University of Michigan Law School

University of Michigan Law School Scholarship Repository

2021

Is There a Delaware Effect for Controlled Firms?

Edward Fox
University of Michigan Law School, edfox@umich.edu

Available at: https://repository.law.umich.edu/articles/2193

Recommended Citation

Fox, Edward. "Is There a Delaware Effect for Controlled Firms?" *U. Pa. J. Bus. L.* 23, no. 1 (2020): 1-48.

IS THERE A DELAWARE EFFECT FOR CONTROLLED FIRMS?

Edward Fox[*]

ABSTRACT

    The impact of Delaware incorporation on firm value remains a central question in corporate law. Despite the difficulty scholars have had in agreeing on an answer to this question, there is a consensus that Delaware has long enjoyed stable and important advantages in the expertise of its judiciary and its extensive case law. These advantages are believed to be particularly important for firms with a controlling shareholder. This Article attempts to empirically measure the effect of Delaware incorporation on these controlled firms and thus helps us understand the market value of Delaware's judiciary and caselaw. It finds, surprisingly, that controlled Delaware firms are actually *slightly less valuable* than similar companies incorporated elsewhere. This suggests that (1) Delaware does not create much, if any, premium in market value for controlled firms or (2) "lower quality" controlled firms—which would be less valuable regardless of where they incorporate—disproportionately pick Delaware. Either explanation runs counter to conventional wisdom in this literature. Finally, the results cast new light on the long-term effects of Delaware's recent decisions weakening the doctrinal protection of minority shareholders embodied in *M&F Worldwide* and *Synutra*.

I)   INTRODUCTION

    One of the most controversial issues in corporate law over the last half-century has been how corporations' ability to choose where to incorporate influences the evolution of state corporate law and how that law in turn affects firm value. In particular, much of the discussion has surrounded Delaware's outsized role as the incorporation choice of a majority of new and large existing publicly traded corporations.[1] Robert Daines shifted the terms of this debate in *Does Delaware Law Improve Firm Value?* by using empirical evidence on thousands of firms to inform what had previously been primarily a theoretical dispute. He found that publicly-traded corporations

---

    1. *See, e.g.*, William L. Cary, *Federalism and Corporate Law: Reflections upon Delaware*, 83 YALE L.J. 663 (1974); Ralph K. Winter, Jr., *State Law, Shareholder Protection, and the Theory of the Corporation*, 6 J. LEGAL STUD. 251 (1977). For figures on Delaware incorporation, see Matthew D. Cain & Steven M. Davidoff, *Delaware's Competitive Reach*, 9 J. EMPIRICAL LEGAL STUD. 92, 92 (2012).

incorporated in Delaware, controlling for a number of other factors, were worth more money.[2]   Daines interpreted this to mean that Delaware's corporate law increased firm value, particularly as it relates to hostile takeovers.

I extend this literature by presenting new empirical evidence on whether the Delaware premium applies to firms for which takeover law is not relevant: publicly traded firms with a controlling shareholder. Delaware proponents have outlined a number of reasons why Delaware's legal system might create value for minority shareholders in these "controlled corporations." They argue that Delaware's expert judiciary, unique political economy, and extensive case law generate value for minority shareholders by protecting them from exploitation by the controlling shareholder more than other states protect their minority shareholders.[3]

Looking at controlled corporations therefore helps us understand the market value, if any, of Delaware's skilled judiciary and comprehensive case law outside the context of board entrenchment and hostile takeovers. If these institutional advantages have market value, it should show up here: the value of controlled U.S. corporations is many trillions of dollars, with Facebook, Alphabet (Google), and Berkshire Hathaway worth over $2 trillion alone.[4] The control premium, which is largely a function of how well state law polices controlling shareholders, could be as much as 10% of the value of controlled firms on average.[5] Thus, even small advantages in state law in curbing controllers from taking private benefits should create billions of

---

2. *See* Robert Daines, *Does Delaware Law Improve Firm Value,* 62 J. FIN. ECON. 525 (2001) (finding Delaware corporations to be worth more than comparable firms incorporated in other states).

3. *See, e.g.*, Robert Daines, *The Incorporation Choices of IPO Firms*, 77 N.Y.U. L. REV. 1559, 1591 (2002) ("Delaware's body of precedent, specialized chancery court, and tradition of interpreting fiduciary duty rules may be relatively more valuable [for firms owned by a controlling shareholder].").

4.   Yahoo Finance, *Facebook*, https://finance.yahoo.com/quote/FB?p=FB&.tsrc=fin-src h [https://perma.cc/9CJ6-6HUJ] (last accessed October 28, 2020); Yahoo Finance, *Google*, ht tps://finance.yahoo.com/quote/GOOG?p=GOOG&.tsrc=fin-srch [https://perma.cc/CC3V-P4 46]; Yahoo Finance, *Berkshire Hathaway*, https://finance.yahoo.com/quote/BRK-A?p=BRK-A&.tsrc=fin-srch [https://perma.cc/8M98-L4YJ] (Note that these links will give the market cap of each firm as of the time a person clicks on them, not as of Oct 28, 2020). As discussed below, for data reasons, this study empirically examines 1996 to 2001, and therefore, I generally discuss figures for that period. The market capitalization of the 380 largest controlled corporations in the United States was $1.45 trillion in the year 2000. This was about 15% of the total capitalization of large public firms in the U.S. at that time. *See infra* Section VI. All dollar figures in this Article are nominal unless otherwise noted. $1.45 trillion in year 2000 dollars is worth $2.2 trillion in 2020 dollars. *See* BUREAU OF LABOR STATISTICS, *CPI Inflation Calculator*, https://www.bls.gov/data/inflation_calculator.htm [https://perma.cc /CEP8-9KEP] (last visited October 26, 2020).

5. *See infra* Section III.

dollars of value for minority shareholders.

Empirically studying the effect of state corporate law on the value of minority shares is complicated by the possibility that ex-ante higher (or lower) quality[6] firms incorporate in Delaware compared with those which decide to incorporate where their headquarters are located (their "home state").[7] This gives rise to what economists call "endogenous variation" in the state of incorporation of firms and makes it difficult to disentangle cause and effect. Granted, many incorporation decisions actually seem to be driven by factors which are only loosely associated with the firm's quality, like which lawyers the firm chooses.[8] Nevertheless, one cannot reasonably just assume that firms' incorporation choices are in effect randomly assigned, even after controlling for a variety of observable factors like firm size, age, etc.[9] This endogeneity does not mean that it is impossible to use empirical evidence to help identify the effect of state law on the value of minority shares, but it does require that one have a theory as to how those controlled firms choose where to incorporate.

Based on the prior literature, there are good reasons to think that, controlling for observable firm characteristics, ex-ante higher quality controlled firms choose to incorporate in Delaware. Ronald Gilson, Henry Hansmann, and Mariana Pargendler, for example, have argued that "controlling shareholders [who] wish to use local political influence to protect their personal interests, perhaps to the disadvantage of noncontrolling

---

6. To understand what I mean by "ex-ante higher quality" or "ex-ante higher value" firms, perform the following thought experiment: imagine that all the firms actually incorporated in Delaware had instead always incorporated at home, and calculate the value of the firms. If—after controlling for firm-characteristics unrelated to state of incorporation—the Delaware firms would be more valuable if they had incorporated at home than the ones actually incorporated at home, then Delaware firms are "ex-ante higher quality." In a formula: $E[\text{TobQ}_{i,\ DE=0} \mid B \cdot X_{i,t}, DE=1] > E[\text{TobQ}_{i,\ DE=0} \mid B \cdot X_{i,t,}, DE=0]$, where $\text{TobQ}_{i,\ DE=0}$ represents Tobin's Q for firm i, if it incorporates at home and "| . . . DE=1" indicates the firm chose to incorporate in Delaware and "| . . . DE=0" indicates the firm chose to incorporate at home. I put aside for the moment the possibility that the "treatment effect" of choosing one jurisdiction to incorporate in varies by firm.

7. *See* Yair Listokin, *Interpreting Empirical Estimates of the Effect of Corporate Governance*, 10 AM. L. AND ECON. REV. 90 (2008) (discussing issues that arise in empirical studies of corporate governance).

8. See Daines, *supra* note 3, at 1580–82 (examining the legal market's influence on a firm's choice on state of incorporation).

9. A number of papers thoughtfully challenged the findings of *Does Delaware Law Improve Firm Value?* arguing that it did not convincingly control for this kind of selection of firms into Delaware. *See* Lucian Bebchuk, Alma Cohen & Allen Ferrell, *Does the Evidence Favor State Competition in Corporate Law*, 90 CALIF. L. REV. 1775 (2002); Lucian Arve Bebchuk & Alma Cohen, *Firms' Decisions Where to Incorporate*, 46 J.L. & ECON. 383 (2003). They posit that Delaware firms are different from non-Delaware firms in ways that have nothing to do with Delaware's legal system, even controlling for the factors Daines looks at.

shareholders, have an incentive to incorporate in their headquarters state," while controllers who are "more interested in establishing a high market value for their shares" prefer Delaware "whose law offers (at least modestly) greater shareholder protection and overall efficiency."[10] Likewise, critics of *Does Delaware Law Improve Firm Value?* have argued that the estimated Delaware premium is too large to be causal, suggesting that ex-ante higher quality firms choose Delaware.[11]

As a result, before looking at the data, one might expect controlled Delaware firms to be worth more than their counterparts incorporated at home both because: (1) ex-ante higher quality firms choose Delaware and (2) Delaware's expert judiciary and comprehensive case law increase firm value. Observe that if, on average, ex-ante higher quality controlled firms choose Delaware, then the Delaware premium estimated from the data should be a ceiling on the actual effect of Delaware's legal framework on controlled firms.

To estimate the Delaware premium for controlled firms, I merge data on the ownership and other characteristics of 1,500 large corporations with a single class of common stock and a few hundred "dual-class" firms from 1996-2001.[12] As explained below, using data from this period allows me to analyze comprehensive and reliable data on all but the smallest publicly traded U.S. firms, instead of relying on commercial databases which are "notoriously inaccurate."[13] Of course, using older data requires additional care in interpreting the implications for today. Still, I believe using this data makes sense, particularly given the relatively stable nature of Delaware's institutional advantages (judiciary and case law) and potential disadvantages.[14]

---

10. Ronald J. Gilson, Henry Hansmann & Mariana Pargendler, *Regulatory Dualism as a Development Strategy: Corporate Reform in Brazil, the United States, and the European Union*, 63 STAN. L. REV. 475, 512–13 (2011).

11. *See* Bebchuk, Cohen & Ferrell, *supra* note 9 (arguing that if anything Daines' results are too high to be causal).

12. Dual-class firms usually have two classes of common stock, with both classes having the same rights to dividends, but with one class having additional voting power. Some firms may have more than two classes of common stock, but I employ the parlance in the literature and call them "dual class" firms, as well.

13. Alex Edmans & Clifford G. Holderness, *Blockholders: A Survey of Theory and Evidence*, *in* THE HANDBOOK OF THE ECONOMICS OF CORPORATE GOVERNANCE, 541, 550 (2017) (explaining the authors avoidance of readily available electronic data on firm ownership and using a sample from 1995). *See also* Jennifer Dlugosz, et al., *Large Blocks of Stock: Prevalence, Size, and Measurement*, 12 J. CORP. FIN. 594 (2006) (finding that using commercial databases produced biased coefficients and unreliable results as opposed to innocuous statistical noise).

14. On the long recognized expertise of Delaware's judiciary, *see, e.g.*, Curtis Alva, *Delaware and the Market for Corporate Charters: History and Agency*, 15 DEL. J. CORP. L. 885, 918 (1990), (observing that practitioners found Delaware judges to be the most skilled

Following the literature, I look at each firm's Tobin's Q, which compares the market value of the firm's assets to their book value.[15] I control for a variety of factors like firm age, size, operating profits, debt, as well as a number of "fixed effects."[16] I find that Delaware controlled firms are worth about 5% less than their counterparts incorporated elsewhere, after controlling for firm characteristics. This is surprising and suggests that either ex-ante higher quality controlled firms on average avoid Delaware or that Delaware's judiciary and case law have little market value for controlled firms, or perhaps both.

I should note that although the point estimate is that Delaware controlled firms are worth 5% less than similarly situated non-Delaware controlled firms, the result is not precisely estimated. This is frequently the case with estimates based on Tobin's Q, which is a noisy outcome variable. Thus, the data do not entirely preclude the possibility that Delaware controlled firms are actually more valuable. But the data do rule out—using

corporate law judges); Adam O. Emmerich & Trevor S. Norwitz, *For Corporate Litigation, Delaware is Still the First State*, *in* THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: MERGERS & ACQUISITIONS 2018 7 (12th ed. 2018) (same), https://papers.ssrn.com/sol3/paper s.cfm?abstract_id=3400258 [https://perma.cc/5NH5-TUQV].

         Although Delaware law has shifted over time, scholars have long recognized the appeal to corporations of Delaware's responsive legislature, specialized court system, and voluminous body of case law. *See* Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, 1 J. L. ECON. & ORG. 225, 227 (1985). A significant portion of Delaware's revenue comes from corporate franchise taxes, creating a strong incentive for state legislators to keep the supposed advantages of Delaware corporate law intact. *Id*. at 229. Again, these factors have not changed much over time. The main drawback of Delaware incorporation is possibly increased litigation costs in comparison to other jurisdictions, but this too has long been present in Delaware. *See, e.g.,* Barry D. Baysinger & Henry N. Butler, *Race for the Bottom v. Climb to the Top: The ALI Project and Uniformity in Corporate Law*, 10 J. CORP. L. 431, 459 (1985).

    15. For controlled firms, the Tobin's Q is based on the market value of minority shares on the exchange, because the block of shares conferring control seldom trades.

    16. Fixed effects allow me to limit my analysis to comparisons of similarly situated firms. For example, by including industry fixed effects, this (in essence) ensures that the analysis only compares firms in the same industry, but which differ as to Delaware incorporation. The estimated Delaware effect will therefore not be driven by differences across industries in Tobin's Q, which just happens to correlate with differences in proportion of Delaware incorporation across those industries.

         As discussed below, if state corporate law affects firm value, many of the control variables traditionally included in this literature—e.g., operating profits—are likely to be affected by the firm's choice of where to incorporate. Put differently, the primary channel through which we might expect state corporate law to increase firm value is to raise profitability, by, for example, reducing the controller's tunneling of profits out of the firm. By including controls for profitability, we will miss the effect of state corporate law on firm value through its effect on the firm's current profits. For this reason, I run the regressions below both including and excluding these arguably problematic controls but find comparable results either way.

the 95% confidence interval—that Delaware incorporation is associated with adding more than 1.3% to minority share value.[17]   Given that control premiums attributable to private benefits frequently exceed 15% of the total value of equity,[18] this suggests that Delaware does not protect minority shareholders substantially better than other states.

In contrast to controlled firms, all else equal, diffusely held Delaware firms are estimated to be about 3% more valuable than similar firms incorporated elsewhere. While the difference in the estimated Delaware effect across the types of firms is only mildly statistically significant in some of the specifications, the results suggest some differences in how Delaware incorporation interacts with firm value in diffusely held and controlled firms.

I sketch two possible explanations for why we do not see a Delaware premium for controlled firms. The first is consistent with ex-ante higher quality controlled firms choosing Delaware, but not with Delaware creating value for them. The second suggests instead that Delaware does create value for controlled firms, but also that ex-ante lower quality controlled firms choose Delaware. In this story, the negative association between Delaware incorporation and firm value for controlled firms is caused by selection, which hides Delaware's actual positive effect on those firms.

