Sales and Elections as Methods for Transferring Corporate Control

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Delaware case law has rendered the tender offer obsolete as a method for purchasing a company whose directors oppose the acquisition. A potential acquirer facing target opposition today must run an insurgent director slate, in the expectation that its directors are more likely to sell. The Delaware courts have not justified their preference for elections over markets as the preferred vehicle for implementing changes in control. Informal scholarly analyses ask transaction cost questions, such as whether proxy contests are more costly than takeovers. This article attempts to break new ground by asking whether there are systematic differences in the performance of elections and markets in the corporate context. Recent models of voting processes, we argue, strongly suggest that elections are inferior to markets. Proxy contest elections sometimes can be won by incumbent managements when a transfer of control would be efficient, a conclusion consistent with the sparse data; and the proxy election process aggregates information regarding the sale decision less well than markets do, thereby implying that proxy voters are less well-informed. Theory and data thus suggest, at the least, that the intellectual burden of proof should change: the task now is to justify using elections to transfer control despite their apparent deficiencies. The article briefly considers the policy implications of this change in perspective.

INTRODUCTION

Under standard accounts of corporate governance, capital markets play a significant role in monitoring management performance and, where appropriate, replacing management whose performance does not measure up. While the concept of a market for corporate control was once controversial, now even the American Law Institute acknowledges that "transactions in control and tender offers are mechanisms through which market review of the effectiveness of management's delegated discretion can operate."[1] Recent case law in Delaware, however, appears to have altered dramatically the mechanisms through which the market for corporate control must operate. In particular, the interaction of the poison pill and the Delaware Supreme Court's development of the legal standard governing defensive tactics in response to tender offers has resulted in a decided, but as yet unexplained, preference for control changes mediated by means of an election rather than by a market. In this paper, we begin the evaluation of the preference for elections over markets that the Delaware Supreme Court has not yet attempted.[2] We apply to this effort both doctrinal logic and insights derived from an interesting but complex formal literature that has developed to understand how voting structures work in political contests and jury deliberations. Since these contexts differ substantially from transfers of corporate control, our analysis raises a question of fit: Are voting models suitable for analyzing the question asked here? In our view, the models do illuminate the takeover institution, but if this view is

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1 I American Law Inst., Principles of Corporate Governance, Analysis and Recommendations 385 (1994).

2 The direct literature on this subject apparently consists of three papers: this one; Lucian Bebchuk & Oliver Hart, Takeover Bids, Proxy Fights and Corporate Voting (Mimeo, Harvard Law Sch., 1999); Bilge Yilmaz, Strategic Voting and Proxy Contests (Mimeo, Rodney L. White Ctr. for Fin. Research, Wharton, 1999). We will compare these two papers to this one in later notes. Mikami considers a case, in a full information environment, in which two management teams compete for the right to manage a project by winning a proxy contest among atomized shareholders. He shows that the winning team will choose the project that the median shareholder prefers, provided that the manager teams do not collude and are willing to tolerate considerable risk. Kazuhiko Mikami, *Proxy Contests and Corporate Democracy*, 40 J. Econ. Behav. & Org. 353 (1999). These conditions seem hard to satisfy in the context of his model, and the model, because it does not contemplate purchase of the company's outstanding stock by one of the proxy contestants, does not capture closely the context that interests us.

ultimately rejected, then we will have eliminated what at least superficially appears to be a useful set of tools.

Part I provides a very brief account of the doctrinal development that has given us the current bias towards elections, focusing primarily on the last step in the process: the Delaware Supreme Court's decision in *Unitrin, Inc. v. American General Corp.*[3] Part II then argues that economic efficiency, as defined for this context below, is the appropriate normative criterion for directing the choice between markets and elections as mechanisms for effecting a change in control that is resisted by management. Parts III and IV develop two models that show that elections can perform badly in proxy contests in which the principal issue is whether the target company should be sold or not. The first model assumes that shareholder voters are well informed about the economic variables of interest, and the second supposes uncertainty about these variables.

Market sales apparently lack the defects that these models show can affect elections. Current regulation, which facilitates competing bids, and current takeover technologies, which permit making them, would eliminate much of the inefficiency in takeover bidding that prior models have identified if bidders could make proposals directly to target shareholders. The target would then be an auction seller. A standard result in auction theory is that if the seller chooses a revenue-maximizing auction form, it is a dominant strategy for bidders—here potential acquirers—to bid their true valuations. The dominant strategy for a maximizing seller then is to accept the winning bid. Therefore, target shareholders will not be in a strategic situation in an auction world. As a consequence, we focus on the possible inefficiencies arising from a judicial preference for elections (in which it is optimal for shareholders to act strategically) over markets as a takeover mechanism.[4] In Part V, we return to doctrine to show how the *Unitrin* rule's preference for

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3   651 A.2d 1361 (Del. 1995).
4   Takeover models in which target shareholders play strategically commonly have only one acquirer and one set of (possibly large) shareholders. In these models, takeovers always are efficient when shareholders play pure strategies (tender all their shares or not); takeovers also are efficient when shareholders play mixed strategies (hold-out a fraction of their shares with positive probability); but shareholders may tender less frequently than they should when they play mixed strategies and the number of shareholders is very large. *See, e.g.*, Thomas H. Noe & Lynn Pi, *Learning Dynamics, Genetic Algorithms, and Corporate Takeovers*, 24 J. Econ. Dynamics & Control 189 (2000); Bengt Holmstrom & Barry Nalebuff, *To the Raider Goes the Surplus? A Reexamination of the Free Rider Problem*, 1 J. Econ. & Mgmt. Strategy 37 (1992). Bebchuk & Hart, *supra* note 2, develop a model in this genre and suggest policies to reduce inefficiencies in tendering. As said above, an auction environment adds players on the buying side and thus ameliorates these inefficiencies. It is a

elections over markets may be eliminated without requiring the Delaware Supreme Court to confess error. We also suggest that for jurisdictions with courts less influential than the Delaware courts, a statutory change to permit more sales of control would be best.

I. PRIVILEGING ELECTIONS: *UNITRIN'S* PRECLUSION STANDARD

Fifteen years ago, the Delaware Supreme Court decided two landmark cases that sought to provide a framework for the legal rules governing hostile takeovers. *Unocal Corp. v. Mesa Petroleum Co.*[5] announced a proportionality standard of review for defensive tactics: a target board of directors must demonstrate that a defensive response is reasonable in relation to the threat posed by a hostile offer. *Moran v. Household International, Inc.*[6] approved the adoption of a poison pill in anticipation of a possible hostile offer and stated that a target board decision not to redeem a pill in the face of an actual offer would be treated as a defensive tactic reviewable under the *Unocal* standard. There followed "a remarkable struggle between the Chancery Court and the Supreme Court for *Unocal*'s soul."[7]

Stated starkly, the question was whether the threat that shareholders would accept a hostile offer at too low a price was so severe that a target board of directors could decline to redeem the target's poison pill and thereby prevent the shareholders from choosing whether to accept the offer. As the issue came to be framed, could the target board of directors "Just say no"? The Chancery Court decided in favor of the primacy of shareholder choice in rather ringing language. Chancellor Allen stated:

> To acknowledge that directors may employ the recent innovation of "poison pills" to deprive shareholders of the ability effectively to accept a noncoercive offer, after the board has had a reasonable opportunity to explore or create alternatives or attempt to negotiate

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separate question, not considered here, whether even an efficient auction process would inefficiently dampen search for poorly performing targets.

5   493 A.2d 946 (Del. 1985).

6   500 A.2d 1346 (Del. 1985).

7   Ronald J. Gilson, Unocal *Fifteen Years Later (and what we can do about it)*, Del. J. Corp. L. (forthcoming 2001). This is, by now, a familiar story that we do not propose to retell in any detail here. For an extended account of the evolution of Delaware takeover doctrine, see, for example, Ronald J. Gilson & Bernard S. Black, The Law and Finance of Corporate Acquisitions 801-95 (2d ed. 1995), 72-97 (Supp. 1999).

on the shareholders' behalf, would, it seems to me, be so inconsistent with widely shared notions of appropriate corporate governance as to threaten to diminish the legitimacy and authority of our corporate law.[8]

The Delaware Supreme Court, however, resolved this struggle by fiat in *Paramount Communications, Inc. v. Time, Inc.*[9] But while *Time* left us with no doubt that it rejected the *Interco* analysis,[10] it also offered no statement of when a target board could simply decline to pull a pill.

Some clarity, if not justification, was offered in *Unitrin*. A summary is sufficient for present purposes. Under *Unitrin*, a defensive tactic—including declining to redeem a poison pill—survives review under *Unocal* if it is neither preclusive nor coercive and falls within a "range of reasonableness."[11] According to the Delaware Supreme Court, the critical issue is whether the defensive tactic is preclusive. But the first question is preclusive of what? An unredeemed poison pill will always preclude a tender offer. It will not, however, preclude the bidder from initiating a proxy fight to replace the target's directors with nominees who are more likely to conclude, after careful and informed deliberation, that the offer is in the shareholders' best interests and thereafter redeem the pill. Does the presence of a poison pill force a bidder to have the success of its offer determined by an election rather than a tender offer?

