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THE APPRAISAL REMEDY AND MERGER PREMIUMS

ABSTRACT

The appraisal remedy affords a shareholder the option to redeem her shares for cash in the event of certain corporate actions, such as mergers. While appraisal appears to have been developed to protect shareholders who might oppose a corporate action yet be unable to sell their shares for fair value in a liquid market, the value of appraisal to shareholders of publicly traded firms is questionable. This is especially true when we realize that shareholder class actions for breach of fiduciary duty provide an alternative avenue of recovery and are easier to initiate. In this paper we present the first large-sample empirical study of the effect of access to appraisal on target shareholder gains from acquisitions. We examine 1350 mergers involving publicly held firms. In some of these mergers dissenting shareholders could seek an appraisal and in others appraisal was not available. We find some evidence that appraisal offers dissenting shareholders hold-up power that reduces average shareholder gains in certain transactions. However, for the entire sample, we find no evidence that appraisal has any effect, positive or negative, on target shareholder gains from takeovers.

I. INTRODUCTION

Recently there has been a revival of academic interest in the appraisal remedy in corporate law. Twenty years ago, a shareholder's right to "dissent" from a merger and receive the judicially-determined value of his shares (excluding any change in value created by the merger itself) seemed pointless to many commentators when there was a liquid market for those shares. Bayless Manning argued in 1962 that appraisal was a vestige of nineteenth-century corporate law that served no contemporary purpose.[1] After Manning's critique, some states eliminated the appraisal right for holders of publicly traded shares.

Even in the remaining states, appraisal would have little relevance to public company mergers if courts consistently viewed pre-transaction market prices as a good measure of the value of the shares. Appraisal has survived, however, because courts often ignore market

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[1] Bayless Manning, The Shareholder's Appraisal Remedy: An Essay for Frank Coker, 72 Yale L.J. 233 (1962).

prices.[2] Courts initially justified this stance simply by arguing that financial markets were imperfect.[3] In 1983, however, the Delaware Supreme Court provided a more sophisticated explanation in *Weinberger v. UOP, Inc.*[4] The court concluded that appraisal is intended to address manager/shareholder agency problems in freeze-out mergers—that is, in mergers in which a majority shareholder eliminates the minority's equity interest by merging the company into one wholly-owned by the majority shareholder. The *Weinberger* court concluded that appraisal should be used as a remedy when the target company's directors negotiate an inadequate price as a result of self-interest. Many state legislatures followed suit by amending appraisal statutes to provide that courts could award more than the pre-transaction value of the shares when it would be inequitable to do otherwise.[5]

By providing a rationale for courts' attempts to determine an "intrinsic value" of shares that could exceed both the pre-transaction market price and the merger price, *Weinberger* resuscitated appraisal and prompted a reassessment of its importance in the overall scheme of corporate law. Appraisal is now characterized as a significant protection for minority shareholders against being cashed out at an inadequate price.[6] Indeed, the new

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[2] Typical of the modern judicial approach is In re Valuation of Common Stock of Libby, McNeill & Libby, 406 A.2d 54, 60 (Me. 1979):

> If the public stock market functioned as a perfect market, where all actors relied upon complete and accurate information, then courts would need to look only to the stock market price, and the valuation of dissenters' shares would be greatly simplified. Unfortunately, a perfect market is only a theoretical and abstract ideal, and in the real world the stock market is to varying degrees less than a perfect indicator of the value of a corporation concern.

Also typical is the fact that the opinion nowhere considers the relative accuracy of market and judicial valuations.

[3] Not surprisingly, one of the most influential cases rejecting market prices as an indicator of fair value was decided during the Great Depression. See The Chicago Corporation v. Munds, 172 A. 452 (Del. 1934).

[4] 457 A.2d 701 (1983).

[5] The American Bar Association's Revised Model Business Corporation Act (hereafter "Model Act") defines "fair value" to exclude "any appreciation or depreciation in anticipation of the corporate action unless exclusion would be inequitable." Model Act, § 13.01(3). As of 1997, the Model Act had been adopted in 24 states. See 1 Model Business Corporation Act Annotated xxvii (3rd ed. supp. 1998).

[6] See, for example, Robert B. Thompson, Exit, Liquidity, and Majority Rule: Appraisal's Role in Corporate Law, 84 Georgetown L.J. 1 (1995); Joel Seligman, Reappraising the Appraisal Remedy, 52 George Washington L. Rev. 829 (1984).

theoretical justification is not limited to freeze-out mergers, but extends to any merger in which managers selfishly disregard their duty to get the best price for the company, such as MBOs and white knight acquisitions.[7]

There is, however, reason for skepticism about appraisal's ability to play this enhanced role. Under the agency cost view of appraisal, the remedy largely duplicates the action for breach of management's fiduciary duty of loyalty. Moreover, appraisal is procedurally cumbersome and difficult for an individual shareholder to pursue. A fiduciary duty suit, by contrast, can be pursued as a class action requiring no up-front investment except by class counsel. Appraisal may not, therefore, have a marginal deterrent effect given the existence of fiduciary duties.

In this paper we test these alternative understandings of the place of appraisal in mergers of publicly traded companies. Central to the agency cost understanding are the twin ideas that appraised values should approximate the price that shareholders would receive in an arms-length transaction untainted by management self-interest and that courts, on average, will correctly determine this price. If these ideas are correct and appraisal is not prohibitively costly, then rational shareholders will seek appraisal whenever managers sell the firm for less than it would fetch in an untainted arms-length sale. A rational acquiring firm will therefore build the benefits of appraisal into the price it pays target shareholders in an acquisition. Under this optimistic view of appraisal, the aggregate returns to shareholders in an acquisition should be greater when appraisal is available than when it is not. The price effect, moreover, should be greater for acquisitions begun after the *Weinberger* decision, in Delaware, or after corresponding statutory revisions in other states.

The pessimistic view is that appraisal adds nothing but transactions costs given the existence of fiduciary duties. Appraisal may be a "lottery ticket" that gives a random windfall

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[7] See Hideki Kanda & Saul Levmore, The Appraisal Remedy and the Goals of Corporate Law, 32 U.C.L.A. L. Rev. 429, 443-44 (1985) (describing reduction of managerial agency costs as one of the "credible goals" of appraisal).

to an occasional shareholder but is sufficiently costly and unpredictable that most shareholders will not pursue it.[8] If so, it is not rational for an acquirer to pay out the expected value of the lottery ticket ratably to all shareholders. Rather, the acquirer will hold back that amount to be disbursed in court proceedings to the few risk-taking shareholders. In other words, acquirers may view appraisal as a tax on acquisitions paid to holdouts and their lawyers. We should then observe that appraisal reduces the non-dissenting shareholders' returns in acquisitions and that *Weinberger* exacerbates the problem by loosening the constraints on judges' valuations.

A third possibility is that appraisal lacks enough bite to have any significant effect, positive or negative, on shareholders' returns. Although we are aware of no large-sample evidence of the number of dissenters in the average transaction, anecdotal evidence suggests that very few shareholders dissent and pursue an appraisal action to its conclusion.[9] Acquirers and targets can guard against shareholders using appraisal as a holdup device; merger agreements often provide that if more than a specified percentage of shareholders (typically 5%) demand appraisal, the acquirer may decline to proceed with the transaction. Appraisal may be toothless.

We test these propositions using a data set containing takeover-related announcements for all NYSE and AMEX companies commencing during the years 1975-1991, inclusive.[10] We determine, based on the statute in force at the time of the merger and the merger consideration, whether appraisal would have been available for the target company's share-

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[8] Manning described the value of the appraisal right as similar to that of an Irish Sweepstakes ticket: "usually worth noting, and once in a great while, a windfall." Manning, at 261-62 (cited in note 1).

[9] Seligman notes that during the years 1972-81, inclusive, a period in which there were 16,479 mergers of U.S. companies, there were approximately 20 reported cases involving appraisal. See Seligman at 829 (cited in note6). Not all appraisal cases result in court proceedings, however. The company and the dissenting shareholder may agree on the value of the shares and avoid litigation.

[10] Robert Comment and William Schwert developed the database. See Robert Comment & G. William Schwert, Poison or placebo? Evidence on the deterrence and wealth effects of modern antitakeover measures, 39 J. Fin. Econ. 3 (1995). We gathered additional information about the merger consideration in and taxability of each transaction. See section III.

holders. We then test whether access to appraisal affects the abnormal return to target shareholders during the acquisition period, controlling for other relevant variables. We also test whether the relative restrictiveness or liberality of a state's appraisal statute, or the *Weinberger* decision and analogous statutory amendments, affect these returns.

We find no evidence in the full sample that access to the appraisal remedy has a measurable effect on the gains to shareholders of target firms. We also find no evidence that the general restrictiveness or liberality of a state's appraisal statute has an effect. In a smaller sample of mergers involving self-interested managers, which we call "high fiduciary duty" situations, we find some evidence that appraisal reduces shareholder gains. This suggests that in these transactions the marginal effect of appraisal, given the existence of strict fiduciary duties, is to give dissenters hold-up power. The effect, if any, of *Weinberger* is much harder to assess because the results are sensitive to the specification of the model used. On the whole there is no strong evidence that *Weinberger* affected target shareholder returns.

Part II sets the stage by reviewing appraisal statutes and the prior literature. Part III describes our data, and part IV reports results. Part V concludes.

