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Supply-Side Inefficiencies in Corporate Charter Competition: Lessons from Patents, Yachting and Bluebooks

Ian Ayres

A Dedication to Judge Logan

Judge James K. Logan has taught me a great deal about how to lead a well-integrated professional life. My mind's ear can hear Judge Logan's voice admonishing me to clear my desk of correspondence and other chores before tackling the day's task of writing. I also hear Judge Logan telling me to develop an expertise in one of the private law areas so that my inclination for government intervention will not be marginalized for failure to consider the private reaction of the regulated.

Judge Logan takes tremendous interest in the lives of his clerks. He showed us by example that there need not be a sharp dichotomy between the professional and personal spheres. It was fitting that Judge Logan married Jennifer Brown and me just two years ago in my parents' house in Kansas City.

My clerkship also helped begin my academic career. Op-eds that I unsuccessfully submitted to newspapers during my clerkship were later published in my first book, and perverse Oklahoma precedent that Judge Logan struggled to distinguish in one of his diversity cases provoked me to write my first consumer-protection piece.

But most important, Judge Logan's example has taught me how to live a responsible professional life. Judge Guido Calabresi (whose own career has tracked Judge Logan's: moving from a deanship to the Court of Appeals) has stressed the cumulative importance of small deeds.

^{*} William K. Townsend Professor of Law, Yale Law School. Law clerk to the Honorable James K. Logan, 1986-87. Jennifer Brown, William Bratton, Jeremy Bulow, Paul David and Roberta Romano provided helpful comments. An earlier version of this paper was originally presented at a conference on International Regulatory Competition and Coordination at the University of Warwick.

^{1.} IAN AYRES & JOHN BRAITHWAITE, RESPONSIVE REGULATION 147-52 (1992).

^{2.} The Oklahoma precedent, exemplified by Furrow v. First Nat'l Bank, 271 P. 632, 634 (Okla. 1928), held that misrepresentation of a seller's cost was not material because it had no bearing on the current value of the property. In FDIC v. Palermo, 815 F.2d 1329, 1336-37 (10th Cir. 1987), Judge Logan distinguished the case from the Oklahoma precedent, finding that a seller's misrepresentation was actionable in part because of the uncertain value of the property. My analysis of these cases and markup disclosure in general can be found in Ian Ayres & F. Clayton Miller, "I'll Sell It to You at Cost": Legal Methods to Promote Retail Markup Disclosure, 84 Nw. U. L. Rev. 1047, 1049-52 (1990).

Hannah Arendt has detailed the "banality of evil," but Judge Calabresi has praised the "banality of good." Judge Logan has excelled in the banal details of professional life. To be sure he has participated in many larger moments of heroism. In my year of clerking alone, Judge Logan crafted opinions striking down both the per se exclusion of deaf jurors from criminal cases and the per se exclusion of student corporal punishment claims under 42 U.S.C. § 1983.

But to assess Judge Logan's professional righteousness merely by looking at these heroic moments would miss a much larger picture. I most admire Judge Logan's conscientious and empathetic struggle to decide case after case, year after year. Each of his clerks has seen at least one year of his consistent attentiveness to the duties of office. This cumulative record of faithful service richly deserves to be honored. This Article is dedicated to him.

I. Introduction

The ongoing debate about whether Delaware's dominance in the market for corporate charters is a race-to-the-top or a race-to-the-bottom often turns on whether one believes corporate managers are driven to incorporate (or reincorporate) in the state that provides the most efficient law: William Cary and his followers have argued that managers abuse their discretion to incorporate in states that benefit managerial interests at the expense of shareholder interests; Ralph Winter and his followers have argued that because managers' discretion is constrained by promoters or by the threat of a potential takeover, managers will tend to incorporate in states that provide laws which maximize the value of corporate equity. Thus, in the end, much of the debate about corporate competitive federalism turns out to be a question

See generally HANNAH ARENDT, EICHMAN IN JERUSALEM: A REPORT ON THE BANALITY
OF EVIL (1963). Judge Calabresi has used "banality of good" in several speeches.

^{4.} United States v. Dempsey, 830 F.2d 1084 (10th Cir. 1987).

^{5.} Garcia v. Miera, 817 F.2d 650 (10th Cir. 1987), cert. denied, 485 U.S. 959 (1988). Logan's amended opinion was filed on May 6, 1987, but one indicia of the opinion's controversial finding is that the United States Supreme Court did not deny the defendants' petition for a writ of certiorari until March 21, 1988. The opinion has been subsequently criticized. See, e.g., Wise v. Pea Ridge Sch. Dist., 855 F.2d 560, 563 n.4 (8th Cir. 1988).

^{6.} William L. Cary, Federalism and Corporate Law: Reflections Upon Delaware, 83 YALE L.J. 663 (1974).

^{7.} Ralph K. Winter, Jr., State Law, Shareholder Protection, and the Theory of the Corporation, 6 J. LEGAL STUD. 251 (1977); see also Frank H. Easterbrook & Daniel R. Fischel, The Economic Structure of Corporate Law 222 (1991). Winter himself has recently been careful to temper his earlier race-to-the-top thesis. Ralph K. Winter, The "Race for the Top" Revisited: A Comment on Eisenberg, 89 Colum. L. Rev. 1526, 1528 (1989).

about agency costs and whether these agency costs are constrained by various forms of market discipline.

This Article explores different types of inefficiencies that may be generated even if the managers faithfully try to maximize shareholders' interests. Thus, the Article examines inefficiencies that might persist even if firms were wholly owned by managers, so that there were no separation of ownership from control. Extending Roberta Romano's image that corporate statutory law is a "product" supplied by the franchising state and purchased (as an input) by the firm, this Article focuses on supply-side inefficiencies, while the race-to-the-bottom theorists of Cary's ilk focus on the demand-side failure of self-serving managers to seek the corporate franchises in states which maximize firm value.

As Romano observes, both traditional race-to-the-top and race-to-the-bottom theorists share a belief that racing states try to supply the legal product demanded in the marketplace. And Romano was the first to provide some evidence that speed of responsiveness was associated with success in attracting corporate charters. The widely held belief that the states respond quickly to changing demand is part of a general belief in competitive federalism as a laboratory for democracy. But this Article suggests that state competition may not efficiently respond to changes in demand—even if we make the extreme assumption that managers demand value-maximizing corporate law.

