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CORPORATE TAKEOVERS, THE COMMERCE CLAUSE, AND THE EFFICIENT ANONYMITY OF SHAREHOLDERS

J. Gregory Sidak and Susan E. Woodward***

When a company is so large that it must be financed with equity held by shareholders who do not participate in the firm's daily management decisions, outside shareholders—those who are not officers or directors—are vulnerable to bad decisions by managers.[1] Potential competition from alternative management teams is an important means to induce managers to operate in these shareholders' interests.[2] Antitakeover laws, however, reduce the possibility of competition in the market for corporate control and thereby deny shareholders a significant opportunity to lower the cost of specifying and monitoring managerial performance.

State legislatures evidently think that antitakeover laws generate benefits or else they would not enact them, as Indiana did in 1986. Recent empirical evidence, however, suggests that Indiana's law—and laws patterned after it—would harm certain parties. By impeding the market for control of Indiana corporations, Indiana's antitakeover statute would be expected to reduce the wealth of shareholders of Indiana corporations. This diminution in wealth occurs because a corporation's shares are more valuable when the possibility exists that a rival team of managers might take control and manage the corporation's assets more profitably.[3]

Although Indiana is free to subsidize one in-state constituency at the

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[1] *See* Fama, *Agency Problems and the Theory of the Firm*, 88 J. POL. ECON. 288 (1980); Jensen & Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976); *see also* Jensen, *Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers*, 76 AMER. ECON. ASS'N PAPERS & PROC. 323 (1986).

[2] *See* Manne, *Mergers and the Market for Corporate Control*, 73 J. POL. ECON. 110 (1965).

[3] For surveys of the empirical studies supporting this conclusion, see R. GILSON, THE LAW AND FINANCE OF CORPORATE ACQUISITIONS 377-83 (1986); Jarrell, Brickley & Netter, *The Market*

expense of another, it is not free to effect the subsidy at the expense of out-of-state parties. The Supreme Court has long interpreted the commerce clause of the Constitution to limit a state's power to regulate or impede interstate commerce.[4] This doctrine, which plainly does not arise from the text of the commerce clause (which simply empowers Congress "To regulate Commerce among the several States"[5]), has come to be called the doctrine of the "dormant" or "negative" commerce clause.[6] In *Pike v. Bruce Church*, the Court expressed this inferred limitation on interstate exploitation in terms of an explicit cost-benefit balancing test: "Where the statute regulates evenhandedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits."[7]

The doctrine of the dormant commerce clause is necessary in a federal system of representative government. State regulations sometimes harm other jurisdictions.[8] For some of these externalities the causal link between state action and extrajurisdictional harm is subtle, either because the victims are diffuse and physically distant from the source of the harm or because the harm is first transmitted into a common pool, such as an organized market or exchange. Externalities from state antitakeover statutes are particularly troublesome in this respect.

In 1982, the Court held in *Edgar v. MITE Corp.*[9] that an Illinois statute that directly regulated corporate takeovers violated the dormant commerce clause. Some states subsequently enacted "second generation" antitakeover statutes, which purport to regulate only a corporation's structure and the rights of its shareholders—both traditional issues of state law. When one of these statutes was challenged, the Court reversed course, holding in 1987 in *CTS Corp. v. Dynamics Corp. of America* that Indiana's second generation antitakeover statute did not

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for Corporate Control: The Scientific Evidence Since 1980, 2 J. ECON. PERSP. 49 (1988); Jensen & Ruback, *The Market for Corporate Control: The Scientific Evidence*, 11 J. FIN. ECON. 5 (1983).

4 Cooley v. Board of Wardens, 53 U.S. (12 How.) 299 (1851).

5 U.S. CONST. art. I, § 8, cl. 3.

6 *See generally* Redish & Nugent, *The Dormant Commerce Clause and the Constitutional Balance of Federalism*, 1987 DUKE L.J. 569; Regan, *The Supreme Court and State Protectionism: Making Sense of the Dormant Commerce Clause*, 84 MICH. L. REV. 1091 (1986) [hereinafter Regan, *Making Sense*].

7 397 U.S. 137, 142 (1970) (citations omitted). The first two clauses of this sentence are little more than makeweight questions that almost assuredly will be answered in the state's favor or will necessarily be answered in the process of conducting the cost-benefit analysis articulated in the third clause. *Cf.* R. NAGEL, CONSTITUTIONAL CULTURES: THE MENTALITY AND CONSEQUENCES OF JUDICIAL REVIEW 132 (1989) ("Occasionally, an entire clause is added to a formula more for the satisfactory sense of rounding out that the extra words give than for the addition of any substantive meaning."). *See also id* at 145.

8 *See* Levmore, *Interstate Exploitation and Judicial Intervention*, 69 VA. L. REV. 563 (1983).

9 457 U.S. 624 (1982) (plurality decision).

violate the dormant commerce clause.[10] Although the *CTS* majority never explicitly said that it was using the *Pike* test to balance out-of-state costs against in-state benefits, it nevertheless concluded that, "[t]o the limited extent that the Act affects interstate commerce, this is justified by the State's interests in defining the attributes of shares in its corporations and in protecting shareholders."[11]

Much scholarly criticism of *CTS*[12] has focused on Justice Scalia's argument in his concurrence that the Court should not even undertake the balancing analysis articulated in *Pike*.[13] Our focus is different. We do not dispute the Court's selection of constitutional doctrine; rather, we dispute the credibility of its application of that doctrine to Indiana's antitakeover legislation.[14] We examine the costs and benefits of the Indiana antitakeover statute and conclude that a neutral application of the *Pike* test in *CTS* should have produced a very different result as a matter of constitutional law. Furthermore, we believe that our study demonstrates that *Pike* balancing *is* empirically possible in corporate control cases, even if it is used only prescriptively as the justification for a simpler formulation of the applicable legal rule.

In Part I we theorize that the anonymity of shareholders, which second generation antitakeover statutes like Indiana's diminish, is an efficient attribute of the corporate form that increases shareholder wealth by enhancing liquidity and thereby facilitating corporate control transactions. In Part II we test empirically whether Indiana's antitakeover statute increased or decreased the wealth of shareholders of Indiana corporations. We find that the statute cost those shareholders $2.41 billion in market value, which is about 6% of a portfolio that would have been worth $43.11 billion without the statute. Because only a small percentage of the shareholders of Indiana corporations resides in Indiana, almost all of this loss befell shareholders residing in other states, creating an interstate externality of vast proportions.

In Part III we argue that it is highly unlikely as an empirical matter

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10 481 U.S. 69 (1987). *MITE* and *CTS* also involved federal preemption under the Williams Act, a topic we do not discuss here, but which is exhaustively analyzed in Fischel, *From* MITE *to* CTS*: State Anti-Takeover Statutes, The Williams Act, The Commerce Clause, and Insider Trading*, 1987 SUP. CT. REV. 47 [hereinafter Fischel, *From* MITE *to* CTS].

11 481 U.S. at 94. The *CTS* Court earlier had concluded that the statute was not unconstitutional per se—it was evenhanded, its local interest was legitimate, and its effect on commerce was incidental. *Id.* at 87-88.

12 *See* Fischel, *From* MITE *to* CTS, *supra* note 10; Langevoort, *The Supreme Court and the Politics of Corporate Takeovers: A Comment on* CTS Corp. v. Dynamics Corp. of America, 101 HARV. L. REV. 96 (1987); Regan, *Siamese Essays: (I)* CTS Corp. v. Dynamics Corp. of America *and Dormant Commerce Clause Doctrine; (II) Extraterritorial State Legislation*, 85 MICH. L. REV. 1865 (1987) [hereinafter Regan, *Siamese Essays*].

13 Justice Scalia plainly understood the Court to be employing *Pike*'s cost-benefit analysis and declined to join in those parts of the majority opinion where it implicitly appeared. 481 U.S. at 95 (Scalia, J., concurring in part).

14 *Cf.* R. NAGEL, *supra* note 7, at 153-54.

that the local benefits of the Indiana statute "clearly" exceeded the costs imposed on nonresidents, as *Pike* supposedly requires. Thus, if *Pike* is still valid precedent (despite being neglected by the majority in *CTS* and repudiated by Justice Scalia in his concurrence), our empirical evidence supports the conclusion that, as a matter of constitutional law, *CTS* was wrong in holding that Indiana's statute does not violate the dormant commerce clause. This result raises new doubt about the constitutionality of second generation antitakeover statutes.