In the first explanation, I suggest that, outside the realm of board entrenchment, Delaware's institutional advantages over other states may be blunted by features that also increase litigation costs. Thus, Delaware does not create value for controlled firms. Delaware's advantages in preventing board entrenchment may still be real, however, generating value for diffusely owned firms. Relatedly, I hypothesize that shareholders in diffusely held firms are actually at more risk of suffering from selective changes in corporate law if the firm incorporates at home compared to minority owners in controlled firms. There are numerous examples of managers of diffusely held firms bending home-state corporate law to help entrench themselves.[19] This likely reduces firm value for shareholders in diffusely held firms

---

17. The technically correct statement is that were we to perform this type of test 100 times, 95 times the "true" value would be below the threshold.

18*. See* Michael J. Barclay & Clifford G. Holderness, *Private Benefits from Control of Public Corporations*, 25 J. FIN. ECON. 371, 379, 390 (1989). In 43% of the trades Barclay and Holderness examine, the control blocks trade for more than 30% over the minority share price. If on average the control block made up 30% of shares outstanding, then these premiums would be about 15% of the equity value of the firm on average (based on the data presented in Barclay and Holderness' Figure 1). As discussed below, the "control" stakes examined here are likely to fall into this range. Likewise, many Delaware appraisal cases assume that minority shares trade at a 30% discount. For more on the "implicit" minority discount in Delaware law, see Lawrence A. Hamermesh & Michael L. Wachter, *The Short and Puzzling Life of the 'Implicit Minority Discount' in Delaware Appraisal Law*, 156 U. PA. L. REV. 1 (2007).

19*. See infra* note 131 and accompanying text.

incorporated at home. By contrast, I argue that controlling shareholders may find it more challenging to warp home state corporate law to serve their interests, because local authorities are less likely to be willing to relax the controller's duty of loyalty which rests on a deeply held sense of fairness.[20] Taken as a whole, these theories suggest that Delaware provides little value for controlled firms, but does increase the value for (or at least induces selection by ex-ante higher quality) diffusely held firms.

To the extent this theory is right, it should set at ease some of the concerns about the Delaware Supreme Court's decisions in *M&F Worldwide* ("*MFW*")[21] and *Flood v. Synutra*,[22] which weakened judicial scrutiny of conflicted transactions in controlled firms.[23] As I argue below, as a doctrinal matter during the study period, Delaware offered slightly more protection than other states to minority shareholders. One facet of this protection was that Delaware made it impossible for a controlling shareholder to receive the protection of the business judgment rule in a suit challenging a conflicted transaction.[24] *MFW* and *Synutra* changed that. Delaware law now largely insulates controllers in conflicted transactions from judicial scrutiny if the controller has provided sufficient safeguards on the deal including conditioning the transaction on approval by an independent board committee and a vote by a majority of minority shareholders.

As a scholar of corporate law, I have been troubled by the potential consequences of these decisions, but after analyzing the data in this Article, some of my fears have been set to rest. In particular, the fact that minority shares in Delaware firms were not more valuable than those in similar non-Delaware firms during the study period when Delaware offered greater doctrinal protection makes me less concerned that *MFW* and *Synutra* are likely to damage either the firm as a whole or even the interests of minority shareholders.[25]

---

20. The intimate connection between the duty of loyalty and what we traditionally regard as fair has not, however, protected it in all cases. Instead, Nevada has largely gotten rid of the duty of loyalty in a bid to attract more firms. *See* Michal Barzuza, *Market Segmentation: The Rise of Nevada as a Liability-Free Jurisdiction*, 98 VA. L. REV. 935, 952 (2012) (discussing Nevada's partial repeal of the mandatory duty of loyalty).

21. Kahn v. M & F Worldwide Corp., 88 A.3d 635 (Del. 2014).

22. Flood v. Synutra Int'l, Inc., 195 A.3d 754 (Del. 2018).

23*. See e.g.,* James D. Cox & Randall S. Thomas, *Delaware's Retreat: Exploring Developing Fissures and Tectonic Shifts in Delaware Corporate Law*, 42 DEL. J. CORP. L. 323, 348–49 (2018) (predicting that *M&F Worldwide* will lead to litigation migrating to other forums and corporate controllers being less cautious in protecting minority interests); Charles R. Korsmo, *Delaware's Retreat from Judicial Scrutiny of Mergers*, 10 UC IRVINE L. REV. 56, 74 (2019) (arguing that *M&F Worldwide* is likely to do more harm than good).

24*. See infra* Section IV.A.

25. This interpretation is also consistent with a direct study of M&A activity in the wake of *MFW*, which found no change in the premium received by minority shareholders or the

In the second explanation, I observe that if Delaware is indeed more protective of minority interests in controlled firms, this can lead, at least in theory, to ex-ante lower quality controlled firms choosing Delaware. Intuitively, controlling shareholders without an existing reputation to reassure the market that they will not exploit minority shareholders might be more likely to choose Delaware to signal they will not tunnel assets out of the firm. In the argot of agency theory, Delaware incorporation is thus a form of "bonding." The firms with controllers who need to endure these bonding costs are likely to be ex-ante lower quality than firms whose controller has an established and clean reputation. These latter firms may pick Delaware less often because Delaware offers them fewer advantages, making it more likely that idiosyncratic factors in the incorporation decision, like which lawyers the firm hires, will predominate. If the selection effect dominates Delaware's creation of value for controlled firms, then we can see a negative estimated controlled Delaware effect despite a causal effect that runs the other way. If this theory of bonding is right, then we should still be concerned about the potential of *MFW* and *Synutra* to damage firm value and minority interests in the bonded firms. As discussed below, however, this theory has real potential holes including that a controller may sometimes be able to unilaterally reincorporate the firm in a state with less protections for the minority, rendering the bonding illusory.

These explanations are a start but are not directly tested here and further work is called for to understand why there does not seem to be a Delaware premium for controlled firms.

The remainder of the Article is organized as follows: Section II discusses how state corporate law affects firm value in controlled and diffusely owned firms; Section III explains why state law's effect on the value of minority shares will be economically important; Section IV explains why Delaware fiduciary law in particular might create value for controlled firms; Section V reviews the literature on the Delaware premium; Section VI discusses the sample and empirical methods; Section VII presents the results and discusses explanations; Section VIII concludes.

---

rate of deal completion. Fernán Restrepo, *Judicial Deference, Procedural Protections, and Deal Outcomes in Freezeout Transactions: Evidence from the Effect of* MFW (March 1, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3105169 [https://perma.cc/VU W6-3EFB]. Unlike Restrepo's study, however, the results here have implications for the full spectrum of how Delaware regulates conflicted transactions relative to other states, including both M&A and non-M&A issues, rather than just how *MFW* affected the freeze-outs which took place after the decision was announced.

II)   HOW STATE CORPORATE LAW MAY CREATE (OR DESTROY) VALUE

State corporate law is principally concerned with policing two conflicts: those between shareholders and the management of the firm (principal-agent problems), and those between the shareholders themselves (principal-principal problems). In the first area, the law can create value by deterring behavior that benefits managers but is contrary to shareholders' interests, while minimizing monitoring costs. [26] In the second area, the law should provide collective decision-making mechanisms to efficiently resolve disputes among shareholders, including preventing controlling shareholders from exploiting minority shareholders.

While both principal-agent and principal-principal conflicts occur in all corporations, the relative importance is very different depending on whether the firm is diffusely owned or is controlled by a single shareholder. In diffusely owned firms, principal-agent problems predominate; the primary issue is how well shareholders are able to control the board. Shareholders in these diffusely owned firms have relatively homogenous interests, making intra-shareholder conflicts less important.[27]

In contrast, the interests of the controlling shareholder and the board are tightly linked[28] in controlled firms. The controlling shareholder can easily

---

26. The legal regime that minimizes management's deviations from shareholders' preferences is not necessarily optimal if it entails substantial costs to implement (i.e. monitoring costs). There are also other ways in which these agency costs can be reduced: highly competitive product markets will reveal managerial incompetence or lack of effort (in the form of losses), labor contracts can be designed to align the interests of management with shareholders, etc. *See* Frank H. Easterbrook and Daniel R. Fischel*, The Proper Role of a Target's Management in Responding to a Tender Offer,* HARVARD L. REV. 1161, 1196–97 (1981).

27. Shareholders' homogeneity of interests is perhaps the best explanation for why capital providers, and not other "patrons", (e.g. customers, employees, etc.) own most firms (weighting by enterprise value). *See generally* HENRY HANSMANN, THE OWNERSHIP OF ENTERPRISE (1996) (discussing various forms of firm ownership).

28. Technically the board members will still owe a duty to the corporation, which can occasionally lead to conflict between the board members and the controlling shareholder. *See, e.g.*, *In re* Gen. Growth Prop., Inc., 409 BR 43 (2009). In that case, lenders had designed a special purpose entity to be "bankruptcy proof" by putting a director only they could elect on the board of the firm and requiring unanimous board approval to file bankruptcy. Despite not being organized under the DGCL, that director owed a "fiduciary duty of loyalty and care similar to that of a director of a business corporation organized under the [DGCL]." In the end, despite the strong objections of the lenders that elected him, that director believed he was compelled by his fiduciary duty to vote to allow the entity to file for bankruptcy when it became clear such filing was in the interest of the entity.

There are also issues if a firm had previously been diffusely owned but is acquired by a controlling shareholder. Thus, for example, if Company A has put a staggered board of a fixed size in its charter, if a shareholder acquires 51% of shares, and if the initial board

replace the board.[29] Thus, principal-agent problems are rare. In these firms, however, the interests of the controlling shareholder frequently diverge from those of the minority shareholders. The controlling shareholder has an incentive to force the corporation to engage in transactions that result in private benefits to her, while harming the minority shareholders. The controlling shareholder might, for example, force the company to deal with another firm she owns on terms favorable for the other firm,[30] or simply engage in a freeze-out merger with poor compensation.

Because of the different problems faced by the two kinds of corporations, they rely on different parts of state corporate law. In diffusely owned firms, the most important rules relate to how easily the shareholders can remove board members by voting their shares. Intra-shareholder disagreements are settled by majority voting for directors and on fundamental transactions (generally with one share having one vote). Likewise, if management is "shirking," or otherwise acting contrary to the shareholders' interest, shareholders can replace them. In light of the collective action problems that scattered shareholders face, their theoretical right to replace management is often only relevant when there is an outside takeover bid for the firm. State corporate law differs on how much latitude management has to reject these offers—which threaten to strip them of their jobs—despite shareholders' desire to accept them. Indeed, Daines argued Delaware's mild anti-takeover laws, which give management less protection, are the source of the Delaware premium he observed.[31]

There is some question about whether increasing shareholder control (and thereby reducing management's ability to act differently than shareholders would like) is always better,[32] but for the most part scholars

---

remains hostile, the shareholder will be unable to replace the board until a majority of the board has come up for reelection.

29. *See* WILLIAM T. ALLEN, REINIER H. KRAAKMAN & GUHAN SUBRAMANIAN, COMMENTARIES AND CASES ON THE LAW OF BUSINESS ORGANIZATION 154 (4th ed. 2012) (explaining why diffuse ownership often makes it individually irrational for a shareholder to push for beneficial changes to the board even when the total benefits outweigh the total costs).

30. In theory, the controlling shareholder will support any transaction where the side benefit is greater than the decline in the value of the firm scaled by the percentage shares she holds. This suggests the counterintuitive result that it is better to be a minority shareholder in an 89% owned firm than a 51% owned firm because the controlling shareholder will come closer to fully internalizing the costs to the firm of any deals with side-benefits. Indeed, it suggests that from a private-benefits perspective, being a shareholder in a corporation with multiple classes of stock — where a controlling shareholder can own more than 50% of total votes, but less than 50% of the dividend rights — is least desirable.

31. *See* Daines, *supra* note 2, at 540–42. *But see* Guhan Subramanian, *The Disappearing Delaware Effect*, 20 J.L. ECON. & ORG. 32, 50–51 (2004) (questioning whether Delaware law is really any more takeover friendly than elsewhere).

32. *See, e.g.,* Leo Strine, *Can We Do Better by Ordinary Investors? A Pragmatic Reaction to the Dueling Ideological Mythologists of Corporate Law*, 114 COLUM. L. REV 449

believe giving shareholders more control increases value.[33]

In controlled firms, on the other hand, any voting of shares is pro-forma, and the controlling shareholder maintains a clear grip on the board (on which she often sits herself). Since voting for the board cannot be relied on to solve differences between the controlling shareholder and the minority shareholders, state law instead polices individual transactions that benefit the controller to the exclusion of the minority shareholders.[34] These are known as conflicted transactions or self-dealing. Ideally, the duty of loyalty would deter all self-dealing transactions that harm the minority, while allowing transactions that benefit the firm to go forward, even though the controller also gets a side benefit. In reality, the law will work best if it minimizes the sum of Type I errors (self-dealing transactions which are actually beneficial to the minority shareholders, but are nonetheless deterred by the legal system),[35] Type II errors (self-dealing transactions that are harmful but are allowed to go forward) and transactions costs.

Of course, the duty of loyalty is also used to deter transactions benefiting management at the expense of shareholders in diffusely owned corporations. The duty of loyalty, however, is less important in diffusely owned corporations than in controlled corporations. First, in diffusely owned firms, self-dealing transactions must generally receive the approval of disinterested members of the board or shareholders.[36] Board members may review such transactions a bit more leniently than transactions not involving other board members, but the disinterested board members have

(2014) (arguing that institutional shareholders have mixed motives and therefore, ordinary investors are not necessarily better off when there is more direct shareholder control of corporations); John Asker, Joan Farre-Mensa & Alexander Ljungqvist, *Corporate Investment and Stock Market Listing: A Puzzle?* 28 REV. FIN. STUD. 342 (2014) (finding that privately held firms invest more and are more sensitive to investment returns than apparently comparably situated publicly listed firms, suggesting short-term myopic behavior by public firms); Martijn Cremers, Lubomir P. Litov, & Simone M. Sepe, *Staggered Boards and Firm Value, Revisited*, 126 J. FIN. ECON. 442 (2017) (finding that the adoption of a staggered board is actually associated with increases in firm value).

33. *See* Lucian Bebchuk, *The Myth That Insulating Boards Serves Long-Term Value*, 113 COLUM. L. REV. 1637 (2013) (finding that most scholarship points toward board protection as destructive of value even in the long run).

34. *See* Sinclair Oil Corp. v. Levien, 280 A.2d 717 (Del. 1971) (defining a conflicted transaction in Delaware).

35. To see an example of Type I error, imagine that C owns 51% of Company A, which makes widgets, and Company A could most cheaply purchase widget parts from Company B, which C wholly owns. If, due to concerns about self-dealing, Company A must instead buy widget parts from a different, more expensive source, this is a Type I error.

36. In nearly all states shareholders may void a conflicted transaction simply by showing that the "benefiting" director did not obtain board approval before proceeding with the deal (i.e. she stood directly on both sides of the deal). *See* WILLIAM MEADE FLETCHER ET AL., FLETCHER CYC. CORP. § 913. Nevada is an exception to this rule. *See id.*

no direct incentive to allow bad deals to go forward. Second, even given the collective action problems faced by shareholders, shareholders can simply replace boards that loot the company. These constraints are not present in controlled firms. Unchecked, self-dealing will seriously diminish the value of minority stakes in these corporations.

Because the duty of loyalty is more important for policing conflicted transactions in controlled firms, it seems likely that case law and courts themselves are more important to controlled firms. This is intuitive. As Robert Clark summarized, twisting Albert Hirschman's aphorism, shareholders have three rights: vote, sell, or sue.[37]   In a controlled corporation, minority shareholders can only sell or sue.   Without the protections of voting, one would expect that the right to sue becomes more important, all else equal.[38]

There is some empirical evidence confirming litigation plays a bigger role in controlled firms. In a study of the Delaware Courts' shareholder litigation docket, Robert Thompson and Randall Thomas found that minority shareholders being squeezed out by controlling shareholders bring a plurality of the cases. Moreover, the authors found that "beneficial settlements are . . . concentrated in cases where a majority shareholder is squeezing out minority public shareholders on disadvantageous terms . . . ."[39]   While such results cannot tell us about transactions (or the amount of expropriation) deterred, it does suggest that legal remedies are more important to minority shareholders than for shareholders in diffusely held firms.

