American Economic Journal: Microeconomics 2020, 12(2): 60–98
https://doi.org/10.1257/mic.20180056

Regulatory Competition and the Market for Corporate Law[†]

By Ofer Eldar and Lorenzo Magnolfi*

This article develops an empirical model of firms' choice of corporate laws under inertia. Delaware dominates the incorporation market, though recently Nevada, a state whose laws are highly protective of managers, has acquired a sizable market share. Using a database of firm incorporation decisions from 1995 to 2013, we show that most firms dislike protectionist laws, such as anti-takeover statutes and liability protections for officers, and that Nevada's rise is due to the preferences of small firms. Consistent with the bonding hypothesis, our estimates indicate that despite inertia, Delaware would lose significant market share and revenues if it adopted protectionist laws.
(*JEL* G34, G38, K21, K22, L25, L51)

There is a longstanding debate in corporate law and governance over the merit of competition for corporate laws. US firms may choose to incorporate in any state, and each state's corporate laws may embed a different set of corporate governance rules. The debate has traditionally been divided between those who believe competition for charters produces efficient corporate laws that maximize firm value (e.g., Winter 1977, Romano 1985, Easterbrook and Fischel 1991, Romano 1993), and others who argue that legal regimes produced by state competition may benefit managers at the expense of shareholders' interests (e.g., Cary 1974, Bebchuk 1992, Bebchuk and Ferrell 1999, Barzuza 2012). Delaware famously dominates the market for incorporations (with more than 60 percent of total incorporations). Proponents of regulatory competition emphasize that Delaware, a state that offers laws that facilitate takeover activity and has a specialized judiciary known for its corporate law expertise, is the winner of this race. Critics, on the other hand, emphasize that many states manage to retain large domestic corporations by offering anti-takeover laws that protect managers, and point to the recent rise in the market share of Nevada, a state that offers very protectionist laws that exempt managers

*Eldar: Duke University, 210 Science Drive, Durham NC, 27708 (email: eldar@law.duke.edu); Magnolfi: University of Wisconsin-Madison, 1180 Observatory Drive, Madison WI, 53706 (email: magnolfi@wisc.edu).
John Asker was coeditor for this article. We thank the coeditor, three anonymous referees, Ian Ayres, Michal Barzuza, Steve Berry, Emiliano Catan, Martijn Cremers (discussant), Robert Daines (discussant), Gary Gorton, Sean Griffith, Phil Haile, Liang Hao (discussant), Henry Hansmann, Mitsuru Igami, Kathleen Kahle (discussant), Ehud Kamar, Elisabeth Kempf, Josh Lerner, Yair Listokin, Andrew Metrick, John Morley, Justin Murfin, Marina Neissner, Roberta Romano, Matthew Spiegel, Eric Talley, and participants in seminars at Chicago, Duke, Georgetown, Hebrew University, Northwestern, Stanford, Tel-Aviv University, the IFABS Corporate Finance conference at Oxford Said Business School, the PhD Forum in the Australasian Finance & Banking Conference at UNSW Business School, the 2016 Conference on Empirical Legal Studies, the 6th EIEF-UNIBO-IGIER Bocconi Workshop on Industrial Organization, the 2018 annual meeting of the American Law & Economics Association, and the 2018 Weil Gotshal Roundtable at Yale Law School for valuable comments and conversations.

[†]Go to https://doi.org/10.1257/mic.20180056 to visit the article page for additional materials and author disclosure statement(s) or to comment in the online discussion forum.

from liability for breach of fiduciary duties. Finally, skeptics of competition argue that it is impossible for states to compete with Delaware by simply replicating its laws, and that relatively few firms reincorporate from one state to another (Klausner 1995, Kamar 1998, Kahan and Kamar 2002, Bebchuk and Hamdani 2002).

In this article, we weigh in on this debate by estimating whether firms prefer to be governed by laws that are relatively shareholder-friendly or laws that primarily protect managers' interests.[1] More importantly, we evaluate the intensity of competition by examining whether these preferences are strong enough to generate shifts in market shares when states change their corporate laws. If demand for corporate law is inelastic, firms care little about whether corporate laws facilitate takeovers or entrench managers, and such laws have a limited effect on firms' incorporation decisions. On the other hand, if firms do express preferences for a particular set of laws, then the question is how strong these preferences are, and whether they can generate shifts in market share despite the apparent inertia in firms' incorporation decisions. For example, if firms strongly prefer protectionist laws, there is a concern that managers influence firms to incorporate in states whose laws advance managers' interests at the expense of shareholder welfare, and that states could attract market share by offering more protection for managers. By contrast, if firms manifest preferences for incorporating under less protectionist laws, this is evidence that managers yield to shareholders' pressure to adopt laws that facilitate takeovers and the monitoring of management, and thus regulatory competition generates laws that promote shareholders' welfare.

In order to address these questions, we develop a structural model of firms' incorporation decisions over time in the spirit of models of demand in industrial organization (see Ackerberg et al. 2007). We estimate the model using novel panel data on public firms' states of incorporation from 1995 to 2013, which we create by parsing public disclosure documents available on the Securities Exchange Commission website. In our model, heterogeneous firms may choose to incorporate in one of 51 states each year, and states' laws are treated as bundles of characteristics, such as anti-takeover statutes and laws that protect managers from liability.

A key feature of the model is that firms' decisions may be subject to "rational" inertia. Given that most firms tend to stay incorporated in the same state, it is unrealistic to assume that each firm makes a new incorporation decision every year. Firms may be sluggish to respond to legal changes, and thus failure to reincorporate following legal changes does not necessarily imply indifference to the substance of the law. Thus, we assume that after the initial incorporation decision, each firm makes a choice regarding its state of incorporation with only some probability. This probability, which depends on the availability of more attractive legal systems and random cost shocks to firms' decision-making, is estimated from the data. By adding the inertia element, we identify firms' preferences primarily from those firm-year observations in which firms make conscious incorporation decisions, rather than stay in the same state. The model we develop is related to recent models of decision-making that allow for rational inertia in other contexts, such as consumers' inattention to

[1] Following Romano (1985), Bebchuk and Cohen (2003), and Barzuza and Smith (2014), we treat firms as consumers and corporate governance laws as products.

cars' energy efficiency (Sallee 2014) and choices of Medicare Part D plans (Ho, Hogan, and Scott Morton 2017).

Our main finding is that inertia in decision-making camouflages the extent to which firms may prefer particular corporate governance provisions. Firms of average size and institutional ownership show strong dislike for protectionist laws, such as anti-takeover statutes, and laws that protect officers from liability. Aversion for these laws is particularly strong for large firms with high institutional shareholding, and it increases when the takeover activity in the relevant industry increases. More importantly, the model enables us to consider where firms would incorporate following counterfactual changes in states' laws. Our counterfactual analysis indicates that if Delaware changed its laws to adopt stronger anti-takeover protections, it could lose about 10 percent of its market share and between $35 and $62 million in franchise taxes per year. This suggests that Delaware faces substantial pressure on the demand side to maintain shareholder-friendly laws. Thus, the results cast doubt on the race to the bottom view that regulatory competition benefits managers at the expense of shareholders. The findings are consistent with other studies of regulatory competition that support the "bonding" hypothesis, which asserts that managers are willing to commit to stronger shareholder monitoring to attract capital (Doidge, Karolyi, and Stulz 2004; Karolyi and Taboada 2015).

We further find evidence that regulatory competition promotes market segmentation and regulatory diversity by allowing heterogeneous firms to self-select into different corporate governance regimes (Barzuza 2012). While the recent shift of firms to Nevada is mainly due to its strong liability protections for officers, such protections appeal to the preferences of small firms with low institutional shareholding. Therefore, Nevada does not seem to create pressure on Delaware to cater to managerial interests, as Delaware's revenues derive primarily from larger firms that pay higher franchise fees. While larger firms with high institutional shareholding favor market-oriented laws that give relatively strong protection to shareholders, a segment of small firms have stronger preferences for laws that cater to managerial interests.

Several factors make the market for corporate laws relatively static and reduce the likelihood of reincorporations and market share shifts. In particular, Delaware derives much of its market power from unobservable benefits, presumably the quality of its courts and network benefits, which we include in our model as time-invariant fixed effects. Thus, we show in counterfactuals that states cannot compete with Delaware by copying its statutory code, as many skeptics of competition predict. In fact, we even predict that Nevada would lose market share if it adopted Delaware's shareholder-friendly laws. Moreover, we find that firm incorporation decisions are subject to significant inertia, and firms have a strong tendency to incorporate in the state where they are located. However, our results indicate that despite the large Delaware fixed effect and inertia in decision-making, there is significant competitive pressure on Delaware to provide adequate protection to shareholders.

Our study is related to a vast literature in law and economics on regulatory competition for corporate charters. In particular, we build on existing studies of the determinants of incorporation decisions (Daines 2002; Subramanian 2002; Bebchuk

and Cohen 2003; Kahan 2006; Broughman, Fried, and Ibrahim 2014).[2] Whereas these studies focus on cross-sectional analysis and mainly assess preferences for anti-takeover statutes, our model exploits changes in legal regimes over time, extends the analysis to liability protection laws, and incorporates inertia in decision-making to account for the stickiness of incorporation decisions.

The existing empirical studies largely support two theories of regulatory competition. The first theory is that firms prefer to incorporate in the same state as other firms to benefit from network externalities, learning benefits (Klausner 1995, Kahan and Klausner 1997, Kamar 1998, Kahan and Kamar 2002), and familiarity of the law (Broughman, Fried, and Ibrahim 2014).[3] On this view, the substance of corporate law matters relatively little for incorporation decisions, and Delaware is bound to maintain its position irrespective of the substance of its laws. In support of this theory, several studies find no statistically significant association between anti-takeover statutes of firms' home states and out-of-state incorporations, primarily into Delaware (Daines 2002; Kahan 2006; Broughman, Fried, and Ibrahim 2014).

However, there are reasons to believe that demand for corporate law is more elastic than Delaware's dominance suggests. There is evidence that Delaware's legislature has been particularly responsive in adapting its corporate laws to business needs (Romano 1985). Additionally, there is anecdotal evidence that Delaware attracted incorporations by liberalizing its director liability statute in 1967 and 1986 (Moodie 2004). Recently, Nevada has acquired a small but significant market share of incorporations following changes to its laws in 2001 that exempted managers from liability for breach of fiduciary duties (Barzuza 2012). The segmentation of the market into Delaware's market-oriented law and Nevada's protectionist regime suggests that firms do respond to legal changes.

Moreover, the existing literature has seemingly ignored another source of inertia—corporate decision-making. After firms make initial incorporation decisions, they rarely reconsider the state of incorporation. While firms generally know the key features of states' laws, incorporation decisions require them to do a full analysis of all aspects of states' laws. Firms are unlikely to bear these costs unless there is an alternative law that appears to be attractive to the firm, or if some other circumstances make it costly for the firm to reconsider its incorporation choice (e.g., the board is too preoccupied with business strategy and has no resources to evaluate the possibility of reincorporating). This kind of inertia may lead firms to respond slowly to legal changes.[4] By incorporating such inertia into our model, we are able to uncover firms' implicit preferences for corporate law, and show that demand for corporate law is elastic.

A second influential body of literature argues that firms prefer to incorporate in states that protect managers' interests at the expense of shareholders. In particular,

[2] The literature, like this article, focuses on public corporations; for analysis of the incorporation choices of private firms, see Damman and Schündeln (2011).

[3] Network externalities include interpretative certainty arising from the likelihood that legal rules will be litigated and clarified in the future, the accumulation of business practice, and the availability of legal advice. Learning benefits emanate from the large body of legal precedents that increase the predictability of the law. Network externalities and learning benefits further make law firms, investors, and managers more familiar with Delaware law.

[4] This type of inertia is also consistent with behavioral preferences toward the status quo, anchoring effects, and herd behavior that militate toward inertia (see Kahan and Klausner 1997).

using cross-sectional variation in states' laws, Bebchuk and Cohen (2003) find that firms are more likely to incorporate in their home state (and less likely to incorporate in Delaware) if that state adopts anti-takeover statutes. It is questionable, however, whether firms actually prefer laws that favor managers. After all, most firms choose to incorporate in Delaware, which is less protective of managers than other states. As discussed below, while Delaware courts permit firms to use anti-takeover devices, Delaware is generally regarded as takeover-friendly compared to other states that have adopted many anti-takeover laws and apply a lenient standard of review to anti-takeover devices (Romano 2006, Barzuza 2009). If anti-takeover statutes attracted more firm incorporations, then states that adopted such statutes would increase their market share of incorporations, or at least prevent local firms from reincorporating in Delaware. However, as we show below, states that adopted anti-takeover statutes actually experienced a decline in market shares.[5] A limited model of decision-making in which firms either stay in their headquarter states or move to Delaware may fail to identify the preferences of the average firm that chooses to incorporate in Delaware. Accordingly, in order to estimate the direction and intensity of firms' preferences, our study incorporates the full menu of options available to different firms across time.

Furthermore, unlike most studies that focus only on anti-takeover statutes, this study takes into account laws that protect managers from liability. States vary in the level of liability protection they afford to directors and officers. Although Delaware was one of the first states to enact a provision that allowed firms to exempt their directors from liability for the duty of care (Romano 1985, Moodie 2004), other states have taken a more protectionist approach by permitting exemptions from liability for the duty of loyalty. As noted above, there is evidence that states such as Delaware and Nevada have attracted incorporations by expanding the exemptions available to managers for violations of fiduciary duties.[6] Accordingly, we construct a new index of liability protection that measures the extent to which firms are allowed to exempt directors and officers from liability and indemnify them for such liability. In this respect, we are able to test the hypothesis that states, especially Nevada, can increase their market shares by extending favorable protections to managers.

Our study goes further than existing studies in other important respects. Our model of incorporation decisions takes into account how heterogeneity of firm characteristics, whether firm size or ownership structure, affects firms' preferences for different legal regimes. Barzuza and Smith (2014) show descriptive evidence that Nevada firms tend to be relatively small with low institutional shareholdings, and that Delaware firms tend to be larger and have significant institutional ownership. Accordingly, it seems that large firms generally prefer shareholder-friendly laws, while smaller firms prefer laws that protect managers. Moreover, the preferences for

[5] Bebchuk and Cohen (2003) rely on cross-sectional data from 1999, and therefore cannot include state fixed effects in their logit regressions. Therefore, as argued by Kahan (2006), their study does not account for unobservable state factors and the impact of legal changes on firms' decision-making. When running a similar logit model using our panel data and including state fixed effects, the coefficient on anti-takeover statutes is negative and statistically significant (see Section 6.C of the online Appendix).

[6] In addition, many proxy statements of firms that reincorporate into another state expressly say that the extent to which the new state's law affords adequate protection to managers is one reason for the reincorporation (Heron and Lewellen 1998, Eldar 2018).

or against anti-takeover laws may increase or decrease depending on the takeover environment. The takeover environment may also affect preferences for liability protections. Research shows that the risk of corporate litigation is larger when takeovers take place (Romano 1990, Krishnan et al. 2012, Cain and Davidoff 2014), and managers often seek insurance policies to address this risk (Fleischer and Sussman 2015). Our study estimates how firms' preferences for different legal regimes interact with the level of takeover activity.