I. The Efficient Anonymity of Shareholders

Many dissimilar cases coming before the Supreme Court raise the same generic question regarding the mandated production of information: how much information is enough?[15] Economists would answer: When the cost of producing another increment of information exceeds the expected benefit (on the margin) from knowing it. In CTS the Court failed to recognize why the anonymity of shareholders in a publicly traded corporation is valuable, and why it is inefficient for a state to compel the production of information that removes anonymity with respect to corporate control decisions. It failed to recognize that the marginal cost to shareholders of producing such information (in terms of the opportunity cost of forgone control premiums) surely exceeds the marginal benefit of such information to those same shareholders.

A. Salient Features of the Indiana Statute

The antitakeover statute in *CTS* establishes procedures that purport to produce information regarding shareholders' preferences regarding ownership and control of the corporation. The statute restricts voting rights of "control shares" acquired in an Indiana public corporation. Control shares are those that, in the absence of the statute, would enable an acquiring individual investor to exercise voting power equaling or exceeding any of three thresholds: 20%, 33⅓%, or 50% of the corporation's voting shares.[16] The statute applies to any company incorporated in Indiana that has (1) 100 or more shareholders; (2) its principal place of business, its principal office, or substantial assets in Indiana; and (3) more than 10% of its shareholders resident in Indiana, more than 10% of its shares owned by Indiana residents, or 10,000 or more shareholders resi-

[15] *See* Easterbrook, *The Supreme Court, 1983 Term—Foreward: The Court and the Economic System*, 98 Harv. L. Rev. 4 (1984); Easterbrook, *Insider Trading, Secret Agents, Evidentiary Privileges and the Production of Information*, 1981 Sup. Ct. Rev. 309.

[16] Ind. Code Ann. § 23-1-42-1 (Burns Supp. 1987). As the Solicitor General observed, this definition of "control shares" produces anomalous results. Brief for the Securities and Exchange Commission and the United States as Amici Curiae at 10, CTS Corp. v. Dynamics Corp. of Am., 481 U.S. 69 (1987). If a shareholder acquired an additional 12.32% bloc of shares after already owning 21%, she would not be acquiring control shares. However, if a shareholder originally held only 19.9%, her purchase of another 0.2% would constitute an acquisition of control shares.

dent in Indiana.[17] The statute denies an investor who acquires control shares the right to vote those shares until granted permission to do so by a resolution of "disinterested" shareholders.

Shares rendered ineligible for the resolution vote are not only those held by officers or directors, but also all shares held by the acquiror of the control shares. The shareholder vote to grant or deny an acquiror voting rights to her control shares must occur at the next regularly scheduled shareholders meeting or, at the acquiror's request, at a special meeting held within fifty days after the acquiror files an "acquiring person statement."[18] In addition, if the latter option is chosen, the acquiror must agree to pay the costs of the special meeting.[19] If the disinterested shareholders deny voting rights to the acquiror's control shares, they have the right (but evidently not the duty) to redeem those shares at fair market value.[20] These statutory requirements give shareholders new information consisting of (1) the identity of parties gaining substantial equity ownership, and (2) the preferences of "disinterested" shareholders as to whether a person should be permitted to vote control shares (and thus possibly change the corporation's management).

B. Liquidity and the Forced Production of Information Regarding Control Preferences

The *CTS* decision presumes that shareholders should participate actively in decisions affecting the governance of their corporation, as if such participation were an element of good citizenship. The Court said that the Indiana statute "grant[s] shareholders the power to deliberate collectively about the merits of tender offers."[21] An unstated supposition in *CTS* is that passive shareholders should choose the corporation's management and that it is a weakness of the corporate form that the vast majority of shareholders are essentially anonymous and uninvolved. Both Oliver Williamson and Lucian Bebchuk have made a similar argument in the academic literature.[22]

We argue that, to the contrary, the anonymity of shareholders is generally efficient and inextricable from the alienability of ownership in a

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[17] IND. CODE ANN. § 23-1-42-4(a) (Burns Supp. 1987). On its face, this section of the control share provision of the Indiana corporate code does not state that only Indiana corporations are subject to the law's provisions. This conclusion results from reading the control share sections in conjunction with the definition of a "public corporation," contained elsewhere in the Indiana corporate code. *Id.* at § 23-1-20-5.

[18] *Id.* at § 23-1-42-7.

[19] *Id.*

[20] *Id.* at § 23-1-42-10(b).

[21] 481 U.S. at 82 n.7.

[22] O. WILLIAMSON, THE ECONOMIC INSTITUTIONS OF CAPITALISM 305 (1985); Bebchuk, *Toward Undistorted Choice and Equal Treatment in Corporate Takeovers*, 98 HARV. L. REV. 1693 (1985).

corporation. Lester Telser and Harlow Higinbotham have made an analogous observation with respect to organized futures markets:

> In an organized market the participants trade a standardized contract such that each unit of the contract is a perfect substitute for any other unit. The identities of the parties in any mutually agreeable transaction do not affect the terms of exchange. The organized market itself or some other institution deliberately creates a homogeneous good that can be traded anonymously by the participants or their agents.[23]

In the same article they note that:

> The introduction of a standard futures contract by an organized futures market creates a financial instrument that can be traded without knowing the actual identity of the two parties in the transaction . . . . Neither need have concern about the integrity of the other in the same sense that one who accepts a $10 banknote in payment for something need not worry about the credit rating of the buyer.[24]

Analogously, we hypothesize with respect to equity in publicly traded firms that organized capital markets will determine the optimal extent of shareholder identification and participation in corporate governance and that through an evolutionary process the standard corporate contract will acquire those optimal characteristics without government prodding.[25] Our theory, of course, directly conflicts with the Court's reasoning in *CTS*. To the Court, the *state* must be the "overseer of corporate governance"[26] because "the very commodity that is traded in the 'market for corporate control'—the corporation—is one that owes its existence and attributes to state law."[27] That reasoning is easily controverted.

The liquidity of corporate ownership and control (to which shareholder anonymity contributes) results from particular features of the standard corporate contract that are demanded by the participants in an organized capital market. It would seem odd, by comparison, to insist that the Multiple Listing Service, which facilitates an organized market that enhances the liquidity of real property, owes its existence to a state's laws regarding easements, mineral rights, and so forth. Although a state admittedly participates in defining property rights relating to a corporation, the direction of causation is unclear: the state may simply record in its corporate code what private actors have long since adopted as their

23 Telser & Higinbotham, *Organized Futures Markets: Costs and Benefits*, 85 J. POL. ECON. 969, 997 (1977). Curiously, Williamson, *supra* note 22, at 69, quotes this same paragraph when discussing complete-state contingent-claim contracts, yet does not recognize its relevance to the liquidity of corporate ownership and control.

24 Telser & Higinbotham, *supra* note 23, at 970. This point has been made more generally in the writings of Friedrich Hayek. *See, e.g.*, F. HAYEK, THE FATAL CONCEIT: THE ERRORS OF SOCIALISM 12-13 (1988).

25 *See* Fischel, *Organized Exchanges and the Regulation of Dual Class Common Stock*, 54 U. CHI. L. REV. 119 (1987); Gilson, *Evaluating Dual Class Common Stock: The Relevance of Substitutes*, 73 VA. L. REV. 807 (1987).

26 481 U.S. at 91.

27 *Id.* at 94; *see also id.* at 91.

standard form corporate contract. *CTS* never considers whether, without the prodding of any state corporate code, economic actors would privately order their affairs through the complex fabric of contracts commonly called a "corporation" in the belief that the corporate form enables them to specify and monitor at least cost the ownership and control of a particular set of productive resources.[28] We, however, posit that shareholder anonymity is an attribute of the standard corporate contract that enhances the liquidity of ownership and control, and thus it is one important reason why economic actors reject alternative structures in favor of the publicly traded corporation. Consequently, we believe that the salient characteristic of Indiana's second generation antitakeover statute—that of producing information about the corporate control preferences of passive shareholders by requiring a vote of "disinterested" shareholders before an acquiror of a bloc of control shares is permitted to vote those shares—is inefficient. It is likely to reduce the aggregate wealth of shareholders by reducing the alienability of the rights to ownership and control of common stock in the name of producing information of dubious value.

