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“Corporate Voting vs. Market Price Setting”

Yair Listokin

Associate Professor of Law
Yale Law School

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Yair Listokin*

Yale Law School

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Abstract

This paper examines the relation between two means of information aggregation for corporations-- corporate voting and stock market pricing. If the median voter and the price-setting shareholder share similar information sets, then the outcome of close proxy contests should not have a systematic effect on stock prices. The paper shows, however, that close dissident victories are associated with significant positive movements in stock prices, while close management victories are associated with negative stock price effects. The median voter values management control more highly than the price-setting shareholder. This suggests that voting and market pricing aggregate information in very different ways, with important implications for the role of voting and market pricing in corporate law and finance.

* Yair Listokin, Associate Professor of Law, Yale Law School, P.O. Box 208215, New Haven, CT 06520-8215, tel: (203)-436-2567, fax: 203-4324570, email:yair.listokin@yale.edu

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I. Introduction

Corporations have two primary means of aggregating dispersed information and making decisions—voting and price setting. When shareholders vote on a merger or in a contested director election (two examples of “proxy fights”), they aggregate diffuse opinions through voting; the corporation pursues the outcome favored by the holders of a majority of shares. Given the power of the vote, it is no surprise that Delaware courts describe corporate voting as “fundamental”. Corporations also receive feedback from diffuse investors through stock prices. When price-setting shareholders support a company’s actions, the price of the company will rise. Indeed, the market’s ability to aggregate diffuse information into prices forms the basis for all event studies.

Critics of corporate voting argue that it is a deeply flawed aggregation and decision-making mechanism. The critics say that voting is expensive, unduly favors management, and fails to generate efficient outcomes. Majority voting privileges the median shareholder’s opinion over the opinion of other shareholders. Market pricing also has its detractors, with critics arguing that the market focuses on short term outcomes to an excessive degree, thereby inducing equivalent “short-termism” in managers.

This paper evaluates these two information aggregation mechanisms from an empirical perspective. More specifically, I estimate how the price-setting shareholder perceives the decisions of the median voter in a corporate election. I do this by examining stock market responses to the announcement of the outcomes in close votes. The stock market response to close votes has two desirable attributes for measuring the price setting market participant’s view of the median voter’s opinion. First, the outcome of close votes

is uncertain. The announcement of a vote outcome provides information to the marginal shareholders by resolving this uncertainty. I can evaluate the price setting shareholder's view of the information by observing the stock market response to the information.

Second, close votes suggest that the median shareholder/voter is nearly indifferent between the two voting options in a proxy contest. The median voter in a proxy contest is the shareholder in the exact middle of a ranking of voters along the dimension of preference for one side (e.g. "existing management") in a proxy contest. If shareholders vote for management so long as they prefer management and the vote is a perfect tie, then the median voter is exactly indifferent between management and "dissidents". If the vote is not a perfect tie but closely favors existing management, then the median voter slightly prefers the winning option, but is relatively "close" to indifference.

The market response to close votes in proxy voting contests is striking (see Figure 6). In close elections—when the median voter should be close to indifferent regarding either outcome-- the price setting shareholder is far from indifferent. Stock price responds systematically to the announcement of vote outcomes. When management wins a close election, market value declines; when a dissident wins, the value goes up.

I conclude that the price-setting shareholder places lower value upon management control of companies than the median voter. I then examine the implications of this finding for corporate voting and market pricing. I argue that the results either indicate a systematic management advantage in the voting process or a serious flaw in the underpinnings of corporate voting or market pricing. If price-setting shareholders provide a reasonably accurate gauge of value (a proposition that underlies every event

study) and value maximization is the goal of corporate law (as most assume)—then the results suggest the need for serious corporate voting reforms.

This paper proceeds as follows. Section 2 discusses existing studies of proxy contests. Section 3 develops a framework for analyzing stock market responses to voting outcomes. Section 4 presents the data and Section 5 empirically examines the stock market response to proxy voting outcomes. Section 6 examines the implications of these findings for debates regarding corporate voting and stock market pricing and concludes.