Although this is not our primary endeavor, our article also contributes to a wide literature that shows that institutional shareholders have an impact on corporate governance and mitigating agency costs. For example, there is evidence that institutions are instrumental in passing shareholder proposals (Gillian and Starks 2000), and that they exercise power over management behind the scenes through the threat of exit (McCahery, Sautner, and Starks 2016). There is also recent anecdotal evidence that activist investors require firms to reincorporate in Delaware as part of the pressure they place on boards to improve corporate governance (Kaskey 2017; Chiu, Polk, Wardwell LLP 2017). Our results with respect to the preferences of firms with high institutional shareholding are robust to specifications that include instrumental variables; specifically, following Aghion, Van Reenen, and Zingales (2013), we use inclusion in the S&P index as an instrument for institutional shareholding.

Finally, from a policy perspective, our findings are critical for assessing the desirability of regulatory competition. In particular, they suggest that the outcomes of competition are primarily shaped by shareholders' interests rather than managerial rent-seeking (Romano 2017). Although we do not examine in this article whether firms' choices enhance shareholder value, our findings fit well with evidence that Delaware incorporation is associated with positive abnormal returns (Romano 1985, Heron and Lewellen 1998, Bhagat and Romano 2002) and higher Tobin's Q (Daines 2001). Moreover, Eldar (2018) shows that even Nevada incorporations may increase shareholder value for firms that self-select into Nevada, that is, small firms with low institutional shareholding. Therefore, there is little evidence that regulatory competition harms shareholder value.

This article proceeds as follows. Section I discusses the data we use for this research. Section II lays out our choice model, compares it to other models of inertia, and explains our identification strategy. Section III discusses our main results. Section IV evaluates different counterfactuals, particularly the extent to which Delaware would lose market share if it adopted protectionist laws. Section V validates our results by showing in-sample and out-of-sample predictions. Section VI carries out several robustness tests. Section VII discusses the implications for the policy debates surrounding corporate law.

I. Data

A. *State of Incorporation and Firm Characteristics*

To identify firms' responses to legal changes in a panel setup, we need to obtain accurate data on incorporations and reincorporations for every firm-year observation. As described in Section 1 of the online Appendix, we construct a novel dataset

of firm incorporations by parsing the states of incorporation from over two million public disclosure documents available on SEC servers from 1994 to 2013. We drop firms with fewer than three firm-year observations, and we use data from 1995 because of the initial condition problem associated with using the first year in the inertia model. Similar to Daines (2001), we exclude all utility and financial firms because the corporate governance of such firms differs as a result of significant federal regulation. To our knowledge, this is the first database that parses the state of incorporation over time for largely all public firms active in the period of interest. We match the incorporation data to accounting data from Compustat, and data on institutional shareholding and managerial ownership from Thomson Reuters.[7] The final database has 83,504 firm-year observations from 8,760 firms in the years 1995–2013.

Trends in the market shares of key states are illustrated in Figures 1 and 2. Delaware's share is about 63.86 percent as of 2013, as compared with 50.09 percent in 1995. Delaware's market share of firms whose headquarters are located in a state that is not their state of incorporation (out-of-state incorporations) is even larger: 82.66 percent as of 2013, as compared with 82.80 percent in 1995. The most noticeable trend over time is the increase in Nevada's market share of all incorporations from 2.32 percent in 1995 to 8.48 percent in 2013, and of out-of-state incorporations from 2.85 percent to 9.69 percent.

While Delaware and Nevada are the most popular states of incorporation, a large number of corporations incorporate in the state of their headquarters (29.08 percent of firm-year observations). We observe 607 reincorporations, with 592 firms reincorporating at least once; 399 of these reincorporations are into Delaware directly, and 77 are into Nevada.

Table 1 compares the characteristics of Delaware and Nevada firms. Firms incorporated in Delaware are similar to the average firm in the sample in terms of size ($2.04 billion in assets as compared to $1.83 billion for the average firm) and institutional shareholding (40.26 percent as compared to 35.97 percent for the average firm). Nevada firms are significantly smaller with an average of $390.81 million in assets and relatively low average institutional ownership of 11.27 percent. Nevada firms also have a higher percentage of managerial ownership (approximately 6 percent) as compared to Delaware (approximately 4.27 percent).[8] As depicted in Figures 3, 4, and 5, the increase in Nevada's market share is mostly due to small firms with low institutional shareholding and high insider ownership.

B. *Laws' Characteristics and the Takeover Environment*

In this section we introduce the indices for states' legal characteristics, focusing on anti-takeover laws and managerial liability protections. We discuss the construction

[7] Thomson Reuters data on institutional shareholdings are sourced from 13F filings. Thomson Reuters data on managerial ownership are sourced from forms 3, 4, and 5 filings, using the same method as Panousi and Papanikolaou (2012).

[8] Our figures of managerial ownership are generally consistent with the statistics depicted by Barzuza and Smith (2014). However, we note that the data from Thomson Reuters forms 3, 4, and 5, do not appear to be accurate and can only be used as a proxy.

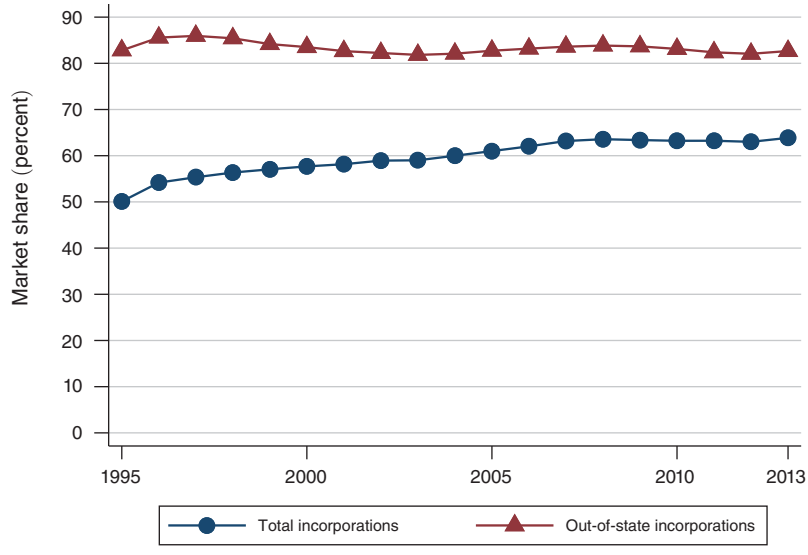

FIGURE 1. MARKET SHARES OF DELAWARE

Note: This figure shows the trends in the market share of Delaware between 1995 and 2013 among all firms and among firms that incorporate out of their home state.

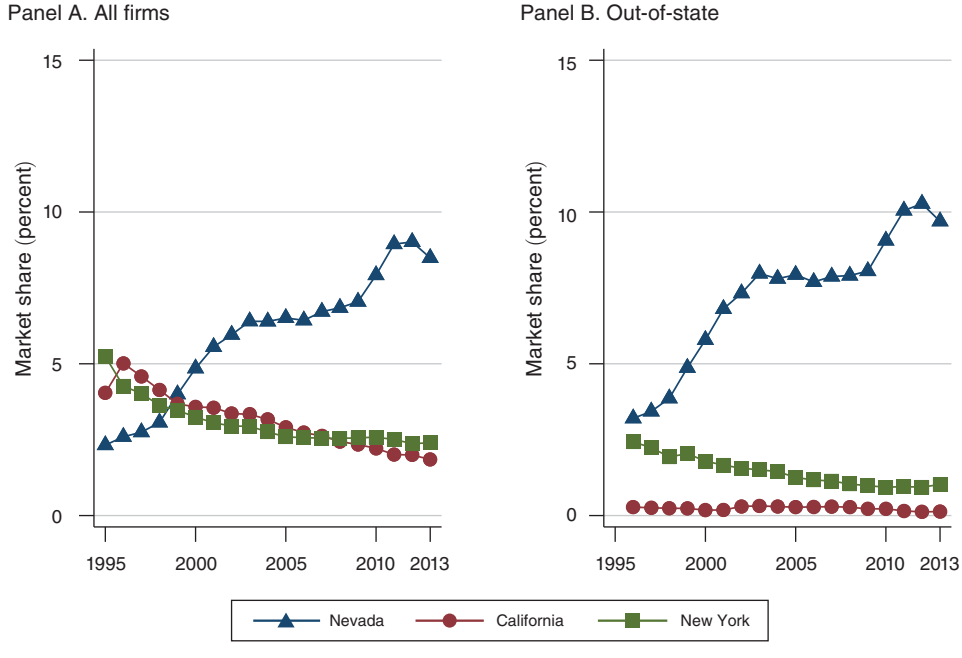

FIGURE 2. MARKET SHARES OF NEVADA, CALIFORNIA, AND NEW YORK

Notes: This figure shows the trends in the market shares of Nevada, California, and New York between 1995 and 2013. In panel A, the market share is computed using all firms, and in panel B, the market share is computed using only firms that incorporate out of their home state.

Table 1—Summary Statistics of Firm Characteristics

	Mean	Standard deviation	Median	Observations
Panel A. All firms				
Total assets ($ millions)	1,833.07	9,355.92	139.56	83,504
Sales ($ millions)	1,758.59	9,656.58	128.20	83,332
Number of employees (1,000s)	7.32	36.63	0.63	81,220
Market value ($ millions)	2,470.04	14,054.87	140.27	67,018
Institutional ownership (percent)	35.97	33.06	28.92	83,504
Managers ownership > 15 percent	0.10	0.29	0	83,504
Directors ownership > 15 percent	0.09	0.28	0	83,504
Officers ownership > 15 percent	0.07	0.25	0	83,504
Panel B. Delaware firms				
Total assets ($ millions)	2,035.37	9,995.24	195.49	49,533
Sales ($ millions)	1,909.31	10,063.51	170.34	49,438
Number of employees (1,000s)	7.86	42.96	0.77	48,505
Market value ($ millions)	2,539.27	11,957.89	211.79	40,374
Institutional ownership (percent)	40.26	33.47	36.30	49,533
Managers ownership > 15 percent	0.08	0.27	0	49,533
Directors ownership > 15 percent	0.07	0.26	0	49,533
Officers ownership > 15 percent	0.05	0.22	0	49,533
Panel C. Nevada firms				
Total assets ($ millions)	390.81	1,710.48	7.78	4,705
Sales ($ millions)	311.73	1,505.29	4.26	4,691
Number of employees (1,000s)	1.97	9.20	0.03	4,317
Market value ($ millions)	395.52	2,239.69	16.22	4,202
Institutional ownership (percent)	11.27	23.30	0	4,705
Managers ownership > 15 percent	0.14	0.35	0	4,705
Directors ownership > 15 percent	0.13	0.34	0	4,705
Officers ownership > 15 percent	0.11	0.31	0	4,705

of these indices in greater detail in Section 2 of the online Appendix. We emphasize that it is not necessary for the main claims in our article to show that states' corporate laws are consequential (for example, that anti-takeover statutes actually decrease the likelihood of takeovers). In Section 3 of the online Appendix we show some evidence that corporate laws are consequential. However, for our purposes, the critical issue is whether firms view these laws as consequential and take them into account in making incorporation decisions (see Bebchuk and Cohen 2003).

Anti-Takeover Laws.—Anti-takeover laws are laws that make takeovers difficult for bidders. In our main specification, we rely on the *ATS* index developed by Bebchuk and Cohen (2003) that counts the number of anti-takeover statutes in each state. This index has been used in most studies of the demand for corporate law (e.g., Subramanian 2002; Kahan 2006; Broughman, Fried, and Ibrahim 2014). Each state gets a score from 0 to 5 if it has one or more of the following statutes: constituency provisions, business combination statutes, control share statutes, fair price statutes, and poison pill validation laws. The definition of each of these laws can be found in Table A3 of the online Appendix. We document the *ATS* index score for each state year in our database, using the year in which the statutes were passed.

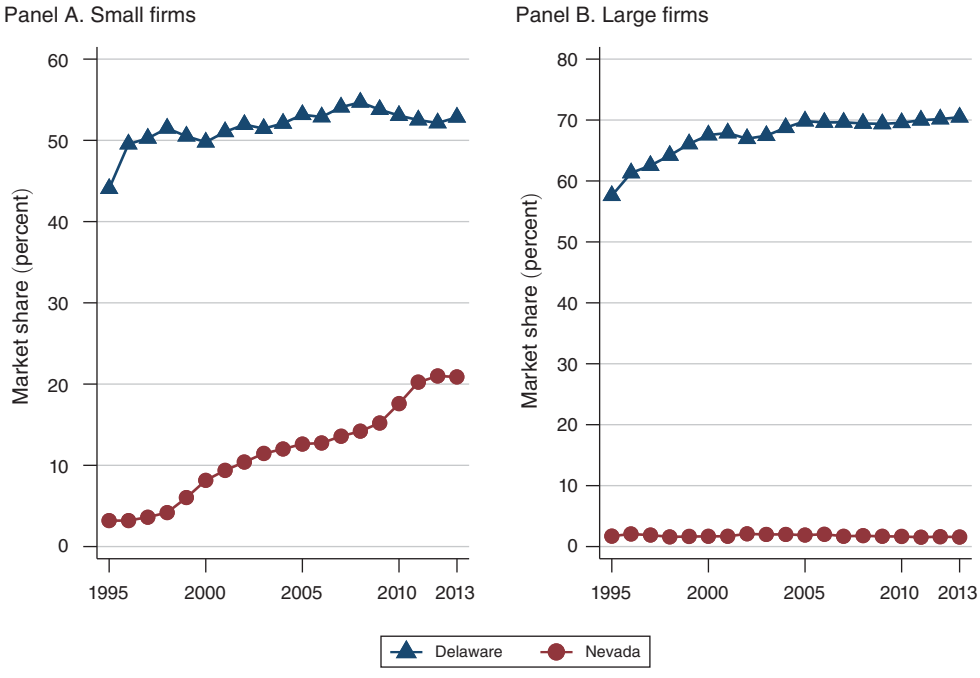

FIGURE 3. MARKET SHARES OF DELAWARE AND NEVADA FOR SMALL AND LARGE FIRMS

Notes: This figure shows the trends in Delaware and Nevada market shares between 1995 and 2013 among large and small firms. In panel A, the market share is computed using only firms with less than $100 million in total assets. In panel B, the market share is computed using only firms with more than $1 billion in total assets.

The *ATS* index has been criticized on the basis that most of the anti-takeover statutes are inconsequential in delaying or preventing takeovers. The reason is that boards are always in a position to adopt a poison pill, which is widely regarded as the most effective anti-takeover device, and once a company has a poison pill in place, other anti-takeover devices become superfluous (Coates 2000, Kahan 2006, Catan and Kahan 2016). Accordingly, as an alternative specification, we use a dummy for poison pill validation statutes. The essence of these statutes is that they protect poison pills from judicial review. Under Delaware law, poison pills are generally permitted, but they can be challenged in courts if they do not satisfy certain legal tests under the *Unocal* and *Revlon* decisions. Briefly stated, under *Unocal*, managers must be able to show that there is a threat to their firm's policy and that the defensive measure in question is proportional to the threat posed. Under the *Revlon* decision, if a sale or break-up of the company is inevitable, the board is obligated to pick the highest bid for shareholders. This level of scrutiny does not generally apply when a state has a poison pill statute (Barzuza 2009).