What exactly does it mean to say, as the Court does, that the Indiana antitakeover statute enables shareholders to "deliberate collectively"—and why would this be desirable? The Court's statement conjures up an image of 100,000 shareholders convening in Yankee Stadium for debate and negotiation. Yet, such collective shareholder deliberation illustrates one of the principal reasons for separating ownership from control—namely, the desire to avoid the high transactions costs necessary for co-ordinated decisionmaking among the firm's anonymous shareholders. If each shareholder had to communicate individually with every other shareholder (in order, for example, to work out side payments to secure voting support for or against the tender offer), the requisite number of communication links would be $n(n-1)/2$, which obviously increases at an increasing rate as the number of shareholders increases.[29]

[28] This transactions-cost theory of the firm is the insight of Coase, *The Nature of the Firm*, 4 ECONOMICA (N.S.) 386 (1937). For surveys of recent literature, see O. WILLIAMSON, *supra* note 22, at 273; Alchian & Woodward, *Reflections on the Theory of the Firm*, 143 J. INST. & THEORETICAL ECON. (ZEITSCHRIFT FÜR DIE GESAMTE STAATSWISSENSCHAFT) 29 (1987); Alchian & Woodward, *The Firm is Dead; Long Live the Firm*, 26 J. ECON. LIT. 65 (1988); Easterbrook & Fischel, *The Corporate Contract*, 89 COLUM. L. REV. 1416 (1989). For a comparison of this theory with other models of the corporation (and, specifically, for a critique of the Coasian view expressed in an unpublished draft of this article), see Note, *State Takeover Statutes and Corporate Theory: The Revival of an Old Debate*, 64 N.Y.U. L. REV. 806 (1989).

[29] *See, e.g.*, Posner, *Economics, Politics, and the Reading of Statutes and the Constitution*, 49 U. CHI. L. REV. 263, 289 (1982). Actually, this is a mild exaggeration. The requisite number of communication links is $n(n-1)/2$ only if the voting rule is one of unanimity. If it is majority rule, fewer links are required—at most $(n/2 + 1)(n/2)/2$—because there need to be only enough two-way communication links to establish and maintain a coalition controlling a majority of the votes. Nonetheless, under either majority rule or a rule of unanimity, the number of required communications links rises exponentially with the total number of voters.

This is simply an application of the broader principle, long recognized in the public choice literature,[30] that voting rules affect the transactions costs of collective action.[31]

It is ironic that the Court intimates that it is good for shareholders to use a majoritarian process to decide whether or not to accept a tender offer. There is no reason to presume that a vote of the "disinterested" shareholders (that is, those shareholders whom the Indiana statute defines to be neither officers nor directors nor holders of shares acquired through a tender offer) on the question of who should manage the corporation's assets will work to the advantage of those shareholders who bought the stock simply as a passive investment. Consider why the non-director, non-officer shareholder might decline to tender: she might be sympathetic to management and its intentions, or she might be so uninterested in the corporation's affairs that she is unaware that a tender offer has even been made. If the "disinterested" shareholder is sympathetic to management, she will vote against the tender offeror. If she is completely uninterested, she may vote randomly or fail to vote at all. Shareholders who bought simply as an investment and who have no fealty to a particular management team protect their interests best by assuring that the voting rights attached to the shares they bought remain attached—whether they vote the shares themselves or transfer the rights by selling.

The problem with collective decisionmaking in a public corporation, therefore, is not simply that it is frustrating and costly, but that it reduces the liquidity of ownership and control. In effect, the Indiana statute turns anonymous shareholders into a legislature for the purpose of deciding corporate control issues. Capital markets, however, better preserve true atomistic economic liberty among shareholders than does Indiana's statute, for these markets permit any one of the thousands of anonymous owners of the corporation to sell her shares for any reason at any time. Liquidity of ownership and control is not made to depend on the predilections of other shareholders.

Without the requirement of collective, majoritarian decisionmaking, the anonymous shareholder need only assume that a majority of the corporation's shareholders wish to maximize income from their shares. She need not worry about the specific identity of the management team which, after competing against other teams of incumbent or outside managers, wins the right to manage the corporation's assets. Such a concern would deviate from wealth maximization and complicate the objectives of the other shareholders. Fortunately, the market for corporate control makes unnecessary the inefficient debate and negotiation of a giant congress of shareholders. A tender offer summarizes through its share pre-

30 J. BUCHANAN & G. TULLOCK, THE CALCULUS OF CONSENT 111-14 (1962); M. OLSON, THE LOGIC OF COLLECTIVE ACTION 53-65 (1965).

31 *See* Easterbrook & Fischel, *Voting in Corporate Law*, 26 J. LAW & ECON. 395 (1983). *See generally* Hayek, *The Use of Knowledge in Society*, 35 AMER. ECON. REV. 519 (1945).

mium an offeror's belief that she can extract greater value from the corporation's assets than can its incumbent management. Sometimes the offeror's beliefs turn out to have been misplaced; but then so also do the collective actions of legislative bodies.[32] The Court missed this point entirely in *CTS*, implying that a tender offer has dubious value to shareholders if it "simply" offers them a price "higher than the market price."[33]

By failing to recognize that shareholder anonymity enhances the liquidity of ownership and control, the Court in *CTS* presumed that collective action of diffuse shareholders creates a benefit that very likely does not exist. We would expect that ignorance of the control objectives of other shareholders, coupled with unrestricted alienability of ownership and control, better serves to maximize shareholder wealth than does the costly production of information about the corporate control preferences of passive shareholders.

II. The Loss to Shareholders from Indiana's Antitakeover Statute

The losses imposed on shareholders by the Indiana statute are measurable. If Indiana's antitakeover statute benefits shareholders, Indiana corporations should have experienced positive abnormal returns on days when establishment of the statute became more likely—such as on the days when the statute progressed through the Indiana legislature, when the Supreme Court granted review, and when the Court upheld the statute. Because the statute ultimately was upheld as constitutional, the net returns should be positive if the statute benefits shareholders and negative if it harms them.

We measured this net effect on shareholders by performing an event study using the familiar market model:

$$R_p = a_p + b_p R_m,$$

where R_p is the daily return on a portfolio of publicly traded Indiana-chartered corporations, a_p is an intercept term, b_p is the regression coefficient, and R_m is the daily return on the market portfolio. Our portfolio of Indiana-chartered corporations consisted of the nineteen firms incorporated in Indiana and listed on either the New York or American Stock Exchanges.[34] We used returns for 1985 and 1986 to estimate the param-

32 Thus, shareholder anonymity increases liquidity in the same manner that limited liability does. *See* Woodward, *Limited Liability in the Theory of the Firm*, 141 J. Inst. & Theoretical Econ. (Zeitschrift für die gesamte Staatswissenschaft) 601 (1985).

33 481 U.S. at 92 n.13.

34 Our portfolio consisted of the common stocks of Amoco Corp.; Anacomp, Inc.; Arvin Industries, Inc.; Ball Corp.; Bowmar Instruments Corp.; Coachmen Industries, Inc.; CTS Corp.; Cummins Engine Co., Inc.; Dallas Corp.; Eli Lilly & Co.; Excel Industries, Inc.; Hillenbrand Industries, Inc.; Lincoln National Corp.; National Homes Corp. (named changed to National Enterprises, Inc.); Ransburg Corp.; Schwab Safe Co., Inc.; Signal Apparel Co.; Skyline Corp.; and Tokheim Corp.

eters, and we used the daily return on the New York Stock Exchange Index as the daily return on the market portfolio. We excluded from the data used in the estimation the returns for those dates on which events affecting the enactment or judicial validation of the statute occurred, because we expected nonzero residuals on those dates. Our regression results appear in Table 1.

TABLE 1
REGRESSION RESULTS

Coefficients: Intercept	Market	Oil	Adjusted R^2	Standard Error	F-Statistic
Full Value-Weighted Indiana Portfolio					
.0005	1.03	—	.453	.81	408.36
(1.38)	(20.20)				
Value-Weighted Indiana Portfolio, excluding Lilly					
.0002	.95	—	.315	.99	227.50
(.65)	(15.08)				
Amoco on Market Returns and Percentage Oil Price changes					
.0002	.93	.0011	.248	1.29	84.17
(.30)	(11.55)	(5.99)			

Coefficients were estimated using the NYSE index as the market portfolio, and daily data for 1985 and 1986, deleting the event dates. Percentage changes in oil prices were computed using daily prices on West Texas Intermediate Crude Oil.

Table 2 presents the chronology of the fourteen event dates regarding Indiana's antitakeover statute. In order to measure the impact of news about the statute on the value of Indiana corporations, we computed the abnormal return for each event date. The daily residuals also

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These nineteen corporations are listed in 3 STANDARD AND POOR'S REGISTER OF CORPORATIONS, DIRECTORS AND EXECUTIVES 546-50 (1987). Their daily returns are recorded on the CRSP tape, compiled by the Center for Research in Security Prices at the University of Chicago. We verified the state of incorporation by telephoning each corporation or examining its Form 10K. We excluded public utilities from the sample in the belief that rate-of-return regulated firms are unlikely takeover targets.