This Article tells three different stories about why states might not supply value-maximizing statutes. Besides focusing on supply-side market failure, each of these stories is evolutionary in character in that it focuses on the possible failure of competitive federalism to respond to changing demands over time. It should also be stressed that my goal is to merely explore the theoretical *possibility* of supply-side inefficiency; while I relate two of my stories to the development of antitakover legislation in the United States, I do not (for now) wish to

^{8.} Roberta Romano, Law as a Product: Some Pieces of the Incorporation Puzzle, 1 J.L. ECON. & ORG. 225 (1985) [hereinafter Romano, Law as a Product]; see also ROBERTA ROMANO, THE GENIUS OF AMERICAN TAKEOVER STATUTES (1993).

^{9.} In an earlier article, I suggested that state legislatures would not compete to supply efficient close-corporation law. Ian Ayres, *Judging Close Corporations in the Age of Statutes*, 70 WASH. U. L.Q. 365, 370-71 (1992). It is important to see that this was at heart a demand-side theory because it argued that close corporations were unwilling for various structural reasons to incorporate in foreign jurisdictions offering value-maximizing law.

^{10.} Romano, Law as a Product, supra note 8, at 228.

^{11.} While Romano was the first to show a positive correlation between responsiveness and competitive success, Romano, Law as a Product, supra note 8, her evidence is insufficient to establish that the states efficiently supply whatever is demanded.

assess the extent to which these stories can be used to explain the actual evolution of corporate governance.

Although this Article focuses on the possibility of market failure in the supply of corporate charters, none of the stories amounts to a "race to the bottom"—especially if that term takes on its original sense of systematically selling out shareholder interests to further the interests of management. Instead, the inefficiencies uncovered here suggest that within the broad incentives that states have to supply the most desired product there can be impediments along the way that forestall first-best efficiency (or in Winter's original parlance a "race to the top"). These models thus complement William Bratton's theory of corporate law's race "to nowhere in particular." 12

For convenience, I refer to these stories as patent, yachting and bluebook models. The "patent" model suggests that individual states may have insufficient incentives to innovate because statutory innovations are not accorded intellectual-property protection. The "yachting" model suggests that a dominant state such as Delaware may have strategic incentives to mimic (or, in yachting terms, "cover") the inefficient statutory innovations of other states. Finally, the "bluebook" model suggests that a dominant state such as Delaware may have an incentive to promulgate innocuous updates of its corporate statutes both to create additional litigation for its attorneys and to increase the difficulty of replication by competitor states.

This Article's focus on supply-side market failure is inspired in part by the seminal work of Jonathan Macey and Geoffrey Miller. While previous analysis of competitive federalism stressed states' desire to maximize charter revenues, Macey and Miller argue that states might decide to indirectly extract some of the rents (for supplying desirable corporate law) to benefit private interest groups within the state—chiefly local bar members. This interest-group distortion represents one type of supply-side inefficiency that would obtain even without any demand-side agency costs. This Article explores three other types.

^{12.} See William W. Bratton, Corporate Law's Race to Nowhere in Particular (manuscript 1994).

^{13.} Jonathan R. Macey & Geoffrey P. Miller, Toward an Interest-Group Theory of Delaware Corporate Law, 65 Tex. L. Rev. 469 (1987). Lucian Bebchuk's "externality" theory of inefficient competitive federalism also represents a supply-side theory in that inefficient law would be produced even if corporations demand value-maximizing law. See Lucian A. Bebchuk, Federalism and the Corporation: The Desirable Limits on State Competition in Corporate Law, 105 HARV. L. Rev. 1437 (1992).

II. THE PATENT STORY

The simplest (but theoretically strongest) reason to believe that innovations in corporate law will not occur at an efficient rate is that innovations are not accorded the same kinds of protection that are accorded to patents and other types of intellectual property. Individual states have a reduced incentive to solve problems of corporate governance because successful statutory solutions may be quickly copied by rival jurisdictions. Thus, even if state legislatures are engaged in a race-to-the-top with respect to the creation of corporate law, there are strong theoretical reasons to expect that the race will not proceed at an efficiently fast pace.

A vivid example of the absence of patent protection can be seen in the state competition for antitakeover statutes. In the 1980s there was clearly a demand by at least some corporations for protection from hostile takeovers. States encountered great difficulty trying to find a statutory formulation which would pass constitutional muster. Attempts to formulate a constitutional statute were fraught with costs because any antitakeover statute was sure to produce legal uncertainty as the constitutionality of the statute was litigated. A state deciding whether to pass a second- or third-generation antitakeover statute had to weigh these costs against very limited competitive benefits. Even if a state succeeded in articulating constitutional restrictions, other states could immediately copy the sum and substance of their statute.

Indeed, this imitation occurred with lightening speed. Within a year and one-half of the Supreme Court decision upholding the constitutionality of the Indiana antitakeover statute, twenty-six other states had passed similar statutes. Indiana and a few other innovating states bore substantial costs in creating legal certainty, but gained virtually no advantage in attempting to compete for corporate charters.

^{14.} This idea was originally formulated in Susan Rose-Ackerman, Risk Taking and Reelection: Does Federalism Promote Innovation?, 9 J. LEGAL STUD. 593 (1980). Ron Daniels has applied this insight to the competition for corporate charters. Ronald J. Daniels, Should Provinces Compete? The Case for a Competitive Corporate Law Market, 36 McGILL L.J. 130, 149 (1991) ("Lacking a robust intellectual property regime, successful legal innovation can be costlessly and quickly adopted by 'free-riding' jurisdictions. As a consequence, many of the expected gains from successful legal products, in terms of enhanced market share, are denied to innovating states.").

^{15.} The Supreme Court created the doubt about the constitutionality of state antitakeover legislation with its 1982 decision in Edgar v. MITE Corp., 457 U.S. 624 (1982), in which it held that the Illinois Business Takeover Act violated the commerce clause.

^{16.} The United States Supreme Court upheld the constitutionality of Indiana's "control share" statute in CTS Corp. v. Dynamics Corp. of Am., 481 U.S. 69 (1987). Bill Carney details the proliferation of antitakeover statutes in the wake of CTS. Bill Carney, The Political Economy of Competition for Corporate Charters (manuscript, Nov. 14, 1994).