II. THEORIES OF THE ROLE OF APPRAISAL

A. Description of the statutes

Appraisal statutes first appeared in the late 19th century at roughly the same time as statutes permitting corporations to merge upon less than a unanimous vote of the shareholders.[11] Commentators traditionally concluded that appraisal was a legislative compensation for the removal of the veto power. More recent scholarship, however, has cast doubt on the causal link.[12]

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[11] See Thompson, at 11-18 (cited in note 6).

[12] See Thompson, at 11-18 (cited in note 6); Levmore & Kanda, at 430 (cited in note 7).

Appraisal statutes vary over time and among states. Early statutes applied both to closely held and publicly traded corporations and declared that shareholders were entitled to the value of the shares excluding the effects of the transaction from which they were dissenting. Some courts concluded that, for publicly traded firms, this value was captured, by the market price prior to the merger date, subject only to dispute about the extent to which post-announcement appreciation was in anticipation of the transaction.[13] Thus appraisal was primarily relevant to closely held firms. The holder of publicly traded shares of a target company who demanded appraisal could be reasonably sure to receive less than the merger consideration.

Most courts, however, routinely second-guess market prices as a measure of pre-transaction value. This makes appraisal relevant to mergers of publicly traded firms because shareholders sometimes obtain more than the merger price in an appraisal proceeding.[14] Perhaps to constrain this judicial expansion of the remedy, some state legislatures adopted "market exception" provisions that deny appraisal to the holders of stock that is listed on a stock exchange (and in some cases on NASDAQ) or has more than 2,000 record holders.[15] Some states (Delaware, for example) subsequently reinstated the right when the merger consideration is anything other than stock of the surviving corporation or other publicly traded shares.[16] Thus today we see appraisal always available for (publicly traded) target shareholders in some states, never available in others, and in still others available or not depending on the type of consideration.

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[13] See Manning, at 232 (cited in note 1) ("The courts have virtually refused to go beyond an inquiry as to the market price on the date determined to be relevant.") (footnote omitted). Manning seems to have focused more on New York than on Delaware, where courts began to depart from market values in 1934 (see footnote 3).

[14] Seligman argues that courts routinely appraise shares at prices that exceed the merger price, but that the complexity and cost of the appraisal proceeding nevertheless deters most shareholders from dissenting. Seligman, at 855-57 (cited in note 6).

[15] See, for example, Ariz. Rev. Stat. §10-1302(D); Fla. Stat. Ann. tit. 36, § 607.1302 (4).

[16] See Del. Gen. Corp. L. § 262(b)(2).

In order to pursue the appraisal remedy, a shareholder must complete several procedural steps. He must make a written demand on the target corporation prior to the merger, provide written certification of his status as a beneficial owner on the relevant dates, and deposit his share certificates with a depositary selected by the corporation.[17] In the event the corporation and the shareholder do not agree on the fair value of the shares, the burden is on either the corporation or the shareholder, depending on the state of incorporation, to bring an action in the appropriate court.[18] The court may consolidate all of the claims into one proceeding, with expenses typically assessed against the corporation,[19] but it is unlikely that an average shareholder would successfully negotiate the procedural steps required to be entitled to the court proceeding without the advice of a lawyer. A rational, non risk-preferring shareholder will dissent, then, only if the expected difference between the award and the takeover consideration is sufficient to cover these initial legal expenses.

The next section briefly surveys prior attempts to explain the existence and structure of appraisal statutes. Like the statutes themselves, scholarly attempts to explain or provide normative justification for appraisal have varied over time.

B. Early justifications–asset substitution

Early judicial and scholarly attempts to justify the appraisal remedy focused on what today would be called an asset substitution problem. The argument is that the shareholders invested in a firm with a particular mix of assets and associated risks, and through a merger or similar transaction the firm acquired a radically different set of assets and risks. To legal commentators, it seemed self-evident that the shareholder should be permitted to opt out of the change by receiving the pre-transaction value of the shares, in cash, rather than a stake

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[17] See, for example, Model Act §§ 13.20 to 13.28.

[18] Compare Model Act §13.30 (corporation must commence proceeding) with Delaware General Corporation Law § 262(e) (dissenting shareholder must commence proceeding within 120 days after effective date of merger).

[19] See, for example, Model Act §13.30 Official Comment; id. §13.31.

in the combined entity. [20] Note that the merger consideration would typically have been a stake in the combined entity because cash was not, until the middle of this century, a permissible form of consideration in a merger.[21]

The commentators gradually recognized that the asset substitution problem is relevant, if at all, only in the close corporation context. Unlike a creditor whose return is fixed and who therefore cares about a change in the riskiness of the firm, a shareholder's average returns are presumably increasing in the firm's systematic risk. The only shareholders who might have cause to complain about a change in the riskiness of the firm's assets are those who are both illiquid and undiversified, which rules out public company shareholders. As Manning put it: "If the remedy has any function, it is to provide a way for an unhappy investor to get out when he has no other feasible way to get out."[22]

Subsequent arguments that appraisal has a role to play in the public company context therefore focused on its potential effects on the merger price itself. The shift in emphasis coincided with the growth of two-step acquisitions involving a tender offer or the purchase of a control block followed by a merger. Modern discussions of appraisal focus almost exclusively on such transactions.

C. Modern justifications–price

The continued availability of appraisal, in some states, for shareholders of publicly traded corporations is an implicit decision to reject market-determined prices in some circumstances. Legal scholars have identified two reasons why we might do so.

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[20] Eisenberg sums up the received understanding: "[T]he appraisal right is a mechanism admirably suited to reconcile . . . the need to give the majority the right to make drastic changes in the enterprise to meet new conditions as they arise, with the need to protect the minority against being involuntarily dragged along into a drastically restructured enterprise in which it has no confidence." Melvin Eisenberg, The Structure of the Corporation 78 (Boston, Little, Brown & Co. 1976).

[21] See Elliot J. Weiss, The Law of Take Out Mergers: A Historical Perspective, 56 N.Y.U. L. Rev. 624 (1981).

[22] Bayless Manning, (cited in note 1) p. 240.

1. *Collective action problems.* Daniel Fischel argues that the traditional appraisal statute, in which shareholders receive the pre-transaction value of the shares and there are no exceptions for publicly-traded companies, makes sense if an acquirer could otherwise exploit the shareholders' collective action problem to acquire the company at a price lower than the pre-transaction value.[23] For example, a bidder might make a tender offer at $40 per share for 51% of the stock of a company currently trading at $30 and, at the same time, announce that he planned to use his 51% control to acquire the remaining 49% through a cash-out merger at $10 per share. Although the collectively rational decision would be to reject the offer (which is worth just over $25 per share), the individually rational decision would be to tender and avoid receiving only $10. By giving each shareholder the right to reject the back-end consideration and receive $30 instead, appraisal would solve the collective action problem.

Fischel's account meshes well with traditional appraisal statutes. In the above hypothetical, such a statute would award shareholders the pre-announcement market value of $30 and prevent the below-market acquisition. The collective-action explanation has, however, been overtaken by events. Corporate managers now have many tools to overcome the collective action problem and induce the bidder to negotiate a single price for all the shares. The Williams Act, state antitakeover statutes, and permissive judicial attitudes toward poison pills and other antitakeover measures, each justified by reference to the collective action problem, are collectively more than sufficient to remedy it.

These statutory and contractual antitakeover devices, moreover, do considerably more than protect against a low-ball bid. They give managers the ability to capture for their shareholders a significant portion of the gains generated by a takeover. If a company's shares are worth $30 under the current management but $50 in the hands of a bidder, appraisal without antitakeover measures will prevent a takeover at $29 but will not prevent a takeover at $31

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[23] See Daniel R. Fischel, The Appraisal Remedy in Corporate Law, 1983 Am. Bar Found. Research J. 875.

(again assuming appraised value is pre-transaction value). Managers armed with the usual takeover defenses, however, can hold out for a price closer to $50. In those circumstances, appraisal is irrelevant.

The other significant change in the landscape is the general decline, through statutory amendment or judicial non-acquiescence, of pre-transaction market value as the appraised value. Although Ohio courts, for example, continue to view pre-transaction market value as a presumptive cap on appraised value, Delaware and most other states have abandoned this view.[24] In light of this development, an alternative theoretical justification for appraisal has taken center stage.

2. *Agency problems*. Managers can use antitakeover devices to guard against low-ball bids by outsiders, but shareholders lack analogous structural protections against self-interested behavior by management itself. Managers may fail to negotiate the highest price for the company because management itself is the acquirer (an MBO) or because the bidder is perceived as friendly to management (a white knight acquisition). Similarly, when a parent company or other controlling shareholder eliminates the minority through a freeze-out merger, the target's management will typically have been selected by the controlling shareholder. The managers' incentives will therefore be aligned more with those of the controlling shareholders than the minority. Not only may shareholders be bought out at a price less than the value of the firm under faithful management, but the possibility of such an acquisition will depress the *ex ante* share price. Neither pre- nor post-announcement market prices are reliable measures of the "fair value" of the stock if the market price is depressed by actual or prospective managerial self-dealing. The most sensible justification for judicial skepticism of market prices as the measure of appraised value, then, is the existence of agency problems.