We included all of these Indiana firms, rather than just those that met the jurisdictional requirement of the Indiana antitakeover statute of having at least 10% of their shareholders resident in Indiana, more than 10% of stock owned by Indianians, or at least 10,000 shareholders resident in Indiana. *See supra* note 17 and accompanying text. Our reason for doing so is that it would be relatively inexpensive for the management of an Indiana corporation to quickly qualify for the protection of the statute in the event of an unsolicited corporate control transaction. Even for Amoco, trading in early 1990 at about $50 per share, it would cost a mere $500,000 for 10,000 persons in Indiana to be issued stock, so as to ensure that the firm was covered by the statute. Thus, the events affecting Indiana's antitakeover statute should have affected even those Indiana corporations that were not covered by the statute at its time of enactment and subsequent challenge in court.

are reported in Table 2. For April 21, 1987—the date of the Supreme Court's decision and the one date outside our data set (because machine readable returns for 1987 were not yet available at the completion of this study)—we used the same parameters from the regression to compute the abnormal return.[35]

Not all of these dates were good (or bad, depending on one's theory) for Indiana shareholders. If the statute benefited these shareholders, we would expect positive residuals on all dates when the bill progressed through the legislature, negative residuals when the district court and the Seventh Circuit invalidated the statute, and positive residuals again when the Supreme Court agreed to hear the case and upheld the statute. One way to capture the importance of all event dates and the net effect of the statute is simply to examine the total impact of all the dates taken together. Of course, some event dates had ambiguous interpretations, and this ambiguity biases the empirical test against having statistically significant results. Despite this handicap, we had strong results.

In the simplest case, an event's impact is measured by computing the abnormal return on the date the event occurred.[36] Here, fourteen events produced individual increments of information regarding the likelihood that Indiana firms would become relatively insulated from the market for corporate control. Complicating the matter is the ambiguity of some of the events. The first nine dates unambiguously indicated the increasing likelihood of adoption of the Indiana statute. The district court rulings and Court of Appeals affirmance, however, diminished (at least partly) the likelihood that the statute would survive judicial review and ultimately take full effect. Thereafter, on July 22, 1986, when the Supreme Court granted review, its action increased the likelihood that the Indiana statute would take effect as a result of a partial or complete reversal of the Court of Appeals decision. Finally, on April 21, 1987, there was the Supreme Court's reversal of the Seventh Circuit opinion, which legitimized the statute. The statistical test that least biases the results in the direction of a significant result is simply to sum the residuals for all relevant dates and compare them to the standard error for an interval of the same number of dates.[37]

We report two sums of residuals and their associated daily standard errors. The first is for the thirteen event dates in 1986, and the second is

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[35] We also computed residuals using two-day "buckets." For each of the three portfolios reported, the summed residuals were slightly (about 20%) larger, but less significant, using the two-day buckets.

[36] *See* Brown & Warner, *Using Daily Stock Returns: The Case of Event Studies*, 14 J. FIN. ECON. 3 (1985); Schwert, *Using Financial Data to Measure Effects of Regulation*, 24 J. LAW & ECON. 121 (1984).

[37] We assume that abnormal returns on event dates are independently distributed, so that their standard deviations are all equal and the covariance between any two abnormal returns is zero. With these assumptions the standard error of the sum of n days' abnormal returns equals the square root of n times the standard error for a single day.

TABLE 2
LEGISLATIVE CHRONOLOGY AND RESIDUALS ON THE CTS EVENT DATES FOR THREE REGRESSIONS

Date	Event	Full Value-Weighted Indiana Portfolio	Indiana Portfolio Excluding Lilly	Amoco Market and Oil
Jan. 8, 1986	First House Reading	−0.96%	−1.22%	−1.26
Jan. 21	Committee Report Adopted	−1.13	1.57	−1.56
Jan. 28	Second House Reading	−0.66	−0.87	−1.16
Jan. 29	Passed House	−1.26	−1.66	−1.73
Jan. 31	First Senate Reading	−0.30	−0.91	−0.66
Feb. 10	Committee Report Adopted	0.37	−0.29	0.43
Feb. 14	Second Senate Reading	0.74	1.04	2.05
Feb. 19	Third Reading; Passed Senate	0.51	0.76	0.64
Mar. 4	Governor Signs	−1.73	−1.26	−1.06
Apr. 9	District Court Invalidates on Supremacy Grounds	−1.16	−0.67	−1.48
Apr. 17	District Court Invalidates on Commerce Clause Grounds	−1.49	−1.21	−2.28
Apr. 23	Court of Appeals Affirms	0.37	1.16	1.35
July 22	Supreme Court Grants Review	−0.02	−0.62	−2.44
Subtotal		−6.73	−7.31	−9.15
Number of Daily Standards Errors		2.33	2.04	1.96
Apr. 21, 1987	Supreme Court Reverses	0.82	.99	1.29
Total		−5.91	−6.59	−7.77
Number of Daily Standard Errors		1.97	1.78	1.61
Daily Standard Error		.81	.99	1.29

Standard errors for multiple dates are computed by multiplying the standard error on daily returns from the regression by the square root of the number of dates being summed.

Sources: CTS Corp. v. Dynamics Corp. of Am., 637 F. Supp. 389 (N.D. Ill.), *aff'd*, 794 F.2d 250 (7th Cir. 1986), *rev'd*, 481 U.S. 69 (1987); Telephone interviews with Ed Popcheff, Assistant Director of Senate Majority Caucus Services, Indiana State Senate (July 28, 1987 and Feb. 22, 1988). Mr. Popcheff provided the dates for the events occurring in the Indiana legislature; he also confirmed from his records his belief that the legislative actions were completed before the close of business for the various event days. The Supreme Court's decision was released the morning of April 21, 1987.

for these same thirteen dates plus the Supreme Court decision in April 1987. The enormous relative size of two firms in the Indiana portfolio led us to re-examine the two largest, Amoco and Eli Lilly.

The residual from the final Supreme Court decision is puzzling. As Table 2 indicates, it is positive (but not significant) for the full Indiana portfolio, for the Indiana portfolio excluding Lilly, and for Amoco adjusted for both the market and oil prices. This may be because the Justices' questions during oral argument provided clues that the Court would reverse the Seventh Circuit. Since the Supreme Court date is outside the data used in the regression and because the Court's result is puzzling, we report in Table 2 both the thirteen-day and fourteen-day sums with their respective standard errors and significance levels.

After *CTS* the Indiana portfolio was worth $40.7 billion. Without the 5.91% loss, the portfolio would have been worth $43.11 billion. Thus, Indiana's antitakeover statute cost shareholders of Indiana corporations $2.41 billion. Evidently, the stock market's assessment was that protection from the market for corporate control did not benefit shareholders of Indiana corporations. Our results are consistent with other recent studies of antitakeover regulation in Ohio, New York, and elsewhere;[38] but our results are stronger because, we suspect, we examined a more complete legislative history for this statute than the other studies did for theirs.

The results for Amoco and Lilly are of special interest. The Indiana portfolio totaled about $41 billion, with Amoco accounting for $21 billion, Lilly accounting for $13 billion, and the remaining seventeen firms accounting for about $7 billion. For Lilly shareholders, the net residuals (over all fourteen days) totaled -3.68%, which was only .76 standard errors from zero. This result is not surprising, given that Lilly added an antitakeover amendment to its corporate charter in April 1985.[39] The Indiana antitakeover statute, in other words, apparently gave Lilly little, if any, additional protection from hostile takeovers. The regression results for the value-weighted Indiana portfolio excluding Lilly are reported in Table 1. Residuals for this regression for all event dates are reported in Table 2.

Amoco was a different story entirely. The net residuals for Amoco (regressed on the market only) were -9.17% over fourteen days, which was 1.84 standard errors from zero, and this alone accounts for $1.9 billion of the total $2.41 billion loss suffered by shareholders of Indiana corporations.[40] When we first reported these empirical results in the

[38] Guerin-Calvert, McGuckin & Warren-Boulton, *State and Federal Regulation of the Market for Corporate Control*, 32 ANTITRUST BULL. 661 (1987); Karpoff & Malatesta, *The Wealth Effects of Second Generation State Takeover Legislation*, 25 J. FIN. ECON. (forthcoming 1990); Ryngaert & Netter, *Shareholder Wealth Effects of Ohio Antitakeover Law*, 4 J. LAW, ECON. & ORG. 373 (1988); Schumann, *State Regulation of Takeovers and Shareholder Wealth: The Case of New York's 1985 Takeover Statute*, 19 RAND J. ECON. 557 (1988).