Without confronting the issue directly, the Delaware Supreme Court appears to have assumed that the availability of a proxy fight renders the

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8   City Capital Assoc. v. Interco Inc., 551 A.2d 787 (Del. Ch. 1988). The question of whether Chancellor Allen subsequently limited *Interco* to circumstances where the target company actively sought to provide shareholders an alternative transaction favored by management is raised by his opinion in *TW Services, Inc. v. SWT Acquisition Corp.*, 1989 Del. Ch. Lexis 19, Fed. Sec. L. Rep (CCH) ¶ 94,334.

9   571 A.2d 1140 (Del. 1990).

10   Plaintiff's position [that the threat of an under priced but non-coercive offer was not sufficient to block shareholders' from having the opportunity to decide whether to accept it] represents a fundamental misconception of our standard of review principally because it would involve the court in substituting its judgment for what is a "better" deal for that of a corporation's board of directors. To the extent that the Court of Chancery has recently done so in several of its opinions, we hereby reject such approach as not in keeping with a proper Unocal analysis. See, e.g., *Interco*, 551 A.2d 787, and its progeny.

     Id. at 1154. It is unclear whether *Time*'s misreading of *Interco*, which was about the allocation of decision authority between the board and *shareholders*, not the board and the *court*, was deliberate or merely confused.

11   651 A.2d 1361, 1388 (Del. 1995).

poison pill non-preclusive, thereby shifting attention to the circumstances under which the proxy fight could be conducted. The Court acknowledged that, "Without the approval of target boards, the danger of activating a poison pill renders it irrational for a bidder to pursue stock acquisitions above the triggering level."[12] Thus, a poison pill is preclusive of a tender offer. But under *Unitrin*, it appears that refusal to redeem the pill is not preclusive under *Unocal* unless a proxy fight is also precluded. On remand, the Supreme Court directed the Chancery Court to "determine whether Unitrin's Repurchase Program would only inhibit American General's ability to wage a proxy fight and institute a merger or whether it was, in fact, preclusive because American General's success would either be mathematically impossible or realistically unattainable."[13]

Thus, the Delaware Supreme Court in *Unitrin* at least identified the circumstance in which *Unocal* allows a target to block a tender offer by declining to redeem a poison pill: if victory in a proxy fight would be neither "mathematically impossible" *nor* "realistically unattainable." Because the poison pill now is ubiquitous—every public company either has a pill or can adopt one on short notice if a hostile offer is made—the Court's analysis reduces functionally to a preference that control changes be resolved through an election rather than through a market: targets can block tender offers so long as a stymied bidder can press its case through a proxy fight.

We will not pause here to criticize the Court's confused doctrinal analysis,[14] but, rather, focus instead on the wisdom of the Court's conclusion. Are proxy contests preferable to tender offers as a means of resolving a control challenge? Before attempting to answer this question, however, two process-oriented criticisms are appropriate concerning the absence of transparency in the *Unitrin* opinion.

First, an outcome as significant as privileging elections over markets should at least come with an explanation. Providing a reason for an outcome at least imposes the discipline of logic on the range of alternatives available to the court. Perhaps more important, an explanation provides in equal measure not only a justification of the past but also guidance for the future. Ambiguity in its opinions may provide a court flexibility, as some

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12 *Id.* at 1381.
13 *Id.* at 1388-89.
14 For example, even if the availability of a proxy contest was relevant to whether a pill must be redeemed, prior doctrine suggested that a higher standard should be applied to target efforts to defend against a proxy fight than that applied when the defensive tactic has rendered victory in a proxy fight mathematically or realistically unattainable. *See* Blasius Indus. v. Atlas Corp., 564 A.2d 651 (Del. Ch. 1988).

commentators have suggested in defense of past Delaware Supreme Court opinions, but that flexibility comes at the expense of giving parties the information they need to order their affairs without excessive uncertainty.

The second process-oriented criticism of the *Unitrin* court's privileging of elections over markets is the impact of this preference on the integrity of the election process itself. The predictable result of *Unitrin* has been a quickly escalating level of director-implemented barriers to contested elections. The portion of the Chancery Court's opinion in *Mentor Graphics Corp. v. Quickturn Design Systems*[15] that concerned a defensively adopted bylaw illustrates the problem. The bylaw provided that upon a shareholder request for a special meeting, the board could delay holding the meeting for 90 to 100 days after it determines the validity of the initial request. The Vice-Chancellor concluded that, "[T]he 90 to 100 day interval chosen by the Quickturn board, although it may arguably approach the outer limit of reasonableness, struck a proper balance in this specific case."[16] It is not unfair to the Vice-Chancellor to note that there is no real discussion of why a delay of 90 to 100 days is necessary. And it is certainly to the Vice-Chancellor's credit that he was well aware of the risk that without an animating principle that might serve to cabin the opinion's predictable expansive drift, approving a 90- to 100-day delay would encourage ever more extreme measures. After all, the worst that could happen to a target company is that it would lose.

The Vice-Chancellor therefore explicitly warned that, "[A]ttorneys who represent corporate boards would best serve their clients well by counseling caution and restraint in this area, rather than seeking continually to push the time-delay envelope outwards to test its fiduciary duty limits."[17] But the laudable impulse to lecture counsel on their duties cannot substitute for the lack of a guiding legal principle. As an illustration, what factors would counsel against a delay of 90 days, said by the court to be potentially unreasonable "in other circumstances"? If, as the court suggests, "it is impossible to draw a line that categorically separates mandatory delay periods which have a basis in reason, from those that so manifestly burden or impede the election process that they can be characterized as intended to entrench the incumbent board," then how can this ambiguity do other than encourage clients "continually to push the time-delay envelope outwards"?[18] Thus, the

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15 728 A.2d 25 (Del. Ch. 1998).

16 *Id.* at 41-42.

17 *Id.* at 43 n.70.

18 *Id.* This formulation can be read to require business judgment-like protection to the directors' choice of a delay period. But since the bylaw is plainly intended to slow down a hostile offer, the standard should rise to intermediate review. Indeed,

absence of an explanation for the Delaware Supreme Court's preference for elections over markets as a mechanism to mediate transfers of control invites a repetition of the pattern by which limits on defensive conduct degraded under unremitting client pressure.[19] Shifting hostile tender offers into an election context similarly invites a degrading of elections.

II. NORMATIVE PRINCIPLES FOR ASSESSING THE COMPARATIVE DESIRABILITY OF MARKETS AND ELECTIONS AS MECHANISMS FOR TRANSFERRING CORPORATE CONTROL

We ask whether, as a general rule, it is preferable for shareholders to decide whether to sell the corporation through the mechanism of a tender offer ("transfer by sale") or through the mechanism of a fair election ("transfer by vote")—a proxy contest free from managerial influence in which the issue involves replacing the target board with the bidder's candidates, who will be more inclined to sell. The normative criterion we use to answer this question is efficiency, defined in this way: a transfer is efficient if a target's assets will have a higher net expected value when managed by the acquirer than by the target. Thus, for example, transfer by vote would be more efficient than transfer by sale if assets were to move more frequently to higher-valued users when approval is effected through a vote or if a value-increasing transaction would be approved by either method, but an election would involve lower transaction costs.

This definition of efficiency excludes the preferences of other constituencies or stakeholders who may be affected by a transaction. We exclude these preferences for two reasons. First, the Delaware Supreme Court held in connection with the sale of the company that a board may take into account the interests of other constituencies "provided there are rationally related benefits accruing to the stockholders."[20] The legal touchstone therefore is shareholder value; directors cannot reject a valuable transaction just because it would impose costs on third parties. Second, these third parties can attempt to implement their preferences in both tender offer

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because the bylaw restricts access to the election process, the standard of review plausibly should rise further to a *Blasius* level.

19 *Id.* The downward spiral concerning defensive tactics is traced in Ronald Gilson & Reiner Kraakman, *Delaware's Intermediate Standard for Defensive Tactics: Is there Substance to Proportionality Review?*, 44 Bus. L. 247 (1989).

20 Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc., 506 A.2d 173, 182 (Del. 1986).

and proxy contexts. There now is no well-developed reason to believe that either of these vehicles would be more receptive to the concerns of the affected third parties than the other. Then, applying the law of least reason, we assume that the two vehicles are equally open to third-party influence and we focus on monetary values.

