitment Proxies interactions with Managerial State Incorporation

	(1)	(2)	(3)	(4)
Dependent variable:				
		<i>Tobin's Q</i>		
<i>MS</i>	0.294*** (4.42)	0.223*** (3.59)	-0.133 (-0.59)	0.207*** (2.70)
<i>MS*Engaged in R&D</i>	0.136** (2.00)			
<i>MS*Large Customer</i>		0.0820** (2.45)		
<i>MS*Contract Specificity</i>			0.626 (1.44)	
<i>MS*Relationship Industry</i>				0.0775 (1.14)
<i>Large Customer</i>		-0.106*** (-5.53)		
<i>Contract Specificity</i>			3.924 (0.22)	
<i>Engaged in R&D</i>	0.00568 (0.13)	0.0386 (0.98)	0.0455 (0.61)	0.0411 (1.05)
Standard Controls Included	Yes	Yes	Yes	Yes
Fixed Effects	Year, Firm	Year, Firm	Year, Firm	Year, Firm
N	85,850	85,850	21,664	85,850
R-sq	0.618	0.618	0.591	0.613

**TABLE 8. FIRM VALUE AND CORPORATE LAW –
TESTING THE TRADEOFF BETWEEN THE LIMITED COMMITMENT PROBLEM AND MANAGERIAL
MORAL HAZARD**

Table 8 presents the results for pooled panel Tobin's Q regressions on *DE* and *MS* dummies respectively with the interactions with variables that capture firms for which the tradeoff between the limited commitment problem and managerial moral hazard is likely to be more severe. The interacted variables include *M&A in Industry* (with *DE* in Column (1) and *MS* in Column (2)) and *5% Block Ownership* (with *DE* in Column (3) and *MS* in Column (4)). We always include the following controls: *Log Assets*, *Leverage*, *CAPX/Assets*, *R&D/Assets*, *Engaged in R&D*, *PPE/Assets*. The sample period is 1994-2012. All variables are defined in Table 1. Robust standard errors are clustered at the firm level. T-statistics 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.

	(1)	(2)	(3)	(4)
Dependent variable:	<i>Tobin's Q</i>			
<i>DE</i>	-0.296*** (-4.87)		-0.223*** (-3.98)	
<i>DE*M&A in Industry</i>	0.301** (2.57)			
<i>DE*5% Block Ownership</i>			-0.306*** (-3.02)	
<i>MS</i>		0.277*** (4.07)		0.207*** (3.24)
<i>MS*M&A in Industry</i>		-0.409*** (-2.95)		
<i>MS*5% Block Ownership</i>				0.394*** (3.57)
<i>M&A in Industry</i>	-0.465*** (-4.89)	-0.182*** (-2.77)		
<i>5% Block Ownership</i>			-0.142* (-1.77)	-0.433*** (-7.28)
Standard Controls Included	Yes	Yes	Yes	Yes
Fixed Effects	Year, Firm	Year, Firm	Year, Firm	Year, Firm
N	85,826	85,826	85,826	85,826
R-sq	0.609	0.609	0.619	0.619

TABLE 9. CORPORATE LAW AND CEO TURNOVER

Table 9 summarizes analysis from logistic regressions relating the occurrence of *Forced CEO Turnover* in Columns (1) and (2) and *CEO Turnover* in Columns (3) and (4) to key independent variables. As key independent variables we include: *DE*, *MS*, *Abnormal Returns*, and their interaction. We obtain *Forced CEO Turnover* and *CEO Turnover* from the data file used by Jenter and Kanaan (2010). The coefficients presented are of the marginal likelihoods. Standard errors are clustered at the firm level. All independent and control variables are defined in Table 1. T-statistics 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.

	(1)	(2)	(3)	(4)
Dependent variable in Logit:	<i>Forced CEO Turnover</i>		<i>CEO Turnover</i>	
<i>Abnormal Return</i>	-1.835*** (4.57)	-2.562** (2.07)	-0.475*** (6.04)	-0.652*** (4.12)
<i>DE</i>	-0.020 (0.09)	0.092 (0.22)	-0.124** (1.94)	-0.088 (1.24)
<i>MS</i>	-0.026 (0.10)	0.395 (0.67)	-0.048 (0.63)	-0.025 (0.30)
<i>Abnormal Return*DE</i>		0.295 (0.36)		0.230 (1.33)
<i>Abnormal Return*MS</i>		1.397 (1.21)		0.134 (0.64)
# of forced turnovers	141			
# of turnovers			894	
N	9,251	9,251	39,326	39,326

**TABLE 10. FIRM VALUE AND CORPORATE LAW –
DELAWARE REINCORPORATION, SHAREHOLDER RIGHTS, AND DUAL CLASS STOCK.**

Table 10 shows the results of pooled panel Tobin's Q regressions on *DE* with the interactions with variables that capture firms for which the limited commitment problem is likely to be less relevant. The interacted variables include the *G-Index* and *Dual Class*. Odd columns include year and industry fixed effects, while even columns include year and firm fixed effects. We also always include the following controls: *Log Assets*, *Leverage*, *CAPX/Assets*, *R&D/Assets*, *Engaged in R&D*, *PPE/Assets*. The sample period is 1978-2007. Individual interactions vary in their availability, as noted by the observation count and year span for each estimated column. All variables are defined in Table 1. Robust standard errors are clustered at the firm level. T-statistics 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.

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	<i>Tobin's Q</i>					
<i>DE</i>	-0.0492*	-0.143**	-0.101***	-0.157**	-0.0406	-0.158**
	(-1.84)	(-2.21)	(-3.01)	(-2.38)	(-1.51)	(-2.58)
<i>G-Index*DE</i>			0.00782*	0.0112*		
			(1.85)	(1.62)		
<i>G-Index</i>			-0.0204***	-0.0158**		
			(-3.79)	(-2.33)		
<i>DE*Dual Class</i>					0.0810	0.263**
					(0.91)	(2.00)
<i>Dual Class</i>					-0.129**	-0.141**
					(-2.07)	(-2.34)
<i>Log Assets</i>	0.0301***	-0.164***	0.0333**	-0.165***	0.0268***	-0.174***
	(2.81)	(-6.84)	(3.06)	(-6.52)	(2.58)	(-7.62)
<i>Leverage</i>	-0.445***	0.0314	-0.442***	0.0363	-0.423***	0.0611
	(-5.67)	(0.40)	(-5.51)	(0.44)	(-5.49)	(0.83)
<i>CAPX/Assets</i>	2.547***	1.330***	2.451***	1.310***	2.685***	1.434***
	(10.24)	(6.92)	(9.82)	(6.66)	(10.49)	(7.37)
<i>Engaged in R&D</i>	-0.0204	-0.0989**	-0.00988	-0.0871**	-0.0330	-0.0863**
	(0.62)	(2.30)	(0.30)	(1.97)	(0.99)	(2.11)
<i>R&D/Assets</i>	2.641***	0.00282	2.529***	0.0869	2.736***	0.0294
	(4.11)	(0.00)	(3.90)	(0.10)	(4.40)	(0.04)
<i>PPE/Assets</i>	-0.530***	-0.330***	-0.504***	-0.303***	-0.528***	-0.371***
	(-5.12)	(-3.22)	(-4.80)	(-2.84)	(-5.28)	(-3.66)
Fixed Effects:	Year, Industry	Year, Firm	Year, Industry	Year, Firm	Year, Industry	Year, Firm
N	22,139	22,139	21,435	21,435	23,939	23,939
R-sq	0.441	0.714	0.444	0.715	0.431	0.710