The Delaware Supreme Court's approach in *Weinberger*, which was a cash-out merger of a majority-owned subsidiary into its parent, clearly reflects a concern about agency

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[24] See Armstrong v. Marathon Oil Co., 513 N.E.2d 776 (Ohio 1987). Delaware departed from market prices as a measure of fair value from an early date. See note 3.

costs. The court described in detail its reasons for concluding that the parent and subsidiary had not negotiated at arm's length and that the subsidiary's management could likely have negotiated a higher price. The court then addressed the relevance of this fact in an appraisal proceeding. The Delaware statute, then and now, contained the traditional formulation of fair value as excluding "any element of value arising from the accomplishment or expectation of the merger."[25] The court, however, stretched that language to the breaking point in order to avoid awarding dissenting shareholders only the pre-transaction market price:

> We take this to be a very narrow exception to the appraisal process, designed to eliminate use of pro forma data and projections of a speculative variety relating to the completion of a merger. But elements of future value, including the nature of the enterprise, which are known or susceptible of proof as of the date of the merger and not the product of speculation, may be considered.[26]

The court declared this enhanced appraisal procedure to be the principal remedy for a shareholder complaining about a breach of management's fiduciary duty in a takeover context. *Weinberger* therefore began what Robert Thompson has called the "appraisal era" in freeze-out mergers.[27] The Delaware statute fits well with the new purpose because its market exception is itself subject to an exception for cash mergers.[28]

Both legislatures and legal scholars reacted favorably to the "new" appraisal remedy. The American Bar Association's Committee on Corporate Laws (Committee) had anticipated the Delaware Supreme Court in its 1978 revisions to the Model Business Corporation Act. It revised the statutory language defining the "fair value" to which dissenting shareholders were entitled. The earlier formulation, which tracked the Delaware statute, stated that the appraised value was to exclude "any appreciation or depreciation in anticipation of" the merger. The 1978 revisions added after this a clause, "unless such exclusion would be

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[25] Del. Gen. Corp. L. § 262(h).

[26] 457 A.2d at 713.

[27] See Robert B. Thompson, Squeeze-out Mergers and the "New" Appraisal Remedy, 62 Wash. U. L.Q. 415, 415 (1984).

[28] Del. Gen. Corp. L. § 262(b)(2).

inequitable." The Committee explained that the addition was intended to give courts the authority to award a higher value in freeze-out mergers.[29]

Before *Weinberger*, only Colorado, Idaho, Montana, Nebraska and New Hampshire had adopted the more flexible language. Other states were presumably unwilling to move too far away from the Delaware standard. In 1984, however, the Committee revised the commentary to state that the phrase "unless such exclusion would be inequitable" was intended to mirror the *Weinberger* result.[30] From 1984 to 1991 (the end of our sample period), another 18 states adopted the new language.[31]

Some critics, of course, were troubled by the *Weinberger* court's transparent disregard of the Delaware appraisal statute's language.[32] Chancellor William Allen of the Delaware Court of Chancery, which has jurisdiction over appraisal proceedings, was one such critic. In *Cede & Co. v. Technicolor, Inc.*, Chancellor Allen described the appraisal methodology mandated by the Delaware Supreme Court in *Weinberger* as "too difficult to square with the plain words of the statute to permit the conclusion that that is what was intended."[33] The Chancellor concluded that in order to reconcile *Weinberger* with the statute, the Delaware Supreme Court must have intended that the appraiser could consider future elements of value only to the extent they would have existed without the merger.[34] The Delaware Supreme Court, however, reversed the Court of Chancery and made it clear that it had meant exactly what it said in *Weinberger.*

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[29] See American Bar Association, Section of Corporation, Banking and Business Law, Committee on Corporate Laws, Changes in the Model Business Corporation Act Affecting Dissenters' Rights, 32 Bus. Lawyer 1855, 1864, 1874 (1977).

[30] See Model Business Corporation Act § 13.01, Official Comment (3).

[31] Another state, Alaska, did not adopt the Model Act's language but revised its statute to include language very similar to that of the *Weinberger* opinion. See Alaska Stat. § 10.06.580(c).

[32] See Fischel (cited in note 23).

[33] The Court of Chancery's opinion, Cede & Co. v. Technicolor, Inc., C.A. No. 7129 (Oct. 19, 1990), is unreported. The quote in the text comes from the Delaware Supreme Court's opinion reversing the Court of Chancery, Cede & Co. v. Technicolor, Inc., 684 A.2d 289 (1996).

[34] 684 A.2d at 295.

It is possible that the effect of *Weinberger* was diluted by these concerns about its consistency with the statute, but we believe such dilution would be minimal. Scholarly commentary after *Weinberger* assumed that the court meant what it said and that courts would use appraisal to remedy "inadequate" prices in freeze-out mergers.[35] Many states, of course, avoided controversy by adopting the Model Act's "unless such exclusion would be inequitable" language, making it clear that courts have the authority to award more than the pre-transaction value.

D. Appraisal and Fiduciary Duty

In a freeze-out merger, the controlling shareholder owes the minority shareholders a fiduciary duty that is met only if the transaction is "entirely fair" to the minority.[36] Thus, in the class of merger to which appraisal is most relevant under the post-*Weinberger* analysis, appraisal is duplicative of the fiduciary duty suit.[37] The agency cost explanation for appraisal only makes sense if coupled with a demonstration that appraisal enhances the deterrent effect of fiduciary duties.

Of course, one could ask the question the other way around--are fiduciary duty suits valuable given the existence of the appraisal remedy? Fiduciary duty suits are clearly an imperfect device for disciplining managers. Each shareholder typically has a very small stake, so without class action suits there will be a substantial collective action problem. With class actions, however, there are likely too many suits because shareholders also lack suffi-

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[35] See, for example, Marc I. Steinberg & Evalyn N. Lindahl, The New Law of Squeeze-out Mergers, 62 Wash. U. L.Q. 351, 380-81 (1984); Thompson, Squeeze-out Mergers, 62 Wash. U. L.Q. at 422.

[36] See Kahn v. Lynch Communication Systems, Inc., 669 A.2d 79, 84 (Del. 1995).

[37] This, too, requires some qualification. The *Weinberger* court declared that appraisal was the exclusive remedy for a shareholder challenging the terms of a freeze-out merger, a position copied by the Model Act. See *Weinberger* at 714; Model Act § 13.02(b). However, the Delaware Supreme Court promptly denied that it had meant what it said, see Rabkin v. Philip A. Hunt Chemical Corp., 498 A.2d 1099, 1104-05 (1985). Other states have similarly recognized substantial exceptions to the exclusivity rule. The current situation, then, in Delaware and most other states, is that a shareholder who alleges self-dealing can pursue either an appraisal proceeding or a fiduciary duty suit, or both. See Cede & Co. v. Technicolor, Inc., 542 A.2d 1182 (1988) (popularly known as "Technicolor I").

cient incentive to monitor the class lawyer.[38] Lawyers may therefore bring suit simply to harass the firm in hopes of negotiating a settlement that provides fees for the lawyer and a nominal recovery for the shareholders. The structure of director and officer insurance policies and the substantial costs of litigation create powerful incentives to settle regardless of the merits of the suit.[39] Two separate event studies have failed to find a significant effect from the initiation or dismissal of a fiduciary duty suit, which may imply that these suits do not confer a substantial benefit on shareholders.[40]

This raises the possibility that appraisal is valuable because it replaces wasteful fiduciary duty suits with a procedure that is more costly to the plaintiff and therefore used only in extreme situations. Perhaps the best of all worlds would be appraisal without fiduciary duty. This would justify the statutory provisions in many states that, in theory, make appraisal the exclusive remedy for a shareholder challenging the fairness of a merger transaction.[41]

We nevertheless frame our inquiry as whether appraisal is beneficial given the existence of fiduciary duties, for several reasons. First, despite the statutory "exclusivity" provisions, appraisal does not act as a significant check on shareholder suits. Instead, the practical effect is to make it impossible for a shareholder to bring suit to enjoin a merger *ex ante*. Fiduciary duty suits seeking money damages are always available after a merger if the plaintiff frames the complaint with sufficient care.[42] The denial of injunctive relief, moreover, would presumably continue to exist even were appraisal abolished because money damages are an adequate remedy for an "unfair" merger price. As a result, our analysis of the incre-

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[38] See, for example, John C. Coffee, Jr., Rescuing the Private Attorney General: Why the Model of the Lawyer as Bounty Hunter Is Not Working, 42 Md. L. Rev. 215 (1983).

[39] See Roberta Romano, The Shareholder Suit: Litigation without Foundation?, 7 J. Law, Econ. & Org. 55, 57 (1991).

[40] See Romano (cited in footnote 39); Daniel R. Fischel & Michael Bradley, The Role of Liability Rules and the Derivative Suit in Corporate Law: A Theoretical and Empirical Analysis, 71 Cornell L. Rev. 261 (1986).

[41] See Model Act § 13.02(b).

mental effect of appraisal does not turn on whether fiduciary duty suits are good or bad, only that they remain a fixed feature of the landscape.

This leads to the second reason for studying the incremental effect of appraisal. Appraisal's continued existence for publicly traded firms is a live issue whereas the continued existence of fiduciary duties is not. Appraisal nearly vanished from the public company landscape during the 1960s and 1970s, and the constant tinkering with appraisal statutes since that time is a clear signal that its place in corporate law remains unsettled. Fiduciary duties, by contrast, are a ubiquitous and longstanding feature, not merely of corporate law, but of all principal/agent relationships. There is and will continue to be substantial debate about the appropriate role of class action suits in upholding these duties, but fiduciary duties themselves are here to stay.