The efficiency criterion used here implies that advocates of transfer by voting should be assigned the burden of proof in evaluating competing transfer mechanisms for three reasons. First, it apparently is cheaper to run a tender offer. In the current institutional environment, a potential acquirer is compelled to win a proxy contest in order to make a tender offer. The successful bidder thus must finance two procedures: the proxy contest and then the acquisition. This typically will be more costly than transferring control through a sale alone.[21] Second, a tender offer seemingly operates more quickly than a proxy contest.[22] Third, as Part I argued, target managers have both an incentive and the opportunity to pervert an election process. Sales are harder to subvert. Taken together, these three reasons imply that transfer by sale is preferable to transfer by vote *unless* transfer by vote results in assets moving to higher-valuing users sufficiently more frequently to offset the higher transaction and process costs associated with elections.

The comparative efficiency of transfer by sale and transfer by vote ultimately is an empirical matter. Theory, we argue below, implies that the burden of proof currently is not met: transfer by vote appears, if anything, to be a less efficient mode than transfer by sale. In addition, the empirical evidence shows that when the issue in the proxy contest is an

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21	Bebchuk & Hart, *supra* note 2, assume that tender offers are more expensive than proxy contests because a bidder must get financing to acquire a controlling block, while a proxy fight just involves a change in the board "without a massive rearrangement of ownership." In their model, however, there are no legal barriers to making a takeover bid, so a "rival" can freely compete with the target's management to manage the target's assets. The rival prevails either by making a successful tender offer *or* by winning the proxy contest. Thus, Bebchuk and Hart contemplate one procedure rather than two. We also are concerned that focusing on one procedure in the way they do may be inappropriate because different control mechanisms respond to different problems within the target corporation. *See* Andre Shliefer & Robert Vishney, *Alternative Mechanisms for Corporate Control*, 79 Am. Econ. Rev. 842 (1989).

22	Our assumptions about cost and delay are plausible but not beyond question. If less extensive defensive tactics are allowed in response to a proxy contest, then a tender offer may be more expensive. Similarly, a tender offer may be slower if a target can delay redeeming a poison pill in order to find a more valuable alternative, but the potential acquirer can undertake an immediate consent solicitation to replace the target board of directors.

acquisition, contests that succeed increase target firm value, while contests that fail reduce it.[23] With the theoretical and empirical record in this state, we will conclude that the Delaware Supreme Court is taking development of its *Unocal* doctrine in the wrong direction. Preclusion of a tender offer alone should be sufficient to fail *Unocal*'s intermediate standard; the availability of a transfer by vote, let alone one where target management can impede that vote so long as an acquirer's success is not rendered "mathematically impossible" or "realistically unattainable," is an inferior substitute.

III. TRANSFER OF CONTROL BY VOTE: THE FULL INFORMATION CASE

A. The Model

We begin by assuming that a proxy contest to elect directors who will allow a tender offer to proceed by removing a poison pill illustrates informed voting: target shareholders, that is, are able to make an informed choice in the proxy contest because they can evaluate the economic variables bearing on the desirability of the underlying tender offer. This assumption has some plausibility. Most of what the shareholders need to know is incorporated in the price offered by the bidder. For convenience (and without loss of descriptive accuracy), we will refer to shareholders confronting such a proxy fight as voting for or against the acquisition. Under our assumptions,[24] we first argue that with positive probability, the election will reflect the preferences of the minority when minority voters have the greater intensity of preference. We then argue that a minority composed of target management and its associates may have sufficient intensity of preference to defeat an efficient takeover because the manager group likely will have a large, private stake in the outcome.[25]

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23 *See* J. Harold Mulherin & Annette B. Poulsen, *Proxy Contests and Corporate Change: Implications for Shareholder Wealth*, 47 J. Fin. Econ. 279 (1998).

24 We also assume throughout that there are many voters—again, a descriptively accurate assumption in connection with corporate control contests—and, for simplicity, that each shareholder has one vote (i.e., owns one share). The one-share-one-vote assumption will turn out not to be innocuous in the imperfect information case analyzed in *infra* Part IV.

25 An acquirer also may be interested in private benefits, in which event the proxy contest may involve the spoils of control. We assume that this is not the typical case for two reasons. First, the context in our model is the attempt to conclude an acquisition. A successful acquirer will own much of the target and therefore will

A shareholder in the transfer by vote game we consider[26] understands that she is voting for the insurgents and thus for the acquisition (outcome A) or for the incumbents and thus for no acquisition (outcome N). The insurgents win if a majority of votes are cast for A (ties are resolved randomly so that each outcome wins a tie with probability .5). Let c be the cost of voting, which is defined to include evaluating alternatives, developing a strategy, and casting a ballot.[27] A shareholder gets a payoff θ from the result of the proxy contest

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internalize much of the agency cost associated with management status. In this vein, a recent paper argues: "A controlling party with a larger stake internalizes more of the inefficiency of extracting private benefits, and thus extracts fewer of these gains. Hence, the means of transferring control is important: Firm value is higher following a tender offer than after a negotiated block trade." Mike Burkart, Denis Gromb & Fausto Panunzi, *Agency Conflicts in Public and Negotiated Transfers of Corporate Control*, 55 J. Fin. 647, 649 (2000). Consequently, it is plausible to assume that while decision-makers for the target often wish to protect private benefits, the typical acquirer wants to maximize expected profits. Second, the political economy of the issue suggests that managers of potential targets are protecting more than shareholder value. Our analysis is symmetric as a formal matter, however. That is, if the acquiring group has more private benefits at stake, they could win an election that our efficiency criterion directs should be lost. For the reasons in this note, we focus on the opposite possibility. Private benefits play a larger role in the Bebchuk & Hart and Yilmaz analyses, but in their models, a rival competes to manage a company through a proxy contest alone; such a rival may end up owning a small enough share of the target to make realizing private benefits a plausible motive for playing the game.

26 The analysis follows Colin M. Campbell, *Large Electorates and Decisive Minorities*, 107 J. Pol. Econ. 1199 (1999). For convenience, we assume that there is only one potential acquirer. If this acquirer could make a bid directly to target shareholders, would buy all tendered shares, and would freeze out dissenters if the bid succeeds, then the target shareholders would not be in a strategic situation. For them, tendering would be a weakly dominant strategy. This is another reason (*see also supra* note 4) for distinguishing the takeover context from the proxy context; in any Nash equilibrium of the proxy contest game, we will see, target shareholders must play strategically (a shareholder's action, that is, will partly be a function of the other shareholders' actions).

27 Shareholders also incur costs in tender offers. We assume that the costs to a shareholder of participating in a proxy context are higher than the costs of participating in a tender offer for two reasons. First, there is more for the shareholder to consider in a proxy contest. In a tender offer, the shareholder must only evaluate the offer. Matters are more complex in a proxy contest because, under the law, the winning slate cannot simply accept the bidder's offer; rather, the new board must make an independent determination of what should be done next, the outcome of which determination the shareholder must predict. *See infra* text at note 37. Second, the shareholder may have to participate in two procedures—a vote and then a possible tender offer—rather than one.

that is a function of: (a) the monetary gain or loss that derives solely from holding target stock; and (b) the positive or negative private benefit, if any, that a target shareholder will experience as a result of the proxy contest's outcome (which may depend on the impact of the outcome on the assets or subjective utility of the shareholder, as with target managers, or on its impact on the value of other shares in the stockholder's portfolio, as with contemporaneous institutional holders of bidder stock).

We define a shareholder voter's utility from an election as

$$u(A, \theta_i) - u(N, \theta_i) = \theta_i$$

Here θ_i is a voter's type, defined as her marginal payoff when the acquisition wins rather than loses. Note that θ_i will be negative if a voter prefers N to A. A shareholder will have a strong preference for an outcome (θ_i will be large for that voter) when her relative payoffs for the two outcomes differ widely. This way of conceptualizing shareholder preferences implies that some shareholders will not vote: for a nonvoting shareholder, the marginal gain from her preferred outcome will be less than voting costs, even when the shareholder's vote would be determinative.

An equilibrium of this voting game can be summarized by two numbers, α and β, that characterize the payoffs of those who vote. To be precise, α is drawn from the set of negative payoffs that would result from the acquisition sufficiently large as to exceed voting costs for a shareholder who would get a payoff in that set. Hence, an α-shareholder would vote against the acquisition if the likelihood were sufficiently great that her vote would matter. Similarly, β is drawn from the set of positive payoffs that would result from the acquisition sufficiently large as to exceed voting costs for a shareholder who would get a payoff in that set. Shareholders whose payoffs are not at least as great as those in α or β abstain. Hence, the strategy profile in this election game—the rule the players follow—requires all θ-types that are less than α to vote against the acquisition (i.e., vote for target management) in the proper circumstances and all α-types that are greater than β to vote for the acquisition (i.e., support the insurgent slate).