II. Empirical Studies of Proxy Contests

The impacts of proxy contests on corporate direction and value have been investigated from several perspectives. Pound (1988) examines the probability of winning proxy contests as a function of a number of firm characteristics. For example, widely dispersed shareholders should impede dissidents from mounting and winning proxy contests because dispersion increases the costs of campaigning—costs that are not reimbursed to dissidents whenever dissidents fail to win the contest. Pound’s data supports this hypothesis; dissident victory rates decline as ownership dispersion rises. Unfortunately, many of the characteristics examined by Pound are endogenous to the probability of winning, casting doubt on Pound’s conclusions. For example, shareholder ownership may be more dispersed in firms that are less likely to benefit from dissident proxy victories. In this case, dissidents will be less likely to win proxy contests with dispersed share ownership, even if management enjoys no vote-getting advantage.

Other studies (Dodd and Warner 1983, D’Angelo and D’Angelo 1989, Ikenberry and Lakonishok 1993, and Mulherin and Poulsen 1998, Brav, et al 2007) evaluate the stock market responses to proxy contest announcements or the involvement of an activist

shareholder (such as hedge funds), finding generally positive effects. Proxy contest announcements, however, may affect value in many ways, such as forcing management to change policies or signaling to the market that informed market participants believe that a firm has potential. As a result, these studies do not provide (nor do they aim to provide) information about the relationship between the information aggregation via corporate voting relative to information aggregation via market pricing. Similarly, Kamar's (2006) examination of voting on mergers and acquisitions provides evidence on the degree to which companies avoid holding votes. Kamar's study tells little about the relation between value maximization and voting outcomes because management may prefer to avoid proxy votes even though management enjoys systematic advantages in the voting process.

Alexander et al. 2007 focus on stock market responses to the announcement of proxy advisor recommendations. They find that a dissident recommendation from ISS—the largest proxy advisor—is associated with a statistically significant increase in market price. While the result is an important one, it again tells little about the relationship between voting and price-setting. When a proxy advisor issues a recommendation, the market receives many pieces of information, including information about the probability of each side winning as well as information about the desirability of each side. A dissident recommendation, for example, “certifies” a dissident as credible. In response, the price setting market participants may respond positively even if they believe that the company has greater value in the hands of management; the “downside” of a dissident victory in the minds of the market participants is improved by the certification. Therefore, stock market responses to proxy announcements or proxy vote

recommendations are not informative about the relationship between the median shareholder/voter and price setting shareholder.

This paper applies a different methodology—a regression discontinuity design—to evaluate the impact of vote outcomes on abnormal returns.¹ As explained below, the regression discontinuity design addresses many of the critiques of the event study methodology employed by the previous papers.

III. Median Voters and Price Setting Shareholders

As the previous section demonstrated, endogeneity concerns, baseline problems, and data limitations hinder tests of the congruence between voting (and in particular the median voter) and stock market price setting. By combining empirical methodologies, this section attempts to derive such a test.

A. Close Votes and the Median Shareholder Voter

First, each shareholder/voter, j of a large pool of shares J , with rights to vote in a proxy contest receive a signal about the value of the company under incumbent and dissident control, denoted by V_I^j and V_D^j .² Let $\Delta^j = V_D^j - V_I^j$. Assume that a shareholder/voter votes for a dissident if and only if $\Delta^j \geq 0$. The median voter, $m \in J$ is

¹ Regression discontinuity designs have been applied in finance papers in recent years, e.g., Rauh (2006), Roberts and Chava (2007), but they have not been applied to the problem of cross sectional abnormal return regressions such as those described by MacKinlay (2007)

² Each shareholder may derive these values independently (according to a personalized signal), as in the “Condorcet” voting model, (Young 1993) or these values may be calculated strategically—each voter may calculate what these values are assuming that they are the decisive vote (Fedderssen and Pesendorfer 1997, Gilson and Schwartz 2002).

the shareholder/voter for whom $\#\{j \in J : \Delta^j \geq \Delta^m\} \geq \frac{J}{2}$ and $\#\{j \in J : \Delta^m \geq \Delta^j\} \geq \frac{J}{2}$.³

This implies that a tie vote means that $\Delta^m \approx 0$; if the median voter prefers incumbents to dissidents, then the median voter, as well as some shareholder voters with $\Delta^j \leq \Delta^m$ will vote for the incumbents. When this occurs, the assumption that the vote is a tie is contradicted. A symmetric argument applies if the median voter prefers the dissident to the incumbent. Thus, the median voter must be nearly indifferent when the vote is a tie⁴.