Indiana's incentive to pass the statute ultimately did not turn on an attempt to win more incorporations; rather, Indiana was merely trying to protect an incumbent corporation from a hostile bid.¹⁷ The fact that this incentive was sufficient in this case provides no assurance that there are sufficient incentives to experiment with other legal innovations. Legal innovation is neither costless nor riskless. Because any state can free-ride on the successful innovations of another state, there are reduced incentives to bear the cost of innovation. Put simply, a strongform belief in competitive efficiency cannot coexist with the widely held belief that free-riding undermines efficient investment.¹⁸

This free-riding argument may do more than impede the speed of innovation. As a theoretical matter, free-riding may impede a socially valuable innovation from ever occurring. For example, Jennifer Brown has recently argued that there may be a considerable legislative incentive to be the first state to legalize same-sex marriages. ¹⁹ As a practical matter, the first state that legalizes same-sex marriages will probably not fear free-riding by other states because the political opposition in other states to same-sex marriages will preclude imitation. But it is possible to construct a counterfactual hypothetical in which no state would legalize same-sex marriages even though all agreed it was socially valuable.

Assume, for example, that legislatures believe it is equally likely that legalization of same-sex marriages would produce a total of either \$4 or \$22 billion in tourism; but legislatures believe that moral repugnance of some of their constituency to legalization is equivalent to a loss of \$5 billion in tourism.²⁰

This example also crucially assumes that a state is not harmed if its residents enter into same-sex marriages under the law of another state. If this assumption fails, the legalization of same-sex marriage might be viewed by other (nonlegalizing) states as a negative externality.

^{17.} Henry N. Butler, Corporation-Specific Anti-Takeover Statutes and the Market for Corporate Charters, 1988 Wis. L. Rev. 365, 373-76. See generally Roberta Romano, The Political Economy of Takeover Statutes, 73 VA. L. Rev. 111 (1987).

^{18.} This line of argument uses one cherished efficiency theory to undermine another cherished theory. For similar arguments, see Ayres, *supra* note 9 (common-law efficiency theory and race-to-the-top theory cannot both be true if we observe persistent disagreements between court and legislative corporate-law making); Ian Ayres, *Price and Prejudice*, The New Republic, July 6, 1992, at 30 (quota theory is inconsistent with theory that employers will avoid disparate-treatment claims for layoffs by failing to hire protected classes of workers initially).

^{19.} Jennifer G. Brown, Competitive Federalism and the Legislative Incentives to Recognize Same-Sex Marriage, S. CAL. L. REV. (forthcoming 1995).

^{20.} Brown estimates that the present value of enhanced tourism might exceed \$4 billion. *Id.* The idea is that same-sex couples would travel to marry and honeymoon in the first state that legalized same-sex unions. If more than one state legalized these unions, the total spent on marriages and honeymoons might be reduced, but for the purposes of this hypothetical, I assume that the potential tourism from same-sex marriages is a fixed amount (although it is initially uncertain what the size of this amount would be).

Even though legalization under a patent regime would produce an expected gain of \$8 billion,²¹ without patent protection no state would want to be the first to legalize. If the tourism generated from legislation turns out to be low, the state will lose the equivalent of \$1 billion in tourism. If the tourism generated is high, three other states would quickly imitate by passing similar statutes.²² This ex-post imitation would drive the initial state's share of tourism to \$5.5 billion. As a result of this free-riding, any state would expect to lose \$1 billion if the tourism demand was low and earn only one-half billion dollars if the tourism demand was high. Thus, no state would likely be the first to innovate.

The effect of this secondary competition is exacerbated if subsequent states bear lower political costs in being the second, third or nth state to recognize same-sex unions. (This might describe the political costs associated with the subsequent state legalization of gambling.) Thus, if subsequent states had to bear political costs equivalent to only a \$2 billion loss in tourism, then no state would legalize even if it was clear that there would be a high tourist demand for this new legal "product." If tourism demand for same-sex marriages is known with certainty to be \$22 billion, a state considering whether to be the first to legalize would expect ten additional states to legalize (so that each state—including the initial state—would earn only \$2 billion in tourism). Realizing that this shared revenue would not cover the higher first-mover costs (assumed to be \$5 billion), each state would refuse to move first.

While this example reductively has monetized the political opposition to same-sex marriages, ²³ the example illustrates how the absence of patent protection can destroy a state's incentive to be the first to engage in a socially valuable innovation. In many competitive federalism contexts there may only be an incentive to be a "second mover": racing states will want another state to bear the first-mover costs, but will want to be the second or subsequent state to innovate in order to garner a larger portion of increased consumer demand.²⁴

^{21.} The expected revenue from legalization in a single state would be \$13 billion [(22+4)/2], so the net expected revenue would be \$8 billion (13-5).

^{22.} Under these facts, no more than four states would legalize same-sex marriages. The fourth state to legalize same-sex marriages would expect to earn one half billion dollars [(22/4)-5], but a fifth state would expect to lose \$600 million from legalization [(22/5)-5].

^{23.} But see Cass R. Sunstein, *Incommensurability and Valuation in Law*, 92 MICH. L. REV. 779 (1994) (discussing, among other things, the difficulties with assigning monetary amounts to social values).

^{24.} Joseph Farrell and Garth Saloner have formalized the perverse consequences of such "second-mover" incentives. Joseph Farrell & Garth Saloner, Standardization, Compatibility and Innovation, 16 RAND J. ECON. 70 (1985). Besides providing an explicit mathematical formulation,

A crucial assumption in this marriage example is that second-movers can react quickly and capture a pro-rata share of any tourism. Professor Brown has shown, however, that in the context of same-sex marriage, there will likely be an initial "pent-up" demand that will confer disproportionate benefits on the first state to permit this category of marriage. Moreover, in many other contexts the first-mover state will develop expertise via a learning curve or a reputation that will give it a competitive advantage over subsequent entrants.²⁵ Moreover, in the same-sex marriage context, the first-mover state may garner disproportionate patronage if the targeted class of tourists remain grateful for the long-awaited innovation.²⁶

The possibility of free-riding, therefore, does not necessarily destroy the incentive to innovate first. After all, the same type of free-riding has not chilled Marty Lipton's firm, the drafter of newfangled poison-pill provisions, from innovating. But at least as a theoretical matter, the same lack of intellectual-property protection might also dampen private incentives to devise valuable contractual innovations. As Roberta Romano has noted: "[F]irms may want not to customize their charters,

these authors have also illustrated this phenomena with the now-famous example of penguins: Apparently penguins like to eat fish, but fear being eaten by walruses. As penguins crowd near the water's edge it is optimal to be the second penguin to jump in. The first penguin discovers whether a walrus is lurking beneath the surface, and the third (and subsequent) penguins have a lower chance of finding fish. The second penguin has the highest expected payoff in trading off the probabilities of finding fish and finding walruses. Joseph Farrell & Garth Saloner, Competition, Compatibility and Standards: The Economics of Horses, Penguins and Lemmings, in PRODUCT STANDARDIZATION AND COMPETITIVE STRATEGY 1 (H. Landis Gabel ed., 1987).