B. Results

A minority of voters could prevail in an election defined in this manner, and the outcome of such a vote could be inefficient. The argument for these conclusions is in two steps.[28] First, the alternative whose marginal voter has a greater stake in the outcome is likely to win the election. Second, the marginal

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28 The results and intuition are set forth, not the proofs.

voter with the greater stake will be in the minority if the probability that a minority voter is more zealous (as we will define the term) is higher than the probability that a majority voter is more zealous.

Regarding step one, realize that N (A) is more likely to win (lose) if the probability that a voter prefers N is greater than the probability that a voter prefers A.[29] In any equilibrium, let α^* and β^* be the equilibrium marginal voters, namely, those whose payoffs are just negative or positive enough to cause them to vote. If the number of votes for N is likely to exceed the number of votes for A, then a shareholder who is considering voting for A has a greater incentive to vote than someone with an equally strong preference for N. This is because it is more likely that A will get one fewer vote than N. Therefore, the A-voter does not need as large a stake in the outcome as the N-voter (with preferences measured by θ) to participate: the A-shareholder's vote is more likely to be needed. As a consequence, the marginal shareholder voter is more likely to prefer N to A if and only if the marginal N-voter would have a higher negative payoff from A than the marginal A-voter would have a positive payoff (i.e., $|\alpha^*| > \beta$). This condition implies that, $F(\alpha) > (1 - F(B))$, which is to say that the alternative whose marginal voter has a greater stake in the outcome is more likely to win.

Regarding the second step, let π be the proportion of voters who prefer N. Then, regardless of how small π is, N could be the winning outcome if N-voters are more *zealous* than A-voters are. To see what is meant by zealous, let there be a number $x(\pi)$ such that only shareholders of type $\theta > x(\pi)$ will vote and such that $\theta > x(\pi)$ together with the appropriate distributions among those who prefer N and A, imply that $\pi F_1(-\Theta) > (1 - \pi)(1 - F_2(\Theta))$, where F_1 is the distribution of types among shareholders who prefer N and where F_2 is the distribution of types among shareholders who prefer A. This condition states that regardless of how many shareholders prefer A, there is a threshold stake in the outcome such that the probability that a voter prefers N *and* has a stake in excess of the threshold is greater than the probability that a voter prefers A *and* has a stake that exceeds the threshold—that is, there are more *zealous* N-voters than zealous A-voters.[30] The first step, together

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29 Mathematically (recalling that the marginal payoff to a voter who prefers N is defined to be negative and the marginal payoff to a voter who prefers A is defined to be positive), the requirement is that $F(\alpha)$ is greater than (less than) $1 - F(\beta)$.

30 This condition is implied, as an illustration, by the stronger conditions that there are types preferring N who exist with positive probability and whose intensities are unmatched by types preferring A; or, if the distributions of types are continuously differentiable, that while the most extreme A- and N-voters have identical intensities

with the satisfaction of this condition, implies that N wins in equilibrium with probability greater than one-half when the number of voters gets large.

For a formal sketch of the logic, it can be established that when a sufficiently large number of voters exists, no type $\theta \; \varepsilon \{0, x(\pi)\}$—the "mild" A-preferrers—can vote in any equilibrium. This is because the likelihood that an A-voter would be pivotal is so low that the expected value of her vote would be less than the costs. Thus, in any equilibrium (α^*, β^*), it must be that $\beta^* > x(\pi)$: those who vote for A have large stakes in the outcome. When the condition stated in the paragraph above is satisfied, however, $-\alpha^* > \beta^*$, which implies by the first step in the argument that $F(\alpha^*) > 1 - F(\beta^*)$: the probability that the marginal voter prefers N in equilibrium is greater than the probability that the marginal voter prefers A. Hence, N is more likely to win than A.

As for the intuition, realize first that under the majority voting rule considered here, a shareholder's vote will not matter if, when there are n total voters, n/2 + 1 will vote for N or n/2 - 2 will vote for N: in either case, the illustrative shareholder's vote cannot affect the outcome. Hence, the shareholder, in deciding what to do, will ignore these cases and concentrate on the possible states of the world in which her vote counts—when she is the pivotal voter. These states occur either when there is an exactly even number of votes for N and A or when N will get one less vote than A. The zealous shareholders are those with the most at stake, and we now assume that the key condition is satisfied: more zealous shareholders prefer N to A. It follows that when the number of shareholders becomes large, the likelihood that the vote of a shareholder who prefers A will be pivotal becomes extremely small at the margin: there will be too few A-*voters* (as opposed to A-preferrers) for this to happen with a substantial probability. An A-preferring shareholder who perceives the probabilities correctly thus herself will not vote unless her payoff from an acquisition is large. In sum, as the threshold stakes increase, only voters with large stakes will be voting and the alternative preferred by more of these zealous voters will have the advantage.

Before applying this result directly to proxy contests in connection with acquisitions, there are two general points to make. First, the voting game will lead to an efficient outcome even when the minority wins if the intensity of preference of the minority is sufficiently greater than the intensity of preference of the majority. This would mean here that it would be efficient

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of preference, the probability that an A-voter would be at the extreme is less than the probability that an N-voter would be at the extreme.

for N to win if the sum of all shareholder types (their θs) is negative. Recall that π is the expected proportion of voters who prefer N. The expected value of the outcome for a voter who prefers N thus is -θπ, and the expected value of the outcome for a voter who prefers A is θ(1 - π). If π is small, the expected value of the outcome for the typical N-preferrer can be lower than the expected value of the outcome for the A-preferrer.[31] When the electorate is large and π is small, the probability thus is very low that the sum of *all* voters'θs is negative. Therefore, when a large majority prefers an outcome but the minority has more zealous voters and defeats the outcome for this reason, the result often will be inefficient.

Second, this welfare analysis assumes that the preferences and costs of voting are linked. To see why this matters, assume that preferences and participation costs are drawn from different distributions. This implies that as the relevant voter population becomes large, only persons with low voting costs will participate. Given the assumption that costs and preferences are independent, the preferences of these voters will be representative of the preferences of the population at large.[32] Hence, the election outcome will implement the preferences of a majority of voters, though only a minority vote. Just when preferences and voting costs are linked rather than independent in real elections is an empirical question, but we will argue below that this link exists for proxy contests in connection with takeovers.

C. An Application to Acquisitions

This model permits a zealous shareholder group to block an efficient acquisition or to compel an inefficient one. We focus on the former problem because, for the reasons given above (acquiring companies internalize agency costs; markets are semi-strong efficient), it seems the more typical case. Turning to the analysis, partition shareholders into two groups. The first group, called "management shareholders," is composed of members of current management and individuals and entities who would do better if the takeover were defeated, such as unions and, perhaps, suppliers and customers. These shareholders receive a private benefit from holding their target shares under current target management. The second group is called "independent shareholders" and is composed of those who benefit from their shares only as shareholders; they receive no private benefits. Our focus on

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31 We can represent this outcome mathematically as πE[-θ|θ < 0] < (1- π)E[-θ|θ > 0].
32 *See* John O. Ledyard, *The Pure Theory of Large Two-Candidate Elections*, 44 Pub. Choice 7 (1984).

the prevention of efficient acquisitions thus implies that a potential acquirer votes its shares as though it were an independent shareholder.

Because of private benefits, the marginal management shareholder often will have a higher payoff from defeating a takeover than the marginal independent shareholder will have from the takeover being approved and the management shareholder often will have lower voting costs. To understand these claims, suppose initially that if the bidder's nominees win the proxy contest, the company will be sold for at least p. Let a shareholder's opportunity cost in selling a share now be x and the loss of private benefits to a management group shareholder if A wins be b per share. An independent shareholder will vote for A if the gain from sale, g_s, equal to price less opportunity cost, is greater than 0, or $g_s = p - x > 0$. The management group shareholder will vote for A if the gain to her from sale, g_m, equal to price less opportunity cost less private benefits, is greater than 0, or $g_m = p - x - b > 0$. If $g_m < 0$, then $b > p - x$. As a result, the management group shareholder would have a higher negative payoff than the independent shareholder would have a positive payoff when $b - (p - x) > p - x$, or when $b > 2(p - x)$.

Intuitively, the management group shareholder's loss per share in private benefits is partly offset by the gain from tendering her stock. Thus, this shareholder's negative payoff from an acquisition's success will exceed the independent shareholder's positive payoff only if the private benefits loss is large—formally, more than twice the financial gain on the sale of a share. This condition will be satisfied when the management group holds relatively few shares and would incur a large private benefit loss. In this circumstance, the marginal management voter will be more zealous than the marginal independent voter. And as shown above, when the probability that a voter prefers N is low (there are relatively few management shares) but such a voter has much at stake, an N-outcome—defeating the insurgent slate and thereby blocking the tender offer—likely would have poor welfare properties.[33]

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33 This analysis is complicated when we add a third category of voters: institutional investors who, because of their portfolios (holding both the bidder and the target) or because of their reputations, also have private benefits associated with the outcome of the proxy contest. Because the private benefits of this group can depend on either the takeover going forward because it increases the group's reputation as portfolio managers or on it failing because the takeover reduces the value of the bidder by more than the premium paid to the target, their position is not as predictable as the management group shareholders. Thus, institutional investors may serve as a partial offset to either the zealous management shareholder who votes against the insurgents or to zealous bidder related target shareholders who ignore the impact of the transaction on the value of the bidder's shares.