III)   PRIVATE BENEFITS, CONTROL PREMIUMS, AND STATE CORPORATE LAW

How well state law deters controlling shareholders from expropriating minority shareholders is likely to be economically important. This can be seen by observing that control shares trade at significantly higher prices than minority shares. The price of a control block represents two valuable things: (1) the pro-rata cash-flow rights that all shareholders receive, and (2) the controller's ability to take private benefits.[40]   Since the price of minority

---

37. *See* ALLEN, KRAAKMAN & SUBRAMANIAN, *supra* note 29, at 153 (quoting Clark, though without giving more specific attribution).

38. Indeed, the right to sell would have little value to current shareholders if the purchaser knew he would be expropriated without any remedy, since any such purchaser would only pay a small price.

39. Robert B. Thompson & Randall S. Thomas, *New Look of Shareholder Litigation: Acquisition-Oriented Class Actions*, 57 VAND. L. REV. 133, 138 (2004). Technically the study is of the Chancery Court of New Castle County, where the vast majority of Delaware's corporate litigation takes place.

40. *See* Barclay & Holderness, *supra* note 18, at 373.

shares on the exchange represents the value of pro-rata cash-flow rights, the difference between the price of the control block and the price of shares on the exchange can be used to compute the value of private benefits. In particular, one should use the minority share price after the control block changes hands, because this price will reflect the market's expectations about how the new controller will affect the value of cash-flow rights.[41]

Readers of corporate law know that the control premium is often substantial, which means the scale of private benefits is likewise often large. In the most famous case dealing with sale of a control block, *Perlman v. Feldmann*, the control block (28% of the firm) traded for $20 per share, while minority shares averaged $8.50 in the month before the transaction and $10.88 in the month after the transaction.[42] This premium represented 23% of the value of the company's equity as a whole.[43] In another frequently cited case, *Zetlin v. Hanson*, the control block (44% of the firm) traded for $15, when minority shares traded at $7.35 before the transaction and $7.04 in the month following the transaction,[44] representing 50% of the total equity value

41. *See* Barclay & Holderness, *supra* note 18, at 373; *See* Alexander Dyck & Luigi Zingales, *Private Benefits of Control: An International Comparison,* 59 J. FIN. 537 (2004) (estimating private benefits of control in thirty-nine countries using controlling block sales). In *Mendel v. Carroll*, 651 A.2d 297, 305 (Del. Ch. 1994), Chancellor Allen noted that perhaps the source of the premium could also be attributed to downward sloping demand for stock rather than private benefits. He imported this idea from an article about takeover premiums, which focuses on firms that were not controlled prior to the takeover. *See* Lynn A. Stout, *Are Takeover Premiums Really Premiums? Market Price, Fair Value, and Corporate Law*, 99 Yale L.J. 1235 (1990).

The basic idea is that if demand for a stock is downward sloping—as opposed to perfectly elastic as CAPM would predict—then people who own a stock value it at more than the market price, and some much more so. Thus, if you want to buy 20% of a firm, you may be able to buy the first 1% for close to the old market price from people who valued the stock at roughly the market price. But by the time you buy the 20th percent, the people who are thinking about selling believe the stock is worth substantially more than the old price. Notably, however, Stout does not consider purchases of control blocks from a previous block owner, and this theory does not explain control premiums in this case.

On the one hand, the would-be-purchaser would bid up the price of the stock if he wanted to buy a big chunk of stock on the market for the reasons Stout outlines. For the same reasons, however, the seller would have had to *discount* the block if he had wanted to sell the block on the open market. In fact, in the data, we do see control blocks occasionally sold for a discount, showing that going to the market would have yielded an even bigger discount. Thus, the downward sloping demand for stock is a two-edged sword for block deals and cannot easily explain the control premium.

42. *See* Frank H. Easterbrook & Daniel R. Fischel, *Corporate Control Transactions*, 91 YALE L.J. 698, 718 n. 43 (1982) (outlining the monthly bid prices for August and September).

43. Calculated as the 28% control block times the $9.12 premium divided by the sum of the cash flow rights or mathematically 28%*$9.12/$10.88.

44. Zetlin v. Hanson, 397 N.E.2d 387 (N.Y. 1979). Note that the opinion does not state the date of the transaction, but it was reported in the *Wall Street Journal* on August 21, 1975. *Flintkote Buys 44% Gable Stake for $14.9 Million*, WALL ST. J., Aug. 21, 1975, at 12.

of the firm.[45,46]

In light of cases like these, and persistent expert opinions that minority shares trade for less than control shares, Delaware courts have recognized that minority shares trade at a significant discount. Indeed, this discount is presumed without further evidence beyond the existence of a control stake; as one court observed, "Delaware law recognizes that there is an inherent minority trading discount."[47] Based on precedent, that court found a 30% discount was typical.[48] How Delaware law handles such premiums/discounts varies "erratically in practice,"[49] but there is widespread agreement in the cases that control shares trade at a premium compared to minority stakes.[50]

I have cited these cases to show that the private benefits to controlling shareholders are often large and that differences in how well state law polices

---

Technically, one should net out the effect of broader market factors using a market model to arrive at the "after" transaction minority share prices, but for simplicity I just use the trading price.

45. *See also* Treadway Co. v. Care Co., 638 F.2d 357 (2d Cir. 1980) (stating that a buyer paid a 35% premium over market price for a block of 14% of outstanding shares—5% of total value of equity—even though the block purchased did not give clear control, but rather better position in a proxy contest); Manacher v. Reynolds, 165 A.2d 741 (Del. Ch. 1960) (approving a settlement in a suit alleging abuse by the controlling shareholder, where control would be given up, but giving controlling high vote shares a 200% premium, working out to 11.8% of the value of the company).

46. While I would like to impress on the reader that the control premiums in these cases are big, it is worth observing that simply quoting the premium as $[P_{\text{per share for control shares}} - P_{\text{per share for minority shares}}]/ P_{\text{per share for minority shares}}$, as is often done, is less clear than using the premium as a percent of the total cash flow value of equity. For example, in *Perlman v. Feldmann*, 219 F.2d 173 (2d Cir. 1955), we could say the control block sold for an 84% premium = [$20.00-$10.88]/$10.88, but if the "control" premium had been equally shared by all shareholders, minority shares would have risen 23%. A very hefty amount, no doubt, but well less than 84%.

Likewise, since the 28% control block in *Feldmann* appears to have been enough to give effective control, if Feldmann had instead owned and sold 50% of the firm, he would have sold for $15.98 per share. The per share figure is lower because the additional 22% shares do not give any additional control benefits and hence will be worth only their cash flow value ($10.88). Using $[P_{\text{control}} - P_{\text{minority}}]/ P_{\text{minority}}$ would in this case give the appearance of a smaller premium (15.98/10.88 vs. 20.00/10.88) when in fact the value of private benefits was the same.

47. Doft & Co. v. Travelocity.com Inc., No. CIV.A. 19734, 2004 WL 1152338, at *10 (Del. Ch. May 20, 2004) (citing Agranoff v. Miller, 791 A.2d 880, 892 (Del. Ch. 2001)). The *Doft* court was referring specifically to valuing minority stakes in a freeze-out merger by looking at the market value of minority stakes in other firms. It found that as a matter of law, the market discounted (presumably compared to the control stake) the value of minority stakes in the comparable firms.

48. *Id.*

49. John C. Coates IV, *'Fair Value' As an Avoidable Rule of Corporate Law: Minority Discounts in Conflict Transactions*, 147 U. PA. L. REV. 1251, 1255 (1999).

50. *See, e.g.*, Mendel v. Carroll, 651 A.2d 297, 305 (Del. Ch. 1994) (stating that control shares trade at a premium).

private benefits is likely to matter. There are two important assumptions in this proposition that need to be examined: (1) control premiums are influenced by state law and (2) control premiums are indeed large in many controlled firms. Assumption One likely holds. Assumption Two probably holds, though the empirical data are surprisingly mixed.

A. Does State Corporate Law Drive Control Premiums?

State law should and does seek to restrain private benefits that are inefficient. Many private benefits, like the controller paying herself excessive compensation or other methods of tunneling assets out of the firm, may at first appear to be only a transfer from minority shareholders to the controller. These transfers seem unfair but perhaps not inefficient. In fact, such transfers are likely to have substantial efficiency costs as well. First, tunneling of assets can reduce productive efficiency, as for example when the firm buys materials from a more expensive (and less productive) supplier because that supplier is owned by the cousin of the controller. Second, the time and effort expended by the controller and those hired by her trying to disguise rent seeking as ordinary activity is a dead-weight loss because those resources could have instead been devoted to productive economic activity. Third, minority shareholders will anticipate that the controller will tunnel assets out of the firm and raise the cost of capital for controlled firms seeking to raise new funds.[51] This may be particularly problematic because information asymmetries between potential investors and controllers about the controller's propensity and ability to take private benefits may produce adverse selection, commonly called a "lemons problem," raising the cost of

---

51. Under an optimal monitoring framework, not all the transfers extracted by the controller which appear to come directly at the expense of the minority shareholders actually raise the cost of capital. In this view, the controller may provide better monitoring than market mechanisms could for the firm if it was diffusely held. The controller, however, bears additional costs in actually monitoring the firm and in holding an under-diversified portfolio. Thus, it can be good for minority shareholders to allow enough private benefits to induce some shareholder to take up the "burden" of being the controller.

There are nevertheless serious objections to this theory. A number of scholars have argued the board could be given similar incentives to monitor more cheaply or that a private agreement could be reached with the controller if the purpose of private benefit extraction was to reward the controller for monitoring. *See* Zohar Goshen & Assaf Hamdani, *Corporate Control and Idiosyncratic Vision,* 125 YALE L.J. 560, 568 (2015) (describing and critiquing the optimal monitoring view). Indeed, it is difficult to believe that the controller and the minority owners have reached some implicit optimal arrangement when the controller retains unilateral discretion over how many pecuniary private benefits she will attempt to extract and given that all of these pecuniary private benefits must be taken *sub silentio* because they are proscribed by state corporate law. This makes it difficult or impossible for the minority owners to gauge whether the amount that has been extracted is consistent with the reward necessary to induce monitoring.

capital for controlled firms still further and giving rise to new inefficiencies.[52]   For short, I call the kind of transfers described above as "inefficient" private benefits. By credibly promising to forbid such transfers, the law lowers the cost of capital and promotes efficiency.

In contrast, there are some private benefits that do not raise the cost of capital, even though they will raise the value of a control block above the price of minority shares. These are "efficient" private benefits. For example, minority shareholders will not pay less for shares because the controller gets the psychic satisfaction and prestige that comes with owning a firm. Nor will outside investors pay less because of synergies that genuinely benefit both the company in question and the controller's other wholly owned firms. Finally, as Zohar Goshen and Assaf Hamdani have recently argued, a controller may be willing to pay a premium for control so that she can ensure that her idiosyncratic vision for the firm is fulfilled.[53]   If there is asymmetric information, the minority shareholders (if they trust the controller) can benefit from this arrangement, receiving above market returns when the controller's business plan is realized. Not surprisingly, state law does not attempt to restrain these kinds of private benefits.

The control premium for a firm will be equal to the sum of efficient and inefficient private benefits. I argue below that the control premium for firms studied here is likely to be about 10%. It matters whether this is 8% inefficient private benefits and 2% efficient or vice-versa, because in the former case, better state law will make a noticeable difference. Instead, if the control premium was 8% efficient and 2% inefficient private benefits, better state law is unlikely to change much because state law only acts to constrain the relatively small amount of inefficient private benefits.

Globally, inefficient private benefits predominate. Control premiums are very high in weak legal regimes and relatively small in stronger jurisdictions.[54]   Since neither strong nor weak legal regimes restrain efficient private benefits, this pattern suggests inefficient private benefits are driving

---

52. Controllers who know that they have a lower propensity or ability to tunnel out assets than average—but who cannot credibly signal this—may balk at raising new capital at a cost which reflects the average level of exploitation. The withdrawal of these higher quality firms from the capital markets will necessitate the market raising the cost of capital for the remaining (lower quality) firms, possibly setting off a new round of relatively higher quality firms exiting, etc. *See* George A. Akerlof, *The Market for Lemons: Quality Uncertainty and the Market Mechanism*, 84 Q.J. Econ. 488 (1970) (describing the lemons problem).

53. *See* Goshen & Hamdani, *supra* note 51.

54. *See* Alexander Dyck & Luigi Zingales, *Private Benefits of Control: An International Comparison*, 59 J. Fin. 537, 551. (2004) (estimating private benefits of control in thirty-nine countries using controlling block sales); Tatiana Nenova, *The Value of Corporate Voting Rights and Control: A Cross-Country Analysis*, 68 J. Fin. Econ. 325 (2003) (measuring the value of corporate voting rights, specifically of the control block of votes, in a sample of 661 dual-class firms in eighteen countries).

the result.

Even in the U.S., inefficient private benefits still probably are the most important. As an intuitive matter, it is difficult to believe that the opportunities for synergies and non-harmful psychic benefits compare to the controller's ability to decide her compensation, manipulate transfer prices with her wholly owned firms, and determine the payouts and timing of squeeze-outs. This explains why the literature until the last few years has focused almost exclusively on inefficient private benefits.[55] The empirical data also provides some support for this. As noted above, Thompson and Thomas find settlements in Delaware Court of Chancery deemed to be "beneficial" are concentrated in cases dealing with squeeze-outs in controlled firms on what the authors categorize as disadvantageous terms. This suggests that controllers believe that they can extract significant value through squeeze-outs, despite the courts' watchful attention to conflicted transactions.[56]

Overall, it seems likely that differences in state law will substantially affect the size of control premiums by constraining inefficient private benefits, and that efficient private benefits, while extant, play a secondary role. However, this is an empirical question on which more research is needed.

B.   How Big Are Control Premiums, Really?

The court cases cited above show that control premiums can be large, but they are not a random sample of U.S. firms. Rather, control premiums will be largest in firms where the minority shareholders are exploited, and minority shareholders in these firms are the most likely to sue. The empirical literature on the size of control premiums in the United States is conflicting, with earlier studies showing much larger premiums. If the later studies are in fact representative of U.S. firms, then control premiums are so small that

---

55. *See* Ronald J. Gilson, *Controlling Shareholders and Corporate Governance: Complicating the Comparative Taxonomy*, 119 HARV. L. REV. 1641, 1664 (2006) ("The existing literature, both analytical and empirical, focuses almost exclusively on pecuniary benefits of control."). What Gilson calls pecuniary private benefits are what I have called inefficient private benefits.

56. *See* Thompson & Thomas, *supra* note 39. On average, settling minority parties were given an additional 12% compared to the initial squeeze out offer. If this is the "accurate" average amount of money needed to give the minority their pro-rata share, and controllers are able to slip this kind of deal past the court (or convince the minority shareholders not to challenge) say one-third of the time, it is quite valuable. This is in essence having a permanent option to purchase the remaining portion of the company for (in expectation) 4% less than it is worth. Depending on the cost of financing such a purchase, this could account for a control premium of at least couple percent. Of course, as noted below, the sample of firms which were sued may not be representative of squeeze-outs overall.

it will be difficult to identify the effect of differences in state law. In fact, the later studies are very likely downwardly biased, compared to earlier work, and both earlier and later studies represent a lower bound on the true size of control premiums. This means that empirically, state law's effect on control premiums should be detectable.