- 25. For example, Richard Schmalensee has shown that a "pioneering brand" may establish a reputation that acts as a barrier to entry to others considering subsequent competition. Richard Schmalensee, Product Differentiation Advantages of Pioneering Brands, 72 AM. ECON. REV. 349 (1982) (detailing the role of brand loyalty in the market success of innovators). This is particularly true if the product is an "experience good" that consumers cannot judge except through experience. Id. at 350. For example, if a first-mover brand for a new type of razors or bleach succeeds in demonstrating to consumers that their product works, consumers may be reluctant to risk damaging their body or their clothes with relatively untested products. Id. In the corporate context, a state's treatment of fiduciary-duty litigation (or other areas governed by "standards" instead of "rules") may be just such an experience good that prevents subsequent competitors from easily capturing a pro-rata share. Thus, we should expect the patentability problem to be greatest with regard to innovative legal "rules" that might be easily replicated by other states. Many aspects of the antitakeover statutes were rule-like. Thus, any competitive advantage that Indiana gained by passing the first constitutional antitakeover statute was probably quickly dissipated by the subsequent passage by other states.
- 26. Professor Brown points to the product loyalty that gay consumers have shown toward Absolut Vodka because it was the first national advertizer to advertize in a gay publication. Brown, *supra* note 19. Professor Brown also discusses the possibility that legalizing same-sex marriages might induce long-lived enmity. *Id.* Moreover, telephone consumers do not seem to have shown any particular loyalty to MCI or Sprint for introducing discount telephone prices in the United States.

but to free ride on the innovative efforts of others. There would then be a 'suboptimal' rather than 'superoptimal' level of charter deviations."²⁷ The open marketing of poison pills suggests that an important part of Wachtell Lipton's service may have been not the ex-ante drafting but the ex-post defense of the pill's validity. Just as Delaware's advantage may stem more from its judicial servicing of its statute, Wachtell Lipton's advantage may come from its being able to brag that none of its pills has never been struck down. The lesson of this patent story, therefore, is not that statutory innovation is impossible, but merely that *some* innovations will not occur. Other innovations will occur, but not at a socially efficient speed. As seen with the antitakeover statutes, some innovations will not be prompted by concerns with interstate competition but instead merely by intrastate interest group lobbying.

This patent story raises the possibility of a role for additional, but limited federal intervention. The patent story underscores a fact that is often obscured in race-to-the-top rhetoric: federal law must play a crucial role in creating the conditions for competitive federalism. In the corporate context, there could be no statutory competition if the United States Supreme Court did not prohibit (or limit) the ability of non-franchising states to regulate the internal affairs of corporations incorporated in other states.²⁹ The patent story suggests that even adherents of the race-to-the-top theory might want the federal government to go further in creating the preconditions for efficient competition.

Specifically, Congress might be called upon to preempt other states from imitating (free-riding on) the statutory innovations of a competing state for a limited number of years. Preempting states from imitating the statutory innovations of sibling states would not discriminate among the individual states from an ex-ante perspective. Even though that preemption would restrain some states' legislative freedom once an innovation had occurred, ex-ante there is no discrimination by this form of patent protection because each state has an equal legal opportunity to engage in the innovation.³⁰

^{27.} Roberta Romano, Answering the Wrong Question: The Tenuous Case for Mandatory Corporate Laws, 89 COLUM. L. REV. 1599, 1603 (1989).

^{28.} However, savvy rivals may have been able to free-ride on even this reputational capital. Other law firms that plagiarized the Wachtell Lipton pill might be able to expect that Wachtell Lipton would be willing to donate its services to defend the pill's validity so that an unfavorable precedent would not be created.

^{29.} If nonfranchising states could impose their local regulations concerning internal governance, there would be no incentive for a corporation headquartered in Missouri to incorporate in Delaware. See HERBERT HOVENKAMP, ENTERPRISE AND AMERICAN LAW, 1836-1937, at 298-301 (1991).

^{30.} The same-sex marriage example poses a much harder constitutional issue because patent-

In the end, it might certainly be true that the costs of implementing this new type of preemption might not be worth the candle; federal legislators or an administrative agency might abuse quasi-patenting power to constrain competition. But before we dismiss this form of federal intervention out-of-hand as an example of the "nirvana fallacy,"³¹ it is useful to compare the generally accepted success of the patent office. This patent story is useful because it probes the limits of the "law as a product" image³³ of corporate statutes. If corporate statutes are really like products, the idea of giving patent protection to true innovations should not provoke such a visceral gag reflex. Arguments against giving states intellectual-property protection quickly run the risk of proving too much.

III. THE YACHTING STORY

The last section argued that the patent inefficiencies might lead to too little legal innovation. Other supply-side inefficiencies, however, may lead to too much legal change. This section explores a yachting model that generates inefficient innovation and argues that it might capture some elements of corporate charter competition.

like preemption would foreclose competing states from extending this basic civil right to its citizenry for a limited number of years. The crucial constitutional issue, however, is whether same-sex marriage is a basic civil right. Currently, no court has accorded this civil right a constitutional status, but see Baehr v. Lewin, 852 P.2d 44 (Haw. 1994), so preempting some states from legalizing same-sex unions would likely be constitutional if one concluded that Congress could preclude all states from legalizing these unions.

Indeed, besides this targeted preemption, it might be appropriate for federal intervention to boost the value of the patent. Just as nonfranchising states are required to recognize the incorporations of other states, it might be useful to force nonsolemnizing states to recognize the validity of same-sex unions under either a constitutional full-faith-and-credit analysis or by preempting the individual states from promulgating choice-of-law rules in derogation of such recognition. See Brown, supra note 19 (discussing choice-of-law rules).