When the number of shareholders is large and the variance of Δ^j is limited, then the median voter will have only a slight preference for one side or the other whenever the vote is nearly a tie.

B. Close Votes and Market Responses

Assume that there is some set of market participants (“price setting shareholders”) who set prices.⁵ Let V_I^{ps} be the price setting shareholder’s valuation of the corporation with an incumbent management victory and let V_D^{ps} be the value of the corporation when there is a dissident victory.⁶ Suppose that the price setting shareholder estimates the

³ The median voter’s vote is decisive in a majority voting system. Hence, this paper examines the efficacy of “corporate voting” by focusing on the median shareholder/voter’s preferences.

⁴ This argument shows that the median voter is the closest to indifferent. If valuation ranges have limited variance and the number of shareholders is large, then the median voter’s preference will be extremely close to zero.

⁵ If stock demand is perfectly horizontal, then all shareholders set the price, which equals the present discounted value of earnings of the company. If all participants share common beliefs, however, then this begs the question of why shareholder voting would be split. Consequently, it appears more reasonable to assume differences in shareholder opinion (e.g. Harris and Raviv 1994). In the Harris and Raviv model (pages 482-83), one shareholder type constitutes the set of price setting (or marginal) shareholders. “Market pricing” tracks the opinions of this set of shareholders. Thus, evaluation of market pricing is closely related to tracking the preferences of price setting shareholder. For a similar model emphasizing the role of a price setting shareholder, see Alexander et al (2007).

⁶ More precisely, $V_I^{ps} = (V_I^{ps} | I \succ D)$ and $V_D^{ps} = (V_D^{ps} | D \succ I)$ where $A \succ B$ denotes that option A defeated B in a vote. This reflects the possibility that the price setting shareholder uses the vote totals and outcomes to update valuation beliefs about incumbents and dissidents, respectively.

probability of an incumbent management victory, α_I . The price set by the price setting shareholder(s) before the announcement of a vote is $P_{BV} = \alpha_I V_I^{ps} + (1 - \alpha_I) V_D^{ps}$ and the price after the announcement of an incumbent management victory is $P_{AV} = V_I^{ps}$ and after a dissident victory, the price is $P_{AV} = V_D^{ps}$. The market response to the announcement of an incumbent victory, ΔP_I is $P_{AV} - P_{BV} = (1 - \alpha_I)(V_I^{ps} - V_D^{ps})$ and the response to a dissident victory, $\Delta P_D = P_{AV} - P_{BV} = \alpha_I(V_D^{ps} - V_I^{ps})$.

C. Predictions

This analysis of median shareholder/voters and price setting shareholders yields several predictions. First, if the median voter and the price setting shareholder have the same valuations, then there should be no stock price response to the announcement of a tie vote. To see this, recall from Section IIIA that a tie vote implies that the median voter is nearly indifferent between management and incumbents, $V_D^m - V_I^m = \Delta^m \approx 0$. If the price setting shareholders have the same valuations of management and incumbents as the median shareholder, then $V_D^{ps} - V_I^{ps} = V_D^m - V_I^m = \Delta^m \approx 0$, so $\Delta P_D \approx 0$ and $\Delta P_I \approx 0$. Analogously, close votes – those that are near ties—should have relatively mild stock price responses when the median voter and the price-setting shareholder have similar or identical valuations.⁷

Now suppose that the valuations of the median voter have no relation to the valuations of the price-setting shareholder. Under these assumptions, the magnitude of

⁷ If the median voter and price setting shareholder have the same valuation and the price-setting shareholder knows this, then the price setting shareholder will know the outcome of the vote before it is announced. I therefore assume that price setting shareholders have some uncertainty about the valuation of the median voter.

the stock market response to a vote outcome depends upon the price setting shareholder's view of the likelihood of that outcome occurring. Thus, $\Delta P_D \propto \alpha_I$, the more the price-setting shareholder expects incumbents to win, the greater the stock price response to a dissident victory and the lower the response to an incumbent victory. If the set of close votes is related to the set of votes where $\alpha_I \approx .5$, then typical stock price responses to close votes should be larger than the responses to other votes because the announcement of the vote outcome yields a considerable amount of new information to the price setting shareholder regardless of the victor. Announcements of lopsided victories, by contrast, will only cause large stock price increases to the extent that the outcome was unexpected by the price setting shareholder.