It seems likely that most shareholders wishing to challenge a merger as “unfair” would choose to bring a breach of fiduciary duty suit rather than an appraisal proceeding. A class action suit requires no up-front investment by shareholders. A potential class attorney can find a willing lead plaintiff and pursue the action. All the remaining shareholders automatically free ride on those efforts. This free riding does not deter suit because, if successful, the class lawyer is paid by the corporation.

An appraisal proceeding, by contrast, becomes collective only after individual shareholders have taken the requisite procedural steps to perfect the remedy. Those steps are costly and create a collective action problem: each shareholder would prefer not to pursue appraisal himself, but for enough other shareholders to do so to deter a low-price merger.[43] It is there-

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[42] The typical statutory formulation provides that appraisal is exclusive unless the challenged action is “unlawful or fraudulent,” see Model Act §13.02(b). A complaint need only allege “fraud” in order to survive to the stage of settlement negotiation.

[43] Coffee uses the phrase “rational apathy” to describe shareholder attitudes toward appraisal. See John C. Coffee, Jr., Transfers of Control and the Quest for Efficiency: Can Delaware Law Encourage Efficient Transactions While Chilling Inefficient Ones?, 21 Del. J. Corp. L. 359, 389 (1996).

fore hard to see why appraisal would be pursued other than by holdouts when a breach of fiduciary duty suit is available.

Kanda and Levmore propose an answer.[44] They argue that appraisal is independently valuable because it does not require an allegation of managerial misconduct. Shareholders may pursue appraisal as of right in any qualifying transaction without allegation of wrongdoing. In the course of the appraisal proceeding, however, shareholders may uncover evidence of managerial misconduct that can then serve as the basis for a breach of fiduciary duty suit. If Kanda and Levmore are correct, the combination of appraisal and fiduciary duty suits should be more potent than either standing alone.

There are, however, straightforward responses to the argument that appraisal is a valuable discovery device. Pleading rules in the federal and state courts are sufficiently liberal that a complaint is unlikely to be dismissed solely because the shareholder lacks sufficiently detailed information about management's misdeeds. Indeed, a shareholder challenging a freeze-out merger need not even plead specific misbehavior. So long as the majority has a conflict of interest, it bears the burden of showing that the price was "fair" to the minority.[45] This is, of course, the same inquiry at issue in an appraisal proceeding, as the court recognized in *Weinberger*. The fact that appraisal can be pursued as of right without any allegation of managerial self-dealing does not, therefore, seem to add much

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[44] Kanda & Levmore, at 443-445 (cited in footnote 7).

[45] See Sterling v. Mayflower Hotels Corp., 92 A.2d 107 (Del. 1952). In *Weinberger*, the court concluded that management could shift the burden back to shareholders by conditioning the merger on the affirmative vote of a majority of the minority shareholders or by providing an independent committee of the board of directors to negotiate the merger. Management must still, however, prevail under an "entire fairness" standard, not the business judgment rule. See Kahn v. Tremont Corp., 694 A.2d 422 (Del. 1997). As a measure of the difficulty of satisfying the Delaware Supreme Court as to the "independence" of a board committee, see Kahn v. Lynch Communication Systems, Inc., 638 A.2d 1110 (Del. 1994).

E. What is "fair value" after Weinberger?

The *Weinberger* court was vague about the precise measure of fair value under the new approach. Returning to the hypothetical of shares trading at $30 but worth $50 to an acquirer, what guidance does *Weinberger* or the Model Act give a judge or court-appointed appraiser?

We might say that any price between $30 and $50 is fair because each represents a possible outcome of a bargaining process between parties with reservation prices of $30 and $50, respectively. That conclusion, however, is inconsistent with the motivating notion that the $30 market price may be depressed by management's willingness to put its own interests ahead of getting the best price. In other words, the market price under faithful management would be some X>$30. Assuming for the sake of argument that X=$40, the measure of fair value must be at least $40.

In applauding the *Weinberger* decision, academic commentators have suggested that the appropriate measure would be the value that target shareholders would obtain in a competitive auction of the company.[46] In that event, if the second highest-valuing purchaser would pay $45 for the target, then fair value must be at least $45.

The Delaware Supreme Court's 1996 decision in *Cede & Co. v. Technicolor, Inc.*[47] suggests that fair value is the value to the acquirer, $50 in our discussion. That conclusion must be tentative, however, because the court's decision turned on the specific facts of that case. After the tender offer but before the merger, the acquirer had announced plans for sales of some of the target's assets and provided estimates of the cash that those sales would raise. The court concluded that under those circumstances, the value created by these asset sales should be considered in determining appraised value. It may be that acquirers after *Cede* can

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[46] See, for example, Seligman, Reappraising the Appraisal Remedy, at 837 (cited in note 6).
[47] 684 A.2d 289 (Del. 1996).

avoid a high appraised value by keeping quiet about their plans and the value of the company in their hands until the merger is completed.[48]

These distinctions are interesting but do not matter for present purposes. To the extent appraisal is sufficiently predictable and cost-effective to have a deterrent effect, it should increase the average return to target shareholders under any of these measures. Our objective at present is to determine whether appraisal as it is now constituted has this effect.

III. THE DATA

We employ a database developed by Comment and Schwert consisting of all takeover-related announcements for NYSE and ASE listed target firms during the years 1975-1991. We study a subset of these targets consisting of all companies incorporated under state law that are acquired in a transaction that ends with a statutory merger or consolidation, a total of 1350 transactions. For our purposes it is important to include only transactions covered by a state appraisal statute. To ensure this, we checked every observation that appeared to end in a statutory merger with information in the CCH *Capital Changes Reporter* and eliminated all that were not mergers or consolidations (for example, asset sales or liquidations).[49] We further eliminated target companies that were not incorporated (for example, trusts and limited partnerships) and those not incorporated under state law (for example, federal savings banks).

We define a "contest" as the set of announcements relating to a specific target firm beginning with an initial announcement and ending with an effective merger. We follow Comment and Schwert's procedure of considering an announcement to be the initial one if

[48] However, even that simple point is not clear. Typically an aquirer will have revealed her plans to the lenders and other investors who provide financing for the deal. In that case it is an open question whether or not the plans are "speculative."

[49] Although sales of substantially all assets are covered by many states' appraisal statutes, they are not covered by the Delaware statute. We therefore decided to restrict the sample to statutory mergers and consolidations, which leaves ample observations.

there has been no other qualifying announcement during the prior year.[50] Our source for the state of incorporation was the Comment and Schwert database (which relied on *Moody's Manuals*), supplemented with information from the *Capital Changes Reporter* and the *LEXIS* state records databases.

Table 1 provides the distribution of contests by state of incorporation of target. Table 2 provides the distribution by year of contest commencement and year of merger. It should come as no surprise that roughly half of our sample of publicly traded target firms (669 out of 1350) are incorporated in Delaware. In Table 2 we see the well-documented merger boom of the mid to late 1980's and the subsequent decline in merger activity in the early 1990's.[51]

For each contest we calculate two measures of abnormal performance over the contest period. We define the contest period as beginning 20 days prior to the first announcement associated with the contest and ending on the date of the merger (or the date of delisting if the delisting preceded the merger).[52] For each day during the contest period we define the abnormal return (AR) as RET_t-$VWRETD_t$, where RET_t is the daily return on the target stock and $VWRETD_t$ is the daily return on the CRSP value weighted market index. We cumulate the returns over the entire period in two ways. We compute API and CAR based measures of abnormal performance as:

$$\begin{aligned} APIMAD_j &= \prod_{t \in contest} \left(1 + AR_{jt}\right) \\ CARMAD_j &= \sum_{t \in contest} AR_{jt} \end{aligned} \qquad (1)$$

where contest is the set of days during the contest period.

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[50] See Comment and Schwert, Poison or placebo, at 10 (cited in note 10).

[51] Put a cite in here

[52] For two of the sample contests, the target firm was first valued on the 19th day prior to the initial announcement as no price was available for day –20. In general, prices are unavailable for any day after delisting. We would expect the price at the delisting date to reflect information about the announced merger consideration and therefore to provide a good measure of terminal value.

For each merger, we determine whether dissenting shareholders would have been entitled to appraisal. We do this by an analysis of the statute in effect in the target company's state of incorporation on the merger date and, when relevant, the merger consideration, as described in the *Capital Changes Reporter*. Determining whether appraisal was available for a transaction is complicated further when, as is the case for some of our transactions, the target delists prior to the merger date. In many states, including Delaware, a firm qualifies for the market exception to appraisal if it is listed on a stock exchange or has more than 2000 holders of record on the record date for the shareholders meeting to approve the merger.[53] We do not have information on record dates, although they would generally be at least 10 days prior to the merger date.[54] In other states, the relevant date is the meeting date or the effective date of the merger. Finally, even delisted targets may continue to have more than 2000 shareholders of record after the delisting. In the regressions reported below, therefore, we have treated all the companies in our sample as "publicly held" even if the delisting date precedes the merger date. In regressions not reported here, we tested the sensitivity of our results to this complication by assuming that any target firm that delisted more than 10 days prior to the merger was not eligible for the market exception. We obtained delisting dates from the CRSP database. Except where noted, the results were consistent with those reported herein.

We also consider other potential influences on the abnormal return, including whether the target has a poison pill or is covered by a state antitakeover statute, whether there are multiple bidders, and whether it was an all cash transaction. We also consider whether the merger occurred after the Delaware Supreme Court decision in *Weinberger* (for Delaware firms) or after the date that the Model Act's definition of "fair value" was adopted (in states other than Delaware). Our source for poison pill adoptions is the Comment and Schwert

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[53] See Del. Gen. Corp. Law § 262(b)(1). The relevant language was identical throughout our sample period.