Turning to costs, a management group shareholder commonly also will have lower voting costs than an independent shareholder because preferences and voting costs in proxy contests are not independent. The private benefits that the management group seeks to preserve result from its status, which also gives it lower cost access to the means to evaluate alternatives and form a strategy than will be available to independent shareholders.[34] Hence, a shareholder voter's preferences and costs are not drawn from independent distributions.

The analysis to this point favors control changes through a market mechanism rather than an electoral mechanism.[35] Where some target voters have a greater intensity of preference than acquirer voters and voting is costly, a proxy contest can fail even if a majority of the electorate wanted the challenge to succeed and if the sale that would have followed the vote would have been efficient. The evidence is consistent with this conclusion. In Mulherin and Poulsen's study of proxy contests involving acquisitions, the 63 firms that were acquired had a cumulative average return of 12.4% in the year following the contest, while the 53 firms that were not acquired had a cumulative average return of minus 23.4%. If successful acquirers do not lose money on average, this evidence suggests that partisan target managers are defeating proxy challenges more frequently than efficiency argues they should.[36]

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34 Institutional shareholders provide an intermediate case with respect to costs, with their status also reducing their voting costs because they possess expertise in evaluating acquisitions generally and also because they know their own portfolios.

35 Our conclusion may partly be affected by the presence of arbitragers. These players may have private benefits (perhaps the greater gains possible from a highly leveraged portfolio) that balance those of the management group, they are likely to have lower costs of voting than the typical independent shareholder, and they are therefore more likely to vote than the independent shareholders from whom they bought the shares. The role that arbitragers play in a voting model such as ours is not fully understood, but we note that if arbitragers in fact are more likely to vote, then target managers will be less likely to prevail (because arbitragers commonly want bids to succeed). Then, if markets are semi-strong efficient and acquirers maximize expected profits, arbitragers will push proxy contests toward efficiency.

36 This study uses aggregate rather than firm-level data. We speculate that inefficiency is more likely to occur when institutional investors, especially professional managers, hold a relatively small number of shares and where voting costs (which, recall, include evaluation costs) are relatively high. This describes smaller public corporations that have fewer institutional holders and a small analyst following. Many of the recently public dot.coms are good examples.

IV. VOTING UNDER UNCERTAINTY

The model above assumed: (i) each target shareholder owned one share and thus had one vote; (ii) the number of voters was large; (iii) voting was costly; (iv) for some voters, private benefits were at stake in the proxy election; (v) shareholders knew the distribution from which shareholder preferences were drawn (which permitted them to calculate the probability that they were pivotal); and (vi) shareholder voters were fully informed about the relevant variables. In this Part, we initially drop assumptions (iii) and (iv), for convenience, and (vi), for possible realism. Regarding (vi), uncertainty could exist respecting a proxy contest because the new board has a fiduciary duty to represent all of the shareholders, not just the acquirer that financed the contest.[37] The new board thus could decide, after making the requisite independent determination, not to sell the target, because it would be more valuable under their management than under the old board, to sell the target to someone other than the initial acquirer or to use a sale mode—a silent auction, say—that encourages entry by other bidders. As a consequence, there can be more uncertainty in connection with a proxy contest than with a tender offer, where an affirmative action helps to produce a determinate payoff—the shareholder gets the bid price if the offer succeeds.

We initially show that on the assumptions we now make, a proxy election will aggregate information efficiently. This means that the election will choose the outcome that would have been chosen had all private information been revealed to all of the voters before the vote occurred. Informational efficiency occurs because voters in large elections can invert back solely from possible voting results to the payoff relevant variables. The assumptions that each voter holds one share and that no voter receives private benefits are unrealistic, however. When they are relaxed, we will see, shareholder voters no longer will know the distribution from which shareholder preferences are drawn or the number of shareholders who have observed particular signals of the true state of the world. And when the

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37 The Delaware Supreme Court has noted that after such an election, the bidder's "newly elected directors will be required to discharge their unremitting loyalty to manage the corporation for the benefit of Quickturn and its stockholders." Thus, the new directors would have to make an informed judgment, presumably subject to review under *Revlon*'s intermediate standard (Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc., 506 A.2d 173 (Del. 1986)) if the transaction otherwise meets the change in control test, that the proposed transaction represents the best alternative available to the company. *See* AMP Inc. v. Allied Signal, Inc., 1998 U.S. Dist. LEXIS 18582 (E.D. Pa.).

voters lack this knowledge, full informational equivalence is unlikely to obtain: that is, shareholders will, with a nontrivial probability, fail to choose the outcome that would have been chosen in a full information world.[38] The analysis in this Part is technical. Readers who believe that an institution that performs badly when the information structure is favorable is unlikely to perform well when the informational structure is unfavorable can go directly to Part V, which sketches the policy implications of the analysis.

A. The Model

To pursue the implications of uncertainty, we again assume that the election requires shareholder voters to choose between the outcomes A or N. A shareholder's utility depends on his preferences over these outcomes (shareholder preferences can differ) and on the true state of the world (in some states of the world, an acquisition is best for a shareholder given his preferences; in others, the target remaining independent is best). Utility is indexed as before by θ; states of the world are indexed by s ε [0, 1] (s lies between 0 and 1). Similar to the above, we can write

$$v(s, \theta) = u(A,s,\theta) - u(N,s,\theta)$$

which is the utility difference of a voter of type θ between alternative A and alternative N in state s. It is assumed that this difference is continuous and is strictly increasing in θ (higher types prefer A more) and in s ("higher" states of the world are more favorable for A). Each shareholder knows his own type but not the types of other shareholders.

Regarding timing, the game begins when the potential acquirer and target management distribute proxy proposals. At this stage, each shareholder has a prior probability over possible future states. The shareholder next receives a signal σ that correlates with the true state. These signals have a

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38 What follows is drawn primarily from Timothy Feddersen & Wolfgang Pessendorfer, *Voting Behavior and Information Aggregation in Elections with Private Information*, 65 Econometrica 1029 (1997). Also helpful are Timothy Feddersen & Wolfgang Pessendorfer, *Convicting the Innocent: The Inferiority of Unanimous Jury Verdicts under Strategic Voting*, 92 Am. Pol. Sci. Rev. 23 (1998); Peter J. Coughlan, *In Defense of Unanimous Jury Verdicts: Mistrials, Communication, and Strategic Voting*, 94 Am. Pol. Sci. Rev. 375 (2000); David Austen-Smith & Jeffrey S. Banks, *Information Aggregation, Rationality and the Condorcet Jury Theorem*, 90 Am. Pol. Sci. Rev. 34 (1996). Some experimental confirmation of this genre of model is found in Serena Guarnaschelli, Richard D. McKelvey & Thomas R. Palfrey, *An Experimental Study of Jury Decision Rules*, 94 Am. Pol. Sci. Rev. 407 (2000). All of these papers are complex mathematically. The text above attempts to present the intuition.

public element (e.g., the information in proxy proposals and the acquirer and target's public communications) and a private element (e.g., what a particular shareholder learns about the relevant business environment). The private element of the signal that shareholder i receives is independent of the private element of the signal that shareholder j receives. A shareholder's strategy in this game has two elements: to vote for A or to vote for N; and to use the information in his signal when voting or to discard this information. Shareholders vote after choosing a strategy and receiving signals.

We let A win if $(n + 1)q$ voters choose A, where $0 < q \leq 1$ and q is fixed in advance.[39] Preferences thus would be aggregated under majority rule if $q = \frac{1}{2}$, but the analysis permits super- or sub-majority voting rules as well. A shareholder voter can influence the outcome only when nq voters will vote for A, and he will then, conditional on his vote being pivotal, choose A if that has the higher expected payoff. In any equilibrium of this voting game, some voters will ignore their signals to vote for A (N). These voters have sufficiently strong priors over what they think the true state is or have sufficiently strong preferences for one of the outcomes, so that the expected value to these voters of an A (N) vote, conditional on being pivotal, cannot be changed by the signal they receive. As a consequence, only a subset of voters can vote informatively (vote on the basis of their signals).[40]

B. Full Informational Equivalence

Full informational equivalence occurs, on the assumptions above, because voters in large elections can infer what the true state of the world is by "inverting back" to that state from the distribution of voter preferences and the voting rule. To begin to see how, it is helpful to start with two definitions: (a) The probability that a randomly selected voter votes for N in state s is $t(s,\Delta)$, where Δ is the equilibrium strategy profile. (b) The probability that a voter would observe the signal σ when the true state of the world is s is $p(\sigma|s)$. When the electorate is large, voter beliefs about $t(s,\Delta)$, conditional on the voter being pivotal, will be concentrated around q, the portion of votes required for N to prevail. A voter will be pivotal when nq other voters would vote for N. Since the voter's preferences partly are a function of the true state of the world, the voter will attempt to infer that state; and he will

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39 In large elections, the probability of a tie is very small, so the analysis from now on omits a rule to resolve ties. Note also that since voting here is assumed to be costless, all shareholders in the model will vote.