Perhaps the earliest empirical study of the size of control premiums looked at controlled banks in the Plains and Western U.S. from 1964 to 1979. The study found that control shares traded 52% higher than minority stakes in the same bank, which implied that this premium made up at least 26% of the total equity value of the companies.[57] In a wider ranging study, Michael Barclay and Clifford Holderness looked at all sales involving 5% or more of a company that were reported in the *Wall Street Journal* from 1978 to 1982. They found that these blocks traded on average for 20% more than minority shares (even after the control trade was announced), and that premium was worth 4.3% of the total value of equity.[58]   Moreover, Barclay and Holderness' data suggest the size of the premium increases with the size of the block. This is not surprising since acquiring 5% or 10% seldom confers effective control, but such trades are nonetheless included in Barclay and Holderness' sample. Their data imply that the control premium would make up at least 10% of the total equity value of firms even under the baseline definition of control used in this Article, and a larger percentage for stricter definitions of control.[59]

More recent work, however, finds much smaller premiums. One study examining trades of the largest block in U.S. firms from 1979 to 1999 found that these blocks—which represented 30% of shares outstanding on average—traded on average for only 6.2% more than minority shares after the deal was announced and represented only 2.4% of the total value of

---

57. Larry G. Meeker & O. Maurice Joy, *Price Premiums for Controlling Shares of Closely Held Bank Stock*, 53 J. BUS. 297 (1980). Meeker and Joy defined control as requiring 50% or more of the equity, thus a 52% premium will make up at least 26% of the total equity value: .52 · .50 / 1 = 26%.

58*. See* Barclay & Holderness, *supra* note 18, at 379 (presenting data on premiums of block trade).

59. On average, the controller in "controlled" firms has 33% of the firm under the baseline definition of control used here. Looking at Barclay and Holderness, we can see that a firm with a 33% block holder, ceteris paribus, is predicted to have 13.44% more of the total equity value of the firm embodied in the control premium than one with a 5% block holder. The latter firm should still have a control premium that is greater than 0. *See* Barclay and Holderness, *supra* note 18, at 390 (Regression Column (1)). Indeed, Avner Kalay, Oğuzhan Karakaş & Shagun Pant, *The Market Value of Corporate Votes: Theory and Evidence from Option Prices*, 69 J. FIN. 69 1235, 1238 (2014) summarizes Barclay and Holderness's study as showing that control was 20% of the market value of the firm, though it is not entirely clear to me where that figure comes from.

equity after the deal.[60] Likewise, Alexander Dyck and Luigi Zingales found that in forty-six deals in which a block of at least 10% changed hands in U.S. companies from 1990 to 2000, the average premium as a percent of total equity value was a mere 1%.[61]

Using a different technique, Luigi Zingales and later Tatiana Nenova have backed out the value of control premiums by looking at how much more high-vote shares trade for than low-vote (or no-vote) shares in companies with multiple classes of stock.[62] Covering 1984-1990, Zingales found about 4.3% of the total equity value of dual class firms was embedded in the premium paid for high-vote stock, which in turn translates to a significantly higher value of control.[63] This is because the 4.3% figure represents "the voting premium during a control contest [i.e. a measure of the value of control] *times* the probability that a control contest will take place."[64] The probability of this kind of control contest is often small, however, over a reasonable investment horizon implying the value of control if such a contest breaks out must be substantial. Nenova, by contrast, found a much lower figure of 2.01% of total equity value of the firm for firms in 1997, even after adjusting for the probability of a control contest.[65]

Avner Kalay, Oğuzhan Karakaş, and Shagun Pant have cleverly

---

60. *See* Saeyoung Chang & David Mayers, *Who Benefits in an Insider Negotiated Block Trade?*, 41 FIN. MGMT. 703, 707 (2012) (examining block trades in U.S. firms). Another study found that premium per share for control shares was 9.23% on average for deals from 1978-1987, less than half of what Barclay and Holderness found. *See* Wayne H. Mikkelson & Hailu Regassa, Premiums Paid in Block Transactions, 12 MANAGERIAL & DECISION ECON. 511, 513 (1991).

61. *See* Alexander Dyck & Luigi Zingales, *Private Benefits of Control: An International Comparison*, 59 J. FIN. 537, 551. (2004) (presenting data on blocks that changed hands in U.S. companies).

62. *See* Tatiana Nenova, *The Value of Corporate Voting Rights and Control: A Cross-Country Analysis*, 68 J. FIN. ECON. 325 (2003).

63. Luigi Zingales, *What Determines the Value of Corporate Votes?*, 110 Q.J. ECON. 1047, 1060 (1995). Zingales found that high vote stock traded at a 10.47% premium over non-voting stock. Given that voting stock made up on average 43% of all shares in Zingales' sample, this implies that approximately 4.5% of the total cash flow value of these firms was imbedded in the voting premium

$$= \frac{P_{voting}}{P_{non-voting}} \cdot \frac{\# \ of \ voting \ shares}{total \ shares} = \frac{Total \ Voting \ Premium}{Total \ Cash \ Flow \ Value} = \ 10.47\% \quad \cdot \frac{43}{100} =$$

4.5%, which in turn equals 4.3% of the total equity value of the firm including both the value of votes and cash flow value.

64. *Id*. at 1061.

65. Nenova, *supra* note 62, at 336. The study which pioneered this method is Ronald C. Lease, John J. McConnell, and Wayne H. Mikkelson, *The Market Value of Control In Publicly-Traded Corporations*, 11 J FIN. ECON 11 439, 469 (1983). This study found that high-vote stock in dual class firms traded at a premium of 5.4% over the low vote stock (on average) from 1948-1978. It is not straightforward, however, to calculate how large a percentage of the total value of the firms this premium represents.

expanded this method to firms without a dual class structure recognizing that, using stock options, one can create an investment position whose price tracks the common stock, but which lacks any voting power. In other words, investors can synthetically create non-voting stock, and the authors examine the pricing differences between the actual common stock and the synthetic non-voting common stock to understand the value of control from 1996-2007. Comparing their results to previous papers is not straightforward, but they likely fall roughly between Zingales' and Nenova's.[66]

These studies are summarized in the table below:

TABLE 1

Summary of Studies on Size of Control Premiums in U.S. Over Time

Authors	Years Covered	Transactions	Control Premium As a % of Total Equity Value
Strategy: Comparing Prices of Minority Shares to Control Shares in the Same Firm			
Meeker & Joy	1964-1979	37	**20.6% (or more)**
Barclay & Holderness	1978-1982	63	**4.30%**
Chang & Mayers	1979-1999	159	**2.40%**
Dyck & Zingales	1990-2000	46	**1%**
Strategy: Comparing Prices of High Vote Stock to Low/No-Vote Stock			
Zingales	1984–1990	94	**> 4.31%**
Nenova	1997	39	**2.01%**

As Table 1 shows, there is a noticeable decline in the estimated size of control premiums over time. If these estimates are all correct, it is a stunning result: we have successfully cut the size of private benefits in half over the course of twenty years. This would represent a shift of more than $70 billion as of the year 2000 in the 380 largest controlled firms alone.[67]

---

66. Kalay et al., *supra* note 59, at 1239, find that on average, the power to vote over the next 38 days represents 0.16% of the value of firms. Recall that because the authors' method is based on stock options, it can only capture the value of voting until those options expire, which in the case of their study was on average 38 days away. For 90 days, the authors find the average value of votes is about 0.27% of the value of the firm. *Id* at 1248.

Like Zingales' figures, however, Kalay et al.'s results represent a measure of the value of control multiplied by the probability of a control contest (in this case within a short period before the exercise of the options), and given that control contests within 40 days are relatively rare, this implies a higher value of control. Exactly how much higher, however, is unclear. To compare to previous results, for dual class firms, Kalay et al. calculate an implicit premium between the high vote and no-vote shares of about 7% compared to 10.47% for Zingales.

67. As of 2000, the 380 largest controlled firms (exclusive of control premiums) had a

This phenomenon is well worth further investigation. In a follow up paper, Gabriel Rauterberg and I intend to consistently expand both ways of measuring premiums back in time as far as possible. This will help us understand whether the results in Table 1 are a statistical artifact, resulting from how the authors construct their studies, or in fact reflect something important about real world behavior.

Regardless, even if Table 1 is not a result of how each author constructs her sample, there are good reasons to think that Table 1 may say more about how control is sold—or more specifically, often not sold today—than changes in private benefit extraction. The black-letter rule announced in casebooks is that a controller can sell her shares for a premium without any responsibility to "share" this premium with the minority.[68] As one treatise notes, this remains good law, except where there are "special circumstances."[69] The number of places where courts will find special circumstances, however, appears to be expanding. This limits when (and practically for how much) a controller can sell her stake without sharing the premium with the minority.

Controllers have long been under a duty not to sell to those they know (or should have known) would loot the corporation.[70] More recent decisions have put other deals under scrutiny, however. For example, the controller cannot sell her shares for a substantial control premium where that premium is attributable to effective control (e.g., the CEO's post) rather than having formal voting control.[71] More importantly, at least in Delaware, the black

---

market capitalization of $1.45 trillion. As noted above, Barclay and Holderness's results imply a premium of about 10% for these corporations and cutting this estimate in half would change the distribution of at least $70 billion.

The decline in observed premiums using these methods occurs despite the fact that Nenova and Dyck and Zingales construct their samples in a way that should yield higher premiums than Barclay and Holderness. Dyck and Zingales are looking only at transactions in which 10% of company was exchanged, while Barclay and Holderness used a lower, 5% cut-off, which should lead to *higher* estimates of the control premiums for Dyck and Zingales. Likewise, Nenova's estimate is designed to be the value of 50% ownership (i.e. full control), which should give a higher estimate than Barclay and Holderness' sample, where many of the transactions will not give full control.

68. *See, e.g.*, ALLEN, KRAAKMAN & SUBRAMANIAN, *supra* note 29, at 420 (citing *Zetlin v. Hanson* as providing the black letter rule).

69. SIMON M. LORNE & JOY MARLENE BRYAN, 11 ACQUISITIONS & MERGERS § 3:18 (2015).

70. *See* Insuranshares Corp. v. N. Fiscal Corp., 35 F.Supp. 22 (E.D.Pa. 1940); *See also* Harris v. Carter, 582 A.2d 222, 234 (Del. Ch. 1990) (largely adopting the *Insuranshares* standard).

71. Brecher v. Gregg, 392 N.Y.S.2d 776, 779 (N.Y. Sup. Ct. 1975) aff'd, 56 A.D.2d 525 (1977) ("The Court concludes as a matter of law that the agreement insofar as it provided for a premium in exchange for a promise of control, with only 4% of the outstanding shares actually being transferred, was contrary to public policy and illegal.").

letter rule is qualified where the corporation must do something to facilitate the sale of the control stake. Frequently this means waiving the § 203 prohibition that limits actions an acquirer may take unless it gets the old board's consent.[72] When the company must act to facilitate the sale, the board must negotiate to improve the position of all shareholders (rather than just the controller). In practice, this means the control premium will have to be shared more often because the minority is given the equivalent of a partial or full veto.

All this is a long way of saying it was probably easier to sell a control stake at a substantial premium and keep it all in 1980 than today. This will reduce the size of observed premiums in sales of control, even if private benefit extraction stays the same. Where the control premium must be shared in some way, it is harder to dislodge controllers who enjoy substantial private benefits.[73] Hence, we will tend to only see sales in companies where the private benefits are smaller, and thus where control premiums are smaller. Later studies like Dyck and Zingales will then be downwardly biased compared to Barclay and Holderness, which is itself downwardly biased.[74]

72*. See, e.g.,* In re Digex Inc. Shareholders Litig., 789 A.2d 1176 (Del. Ch. 2000); Ronald J. Gilson & Jeffrey N. Gordon, *Controlling Controlling Shareholders*, 152 U. PA. L. REV. 785, 805–17 (2003) (exploring the interaction of section 203 and sales by controllers).

73*. See* Frank H. Easterbrook & Daniel R. Fischel, *Corporate Control Transactions*, 91 YALE L.J. 698, 709 (1982).

74. Barclay and Holderness acknowledge that even their study is downwardly biased for a couple of reasons. *See* Barclay & Holderness, *supra* note 18, at 374. First, as noted above, many of the blocks in their sample would not have yielded effective control, and their inclusion will drive down the size of observed premiums. Second, even in 1980, controllers who were enjoying large private benefits would still have reasonably feared that if they tried to cash out these benefits by selling at a large premium, a court would force them to share some or all of it with the minority. After all, *Perlman v. Feldmann,* where the court allowed the minority to share in the premium (by finding sale of a corporate asset), dates to 1955. Third, Barclay and Holderness (implicitly) assume that the seller has all the bargaining power. *See* Dyck & Zingales, *supra* note 41, at 543. When we relax this assumption, there are two additional ways in which the buyer's private benefit will be underestimated by the standard technique. The first is a buyer's ability to retain some of the improvements to the cash flow value of shares. The second is a buyer's extraction of more private benefits than the seller.

These can be seen most easily in a concrete example. Let us say that Seller controls Acme Co. and extracts private benefits worth $2 per share, while the cash flow value (and minority share price) is $10 per share. If Buyer has an idea that will raise the cash flow value to $11 per share and plans to extract the same level of private benefit, she will be willing to pay $13 per share for the control stake. If Buyer and Seller have equal bargaining power, they will transact at $12.50 (half-way between Buyer's valuation and that of Seller). Assuming the market can identify that Buyer has new valuable ideas, the minority price will rise to $11. Thus, we will estimate private benefits as $1.50 per share ($12.50-$11.00), when in fact it is $2.00. Since on average, minority share prices rise 10% after control stakes are sold, this could be quite important. *See* Chang & Mayers, *supra* note 60, at 707. For example, if buyers and sellers do have equal bargaining power, Chang and Mayers' estimate of private benefits

Nenova recognizes her method is also likely downwardly biased because it assumes a perfectly competitive market for purchasing high vote shares.[75] More importantly, Nenova's identification comes from dual class firms which no longer have a controlling shareholder, i.e., where a control stake was broken up. This happens infrequently and tends to occur when the value of control is relatively small,[76] and thus Nenova's firms are likely to have unusually small control premiums.

The idea that control premiums are larger in reality than those estimated by the later studies cited above is backed up by a recent analysis by Vyacheslav Fos and Wei Jiang.[77] They have inferred control premiums from CEOs' decisions to exercise options during proxy fights. The authors show that during proxy fights CEOs sometimes exercise out of the money options. For example, in the midst of a proxy fight, Barnes and Noble's Chairman exercised an option requiring him to pay $16.96 to buy shares when the market price was $14.46. CEOs in fact engaged in this kind of behavior with some frequency from 1996-2012: in more than 10% of the proxy contests in which they had out of the money options, they exercised some.[78] This kind of decision implies that CEOs put a significant premium on control; why else pay $17 for something you can buy later for $14.46 unless it's pivotal to retaining control? Fos and Jiang use a back-of-the-envelope method to estimate that these out of the money option exercises imply CEOs value shares that might connote control at about 10-15% above the market price.[79]

In estimating the effect of Delaware law, this Article steers clear of all of these issues because I do not rely on sales of control or looking only at a small subset of formerly controlled firms or firms where there has been a proxy fight and CEOs exercised out of the money options. Rather, I look at all large publicly traded controlled firms. That said, my method has trade-offs too: if Delaware firms are systematically different from those incorporated elsewhere, as they probably are, that can cause problems. I

---

of 2.4% of equity value would rise to 4.0%.

Likewise, if Buyer plans to extract $1 more per share of private benefits than seller—i.e., she has other ideas to increase the value of the firm, but she is planning to divert these all to herself—then Buyer will purchase at $13, again midway between Buyer's valuation of $14 per share and Seller's valuation of $12 per share. Comparing this price to the minority price ($11.00 per share) will understate the true size of private benefits (here $3). All else equal, buyers will (expect) to be able to extract more private benefits than sellers, since if they value the cash flow portion of the stock the same, buyers must value the private benefits more than sellers (or there could be no deal).