[54] See Del. Gen. Corp. Law §213(a) (record date for stockholder meeting must be between 10 and 60 days prior to meeting date).

database, which in turn relied on *Corporate Control Alert*, the *Dow Jones News Retrieval* database, the *Capital Changes Reporter*, and *Moody's Manuals*. Our source for state anti-takeover statutes was the Investor Responsibility Research Center. We determined the form of consideration for each transaction from the *Capital Changes Reporter*.

For comparison purposes we have found it helpful to characterize appraisal regimes into three broad classes. First are states in which shareholders of exchange listed firms have no appraisal rights. Second are states in which shareholder access to appraisal depends on the medium of exchange in the merger. Finally, in some states shareholders of exchange listed firms always have access to the appraisal remedy if they perfect their appraisal rights.[55] We include a test that compares target shareholder returns under these different legal regimes, categorizing the target state's statute as in force on the merger date.[56]

Table 3 provides some summary data for the sample. The largest firms, on average, are in states where appraisal depends on the medium of exchange. This is not surprising, as this is the group into which Delaware falls. We might expect that the abnormal returns over the contest period are higher for all-cash transactions or where there were multiple bidders.[57] Table 3 presents the percentage of all-cash and multibidder contests by appraisal regime. Pairwise t-tests were conducted between each pair of appraisal regime states. The only result that was significant at the 5% level was that there are more contested acquisitions in states that condition access to appraisal on the type of consideration than in states with a full

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[55] These categorizations mask some minor differences; for example, in California appraisal is unavailable for listed companies unless more than 5% of the shareholders dissent. We nevertheless included California in the third category. Our results, however, are not sensitive to the inclusion of California firms. We believe the categorization is a good proxy for the relative coverage of a state's appraisal regime.

[56] An alternative procedure would be to consider the statute as in force at the commencement of the contest, on the theory that the transaction would be structured with that statute in mind, even if it was later amended. We did not take that approach because: (1) if desired, the bidder and target management could have negotiated a different structure and price in response to a legal change, and (2) in general, pending changes in a state's general incorporation statute are known among the legal community far enough in advance that, to a rough approximation, the change would not constitute a "surprise" in most contests.

[57] See the discussion in Section IV.B below.

market exception. However, this is not surprising as the former group includes Delaware, which has a relatively weak antitakeover statute.

An alternative test of the effect of appraisal would be an event study centered on changes in state appraisal statutes rather than on takeover contests. Appraisal's value to shareholders should be realized at two distinct times. The first is upon a change in appraisal law, at which time the shares of firms in the relevant state should earn positive returns relative to out-of-state firms if appraisal is beneficial. The magnitude of the adjustment would reflect the benefit of appraisal given a takeover and the probability of a takeover. The second "event" is the announcement of a takeover. The announcement provides new information about the probability of a takeover and should therefore prompt revision of the earlier estimate of the appraisal effect.

We expect the conditional effect (the effect at announcement of a takeover) to be greater than the unconditional effect because the prior probability of a takeover is low for most firm-years. In the Comment/Schwert data, for example, firms were acquired at a rate of 3.1% per year. The unconditional market-adjusted takeover premium was 1% on average, while the conditional premium was 35% on average.[58]

We also analyze takeover contests rather than statutory revisions because of the difficulty of measuring the event window and eliminating confounding effects in the latter. Changes in appraisal provisions are typically part of omnibus revisions to a state's corporation code that may include dozens of other changes.[59] Because many states follow the Model Act, moreover, it is not clear whether the relevant event dates should be taken from the state legislative process or from the American Bar Association's revisions to the Model Act. In

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[58] See Comment & Schwert at 15 (cited in note 10).

[59] The same is true of the most important judicial decision relating to appraisal, *Weinberger*. That case also made it more difficult for shareholders to challenge freeze-out mergers. See Section V below. We are aware of only one event study centered on the *Weinberger* decision, and it found no effect. See Elliot J. Weiss & Lawrence J. White, Of Econometrics and Indeterminacy: A Study of Investors' Reactions to "Changes" in Corporate Law, 75 Cal. L. Rev. 551 (1987).

some legal-change event studies, similar problems are addressed by using the dates of newspaper coverage as event dates. This is difficult in the present context because changes in appraisal statutes do not get press coverage (itself mild evidence that appraisal statutes are not important).[60]

IV. RESULTS

A. Single-factor model

We first examine whether access to appraisal affects contest period returns using a single-factor model. We estimate a regression of the merger period performance measures (both API and CAR) on a dummy variable that takes the value 1 if shareholders had access to appraisal and 0 otherwise. The results, presented in the first two rows of Table 4 (Model 1), suggest that access to appraisal increases average contest period returns to target shareholders. The coefficient of the appraisal dummy is on the order of 5% in both the API and CAR models, and both are significant. At first glance, it appears that access to appraisal increases the average CAR to about 38%, as compared to 33% for the mergers in which appraisal was not available.

B. Multi-factor models

The apparent effect of appraisal disappears when we consider the type of consideration. Huang and Walking find that target abnormal returns around the time of a takeover announcement are reliably higher when the consideration is cash rather than stock or a

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[60] We looked at news coverage of two recent substantial changes in appraisal statutes. Alabama removed the market exception from its appraisal statute by a bill enacted in 1994, effective January 1, 1995. See Alabama Act 94-245, § 3. Idaho added a market exception by a bill enacted and effective in 1997. See Idaho Laws 1997, chap. 366, §2. We searched the LEXIS database for Alabama news sources during 1994-1995 and Idaho news sources during 1996-97 and did not find a single article discussing corporate-law appraisal.

combination of cash and securities.[61] Comment and Schwert confirm the finding using contest period abnormal returns.[62] We can think of two possible reasons for these findings.

As Huang and Walkling point out, taxes may play a role. Shareholders may require a higher premium in all-cash transactions to compensate for the immediate tax liability, as compared to the usual deferral of tax when the consideration is voting stock. Subsequent work, however, casts doubt on the taxation hypothesis. Erickson presents evidence that the magnitude of potential target shareholder capital gains do not affect acquisition structure (cash versus stock).[63] He further notes that capital gains tax liability may be economically insignificant on average.

Another possible reason for the association is a free cash flow effect. Bidders with substantial amounts of accumulated cash may tend to overpay in acquisitions.[64] Some support for this hypothesis comes from Harford's finding that cash-rich firms are more likely to engage in acquisitions than the rest of the population of firms.[65] He also provides evidence that cash-rich firms are more likely to engage in negative net present value acquisitions.

Model 2 in Table 4 reports the results of regressions that are designed to address these issues. Here we expand Model 1 by including three dummy variables. The first denotes transactions in which the merger consideration is not immediately taxable to the target firm shareholder. The second denotes taxable transactions that are all cash, and the third, taxable

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[61] See Yen-Sheng Huang & Ralph A. Walkling, Target abnormal returns associated with acquisition announcements: Payment, acquisition form, and managerial resistance.

[62] See Comment & Schwert at 30-31 (cited in note 10).

[63] See Merle Erickson, The Effect of Taxes on the Structure of Corporate Acquisitions, 36 J. Accounting Res. 279 (1998).

[64] A third possibility is that cash is the most common form of payment in hostile transactions and bidders pay a higher premium in such transactions. Huang & Walkling, however, find that management's announced resistance to a takeover bid does not increase target returns around the time of the announcement controlling for payment form, but payment in cash continues to have a significantly positive effect on returns controlling for management response. See Huang & Walkling, Target abnormal returns, at 345 (cited in footnote 61).

[65] See Jarrad Harford, Corporate Cash Reserves and Acquisitions, unpublished working paper (1997).

transactions that are not all cash.[66] The results are consistent with the findings of Huang/Walkling and Comment/Schwert that target abnormal returns are significantly higher in all-cash transactions, with a coefficient on the "All Cash" dummy of .187 (t=4.41) in the CAR version. Moreover, it appears that cash rather than taxes are driving the result. The fact that the coefficient for taxable but not "All Cash" mergers is only .003 in the CAR regressions and is negative in the API regressions leads us to this conclusion. More important for present purposes, access to appraisal is no longer related to target firm returns, the coefficient on the appraisal dummy dropping, in the CAR version, to -.020 from +.051 and losing significance.

Interpreting this result is complicated, however, by the fact that in Delaware and a few other states, public company shareholders have access to appraisal in cash mergers but not in stock mergers. The "cash effect" may really be an appraisal effect. We must therefore consider whether the effects of cash compensation and appraisal access can be separately identified.

We can separate the cash effect and the appraisal effect by studying a subsample of acquisitions from states in which access to appraisal is unrelated to the payment medium. The results are presented as model 3 in Table 4. Here we see that the "All Cash" dummy variable is still positive, although only about 2/3rds the size in the corresponding regressions in model 2—approximately 12% and 9%, respectively, in the API and CAR models. The t-statistics have fallen by more than 50% and are no longer significant. Had the coefficients in model 3 been measured with the same precision as those in model 2, the decline in t-statistics should be proportional to the decline in coefficients, and the findings would have

[66] We define a transaction as "all cash" when the consideration in the merger and in any tender offer are cash. A transaction is taxable but not all cash if the consideration consists of debt securities (other than those taxable on the installment method) or a combination of debt and cash. We consider a transaction nontaxable if the merger consideration was voting stock (even if the merger was preceded by a cash tender offer). Other transactions are considered partly taxable. Our source for the type of consideration was the *Capital Changes Reporter.*

remained significant.[67] With fewer observations, however, significance disappears. We continue to observe in this model, however, that the appraisal coefficients are negative and insignificant. Although the effect of all cash compensation is not as strong as we would have predicted in this model, the strong similarity in the lack of appraisal effects in models 2 and 3 is reasonably persuasive evidence that our failure to observe a positive appraisal effect is not a consequence of the endogeneity of appraisal and cash compensation.