40 Voting on the basis of one's signal is called informative because when voters act in this way, one can infer a voter's private information from his vote.

do this by asking what signals regarding the true state of the world must the other shareholders have observed in order for the illustrative shareholder to be pivotal. Suppose that many voters were observing signals such that for those voters, $p(\sigma|s) > q$. Since $t(s,\Delta)$ must lie between 0 and 1 and since a voter's preferences are non-increasing in s, that so many voters were observing signals that s likely is "high" is inconsistent with the fact that nq voters are voting for N; for when s is that high, the randomly selected voter is likely to choose A with probability greater than q. Conversely, that many shareholders were observing signals such that for them $p(\sigma|s) < q$ would be inconsistent with the fact that as many as nq shareholders were voting for A; for when the probability that the state is low is large, the randomly selected voter will choose N with probability greater than q. It must follow that if nq voters would vote for N, the illustrative voter will think that the probability that a randomly selected voter will vote for N in state s—$t(s,\Delta)$—must lie in the close neighborhood of q. And this in turn implies that the voter will infer that the likely true states of the world are those that would cause a randomly selected voter to prefer N with probability q.[41]

As a consequence of voters putting most of their probability mass on a very few possible states, the "information generating service"—the available facts and permissible inferences from them—is unlikely to permit the shareholder to make fine distinctions among these states. Formally, let there be a subset of possible states denoted S with the property that, conditional on a vote being pivotal, the true state s is in S with probability 1; and the probability that the voter will receive a certain signal σ given that the true state is s will be constant on the set S for all signals σ. When the signals are uninformative, the expected payoff difference in voting for A or N, conditional on one's vote being pivotal, will be independent of the signal a voter receives. And when the payoff difference is independent of the signal, the portion of shareholders who vote for A on the basis of their prior probability estimates and preferences alone and the portion of shareholders who vote for N on the basis of their prior probability estimates and preferences alone approach each other. That is, almost no voter votes on the basis of the signal he receives—votes informatively—when the electorate is large.

Strategic voting nevertheless will achieve full informational equivalence.

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41 As an illustration, suppose that n = 1000 and q = ½. A voter who is pivotal knows that 500 voters will choose N. That this many voters prefer N is inconsistent with many more than half the voters observing signals implying that A or N would be best. The illustrative voter thus will think that the true states of the world are those generating signals that would induce a randomly selected voter to prefer N with probability approximating ½, which is q.

This is because if the signal generating service is accurate,[42] then a shareholder can predict the actual state with great accuracy, conditional on his vote being pivotal. To begin to see why these predictions are possible, the discussion to here is the basis for a showing that the distribution over states in S, conditional on a vote being pivotal, converges on a particular state, which can be denoted s^n. Convergence occurs because when the maximum difference between any pair of states in S is small—which it is—then for a large enough electorate, the probability distribution over states must be arbitrarily concentrated around one state. Consequently, the voters will line up such that if q = ½, then because the electorate thinks that s^n is the true state, conditional on the median—that is, pivotal—voter determining the outcome, very close to 50% will vote against A (for them, A is bad in state s^n) and very close to 50% will vote for N. Because voters will line up in this way in large elections, the concentration of shareholder beliefs on the single state s^n implies that large elections will be close with probability approaching one in every state. Put another way, the fraction of the electorate that supports N will be very close to the critical fraction q.

Turning to informational equivalence, let $\theta*$ be the *expected* preference parameter of the median voter. We have just seen that in a large election, the actual preference parameter of the median voter, called the "q- median," will be close to $\theta*$; and in a large election, the actual q-median's preferred alternative wins. Therefore, full informational equivalence is achieved if the expected preference parameter $\theta*$ wins with probability close to 1.

To see why it will, realize that the alternative preferred by the expected q-median voter depends on the state. Let $s*$ be the state in S that minimizes $v(\theta*,s)$.[43] When $v(\theta*,s*) = 0$, the expected q-median voter is indifferent to the outcome. If $v(\theta*,s*) > 0$, there is no state in which a voter of type $\theta*$ prefers N to A, and hence $s*$ is the state in which A should prevail. Similarly, if $v(\theta*,s*) < 0$, then $s*$ is the state in which N should prevail. Therefore, there will be full informational equivalence if A is almost certainly the winner when the actual state s > $s*$, and N wins otherwise.

Now consider a state in which $v(\theta*,s*) = 0$, so the q-median voter is indifferent to the outcome. Recall that, conditional on a vote being pivotal, the distribution over states puts almost all of the weight on one state, s^n, so

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42 To be precise, the assumption is that the monotone likelihood ratio property holds: roughly, a voter is more likely to observe a signal that the state s is high rather than low when the true state is high.

43 Recall that $v(\theta,s)$ is the utility difference between A winning and N winning for a voter of type θ in state s. Hence, the smaller $v(\theta,s))$, the closer to indifference the voter.

that voters behave as if state s^n has occurred. In the limit (when n becomes large), $s^n = s^*$. To see why, realize that if $v(\theta^*, s^n) > \varepsilon > 0$, the fraction of voters who prefer N in state s^n is smaller than and bounded away from q. But then the fraction of voters who vote for N in s^n also is smaller than and bounded away from q, and this contradicts the result that large elections are close—that actual vote shares are close to expected vote shares with high probability. Further, an election can be close only if voters believe that the state is very close to s* (in which state the q-median voter is close to indifferent). Since the vote share of alternative N is defined to be strictly decreasing in the state s, a tie could occur only if for a state $s < s^*-\varepsilon$, N wins with probability close to 1 and for a state $s > s^*+\varepsilon$, A wins with probability close to 1. This is the condition for full informational equivalence. Hence, full informational equivalence obtains when and because voters can invert back from the fact of being pivotal to what the true state likely is.[44]

To summarize the model's logic, shareholders do not vote on the basis of the information in the signals they receive. In such cases, large elections will be close, thus implying that the outcome will be decided by the votes of those taking informative action. The pivotal voter can infer the true state with great accuracy (under the model's assumptions). Hence, the election will reach the outcome that would have been reached had every voter known the information in all of the voters' signals.

C. The Failure of Full Informational Equivalence

A large election will satisfy full informational equivalence when voters ignore their signals (that is, do not act on the basis of their private information). It is rational for voters to behave in this way because a strategic voter can infer the true state with great accuracy. The voter can

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44 To get a flavor of the actual proof, let the probability that a voter is indifferent between N and A be greater than q for the highest possible state s. All voters whose preferences—their θs—are less than this indifference preference will vote for N. In a large election, N will then be chosen with probability close to 1: more than q% of the voters will prefer N. This result will satisfy full informational equivalence because voters with preferences below the indifference preference in the highest state would prefer N in every lower state. Similarly, A will win if the probability that a voter is indifferent between N and A in the lowest possible state s is less than q. (The proof is complex when $F_\theta(\theta_N) < q < F_\theta(\theta_A)$.) In a different model, Yilmaz, *supra* note 2, also shows that a proxy contest will aggregate information efficiently. As in our analysis to this point, Yilmaz assumes that shareholders know the distribution from which voter preferences are drawn and that no one in the relevant shareholder universe owns a block.

draw this inference, first, because each voter knows the distribution from which voter preferences are drawn. Then, conditional on the voter being pivotal, the voter also knows how many voters have observed signals that favor one result or the other. A strategic shareholder can use these data to invert back to the true state of the world from his status as the pivotal voter.

Full informational equivalence likely fails in proxy contest elections in which a takeover is the ultimate issue, however, because shareholders lack the data required to draw the key inference. Specifically, voters may not know the distribution of shareholder preferences and seldom will know, even conditional on being pivotal, how many voters have observed which signals.

To see why uncertainty about the preference distribution defeats the equivalence result just derived, let the distribution function according to which nature selects the electorate depend on the parameter $\gamma \in [0,1]$, and be given by $H_\gamma(\theta)$. Because there now are partisans, this distribution has mass at the values for θ that imply partisanship: that is, there is a positive probability that some voters will be partisans. For convenience, the likelihood that there are many N-partisans is assumed to be falling in γ, and conversely. The number of partisans for either alternative is assumed to be less than the fraction of the electorate needed to elect that alternative. In this version of the election game, nature first chooses the state s and the parameter γ independently and voters have priors over both variables. The realized state is (s,γ), and after it is chosen, nature picks an electorate by drawing from H_γ (θ). There will be an expected q-median voter given the realized γ. Similar to the above, $s(\gamma)$ is the state in which this voter is indifferent to the outcome: $(v(s(\gamma), \theta(\gamma))=0$. Full informational equivalence is defined as before, using this concept of indifference.