We also add variables that account for extreme forms of anti-takeover protection. First, we use a dummy, *Dead Hand*, for states that have statutes (i.e., Maryland and Virginia) or case law (i.e., Pennsylvania and Georgia) that validate dead hand pills. Dead hand pills are extreme forms of pills which cannot be removed by conducting a proxy fight to replace the board with a new board that will redeem the pill. We also

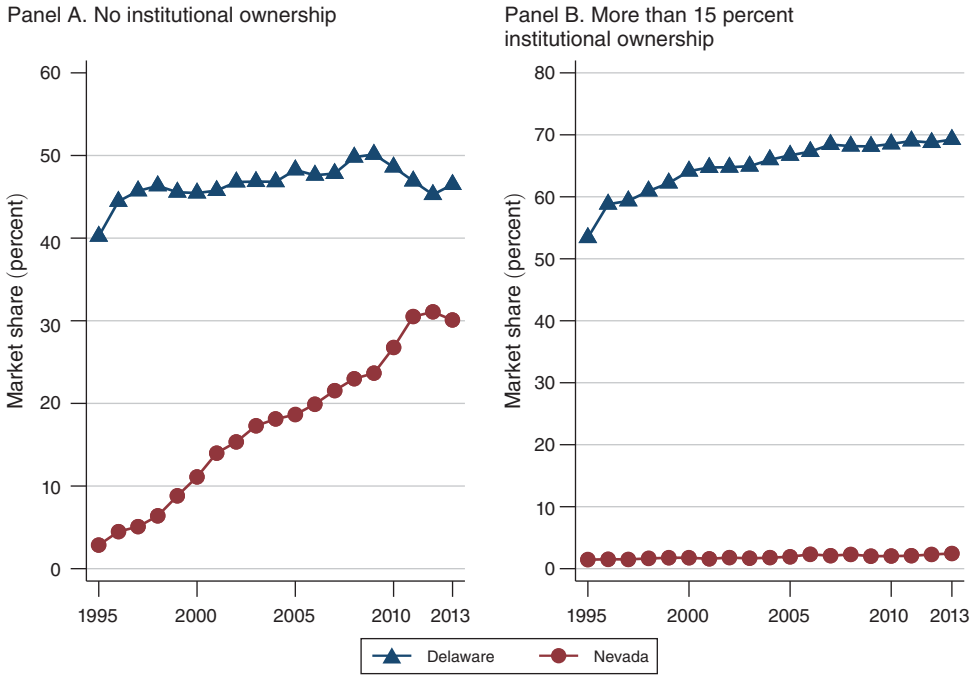

FIGURE 4. MARKET SHARES OF FIRMS WITH LOW AND HIGH INSTITUTIONAL OWNERSHIP

Notes: This figure shows the trends in Delaware and Nevada market shares between 1995 and 2013 among firms with high and low institutional ownership. In panel A, the market share is computed using only firms with no institutional ownership. In panel B, the market share is computed using only firms with at least 15 percent institutional ownership.

use a dummy, *Extreme*, which is identical to *Dead Hand*, except that it is set to one for states that have laws that impose staggered boards[9] or, in the case of one state (Maryland), allow their adoption even if contrary to the charter. This arguably represents an extreme form of takeover protection because when a firm has a staggered board, replacing the board can take several years and therefore a bid is more likely to fail (Cohen and Wang 2013).

Director and Officer Protection.—We construct a new index that measures the extent to which state laws protect directors and officers from liability. Managers can be protected in three main ways: exemption from liability, indemnification for liability out of the company's funds, and insurance. Our index focuses on exemption and indemnification because the laws of all states allow firms to insure their directors and officers to largely the same extent. States' laws relating to exemption and indemnification differ substantially across states. Because the laws of many states incorporate different standards of liability protection for directors and officers, we construct separate indices for directors ($LP\ (DIR)$) and for officers ($LP\ (OFF)$), as well as a combined index, which simply aggregates the two (LP).

[9] Until recently, only Massachusetts had such a statutory provision. More recently, Indiana enacted such a law in 2009, Oklahoma in 2010, and Iowa in 2011.

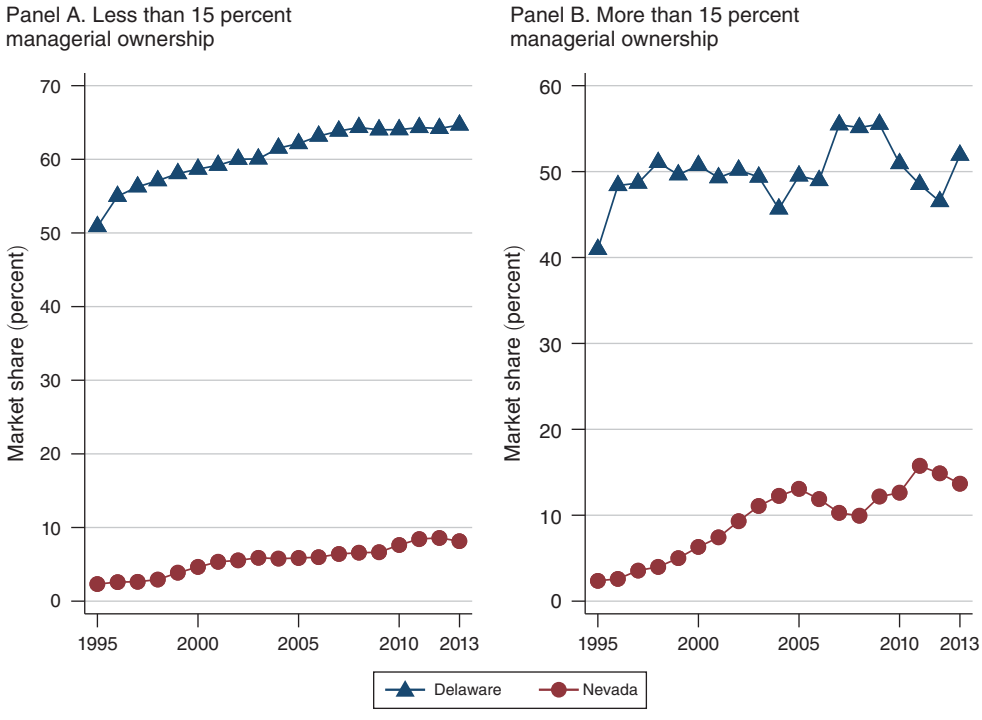

FIGURE 5. MARKET SHARE OF FIRMS WITH LOW AND HIGH MANAGERIAL OWNERSHIP

Notes: This figure shows the trends in Delaware and Nevada market shares between 1995 and 2013 among firms with high and low managerial stock ownership. In panel A, the market share is computed using only firms with less than 15 percent managerial ownership. In panel B, the market share is computed using only firms with at least 15 percent managerial ownership.

With respect to exemption, the statutes of most states allow firms to adopt a charter provision that exempts managers from liability for breaching their duty of care. Duty of care is associated with a gross negligence standard, but is generally protected by the business judgment rule, according to which, courts will not second-guess the business judgment of corporate managers. Under section 102(b)(7) of Delaware General Corporation Law, Delaware firms may exempt directors, but not officers, from the duty of care. Other states, such as Maryland, also allow firms to exempt directors and officers from liability for the duty of loyalty, as long as there has been no willful or intentional misconduct. The duty of loyalty is broadly defined as the duty to act in good faith to advance the best interests of the corporation (Strine et al. 2010). Accordingly, where states permit firms to exempt managers from liability without requiring good faith, we classify those states as allowing exemption from the duty of loyalty.

Finally, a few states also go further by exempting managers from liability for breaching any fiduciary duty by default, rather than allowing firms to exempt managers through a menu option (which is subject to shareholder approval). A default exemption is viewed as stronger protection than a menu option because it is rare for firms to opt out of default provisions, especially those that are favorable to managers (see Ayres 1992, Romano 1993, Subramanian 2002, Listokin 2009).

States' legislatures may also use default rules as a signal to firms and courts about the appropriate level of culpability managers ought to face. For example, prior to 2001, Nevada allowed firms to exempt managers from the duty of loyalty through a menu option, but in 2001, Nevada law was changed such that managers became exempt from fiduciary duties by default. This change arguably accounts for the shift of firms into Nevada (Barzuza 2012).

In constructing the index, we rate each state's exemption provisions as follows: we give 1 point if exemption from the duty of care is permitted; 2 points if exemption from the duties of care and loyalty are permitted; and 3 points if managers are exempted from fiduciary duties by default. We carry out a similar process with respect to permissible indemnification, which typically relates to (i) third-party lawsuits, and (ii) corporate expenses in derivative suits. We give 2 points if indemnification for violating the duties of care and loyalty are permitted, and 1 point if only indemnification for breaching the duty of care is permitted.[10] Virtually all states' indemnification provisions are embedded in menu options rather than default laws; however, under some states' laws, the board has sole discretion to indemnify managers (including the directors), whereas other states require shareholder approval. We treat the former as equivalent to default laws because they enable managers to protect themselves; thus, when indemnification for liability for breaching both the duty of loyalty and care are permitted without obtaining shareholder approval, we allocate 3 points.

In building each index, *LP* (*DIR*) and *LP* (*OFF*), we generally aggregate the exemption and indemnification scores, such that the maximum score for each of *LP* (*DIR*) and *LP* (*OFF*) is 6, and 12 for *LP*. However, when the exemption score is higher than the indemnification score, we let the indemnification score be equal to the exemption score; the rationale is that if the managers are exempted from liability, then indemnification becomes irrelevant. As discussed below, our results are overall robust to different weighting of the exemption and indemnification scores.

Summary.—Thirteen states have enacted at least one anti-takeover statute between 1995 and 2013. One fact that emerges from the *ATS* index is that Delaware has only one anti-takeover statute as compared to the state average of 2.96 across time, whereas Nevada has five such provisions (see Table 2). Thus, according to the *ATS* index, Delaware has a relatively pro-takeover regime, whereas Nevada is relatively protectionist. We emphasize that the enactment of poison pill statutes has been the most common legislative change concerning anti-takeover devices between 1995 and 2013. By 1995, 25 states, including Nevada, had enacted a poison pill statute, and by 2013, 36 had such a statute.

With respect to liability protections, Delaware and Nevada again stand out as two polar opposite regimes (see Table 2). Whereas Delaware is one of the least protectionist states, Nevada is ranked as the most protectionist. Delaware's *LP* (*DIR*) score is 2 as compared to 6 for Nevada (since 2001), and an average score for all states across time of 2.92. The scores for *LP* (*OFF*) are more divergent and

[10] We create two separate scores for indemnification for (i) third-party lawsuits and (ii) corporate expenses in derivative suits, and divide the total score by two, such that the maximum indemnification score is three.

Table 2—Summary of States' Laws Indices

	ATS index	*LP* (*DIR*) index	*LP* (*OFF*) index
Delaware	1	2	0.5
Nevada	5	6	6
Average	2.96	2.92	1.48

Note: This table reports the scores for the *ATS*, *LP* (*DIR*), and *LP* (*OFF*) indices for Delaware and Nevada in 2013 and the state average between 1995 and 2013.

Table 3—Correlation Table of States' Laws Indices

	ATS index	*LP* (*DIR*) index	*LP* (*OFF*) index
ATS index	1		
LP (*DIR*) index	0.383	1	
LP (*OFF*) index	0.251	0.562	1

Note: This table reports the correlation matrix of the *ATS*, *LP* (*DIR*), and *LP* (*OFF*) indices between 1995 and 2013.

highlight Nevada's protectionist bent. Delaware's 2013 score is 0.5, Nevada is the only state with a score of 6 (since 2001), and the average state score across time is 1.48. Between 1995 and 2013, 11 and 13 states have increased the protection offered to directors and officers, respectively.

Finally, we emphasize that there is positive correlation among the *ATS*, *LP* (*DIR*), and *LP* (*OFF*) indices (see Table 3). States seem to commit to packages of laws that are relatively takeover-friendly, or to protectionist laws that appeal to managers. We do not observe, for example, states that offer maximal protection on the *LP* (*DIR*) or *LP* (*OFF*) index and low protection on the *ATS* index.[11] There are, however, states that offer minimal protection on the *LP* (*OFF*) index but have a high *LP* (*DIR*) and *ATS* scores.[12] This probably reflects the notion that anti-takeover statutes and liability protection for directors are viewed as more acceptable than liability protection for officers who are engaged in the day-to-day operation of the firm.

Interaction with Takeover Environment.—In order to take into account changing economic conditions, we interact legal characteristics with variables that measure takeover activity in the economy. We measure the level of takeovers using data from SDC. We construct three measures: (i) the log of the number of takeovers in the industry in the previous year, (ii) the log of the dollar volume of takeovers in the industry in the previous year (adjusted by the CPI to 2004 dollars), and (iii) a dummy that equals 1 if the four-week average premium of takeovers in the industry in the previous year is higher than the industry median. We use the industry median premium dummy for the main specification because it enables us to assess firms' preferences in response to takeovers that increase shareholder value as opposed to

[11] All states that rank 6 on *LP* (*DIR*)—namely Indiana, Nevada, Ohio, and Wisconsin—also have five anti-takeover statutes.

[12] Ohio and Indiana, for example, score 5 and 6 on the *ATS* and *LP* (*DIR*) indices, but only 0.5 and 1, respectively, on the *LP* (*OFF*) index.

Table 4—Annual Industry Takeover Data

	Mean	Standard deviation	Median	Observations
Number of industry takeovers	131.2	204.1	70	836
Industry takeovers value ($ billions)	14.066	29.834	4.48	836
Industry four-week premium (percent)	52.61	160.439	33.38	710

Notes: This table reports summary statistics on takeover activity over the sample period 1995–2013, and across Fama French 49 industries. "Number of industry takeovers" refers to the number of 100 percent completed takeovers in the industry. Data on industry takeovers values are reported in billions of dollars. The four-week industry takeover premium is reported in percentage points. All dollar figures are converted to 2004 values using the Consumer Price Index.

how managers react to takeover waves which may not be conducive to shareholder wealth. Table 4 shows summary statistics with respect to the variables that measure takeover activity between 1995 and 2013.

II. Decision-Making under Rational Inertia

A. *The Model*

Before incorporating inertia into the model, we start with a standard multinomial choice model in which firm i, in each year t, can incorporate in any state j. We assume that the indirect utility of incorporation is

$$u_{ijt} = \sum_k x_{jt}^k \left(\beta_k + \sum_r w_{it}^r \gamma_r^k \right) + \xi_j + \varepsilon_{ijt}, \tag{1}$$

where x_{jt}^k is the kth characteristic of state j at time t (e.g., the level of *ATS* or *LP* (*DIR*) of Delaware in 2010); w_{it}^r is the rth characteristic of firm i (e.g., size) at time t; ξ_j is a state fixed effect, and ε_{ijt} is a random utility shock known to the firm but not to the researcher.[13] We adopt the assumption that ε_{ijt} is iid across firms, states, and years, and is distributed according to a type I extreme value distribution. The probability that firm i chooses to incorporate in state j at time t is then

$$P_{ijt} = \Pr\{u_{ijt} \geq u_{ikt}, \forall k \neq j\} = \frac{e^{\delta_{ijt}}}{\sum_{h \in \mathcal{J}} e^{\delta_{iht}}}, \tag{2}$$

where $\mathcal{J}$ is the set of all jurisdictions a firm can choose, and

$$\delta_{ijt} = \sum_k x_{jt}^k \left(\beta_k + \sum_r w_{it}^r \gamma_r^k \right) + \xi_j$$

is the nonrandom part of the utility of firm i from incorporating in state j at time t.