In the regressions reported as model 4 in Table 4, we try to control for other factors likely to affect contest period returns, including the presence of a state anti-takeover statute, the presence of a poison pill, the presence of multiple bidders, and the year of the merger. The first two are prompted by Comment and Schwert's finding that poison pills and state antitakeover statutes have a positive effect on contest period returns.[68] The third is motivated by findings that auctions are associated with higher target shareholder returns,[69] and the last variable is designed to capture secular changes in the merger market. We also consider the effect of *Weinberger* and its statutory progeny. To do this we include a dummy variable that takes on the value 1 if appraisal was available and the merger occurred after February 1, 1983, the date of the *Weinberger* decision (for Delaware companies), or after the date, if any, of the statutory amendment redefining "fair value" to include equitable considerations (for all other sample companies).

Consistent with our prior two models, we find that access to appraisal in a particular merger does not affect the contest period abnormal return. The signs of most of the other coefficients are as expected; returns are higher where the consideration is cash and where there is a poison pill, a state antitakeover statute (in the CAR version), or an auction. Each of these coefficients is significantly different from zero. We also observe a secular decline

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[67] Indeed, had the estimated coefficient of the cash dummy variable in model 2 been the same as those in model 3, it would have been significant.

[68] Comment and Schwert, Poison or placebo, at 31(cited in note 10).

in takeover premiums—the coefficient of the merger year variable is negative and significant. The appraisal variable is on the order of –1% and statistically insignificant in both regressions. The estimated coefficient on the *Weinberger* dummy is negative and close to significance.

C. Testing the effect of state statutes

Another set of regressions in Table 4 (model 5) tests the effect of differences in state appraisal statutes as opposed to the availability of appraisal for a particular transaction. The test is designed to ensure that our failure to observe a significant appraisal effect is not a consequence of endogeneity of bidders' choices of merger consideration (for example, bidders for Delaware companies choosing stock over cash in order to avoid appraisal). We divide the targets into three classes based on the type of appraisal statute in its state of incorporation, as described in Section III. We define two new dummy variables: one takes the value 1 if the target is in the class for which appraisal is always available and zero otherwise; the other takes the value 1 if the target is in the class for which appraisal is never available for exchange-listed companies and zero otherwise. The inferences drawn from model 5 are in each case identical with those from model 4. In particular, the appraisal coefficients are negative but insignificant.

D. Tests with subsets of the contests

Having found no appraisal effect with the full sample, we also estimated model 4 for two subsets of transactions in which we had *a priori* reasons to suspect appraisal could have a substantial effect. Our first subset consisted of MBOs and freeze-out mergers. The reason to expect a larger effect from appraisal in those transactions is straightforward. According

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[69] See Comment & Schwert, Poison or placebo, at 32 (cited in note 10); Michael Bradley, Anand Desai, and E. Han Kim, Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms, 21 J. Fin. Econ. 3 (1988).

to *Weinberger* and the subsequent commentary, we should have the most doubt about the fairness of the merger price for these self-interested transactions. If appraisal deters low-price mergers, those mergers should otherwise be most frequently found in this group. We refer to these transactions as the "high fiduciary duty" group in recognition of the enhanced fiduciary duties owed by self-interested managers.

We defined an MBO as any transaction in which the acquirer was wholly or partly owned by the target's management, and a freeze-out merger as a transaction in which a 50%-plus shareholder approved a merger to take out the minority shareholders. We did not include transactions in which a previously unrelated bidder became a 50% shareholder pursuant to an acquisition agreement with the target management that provided for a tender offer and subsequent merger. There were 270 mergers that met these criteria. Results of estimating the complete model for this sample are reported as model 6 in Table 4.

For the first time in our multi-factor regressions, we see a significant--but negative--coefficient on the appraisal dummy. For the API measure, the estimated coefficient is -.109 with a t-statistic of -2.08. That is, in cases where, *a priori*, we expect the greatest risk of self-interested managerial behavior, we find that appraisal is related to lower returns.

The result, however, is sensitive to the specification of the model. For the CAR measure, the estimated coefficient is -0.07 and the t-statistic (-1.64) is below significance at the 5% level. The inference is also affected by our definition of the coverage of market exceptions in appraisal statutes. When we treated any company that delisted more than 10 days prior to a merger as not covered by the market exception, the estimated coefficients were insignificant for both the API and CAR measures. The alternative specifications described in Section E below also produce varying results, although in all specifications access to appraisal reduces abnormal returns by at least 4%. The most we can say, therefore, is that *if* appraisal matters anywhere, it matters in the case of self-interested transactions in which managers are subject to heightened fiduciary duties. The effect, however, is negative. In this subset of transactions, appraisal might be harmful to shareholders.

An alternative possibility is that the *marginal* effect of appraisal, given the existence of fiduciary duties, would be greatest in straightforward one-step mergers or negotiated two-step mergers with an unrelated party adopted in genuine arms-length bargaining. It would be relatively difficult to prove a breach of fiduciary duty in these transactions and an objecting shareholder would bear the burden of proof because management had no conflict of interest. The Kanda and Levmore analysis would predict that appraisal has the greatest effect in these mergers because it enables shareholders to attack the price without proving a breach of duty.

We accordingly created a subset consisting of negotiated mergers and negotiated two-step acquisitions in which the acquirer was not a controlling shareholder and in which there was only one bidder. The logic behind the latter restriction was to eliminate white knight acquisitions that might raise some of the same agency cost issues as an interested-party transaction. A total of 758 firms met these criteria and form what we call the "low fiduciary duty" sample, recognizing the reduced likelihood that a shareholder could show a breach of fiduciary duty. The results of estimating the large model on this sample are reported as model 7 in Table 4.

The results presented here are similar to those we obtain in the entire sample. That is, the appraisal dummy variable is insignificantly different from zero. Note, however, that here, for the first time in any of the multifactor models, the estimated coefficient is positive.

One way to interpret the results from these two subsamples is that in the high fiduciary duty situation, any improvement in shareholder returns results from the possibility of a fiduciary duty suit. Because the majority shareholder must justify the transaction as "entirely fair" to the minority in such a suit, the substantive difference between fiduciary duty and appraisal is slight. Appraisal may add to transaction costs by allowing a few shareholders to act as holdouts and thereby decrease returns to the remaining shareholders.

In contrast, in the low fiduciary duty situation, the two effects appear to be more closely balanced. Appraisal may improve returns while also increasing transactions costs due to holdups, with the former effect dominating only by an insignificant amount. Appraisal is most useful when fiduciary duty suits are least useful, as Kanda and Levmore's analysis

would predict, but contrary to their analysis the net effect is not significantly different from zero. This may either be because the added transaction costs are very large or because courts do a good job in these situations of spotting self-interested managerial behavior.

E. Alternative Specifications

Because our results so far find that appraisal has either no effect or a perverse effect, it is important to test the robustness of the result to different specifications of our models. We estimated several different specifications of the models already presented, and in this section we present results of these additional tests.

Year of Merger Dummy Variables. The results presented so far use the year of the merger as a control. In contrast to this specification, Comment and Schwert use a set of dummy variables for each year of the sample period. Accordingly, Table 5 presents results of estimating our multifactor model on the entire sample and on the high and low fiduciary duty subsets after substituting year dummies for the year of the merger variable.

The left column in each panel of Table 5 presents results that are generally consistent with the results of the corresponding regressions presented in Table 4. In each case the same variables are significant at the 5% level with the one exception that, using the dummy variable specification in Table 5, in no case do state anti-takeover laws affect the price increase during the control contest. When we compare the low fiduciary duty samples we find, as with the prior specification, results that are essentially the same as those presented in Table 4. Again, one coefficient is significant in Table 4 that is not significant in Table 5. In this case it is the coefficient for non-cash taxable mergers. In any event, so far there is little to choose between the two specifications.

When we look at the high fiduciary duty sample we find added support for the negative incremental effect of appraisal that we found in the previous specification. Here we again see a significantly negative coefficient on the appraisal variable, but in this case it is present

in both the CAR and API based measures[70]. Moreover, we see that the coefficient on the post-*Weinberger* variable, though not significant, is an order of magnitude higher than that for the entire sample.

Concentrated Event Periods. In Table 6 we report that the average length of a takeover contest in our sample is 201 days. This is a long period of time in an event study and it is possible that noise in the data—perhaps caused by other events unrelated to the acquisition—would reduce the power of the tests we conduct. On the other hand, one might argue that, with 1350 observations, we will find that our tests have sufficient power. Indeed, the fact that we find some significant coefficients in Table 4 suggests that we have sufficient power. However, given the overall lack of statistically significant findings related to appraisal (except for the negative effect of appraisal in high fiduciary duty mergers) we want to consider an alternative measure of merger period returns.