Turning to information aggregation, suppose that for a particular state (s, γ) the expected vote share of alternative N is q (recall that large elections are close). A shareholder, however, now no longer can infer the actual state by reasoning that because he is pivotal, he must put most of his probability weight on distributions of the state s in which the expected vote share of N is q. This is because now the voter can be pivotal in more than one way. Recall that the vote share for N is a strictly decreasing function of γ (because the expected number of N-partisans falls as γ declines); and the vote share for N *also* is a strictly decreasing function of the state s (for nonpartisans). Consequently, the expected vote share for N would be unchanged if s is decreased but γ is increased. Conditional on being pivotal, a shareholder voter thus will believe that *one of* the states exists in which the expected vote share of N is q. But now there is an interval of states such that this could occur, depending on the states and the number of partisans.

Therefore, the voter no longer can use the chain of reasoning described above, inferring back from vote counts to states of the world. Put mathematically, the voters' beliefs over states cannot converge to a degenerate distribution, which puts almost all of the weight on one state (s^n in the initial analysis). In this event, even conditional on being pivotal, a voter's private information—his signal—will convey useful information about what the actual state is; hence, the fraction of voters who vote on the basis of their signals no longer goes to zero.

Full informational equivalence requires that for states in which the pivotal voter is indifferent ($v(s(\gamma))$, γ), the expected vote share for N must be close to q in a large election. When voters vote informatively, this condition is not met. For a generic choice of the preference parameter v, equilibrium strategies allow too few degrees of freedom to have the expected vote share equal to q for all states (($s(\gamma)$, γ). The problem is as stated: There now are two random variables, s and γ, both of which are correlated with the votes for each alternative. Thus, a voter no longer can reason back from his status as being pivotal to the payoff relevant state variables. And given this inability, then close to the set of indifference states—$s(\gamma)$,γ—the wrong alternative is chosen with high probability.

There will be uncertainty over the preference distribution in connection with proxy votes for takeovers because the identity of the management group often is uncertain. Shareholders who comprise the target's board are highly likely to vote against. An important supplier also will vote for N if there is no state of the world in which it would do better were the target under new management, but the supplier could prefer A if there is a chance that it would do better after a major change. The share prices of targets fall when acquisitions are defeated unless another bidder likely is forthcoming. Hence, arbitragers may or may not be partisan, depending on their view of the corporate control market. Suppliers, customers, unions, and arbitragers, that is, may or may not be partisans. This implies that for a nonpartisan shareholder, the other shareholder votes will be a function both of the state s and of the distribution of voter types—γ in the analysis above—where the voter knows $H_\gamma(\theta)$ but not nature's particular draw. Therefore, in many proxy contests, shareholders could not invert from voting positions to states of the world.

A second reason for the inability of a shareholder voter to infer the true state of the world in proxy elections is that the number of people who observe signals about the true state is strictly smaller than the number of votes (because shareholders can hold blocks). As a consequence, the expected vote share for an alternative can equal the required voting percentage to pass that alternative in more than one way. To understand why this matters, suppose

that the expected vote share for N equals q. An individual shareholder and a block shareholder both will consider only the state in which they are pivotal in order to decide how to vote, but for each of them, the configuration of voters requisite to their being pivotal will differ. As a simple example, assume that $X = 100$ shares, $q = \frac{1}{2}$, 5 shareholders hold blocks of 10, and 50 shareholders hold 1 share each. Then a nonpartisan individual shareholder can be pivotal if: (i) the 5 ten-vote blocks prefer A but no individuals do; (ii) 4 ten-vote blocks and 10 individuals prefer A; (iii) 3 ten-vote blocks and 20 individuals prefer A; (iv) 2 ten-vote blocks and 30 individuals prefer A; and (v) 1 ten-vote block and 40 individuals prefer A. A nonpartisan block holder would be pivotal if there are 41 votes for A, which could occur if: (i) 3 other ten-vote blocks and 11 individual shareholders vote for A; (ii) 2 other block shareholders prefer A and 21 individuals do; (iii) 1 other ten-vote block prefers A and 31 individuals do; and (iv) 41 individuals prefer A. The individual shareholder and the block holder thus would be attempting to infer the true state conditional on the expected vote share being equal to $\frac{1}{2}$, but they would be using different voter configurations to perform this task.

To appreciate the difficulty this example exposes, when every voter has one vote, a voter can infer, conditional on being pivotal, the signals about the true state of the world that other voters have observed. An essential step in the argument for full informational equivalence, recall, is that voter beliefs about which state exists concentrate around a very small set of states: those that could produce a value for the probability that a random voter would support N that approximates q. When the number of votes is decoupled from the number of voters, such an inference from the fact of being pivotal to the true state of the world no longer is possible to draw. In the example above, an individual shareholder would be pivotal if 5, 14, 23, 32, or 41 other shareholders were to observe certain signals. When as few as 5 or as many as 41 voters have observed signals implying that the true state of the world is such that N is the best choice, a shareholder voter lacks a reason, even conditional on being pivotal, to put probability mass on a very few possible future states. To use the notation above, there no longer exists a set of states S in which voter signals will not distinguish among the states. Thus, proxy contest voters will vote on the basis of the varying signals that they observe (i.e., shareholders will vote informatively). This will lead to the failure of full informational equivalence: a proxy contest is unlikely to reach the result that would have been reached had all information been revealed before the vote.[45]

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45 In this model, randomly bad results can occur: uninformed target shareholders sometimes will incorrectly say yes and sometimes incorrectly say no. Bebchuk

D. Summary

The analyses of proxy voting in Parts III and IV assumed a relatively ideal voting environment. The entire target board was up for election at the same time, and target management did nothing to subvert the election process. Voting performed badly nevertheless. When shareholder voters were assumed to be well informed, Part III showed how a proxy challenge could fail even if a majority of the electorate wanted the challenge to succeed and the proposed merger would have been efficient. The forces driving that model were the different intensities of preference of shareholder voters and costly voting. The model in Part IV initially dropped the assumptions of full information and costly voting and showed that in these circumstances, a proxy election with a large number of voters would aggregate information efficiently. When the assumptions that each shareholder has one vote and no voters are partisan are relaxed, however, then there will be inefficient information aggregation, even when voting is costless. The election could choose A when N would be efficient (on the value maximization criterion set out above) or could choose N when A would be efficient. While the two models we use reflect different ways of analyzing the question this paper addresses, it is significant that they agree on the same conclusion: transfer by voting has a good chance of reaching the wrong result. Given that the

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& Hart, *supra* note 2, argue that imperfect information systematically biases proxy contests against the rival. To see how they reach this conclusion, follow them and define the present value of the cash flow that would be realized under the rival's management as Y_R and the present value of the cash flow under incumbent management as Y_I. Then, $Y_R - Y_I = \Delta Y_R$, which is drawn from the density function $g(\cdot|Y_I)$ with support of $(-Y_I,$ infinity) and mean $\Delta Y_R^*(Y_I)$. Next make two assumptions: (i) target shareholders know the distribution $g(\cdot|Y_I)$, but cannot observe particular realizations of ΔY_R; and (ii) uninformed shareholders assume that the mean of the distribution $\Delta Y_R^*(Y_I)$ is negative. The second assumption holds that rivals will lose money on average and is made because "[p]resumably there are many bad managers in the world who would be more than happy to run a public company and capture some private benefits of control." *Id.* When shareholders believe that rivals will lose money, they will vote no regardless of the quality a rival may possess, and the market price will not inform them: the market-maker, even if herself informed, will set the price equal to $P = Y_I$ because the incumbent always wins. The second assumption is inapplicable to our context because acquirer/rivals are maximizing profits rather than private benefits (*see supra* note 25). Target shareholders are unlikely to assume that well-financed bidders interested in making money will lose money on average. Of significance, both the Bebchuk & Hart analysis and our analysis conclude that proxy contests evaluate proposed changes in corporate control poorly in imperfect information environments.

burden of proof is appropriately assigned to the transfer by vote mechanism (*see supra* Part II), this conclusion strongly suggests that the Delaware Supreme Court's preference for elections is misplaced. Part V turns to an analysis of how that preference would best be changed.