At this point, we introduce inertia to the model. In a model with inertia, firm i makes a choice at time t, with probability π_{it}. We assume that $\pi_{it} = 1$ at time t_i^1,

[13] Our specification includes fixed coefficients, since the variation in our data does not seem to identify more flexible specifications. This specification features, conditional on observables, the IIA property. However, we note that in this setup the IIA substitution patterns are largely plausible and consistent with the data, because reincorporation patterns are such that firms switch primarily to the states with the largest market shares.

the first period in which the firm is present in the data. Accordingly, the probability of choosing state j in the first period is $P_{ijt_i^1}$. In subsequent periods (i.e., $t > t_i^1$), we need to adjust this probability by taking inertia into account as follows:

$$\tilde{P}_{ijt} = \begin{cases} \pi_{it} P_{ijt} & \text{if } j \neq j^*_{(i,t-1)} \text{ and } t > t_i^1 \\ (1-\pi_{it}) + \pi_{it} P_{ijt} & \text{if } j = j^*_{(i,t-1)} \text{ and } t > t_i^1 \end{cases} \tag{3}$$

where $j^*_{(i,t-1)}$ denotes the state where the firm was incorporated in the previous period.

This modeling choice reflects the fact that the first period in which a firm appears in our sample typically coincides with the time a firm becomes public. At that time, the firm has to approach shareholders and consult with law firms about the firm's legal documents, and therefore managers typically consider the legal and governance structure of the firm. In these circumstances, the costs of attention or learning are likely to be low. There is evidence that firms often reincorporate at the time of the initial public offering (Daines 2002). By contrast, reincorporations after the first choice are much less frequent, and occur only if the firm makes a choice and the choice is different than its state of incorporation in the previous year.

We model the probability of making a choice, π_{it}, as arising from optimizing behavior. We assume that firms (through their legal advisers) know the laws and their own characteristics even before they consider reincorporating. However, without exerting some effort, firms do not know more idiosyncratic factors (represented by the random shock, $\varepsilon_{i\cdot t}$) that could make different legal systems more attractive. The firm chooses to learn this shock, and potentially reincorporate, if the expected benefit from choosing exceeds costs c_{it}, known to the firm but unobservable to the researcher. The expected benefit from choosing is the expected utility of the best alternative law, given the laws of every state and firm characteristics at time t. Accordingly, π_{it} takes the form

$$\pi_{it} = \Pr\Big\{ E\Big[\max_j u_{ijt} \,|\, \delta_{ijt}\Big] - E\Big[u_{ij^*_{(i,t-1)}t} \,|\, \delta_{ij^*_{(i,t-1)}t}\Big] \geq c_{it} \Big\}, \tag{4}$$

and, as shown by McFadden (1981), our distributional assumptions imply:

$$E\Big[\max_j u_{ijt} \,|\, \delta_{ijt}\Big] - E\Big[u_{ij^*_{(i,t-1)}t} \,|\, \delta_{ij^*_{(i,t-1)}t}\Big] = \log\Big(\sum_{h\in\mathcal{J}} e^{\delta_{iht}}\Big) - \delta_{ij^*_{(i,t-1)}t}.$$

In this setup, a firm is more likely to consider its state of incorporation if there is an alternative law that would improve its utility. If a firm considers the possibility of reincorporating, it then undertakes a fuller analysis of all aspects of reincorporating that go beyond the basic legal and institutional framework of that state.[14] Whether or not a firm undertakes a full assessment of the merits of reincorporation depends on two main factors. First, if a state's laws seem particularly attractive to a firm, the firm's legal advisers will present it to the managers, who at that time may consider

[14] These may include idiosyncratic laws of each state, or examining specific cases that could affect the manner in which certain legal standards are applied in practice.

the reincorporation. An example is the Nevada 2001 law reform that exempted managers from the duty of loyalty by default. Second, there may be random circumstances (c_{it}) that make it more or less costly for the firm to consider an incorporation decision. For example, the board may be preoccupied with business strategy, such that the opportunity costs of evaluating the possibility of reincorporating into another state are too high (Romano 1993). Alternatively, the firm may be contemplating a transaction that induces it to consider a reincorporaiton (Romano 1985). The transaction may require the firm to consider idiosyncratic elements of states' corporate laws that may hinder or facilitate that transaction.[15] Transactions also create opportunities for managers to engage with lawyers and key shareholders, and thereby reconsider the governance structure of the firm, including its state of incorporation.[16]

We assume that c_{it} is iid according to a logistic distribution with parameters (μ, σ), so that we can use equations (3) and (4) to form the likelihood function of the data, and estimate parameters by maximum likelihood. In additional specifications, we further link c_{it} to individual firm characteristics, such as size and institutional ownership. As discussed in Section 6.B of the online Appendix, the results are substantially the same as the results in the main specification.

B. *Identification*

The main parameters are the coefficients on the indices, *ATS*, *LP* (*DIR*), and *LP* (*OFF*), and on the interactions of the indices with firm characteristics. These coefficients are identified from the joint distribution of state characteristics, firm characteristics, and firm choices. There is substantial cross-sectional variation in legal rules in our sample period, and to a lesser extent, also time-series variation. As discussed above, 13 states have enacted anti-takeover statutes. Likewise, 11 and 13 states have increased the protection offered to directors and officers, respectively. Even if legal rules do not experience very frequent changes over time, firm characteristics and takeover activity provide us with significant time-series variation. The average firm size measured by asset value increased significantly over the years, as did ownership of institutional shareholders.

We further recognize, similar to Kahan (2006), that unobservable state-level characteristics affect the incorporation decision. We add state fixed effects to control for factors that we cannot observe in the data. These include network benefits, familiarity with the law, and quality of the courts. The fixed effects also absorb the impact of franchise taxes (i.e., the fees that states charge for incorporation). We do not include franchise taxes as a variable mainly because fees show virtually no variation over time.

Similar to Handel (2013), we identify firm preferences primarily from firms' initial decisions or reincorporation decisions. As in Ho, Hogan, and

[15] See Wolf (2015) for an example in which an asset sale transaction induced a firm to consider idiosyncratic elements of state corporate laws.

[16] See Chiu, Polk, and Wardwell (2017) for an example in which a spin-off transaction led a firm to engage with its activist shareholders and consider a reincorporation.

Scott Morton (2017), inertial behavior in our model arises from firms deciding not to consider their state of incorporation. Thus, firms need not reincorporate immediately in response to legal changes but may do so several years afterwards due to inertia in decision-making. However, in our model, the probability of choosing is related to the presence of better alternatives to the current state of incorporation given the laws and firm characteristics, whereas in Ho, Hogan, and Scott Morton (2017) it relates only to shocks associated with the current choices (e.g., changes in prices or coverage in the customer's plan). As discussed above, the intuition is that when a favorable law is introduced the firm is likely to be informed of its presence through its lawyers, but it needs to bear the costs of doing a full assessment of the merits of potential reincorporations. A firm may dislike a protectionist law, but not enough to bear the cost of a full legal analysis. However, if its characteristics change in the next period or random circumstances arise that make it less costly to consider a reincorporation (e.g., a transaction), the firm may decide to consider a reincorporation. Parameters of the distribution of the cost of choosing are identified mainly by the observed switching patterns, such as mean reincorporation rate and the covariation of states' laws and firms' characteristics with the frequency of reincorporation.

While we believe that the inertia model aptly captures the main features of the choice of state of incorporation, we note that the standard way to account for structural state dependence is to introduce switching costs. A fully flexible nonparametric model with switching costs cannot be identified given the limited variation in the data, particularly the small number of firms that undergo reincorporations (about 7 percent of firms). We consider both a simple model where switching costs are constant and a more flexible model that allows for linear dependence of switching costs on firm characteristics. The problem with these models is that they assume that firms consider incorporation in every state j in every period t, and in doing so, they do a full legal analysis (by learning their ε_{ijt}), even though they know that the switching costs are very high. This is unlikely to happen in practice. We also show the estimates of the switching costs model in Section 4 of the online Appendix. Most conspicuously, the estimates on switching costs are larger than any fixed effects associated with any state, particularly Delaware. However, the common view is that reincorporations are not particularly costly, as they do not require firms to relocate their headquarters, and the legal fees associated with them are relatively low (Black 1990, Bebchuk and Cohen 2003). Finally, we show that the switching cost models fit our data worse than the inertia model as measured by AIC and BIC.

Inertia could also be modeled by including random effects that account for time-invariant idiosyncratic preferences for states of incorporation. In such a model, firms tend to select a state for which they have a high persistent shock at the time of first incorporation. Even if they reincorporate elsewhere at a later time (driven by either a high random shock or a change in characteristics), the persistence of state-specific shocks implies that they are likely to go back to their original choice. However, firms that reincorporate into another state rarely go back to their former state of incorporation in our data. Rather, they virtually always stay in the new state of incorporation throughout the life of the firm. Accordingly, random effect models do not adequately capture the inertia in this particular setup.

Table 5—Rational Inertia Model with *LP* (*DIR*) and *LP* (*OFF*) Indices

	(1)	(2)	(3)
ATS	−0.4151	−0.3756	−0.3778
	(0.0922)	(0.0929)	(0.0930)
ATS × small	0.0703	0.0715	0.0634
	(0.0458)	(0.0465)	(0.0467)
ATS × medium	0.0223	0.0234	0.0178
	(0.0426)	(0.0432)	(0.0433)
ATS × institutional ownership	−0.0472	−0.0482	−0.0479
	(0.0430)	(0.0437)	(0.0439)
ATS × industry premium$_{t-1}$ > median		−0.0660	−0.0656
		(0.0223)	(0.0223)
ATS × manager > 15 percent			0.0619
			(0.0307)
Average ATS	−0.3932	−0.3986	−0.4000
Small firms	−0.3504	−0.3571	−0.3587
Medium firms	−0.4161	−0.4207	−0.4225
Large firms	−0.4454	−0.4493	−0.4496
LP (*DIR*)	0.3914	0.3730	0.3727
	(0.6723)	(0.6503)	(0.6514)
LP (*DIR*) × small	−0.1344	−0.1350	−0.1327
	(0.0647)	(0.0655)	(0.0657)
LP (*DIR*) × medium	−0.0481	−0.0498	−0.0475
	(0.0572)	(0.0578)	(0.0580)
LP (*DIR*) × institutional ownership	0.1805	0.1805	0.1828
	(0.0669)	(0.0676)	(0.0679)
LP (*DIR*) × industry premium$_{t-1}$ > median		0.0373	0.0370
		(0.0371)	(0.0372)
LP (*DIR*) × director > 15 percent			−0.0240
			(0.0444)
Average LP (DIR)	0.3802	0.3867	0.3868
Small firms	0.2785	0.2863	0.2855
Medium firms	0.4327	0.4380	0.4389
Large firms	0.5077	0.5135	0.5140

(*continued*)

III. Results

Our main results are depicted in Table 5. First, we find several factors that make the market for corporate laws relatively static and reduce the likelihood of reincorporations and market shifts. A salient factor in firms' incorporation decisions is indeed the fixed effect of each state. Most conspicuously, Delaware's fixed effect, which amounts to 7 to 8 units of utility (as defined in equation (1)) under different specifications, is substantially larger than the fixed effects of other states. This finding is consistent with the notion that unobservable elements of Delaware law—such as the quality of its judiciary, its responsiveness to business needs, and network benefits—are all primary drivers for incorporating in Delaware. Interestingly, Nevada's fixed effect is also fairly substantial and amounts to around 5 units of utility. While Nevada is not known for having a high quality judicial system, Nevada has long tried to attract market share from Delaware (Cary 1974), and its legislature

Table 5—Rational Inertia Model with *LP* (*DIR*) and *LP* (*OFF*) Indices (Continued)

	(1)	(2)	(3)
LP (*OFF*)	0.1358	0.1211	0.1202
	(0.6265)	(0.6031)	(0.6041)
LP (*OFF*) × small	0.2745	0.2738	0.2687
	(0.0517)	(0.0523)	(0.0525)
LP (*OFF*) × medium	0.0181	0.0183	0.0154
	(0.0533)	(0.0537)	(0.0540)
LP (*OFF*) × institutional ownership	−0.7383	−0.7381	−0.7444
	(0.0628)	(0.0633)	(0.0644)
LP (*OFF*) × industry premium$_{t-1}$ > median		0.0218	0.0228
		(0.0297)	(0.0298)
LP (*OFF*) × officer > 15 percent			0.0499
			(0.0346)
Average LP (OFF)	−0.0028	−0.0025	−0.0050
Small firms	0.3219	0.3222	0.3207
Medium firms	−0.2120	−0.2116	−0.2147
Large firms	−0.3401	−0.3405	−0.3440
Home bias	4.4556	4.4520	4.4524
	(0.1167)	(0.1174)	(0.1177)
Home bias × small	0.8369	0.8383	0.8378
	(0.1188)	(0.1195)	(0.1197)
Home bias × medium	0.6261	0.6268	0.6283
	(0.1234)	(0.1241)	(0.1243)
Delaware fixed effect	7.5616	7.5622	7.5640
	(0.1866)	(0.1868)	(0.1873)
Nevada fixed effect	4.9709	4.9604	4.9586
	(1.0109)	(0.9792)	(0.9816)
California fixed effect	1.1118	1.1194	1.1199
	(1.0565)	(1.0263)	(1.0284)
New York fixed effect	2.6654	2.6593	2.6613
	(0.3818)	(0.3818)	(0.3826)
Average π (percent)	1.3	1.3	1.3

Notes: This table reports maximum likelihood estimates of the parameters of the rational inertia model. The dependent variable is a categorical variable that indicates the state of incorporation. The parameter estimates reflect the effect of one unit of each variable on the latent utility index of firms in the sample. All variables not defined herewith are defined in the Appendix. The table reports in bold firm utility with respect to one unit of each legal characteristic by firm size, given average firm characteristics (i.e., institutional ownership and managerial ownership) and parameter estimates. All specifications include state fixed effects, here reported for Delaware, Nevada, California, and New York. The average π is the mean across firms-years of the probability that a firm makes an incorporation choice in any given year, obtained according to the formula in equation (4). The standard errors reported are computed using the Huber-White formula; see Train (2009). Firms with less than three observations are not included. The number of firm-year observations is 83,504, and there are 8,760 firms in the sample.

has been accordingly responsive to business needs, especially the interests of firms' management (Barzuza 2012). In contrast, states such as California and New York have a low fixed effect, confirming the general view that their legal systems are not adequate for addressing the needs of modern firms.[17]

[17] Although measures of institutional quality cannot be identified in the main specification due to the lack of time variation, in Section 5 of the online Appendix we show that the estimated state fixed effects are correlated with proxies for states' courts' quality and legislatures' responsiveness to business needs.

Second, consistent with past studies, firms also manifest a marked preference for incorporating in the state where they are located. The coefficient on *Home Bias*, a dummy equal to 1 if a firm is incorporated in the state in which it is headquartered, is about 4.45.