[39] Wall St. J., Apr. 16, 1985, at 59, col. 1.

[40] These results are slightly different from those in an earlier version of this paper because we have changed the index used for our market portfolio.

Wall Street Journal in 1988,[41] an economist with Amoco responded in a letter printed in the *Journal* several weeks later that "an analysis of the Sidak-Woodward research paper indicates that their findings—certainly in the case of Amoco, and very likely in the case of the other companies—do not support any such conclusions."[42] In particular, Amoco asserted that our result regarding that company merely reflected unexpected declines in world oil prices:

> During early 1986—when most of the "events" the authors studied took place—world oil prices were dropping sharply, and oil stocks generally were falling relative to the market. I have examined Amoco's abnormal returns on the same dates used in the study relative to a weighted index of eight major U.S. oil companies (Arco, Chevron, Exxon, Mobil, Phillips, Standard, Sun and Unocal, none of which is an Indiana corporation), *instead of the NYSE Index*, and find a return anomaly of only minus 0.5%. Thus, more than 90% of Amoco's market-return abnormalities found by Mr. Sidak and Ms. Woodward can be explained by factors common to the U.S. oil industry in general. The remaining abnormal return over 14 days is clearly insignificant. It is within the normal trading range in Amoco's stock on a single (uneventful) day.
>
> I have not looked at the smaller companies in the Sidak-Woodward sample, but given the errors in the model they use and the above very significant alternative findings in the case of Amoco, I think you must conclude that Ms. Woodward's case in the *Journal* against the Indiana statute must be dismissed for lack of credible evidence.[43]

Admittedly, as the Council of Economic Advisers reported in January 1987, "[b]etween November 1985 and April 1986, the spot price of West Texas Crude fell from $30.90 to $13.75 per barrel," constituting "[p]robably the most important special factor affecting the U.S. economy in 1986."[44] Therefore, we undertook our own test of the hypothesis that Amoco's extraordinarily large abnormal returns on the event dates resulted from unexpected declines in oil prices rather than Indiana's antitakeover statute.

At the outset, we rejected as unreliable the test that Amoco evidently used to criticize our results. Our first reason for doing so was that a more direct model could be specified to test the hypothesis that the fall in oil prices had caused the fall in Amoco stock. Amoco's economists evidently specified the daily return on Amoco, R_A, to be a function of the daily return on an industry portfolio of eight oil companies, R_i, so that they estimated coefficients for the equation:

$$R_A = a_A + b_A R_i.$$

41 Woodward, *How Much Indiana's Anti-Takeover Law Cost Shareholders*, Wall. St. J., May 5, 1988, at 32, col. 3.

42 Quirin, *Indiana's Anti-Takeover Law*, Wall St. J., May 24, 1988, at 39, col. 1 (letter to the editor).

43 *Id.* (emphasis added).

44 1987 ECONOMIC REPORT OF THE PRESIDENT 25.

In other words, Amoco's coefficient was estimated not with respect to the daily return on the market as a whole, R_m, but rather with respect to the daily return on an undiversified portfolio of oil company stocks, R_i. We, however, directly specified the daily return on Amoco stock to be a function of the daily return on the market and the percentage change in the daily spot price of oil, P_s:

$$R_A = a_A + b_A R_m + c_A P_s.$$

The obvious advantage of our specification over that used by Amoco's economists is that ours eliminates the firm-specific noise that would be generated by estimating Amoco's daily return as a function of the weighted return of eight other oil companies. Exxon, for example, throughout almost all of 1986 owned Reliance Electric, a manufacturer of electric motors; Exxon is also much larger than many of the other companies in the portfolio that Amoco used to criticize our results.[45] Thus, events that affected either Reliance or the electric motor industry generally would enter into R_i. That kind of extraneous variation is completely unnecessary if one seeks to know only how changes in oil prices affected Amoco's daily returns.

There is a second reason why Amoco's model would produce erroneous results regarding the effect of Indiana's antitakeover statute. Empirical evidence indicates that bidder corporations, particularly those smaller than their targets, earn positive abnormal returns after the successful completion of a cash tender offer and that these abnormal returns have a weighted average value of 3.8%, although some studies estimate the bidder's abnormal return to be considerably higher.[46] Each of the eight companies in the industry portfolio that Amoco constructed can be regarded as a potential bidder for Amoco. The pattern of acquisitions and mergers between horizontal competitors in the oil industry makes this proposition plausible—even for smaller oil companies like Mesa, as T. Boone Pickens made clear in his attempt to acquire control of Unocal.[47] Because Indiana's antitakeover law makes it less likely that Amoco will ever be the target of a successful hostile cash tender offer, and because it is quite conceivable—if not probable—that such a tender offer would be made by a competing oil company, the enactment and judicial validation of the Indiana statute would quite predictably de-

[45] It is odd that Amoco's critique of our results did not include Texaco-Pennzoil in its industry portfolio of oil companies.

[46] R. GILSON, *supra* note 3, at 437-41; Jarrell, Brickley & Netter, *supra* note 3, at 53; Jensen & Ruback, *supra* note 3, at 10 n.4; *see also* Jarrell & Poulsen, *The Returns to Acquiring Firms in Tender Offers: Evidence from Three Decades*, 18 FIN'L MGMT. 12 (Autumn 1989) (reporting that acquirer's premium depends on relative sizes of target and acquirer).

[47] Other recent mergers, acquisitions, and tender offers (both successful and unsuccessful) involving horizontal competitors in the oil industry include Chevron-Gulf, Dome-Conoco, Mobil-Conoco, Mobil-Marathon, Pennzoil-Texaco, and Texaco-Getty. *See generally* Jensen, *Takeovers: Their Causes and Consequences*, 2 J. ECON. PERSP. 21, 32-34 (1988); Ruback, *The Conoco Takeover and Stockholder Returns*, SLOAN MGMT. REV. 13 (Winter 1982).

crease the value of a value-weighted portfolio consisting of Amoco's (mostly smaller) competitors and would-be hostile bidders.

Having corrected for these two errors in the methodology evidently used by Amoco to criticize our results, we proceeded to compute the abnormal returns for Amoco, controlling for changes in the price of oil as well as for market effects. For price data we used the daily spot price per barrel of West Texas Intermediate Crude. Our regression results, estimated for the same period as the other regressions in Table 1, appear in Table 1. The coefficient on percentage price changes in oil is significant but very small. Oil price changes explain less than 5% of the variance of Amoco returns. The residuals for each event date appear in Table 2. Oil accounts for only a tiny fraction of the loss that Amoco shareholders suffered in association with the Indiana antitakeover statute, despite the large decline in oil prices during this time. The summed residuals are only slightly smaller after accounting for the effect of oil price changes: -7.77% for the fourteen-day interval without accounting for oil. The summed residuals are more negative for Amoco alone than for either the total Indiana portfolio or the Indiana portfolio excluding Lilly. And, consistent with the daily standard error on Amoco being larger than that for either of the other two portfolios, the summed Amoco residuals, though larger, are slightly less significant. This result for Amoco is especially interesting in light of Roberta Romano's finding that other state antitakeover laws were adopted in response to lobbying pressures of large firms, situated in the state, which were likely takeover targets.[48]

III. Re-Assessing the Constitutionality of Indiana's Antitakeover Statute Under *Pike*

Pike implies that Indiana's antitakeover statute violates the dormant commerce clause if it costs nonresident shareholders of Indiana corporations more than it benefits interests within Indiana. Writing for the Seventh Circuit in *CTS*, Judge Richard Posner believed that the answer to this empirical question could easily be inferred: "For the sake of trivial or even negative benefits to its residents Indiana is depriving nonresidents of the valued opportunity to accept tender offers from other nonresidents."[49] Although the Supreme Court disagreed, we conclude that Judge Posner was correct. Our empirical estimate of the harm to shareholders is so large, and the theoretical plausibility of equal or greater benefits within Indiana so remote, that we consider inescapable the conclusion that Indiana's statute flunks the *Pike* test—contrary to the Court's conclusion in *CTS*.