V. RETURNING TO DOCTRINE AND POLICY: WHAT CAN BE DONE?

Our formal inquiry into the relative efficiency of sale and voting as mechanisms for control changes was motivated by a real problem. In *Unitrin*, the Delaware Supreme Court held that a refusal to redeem a poison pill in the face of a hostile tender offer was not preclusive and therefore did not violate *Unocal*'s intermediate standard when the offer's only threat, other than to management strategy, was a too low price. Although the poison pill prevented a tender offer, so long as the bidder's prospects for dislodging a majority of the board through a proxy fight were not "mathematically impossible or realistically unattainable,"[46] the bidder was relegated to pursuing the transaction through the electoral process. The *Unitrin* holding thus permits a target to require that an election, rather than the market, mediate a control contest. Moreover, if we are to take the "mathematically impossible or realistically unattainable" language seriously, target management remains free to raise significant barriers to a proxy contest. Although target management cannot with certainty prevent a proxy fight from succeeding and thereby eliminate *any* incentive to undertake one, management can significantly reduce the likelihood of success. This is a serious concern, especially because, as Parts III and IV have shown, proxy contests can function poorly even when target management respects the process. How, then, can the Delaware Supreme Court get out of the mess it made in *Unitrin*, without having simply to announce it was wrong, a strategy that *QVC* demonstrates is not attractive to them?[47]

While there is room for the Supreme Court to reevaluate its position in

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46   651 A.2d 1361, 1388-89 (Del. 1995).

47   In *Paramount Communications, Inc. v. QVC Network, Inc.*, 637 A.2d 34 (Del. 1994), the Supreme Court rejected its own formulation of the *Revlon* trigger set out in *Time* in favor of the change of control test formulated by the Chancery Court in the same case. When confronted by counsel's claim that Paramount had complied with the Supreme Court's *Revlon* standard, the Court responded by stating that "[t]he Paramount defendants have misread the holding of *Time-Warner*. ... The Paramount defendants' argument totally ignores the phrase 'without excluding other

light of doctrinal ambiguity in the *Unitrin* opinion,[48] the more promising approach reflects comic Mel Brook's advice when confronted with the need to respond to someone else's embarrassing public behavior: "Be oblique."[49] Central to *Unitrin*'s favoring a control shift though an election rather than the market is the capacity of a poison pill to preclude a tender offer and the capacity of target management to adopt a pill without shareholder approval. Delaware's sympathetic treatment of the pill in *Household International*[50] was understandably a product of the unique circumstances of the early 1980s—a wave of hostile takeovers that reasonable people honestly, if incorrectly, believed threatened the economy and the inaction of other institutions, which left the Delaware courts as the only policy maker that had to confront the issue.[51] Because shareholders could not be counted on to approve a pill, adoption was left to management.

The crisis of the 1980s is past, and large institutional shareholders routinely approve pills that are not preclusive. In this calmer time, shareholder adopted bylaws provide the opportunity to shrink the influence of the pill and, therefore, the effectiveness of the means through which the preference for elections over markets operates. Equally important, given the Delaware Supreme Court's sensitivity to acknowledging a mistake, this can be accomplished without directly confronting the line of cases growing out of *Household International*.

The issue of the validity of shareholder-adopted bylaws that repeal an existing poison pill is now working its way through the Delaware courts. Many thoughtful Delaware lawyers take the position that such bylaws violate section 141(a)'s[52] grant of managerial power to the board of directors, especially after the Delaware Supreme Court in *Mentor Graphics*[53] used that

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possibilities.'" *Id.* at 48. It would have been much more straightforward for the court to have acknowledged that it had changed its mind.

48 Vice-Chancellor Strine recently commented with refreshing candor that,

Delaware's doctrinal approach [to defensive tactics] is premised on the assumption that the world can be viewed clearly by simultaneously wearing three pairs of eye glasses with different prescriptions (*Unocal*, business judgment, and entire fairness). It is not apparent that this approach works any better in the law than it does in the field of optics.

In re Gaylord Container Corp. Shareholders Litig., 753 A.2d 462, 476 n.46 (Del. Ch. 2000).

49 Mel Brooks & Carl Reiner, The Two Thousand and Thirteen Year Old Man (1960).

50 Moran v. Household Int'l, Inc., 500 A.2d 1346 (Del. 1985).

51 Gilson, *supra* note 5.

52 Del. Code Ann. tit. 8, § 141(2) (Supp. 1996).

53 Mentor Graphics Corp. v. Quickturn Design Sys., 728 A.2d 25 (Del. Ch. 1998).

argument to avoid confronting the validity of a dead hand or slow hand pill under *Unocal*. However, section 141(a)'s grant of authority is qualified by the phrase "except as otherwise permitted in this chapter or in the certificate of incorporation." Section 109(b)—obviously "in this chapter"—authorizes shareholders to adopt bylaws containing "any provision, not inconsistent with law or with the certificate of incorporation, relating to the business of the corporation, the conduct of its affairs, and the rights and powers of its stockholders, directors, officers, or employees."

To the doctrinalist, section 141(a)'s broad grant of authority to the directors by referring to the "business and affairs of the corporation," juxtaposed with section 109(b)'s equally broad grant of authority to shareholders to adopt bylaws concerning "the business of the corporation [and] the conduct of its affairs," makes relevant the Delaware doctrine of "equal dignity" or "independent legal significance."[54] This doctrine, which invites corporate planners to choose among statutory alternatives for dealing with precisely the same functional activity, is the very embodiment of Delaware's enabling approach to corporate law.

Allowing shareholders to redeem poison pills or replace them with less expansive versions by means of a bylaw provides a means for Delaware courts to retreat with dignity from the extreme position to which they were driven by the turmoil of the 1980s. To be sure, section 109(b) was not initially intended for this function, but *Household International* itself provides the response. Responding to the same objection with respect to its broad reading of section 157 the Supreme Court quoted *Unocal*:

> Our corporate law is not static. It must grow and develop in response to, indeed in anticipation of, evolving concepts and needs. Merely because the General Corporation Law is silent as to a specific matter does not mean that it is prohibited.[55]

While the shareholder bylaw route still leaves the balance between shareholders and management tipped toward management—absent *Household International*, it would be better to require the directors to seek approval to impose a pill in the first instance rather than to require the shareholders to seek repeal because of our rules for who bears the cost

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54 *See* Jeffrey Gordon, *"Just Say Never?" Poison Pills, Deadhand Pills, and Shareholder-Adopted Bylaws: An Essay for Warren Buffett*, 19 Cardozo L. Rev. 511 (1997).

55 500 A.2d 1346, 1351 (Del. 1985) (*citing* 493 A.2d 946, 957 (Del. 1985)).

of proxy initiatives—it does allow shareholders to rebalance the preference among mechanisms for the transfer of control.

This odd strategy has some of the characteristics of a Rube Goldberg machine. The strategy reflects elements of doctrinal elegance in deploying Delaware's strongly held but unpredictably applied penchant for formalism reflected in both the equal dignity doctrine and *Mentor Graphics*, but it is less than a complete fix. The need to operate through a shareholder-adopted bylaw implicates the very electoral mechanism whose difficulties we have begun to explore above. Also, the strategy hardly commends itself to corporate governance systems considering the issue that lack Delaware's peculiar history. Therefore, other countries that must choose between elections and markets as mechanisms for the transfer of corporate control would be well advised to deal with the issue directly in a statute rather than obliquely. Because the case for elections seemingly cannot overcome a sensibly grounded presumption in favor of markets, we now believe that any statute should require pills to receive shareholder approval before becoming operative.

The amended proposed European Union Thirteenth Directive on Company Law Concerning Takeover Bids[56] illustrates this more thoughtful approach. Two elements of the proposed directive are relevant here. Article 3(c) states the general principle: "[T]he board of an offeree company ... must not deny the holders of securities the opportunity to decide on the merits of the offer." Article 8 prevents this principle from being given a *Unitrin*-like spin, according to which the holders may be forced to decide on the merits of the offer through a proxy fight. Rather, under Article 8(a), the offeree company "should abstain from completing any action other than seeking alternative bids which may result in the frustration of the offer ... unless it has the prior authorization of the general meeting of the shareholders given for this purpose ... ." The brevity of this language would have given European Member States significant flexibility in the framing of implementing legislation and also would have given European takeover lawyers the ambiguity out of which to draw courts into an important role in the resolution of takeover contests. The animating principle of the proposed Thirteenth Directive nonetheless was apparent, however: markets are preferred to elections as mechanisms to mediate the transfer of corporate control. Unfortunately, the proposed directive, the result of the conciliation process between the European Parliament, the Commission, and the Council

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56 Commission Proposal for a Thirteenth Directive on Company Law Concerning Takeovers, 1990 O.J. (C 38) 41, 44.

of Ministers, was rejected in early July of this year by an equally divided
European Parliament, with the virtually unanimous opposition of the German
delegation driving the result. The German change of heart was said to result
from the successful hostile takeover of Mannesmann by Vodaphone, a
British company.[57] We are thus reminded that the object of our study is, in the
end, a matter not just of economics, but also of political economy.

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57 *Company Law: Parliament No Vote Shreds Takeover Directive*, Eur. Rep., July 6,
    2001; *Business MEPS Miss Vote to Reform Company Law*, Irish Indep., July 6,
    2001.