Third, as expected, we find that inertia plays a significant role in firms' incorporation decisions. Using the parameter estimates of the distribution of the costs of choosing, we can compute the average probability of making an incorporation choice at time $t > t_i^1$. That average probability is about 1.3 percent across specifications, which translates into roughly 20 percent probability of making at least one incorporation decision (and potentially, reincorporation) over 20 years.

Our main findings, however, relate to legal characteristics. Although unobservable fixed effects, home bias, and inertia significantly affect firms' incorporation decisions, the effects of states' laws are not trivial. We consider counterfactuals in Section IV in greater detail to explain the potential market shifts that legal changes could cause, but for present purposes we focus on the key findings.

First, firms generally dislike anti-takeover statutes. This dislike is strong across different types of firms, and includes large, medium, and small firms. This finding casts doubt on the hypothesis that anti-takeover laws enable states to increase their market share of firm incorporations. In addition, as shown in column 2 of Table 5, the dislike for anti-takeover statutes is stronger when the average industry takeover premium is above the median. We also examine the preferences of firms with high managerial ownership. As shown in column 3, firms with managerial ownership of at least 15 percent of the stocks dislike anti-takeover statutes less. This suggests that managers generally prefer laws that benefit them. However, this result does not hold when the threshold for managerial ownership is 25 percent.[18]

Second, unlike anti-takeover statutes, firms seem to prefer some level of protection for their directors and officers. Large firms with high institutional shareholding actually prefer a relatively high level of director protection (though many of the coefficients on $LP\,(DIR)$ and size interactions with $LP\,(DIR)$ are not statistically significant). However, they dislike liability protection for officers, as the coefficients for the average large firm are about -0.34. In contrast, small firms with low institutional shareholding like high protection for their officers (the coefficients are about 0.32). Directors in large firms may be particularly concerned about potential lawsuits and liabilities. This result is consistent with studies that show that large firms are more likely to face litigation (Brochet and Srinivasan 2014). Preference for $LP\,(DIR)$ also rises when takeover premiums are high, although the coefficient is not statistically significant. On the other hand, small firms where the directors typically also serve as officers are especially interested in liability protection for officers. Thus, the $LP\,(OFF)$ index seems to be the primary driver for incorporations in Nevada rather than the $LP\,(DIR)$ index. We do not find that managerial ownership significantly affects preferences for liability protections. The coefficient on the interaction of $LP\,(DIR)$

[18] The reason might be that managers with a large ownership stake do not care about anti-takeover statutes because they have control over whether the firm will be acquired or not irrespective of the legal regime. On the other hand, it is important to mention again that data on managerial ownership are noisy, and therefore there are relatively few firms that have more than 25 percent managerial ownership based on forms 3, 4, and 5.

with managerial ownership is slightly negative and insignificant. The coefficient on *LP* (*OFF*) and officers' ownership is positive but not statistically significant.

In Section 6.A and Table A9 of the online Appendix, we also report results using the combined *LP* index. The results are largely the same, showing that most firms like liability protection and that this preference is substantially stronger for small firms with low institutional shareholding.

We note that we do not find evidence that home bias is driven primarily by large firms that exert influence on local regulators. In fact, the home bias for larger firms is smaller than that of smaller firms. One explanation may be that large firms tend to hire national law firms, and such firms presumably advise them to incorporate in Delaware, whereas small firms tend to consult local law firms. While some large firms no doubt exert influence on local legislatures, the average large firm is less inclined to incorporate in its home state.

IV. Counterfactuals

In order to assess the elasticity of firms' preferences in corporate law, we need to evaluate the extent to which market shares of different states would change following changes to states' laws. We are particularly interested in several counterfactuals in which Delaware becomes more protectionist. In the first counterfactual, we examine the market shift that would occur if Delaware enacted four anti-takeover statutes in 2006 such that its *ATS* index score were five (see Figure 6). We use all other state and firm characteristics to estimate firm choices between 2007 and 2013, taking into account inertia in decision-making which could delay firm reincorporations. We take a conservative view by not changing Delaware's fixed effect, so we assume that Delaware continues to enjoy a significant advantage over other states irrespective of its laws.

The results show that despite inertia in decision-making, a sizable number of firms would shift away from Delaware. The predicted decline in Delaware's market share in the period 2006–2013 amounts to 10.28 percent, and the downward trend would continue if we were to iterate the simulation beyond our sample period.[19] Using back of the envelope calculations, the revenue loss to Delaware from franchise taxes in 2013 would be approximately between $35 million and $62 million.[20] Thus, although Delaware has substantial market power, if it adopted laws that signal to the market that it does not view takeovers favorably, it would lose significant market share. Despite Delaware's large fixed effect, many firms would return to their home states. California's market share, for example, would increase from 2.73 percent to 4.00 percent.

Second, we consider changes to market shares if Delaware replicated Nevada and not only enacted more anti-takeover statutes, but also increased the liability protection for both directors and officers (see Figure 7). The results suggest that

[19] Note that without inertia, Delaware's market share in 2007 would decrease to less than 30 percent.

[20] The lower bound is based on the assumption that large firms in our sample pay the maximum franchise fee of $180,000, medium firms pay $130,000, and small firms pay $10,000. The upper bound is simply the product of the predicted decline in market shares (10.28 percent) and Delaware's revenue from franchise taxes in 2013 ($605.6 million).

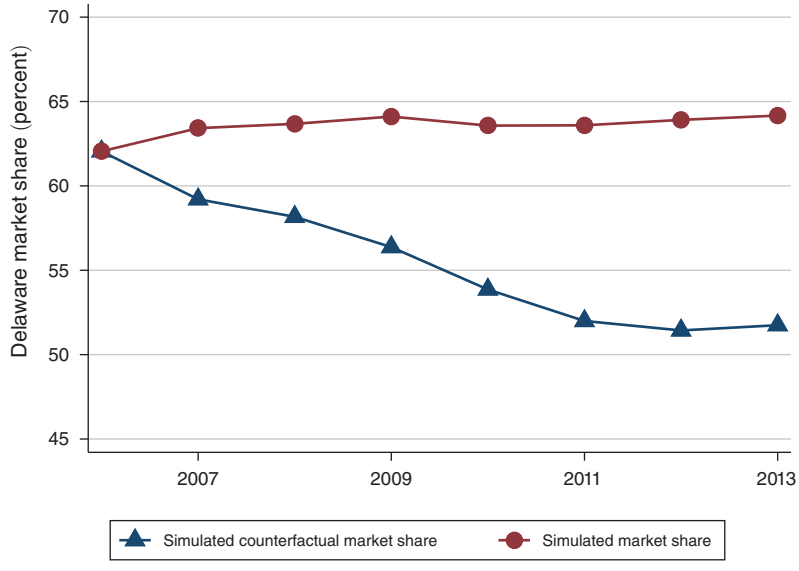

FIGURE 6. COUNTERFACTUAL 1—DELAWARE ADOPTS MAXIMUM *ATS*

Note: This figure compares Delaware's simulated market share given the state and firm characteristics observed in the sample to Delaware's simulated market share in the counterfactual scenario in which Delaware changes its laws in 2007 to increase the *ATS* index to its maximum level (i.e., $ATS = 5$).

Delaware would not lose much market share. The reason is that Delaware could attract firms from Nevada due to its large fixed effect. However, if we focus only on relatively large firms with more than $100 million in assets that have more institutional shareholders, the results change dramatically. Such firms would flee from Delaware mainly because they dislike anti-takeover statutes and strong liability protections for officers.

Third, we consider the case where Delaware increases its *ATS* to 5 and *LP* (*DIR*) to 6, while maintaining *LP* (*OFF*) at zero. It is possible that Delaware might increase liability protections only to directors because protections for officers who are involved in companies' day-to-day operations may seem unwarranted. The result is that Delaware would keep roughly the same market share, as the gains from increasing *LP* (*DIR*) are offset by the loss of increasing *ATS* (see Figure 8). Therefore, Delaware has limited incentives to shift to such a protectionist regime. We note that we do not consider a scenario where Delaware only increases the protection it offers to directors, but keeps all its other laws intact (in which case our estimates suggest that Delaware's market share would increase). The reason is that such a scenario is very unlikely. As discussed in Section I, there is a positive correlation among our indices for protective or managerialist environments. States' commitments to shareholder-friendly or manager-friendly rules are not made in isolation with respect to specific laws, but rather as packages of laws that either tilt the balance of power in favor of shareholders or managers (particularly directors in the context of large firms). In fact, all states that have the highest *LP* (*DIR*) score also have the highest *ATS* score (though, not necessarily the highest *LP* (*OFF*) score).

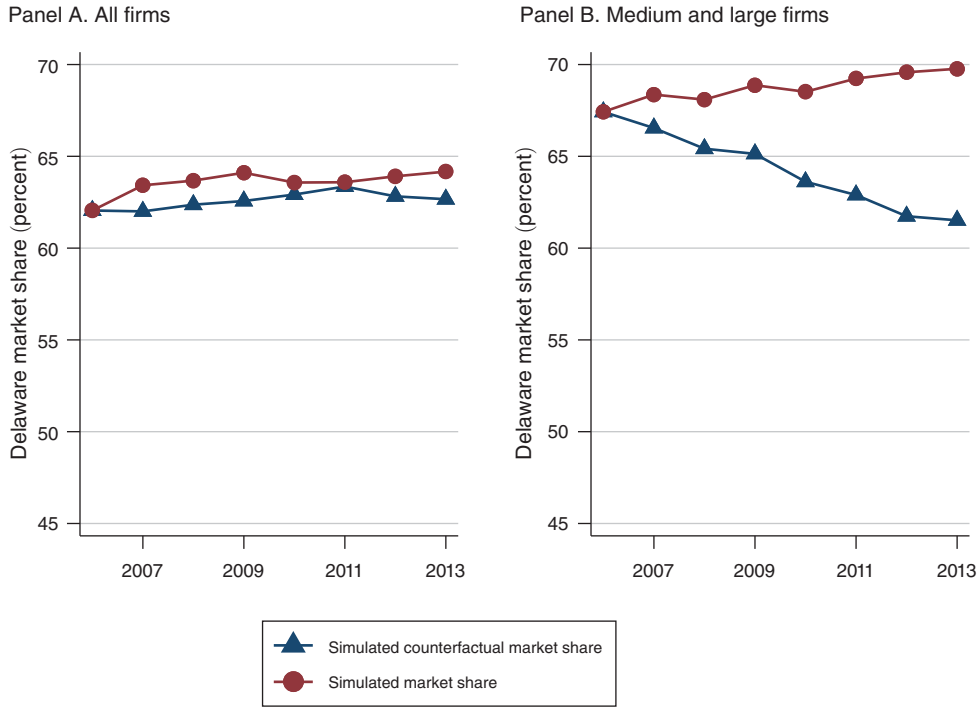

FIGURE 7. COUNTERFACTUAL 2—DELAWARE ADOPTS MAXIMUM *ATS*, *LP* (*DIR*), AND *LP* (*OFF*)

Notes: This figure compares Delaware's simulated market share given the state and firm characteristics observed in the sample to its simulated market share in the counterfactual scenario in which Delaware changes its laws in 2007 to increase the *ATS*, *LP* (*DIR*), and *LP* (*OFF*) indices to their maximum levels (i.e., $ATS = 5$, $LP\,(DIR) = 6$, and $LP\,(OFF) = 6$). In panel A, the market share is computed using all firms in the sample. In panel B, the market share is computed using only firms with more than \$100 million in total assets (i.e., medium and large firms).

Finally, we also consider whether Nevada or any other state could compete with Delaware by replicating Delaware's law (see Figure 9). Our results indeed confirm the view that other states cannot challenge Delaware by merely copying its statutory code (Bebchuk and Hamdani 2002, Kahan and Kamar 2002). In fact, as predicted by Barzuza (2012), if Nevada tried to replicate Delaware it would lose significant market share. Nevada attracts incorporations by differentiating itself from Delaware's pro-shareholder regime, but cannot compete with Delaware for larger firms. Leaving Delaware's institutional dominance intact, it is only if Delaware retracted from its relatively pro-shareholder laws that other states could attract a significant share of large firms.

V. Validation

In this section, we validate the results by showing that the coefficient estimates provide reasonable predictions of states' market shares.

We use the rational inertia model to simulate firms' incorporation choices, and compute states' market shares of incorporations by aggregating individual firms'

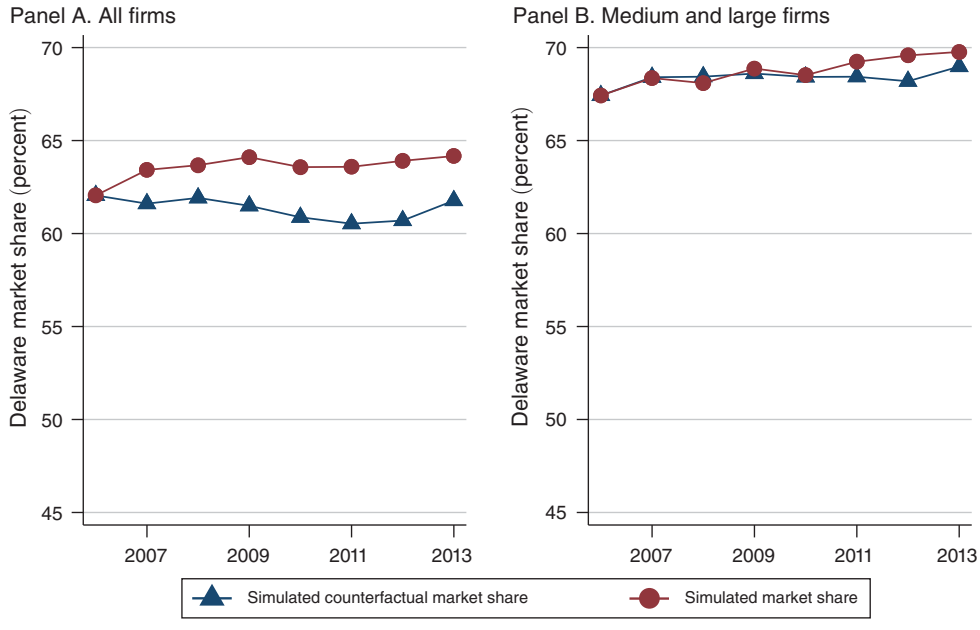

FIGURE 8. COUNTERFACTUAL 3—DELAWARE ADOPTS MAXIMUM *ATS* AND *LP* (*DIR*)

Notes: This figure compares Delaware's simulated market share given the state and firm characteristics observed in the sample to its simulated market share in the counterfactual scenario in which Delaware changes its laws in 2007 to increase the *ATS* and *LP* (*DIR*) indices to their maximum levels (i.e., $ATS = 5$ and $LP\,(DIR) = 6$). In panel A, the market share is computed using all firms in the sample. In panel B, the market share is computed using only firms with more than \$100 million in total assets (i.e., medium and large firms).