48 Romano, *The Political Economy of Takeover Statutes*, 73 VA. L. REV. 111, 145-80 (1987).

49 CTS Corp. v. Dynamics Corp. of Am., 794 F.2d 250, 263 (7th Cir. 1986).

A. Harm to Nonresident Shareholders

We first estimated how much of the $2.41 billion loss befell shareholders living outside Indiana. In 1985, there were 856,000 shareholders in Indiana, or 1.8% of all 47,040,000 shareholders in the United States.[50] We do not know the residency by state of the shareholders of Indiana-chartered corporations, so we assumed that the percentage of shareholders of Indiana corporations who reside in Indiana equals the percentage of all shareholders in the United States who reside in Indiana. We assumed, in other words, that Indiana residents bore 1.8% of the $2.41 billion loss, or about $43 million. Out-of-state shareholders bore the remaining $2.37 billion. Even if Indiana-resident shareholders were *ten times* as numerous as our estimate, nonresident shareholders would still have lost $1.98 billion.

It is striking to compare this empirical estimate with what the Supreme Court had to say about the harm that second generation antitakeover statutes might impose on nonresident shareholders. The Court readily acknowledged that interstate externalities could occur:

> Every State in this country has enacted laws regulating corporate governance. By prohibiting certain transactions, and regulating others, such laws necessarily affect certain aspects of interstate commerce. This necessarily is true with respect to corporations with *shareholders* in States other than the State of incorporation.[51]

When evaluating the interstate spillover costs from Indiana's statute, however, the Court ignored shareholders and instead focused on out-of-state *bidders* in tender offers.[52] In other words, the Court briefly acknowledged that nonresident shareholders could be gouged by Indiana's antitakeover statute but then promptly neglected to assess the significance of that category of harm—evidently because the Court considered that potential harm to be either nonexistent or too trivial in magnitude to warrant further discussion. Focusing on the residency of bidders, however, misses the point about interstate exploitation entirely. Compared with Judge Posner's careful explanation of how the Indiana statute exploits nonresident *shareholders*,[53] the Court's observation that Indiana's statute does not discriminate against nonresident offerers is a *non sequitur*

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[50] NEW YORK STOCK EXCHANGE, FACT BOOK 56-57 (1986). These numbers exclude indirect ownership—for example, through mutual funds. However, we have no reason to believe that the ratio of all shareholders (direct and indirect) in Indiana relative to all in the United States deviates from the 1.8% figure used here.

[51] *CTS Corp.*, 481 U.S. at 89-90 (emphasis added).

[52] The Court made this error when it examined whether the Indiana statute was unconstitutional per se: "Because nothing in the Indiana Act imposes a greater burden on out-of-state offerers than it does on similarly situated Indiana offerers, we reject the contention that the act discriminates against interstate commerce." *Id.* at 88. Similarly, the Court said that the Indiana statute "has the same effects on tender offers whether or not the offerer is a domiciliary or resident of Indiana." *Id.* at 87.

[53] 794 F.2d at 263-64.

that ignores the real cost that second generation antitakeover statutes impose on interstate commerce.

In fact, the cost of the Indiana statute is greater than merely the harm to nonresident shareholders. Shareholders residing in Indiana were also losers in the amount of $43 million. Even though it does not violate the dormant commerce clause for Indiana to impose such costs on Indiana residents who are shareholders of Indiana corporations, these in-state costs by themselves offset whatever in-state benefits the statute generates.[54] Therefore, any gain to Indiana interest groups would have to equal the full $2.41 billion to compensate for this in-state loss and satisfy *Pike*'s cost-benefit test. For the reasons that follow, we find it is implausible to believe that Indianians could have benefited from their state's antitakeover statute by $2.41 billion.

B. *Possible Benefits to In-State Constituencies*

Why would the Indiana legislature pass a law that harms the shareholders of the state's own companies? We analyze here the plausility of possible benefits flowing to various constituencies within Indiana.

1. *Shareholders.*

(a) *Shareholder Wealth.*—One hypothesis is that Indiana legislators believed that takeovers hurt shareholders. With respect to the shareholder wealth effects, however, the evidence refuting this hypothesis is now so overwhelming—shareholders of target companies make, on average, a return of about 30% when a takeover bid is successful[55]—that it is hard to believe that any informed person who respects empirical research would continue to embrace it.[56]

(b) *"The Corporation's Best Interest"*—An alternative hypothesis, which we admit not to comprehend, is that the Indiana statute benefited the corporation as an entity independent of its shareholders. The Court asserted that the "utility of tender offers var[ies] widely" and "in many situations the offer to shareholders is *simply* a cash price substantially higher than the market price prior to the offer."[57] For the Court to complain that a cash premium is all that shareholders get "in many situations" is to suggest that they get something more in other situations. But how could they? When shareholders tender their shares, they cash out; their ownership in the corporation ceases. A cash tender offer does not

[54] Whether these losses (and losses to nonresident shareholders) might violate other constitutional provisions, such as the takings clause or the contract clause, is a separate question that we do not explore here.

[55] *See supra* note 3.

[56] There is, however, considerable political hostility to empirical research on corporate governance. *See* Sidak, *The Recommendation Clause*, 77 GEO. L.J. 2079, 2112-17 (1989).

[57] 481 U.S. at 92 n.13 (emphasis added).

purport to give any additional nonpecuniary consideration to shareholders or third parties.

Elsewhere, the Court observed that, if they were made a two-tier tender offer, then "under the Indiana Act, the shareholders as a group, *acting in the corporation's best interest*, could reject the offer, although individual shareholders might be inclined to accept it."[58] The phrase "acting in the corporation's best interest" is redundant if the Court was addressing solely the collective action problem in two-tier tender offers.[59] The phrase is not redundant if the corporation is considered to have prerogatives and obligations independent of those of its owners, or if shareholders owe some kind of duty to the corporate resources in which they passively invest. Some state antitakeover laws declare that managers have duties to employees, customers, suppliers, and the community.[60] *CTS* would seem to suggest that it might serve "the best interests of the corporation" for shareholders to extend such altruism (in the expectation of even greater reciprocal altruism?) by collectively declining a tender offer, even though doing so would surely force some fellow shareholders with possibly disparate investment objectives to forsake the benefits of accepting the tender offer.

If "the corporation's best interest" envisions some nonpecuniary benefit to the corporation's owners, the Indiana statute did not identify what that benefit would be, nor did the Court explain how that benefit would be measured for purposes of the dormant commerce clause. Toward whom or what does the Court expect shareholders to behave altruistically? If the corporation is no more than a bundle of assets to which anonymous shareholders have pro rata claims of ownership, it would serve no purpose to reify the productive assets of the corporation. What would it mean for "the shareholders as a group" to "act in the best interests" of a refinery or an office building by rejecting a tender offer at a price that exceeds the current market value of their right to receive the income from employing those assets? How can a corporation have an "interest" that is anything other than the interest of the shareholders who own the corporation? The Court's hint of shareholder altruism, and its suggestion that the corporation as a legal entity is something considerably less than the sum of the equity interests of its shareholders, are breathtaking in their implications. At the same time, these musings on private property and the corporation are so vague that it would be disin-

58 *Id.* at 83 (emphasis added).

59 *See* Fischel, *From* MITE *to* CTS, *supra* note 10, at 59-63.

60 *E.g.*, TENN. CODE ANN. § 48-35-402 (1989). Dean Robert Clark of Harvard Law School asserts that the "obvious thrust" of such provisions, which alter the traditional fiduciary duty of management to shareholders, "is to give management more room to create (nonfalsifiable) business reasons for opposing a takeover, and thus a greater shield against shareholder lawsuits claiming that certain defensive tactics represented a waste of corporate assets or improper self dealing." R. CLARK, CORPORATE LAW § 13.5 at 570-71 (1986). For similar criticisms of *CTS*, see Sidak, *The Recommendation Clause*, *supra* note 56, at 2112-17.

genuous to suggest that they could enable the Court to infer from the Indiana antitakeover statute a local public benefit approaching $2.41 billion.