Each acquisition contest is made up of a number of specific announcements. If most of the value of created by the merger occurs during the period surrounding those specific announcements, we might be able to construct more powerful tests by focusing only on the returns during a short period of time surrounding these events. We therefore examined the abnormal returns (as defined in section III) for a three day event window[71] for each announcement comprising a contest and aggregated them using the CAR method in the second line of equation (1).

Table 6 presents the distribution of the number of announcements in each takeover contest for the entire sample and for the subsamples stratified by fiduciary duty. In each case the modal number of announcements is 1 and over 95% of the contests contained 3 or fewer announcements. This would correspond to, at most, 9 trading days—a number that is far less than the number of days in the entire event period. This gives some hope that there will be

[70] Again, this is specific to treating firms delisted more than 5 days prior to the merger as public.

significant noise reduction when we use the entire event period, although of course at the cost of a possible reduction in information.

The results of estimating these regressions are reported in Table 7. In general, these regressions provide no evidence that access to appraisal has any effect on the announcement period returns. Unlike the results reported in Panel B of Table 5 there is no evidence that appraisal had a significantly negative effect in the high fiduciary duty subset. Moreover, for the first time there is a significant coefficient on the *Weinberger* dummy—it is positive for the full sample and positive but insignificant for both subsamples. Thus depending on the specification, the estimated effect of *Weinberger* and its statutory cousins is negative and almost significant, positive and significant, or positive and insignificant. We cannot, therefore, draw any strong conclusions about the effect of *Weinberger*.

These results also provide reasons to suspect that the using a concentrated event period loses a substantial amount of information. The r-squares are slightly lower across the board for these regressions. It is also worth noting the extremely high t-statistic on the multiple bidder variable in the full sample. We would expect that multiple-bidder contests would have more announcements per unit time (which turns out to be true for our sample). The informativeness of the price effect around announcements may therefore vary substantially within the sample. It is worth reiterating, though, that we do not find access to appraisal to have a positive effect under any specification.

F. How strong is the inference?

We have argued that if appraisal is beneficial, the benefits should take the form of higher takeover premiums. It might be argued, however, that the value of appraisal is fully endogenized; that is, pre-transaction prices reflect the benefit and takeovers occur at, on

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[71] That is, the period starting the day before and ending the day after the specific announcement. If the announcement occurred on a non-trading day (say a weekend) then the event window will only include two trading days.

average, the same price whether or not appraisal is available. This overlooks the fact that an initial contest announcement provides new information about the probability of takeover and should result in revised estimates of appraisal's impact.

The fact that we and others find statistically significant associations between takeover premiums and certain variables--the existence of poison pills, multiple bidders, and cash consideration--is evidence against this full endogeneity argument. If the beneficial effects of appraisal do not show up in contest period abnormal returns, then the beneficial effects of poison pills should not either.[72]

Note that the fact that poison pills result in larger abnormal returns conditional on a takeover does not prove that they are beneficial; they may deter enough contests to overwhelm the higher prices gained in the contests they do not deter.[73] Had we found that appraisal was reliably associated with higher contest period abnormal returns, it would have been important to try to measure the possible deterrent effect before pronouncing appraisal beneficial to target shareholders. Having found no price effect, however, we have no reason to believe that appraisal is beneficial.

V. CONCLUSION

Courts and legal commentators have argued that appraisal can ameliorate manager/shareholder agency problems in the takeover context. If so, the deterrent effect should be reflected in greater returns to shareholders when appraisal is available than when it is not,

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[72] Managers may have private information about the use they will make of a poison pill (either to negotiate for a higher price or to defeat the bid and retain control) which might not be reflected in the stock price until management reveals its strategy. This distinguishes a poison pill from an appraisal statute, but only in the sense that the price impact at the time of the initial bid may be further revised after management reveals its strategy. There should be sufficient information to estimate the impact of an appraisal statute, by contrast, once the bid is made (but not before, because bidders have private information about the likelihood that they will make a bid). Because our event period starts just before the announcement of a bid and ends at the merger date, this difference should not make us more likely to observe a significant coefficient on the poison pill variable than on the appraisal variable.

[73] Comment & Schwert, however, fail to find that poison pills have a deterrent effect.

and the fact that availability varies substantially from state to state facilitates testing this hypothesis. We fail to find that access to appraisal in a particular transaction has any statistically significant positive effect on shareholder returns in the acquisition. There is some evidence of a negative effect in transactions involving self-interested managers. We also fail to find that the magnitude of returns depends on whether the target is incorporated in a state with relatively liberal or relatively restrictive appraisal rights. These results suggest that the legislative efforts of the 1960s and 1970s to eliminate or restrict the appraisal remedy for publicly traded shares made sense, and the more recent trend in the opposite direction is misguided.The most common argument in favor of appraisal for publicly traded companies is that the possibility of managerial self-dealing, particularly in an MBO or freeze-out context, may depress both the *ex ante* share price and the *ex post* merger premium. The potential for self-dealing, however, is not a sufficient condition for appraisal to be valuable to public company shareholders. Judicial intervention must also, on average, be beneficial-that is, judges' estimates of the arms-length merger price must be sufficiently accurate to make the benefits of judicial intervention outweigh litigation expenses and the costs of judicial error. Finally, appraisal must have a marginal deterrent effect given the existence of judicially-enforced fiduciary duties. Were all three conditions met, we should have observed that appraisal is associated with higher returns to target shareholders, either in the entire sample or in the subsample of MBOs and freeze-outs. We did not find any such effect.

Because a test of appraisal's value to shareholders is a test of a joint hypothesis, our results are consistent with any of three possible claims. The first is that it is unlikely that a bidder could cash out minority shareholders at substantially below the arms-length price. Competition from other potential bidders may keep even managers or controlling shareholders from making clearly inadequate offers.

The second possible claim is that judicial intervention in takeovers is inadvisable-not because mergers never occur at an "inadequate" price, but because judicial error will overwhelm any positive effects of intervention. Judges will sometimes conclude that the merger price is too low when it is not, and other times conclude the price is adequate when it is not. The costs of these errors must be less than the benefits that flow from deterring low-price

mergers in order for any judicial intervention-whether by means of fiduciary duty suits or appraisal-to be worthwhile.

The third possible claim is that "inadequate" bids are a genuine problem and judicial intervention can ameliorate the problem, but fiduciary duty suits are a better way to do this than are appraisal actions. Fiduciary duty suits provide a substantively similar and procedurally simpler means of challenging self-dealing. In the cases in which appraisal is argued to be most necessary-such as MBOs and freeze-outs-the distinction between appraisal's inquiry into "fair value" and fiduciary duty's demand of a "fair price" is vanishingly small. Thus appraisal may make no marginal contribution.

It is difficult to untangle these three claims empirically, particularly because managers and controlling shareholders have judicially-enforceable fiduciary duties to shareholders in all states. Event studies of significant cases expanding or contracting the reach of those duties would provide evidence on the larger question of the desirability of any judicial intervention. The answer to our more modest question is that, given the existence of legally enforceable fiduciary duties, appraisal does not benefit public company shareholders.

Table 1: Distribution of Mergers by Target Firm State of Incorporation

State	Number of Mergers	State	Number of Mergers
AL	1	MO	8
AR	1	MS	1
AZ	3	NC	17
CA	64	NH	2
CO	5	NJ	41
CT	11	NM	1
DE	669	NV	14
FL	33	NY	124
GA	9	OH	33
HI	6	OK	3
IA	8	OR	3
ID	1	PA	47
IL	10	RI	2
IN	12	SC	5
KS	5	TN	7
KY	3	TX	35
LA	2	UT	8
MA	36	VA	19
MD	30	WA	6
ME	9	WI	14
MI	25	WV	3
MN	13	WY	1

Table 2: Distribution of Merger Contests by Year of Initiation and Year of Merger

Year	Number of Contests Started in Year	Number of Mergers in Year
1975	35	14
1976	49	37
1977	83	59
1978	85	88
1979	88	90
1980	80	74
1981	73	88
1982	80	83
1983	80	67
1984	102	111
1985	104	100
1986	110	106
1987	109	96
1988	138	148
1989	69	88
1990	39	63
1991	26	23
1992	-	15

Table 3: General Properties of the Sample by Appraisal Regime

	Entire Sample	Appraisal Unavailable	Appraisal Depends on Medium of Exchange	Appraisal Available
Number of Observations	1,350	282	751	317
Average Market Capitalization (Millions of $)	345.781	238.654	415.448	276.031
Average Length of Merger Contest (days)	201	195	204	200
% of Mergers with more than 1 identified bidder in the contest	24.22%	18.09%	26.89%	23.34%
% of Mergers that are fully taxable--all cash	58.44%	56.02%	58.59%	60.25%
% of Mergers that are fully taxable--other	4.59%	2.84%	4.93%	5.36%
% of Mergers that are tax-deferred	30.37%	36.52%	28.50%	29.34%
% of Mergers that are partly tax-deferred	6.59%	4.61%	7.99%	5.05%

Table 4 Merger Period Abnormal Return Regressions

This table reports least-squares estimates of the effect of appraisal on abnormal returns to target shareholders during merger contests using several different models. The column labeled "Sample" describes the sample used in the model. The dependent variables are the API and CAR based measures of abnormal performance described in Section III. The independent variables are: "Appraisal Available for This Merger," a dummy variable that takes on the value 1 if dissenting shareholders could initiate an appraisal proceeding for this particular merger; "Taxable" and "Non-Taxable," dummy variables that take the value 1 for mergers in which the entire consideration is immediately taxable or tax-deferred, respectively, to the recipient (partly tax-deferred mergers are the omitted class), "All Cash" and "other," dummy variables dividing the "Taxable" mergers into those in which the consideration was entirely cash and those that were not; "State Antitakeover Law," a dummy variable that takes the value 1 if the merger occurred after the effective date of a Fair Price, Control Share or Business Combination statute in the target's state of incorporation; "Poison Pill," a dummy variable that takes the value 1 if the target adopted a poison pill prior to or during the contest; "Post-Weinberger," a dummy variable that takes the value 1 if the merger occurred after *Weinberger* (for Delaware targets) or analogous statutory amendment and appraisal was available in this merger; "Multiple Bidders," a dummy variable that takes the value 1 if there was more than one bidder in the contest; and "Merger Year," the year in which the merger occurred. In model 5 the independent variables "always available" and "never available" are dummy variables that take the value of 1 if appraisal is always available or never available, respectively, for publicly traded firms in the target's state of incorporation; the omitted class consists of states (like Delaware) where the appraisal right depends on the medium of exchange in the merger.