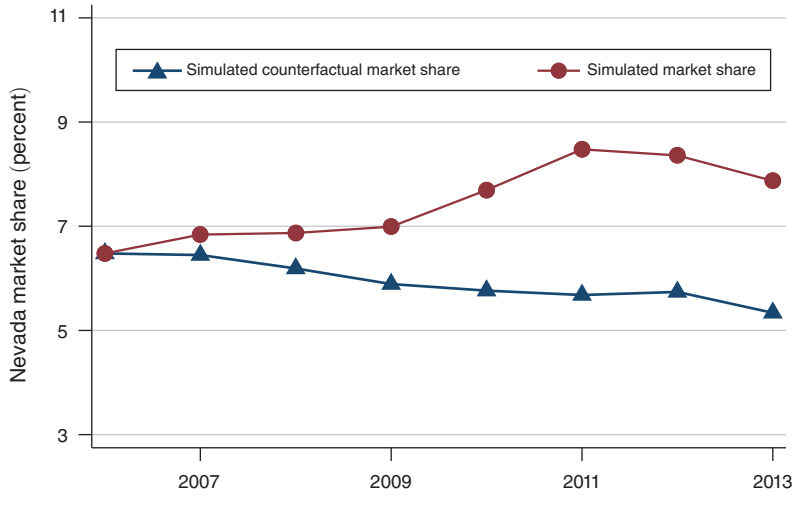

FIGURE 9. COUNTERFACTUAL 4—NEVADA ADOPTS DELAWARE LAW

Notes: This figure compares Nevada's simulated market share given the state and firm characteristics observed in the sample to its simulated market share in the counterfactual scenario in which Nevada changes its laws in 2007 such that its *ATS*, *LP* (*DIR*), and *LP* (*OFF*) indices will have the same values as those of Delaware law (i.e., $ATS = 1$, $LP\,(DIR) = 2$, and $LP\,(OFF) = 0.5$).

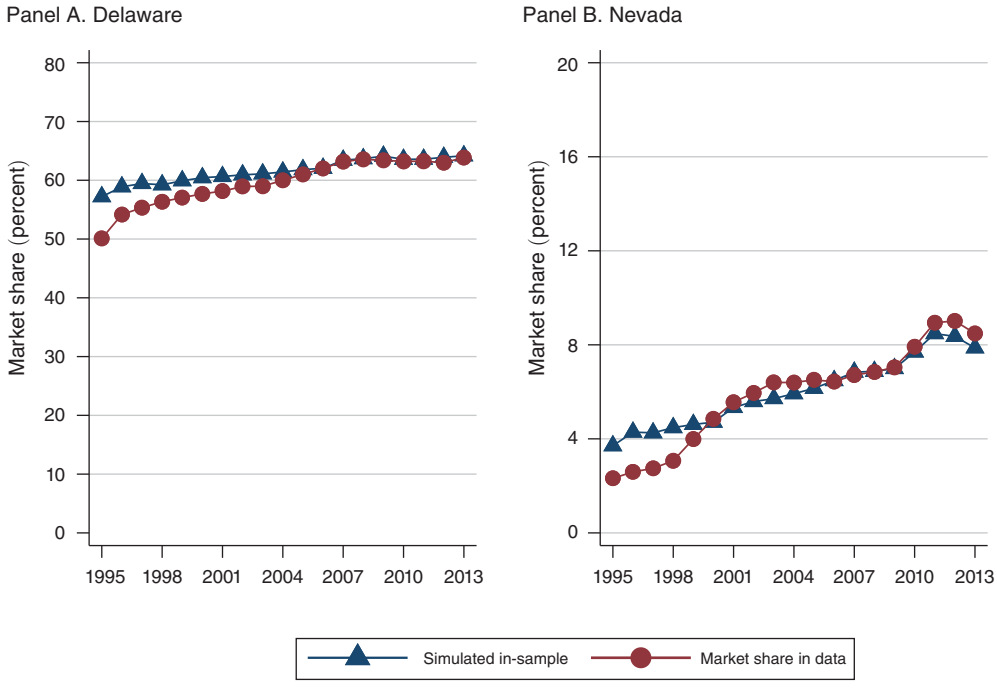

FIGURE 10. IN-SAMPLE PREDICTIONS—DELAWARE AND NEVADA

Note: This figure compares the actual market shares of Delaware and Nevada and the in-sample predicted market shares of Delaware and Nevada.

decisions. In Figure 10, we show the in-sample predictions of the market shares of Delaware and Nevada over the period of our data. While no model can predict market shares perfectly, our model does reasonably well. We use the model in column 2 of Table 5 for the validation exercises, but other specifications yield similar results. We focus on predicting changes in states' market shares of incorporations following changes to state laws, especially the recent rise of Nevada's market share. As Figure 10 shows, our model fits the rise of Nevada reasonably well. We further examine the shift in market shares in four states that enacted anti-takeover statutes, namely Texas, Missouri, Washington, and Connecticut. We choose these states because among the states that have enacted anti-takeover statutes, especially poison pill validation statutes, they have the largest market share. The in-sample predictions are presented in Figure 11, and they appear to be relatively accurate.

In-sample validation is only partial evidence that our model can predict market shares. More importantly, the question is whether the model predicts market shares out-of-sample. In particular, we focus on the market share of Delaware and the increase in Nevada's market share in the 2000s. We estimate the model using the data up to and including 2008, and then predict market shares for 2009–2013 for the firms in our sample. Figure 12 compares the actual market shares of Delaware and Nevada and their predicted values between 2009 and 2013. We use the model in column 2 of Table 5 for the validation exercises, but again other models yield similar results. As shown in Figure 12, the predicted values of the inertia model

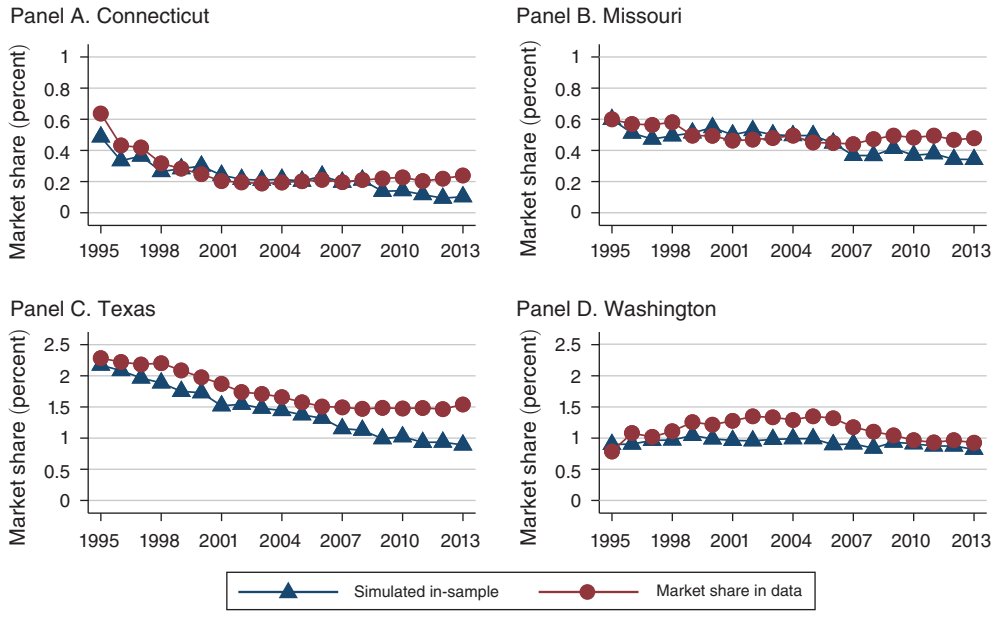

FIGURE 11. IN-SAMPLE PREDICTIONS

Note: This figure compares the actual market shares of Connecticut, Missouri, Texas, and Washington to their respective in-sample predicted market shares.

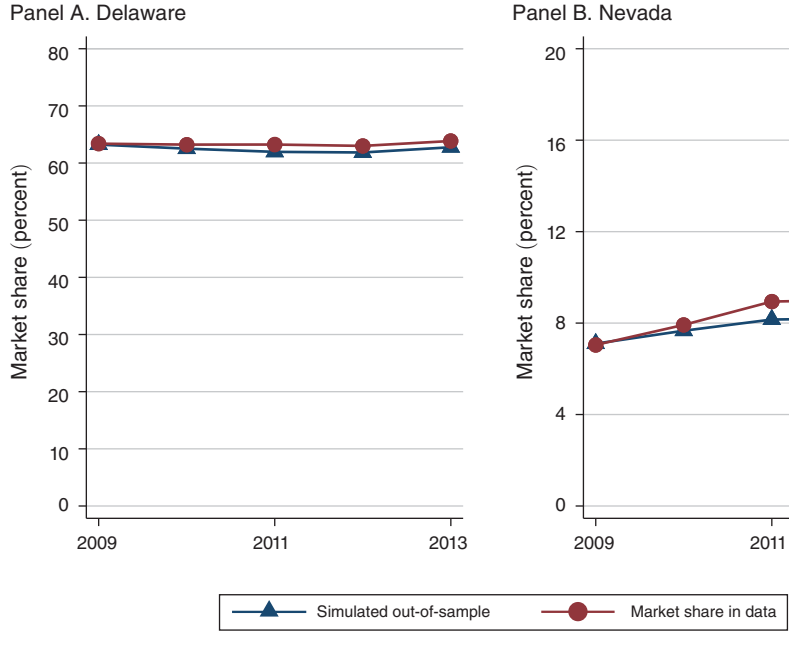

FIGURE 12. OUT-OF-SAMPLE PREDICTIONS

Notes: This figure compares the actual market shares of Delaware and Nevada and their predicted out-of-sample market shares for the period 2009–2013. Predicted market shares are obtained from estimating a model using the sample period 1995–2008.

are reasonably close to the true market shares. For example, the predicted market share of Delaware in 2013 is 62.76 percent as compared to the actual market share of 63.86 percent, and the predicted market share of Nevada in 2013 is 7.67 percent as compared to the actual market share of 8.49 percent. Accordingly, our model also provides a reasonable prediction of market shares out-of-sample.

VI. Robustness

In this section we discuss alternative specifications and present an instrumental variable strategy to address concerns relating to the endogeneity of institutional ownership. Additional robustness tests are reported and discussed in Section 6 of the online Appendix, including the following: (i) specifications with a combined *LP* index, (ii) an alternative model of the probability of choice that links the costs of choosing to firm characteristics, (iii) specifications without state fixed effects, and (iv) specifications that include as control the distance between a firm's headquarters and state of incorporation.

A. *Alternative Specifications*

Our results are robust to alternative ways of measuring legal characteristics. First, given that most of the time variation in the *ATS* index derives from the adoption of poison pill statutes, we run the model with a *Pill Statute* dummy instead of using the *ATS* index. The results are available in Table 6. Interestingly, the coefficients on *Pill Statute* are negative and relatively very large. In particular, large and medium firms that have a high percentage of institutional shareholders dislike pill statutes substantially more than smaller firms (the coefficient is between -1.2 and -1.4). This dislike is larger when the industry takeover premium is larger than the median.

Moreover, in column 2, we add the dummy variable, *Dead Hand*, for states that either have a statute or case law that validates a dead hand poison pill. We consider this to be an interaction term because all the states where dead hand pills have been validated have pill statutes. This is consistent with the view that a poison pill statute makes it more likely that courts will uphold dead hand pills (Barzuza 2009). The coefficient on this variable is largely zero, but it becomes negative when interacted with the takeover premium dummy. Finally, in column 3, we use the dummy variable, *Extreme*, instead of *Dead Hand* to also account for states that have a statute that requires firms to adopt staggered board. The results are again very similar. Note that the statistical insignificance of the coefficients on *Dead Hand* and *Extreme* are not surprising given the limited cross-sectional and time-series variation in the data with respect to these variables. Moreover, the coefficients on other variables are all similar to those in Table 5. We also conduct tests in which we take into account the standards of review that each state has applied to the poison pill over time, following the analysis of Barzuza (2009). Our results are robust to this specification, but for simplicity we do not include them.

We further use other measures of takeover intensity instead of the average takeover premium in the industry. We use the log of the number of 100 percent completed takeovers in the industry in the previous year, and the log of the adjusted

Table 6—Rational Inertia Model with Poison Pill Statute Dummy

	(1)	(2)	(3)
Pill statute	−0.7585	−0.7377	−0.7492
	(0.2082)	(0.2081)	(0.2077)
Pill statute × small	0.6337	0.6387	0.6389
	(0.1700)	(0.1702)	(0.1703)
Pill statute × medium	−0.0511	−0.0497	−0.0503
	(0.1688)	(0.1689)	(0.1690)
Pill statute × institutional ownership	−0.7247	−0.7258	−0.7231
	(0.1491)	(0.1492)	(0.1493)
Pill statute × industry premium$_{t-1}$ > median	−0.2238	−0.2039	−0.1836
	(0.0732)	(0.0743)	(0.0760)
Dead hand		0.0488	
		(0.2638)	
Dead hand × industry premium$_{t-1}$ > median		−0.3502	
		(0.2067)	
Extreme			−0.0211
			(0.2048)
Extreme × industry premium > median$_{t-1}$			−0.2739
			(0.1619)
Average pill statute preference	−0.9118	−0.8749	−0.8716
Small firms	−0.3720	−0.3319	−0.3284
Medium firms	−1.3206	−1.2854	−1.2825
Large firms	−1.3707	−1.3376	−1.3343
LP (*DIR*)	0.4193	0.3971	0.4001
	(0.4996)	(0.4899)	(0.4837)
LP (*DIR*) × small	−0.1991	−0.2025	−0.2035
	(0.0649)	(0.0649)	(0.0652)
LP (*DIR*) × medium	−0.0167	−0.0191	−0.0197
	(0.0584)	(0.0583)	(0.0585)
LP (*DIR*) × institutional ownership	0.2903	0.2906	0.2897
	(0.0670)	(0.0670)	(0.0674)
LP (*DIR*) × industry premium$_{t-1}$ > median	0.0348	0.0380	0.0323
	(0.0361)	(0.0362)	(0.0361)
Average LP (DIR)	0.4541	0.4319	0.4300
Small firms	0.2799	0.2566	0.2544
Medium firms	0.5700	0.5478	0.5459
Large firms	0.6289	0.6090	0.6078

(*continued*)

dollar amount of 100 percent completed takeovers in the industry in the previous year. The results are generally robust to these alternative measures too. In particular, firms, especially large ones, dislike anti-takeover statutes more when the number or volume of takeovers in the industry is higher.

Second, we use alternatives variables for measuring states' director and officer liability protections. The results are robust to the following specifications: (i) allocating 0.5 points instead of 1 point for default laws that exempt managers from liability for breaches of the duty of loyalty or allow firms to indemnify managers for such liability without shareholder approval; (ii) using a weighted score for both

Table 6—Rational Inertia Model with Poison Pill Statute Dummy (Continued)

	(1)	(2)	(3)
$LP\,(OFF)$	0.1286	0.1448	0.1466
	(0.4559)	(0.4456)	(0.4403)
$LP\,(OFF) \times$ small	0.2682	0.2689	0.2697
	(0.0534)	(0.0536)	(0.0538)
$LP\,(OFF) \times$ medium	0.0284	0.0295	0.0300
	(0.0548)	(0.0550)	(0.0551)
$LP\,(OFF) \times$ institutional ownership	−0.7211	−0.7244	−0.7241
	(0.0641)	(0.0646)	(0.0648)
$LP\,(OFF) \times$ industry premium$_{t-1} >$ median	0.0102	0.0120	0.0108
	(0.0300)	(0.0302)	(0.0302)
Average LP (OFF)	0.0040	0.0210	0.0226
Small firms	0.3178	0.3356	0.3374
Medium firms	−0.1935	−0.1765	−0.1750
Large firms	−0.3296	−0.3143	−0.3132

Notes: This table reports maximum likelihood estimates of the parameters of the rational inertia model. The dependent variable is a categorical variable that indicates the state of incorporation. The parameter estimates reflect the effect of one unit of each variable on the latent utility index of firms in the sample. All variables not defined herewith are defined in the Appendix. The table reports in bold firm utility with respect to one unit of each legal characteristic by firm size, given average firm characteristics (i.e., institutional ownership and managerial ownership) and parameter estimates. Controls for *Home Bias* and states' fixed effects are included but not reported. The standard errors reported are computed using the Huber-White formula; see Train (2009). Firms with less than three observations are not included. The number of firm-year observations is 83,504, and there are 8,760 firms in the sample.