2. *Employees and Local Businesses.*—Another hypothesis is that the Indiana legislature feared that companies that would be taken over would move or be reorganized and that Indianians consequently would lose their jobs or high wages. The Indiana statute does not contain any elaborate statement of purpose, but state antitakeover laws enacted after *CTS* do. Consider the public policy preamble to the Tennessee Authorized Corporation Protection Act of 1988, which specifically addresses the welfare of employees and third parties:

> The legislature hereby finds and declares the following to be the public policy of this state:
>
> (1) Authorized corporations, as defined by this part, have a substantial presence in Tennessee and, through their ongoing business operations in Tennessee, represent and affect a variety of constituencies, including shareholders, employees, customers, suppliers and local communities and their economies, whose welfare is vital to this state's interest.
>
> (2) Takeovers of such authorized corporations can harm the economy of this state by weakening corporate performance and causing unemployment, plant closings, reduced charitable donations, declining population base, reduced income to fee-supported local government services, reduced tax base and reduced income to other businesses.
>
> (3) The state has a substantial and legitimate interest in providing to these authorized corporations the benefits of the Tennessee Business Combination Act . . . and the Tennessee Control Share Acquisition Act . . . , which promote and encourage long-term growth and stability of such authorized corporations.[61]

Even if similar motives are imputed to the Indiana legislature, it is highly implausible that employees of Indiana corporations could benefit collectively in the form of a $2.41 billion wage premium as a result of that state's antitakeover statute. Even if insulated from the market for corporate control, Indiana corporations still compete with firms that do not give their workers gratuities; competition in the goods market precludes an Indiana corporation from raising prices to pay higher wages. Similarly, an Indiana corporation cannot pay local suppliers a premium for its inputs.

The case of Amoco, Indiana's largest publicly traded company, is illustrative. Amoco's shareholders lost $1.9 billion because of the Indiana statute. Amoco has just under 40,000 domestic employees.[62] Thus, the loss to the shareholders represented $47,500 per employee. This seems like an extravagant amount for the state to cause shareholders to "spend" (in the form of an opportunity cost) so that employees can avoid

61 TENN. CODE ANN. § 48-35-402 (1989).

62 Amoco Corp., Form 10K at 7 (Dec. 31, 1986).

relocating or retraining. It seems even more extravagant when one considers that a layoff of even half the work force would be extraordinary, since it would require Amoco to substantially cut its output and, thus, its revenues.[63] If the concern of the Indiana legislature more specifically was the welfare of unionized employees, then the shareholder loss would become an even more extravagant wealth transfer. Fifteen percent of Amoco's employees belong to a union.[64] If all benefits from the antitakeover statute went to union members, the benefit per member would have to have been $317,000 for the statute's benefits to employees to have exceeded the loss to shareholders.

3. *Incumbent Managers.*—Another hypothesis is that managers of Indiana corporations were the intended beneficiaries of the statute. Roberta Romano has found that a critical factor in explaining why states adopt antitakeover statutes is the support of a large company inside the state.[65] The hypothesis is that incumbent managers support the antitakeover bill; stockholders, many of whom reside out of state, bear the costs. In the case of ownership of stock in Indiana corporations, if holdings outside the state are simply proportional to population, as we would roughly expect for publicly traded companies that are diffusely held (that is, companies without a substantial ownership bloc held by management), then about 98% of the stockholders of Indiana corporations reside outside Indiana. These facts support the cynical hypothesis that incumbent managers benefit at the expense of shareholders, and that the state government co-operates because the costs are largely borne by out-of-state shareholders.

If incumbent managers were the principal beneficiaries of Indiana's antitakeover statute, the wealth transfer from shareholders would have been even more extravagant on an individual basis than what would have occurred if union workers had captured a wage premium. For local benefits to equal $2.41 billion, each firm in our portfolio would have had to have received a $127 million windfall. Obviously, if each corporation had 100 key executives who would suffer a diminution in expected lifetime income from a takeover, the Indiana statute would have had to have benefited each executive by $1.27 million—an amount that would begin to approach the magnitude of a disability or a wrongful death award, which presumably compensates for the *entire* loss of earnings for the remainder of the victim's normal life expectancy.[66] It would seem that the shareholders of each of these Indiana corporations could have bought the

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63 *See* Hart, *Optimal Labor Contracts Under Asymmetric Information: An Introduction*, 50 REV. ECON. STUD. 3 (1983). We assume that Amoco's labor productivity would not rise by a fully offsetting amount, such that Amoco could produce the same output with only half as many workers.

64 Amoco Corp., Form 10K at 7 (Dec. 31, 1986).

65 Romano, *supra* note 48.

66 *See, e.g.*, R. POSNER, ECONOMIC ANALYSIS OF LAW 177-85 (3d ed. 1986).

passivity of their 100 most senior managers in the event of an unsolicited tender offer by granting them golden parachutes for less than $1.27 million per person.[67]

4. *Local Charities.*—Another hypothesis regarding local benefit from Indiana's antitakeover statute is that Indiana corporations, insulated from takeovers, might be likely to make charitable contributions within Indiana having an expected present value of $2.41 billion, thereby providing legislators with a substitute for an increase in local income or property taxes (or a means by which to lower taxes without reducing the level of public services). Corporate philanthropy, in other words, might be the quid pro quo for insulating incumbent management from the market for corporate control. The Indiana legislature might be unable to tax Indiana voters for the full cost of providing public goods that Indiana-chartered corporations might be persuaded to finance in return for protection from hostile takeovers. The explicit reference in the Tennessee statute to the possibility of reduced charitable contributions and a reduced tax base lends plausibility to this hypothesis.

If induced philanthropy is an intended local benefit from Indiana's antitakeover statute, it is one that the Court did not consider in *CTS*, and it is questionable whether this form of rent extraction[68] could even constitute a "legitimate local public interest" for purposes of the *Pike* test. Of course, a firm has an incentive, independent of corporate control considerations, to invest in a good reputation.[69] Such an investment cannot be salvaged if the firm prematurely exits the market, and thus it signals to consumers that the firm will continue to deliver quality products. Increments of corporate philanthropy extracted in return for enacting antitakeover legislation, however, would be over and above the level of contributions made to establish a credible commitment to consumers; thus, they would seem to constitute a diminution in the corporation's assets.

5. *Local Politicians.*—The remaining hypothesis is that Indiana's antitakeover statute benefited the state's legislators and governor by preserving the privileged status of managers who would be predisposed to contribute their own resources (and perhaps corporate resources) to these politicians' re-election campaigns and to support their political agendas. As in the case of coerced corporate philanthropy, it is highly

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67 *See* Knoeber, *Golden Parachutes, Shark Repellants, and Hostile Tender Offers*, 76 AMER. ECON. REV. 155 (1986); Lambert & Larker, *Golden Parachutes, Executive Decision Making, and Shareholder Wealth*, 7 J. ACCT. & ECON. 179 (1985).

68 *See* McChesney, *Rent Extraction and Rent Creation in the Economic Theory of Regulation*, 16 J. LEGAL STUD. 101 (1987).

69 Klein, Crawford & Alchian, *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J. LAW & ECON. 297 (1978); Klein & Leffler, *The Role of Market Forces in Assuring Contractual Performance*, 89 J. POL. ECON. 615 (1981).

questionable whether assisting the re-election of incumbents is a legitimate legislative objective.[70] Moreover, the empirical magnitudes necessary to satisfy *Pike* are absurd: 2,410 candidates would each have to receive $1 million more than they otherwise would.

C. *Balancing In-State Benefits and Out-of-State Harm*

Regardless of why Indiana's antitakeover statute was enacted, it is difficult to imagine that the beneficiaries of the statute—whoever they might be—gained as much as the shareholders lost. The various hypotheses regarding beneficiaries of the Indiana statute do not provide a basis for inferring that the statute could pass the *Pike* test in light of the $2.41 billion cost imposed on shareholders. The various forms of possible in-state benefits tend to be extravagant in required magnitude, highly dubious as a legitimate object of state regulation, or both. It is possible that some combination of more reasonably sized benefits to managers, employees, local businesses, and local charities could have occurred; but whether this combination would yield aggregate benefits of $2.41 billion is purely conjectural.

If the Supreme Court had applied *Pike* in a neutral manner, it could not have concluded that the Indiana antitakeover law was constitutional under the dormant commerce clause. This lack of candor, on which Donald Langevoort has remarked,[71] calls into question the Court's willingness to define and apply neutral principles to protect the property interests of shareholders. Obviously, the Court does not have the benefit of hindsight that comes from our empirical finding that, far from protecting shareholders, Indiana's antitakeover statute reduced the wealth of shareholders of Indiana corporations by $2.41 billion. Still, the Court's armchair empiricism could have been far better, given the state of the scholarly literature in 1987 on the shareholder wealth effects of tender offers and Judge Posner's thoughtful analysis of the relevance of that literature in his Seventh Circuit opinion. The Court was not even in the ballpark in *CTS* when it predicated its opinion on the assumption that the statute benefits shareholders of Indiana corporations.[72]

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70 *Cf.* Anderson v. Celebrezze, 460 U.S. 780, 801 (1983).