- 31. For a description of the nirvana fallacy, see Dale B. Tauke, Should Bonds Have More Fun? A Reexamination of the Debate Over Corporate Bondholder Rights, 1989 COLUM. BUS. L. REV. 1, 51 n.116 ("[T]he existence of costs is taken as sufficient grounds for branding an arrangement suboptimal without considering the feasibility of alternative arrangements.").
- 32. At the very least, economic scholars have difficulty pointing to clear errors with the broad outlines of the patent system. See, e.g., Paul A. David, Intellectual Property Institutions and the Panda's Thumb: Patents, Copyrights, and Trade Secrets in Economic Theory and History, in GLOBAL DIMENSIONS OF INTELLECTUAL PROPERTY RIGHTS IN SCIENCE AND TECHNOLOGY (Mitchel B. Wallerstein et al. eds., 1993); George L. Priest, What Economists Can Tell Lawyers About Intellectual Property: Comment on Cheung, 8 RES. L. & ECON. 19, 19-21 (John Palmer & Richard O. Zerbe, Jr. eds., 1986).
 - 33. Romano, Law as a Product, supra note 8.

The essence of this competitive inefficiency can be gleaned from a two-yacht race (such as the America's Cup) by analyzing the optimal strategies of the yachts in the middle of the race at a point when one boat has gained a lead over the other. Before proceeding to the specifics of this story, let me caution the reader that I was born and raised as far inland as possible in the United States, and my knowledge of yachting is less than rudimentary. The following should be interpreted as a fable that might illuminate other contexts even if it does not accurately describe yachting.

The efficient direction to steer the boat (the efficient "tack") is determined by the direction of the prevailing winds in conjunction with the direction of the destination. One might expect both boats to choose the efficient tack, but in many race contexts neither boat chooses this tack in a competitive equilibrium. Even if the leading boat is taking the efficient tack, the trailing boat may choose to steer in another direction hoping that the wind will change to favor this new direction. The trailing boat reasons that if it takes the same tack as the lead boat, it will have no chance of gaining on the lead boat because, assuming both boats are equally seaworthy, both will take advantage of the same wind. Even though an inefficient tack increases the expected time it will take to finish the race, the inefficient tack can increase the trailing yacht's chance of victory because, if the wind changes in its favor, the trailing yacht will gain ground on the lead yacht.

The leading yacht often does not ignore this perverse strategy of the trailing yacht. Indeed, lead yachts often choose to "cover" the trailing yacht by mimicking the tack of the trailing yacht. As long as the lead yacht efficiently covers the trailing yacht so that both boats uniformly present themselves to the wind, then the trailing yacht will not have an opportunity to gain ground. Of course, once the lead yacht covers the trailing yacht's inefficient tack, the trailing yacht will have an incentive

^{34.} See, e.g., Bob Fisher, Sailing: All-Woman Crew Routs Connor, THE GUARDIAN, Jan. 14, 1995, at 19 (first-place boat "tacked to cover" second-place boat).

to "come about," changing directions back to the efficient tack.³⁵ A Cartesian example of the yachts' vectors is depicted in Figure 1.

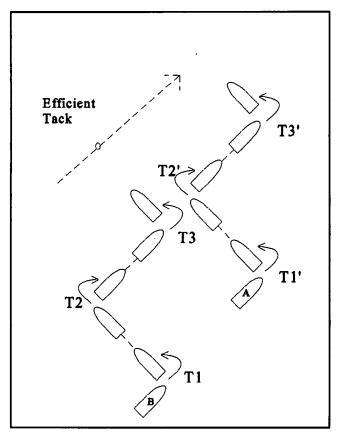


Figure 1: The perverse yachting incentives for inefficient tacking and cover.

MANFRED CURRY'S RACING TACTICS 283 (revised by Edward J. Cox & Edward D. Muhlfeld, 1963).

^{35.} Inefficient tacking by the trailing yacht and inefficient cover by the leading yacht can also be induced when the wind is coming from behind two yachts so that the trailing yacht (yacht B) can create a "wind blanket" which slows the speed of the leading yacht (yacht A).

By changing course to windward, yacht A could gain speed and sail out of yacht B's wind blanket, although, of course, yacht A might no longer be sailing the rhumb line to the next mark. . . . If B also jibes, A may have to sail even higher, or perhaps jibe again and sail away from B in order to keep her wind clear. This maneuver may have to be repeated a number of times. Take care, however, that a third competitor, sailing a straight line course to the next mark, does not pass or gain significantly while yachts A and B are dueling. . . . [T]he yacht astern, or behind, becomes the attacking yacht and determines to a great extent the tactics the leading yacht must employ—and the course she must sail

At time 1 (T_1), the trailing yacht (yacht B) turns to an inefficient tack (tack right) and the leading yacht (yacht A) turns immediately (at time T_1) to cover. At time 2 (T_2), yacht B turns back to the efficient tack (tack left) and yacht A again turns as soon as it can (at time T_2) to cover. The inefficient tacking and covering produces the figure's zigzag course.

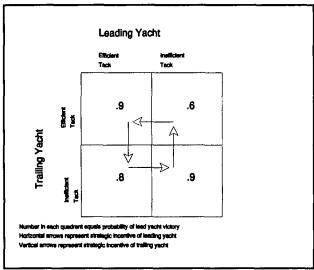


Figure 2: A Matrix Depiction of this Cycling Equilibrium

This rivalry is depicted in a more traditional game-theoretic fashion in Figure 2. If we start in the upper-left quadrant in which both yachts are taking the efficient (fast) tack, then the trailing yacht has a strong incentive to change directions to the inefficient tack: in this example, changing directions hoping that the wind will shift doubles the trailing yacht's probability of victory from ten to twenty percent. The figure also depicts the leading yacht's incentive to "cover" even inefficient tacks, as can be seen in the leading yacht's incentive to move from the lower-left to the lower-right quadrant. Even though taking an inefficient tack increases its expected time, it perversely increases the leading yacht's probability of victory because it reduces the probability that the trailing yacht will benefit from a shift in the wind. Once the lead yacht covers the inefficient tack, the trailing yacht now has a particularly strong incentive to switch directions back to the efficient tack because the prevailing winds will give it the advantage. This incentive is depicted in the figure by the reduction in the leading boat's probability of victory to sixty percent. Of course, the upper-right quadrant is not an equilibrium because the leading yacht will once again strive to cover, moving us back to the upper-left quadrant. The yachts are likely to cycle counterclockwise through the strategies represented in the four quadrants.

Because of the leading yacht's strong incentive to cover even inefficient tacks, the trailing yacht controls the direction of both boats in many yacht races. This yachting rivalry is a classic example of a discoordination game which has no equilibrium in pure strategies. Just as in the child's game of matching pennies, one player (the leading yacht) wants to match the other's strategy, while the other player (the trailing yacht) wants to choose a nonmatching strategy. Moreover, the strategic interaction leads to excessive changes in direction (zigzagging) and significantly slower times.