$LP\,(DIR)$ and $LP\,(OFF)$, where we give the exemption score 1.5 or 2 times more weight than the indemnification score, instead of assuming that the indemnification score is equal to the exemption score when the latter is larger (as in our main specification); and (iii) using a dummy variable to proxy for the degree of states' managerial liability protection, where the dummy equals 1 only when a state exempts managers for breaches of the duty of loyalty by default and/or allows for indemnification in such circumstances without shareholder approval.[21] We do not report the results obtained using these modified variables, but our key findings are unaffected.

B. *Instrumental Variable for Institutional Investors*

A key finding of our analysis is that the preferences of firms for particular laws are to a large extent shaped by the interests of institutional investors. However, there may be some factors that are correlated with institutional shareholding and with the choice of the state of incorporation that may give rise to endogeneity. For example, the management of the firm may be highly sophisticated. This may cause the firm to be more proactive in evaluating the laws of different states, and to incorporate in a state that caters to business needs. Likewise, more market-oriented firms are

[21] We employ two main alternative specifications: (i) a dummy that equals 1 only if a state exempts managers from the duty of loyalty by default; and (ii) a dummy that equals 1 not only if there is such an exemption, but also when a state allows firms to indemnify managers for such liability without shareholder approval.

more likely to retain national law firms. Such law firms are likely to advise firms to incorporate in states that have market-oriented laws. Thus, it is possible that the preferences for particular laws may be driven by management sophistication or the advice obtained from national law firms, rather than the firms' desire to satisfy their institutional shareholders.

To address this concern, we estimate the main specifications with an instrument for institutional shareholding. Following Aghion, Van Reenen, and Zingales (2013), we use inclusion in the S&P 500 index as an instrument for institutional shareholding. Inclusion in the S&P 500 index is plausibly exogenous because it does not depend on a firm's governance and performance, but rather on whether a firm is deemed representative of its industrial sector. Moreover, inclusion in the S&P 500 is positively correlated with institutional ownership, as fund managers are more likely to invest in stocks that are part of the index. This correlation persists even when controlling for firm size.

We rely on a control function approach to implement the instrumental variable analysis (Imbens and Newey 2009; for a recent application, see Agarwal 2015). In a linear first stage, we regress the endogenous variable on exogenous firm characteristics and instruments. We assume that the error term in the first stage (ν_{it}) and the error term in each firm's utility function (ε_{ijt} in equation (1)) are jointly independent of the exogenous variables and instruments. This implies that ε_{ijt} is independent of institutional ownership conditional on ν_{it}. We can then decompose $\varepsilon_{ijt} = \alpha_j \nu_{it} + \eta_{ijt}$, treat estimates of ν_{it} as an observable, and impose the parametric assumption that the distribution of the unobservable utility shocks η_{ijt} is iid type I extreme value (see Petrin and Train 2010). We estimate the model with maximum likelihood estimation as in our main specification.

The results in Table 7 suggest that our findings in the main specifications are robust to specifications that include instrumental variables. Firms with high institutional shareholding dislike anti-takeover statutes (column 1). This dislike persists when we use *Pill Statute* dummy instead of using the *ATS* index (column 2); this is consistent with accounts that institutions tend to object to poison pill provisions in the charter (Gillan and Starks 2000, Kahan and Rock 2014). Similarly, as in the main specification, institutional shareholding is associated with higher *LP* (*DIR*) and lower *LP* (*OFF*). In fact, when using instruments for institutional shareholding, the size of the firm does not appear to be correlated at a statistically significant level with preferences for legal regimes, and institutional shareholding seems to be the critical factor. This suggests that institutional shareholding has a causal effect on the choice of corporate governance laws.

VII. Discussion of Results

A. *Is There Competition for Corporate Law?*

The central finding of this study is that Delaware faces competitive pressure to adopt laws that are relatively more shareholder friendly than those of other states. If Delaware aggressively sought to favor managerial interests it would lose revenue and market share, especially among large firms. To be sure, our empirical strategy

Table 7—Rational Inertia Model with IV for Institutional Ownership

(1)		(2)	
ATS	−0.1260	*Pill statute*	−0.1076
	(0.1458)		(0.3300)
ATS × small	−0.1649	*Pill statute* × small	0.0682
	(0.1195)		(0.2885)
ATS × medium	−0.0427	*Pill statute* × medium	−0.2230
	(0.0535)		(0.1567)
ATS × institutional ownership	−0.5263	*Pill statute* × institutional ownership	−1.9923
	(0.2092)		(0.4853)
ATS × industry premium$_{t-1}$ > median	−0.0516	*Pill statute* × industry premium$_{t-1}$ > median	−0.1875
	(0.0238)		(0.0679)
LP (*DIR*)	0.0321	*LP* (*DIR*)	0.0156
	(0.2590)		(0.2555)
LP (*DIR*) × small	0.2140	*LP* (*DIR*) × small	0.2019
	(0.2221)		(0.2176)
LP (*DIR*) × medium	0.0469	*LP* (*DIR*) × medium	0.0961
	(0.0801)		(0.0766)
LP (*DIR*) × institutional ownership	0.8804	*LP* (*DIR*) × institutional ownership	1.1049
	(0.4065)		(0.4011)
LP (*DIR*) × industry premium$_{t-1}$ > median	0.0161	*LP* (*DIR*) × industry premium$_{t-1}$ > median	0.0113
	(0.0410)		(0.0392)
LP (*OFF*)	0.1074	*LP* (*OFF*)	0.1702
	(0.2334)		(0.2316)
LP (*OFF*) × small	0.2721	*LP* (*OFF*) × small	0.2110
	(0.1961)		(0.1943)
LP (*OFF*) × medium	0.0100	*LP* (*OFF*) × medium	0.0054
	(0.0693)		(0.0688)
LP (*OFF*) × institutional ownership	−0.7637	*LP* (*OFF*) × institutional ownership	−0.8573
	(0.3631)		(0.3598)
LP (*OFF*) × industry premium$_{t-1}$ > median	0.0204	*LP* (*OFF*) × industry premium$_{t-1}$ > median	0.0114
	(0.0329)		(0.0326)

Notes: This table reports second stage maximum likelihood estimates of the parameters of the rational inertia model using the control function to implement the instrumental variable analysis. In the first stage (unreported), the endogenous variable, institutional ownership, is regressed on the instrument, a dummy that equals 1 if a firm is included in the S&P 500 index in the relevant year, and the other exogenous variables. The dependent variable in the second stage is a categorical variable that indicates the state of incorporation. The parameter estimates reflect the effect of one unit of each variable on the latent utility index of firms in the sample. All variables not defined herewith are defined in the Appendix. Controls for *Home Bias* and states' fixed effects are included but not reported. The standard errors reported are computed using formulas for two-step extremum estimators (Newey and McFadden 1994). Firms with less than three observations are not included. The number of firm-year observations is 83,504, and there are 8,760 firms in the sample.

confirms many of the claims of influential writers on competition for corporate charters, including the ideas that (i) Delaware's power is derived from unobservable quality, network externalities, and familiarity with the law; (ii) firms exhibit strong home bias in incorporation decisions; (iii) firms' incorporation decisions tend to be sticky due to inertia in decision-making; (iv) it is impossible to compete with Delaware merely by copying its statutory code. However, if managerial favoritism were a main driving force in this market, we would find that firms prefer strong

anti-takeover protections as well as laws that protect officers from liability, but nonetheless choose to incorporate in Delaware because of its strong fixed effect. In contrast, we find that states that have increased the level of their takeover protection lost market share over the time frame that we examined.

We emphasize that we do not argue that states actively and vigorously compete for incorporations. Thus, the insight by Kahan and Kamar (2002) that states' bureaucracies are not profit maximizing and face political obstacles in seeking to attract outside firms is consistent with our findings. Similarly, network externalities and investment in institutional infrastructure make it difficult to compete with Delaware (Bebchuk and Hamdani 2002). In such circumstances, states might prefer to cater to the interests of the managers of local corporations by enacting laws that enable those managers to resist the influence of outside investors. Our results, however, indicate that the average effect of such policies is not to attract market share, but in fact to reduce it.

The emerging equilibrium that we observe is one of market differentiation (Barzuza 2009; Gilson, Hansmann, and Pargendler 2011). Delaware offers market-oriented laws that are relatively favorable to shareholders, while the laws of most of other states cater primarily to local interests, such as those of employees and local businesses. Within this equilibrium, a third alternative has emerged for small firms that presumably have limited local influence, but seek a system that is responsive to the needs of small firms with high insider ownership and strong managers. The regulatory framework of corporate law in the United States may be viewed as a system of complementary laws that provide for the needs of different forms of business, and in particular large public firms that seek capital from widely dispersed shareholders and institutions.

Finally, we do not argue that Delaware pursues policies that are dismissive of managerial interests, nor that Delaware would increase its market share if it further curtailed the interests of firms' managers, for example, by barring classified boards or poison pills. We only argue that in relative terms, Delaware has committed to a regime that is relatively more sensitive to the preferences of shareholders.

B. *Shareholder Value*

Whether competition for corporate governance laws is welfare enhancing depends on whether firms' choices are conducive to shareholder value. As shown by Daines (2001) and Barzuza and Smith (2014), incorporation in Delaware is correlated with higher Tobin's Q. Moreover, largely all event studies have shown that incorporation in Delaware is associated with positive, albeit small, abnormal returns (Bhagat and Romano 2002). Consistent with our findings, the main explanation for this is that Delaware incorporation facilitates takeover activity (Romano 1985, Daines 2001).

Nonetheless, there remains a possibility that Nevada's protectionist laws are value decreasing. However, most studies have shown that incorporation in Nevada is correlated with higher Tobin's Q (e.g., Litvak 2013). Eldar (2018) shows that this correlation is limited to small firms with less than $100 million in assets. But because most Nevada corporations are small, the result suggests that firms that choose to incorporate in Nevada tend to be those firms for whom Nevada incorporation is

value enhancing. Eldar (2018) further conducts an event study of firm reincorporations into Nevada between 1996 and 2013, and finds that such reincorporations are associated with positive abnormal returns, although the effect is not usually statistically significant. One explanation for this is that Nevada law reduces the costs of corporate governance through takeovers and litigation for small firms with a high percentage of insider ownership (Kobayashi and Ribstein 2012).

Taken together, these findings suggest that the system of regulatory competition induces different types of firms to sort themselves into corporate governance systems that overall benefit their shareholders.

C. *Policy Implications*

The broader policy question is whether there is a need for federal regulation. This question echoes similar issues of harmonization versus competition in regulation that are present in other markets, such as financial services (White 1996). Some scholars argue that takeovers should be federally regulated. Bebchuk and Ferrell (2001) advocate federal rules that would effectively prohibit the use of most defensive tactics utilized after a bid is made. Barzuza (2009) argues that federal regulation should impose a minimum standard for judicial review of poison pills and anti-takeover devices. To be sure, Delaware law may indeed be imperfect. For example, Delaware's adoption of a business combination statute in 1988 seems like a redundant policy (Romano 1987). However, it is highly doubtful that the federal government would do better than Delaware.

The key problem with proposals for federal regulation is that they are based on the premise that Delaware's pro-shareholder approach is due exclusively to fear of federal intervention and that firms as a whole tend to choose laws that favor managerial interests. Our findings suggest that this premise is not founded in the data. Rather, Delaware faces pressure from the demand side to enact laws that facilitate takeovers relative to other states, even if imperfectly. In contrast, a federal regulator may be subject to the politics of other interest groups not well versed with business needs and pursue populist policies that do not necessarily benefit shareholders (Romano 2002). Moreover, federal regulation could impose a one-size-fits-all approach to corporate governance on all firms. But the evidence suggests that there is scope for regulatory diversity. Even if laws that delay or prevent takeovers are on average value decreasing, firms may benefit from such laws in particular circumstances. Accordingly, there seems to be little reason to impose uniform laws through federal regulation.

VIII. Conclusion

We develop in this article a model of firm choice of corporate laws under rational inertia. We show that such a model can generate critical insights for the debate over the desirability of regulatory competition in the market for corporate laws. While elasticity in the demand for corporate laws is limited by unobservable quality, home bias, and inertia in decision-making, there is evidence that corporate law does matter and can generate market shifts in firm incorporation decisions. In

particular, we find that Delaware faces competitive pressures to adopt corporate laws that are relatively shareholder-friendly. Consistent with the bonding hypothesis, our counterfactual analysis indicates that if Delaware enacted highly protectionist laws, large public firms would leave Delaware. While such a scenario is unlikely to transpire at present, it would be similar to events that led to the fall of New Jersey as the dominant state of incorporation for US firms in the early twentieth century (Butler 1985). The enactment of protectionist anti-trust laws by the New Jersey legislature triggered a mass migration of companies to Delaware, which copied New Jersey's corporate code and created the infrastructure for serving modern business corporations. Similarly, we show that if Delaware enacted laws that harmed shareholders, other states may have strong incentives to pick up the slack, especially small states that need new sources of revenues.[22] Thus, even if competition for corporate law is imperfect, it militates in favor of a corporate governance regime that is conducive to shareholder interests.

[22] This observation is consistent with Baumol's theory that incumbents are disciplined by the threat of entry (Baumol 1982, Romano 2002).