71 Langevoort, *supra* note 12, at 116-18.

72 Even under the minimum rationality standard of judicial review under the equal protection clause, the gravity of that error would seem to hobble the holding that follows from it. In United States v. Carolene Prods. Co., 304 U.S. 144 (1938), for example, the Court noted that:

> Where the existence of a rational basis for legislation whose constitutionality is attacked depends upon facts beyond the sphere of judicial notice, such facts may properly be made the subject of judicial inquiry, and the constitutionality of a statute predicated upon the existence of a particular state of facts may be challenged by showing to the court that those facts have ceased to exist.

Id. at 153 (citations omitted). Langevoort, *supra* note 12, at 108, proposes that the Court not even apply the minimum rationality standard of review to second generation antitakeover laws; rather, he argues, it should impose a least-restrictive-means test for scrutinizing the fit between the state's corporate law objective and its choice of a regulatory means.

As a matter of a priori conjecture, the verisimilitude of the opposite hypothesis would seem self-evident: Indiana's antitakeover statute insulates Indiana corporations from the possibility that rival teams of managers will deploy the assets of those corporations more profitably and divide the earnings generated by those assets more favorably between management and shareholders; if the procedures of Indiana's antitakeover statute could be expected to benefit shareholders, why would it not suffice to allow individual Indiana corporations to adopt such procedures through charter amendments? Why would *state* action be necessary to cause Indiana corporations to change their governance procedures in this particular way?[73] Further, the Court ignored that nearly all of the loss in equity value caused by the Indiana statute would befall shareholders of Indiana corporations who reside in other states. When the Court next considers the constitutionality of state antitakeover regulation, it will have no excuse for ignoring how enormous the costs to nonresident shareholders are when states retard the market for corporate control. If the Court ever again undertakes a neutral application of the *Pike* test when scrutinizing an antitakeover statute, it must approach the law with greater skepticism, recognizing that, if any empirical presumption is warranted, it is that the statute's costs to out-of-state interests exceeds its local benefits. At a minimum, this recognition would seem to shift the burden to the state to prove, by some proferring of objective knowledge, the existence of the benefits that purportedly flow from its legislation.

IV. Conclusion: Federalism and Factor Mobility

Our empirical results regarding harm to shareholders suggest a serious problem here with federalism. Competition among states to provide regulations for governing corporations does not seem to have produced efficient rules with respect to antitakeover statutes. Shortly after the Court's *CTS* decision, Governor Robert Orr of Indiana said that "the Indiana approach to hostile takeovers is today a beacon for other states to follow."[74] His words were prophetic. The large number of states that passed second generation antitakeover statutes after the Court's decision in *CTS*[75] runs contrary to empirical evidence showing that interjurisdictional competition in corporate law has produced a "race to the top" rather than a "race to the bottom."[76] The development has produced a

[73] *See* Langevoort, *supra* note 12, at 105-106; Romano, *State Takeover Laws: Constitutional but Dumb*, Wall St. J., May 14, 1987, at 28, col. 3.

[74] Orr, *Shareholders Need a Knight-Errant*, Wall St. J., May 27, 1987, at 30, col. 3.

[75] For a survey of state antitakeover statutes enacted shortly after the Supreme Court's decision in *CTS*, see Pamepinto & Heard, *State Regulation of Corporate Takeovers*, NAT'L LAW J., Sept. 21, 1987, at 26.

[76] Dodd & Leftwich, *The Market for Corporate Charters: "Unhealthy Competition" Versus Federal Regulation*, 53 J. BUS. 259 (1980); Fischel, *The "Race to the Bottom" Revisited: Reflections on Recent Developments in Delaware's Corporation Law*, 76 NW. U.L. REV. 913 (1982); Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, 1 J. LAW, ECON. & ORG. 225 (1985).

quandary for conservative jurists and scholars who extol the virtues of both federalism and factor mobility. Justice Scalia, for example, made it clear that he would side with federalism rather than free markets, stating in *CTS* that "a law can be both economic folly and constitutional."[77]

Do we then abandon hope that the principles of competition among the states will provide efficient laws and instead embrace wholesale federal pre-emption of state antitakeover laws? Or do we suffer with what we are getting from the states? Daniel Fischel argues that interjurisdictional competition will correct the problem of shareholder exploitation over the long run, as new incorporations migrate to states without second generation antitakeover laws (and thus a lower cost of raising capital).[78] "In the long run," he reasons, "states have no ability to export costs to nonresident investors."[79] Entrepreneurs who want to raise capital for a corporate venture are free to incorporate in any state, and consequently they will avoid states like Indiana: "States that enact laws that are harmful to investors will cause entrepreneurs to incorporate elsewhere."[80]

Fischel's general point about the nondurability of opportunistic behavior is, of course, correct in principle as long as factor mobility is preserved. But it is not a very satisfactory answer to the species of interstate exploitation found in *CTS*. As Romano notes, there appears to be little organized political opposition to the enactment of antitakeover statutes;[81] yet such a statute, by definition, need only be enacted once per jurisdiction to impose huge welfare losses on shareholders of corporations chartered there. The short-term cost to shareholders is so substantial that, at any reasonable discount rate, the future benefits to a state from attracting new incorporations would have to be very great in order for the enactment of an antitakeover law not to be a rational strategy of interstate exploitation for a state legislature to follow. This might especially be the case for states (perhaps in the rust belt) whose legislatures expect long-term economic decline and few new incorporations. Of course, even if Fischel's argument were correct as an empirical matter, it is quite another question whether the possibility of *future* interjurisdictional competition is even relevant as a matter of law when the Court is scrutinizing under the dormant commerce clause some form of present interstate exploitation.

An alternative to Fischel's recommendation of nonintervention would be a federal opt-in law: states could alter corporate governance however they wished, provided that companies incorporated before the effective date of the federal law would permit shareholders to vote on

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77 481 U.S. at 96-97 (concurring opinion).

78 Fischel, *From* MITE *to* CTS, *supra* note 10, at 84.

79 *Id.*

80 *Id.*

81 Romano, *supra* note 48. One source of organized political opposition since Romano's study is United Shareholders of America, sponsored by T. Boone Pickens.

whether the governance of their own corporation should be so altered.[82] This proposal would still encourage the federalist principle of experimentation by the states. The rationale for federalism is not simply to assign jurisdiction to the states, but to assign it as nearly as possible to the affected parties, because they have superior information.[83] In corporate control situations, the most directly affected parties are the stockholders and the employees of the companies, including their managers. Under a federal opt-in law, the question of whether the state will rewrite the contracts among these parties would become one that the affected parties themselves, rather than state legislators, would decide. This federal legislative vehicle for facilitating negotiation among the separate groups of economic actors who make up the bundle of contracts that constitute a corporation would be, as well, at least a mild repudiation of the statist vision of the corporation found in the Court's *CTS* decision.

Naturally, a federal opt-in law would have its costs. Each time a state changed its corporate-governance law, a vote of the shareholders would be required. Since one reason for creating a diffusely held corporation in the first place is to separate governance from investment, this measure would raise the transactions costs somewhat between the firm's owners and its managers. Thus, having defended the efficient anonymity of shareholders in Part I of this Article, we are forced now to argue why, as a second-best solution in the presence of second generation antitakeover statutes enacted by a large fraction of the states, shareholder wealth maximization might be best served by a federal law that induces a degree of collective shareholder decisionmaking on the issue of corporate control. Essentially, a federal opt-in law would exempt shareholders from having to invest in the inefficient production of information regarding control preferences of individual shareholders—an investment that the Indiana-style antitakeover statutes currently force shareholders to make.

When the decision at hand is whether to redefine by federal law the discretion of shareholders to influence the governance of their company (should they wish even to exercise that discretion), it would seem that assisting shareholders in protecting their property interests in the corporation by participating in the decision to place their corporation in the market for corporate control should outweigh concerns about the transactions costs of their participation. Considering how much of their property shareholders could lose by not participating in that decision, and

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82 *See* Fischel, *From* MITE *to* CTS, *supra* note 10, at 71; Romano, *supra* note 48, at 186. Indiana's antitakeover statute has an opt-out provision. IND. CODE ANN. § 23-1-42-5 (Burns Supp. 1987). However, it requires an amendment of the articles of incorporation or bylaws. Thus, the shareholders of an Indiana corporation would have to incur significant transactions costs to have their corporation re-enter the market for corporate control.

83 *Cf.* THE FEDERALIST No. 45, at 313 (J. Madison) (J. Cooke ed. 1961) ("The powers reserved to the several states will extend to all the objects, which, in the ordinary course of affairs, concern the lives, liberty and properties of the people. . . .").

how much they have already lost in Indiana alone as a result of state antitakeover legislation, their participation at this level seems warranted.