While I would like to apply this yachting fable to the competition for corporate charters, the differences between these contexts are so vast that I readily admit that the entire enterprise is fraught with danger.³⁷ Most important, the leading yacht's incentive for inefficient cover quickly breaks down if more than two yachts are racing. With two trailing yachts, it may become impossible to cover both, so it is more likely for the leading yacht to cleave to the efficient tack. However, even here the leading yacht will often cover the most threatening competitor (or at least partially cover by tacking somewhere in between this competitor's tack and the efficient tack).

Also, it is important to see that unlike the patent story, the yachting story generates a first-mover advantage for innovation. For the story to make strategic sense, the trailing yacht must be able to benefit from already being pointed in the correct direction relative to the changing wind (possibly because it takes time for the leading yacht to come about). But the first-mover incentive is to innovate inefficiently: the strategy of the trailing yacht (the first-mover) is to tack against the wind (inefficient). This causes the leading yacht to cover the inefficient tack, and this slows the speed of both boats.

This yachting story has two important predictions for corporate law: (1) inefficient innovation by trailing states and (2) inefficient cover by Delaware (the prototypical leading yacht). It is important to stress again, however, that the first half of the story will only occur if the trailing state can benefit from being the first to adopt an innovation that may become valuable. In the corporate context, even without patentability there might be a first-mover advantage with regard to legal

^{36.} Eric Rasmusen & Ian Ayres, Mutual and Unilateral Mistake in Contract Law, 22 J. LEGAL STUD. 309 (1993).

^{37.} For example, yacht races produce all-or-nothing payoffs for the participants, while competitive federalism admits many degrees of success.

innovations that are more valuable after judges have experience in their application. A judicial "learning curve" explanation or reputational advantage may create the necessary type of first-mover advantage.

A trailing state trying to attract some of Delaware's corporate clientele to reincorporate might choose to adopt innovations that might become necessary only in the future. Some of Pennsylvania's vaunted efforts to compete might be seen as trying to innovate ahead of the corporate demand. The first important lesson of the yachting model is that absent competition some states may have chosen to wait until more information about demand had developed. Of course, absent competition states might generally be lackadaisical about providing the laws that their chartered corporations demand. However, the yachting story suggests that competition may cause some states to inefficiently "jump the gun" in search of a potentially valuable future innovation. Moreover, the story suggests that this premature innovation should not come from Delaware but from those trailing states that are trying to vie with Delaware for charter revenues.

Ultimately, the ease of copying statutory innovations may undermine the yachting incentive for introducing changes too quickly and, as argued above, lead to the inefficiently slow statutory innovation. However, the second implication of the yachting story—predicting "inefficient cover"—may have vitality even if yachting-like incentives do not explain the legislative behavior of the trailing states. Specifically, I would argue that inefficient cover may help explain one of the central conundrums for race-to-the-top adherents: Delaware's passage of antitakeover legislation.

Because the antitakeover legislation was so clearly inefficient, Easterbrook and Fischel have openly been at pains to explain its passage.³⁸ The private-interest-group theory explains the passage of antitakeover legislation in other states,³⁹ but is not as plausible in Delaware which has more diffuse and nonresident corporate constituents.

But Delaware's passage of the antitakeover legislation is consistent with the yachting model (even in its multiboat incarnation). After twenty-six other states (including all of its closest rivals) passed antitakeover legislation, Delaware had a strong incentive to cover. As long as corporations demand antitakeover legislation, Delaware, by covering, can reduce or eliminate a reason for these corporations to migrate from the state. Delaware may be moving in an inefficient

^{38.} See EASTERBROOK & FISCHEL; supra note 7, at 219-23; Ian Ayres, Making a Difference: The Contractual Contributions of Easterbrook and Fischel, 59 U. CHI. L. REV. 1391 (1992).

^{39.} In the trailing states, antitakeover statutes were passed to aid particular incumbent takeover targets. See Romano, supra note 17, at 120-21; Butler, supra note 17, at 366-68.

direction by adopting antitakeover legislation, but because so many of its rivals have already moved in this direction, Delaware reduces the chance of giving up part of its dominance by following suit. Indeed, the fact that Delaware's covering was only partial is also consistent with the model: in multiyacht races, the leading yacht often compromises between the efficient tack and the covering tack.⁴⁰

The inefficient-cover prediction certainly cannot explain all of Delaware's behavior. Roberta Romano has found: "With regard to most major corporate law reforms, ... Delaware was the first or second state to act." More work can be done, however, to examine the cases in which Delaware has chosen to follow instead of lead. Indeed, the analysis of this section suggests that the decision to follow may constitute prima facie evidence that the innovation was premature.

IV. THE BLUEBOOK STORY

While the yachting story predicted excessive innovation by trailing states, we now explore the possibility of excessive innovation by the dominant competitor. The metaphor for this model is *A Uniform System of Citation*—commonly known as the "bluebook." The bluebook sets out a number of rules for legal citation in law reviews and other types of legal writing. The bluebook is published by a

^{40.} This inefficient-cover story represents an alternative to Professor Eisenberg's theory that Delaware was responding to a threat of federal intervention. Melvin A. Eisenberg, *The Structure of Corporation Law*, 89 COLUM. L. REV. 1461, 1512 (1989). The federal preemption story, like the yachting story, suggests that Delaware would "avoid taking the lead in the adoption of rules favoring managers at the shareholder's expense." Bratton, *supra* note 12, at 30. Under both theories, Delaware is a follower: not necessarily the last to innovate, but not the leader. But while Eisenberg's theory suggests that Delaware would fear preemption, the inefficient-cover theory suggests that Delaware might have welcomed federal preemption that reifies its lead.

^{41.} Roberta Romano, Competition for Corporate Charters and the Lesson of Takeover Statutes, 61 FORDHAM L. REV. 843, 855 (1993).

^{42.} For example, it should be possible to use the data of Bill Carney to analyze how quickly Delaware acted in passing a broad variety of reforms that have had broad market penetration. See Carney, supra note 16.