These predictions will be empirically examined in the following Section.

IV. Proxy Voting Data and Summary Statistics

A. Data and Summary Statistics

Georgeson Shareholder's list of proxy contests in its Annual Corporate Governance Report from the years 2000 through 2006 constitutes the starting point for my data collection. For each proxy contest listed by Georgeson that was decided by vote,⁸ I collect voting data—the date of a vote as well as votes received by both management and dissidents-- from each company's public filings, most commonly a 10-Q or 8-K filing for the appropriate time period. This data was combined with stock market data from CRSP, supplemented by data from Yahoo! Finance for three stocks

⁸ A number of proxy contests climax in a settlement between the dissident and management. Because the outcome of these settlements is hard to characterize both practically and chronologically, these observations are excluded from the analysis.

traded on the pink sheets markets.⁹ The sample includes all companies in the Georgeson reports with available stock market data and voting data.

There are 97 contested proxy votes in the sample. 2001 witnessed the greatest number of votes (22), while 2005 had the fewest (7). Eight of the proxy votes concerned merger approvals and seventy four concerned director elections. The remaining fifteen contests concerned assorted topics such as confidential voting or the adoption of cumulative voting, with no issue the subject of more than 3 votes. Dissidents won 37 of the 97 proxy votes, for a success rate of 38%.

The average market value for the companies in the sample is approximately \$1.47 billion, while the median market value is \$130 million—the average is raised by the presence of several companies worth 10-20 billion dollars. The tenth percentile of market value is roughly \$30 million dollars.

Most proxy contests are competitive.¹⁰ Figure 1 presents a histogram of the percentage of votes received by management in the proxy contests.¹¹ Management receives an average of only 53% of the total vote in proxy contests and over half of the contests were decided by margins of under 20 percentage points. This competitiveness is not surprising; because dissidents must expend their own funds on proxy contests, it makes little sense to begin a proxy contest with little chance of winning.

⁹ Excluding the pink sheets stocks does not substantively affect the estimates presented below.

¹⁰ This starkly contrasts with votes on management sponsored proposals, which are overwhelmingly lopsided. See Listokin (2008).

¹¹ Figure 1 presents data about management's vote share. In proposals to be acquired by another company, however, management must receive more than 50% of shares outstanding rather than more than 50% of the votes cast in order to achieve victory. Thus, in some cases management loses even though it received more than 50% of the votes cast. Similarly, n directors are chosen by ballot by granting directorships to the n directors who receive the most votes. If there are many more than n candidates for director, then some directors may be elected who receive less than 50% of votes cast. In most proxy contests, however, there is a clear contest between two rival slates of directors, so the winning slate generally receives more than 50% of votes cast.

Figure 1 also relates to previous research on management's ability to succeed in close elections. (Listokin 2008). As in that paper, management wins very close elections (those decided by margins of no more than 5%) more often than management loses (18 wins in 26 chances). The limited number of observations, however, make it impossible to determine if this difference in win rates is statistically significant. The existence of a substantial number of dissident victories, however, means that some uncertainty is resolved by the announcement of voting outcomes.

B. Empirical Methodology

As developed in the theoretical section, the market response to close election outcomes yields important information about price setting shareholder's valuations of management control versus dissident control. Standard event study methodology, testing the stock market response of management victories and dissident victories, fails to provide a good estimate of the price setting shareholder's relative valuations of management vs. dissident for several reasons. First, event studies include, without control, different events that have different anticipated probabilities of occurrence. If some events are fully anticipated, then those events will show no stock price response, while unanticipated events will show a larger response (MacKinlay 1997). The magnitude of these responses has more to do with anticipations than with price setting shareholder's relative valuations. Second, including all "events" compares very different contexts, even if expectations of victory are the same for all events. The stock market response to a large management victory, for example, may tell us little about the counterfactual stock response of a management victory when there was in fact a dissident victory.