The top number in each cell is the coefficient and the bottom number is the t-statistic. Shaded cells indicate that the coefficient (or R^2) is significant at the 5% level.

Model	Sample	Performance Measure	Constant	Appraisal Available for This Merger	Taxable		Non-Taxable	State Anti-takeover Law	Poison Pill	Post Weinberger	Multiple Bidders	Merger Year	R^2
					All Cash	Other							
1	Entire sample of 1350 firms	API	1.34 (77.05)	.051 (2.33)									.004
		CAR	.330 (23.81)	.046 (2.65)									.005
2		API	1.27 (28.32)	-.020 (-.79)	.187 (4.41)	.003 (.042)	.013 (.285)						.047
		CAR	.285 (7.97)	-.013 (-.63)	.143 (4.26)	-.023 (-.47)	-.001 (-.02)						.052
3	599 firms where appraisal is unrelated to payment medium	API	1.34 (17.90)	-.013 (-.42)	.129 (1.71)	-.025 (-.24)	-.027 (-.349)						.036
		CAR	.33 (5.68)	-.001 (-.04)	.096 (1.61)	-.036 (-.43)	-.044 (-.72)						.045

Model	Sample	Performance Measure	Constant	Appraisal Available for This Merger		Taxable: All Cash	Taxable: Other	Non-Taxable	State Anti-takeover Law	Poison Pill	Post Weinberger	Multiple Bidders	Merger Year	R^2
4		API	52.87 (7.24)	-.013 (-.54)		.177 (4.34)	-.037 (-.62)	-.001 (-.02)	.056 (1.82)	.133 (3.90)	-.048 (-1.86)	.110 (4.66)	-.023 (-7.07)	.127
		CAR	38.21 (6.52)	-.007 (-.37)		.134 (4.11)	-.053 (-1.10)	-.014 (-.40)	.054 (2.21)	.072 (2.65)	-.039 (-1.89)	.071 (3.76)	-.019 (-6.47)	.115
	Entire sample of 1350 firms			**Always Available**	**Never Available**									
5		API	55.41 (7.31)	-.029 (-.99)	-.044 (-1.46)	.174 (4.28)	-.039 (-.65)	.004 (.08)	.058 (1.89)	.134 (3.93)	-.028 (-.904)	.111 (4.73)	-.027 (-7.14)	.127
		CAR	38.98 (6.40)	-.012 (-51)	-.015 (-.64)	.133 (4.08)	-.054 (-1.11)	-.011 (-.33)	.055 (2.23)	.073 (2.66)	-.033 (-1.31)	.072 (3.78)	-.020 (-6.36)	.115
				Appraisal Available for This Merger										
6	**270 mergers with "high" fiduciary duty**	API	63.98 (5.04)	-.109 (-2.08)		.196 (2.63)	.114 (1.17)	-.146 (-1.66)	.101 (1.98)	.08 (1.22)	.073 (1.63)	.004 (.085)	-.032 (-4.94)	.19
		CAR	43.18 (4.37)	-.066 (-1.64)		.167 (2.88)	.092 (1.22)	-.119 (-1.74)	.075 (1.89)	.019 (.955)	.046 (1.31)	-.005 (-.128)	-.022 (-4.35)	.20
7	**758 mergers with "low" fiduciary duty**	API	38.12 (4.27)	.002 (.07)		.166 (3.03)	-.132 (-1.43)	.007 (.12)	.003 (.09)	.112 (2.37)	-.063 (-1.57)	Subset contains only mergers with a single identified bidder	-.019 (-4.13)	.09
		CAR	28.05 (3.71)	.001 (.02)		.132 (2.84)	-.164 (-2.09)	-.011 (-.23)	.022 (.63)	.045 (1.12)	-.043 (-1.26)		-.014 (-3.67)	.09

Table 5:

Estimation of Multifactor Model With Dummy Variables for Each Year of the Merger

This table reports least-squares estimates of the effect of appraisal on abnormal returns to target shareholders during merger contests using several different models. The row labeled "Sample" describes the sample used in the model. The dependent variables are the API and CAR based measures of abnormal performance described in Section III. The independent variables are those described in Table 4. The regressions differ in that instead of using the year of the merger these regressions use a set of dummy variables that take on the value 1 for mergers that occurred in each year from 1976 to 1992 and zero otherwise. Mergers occurring in 1975 are the omitted class. We do not report the year dummy coefficients.

The top number in each cell is the coefficient and the bottom number is the t-statistic. Shaded cells indicate that the coefficient (or R^2) is significant at the 5% level.

Panel A: API Based Performance Measure			
Sample	Entire Sample of 1350 Mergers	758 "Low Fiduciary Duty" Mergers	270 "High Fiduciary Duty" Mergers
Constant	1.366 (12.90)	1.34 (9.86)	1.45 (8.00)
Appraisal Available for This Merger	-.026 (-1.00)	-.014 (-.45)	-.133 (-2.49)
Taxable – Cash	.180 (4.49)	.188 (3.50)	.199 (2.70)
Taxable – Not Cash	-.027 (-.45)	-.013 (-1.13)	.120 (1.26)
Not Taxable	-.013 (-.29)	.007 (.12)	-.134 (-1.51)
State Anti Takeover Law	-.036 (-.93)	-.308 (-1.59)	.044 (.66)
Poison Pill	.136 (3.94)	.104 (2.19)	.095 (1.43)
Multiple Bidders	.107 (4.621)		-.007 (-.143)
Post-Weinberger	.002 (.08)	-.018 (-.44)	.072 (1.57)
R^2	.18	.17	.29

Table 5 Continued

Panel B: CAR Based Performance Measure			
Sample	Entire Sample of 1350 Mergers	758 "Low Fiduciary Duty" Mergers	270 "High Fiduciary Duty" Mergers
Constant	.367 (4.35)	.341 (2.97)	.382 (2.70)
Appraisal Available for This Merger	-.021 (-1.02)	-.016 (-.58)	-.085 (-2.03)
Taxable – Cash	.139 (4.36)	.153 (3.38)	.160 (2.79)
Taxable – Not Cash	-.039 (-.82)	-.136 (-1.77)	.093 (1.25)
Not Taxable	-.027 (-1.19)	-.012 (-.24)	-.121 (-1.74)
State Anti Takeover Law	-.037 (-1.19)	-.07 (-1.59)	-.003 (-.05)
Poison Pill	.063 (2.29)	.022 (.55)	.056 (1.09)
Multiple Bidders	.072 (3.89)		-.013 (-.34)
Post-Weinberger	.009 (.41)	.004 (.123)	.047 (1.32)
R^2	.18	.17	.29

Table 6

Number of Announcements for Control Contests

This table presents, for the entire sample and for the high and low fiduciary duty subsamples, the number of announcements used to construct the "concentrated" event period CARs. In each case, the complete distribution is presented, along with the percentage of the sample at each value.

Percentage of Contests per Given Number of Announcements			
# of events (announcements)	Entire Sample (1350)	Low Fiduciary Duty (758)	High Fiduciary Duty (270)
1	47.0%	58.7%	57.8%
2	33.6%	34.2%	28.1%
3	13.0%	7.0%	10.7%
4	3.7%	.1%	2.6%
5	1.6%		
6	.4%		
7	.4%		.7%
8			
9	.2%		

Table 7: Concentrated Event Period Regressions

These regressions are identical to those reported in Table 5 except for the use of the CARs from the periods surrounding announcements rather than the entire contest as the dependent variable.

Sample	Entire Sample of 1350 Mergers	758 "Low Fiduciary Duty" Mergers	270 "High Fiduciary Duty" Mergers
Constant	.210 (3.23)	.205 (2.30)	.063 (.55)
Appraisal Available for This Merger	-.025 (-1.63)	-.018 (-.84)	-.049 (-1.45)
Taxable – Cash	.068 (2.78)	.056 (1.59)	.112 (2.40)
Taxable – Not Cash	-.053 (-1.47)	-.107 (-1.80)	.005 (.08)
Not Taxable	-.057 (-2.09)	-.082 (-2.12)	-.048 (-.85)
State Anti Takeover Law	-.029 (-1.21)	-.031 (-.92)	.003 (.063)
Poison Pill	.031 (1.46)	.026 (.84)	.040 (.94)
Multiple Bidders	.133 (9.36)		.067 (2.18)
Post-Weinberger	.045 (2.48)	.036 (1.35)	.055 (1.91)
R^2	.17	.13	.23