^{43.} THE BLUEBOOK: A UNIFORM SYSTEM OF CITATION (15th ed. 1991). To nonlegal scholars in the United States, the term "blue book" is often used to refer to a listing of used-car prices. See, e.g., Kelly Blue Book (1994). This used-car "blue book" is updated periodically to reflect possible changes in wholesale and retail prices for used cars. The same excessive innovation strategy described in this section may surprisingly affect this publication as well. The used-car blue book may earn additional revenues when it publishes a new edition because many market participants want to trade based on authoritative information. The authors of this dominant series thus may have a perverse incentive to have too many updates; even if it would be socially optimal to have updates only annually or semiannually, they may make more money if they update quarterly.

consortium of four elite law reviews⁴⁴ who require that its rules be observed in their publications. Possibly because of the dominance of these law reviews in the academy, the vast majority of law reviews across the United States require that all published citations conform to the bluebook's rules.⁴⁵ Most first-year law students must buy the bluebook and study its mandates.⁴⁶

I would like to suggest that the law reviews that publish the bluebook have an incentive to engage in excessive innovation. This is not a prediction of a race-to-the-bottom, but a prediction of excessive innocuous change. The inefficiency comes in the need to learn arbitrary new rules, not in the quality of the rules themselves. The bluebook publishers have this perverse incentive because every new edition of the bluebook generates a large one-time demand as lawyers and legal libraries are driven to buy the authoritative source. It is not surprising that the bluebook is now in its fifteenth edition. Of course there may be pressing aesthetic reasons why a certain reference needs to be put in large and small capital letters instead of italics,⁴⁷ but along with these aesthetics is the knowledge that each new edition will reap an economic windfall.⁴⁸

Lest law students be singled out for abuse, let me stress that the same kind of incentive leads to excessive innovation with regard to law professors' revisions of textbooks. Producing a new edition with only superficial changes can increase sales because students can no longer rely on outdated "used" books.⁴⁹ This incentive for excessive innocuous innovation can succeed even in the face of competition from other casebooks. Even though each arbitrary new edition requires adopting professors to engage in additional teaching preparation—in part to find out what has been changed—teachers will often stay with the textbook

^{44.} The editors of the Columbia Law Review, the Harvard Law Review, the University of Pennsylvania Law Review and The Yale Law Journal compile the citation rules.

^{45.} For example, the Kansas Law Review requires that its authors comply.

^{46.} The bluebook has one rival in the legal marketplace of ideas—the "maroon book" which springs from the University of Chicago. See THE UNIVERSITY OF CHICAGO MANUAL OF LEGAL CITATION (1989); Richard A. Posner, Goodbye to the Bluebook, 53 U. CHI. L. REV. 1343 (1986). However, the market penetration to date of the late-comer is relatively slight.

^{47.} Some changes in new editions legitimately seem to be prompted by changes in technology (viz., rules regarding citation of computer databases) or changes in social norms (viz., increased references to first names responding in part to patriarchal determination of last names).

^{48.} The bluebook story points more generally to the fact that arbiters of fashion have incentives for excessive innocuous intervention. This might be exemplified not only by the annual fall fashions, but also by Dr. Seuss's fable of the star-bellied sneeches. See Dr. Seuss (Theodor S. Geisel & Audrey S. Geisel), The Sneetches and Other Stories (1961). Unfortunately, I do not have a well-developed theory of how one becomes an arbiter of fashion.

^{49.} To make this strategy effective it is important that the early materials be changed sufficiently so that the new edition has different page references.

that has been modified rather than switch to an entirely new casebook. A dominant producer is most likely to engage in excessive innocuous innovation when incumbent users will face higher "switching costs" in switching to another manufacturer than in merely accepting an innocuously "new and improved" edition of the same manufacturer.⁵⁰

Another example of excessive innocuous change might be found in the computer software industry. Although there are competitive types of software, incumbent users often find it easier to learn the new rules governing an upgrade than to switch to an entirely new type of software. And incumbent users may be forced to buy an innocuous upgrade to maintain compatibility with other users. Although upgrade competition in this dynamic industry seems to be primarily driven by legitimate technological innovation, manufacturers may have an incentive to innovate merely to generate additional revenues from selling upgrades.

Moreover, the process of upgrading may itself enhance consumers' switching cost. If software competitors are trying to develop compatible software which can be used in conjunction with a dominant brand, then that dominant brand may have incentives to introduce arbitrary innovations making it more difficult for rivals to achieve compatibility. Put simply, it is harder to imitate a moving target. For example, it would not be surprising if one of the motivating factors behind a Lotus upgrade was a desire to make it more difficult for incumbent users to switch to Quattro Pro. It is rumored that the mantra for the Windows development team at Microsoft was: "It's not done until Lotus won't run." In other words, Lotus incompatibility was one of the means of giving Microsoft's Excel spreadsheet a competitive advantage.⁵¹

Among many legitimate motivations, Delaware may similarly be moved to enact innocuous and arbitrary amendments to its corporate law in order to generate additional rents and make its code more difficult to copy. Extending the thesis of Macey and Miller,⁵² the Delaware bar may prefer seemingly innocuous change that gives rise to additional litigation. New statutes often give rise to an initial wave of clarifying litigation so that the Delaware bar (much like the bluebook editors) may have an additional incentive to lobby for statutory change.

^{50.} See generally Paul Klemperer, Centre for Economic Policy Research Working Paper No. 704, Competition When Consumers Have Switching Costs: An Overview (1992) (providing examples of switching costs and describing their effects in the market); Paul Klemperer, Markets with Consumer Switching Costs, 102 Q.J. Econ. 375 (1987) (describing use of switching costs to increase future profits).

^{51.} I thank Peter Cramton for telling me this rumor.

^{52.} Macey & Miller, supra note 13.

Statutory modification may also make it more difficult for other states to develop copycat legislation. For example, although Nevada explicitly attempted to incorporate Delaware standards into its corporate governance, amendments to the Delaware code force other states to continually try to catch up. Even innocuous differences between Delaware's code and that of other states may be sufficient to deter migration from the dominant state if corporate counsel have difficulty evaluating (or pricing) individual statutory components. As a result, Delaware may have an incentive to differentiate its product for the sake of differentiation itself. Innovating to increase the difficulty of imitation might even be one of the consequences of nonpatentability. Because Delaware cannot patent its legitimate innovations to prevent imitation, it may be driven to engage in other inefficient statutory changes to help protect its intellectual property.