75. *See* Nenova, *supra* note 62, at 330.

76. *See* Barclay and Holderness, *supra* note 18, at 375–76.

77. Vyacheslav Fos & Wei Jiang, *Out-of-the-money CEOs: Private Control Premium and Option Exercises*, 29 REV. FIN. STUD. 1549 (2015).

78. *Id.* at 1577.

79. *Id.* at 1581.

discuss these issues in detail *infra* in Section VI.C.

To sum up, Barclay and Holderness' estimate of a control premium equal to 10% of total equity value for the firms studied here remains plausible. If control premiums are 10%, substantial differences in state corporate law will be empirically identifiable. Nevertheless, to the extent we do not find empirical differences between states, one potential explanation is that the later estimates are indeed representative, and control premiums have shrunk to so small a size that differences in state law are not empirically important.

IV)   HOW DELAWARE MAY CREATE VALUE FOR CONTROLLED FIRMS

Doctrinally, Delaware appears to have offered slightly more protection for minority shareholders against conflicted transactions than other states during the study period. More importantly, Delaware has unique institutional features which may create value for minority shareholders, even to the extent that Delaware and other states are doctrinally similar. Thus, there are reasons to believe that minority shareholders are better protected in Delaware corporations and their shares should be more valuable (and less discounted compared to the control block) than in other states.[80]

A. Doctrinal Differences

The primary difference in state corporate law statutes is between Delaware and its followers during the relevant period, which are Kansas, Oklahoma, and Nevada, and those that follow the Model Business Corporation Act (MBCA). During this period, twenty-four states followed all or substantially all of the most recent MBCA, and another seven followed a previous incarnation.[81] While in many areas the MBCA and Delaware are very similar—indeed the MBCA often codifies Delaware case law—there are some important differences with regard to conflicted transactions.

Delaware and the MBCA allocate legal burdens in conflicted transactions suits differently. In Delaware, if the deal benefits a controlling shareholder to the exclusion of the minority, the default rule is that the

---

80. The empirical part of this piece examines only 1996-2001 because of data limitations. In summarizing doctrinal differences, I look at that period as well, rather than the present, although the analysis generally carries forward to today.

81. Michael P. Dooley & Michael D. Goldman, *Some Comparisons Between the Model Business Corporation Act and the Delaware General Corporation Law*, 56 BUS. LAW. 737, 738 (2001).

defendant will bear the burden of proving entire fairness.[82] During the study period, the defendant could shift this burden by obtaining a majority of the minority shareholders' votes and taking various steps to simulate arm's length bargaining.[83] In contrast, in suits for damages (rather than to enjoin a transaction), the plaintiff in an MBCA jurisdiction always bears the burden both of going forward and of persuasion.[84] This is potentially important because for many transactions where it is difficult to find comparable arm's length deal, plaintiffs may not be able to prove that the transaction is unfair, but neither can defendants prove that it is fair. In those cases, the burden could be dispositive (if formally applied).[85]

There are also differences in the effect of director approval of a transaction. Under the MBCA, if "qualified directors" approve a transaction, this eliminates all judicial review.[86] Whether directors of a controlled corporation could ever be "qualified" in a transaction benefiting the controlling shareholder seems to be an open question.[87] In most cases, the directors will be disqualified by having a "relationship that would reasonably be expected to impair the[ir] objectivity" with regard to the controlling

---

82. In re KKR Fin. Holdings LLC S'holder Litig., 101 A.3d 980, 989–90 (Del. Ch. 2014); In re Wheelabrator Tech., Inc. S'holders Litig., 663 A.2d 1194, 1203 (Del. Ch. 1995). The entire fairness standard only applies, however, if the challenged transaction provided the controller with a special benefit that the other shareholders did not receive. *See In re* Synthes, Inc. S'holder Litig., 50 A.3d 1022, 1034 (Del. Ch. 2012) (citing Sinclair Corp. v. Levein, 280 A.2d 717, 720 (Del. 1971)).

83*. See* Weinberger v. UOP, Inc., 457 A.2d 701, 709 n.7 (Del. 1983) ("[A] showing that the action taken was as though each of the contending parties had in fact exerted its bargaining power against the other at arm's length is strong evidence that the transaction meets the test of fairness."). Additionally, the Delaware Supreme Court recently held, well after the period studied here, that the business judgment rule applies to a conflicted controller's offer to buy out minority shareholders if the controller conditions the offer on the outset on both (1) approval by a disinterested and empowered special committee, and (2) ratification by a majority of disinterested, informed, and uncoerced shareholders. Kahn v. M&F Worldwide Corp., 88 A.3d 635, 644–46 (Del. 2014).

84. MODEL BUS. CORP. ACT § 8.31(b) (1) (2016) (AM. BAR ASS'N, amended 2019); *see also* Dooley & Goldman, *supra* note 81, at 742–43 (stating that "the plaintiff has the initial burden of going forward and retains the ultimate burdens of persuasion and proving damages" under the MBCA). Suits for damages are important because, absent a showing of irreparable harm which could give rise to an injunction, damages may be the only practical remedy.

85. It is of course true that although under the MBCA, the burden may technically always be on the plaintiffs. If the circumstances surrounding the conflicted transaction are suspicious (e.g., there is no form of minority shareholder or insulated director approval), the fact finder may implicitly shift the burden of persuasion to the defendant.

86. MODEL BUS. CORP. ACT § 8.61–62. Such approved transactions are technically not conflicted transactions and therefore do not constitute a valid cause of action. *Id.* § 8.62(a); *see also* Dooley & Goldman, *supra* note 81, at 744 ("Approval by a majority of qualified directors . . . fully validates the transaction and bars both equitable relief and damages[.]").

87. MODEL BUS. CORP. ACT § 1.43.

shareholder,[88] but under the right circumstances, the MBCA might eliminate all liability in a controlling shareholder conflicted transaction.[89] Such a result is not possible in Delaware.[90]

Last, Delaware rejects using "minority discounts" in evaluating the fair price for minority shares in a freeze-out merger. This means that minority shareholders are supposed to receive their pro-rata share of the firm's going concern value, rather than only a portion of this to account for the fact that in the open market minority shares trade at a discount to control shares.[91] A number of other states allow for such discounting, meaning that minority shareholders will generally receive 15% or 20% less for their shares in a freeze-out than in Delaware.[92]

Likely more important than these subtle differences in doctrine is how courts handle actual cases. The literature has suggested that founders and management may incorporate their companies in their home state in part to get favorable treatment in local courts.[93] Delaware courts appear to decide cases with an eye on keeping companies incorporating in Delaware and sometimes muddle the case law as result.[94] However, minority shareholders

---

88. *Id.* § 1.43(b)(1).

89. For example, where the controlling shareholder has in some binding fashion agreed not to use her power to designate some members of the board, this would seem to allow the non-controlled directors to be qualified directors.

90. All transactions can be challenged under the "waste" exception to the business judgment rule. *See, e.g.*, Calma *ex rel.* on Behalf of Citrix Sys., Inc. v. Templeton, 114 A.3d 563, 577 (Del. Ch. 2015) (articulating the "waste" exception). More importantly, during the study period, a conflicted transaction benefitting the controlling shareholder could not receive business judgment protection. *See In re* Wheelabrator Techs., Inc. S'holders Litig., 663 A.2d 1194, 1203 (Del. Ch. 1995) (finding that in "cases arising out of transactions between the corporation and its controlling stockholder . . . the standard of review is ordinarily entire fairness" with ratification operating only to shift the burden of showing fairness.). *But see* Kahn v. M & F Worldwide Corp., 88 A.3d 635, 644–46 (Del. 2014) (allowing business judgment protection to properly structured freezeouts in the period after this study).

91. *See* Dell, Inc. v. Magnetar Glob. Event Driven Master Fund Ltd., 177 A.3d 1, 20–21 (Del. 2017) (rejecting minority discount); Cavalier Oil Corp. v. Harnett, 564 A.2d 1137, 1144 (Del. 1989) (same). *See also* Hamermesh & Wachter, *supra* note 18 (explaining the difficulties with this framing of the problem of control premiums, minority discounts, and the pro-rata share of going concern value).

92. *See* Coates, *supra* note 49, at 1353–59 (collecting case law from various states that either rejects or allows minority discounts). As of 1999, case law in Georgia, Illinois, Indiana, Kansas, Mississippi, Missouri, New Mexico, and Ohio permitted minority discounts. *Id.* at 1355–58.

93. *See, e.g.*, Ronald J. Gilson, Henry Hansmann & Mariana Pargendler, *Regulatory Dualism as a Development Strategy: Corporate Reform in Brazil, the United States, and the European Union*, 63 STAN. L. REV. 475, 513–14 (2011).

94. A good illustration of this muddling is provided by *Paramount Communications, Inc. v. Time Inc.*, 571 A.2d 1140 (Del. 1990), and *Paramount Communications, Inc. v. QVC Network, Inc.*, 637 A.2d 34 (Del. 1994), where the Delaware Supreme Court in essence reversed itself because it became concerned that it had too fully shut down hostile takeovers.

in Delaware companies litigating in Delaware courts will be protected from decisions that favor a local controlling shareholder because she is an important person in the community.[95]

B. *Institutional Differences*

Delaware's institutional features also seem likely to add value for minority shareholders in controlled firms for at least three reasons: (1) quality of its judiciary; (2) its extensive case law; and (3) its implicit promise to keep its rules up to date.

Delaware's equity courts, while hearing other cases, have developed an expertise in resolving business disputes. In fact, Delaware judges are widely regarded as the most skilled state judges in the country in business matters.[96] Most other states rely on a non-specialized judiciary.[97] Since Delaware treats disputes concerning corporate law as matters of equity, it does not use juries for fact finding in corporate cases, unlike many other states.[98] When examining self-dealing transactions, Delaware's skilled judges should, in theory, be able to lower Type II errors (harmful transactions that are

---

Also, one need only think of the gradual reinterpretation of *Smith v. Van Gorkom*, 488 A.2d 858 (Del. 1985), as a duty of loyalty case, even though it is *explicitly* about the duty of care, to see how the case law can become confusing in an attempt to cabin unwanted precedent.

95. Powerful controlling shareholders do not always get their way in local courts. *See, e.g.,* Dodge v. Ford Motor Co., 170 N.W. 668 (Mich. 1919) (providing a seminal illustration). In *Dodge v. Ford*, Henry Ford lost that case even though he was already the preeminent figure among Michigan businessmen. By way of example, Ford was powerful enough to commandeer local sheriffs to do his personal bidding, in one instance commanding a sheriff to track down a Ford manager who was on vacation in the northern part of the Michigan to tell the manager that he had been fired as soon as Ford made that decision. *See* DAVID A. HOUNSHELL, FROM THE AMERICAN SYSTEM TO MASS PRODUCTION: 1800-1932, at 290 (1984). It should be noted that the Dodge brothers were also important local businessmen.

96. *See* Curtis Alva, *Delaware and the Market for Corporate Charters: History and Agency*, 15 DEL. J. CORP. L. 885, 918 (1990) (noting that practitioners found Delaware judges to be expert, and quoting one stating that Delaware judges are "the most skilled judges for corporate cases in the United States"). As an example, Delaware judges are quite well versed in the 3-factor capital asset pricing model. *See, e.g.*, Gesoff v. IIC Indus., Inc., 902 A.2d 1130, 1161 (Del. Ch. 2006). Searching Westlaw, the term "small stock premium"—an attribute of the 3-factor model—shows up in 14 Delaware cases and 3 state cases in the rest of the country combined.

97. A number of states have begun to create specialized business courts, including North Carolina and Rhode Island, as well as various local jurisdictions. *See* LEE APPLEBAUM, NAT'L CTR. FOR STATE CTS., FUTURE TRENDS IN STATE COURTS 2011: THE STEADY GROWTH OF BUSINESS COURTS 70, 70–72 (2011). In light of Delaware's first mover advantages, these new courts seem unlikely to draw the same caliber of judges as Delaware in the near future.

98. *See* Marcel Kahan & Ehud Kamar, *The Myth of State Competition in Corporate Law*, 2002 STAN. L. REV. 679, 709–12 (observing that even in states that have set up specialized business courts, nearly all still use juries for corporate cases).

nonetheless allowed) without increasing Type I errors (penalizing transactions that are actually beneficial to the firm).[99]

Delaware also benefits from the network externalities created by hosting so many publicly traded firms. As Michael Klausner notes, "Delaware has accrued a large body of case law representing extensive, nuanced learning with respect to the application of fiduciary duties and other rules in a wide range of contexts."[100] Klausner argues that such an extensive body of case law is a substantial advantage to Delaware corporations because it is difficult to know ex-ante how legal rules will be applied to new situations. Delaware firms face this situation less often precisely because there are so many other Delaware firms. Thus, Delaware offers more legal clarity, which is valuable to risk-averse decision makers. Obviously, this does not mean perfect legal clarity; the muddy state of the case law and Delaware courts' occasional outcome driven approach guarantee some uncertainty. But compared to many jurisdictions where there is no precedent at all, Delaware's cases are useful guides. For example, John Coates finds that one third of jurisdictions have no reported cases on minority discounts in freeze-out mergers.[101] Robert Daines has argued that Delaware's judiciary and case law are particularly valuable for controlled firms, because fiduciary litigation is more common for these firms.[102]

Last, Delaware can credibly promise that it will update its corporate law as circumstances change in the manner that corporations want. Delaware derives much of its revenue from corporate franchise fees — about a quarter of Delaware's general fund comes from them.[103] Many have argued that Delaware's dependence on these funds ensures that it will be responsive to changing circumstances.[104] If one takes the "race to the top" view of

---

99. Like most civil litigation, shareholder litigation in Delaware settles the vast majority of the time. *See* Thompson & Thomas, *supra* note 39, at 158–59 (discussing the high settlement rates observed in various empirical studies). Because such settlements occur in the shadow of judicial examination, however, the settlement value of a case should be influenced by the expertise (or lack thereof) of the judiciary.

100. Michael Klausner, *Contractarian Theory of Corporate Law: A Generation Later*, 31 J. CORP. L. 779, 793–94 (2005) (summarizing earlier work with Marcel Kahan). In addition, practitioners are most familiar with Delaware law and as such it may serve as a common language. Brian Broughman, Jesse M. Fried, & Darian Ibrahim, *Delaware Law as Lingua Franca: Theory and Evidence*, 57 J.L. & ECON. 865 (2014).

101. Coates, *supra* note 49, at 1310.

102. Daines, *supra* note 3, at 1591.

103. William Foster, *The (Limited) Allure of Delaware*, 2013 ARK. L. NOTES 1476.

104. *See, e.g.,* Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, J.L. ECON. & ORG. 225, 240 (1985) (analyzing the relationship between state franchise fees and corporate law responsiveness before remarking that Delaware leads all states in both categories); Jonathan R. Macey, & Geoffrey P. Miller, *Toward an Interest-Group Theory of Delaware Corporate Law*, 65 Tex. L. Rev. 469, 488–91 (1986) discussing Delaware's responsiveness to corporate managers and the substantial franchise tax revenues it has

Delaware, this responsiveness can create value for shareholders.[105] Similarly, if one views Delaware as the "reform" jurisdiction (and the home state as the weak governance jurisdiction) in a "regulatory dualism" framework, Delaware should also create value for minority shareholders.[106] On the other hand, if one takes the "race to the bottom" view, Delaware may be implicitly promising that it will continue to select rules that benefit management at the expense of shareholders in the future.[107]

Despite the ambiguity of this third factor, Delaware has strong institutional advantages in its expert judiciary and extensive case law that we would expect to create value for controlled firms. In fact, Delaware's advantages in its judiciary and case law are much clearer than whether its anti-takeover regime is genuinely more takeover-friendly than other states.[108] Thus, putting aside how firms select where to incorporate, there are good reasons to expect that minority shares in controlled Delaware corporations should actually enjoy a greater premium than diffusely owned firms.