Appendix

Table A1—Variable Definitions

ATS	An index of anti-takeover statutes that counts the number of anti-takeover statutes for every state for every year at the year the statute was passed. Anti-takeover statutes are described in Table A3 of the online Appendix. The index ranges from 0 to 5.	Industry premium $>$ median$_{t-1}$	A dummy equal to 1 if the average takeover premium in the industry in year $t-1$ is greater than the median industry takeover premium across industry-years using the Fama French 49 industries. Data on takeover premiums is sourced from from SDC.
Dead Hand	A dummy equal to 1 if a state has a statute that validates dead-hand poison pills or has case law that holds such pills to be valid. For discussion, see Section 1.B and Section 2.B of the online Appendix.	*Extreme*	A dummy equal to 1 if *Dead Hand* is equal to 1 or if the state has a statute that requires firms implement a staggered board in addition to a poison pill statute. For a fuller discussion see Section 1.B and Section 2.B of the online Appendix.
LP	A combined measure of *LP* (*DIR*) and *LP* (*OFF*) (described below), i.e., *LP* = *LP* (*DIR*) + *LP* (*OFF*). The measure ranges from 0 to 12.	*Home Bias*	A dummy equal to 1 if a firm incorporates in the state in which it is headquartered.
LP (*DIR*)	A measure of each state's protection of directors from monetary liability based on liability exemption and indemnification provisions permitted under state law. The measure ranges from 0 to 6. For discussion, see Section 1.B and Section 2.C of the online Appendix.	*Pill Statute*	A dummy equal to 1 if a state has a poison pill validation statute described in Table A3 of the online Appendix. For discussion, see Section 1.B and Section 2.B of the online Appendix.
LP (*OFF*)	A measure of each state's protection of officers from monetary liability based on liabilty exemption and indemnification provisions permitted under state law. The measure ranges from 0 to 6. For discussion, see Section 1.B and Section 2.C of the online Appendix.	Manager $>$ 15 percent	A dummy equal to 1 if managers (directors and officers) hold more than 15 percent of the stock of the company. Data on managerial shareholding are sourced from Thomson Reuters forms 3, 4, and 5.
Small	The firm has less than \$100 million in assets adjusted using the CPI index to 2004 dollars.	Director $>$ 15 percent	A dummy equal to 1 if directors hold more than 15 percent of the stock of the company. Data on managerial shareholding are sourced from Thomson Reuters forms 3, 4, and 5.
Medium	The firm has more than or equal to \$100 million in assets but less than \$1 billion adjusted using the CPI index to 2004 dollars.	Officer $>$ 15 percent	A dummy equal to 1 if officers hold more than 15 percent of the stock of the company. Data on managerial shareholding are sourced from Thomson Reuters forms 3, 4, and 5.
Institutional ownership	The fraction of shares held by institutional shareholders sourced from Thomson Reuters 13F filings.		

REFERENCES

Ackerberg, Daniel, C. Lanier Benkard, Steven Berry, and Ariel Pakes. 2007. "Econometric Tools for Analyzing Market Outcomes." In *Handbook of Econometrics*, Vol. 6A, edited by James J. Heckman and Edward E. Leamer, 4171–276. Amsterdam: Elsevier.

Agarwal, Nikhil. 2015. "An Empirical Model of the Medical Match." *American Economic Review* 105 (7): 1939–78.
Aghion, Philippe, John Van Reenen, and Luigi Zingales. 2013. "Innovation and Institutional Ownership." *American Economic Review* 103 (1): 277–304.
Ayres, Ian. 1992. "Making a Difference: The Contractual Contributions of Easterbrook and Fischel." *University of Chicago Law Review* 59 (3): 1391–420.
Barzuza, Michal. 2009. "The State of State Antitakeover Law." *Virginia Law Review* 95 (8): 1973–2052.
Barzuza, Michal. 2012. "Market Segmentation: The Rise of Nevada as a Liability-Free Jurisdiction." *Virginia Law Review* 98 (5): 935–1000.
Barzuza, Michal, and David C. Smith. 2014. "What Happens in Nevada? Self-Selecting into Lax Law." *Review of Financial Studies* 27 (12): 3593–627.
Baumol, William J. 1982. "Contestable Markets: An Uprising in the Theory of Industry Structure." *American Economic Review* 72 (1): 1–15.
Bebchuk, Lucian Arye. 1992. "Federalism and the Corporation: The Desirable Limits on State Competition in Corporate Law." *Harvard Law Review* 105 (7): 1435–510.
Bebchuk, Lucian Arye, and Alma Cohen. 2003. "Firms' Decisions Where to Incorporate." *Journal of Law and Economics* 46 (2): 383–425.
Bebchuk, Lucian Arye, and Allen Ferrell. 1999. "Federalism and Corporate Law: The Race to Protect Managers from Takeovers." *Columbia Law Review* 99 (5): 1168–99.
Bebchuk, Lucian Arye, and Allen Ferrell. 2001. "A New Approach to Regulatory Competition and Takeover Law." *Virginia Law Review* 87 (1): 111–64.
Bebchuk, Lucian Arye, and Assaf Hamdani. 2002. "Vigorous Race or Leisurely Walk: Reconsidering the Competition over Corporate Charters." *Yale Law Journal* 112 (3): 553–615.
Bhagat, Sanjai, and Roberta Romano. 2002. "Event Studies and the Law: Part II: Empirical Studies of Corporate Law." *American Law and Economics Review* 4 (2): 380–423.
Black, Bernard. 1990. "Is Corporate Law Trivial? A Political and Economic Analysis." *Northwestern University Law Review* 84: 542–97.
Brochet, Francois, and Suraj Srinivasan. 2014. "Accountability of Independent Directors: Evidence from Firms Subject to Securities Litigation." *Journal of Financial Economics* 111 (2): 430–49.
Broughman, Brian, Jesse M. Fried, and Darian Ibrahim. 2014. "Delaware Law as Lingua Franca: Theory and Evidence." *Journal of Law and Economics* 57 (4): 865–95.
Butler, Henry N. 1985. "Nineteenth-Century Jurisdictional Competition in the Granting of Corporate Privileges." *Journal of Legal Studies* 14 (1): 129–66.
Cain, Matthew D., and Steven M. Davidoff. 2014. "Takeover Litigation in 2013." Ohio State Public Law and Legal Theory Working Paper 236.
Cary, William L. 1974. "Federalism and Corporate Law: Reflections upon Delaware." *Yale Law Journal* 83 (4): 663–705.
Catan, Emiliano M., and Marcel Kahan. 2016. "The Law and Finance of Antitakeover Statutes." *Stanford Law Review* 68 (3): 629.
Chiu, Ning, Davis Polk, and Wardwell LLP. 2017. "Criticism of Governance Provisions in Proxy Contest Leads to Reincorporation." *Harvard Law School Forum on Corporate Governance and Financial Regulation*, June 8. https://corpgov.law.harvard.edu/2017/06/08/criticism-of-governance-provisions-in-proxy-contest-leads-to-reincorporation/.
Coates, John C., IV. 2000. "Takeover Defenses in the Shadow of the Pill: A Critique of the Scientific Evidence." *Texas Law Review* 79 (2): 271–382.
Cohen, Alma, and Charles C.Y. Wang. 2013. "How Do Staggered Boards Affect Shareholder Value? Evidence from a Natural Experiment." *Journal of Financial Economics* 110 (3): 627–41.
Daines, Robert. 2001. "Does Delaware Law Improve Firm Value?" *Journal of Financial Economics* 62 (3): 525–58.
Daines, Robert. 2002. "The Incorporation Choices of IPO Firms." *New York University Law Review* 77 (6): 1559–611.
Damman, Jens, and Matthias Schündeln. 2011. "The Incorporation Choices of Privately Held Corporations." *Journal of Law, Economics, and Organization* 27 (1): 79–112.
Doidge, Craig, G. Andrew Karolyi, and René M. Stulz. 2004. "Why Are Foreign Firms Listed in the U.S. Worth More?" *Journal of Financial Economics* 71 (2): 205–38.
Easterbrook, Frank H., and Daniel R. Fischel. 1991. *The Economic Structure of Corporate Law*. Cambridge, MA: Harvard University Press.
Eldar, Ofer. 2018. "Can Lax Corporate Law Increase Shareholder Value? Evidence from Nevada." *Journal of Law and Economics* 61 (4): 555–605.

Eldar, Ofer, and Lorenzo Magnolfi. 2020. "Regulatory Competition and the Market for Corporate Law: Dataset." *American Economic Journal: Microeconomics*. https://doi.org/10.1257/mic.20180056.

Fleischer, Arthur, Jr., and Alexander R. Sussman. 2015. *Takeover Defense: Mergers and Acquisitions*. 7th ed. New York: Wolters Kluwer.

Gillan, Stuart L., and Laura T. Starks. 2000. "Corporate Governance Proposals and Shareholder Activism: The Role of Institutional Investors." *Journal of Financial Economics* 57 (2): 275–305.

Gilson, Ronald J., Henry Hansmann, and Mariana Pargendler. 2011. "Regulatory Dualism as a Development Strategy: Corporate Reform in Brazil, the United States, and the European Union." *Stanford Law Review* 63: 475–537.

Handel, Benjamin R. 2013. "Adverse Selection and Inertia in Health Insurance Markets: When Nudging Hurts." *American Economic Review* 103 (7): 2643–82.

Heckman, James J. 1981. "Statistical Models for Discrete Panel Data." In *Structural Analysis of Discrete Data with Econometric Applications*, edited by Charles F. Manski and Daniel McFadden, 114–78. Cambridge, MA: MIT Press.

Heron, Randall A., and Wilbur G. Lewellen. 1998. "An Empirical Analysis of the Reincorporation Decision." *Journal of Financial and Quantitative Analysis* 33 (4): 549–68.

Ho, Kate, Joseph Hogan, and Fiona Scott Morton. 2017. "The Impact of Consumer Inattention on Insurer Pricing in the Medicare Part D Program." *RAND Journal of Economics* 48 (4): 877–905.

Imbens, Guido W., and Whitney K. Newey. 2009. "Identification and Estimation of Triangular Simultaneous Equations Models without Additivity." *Econometrica* 77 (5): 1481–512

Kahan, Marcel. 2006. "The Demand for Corporate Law: Statutory Flexibility, Judicial Quality, or Takeover Protection?" *Journal of Law, Economics, and Organization* 22 (2): 340–65.

Kahan, Marcel, and Ehud Kamar. 2002. "The Myth of State Competition in Corporate Law." *Stanford Law Review* 55 (3): 679–749.

Kahan, Marcel, and Michael Klausner. 1997. "Standardization and Innovation in Corporate Contracting (or 'The Economics of Boilerplate')." *Virginia Law Review* 83 (4): 713–70.

Kahan, Marcel, and Edward Rock. 2014. "Symbolic Corporate Governance Politics." *Boston University Law Review* 94: 1997–2043.

Kamar, Ehud. 1998. "A Regulatory Competition Theory of Indeterminacy in Corporate Law." *Columbia Law Review* 98 (8): 1908–59.

Karolyi, G. Andrew, and Alvaro G. Taboada. 2015. "Regulatory Arbitrage and Cross-Border Bank Acquisitions." *Journal of Finance* 70 (6): 2395–450.

Kaskey, Jack, and Joe Deaux. 2017. "Elliott Wins Three Arconic Board Seats in Truce to Activist Feud." *Bloomberg*, May 22. https://www.bloomberg.com/news/articles/2017-05-22/elliott-arconic-end-proxy-fight-with-deal-to-name-board-members.

Klausner, Michael. 1995. "Corporations, Corporate Law, and Networks of Contracts." *Virginia Law Review* 81 (3): 757–852.

Kobayashi, Bruce H., and Larry E. Ribstein. 2012. "Nevada and the Market for Corporate Law." *Seattle University Law Review* 35: 1165–88.

Krishnan, C.N.V., Ronald W. Masulis, Randall S. Thomas, and Robert B. Thompson. 2012. "Shareholder Litigation in Mergers and Acquisitions." *Journal of Corporate Finance* 18 (5): 1248–68.

Listokin, Yair. 2009. "What Do Corporate Default Rules and Menus Do? An Empirical Analysis." *Journal of Empirical Legal Studies* 6 (2): 279–308.

Litvak, Katherine. 2013. "The Effect of Jurisdictional Competition for Corporate Charters on Financial and Accounting Measures of Firm Performance." Unpublished.

McCahery, Joseph A., Zacharias Sautner, and Laura T. Starks. 2016. "Behind the Scenes: The Corporate Governance Preferences of Institutional Investors." *Journal of Finance* 71 (6): 2905–32.

McFadden, Daniel. 1981. "Econometric Models of Probabilistic Choice." In *Structural Analysis of Discrete Data with Econometric Applications*, edited by Charles F. Manski and Daniel McFadden, 198–272. Cambridge, MA: MIT Press.

Moodie, Gordon. 2004. "Forty Years of Charter Competition: A Race to Protect Directors from Liability?" Harvard Law School Discussion Paper 09/2004.

Newey, Whitney K., and Daniel L. McFadden. 1994. "Large Sample Estimation and Hypothesis." In *Handbook of Econometrics*, Vol. 4, edited by Robert F. Engle and Daniel L. McFadden, 2112–245. Amsterdam: North Holland.

Panousi, Vasia, and Dimitris Papanikolaou. 2012. "Investment, Idiosyncratic Risk, and Ownership." *Journal of Finance* 67 (3): 1113–48.

Petrin, Amil, and Kenneth Train. 2010. "A Control Function Approach to Endogeneity in Consumer Choice Models." *Journal of Marketing Research* 47 (1): 3–13.

Romano, Roberta. 1985. "Law as a Product: Some Pieces of the Incorporation Puzzle." *Journal of Law, Economics, and Organization* 1 (2): 225–83.

Romano, Roberta, 1987. "The Political Economy of Takeover Statutes." *Virginia Law Review* 73: 111–99.

Romano, Roberta. 1990. "Corporate Governance in the Aftermath of the Insurance Crisis." *Emory Law Journal* 39: 1155–89.

Romano, Roberta. 1993. *The Genius of American Corporate Law*. Washington, DC: AEI Press.

Romano, Roberta. 2002. *The Advantage of Competitive Federalism for Securities Regulation*. Washington, DC: AEI Press.

Romano, Roberta. 2006. "The States as a Laboratory: Legal Innovation and State Competition for Corporate Charters." *Yale Journal on Regulation* 23 (2): 209–47.

Romano, Roberta. 2017. "Market for Corporate Law Redux." In *The Oxford Handbook of Law and Economics—Volume II: Private and Commercial Law*, edited by Francesco Parisi, 358–98. Oxford: Oxford University Press.

Sallee James M. 2014. "Rational Inattention and Energy Efficiency." *Journal of Law and Economics* 57 (3): 781–820.

Strine, Leo E., Lawrence A. Hamermesh, R. Franklin Balotti, and Jeffrey M. Gorris. 2010. "Loyalty's Core Demand: The Defining Role of Good Faith in Corporation Law." *Georgetown Law Journal* 93: 629–96.

Subramanian, Guhan. 2002. "The Influence of Antitakeover Statutes on Incorporation Choice: Evidence on the 'Race' Debate and Antitakeover Overreaching." *University of Pennsylvania Law Review* 150: 1795–873.

Train, Kenneth E. 2009. *Discrete Choice Models with Simulation*. 2nd ed. Cambridge: Cambridge University Press.

White, Lawrence J. 1996. "International Regulation of Securities Markets: Competition or Harmonization?" In *The Industrial Organization and Regulation of the Securities Industry*, edited by Andrew W. Lo, 207–42. Chicago: University of Chicago Press.

Winter, Ralph K., Jr. 1977. "State Law, Shareholder Protection, and the Theory of the Corporation." *Journal of Legal Studies* 6 (2): 251–92.

Wolf, Daniel E. 2015. "Jurisdiction Shifting—Creative Structuring Opportunities." *Harvard Law School Forum on Corporate Governance and Financial Regulation*, February 9. https://corpgov.law.harvard.edu/2015/02/09/jurisdiction-shifting-creative-structuring-opportunities/.

This article has been cited by:

1. Sarfraz Khan, Sung-Jin Park, Stanley Veliotis, John K. Wald. 2023. Director and officer liability and corporate tax avoidance. *Journal of Business Finance & Accounting* **50**:7-8, 1338-1371. [Crossref]
2. Scott Guernsey, Simone M. Sepe, Matthew Serfling. 2022. Blood in the water: The value of antitakeover provisions during market shocks. *Journal of Financial Economics* **143**:3, 1070-1096. [Crossref]