This bluebook story is more ephemeral than the patent or yachting stories. I have not tied the analysis to any particular statutory amend-But the plausibility of the phenomena in the ment in Delaware. publishing of other authoritative standards—whether it be bluebooks, textbooks or software—suggests that the phenomena may play an analogous role in "publishing" new editions of the Delaware corporate code. This is particularly true because, unlike private publishers, Delaware does not have to worry that users will continue to use the prior edition. For example, users of the WordPerfect software were at least initially reluctant to switch from the earlier version to version 6.0. Private publishers face an additional constraint in producing innocuous innovations because the user-base may stick with the prior standard. Delaware, as a publisher of law, does not face this constraint because its amendments invalidate the use of prior law. While Wordperfect users can continue to use version 5.1 (eschewing the bug-laden improvements of version 6.0), Delaware corporate users cannot continue to use version 1987 once version 1994 becomes authoritative.⁵³

The bluebook story thus predicts that Delaware will innovate first. And while this seems to accord with facts, the bluebook story by itself does not explain why trailing states would want to imitate the innocuous innovations. This is a serious weakness of the model. It is possible that states might copy even needless innovations for fear that divergence from Delaware on innocuous provisions would make it more difficult for them to compete with Delaware to retain their current base of

^{53.} If the amendments merely establish a new default with regard to some aspect of corporate governance, then corporations could reestablish the prior governance by contracting around the amendment. Elsewhere I have argued that even a change between two default rules may produce nontrivial corporate effects because private parties may have difficulty privately establishing standard-like governance as easily as the state. Ayres, *supra* note 36.

incorporations. The idea here is that counsel of corporations incorporated elsewhere would need to understand the intricacies of Delaware law in order to engage in transactions with the great number of Delaware corporations. Compatibility with Delaware is so important that corporate codes that differ from Delaware's may become disfavored. While this provides a possible explanation for why trailing states would mimic the innocuous innovations of Delaware, I have not been able to conjure striking statutory examples of Delaware innovations that seem to be motivated by a desire to attract the additional revenues that arise from unsettled law. In the end, the bluebook story is presented here more as an additional example of how strategic inefficiencies in the supply of real products can illuminate our understanding of competitive federalism.

V. CONCLUSION

This paper has argued that even if corporations demand valuemaximizing law, supply-side inefficiencies may prevent a strong-form version of the race-to-the-top theory. The supply-side incentives crucially depend upon whether a state may benefit from being the first to promulgate an innovation (and even more particularly upon whether Delaware has the same incentive to innovate as competitor states).

Federal law plays an important role in establishing the parameters for state competition. Particularly, the federal rules controlling statutory patentability will affect whether there is a first-mover advantage to value-maximizing innovations. A distressing implication of these models is that it is not clear whether or how federal law should promote such an advantage. The patent story showed that the absence of a first-mover advantage could give rise to one type of inefficiency, while the yachting and bluebook stories suggest that first-mover advantages could give rise to other types of inefficiencies. As in other areas, policy-makers and scholars need to choose judiciously among competing models on the basis of the models' falsifiable predictions.⁵⁴

The supply-side inefficiencies described in these models are at odds with the simplest models of industrial organization. Our first economic intuition is that competitors should supply the kind of goods the marketplace demands. Even monopolists usually have an incentive to supply the efficient quality: monopolists price inefficiently, but they want to produce efficiently (i.e., supply the qualities that consumers demand) so that they can maximize their markup.

^{54.} See Richard Schmalensee, On the Use of Economic Models in Antitrust: The Realemon Case, 127 U. PA. L. REV. 994, 995 (1979).

However, these intuitions are qualified when a firm must produce a single type of product for heterogeneous competitors. A seminal article by Michael Spence pointed out that, given the monopoly overcharge, a monopolist choosing a single quality would have an incentive to choose a quality that was preferred by "marginal" consumers who are indifferent between purchasing or not.⁵⁵ Tying product quality to the preferences of marginal consumers can be inefficient if the average (or "inframarginal") consumer prefers a different type of product.

The Spencian model is instructive because it illustrates that producers may have incentives to supply products with a socially inefficient quality. But the Spence result only holds if producers are constrained to produce a limited number of products;⁵⁶ otherwise, the savvy producer would supply different types of products to satisfy the different types of demand. The Spencian model is thus consistent with the specialization thesis of Richard Posner and Kenneth Scott—that different states might specialize in providing corporate statutes for different types of corporations—because states would only need to specialize in providing a particular type of corporate franchise if providing multiple types of governance were infeasible.⁵⁷

As applied to corporate law, this Spencian logic suggests that: "Reincorporating firms are this market's marginal consumers. . . . The market causes the states to focus on the variables that influence reincorporation decisions." Roberta Romano's empiricism suggests a way to test this theory. Romano identified particular types of firms that are most likely to reincorporate. Delaware may not have incentives to supply the demands of its many inframarginal consumers who are sufficiently satisfied with Delaware corporate governance and therefore unlikely to change—even if several parts of the code fail to provide efficient law. In future work, I hope to identify the parts of the code and the types of corporations that theory predicts would be neglected in Delaware's attempt to choose the product quality that will maximize its rents. ⁵⁹

^{55.} A. Michael Spence, Monopoly, Quality, and Regulation, 6 BELL J. ECON. 417, 417-18 (1975).

^{56.} In Spence's original model, the fixed costs of producing different product types constrained the number of products. *Id.*

^{57.} RICHARD A. POSNER & KENNETH SCOTT, ECONOMICS OF CORPORATION LAW AND SECURITIES REGULATION (1980); see also Barry D. Baysinger & Henry N. Butler, The Role of Corporate Law in the Theory of the Firm, 28 J.L. & ECON. 179 (1985).

^{58.} William W. Bratton & Joseph A. McCahery, Regulatory Competition, Regulatory Capture, and Self-Regulation in the Political Economy of Corporate Law (manuscript, July 11, 1994).

^{59.} An initial part of this research argued that close corporations were inframarginal consumers in the sense that their choice of jurisdiction was not sensitive to differences in

Roberta Romano's insight that law can be thought of as a product invites a broader application of the industrial-organization theory about the determinants of product quality. To date, corporate scholars have only scratched the surface of this rich literature, detailing the possibility of subtle strategic inefficiencies. Arbitrage between these two academic markets seems particularly appropriate.

substantive corporate rules. Ayres, *supra* note 9. As a result, I suggested that Delaware and other states had diluted incentives to provide value-maximizing law for these firms. This future research would extend the insights of Lucian Bebchuk. *See* Bebchuk, *supra* note 13, at 1452, 1454.