To summarize, in the forgoing sections, I have examined how corporate law might create value for controlled firms, in large part by policing private benefit extraction by controllers. I have argued that control premiums attributable to inefficient private benefits are likely large enough that state corporate law should matter for firm value and also explored how Delaware in particular might have legal and institutional advantages for minority owners in controlled firms. I turn now to the literature which has empirically estimated the association between Delaware incorporation and firm value for diffusely held firms, and then explain my own estimation strategy.

V)   EMPIRICAL LITERATURE ON THE DELAWARE PREMIUM

Robert Daines found that Delaware firms had "approximately 5% greater market value" than similarly situated firms incorporated elsewhere.[109] Daines came to this conclusion after examining the Tobin's Q of Delaware

---

garnered as a result).

105. *See* Ralph K. Winter, *State Law, Shareholder Protection, and the Theory of the Corporation*, 6 J. LEGAL STUD. 251 (1977) (espousing the "race to the top" view).

106. *See* Gilson, Hansmann & Pargendler, *supra* note 93, at 512–18 (discussing regulatory dualism); Marcel Kahan, & Ehud Kamar, *The Myth of State Competition in Corporate Law*, 2002 STAN. L. REV. 679, 686, 739–41 (arguing that Delaware provides more protection to shareholders than non-competing states).

107. *See* William L. Cary, *Federalism and Corporate Law: Reflections upon Delaware*, 83 Yale L.J. 663 (1974) (espousing the "race to the bottom" perspective).

108. *See* Subramanian, *supra* note 31 (questioning whether Delaware law is more takeover friendly than elsewhere). Given the effectiveness of poison pills combined with staggered boards—which are both legal in Delaware—it is unclear if the boards of Delaware firms are actually much more vulnerable to takeovers than elsewhere.

109. Daines, *supra* note 2, at 533.

and non-Delaware firms, controlling for a number of firm characteristics. Tobin's Q is the ratio of the market value of assets to the replacement value of those assets, with the replacement value proxied by book value. Tobin's Q greater than one suggests the firm is adding value and has positive net-present-value projects to invest in.

Daines' sample contained all exchange traded firms in the Compustat database (which is the vast majority of firms that trade on U.S. exchanges), excluding banks and regulated utilities, from 1979-1996.[110] He controlled for return on assets (ROA),[111] research and development expenditures (R&D) as a proxy for investment opportunities, and the log of the value of sales as proxy for firm size. He also trimmed his sample by dropping the top and bottom 1% of Tobin's Q results to minimize the impact of outliers. Daines' baseline result is that Delaware firms have a Tobin's Q that is .07 higher than non-Delaware firms, which implies about a 5% higher market valuation. (It is less than 7% because the average Tobin's Q is greater than one). As discussed above, Daines attributed this premium to Delaware's relatively mild anti-takeover provisions.

The most obvious reaction to Daines' work is that there may be an omitted variable problem: does Delaware create higher value firms, or do higher value firms simply pick Delaware to incorporate in? Anticipating this kind of criticism, Daines notes that "whatever factors determine the domicile of the firms at the IPO, it is unlikely that these factors continue to be highly correlated with firm value . . . decades later."[112] Daines finds that mature firms still exhibit a Delaware premium and concludes that the premium is thus not driven simply by more valuable firms picking Delaware initially. This is not entirely convincing: corporate governance structures are often long lasting. Similarly, there may be differential survivorship.[113]

---

110. Each firm appears in Daines' sample once per year of its existence. Daines excludes banks and utilities "due to significant federal regulation and because rules governing the takeovers of such firms are determined by the state in which they operate," not where they are incorporated. Daines, *supra* note 2, at 530.

111. ROA = Operating income$_t$/Assets $_{t-1}$. As discussed above *supra* note 16, Daines and subsequent work which uses ROA are "over-including" when looking at the Delaware effect. For example, if Delaware law does a better job of deterring harmful conflicted transactions, this will show up in the ROA. If one controls for ROA, then the results will not pick up Delaware's effect on Tobin's Q through increasing return on assets. I do include ROA, but my results are similar if I exclude ROA, suggesting that in fact ROA is not highly correlated with Delaware incorporation, controlling for other firm-level characteristics.

112. Daines, *supra* note 2, at 550.

113. For example, it is quite plausible that Delaware firms were more likely to use stock option compensation during the 1980s and 1990s, which makes executives more likely to be willing to accept takeover offers. Thus, low performers among Delaware firms might be more likely to exit via takeover. This would leave "mature" Delaware firms as on average better performers than in other states, even if Delaware's legal regime did not add value.

In two papers Lucian Bebchuk and Alma Cohen highlighted the possible selection issues in Daines' model. They observe that Daines' estimates of the Delaware effect bounce around quite a bit year-by-year in a way that is not related to changes in Delaware law and instead suggest shared unobserved characteristics. They suggest instead that more ambitious or talented managers chose Delaware (or more likely choose lawyers who chose Delaware).

Daines' results were reworked in depth by Guhan Subramanian.[114] He finds that the Delaware effect declines from 1990-1996, and extending the sample, the effect disappears altogether from 1997-2002. Subramanian also finds that the effect is concentrated at the smaller end of the firms, such that Daines' estimate of the economic impact is too large. He also has some valuable econometric criticisms of Daines' method.[115] Subramanian suggests that changes in Delaware's takeover laws may have caused the disappearance of the Delaware premium.

Paul Gompers, Joy Ishii, and Andrew Metrick also examine Daines' findings as part of their examination of 1,500 large firms to see how firm governance impacts stock returns.[116] Gompers et al. look at firms who are covered by the Investment Responsibility Research Center to construct an index of firm governance provisions (the "G" index). This index is simply the sum of twenty-four governance characteristics where a one is given for anti-shareholders' rights provisions (a classified board, limited ability to call a special shareholders meeting, state law and charter takeover protections, etc.). Gompers et al. find that the G index is associated with Tobin's Q and after including it the Delaware premium is no longer statistically significant. In later work, Bebchuk, Cohen, and Ferrell find that only six of these factors have a consistent association with firm value, which they combine to create the Entrenchment "E index".[117]

None of these studies have separated out controlled firms. They focus on takeover protection and governance provisions which are relevant primarily for diffusely held corporations. Looking at controlled corporations helps us to see whether Delaware's expert judiciary and extensive case law generate market value outside the takeover realm. In particular, if we do not find that minority shares in controlled Delaware firms are more valuable than

---

114. Guhan Subramanian, *The Disappearing Delaware Effect*, 20 J.L. ECON. & ORG. 32 (2004).

115. Among other things, Subramanian correctly observes that Daines' baseline model likely has autocorrelation problems, and his standard errors are thus underestimated.

116. Paul A. Gompers, Joy L. Ishii & Andrew Metrick, *Corporate Governance and Equity Prices*, 118 Q.J. ECON 107 (2003) (It should be noted that the authors only discuss the disappearance of the Delaware premium in the working paper version).

117. Lucian Bebchuk, Alma Cohen & Allen Ferrell, *What Matters in Corporate Governance?*, 22 Rev. Fin. Stud. 783 (2008).

their non-Delaware counterparts, this would suggest that the institutional factors noted in Section IV do not create substantial share value. It might also imply that ex-ante lower quality controlled firms choose Delaware. If we do find controlled Delaware firms are more valuable, this is consistent with either Delaware creating value or ex-ante higher quality controlled firms choosing Delaware.

VI)   Empirical Strategy and Data

A.   Strategy

I start by calculating Tobin's Q for controlled and non-controlled firms incorporated in Delaware and in other states, as well as the firm-level controls used in Daines and the subsequent papers discussed above, as well as a control for firm age. More formally, I estimate the following equation, where i denotes a firm, and t denotes a year:

$$Q_{i,t} = \beta_{DE} \cdot DE + \beta_{control} \cdot Control + \beta_{control \cdot DE} \cdot DE \cdot Control + B \cdot X_{i,t} + \varepsilon_{i,t}$$

$Q_{i,t}$ is Tobin's Q for firm i in year t.[118] It is important to note this is not the true Tobin's Q for controlled firms because I calculate the market value of equity using the trading price of minority shares. Therefore, my estimate will tell us whether it is more valuable to own 1% of a controlled firm with the same book value of assets (and other firm characteristics) if the firm is incorporated in Delaware than elsewhere. Thus, this measure really gets at whether Delaware protects minority shareholders better, rather than if it adds total value to controlled corporations. However, since state law only affects inefficient private benefits, if Delaware minority stakes are more valuable, that suggests Delaware is creating value overall.

DE is a dummy variable equal to one if a firm is incorporated in Delaware and β_{DE} is the Delaware premium/penalty for non-controlled firms. Control is a dummy variable equal to one if the firm is "controlled." I define a controlled firm as having more than 35% of its shares owned by any insiders, or a single insider with more than 15% ownership, or a single outsider with more than 25% ownership.[119] $\beta_{control}$ is the penalty for being a

---

118. I also "winsorize" Tobin's Q at the top and bottom 5% of the sample to reduce the impact of extreme outliers. This means that I replace the highest 5% of Tobin's Q data with a value that would put the firm in the 95th percentile (and the same with the lowest 5% and the 5th percentile). Thus, I replace all Tobin's Q values above 5.71 with 5.71 and all values below .91 with .91. This is a common way to deal with outliers. The results are not qualitatively different with a different cutoff, though when I winsorize less of the sample, the results are noisier. Below, I also present the results of quantile regressions which are more robust to outliers than regression using ordinary least squares (OLS). For these regressions, I do not winsorize Tobin's Q.

119. In the Appendix, I show results using a stricter definition of control, though the results

minority shareholder outside Delaware. $B \cdot X_{i,t}$ is a set of firm level controls for: 1) operating income; 2) R&D; 3) debt, each normalized by value of sales;[120] 4) the "E index" to control for firm governance; 5) a control for the size of the firm;[121] 6) year dummies to control for market wide trends in Tobin's Q; 7) dummies for each three digit SIC code to control for industry level differences in Tobin's Q; and 8) a control for the age of the firm.[122]

$\beta_{control \cdot DE}$ measures whether the *difference* between controlled and non-controlled firms is bigger or smaller in Delaware than elsewhere.[123]   Our variables of interest are $[\beta_{control \cdot DE} + \beta_{DE}]$ and $\beta_{control \cdot DE}$ itself. If $\beta_{control \cdot DE} + \beta_{DE}$ ≤ 0, subject to the assumptions below, this indicates that Delaware is not creating value for controlled firms since minority stakes in controlled Delaware firms are worth less than in similarly situated firms incorporated elsewhere.[124]   If $\beta_{control \cdot DE} \neq 0$, we would have some evidence that the Delaware effect is not just selection, or at a minimum, that selection is operating differently across controlled and diffusely held firms.

B.   Identifying Assumptions

After adjusting for the control variables ($B \cdot X_{i,t}$), if controlled firms that choose Delaware are highly similar to those that incorporate in their home state, then $\beta_{control \cdot DE} + \beta_{DE}$ will be an accurate estimate of the effect of Delaware law on controlled firms.[125] Put differently, this assumption means

---

are quite similar. As discussed below, for dual-class firms, I only have data on aggregate insider ownership rather than on an individual-by-individual basis. Thus, for these firms I determine control only by reference to aggregate insider ownership. The results are comparable if I define control based only on aggregate insider ownership across all firms.

120. Using sales to normalize these variables differs from Daines and Subramanian who use book value of assets to normalize these variables. Doing so seems to unnecessarily introduce the potential for simultaneity bias, because book value of assets is on both sides of the equation (in the denominator of Tobin's Q as well as the denominator of the control variables). Regardless, my results are generally similar if I use book value of assets to normalize instead.

121. I divide the firms into 10 deciles based on sale and then include dummies for each decile. This allows for a flexible quasi-nonparametric control for the impact of firm size on Tobin's Q.

122. As with firm size, I divide the firms into 10 groups based on age and then include dummies for each group.

123. Mathematically $[DE_{control} - DE_{non-control}] - [\text{Other States}_{control} - \text{Other States}_{non-control}] =$ $[\beta_{DE} + \beta_{control} + \beta_{control*DE} - \beta_{DE}] - [\beta_{control} - 0] = \beta_{control*DE}$.

124. This result would also be consistent with lower value controlled firms selecting Delaware.

125. Formally, this assumption holds if $E[TobQ_{i, DE=0} \mid B \cdot X_{i,t}, DE=1] = E[TobQ_{i, DE=0} \mid B \cdot X_{i,t,} DE=0]$, where $TobQ_{i, DE=0}$ represents Tobin's Q for firm i, if it incorporates at home. In other words, imagine that all the firms that are actually incorporated in Delaware reincorporate in their home state. If the assumption holds, the former Delaware firms should have identical Tobin's Q to the firms initially incorporated at home. *See also* Listokin, *supra* note 7.

that the decision of whether to incorporate in Delaware or at home is essentially random after adjusting for $B \cdot X_{i,t}$.

There is in fact a lot of randomness in a company's decision of where to incorporate because it depends in large part on which law firm the company hires when it is completing its IPO.[126] If the company hires a local law firm, it is more likely to end up incorporating in its home state, but if it hires a national firm, it will likely end up incorporating in Delaware. The decision of which kind of law firm to hire, however, appears to be highly idiosyncratic and companies tend to stay wherever they incorporated at the time of their IPO.[127]

Nevertheless, it is unrealistic to think that incorporation is as good as randomly assigned. As Table 2 below shows, there are some differences in the observable characteristics of Delaware and non-Delaware firms, which suggests that there are probably some consistent unobserved differences as well. There are at least two possible sources of differences between Delaware and non-Delaware firms. First, there is probably some correlation between management characteristics and what kinds of lawyers they choose, and these management characteristics in turn affect Tobin's Q. For example, one might think that more talented or ambitious managers are more likely to be comfortable with counsel from a national law firm and these managers also increase the Tobin's Q of their firm.[128] This would lead to ex-ante higher value firms choosing Delaware and a positive association between Delaware and Tobin's Q regardless of the quality of the legal regime.

Second, entrepreneurs and managers do actually think directly about whether it fits their aims to leave their home state and incorporate in Delaware.[129] Scholars have framed this choice as embodying "regulatory dualism" with the decision turning on whether founders and managers prize maintaining local influence (in which case they stay home in a weak governance jurisdiction) or increasing share value (in which case they incorporate in Delaware, the reformed, strong governance jurisdiction).[130] Staying home allows a company to throw its weight around the local

---

126. *See* Daines, *supra* note 3, at 1580–82 (explaining how law firms can impact incorporation process).

127. *See* Daines, *supra* note 3, at 1580–82.

128. *See* Bebchuk, Cohen & Ferrell, *supra* note 9, at 1789–90 (putting this hypothesis forward).

129. *See* Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, 1 J.L. ECON. & ORG. 225, 274 (1985) (finding that while lawyers play the main part in reincorporations, management was still the first to suggest reincorporating in 30% of the companies surveyed).

130. *See* Ronald J. Gilson, Henry Hansmann & Mariana Pargendler, *Regulatory Dualism as a Development Strategy: Corporate Reform in Brazil, the United States, and the European Union*, 63 STAN. L. REV. 475, 512–18 (2011); Daines, *supra* note 3, at 1578.

legislature to influence the corporate law in its state. In numerous cases, large locally incorporated companies have pushed through legal changes to protect their management from takeovers.[131] As discussed above, local courts may also be more favorable to large local companies and litigation is probably more likely to be in local courts if the company incorporates at home. On the other hand, to the extent that this kind of home court advantage comes at the expense of minority shareholders, would-be minority owners should be less willing to buy shares in firms incorporating at home (rather than in Delaware). This in turn will restrain founders from always incorporating at home.

Regardless, as Gilson, Hansmann, and Pargendler have argued, this kind of regulatory dualism seems likely to result in higher quality firms incorporating in Delaware. As suggested above, where the company incorporates depends on what the founders/mangers prioritize: maintaining the flexibility to influence local corporate law if a situation arises when that would be useful or maximizing share price. Management that prefers the latter seems very likely to be of higher quality on average. Empirically, Daines' results also provide partial support for this idea among diffusely owned firms. His Delaware effect is on the high side for what we could reasonably expect corporate law to contribute to firm value, suggesting that if anything, higher quality firms choose Delaware.[132]

Therefore, it is likely that controlled Delaware firms are ex-ante higher quality and should be worth more, ignoring the effects of legal regimes.[133] This means that $\beta_{control \cdot DE} + \beta_{DE}$ will be a *ceiling* on the causal impact of Delaware law for controlled firms since it embeds both the causal effect of Delaware and the (likely) fact that Delaware firms are higher quality regardless of legal regime.

If selection works similarly across controlled and diffusely held

---

131. Three well publicized examples are: (1) Greyhound sought and obtained protective legislation in Arizona to defeat a takeover bid, in which a legislator complained that "Greyhound said 'Jump' and we said, 'how high;'" (2) Aetna pushed through protective legislation in Connecticut; (3) a prominent Massachusetts company facing a hostile takeover bid convinced the legislature to classify the board of all Massachusetts companies overnight. *See* MARK J. ROE, TAKEOVER POLITICS, IN THE DEAL DECADE: WHAT TAKEOVERS AND LEVERAGED BUYOUTS MEAN FOR CORPORATE GOVERNANCE 321, 339 (Margaret M. Blair ed., (1993)) (providing examples of local companies pushing state legislators to change state corporate takeover law); Gilson, Hansmann & Pargendler, *supra* note 130, at 517; Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, 1 J.L. ECON. & ORG. 225 (1985).

132. *See* Bebchuk, Cohen & Ferrell, *supra* note 9 (arguing that if anything, Daines' results are too high to be causal).

133. Formally $E[TobQ_{i, \, DE=0} \mid B \cdot X_{i,t}, DE=1 \; Control = 1] > E[TobQ_{i, \, DE=0} \mid B \cdot X_{i,t,} DE=0 \; Control = 1]$.

firms,[134] $\beta_{control\cdot DE}$ will be an unbiased estimate of the differential effect of Delaware law on controlled firms as compared to diffusely held firms. Even if Delaware law is good for controlled firms, $\beta_{control\cdot DE}$ can be less than zero in this situation. That is because if Delaware law is sufficiently good for diffusely held firms, then overall it can increase minority share values in controlled firms, even if it does so by less than for diffusely held firms.

If selection does not operate similarly across controlled and diffusely held firms, then $\beta_{control\cdot DE}$ could represent either a floor or a ceiling on the differential effect, depending on the nature of the selection mechanism. $\beta_{control\cdot DE}$ will be a ceiling if the phenomenon of higher quality firms picking Delaware is stronger among controlled firms, and a floor if that phenomenon is stronger among diffusely owned firms. The regulatory dualism framework would seem to predict that sorting would be stronger among controlled firms than diffusely held firms. In that case, $\beta_{control\cdot DE}$ will be a ceiling. In countries that weakly police private benefits (e.g., Brazil), it is clear that controlled firms have the more to gain by choosing to be governed by the reform regime and thereby credibly binding themselves to less exploitation of minority shareholders. Thus, failing to opt into the reform regime tells us more about the objectives of management of the controlled firms than diffusely held firms that do not opt into the reform jurisdiction. The logic can be applied to the U.S. However, it is not entirely clear this is correct, since it is plausible that Delaware's value as a reform jurisdiction might be greater in terms of its relatively mild anti-takeover laws than for checking self-dealing in controlled firms.[135]

C. Data

The most reliable data on ownership of control stakes comes from Gompers, Metrick, and two coauthors who manually cleaned the proxies of 1500 large firms from 1996 to 2001. They showed that the commercial databases were not reliable to use for aggregate ownership because of issues with double counting.[136] Like many of the recent studies involving block

---

134. Formally, $E[TobQ_{i,\ DE=0} \mid B\cdot X_{i,t}, DE=1\ Control = 1]$ - $E[TobQ_{i,\ DE=0} \mid B\cdot X_{i,t}, DE=0\ Control = 1]$ = $E[TobQ_{i,\ DE=0} \mid B\cdot X_{i,t}, DE=1\ Control = 0]$ - $E[TobQ_{i,\ DE=0} \mid B\cdot X_{i,t}, DE=0\ Control = 0]$.

135. At first blush, the data appears to suggest controlled firms prize Delaware more. A statistically significantly greater percent of controlled firms opt into Delaware than among diffusely held firms. But as it turns out this is just a cohort effect. On average, controlled firms are younger, and younger firms are more likely to have chosen Delaware. After controlling for firm age, controlled firms are not statistically significantly more likely to choose Delaware.

136. Jennifer Dlugosz, et al., *Large Blocks of Stock: Prevalence, Size, and Measurement*, 12 J. CORP. FIN. 594 (2006).

ownership,[137] I use this database. I supplement this data using Gompers, Metrick, and Ishii's data on firms with multiple classes of stock outstanding over the same period.[138] Most of these firms are controlled firms.

I also obtain data on the E index from Bebchuk, Cohen, and Ferrell's work.[139] All other data was obtained from Compustat. Following Daines and Subramanian, I also drop banks and regulated utilities. R&D expenditures are missing for roughly one third of firms. I do not drop the firms with missing data, but rather replace missing observations with zeros, and then include a dummy variable indicating which firms had missing data. This is a common method to deal with incomplete data.[140]

TABLE 2

| | Summary Statistics | | | | | | | | | |
| | All Firms | | DE, Diffuse | | Not DE, Diffuse | | DE, Contr'ld | | Not DE, Contr'ld | |
	Mean	Std Dev	*Mean*	Std Dev	*Mean*	Std Dev	*Mean*	Std Dev	*Mean*	Std Dev
# Firm Years	7391		3372		2328		1159		532	
Tobin's Q	**2.05**	1.22	**2.16**	1.30	**1.98**	1.15	**1.96**	1.18	**1.85**	1.06
G Index	**9.26**	2.83	**9.17**	2.86	**9.76**	2.62	**6.87**	2.46	**7.94**	3.05
Debt/Sales	**0.53**	9.18	**0.40**	1.41	**0.26**	0.61	**1.48**	23.03	**0.45**	0.80
Mark-Up[1]	**-0.14**	8.07	**-0.07**	3.65	**-0.14**	8.21	**-0.43**	15.53	**0.09**	0.13
R&D/Sales	**0.21**	4.03	**0.20**	2.11	**0.27**	6.37	**0.11**	1.29	**0.05**	0.13
Size Decile[2]	**5.51**	2.87	**5.75**	2.94	**5.83**	2.82	**4.72**	2.73	**4.26**	2.31
Age Decile[3]	**5.50**	2.90	**5.42**	2.87	**6.23**	2.59	**3.98**	2.94	**4.64**	2.82

[1] Operating income/Sales. This distribution is heavily left skewed by firms that have large losses and small sales.

[2] Firms are divided into 10 equal sized groups in each year based on their sales. 1 is the smallest, 10 is the largest group.

[3] Firms are divided into 10 equal sized groups based on how long they have been publicly traded. 1 is the newest firms, 10 is the oldest firms.

Tobin's Q is slightly larger here than in Daines' sample (2.05 here, 1.7 in Daines), but this makes sense because the sample here is composed of the

---

137. *See, e.g.*, Paul Brockman & Xuemin Sterling Yan, *Block Ownership and Firm-Specific Information,* 33 J. BANKING & FIN. 308 (2009) (using the Dlugosz et al. data); Sreedhar T. Bharath, Sudarshan Jayaraman, & Venky Nagar, *Exit as Governance: An Empirical Analysis*, 68 J. FIN. 2515 (2013) (same).

138. Paul Gompers, Andrew Metrick & Joy Ishii, *Extreme Governance: An Analysis of Dual-Class Firms in The United States*, 23 REV. FIN. STUD. 1051 (2010).

139. See Bebchuk, Cohen & Ferrell, supra note 117.

140. Simply including a dummy for missing R&D, while common, is not entirely unproblematic and under some conditions, can lead to biased coefficients, but the results are comparable excluding R&D (and likewise for the E-Index whose missing observations I handle similarly).

highest market-value firms. Since market-value is the numerator of Tobin's Q, it is not surprising that more valuable firms on average have a higher Tobin's Q, even after dividing by book value.[141] Without controlling for firm level characteristics, Delaware firms have a higher Tobin's Q both among controlled firms and non-controlled firms. Dispersed ownership firms are slightly larger in terms of sales. Delaware firms are younger on average, which is in keeping with Delaware's increasing share of the IPO market.[142]

VII) RESULTS

TABLE 3

Impact of DE Incorporation on Controlled and Non-Controlled Firms 1996-2001

Outcome: Tobin's Q	Ordinary Least Squares[†]	Median Regression[†]
DE firm	0.0528 (0.0423)	0.0512 (0.0394)
Cntrld Firm	-0.0009 (0.0797)	0.0036 (0.0516)
Cntrld DE Firm	-0.1480 (0.0838)*	-0.1226 (0.0567)**
E index	-0.0850 (0.0184)***	-0.0593 (0.0128)***
Scaled-Debt	0.0078 (0.0025)***	0.0073 (0.0016)***
Mark-Up	0.0161 (0.0040)***	0.0141 (0.0028)***
Scaled-R&D	0.0378 (0.0094)***	0.0488 (0.0035)***
R&D Missing	-0.1460 (0.0357)***	-0.0680 (0.0295)**
E Index Missing	-0.3926 (0.0400)***	-0.2429 (0.0396)***
R^2	0.37	0.17
N	7,271	7,271

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Fixed effects controlling for firm size, industry (three digit SIC code), age, and market-wide year effects included in the model, but not reported.

[†] Standard errors clustered at the state of incorporation level. Clustering at the firm level yields almost identical results.

---

141. P/E ratios were also higher during this period than Daines', again making it not surprising that Tobin's Q is higher here.

142. *See* Daines, *supra* note 3, at 1591–92 (noting that Delaware's share of the IPO market increased from 40% to 70%).

My estimate of the Delaware effect is similar to Daines' and the estimated effect is still economically meaningful: diffusely held Delaware firms are worth approximately $80 million more for a middle-sized firm. But the effect is not distinguishable from zero, because it is not precisely estimated. Indeed, because my sample is for fewer firms and fewer years, I have less power than Daines and my standard errors are calculated in a more conservative fashion. Thus, while I estimate a coefficient that is similar, it is not statistically significant.

Despite the arguments put forward in Section IV, the impact of Delaware incorporation on controlled firms is estimated to actually be *negative*. Controlled Delaware firms have a lower Tobin's Q compared to controlled firms incorporated elsewhere, after factoring in firm characteristics. The point estimate is that controlled Delaware firms are on average worth 4.9% less than similarly situated firms incorporated elsewhere.[143] Using the 95% confidence interval, it is possible to rule out that Delaware is associated with adding more than 1.3% on average to minority share values (or 1.4% for minority shares in the (conditional) median controlled firm).[144] Again, in light of the size of private benefits and control premiums, this is useful information since it is easy to imagine that a much more efficient legal system could add more than 1.3% to minority share prices.

In addition, as shown in the Appendix, the results in Table 3 are not artifacts of controlling for arguably problematic variables, like operating profits, which might be a channel through which state corporate law effects value.[145] Instead, if those variables most likely to be affected by state law are excluded, the estimates are similar.[146]

Finally, I also re-run my results using "Total Q" instead of the

---

143. "Median regression" provides an estimate of the effect associated with Delaware incorporation on the median controlled firm—adjusting for firm characteristics—rather than the average controlled firm as in OLS. The estimates in Table 3 indicate that, after controlling for other firm characteristics, Delaware incorporation is associated with a 3.8% drop in the value of the median controlled firm.

144. Note this is a one-sided test designed to find the upper bound such that if we repeated such a test with different data, the true value would fall below this line 95% of the time. The two-sided equivalent runs from -12.5% to 2.8%. For the conditional median, the two-sided 95% confidence interval of the Delaware effect for controlled firms is -9.4% to 2.2%.

145. *See* discussion *supra* note 16.

146. As discussed *supra* in note 30, one might be concerned that the value of minority shares depends on the percentage of the company held by the controller. If the controller has a lower stake, she is theoretically more likely to exploit the minority, leading to lower minority share prices. This in turn would affect the calculated Tobin's Q. But I find that the results are quite similar if I address this concern by using a series of dummy control variables indicating the percentage of the firm's votes controlled by insiders (rounded to the nearest 10%).

traditional calculation of Tobin's Q based on book value.[147]   Total Q is designed to adjust for each firm's spending on intangible forms of capital like worker-training, advertising, R&D, etc.   This kind of spending usually does not increase book value under the accounting rules, even though conceptually it should do so.[148]   As shown in the Appendix, the results using "Total Q" are again quite similar, if a bit larger in magnitude for each variable of interest.

A. Explaining the Main Result

There are at least four possible explanations for why $\beta_{control \cdot DE} + \beta_{DE}$ is estimated to be less than zero and with a 95% upper bound not much above zero.

1. Delaware's legal regime is actually worse or not materially better for controlled firms.

The simplest causal explanation is that Delaware corporate law simply is not better for controlled firms.   The controlled firms that choose Delaware are of the same or higher quality than those elsewhere, but the data correctly reveal that Delaware's law is not better.

It is worth revisiting Delaware's supposed advantages.   The high quality of Delaware's judiciary is unquestioned.   Its voluminous case law is also probably valuable for generating predictability, and its doctrine is slightly more protective of minority shareholders than other jurisdictions.   These advantages come at a cost, however.   Delaware charges higher franchise fees, and more importantly, its attorney's fees rules may incentivize more shareholder's suits than other states[149] and make it harder to get these suits dismissed before summary judgment.

If Delaware law really is not better for controlled firms, then there are a couple explanations for why diffusely held firms appear to be differently affected by Delaware incorporation.[150]   First, and most importantly, Delaware may retain a real and significant advantage through its milder anti-takeover laws.   Controlled firms are unaffected by these laws.   Second,

---

147. *See* Ryan H. Peters & Lucian A. Taylor, *Intangible Capital and the Investment-Q Relation*, 123 J. FIN. ECON. 251, 252 (2017).

148. *See Id.* at 256.

149. Jonathan R. Macey & Geoffrey P. Miller, *Toward an Interest-Group Theory of Delaware Corporate Law,* 65 TEX. L. REV. 469, 491–96 (1987).

150.   Note that the results are not precise enough to ensure with a high degree of confidence that there is a different Delaware effect associated with diffusely held and controlled firms. They suggest there is a difference, but the result is only statistically significant in the median regression and there at the 6% level.

controlled firms are more likely to be involved in fiduciary litigation and so may bear proportionally more costs if Delaware's rules increase the likelihood and cost of litigation.

Third, shareholders in diffusely held firms may bear a relatively higher cost from incorporating at home than in controlled firms along another dimension: the risk of selective, adverse, changes in corporate law. Managers generally want changes to the corporate law to protect their jobs, and there are numerous examples of them succeeding.[151] In these endeavors, management can often enlist the help of labor and employees who stand to lose if new management arrives. Controlling shareholders of course do not need the legislature's help in these matters. Instead, controllers will be concerned primarily with the regulation of conflicted transactions. It may be harder to get legislators to bend these rules, however. Controlling shareholders have fewer natural allies and existing fiduciary rules are more closely tied to our societal sense of fairness than for example, whether a board is classified. Hence, legislators and courts are likely less willing to change fiduciary rules.[152] Indeed, it is also possible controlled firms get more benefits out of home state incorporation, as well as arguably bearing fewer costs in the form of selective law changes.[153]

These explanations will interact with how firms decide where to incorporate. If these hypotheses are correct and Delaware law is not better for controlled firms, but is for diffusely held firms, then under the regulatory dualism approach suggested by Gilson, Hansmann, and Pargendler, Delaware is only the reform jurisdiction for diffusely held firms. Thus, in that framework, ex-ante higher quality diffusely held firms will disproportionately choose Delaware, but this would not be the case for controlled firms. This would explain part of why $\beta_{control \cdot DE}$ is negative, as well as causal differences.

If the data are telling us that Delaware did not create much extra value for controlled firms during the study period, then it takes some of the steam

---

151. *See* discussion *supra* Section VI.B.

152. As observed in *supra* note 20, Nevada has recently substantially weakened the duty of loyalty in a bid to attract outside incorporators. Nevertheless, I am not aware of any other state proceeding in this fashion, and legislators and courts do appear to be more cautious in this area than with respect to various anti-take-over provisions.

153. The direct effect of incorporating at home is only on which state's corporate law governs the internal affairs of the company and to increase the likelihood that suits related to those laws take place in the courts of the home state. But Gilson, Hansmann & Pargendler suggest that incorporating at home may also serve as a useful signal that the company considers its interests closely tied to its home state, (mildly) increasing its political influence. *See* Gilson, Hansmann & Pargendler, *supra* note 130, at 514. Controlling shareholders seem likely to have more political influence than management of a diffusely held firm because they tend to be wealthier and have tighter control over the resources of the firm. Thus, controlled firms may get more mileage from the signal of incorporating at home.

out of arguments that *MFW* and *Synutra* will decrease firm value as a whole and that of minority shareholders in particular.[154] *MFW* moved Delaware law closer to that of other states by cutting down on the extra doctrinal protection Delaware offered by always using entire fairness review of conflicted transactions involving the controller.[155] A first cut at the data suggest this extra protection was ultimately not valuable to the minority— perhaps because it encouraged extra litigation and deterred useful conflicted transactions. Thus, cutting such extra protection is unlikely to have a substantial deleterious effect on the value of minority interests or the firm as a whole.

The view presented above is, I think, a useful contribution on the *MFW* question. It is not, however, the only interpretation of the results of this piece. It is possible Delaware did increase the value of controlled firms during the study period, and this fact is hidden in the data by differences in which controlled firms choose Delaware, a possibility I move on to discussing below.

2. Delaware law is better for controlled firms, leading to bonding which is more valuable for lower quality firms, and selection disguises Delaware's true effect.[156]

If Delaware law better protects minority shareholders, the regulatory dualism framework predicts that Delaware will draw ex-ante higher quality firms whose management is concerned with maximizing share value, rather than local influence. This is intuitive and seems to be correct in international contexts when a *new* strong governance regime is introduced, and all firms had previously been governed by an older, weak regime. In this case, many existing controllers have no need to access the equity markets again and are content to take private benefits and stay in the weak regime. Higher quality firms by contrast—which are either new, or whose controller wishes to maximize share price for additional equity issuances—move to the new, reformed governance regime. The regulatory dualism prediction is not the only possible view of how controlled firms will sort themselves into

---

154. *See* Korsmo, supra note 23 and accompanying text; Cox & Thomas, *supra* note 23 (discussing various potentially harmful consequences of the *M&F Worldwide* ruling that weakened judicial scrutiny of conflicted transactions in controlled firms).

155. Recall that *MFW* and *Synutra* instead allow controllers to enjoy the protection of the business judgment rule if the controller conditions the transaction on approval by an independent committee and the support of a majority of minority shareholders. Kahn v. M&F Worldwide Corp., 88 A.3d 635, 642–44 (Del. 2014).

156. *See, e.g.*, Michael C., Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976) (discussing bonding costs in agency and principal relationships).

Delaware and home state incorporation, however. This is particularly true because Delaware did not appear suddenly as a new strong governance regime. Instead, most controlled firms made an initial choice about whether to incorporate in Delaware at a time when they needed to access outside equity markets (i.e., at their IPO).

To see how we could end up with a result not predicted by regulatory dualism, imagine a simple and extreme world in which there are two types of controlled firms. The ex-ante high quality firms have controllers (think Warren Buffett) who already have sparkling reputations and who are bound by extra-legal strictures like a reputation for honesty sufficiently strong that the market knows the controller will not take any inefficient private benefits, regardless of where the firm incorporates. Assume that minority shares in these ex-ante high quality firms will be worth $2 per share regardless whether the company incorporates at home or in Delaware. These firms end up choosing where to incorporate in essence randomly through various idiosyncratic factors like which lawyers the company hires, with 50% of the firms ending up at home and 50% in Delaware.[157]

The second set of firms is ex-ante low quality. In these firms, the controller has no reputation one way or the other and will likely take some private benefits wherever the firm incorporates. Assume that if the controller incorporates at home, she will have more opportunities to extract inefficient private benefits, and the minority shares will be less valuable, leading to minority shares worth $1 each. If the firm incorporates in Delaware, the controller will not be able to take as many inefficient private benefits, and the minority shares will be worth more, at $1.50 per share. The lower quality firms, even in Delaware, are worth less than high quality firms because: (1) Delaware ameliorates, but does not solve, the problems with inefficient private benefits and (2) controllers without high quality reputations are likely to be on average worse managers, aside from the question of private benefits.

Potential minority investors in the ex-ante low quality firms will understand implications of incorporation for the scale of private benefit extraction and be willing to pay more if the firm is incorporated in Delaware. If the controller wishes to raise funds in the capital markets, she may find it advantageous to choose Delaware to maximize the sale price of new equity, even though she is less able to take private benefits having done so. For simplicity, assume that all the ex-ante low quality firms choose Delaware for this reason.

In this world, Delaware creates value for the ex-ante low quality

---

157. One might also imagine that, as suggested *supra* in note 153, incorporating at home is actually optimal for controlled firms where private benefit extraction is not a concern. If this were true, all the highest quality controlled firms in this model would incorporate at home, instead of the 50% hypothesized above, exacerbating the selection effect.

controlled firms, but if we were to estimate a controlled Delaware effect, it would be negative, because Delaware incorporated controlled firms are worth less on average. Delaware firms are a mix of ex-ante high quality firms (minority shares worth $2) and ex-ante low quality firms (minority shares worth $1.50), whereas the controlled firms incorporated at home are all ex-ante high quality (minority shares worth $2 per share).

The realism of this model is a different question. There is some support in the data for a model like this one in which lower quality controlled firms may choose Delaware, because it seems unlikely that Delaware law actually causes average controlled firm value to decrease by 4.9%. On the other hand, in the data, the negative association between Delaware and controlled firm value is stronger for ex-post more valuable firms at the seventy-fifth percentile of firm value than for ex post less valuable firms at the twenty-fifth percentile.[158] The model would seem to suggest the opposite would be the case. Moreover, the institutional advantages listed in Section IV, like the reduced uncertainty provided by Delaware's voluminous case law and Delaware judges' expertise in dealing with conflicted transactions would seem to have real value to higher quality firms as well, making it less likely selection would dominate in the empirical estimate. Likewise, it seems probable that many lower quality controlled firms would choose home state incorporation just because of the randomness embedded in the firm's choice of lawyers, particularly because one might think that more talented or ambitious managers would be more likely to choose national law firms. Finally, in both this story and the regulatory dualism framework, for Delaware to serve as a reform jurisdiction or to allow bonding for controlled firms, there must be mechanisms which penalize the controller for incorporating in Delaware, reaping the lower cost of capital, and then reincorporating in the home state.[159] Reincorporation expenses may play a role, but these alone are not sufficient. Reputational costs will also work better to restrain reincorporation (which is easily observable) than private benefits extraction (which is not). Still, if the theory discussed in this subsection is correct, one would also think we would see charter provisions or other mechanisms designed to empower the minority to reject reincorporation.

---

158. *See infra* Appendix Table A-1; *see also* Marianne P. Bitler, Jonah B. Gelbach & Hilary W. Hoynes, *What Mean Impacts Miss: Distributional Effects of Welfare Reform Experiments,* 96 AM. ECON. REV. 988 (2006) (explaining how quantile regression can be used to examine treatment effects which are predicted to be heterogenous based on a model).

159. *See* Lucian Bebchuk & Allen Ferrell, *Federalism and Corporate Law: The Race to Protect Managers from Takeovers*, 99 COLUM. L. REV. 1168, 1174 (1999) (discussing the problems created by reincorporation for viewing Delaware as shareholder wealth maximizing).

Overall, while this model of bonding is plausible, more research is needed to test it.[160] Of the two theories just presented, I think this one has somewhat less support for it. Nevertheless, if the bonding theory is right, then *MFW* and *Synutra* may indeed have destroyed firm value and decreased the value of minority interests.

3. Delaware law is better for controlled firms, but markets do not price it.

It is plausible that the market is simply not paying attention to state fiduciary law, at least prospectively. Anecdotally, I had a job which frequently required me to read analyst's reports, and I cannot ever remember those reports discussing the state law governing the company.[161] More scientifically, Elliott Weiss and Lawrence White found that Delaware firms did not show abnormal returns in response to seven important decisions, which made substantial, unanticipated, changes to Delaware corporate law.[162] Weiss and White's preferred explanation is that investors have concluded that Delaware decisions essentially lack precedential value. More likely, the reason Weiss and White do not see stock reactions is because the decisions impact each firm only a small amount. Market realities suggest these decisions are unlikely to be priced in the short-term. At funds that actively trade stocks, analysts and traders typically focus on a firm or industry. These judicial decisions have only a small impact on any one firm or industry and thus will garner little attention from these analysts. Moreover, analysts and traders are generally not well equipped to evaluate complex and ambiguous legal developments in the short run.[163] John Coates also reports that the question of how minority discounts will be handled by state law in freeze-outs does not appear to be well understood by market

---

160. One could partially test the model by examining whether Delaware controlled firms actually disclose more related party transactions in their SEC filings. If so, this would give support for the model's prediction that firms whose controllers may have more opportunity (or propensity) to take private benefits, choose Delaware as a form of bonding.
    Another test would examine a sample of the firms to see whether the controllers in Delaware corporations look different (e.g., years of experience, more likely to be a corporation instead of a natural person, etc.) than home-incorporated controlled firms.

161. Admittedly, I did not have to review many reports related to IPOs, prospective mergers, or takeovers.

162. Elliott J. Weiss & Lawrence J. White, *Of Econometrics and Indeterminacy: A Study of Investors' Reactions to Changes in Corporate Law*, 75 CAL. L. REV. 551 (1987).

163. *See* Merritt B. Fox, *The Role of the Market Model in Corporate Law Analysis: A Comment on Weiss and White*, 76 CAL. L. REV. 1015 (1988) (concluding that the reasons a semi-strong efficient market is predicted to outperform any individual are lacking in this context).

participants.[164]

Nevertheless, this explanation is difficult to accept over the long run. It is clear that in the international context, markets are well aware of how well corporate law polices private benefits. This is why control premiums make up a third or half the value of firms in countries with weak regulation.[165] Moreover, markets pay quite a lot of attention to profits, and to the extent fiduciary law matters, it eventually will show up in profits. Better fiduciary law discourages harmful self-dealing, which in turn improves the bottom line, and this will show up in securities prices. So, as a long run explanation, this is unsatisfying.

> 4. Control premiums are so small that better fiduciary law simply is not empirically important.

I have argued that the control premium for U.S. firms is high enough that we should expect differences in fiduciary law to have a substantial impact on minority share values. Nevertheless, if Zingales and Nenova's work is representative of all controlled firms, then it would be surprising for differences in state law to have much effect on minority share values.[166] While I think there are good reasons to expect that these studies significantly understate the size of control premiums, it is plausible that they are right, and thus that the causal impact of Delaware law should be approximately zero relative to other states.

VIII)   Conclusion

This Article traced how state corporate law in general, and Delaware corporate law in particular, might create value for shareholders in a controlled firm. Yet the data do not indicate that Delaware creates more value for minority shareholders than other states. I argued that there is good reason to believe that my estimate of the Delaware effect would be a ceiling. But—using the 95% confidence interval—the data rule out that Delaware adds more than 1.3% to the value of minority shares. This is a surprising and interesting result that suggests that the market does not greatly value Delaware's highly skilled judiciary and extensive case law, at least outside hostile takeovers. I have suggested a couple of explanations, and further

---

164. *See* Coates, *supra* note 49, at 1309 ("Disclosure regarding minority discounts – even in jurisdictions in which discounts are or may be legal – is almost nonexistent.").

165. Dyck & Zingales, *supra* note 61; Nenova, *supra* note 62.

166. Likewise, even if control premiums are on the scale I suggest, but are primarily attributable to efficient private benefits—as in idiosyncratic vision model suggested by Goshen and Hamdani—better state fiduciary law is again unlikely to be empirically important.

research is needed to see whether any or all of them explain the pattern seen in the data.

APPENDIX

Table A-1
Impact of DE incorp. on control v. non-control firms
Alternative Estimations

Dependent Var:	TobQ	TobQ	TotalQ‡	TobQ	TobQ	TobQ
	OLS	OLS	OLS	OLS	Quantile Reg (25th pct)††	Quantile Reg (75th pct)††
	Very Limited Controls	Limited Controls		Strict Control Defn't†		
DE firm	0.062	0.053	0.078	0.0294	0.0323	0.0791
	(0.047)	(0.043)	(0.050)	(0.0375)	(0.0264)	(0.0735)
Cntr'ld Firm	0.035	0.001	0.036	-0.0544	0.0169	0.0044
	(0.081)	(0.079)	(0.088)	(0.0819)	(0.0457)	(0.0649)
Controlled DE Firm	-0.188	-0.157	-0.194	-0.1010	-0.0887	-0.1899
	(0.084)**	(0.082)*	(0.093)**	(0.0873)	(0.0525)*	(0.0813)**
E index		-0.083	-0.106	-0.0855	-0.0171	-0.1065
		(0.019)**	(0.025)**	(0.0183)***	(0.0085)**	(0.0259)***
Scaled-Debt		-0.001	0.023	0.0076	0.0049	-0.0085
		(0.0001)*	(0.007)***	(0.0025)***	(0.0012)***	(0.0022)***
Mark-Up			0.039	0.0159	0.0096	-0.0096
			(0.012)***	(0.0039)***	(0.0021)***	(0.0034)***
Scaled-R&D			0.076	0.0373	0.0461	0.0040
			(0.023)***	(0.0091)***	(0.0035)***	(0.0057)
R&D Missing			0.057	-0.1480	-0.0543	-0.1354
			(0.049)	(0.0355)***	(0.0236)**	(0.0464)***
E Index Missing			-0.486	-0.3934	-0.1011	-0.4887
			(0.064)***	(0.0397)***	(0.0168)***	(0.0824)***
R^2	0.36	0.36	0.33	0.37	0.13	0.19
N	7,301	7,271	7,224	7,271	7,271	7,271

Fixed effects controlling for firm size, industry (three digit SIC code), age, and market-wide year effects included in the model, but not reported. Standard errors clustered at the state of incorporation level

† Controlled here means a firm with more than 50% of its shares owned by any insiders, or a single insider with more than 25% ownership, or a single outsider with more than 30% ownership.

†† Quantile regression at the 25th percentile (and 75th percentile) is like median regression, except it estimates the effect on firms at the (conditional) 25th percentile in the distribution of Tobin's Q (or 75th percentile) rather than at the (conditional) median of Tobin's Q.

‡ Total Q is calculated based on Peters and Taylor, *supra* note 147, and Winsorized at the 5th and 95th percentile as discussed in the text with respect to Tobin's Q.