Instead of running a standard event study, I apply a regression discontinuity design (Imbens and Lemieux 2007). This constitutes a variant of the “cross sectional” abnormal return methodology (MacKinlay 1997), in much the same way as regression discontinuity generally constitutes a variant of standard cross sectional regressions. Standard regression discontinuity analysis seeks to uncover the causal effect of assigning a particular treatment (in this case, a dissident victory) on an outcome (in this case—firm value). The RD design assumes that expectations of victory and other company characteristics are similar on average for companies that receive similar levels of voting support.¹² For example, companies in which management receives 49.9% of the vote should be similar (in terms of both expected vote outcomes and company characteristics) to companies in which management receives 50.1% of the vote. While 49.9% companies may be similar in many dimensions to 50.1% companies, they differ in the treatment they receive. The 49.9% companies receive the dissident treatment while the 50.1% companies receive the management treatment.¹³ Regression discontinuity examines the changes in value for the two groups and asserts that differences in value are the causal effect of management control vs. dissident control.

Some evidence about the validity of the RD assumption is given in Figure 2. If companies that narrowly win and lose votes are relatively similar, the distribution of firm

¹² The RD design thus is not affected by correlation between firm characteristics and the degree of anticipation of an event, a concern for other variants of cross-sectional abnormal return methodology (Prabhala 1997).

¹³ The regression discontinuity design also mitigates “selection” concerns arising from the fact that companies that have votes on proxy contests are different from companies that settle proxy contests and very different from average companies. While there may be enormous differences between companies with contested proxy votes and other companies, the difference between companies that both have votes where management receives similar vote shares should be much smaller. The regression discontinuity design identifies the impact of control from small variations in votes received. It should be emphasized, however, that the results presented below constitute local average treatment effects (LATE) estimates for companies engaged in close proxy contests, rather than randomly selected companies (Imbens 2007).

characteristics between the two groups of companies should be similar. Figure 2 shows that companies that narrowly win and narrowly lose proxy votes are of similar size, have similar institutional ownership percentages, and have relatively similar insider ownership shares,¹⁴ with no systematic discontinuities evident at vote shares around .5.

Discontinuities around a vote share of .5 are also absent from non-continuous variables, such as the exchange on which companies are traded and their industry.

McCrary (2007) explains that manipulation of the “running variable” (in this case, management’s vote share) precludes simple causal inferences in regression discontinuity designs. Figure 1 demonstrates that manipulation of the vote share is a possibility as there are more close management victories than close dissident victories. As a result, the RD estimates presented below cannot be interpreted as providing a causal estimate of the impact of a dissident victory on value. Instead, the RD estimates should be interpreted as an estimate of the price setting shareholder’s relative valuation of management vs. dissident when the median voter is nearly indifferent between the two sides, regardless of whether or not the median voter’s opinion has been influenced in a non-random fashion.¹⁵

RD designs present results both graphically and analytically (Imbens and Lemieux 2007). The impact of management victory on the market price is estimated by

$$\tau = \lim_{v \rightarrow 50^+} E[Y | v = 50] - \lim_{v \rightarrow 50^-} E[Y | v = 50]$$

where v is management’s vote share and Y is the change in market value. These limits (and therefore τ) are estimated using a kernel regression design with an

¹⁴ One of the narrow management victories had an extremely high insider ownership share.

¹⁵ Because the median voter is decisive in corporate majority voting, the median voter’s indifference is relevant regardless of how that indifference is caused.

epanechnikov kernel approaching vote shares of 50. Separate kernel regressions are run when approaching a share of 50 from above and below (Imbens 2007).¹⁶ Standard errors for τ are estimated via bootstrapping.

Several methodological questions remain. First, the “event” date on which news of a proxy vote outcome is available to the market is ambiguous. The study uses the day of a vote as the event date. This may not be accurate. While most voting outcome announcements found in simple internet searching are announced on the day of the vote (the polls typically close in the morning of the day of the annual meeting), some votes are announced after the day of the vote. As a result, I use three day abnormal returns to capture events that are not incorporated into stock prices on the day of the vote. If the event windows do not capture proxy outcome news, the study is biased towards not finding any significant effects.

Second, different proxy issues are also likely to have different stock price responses. Proxy contests differ along several dimensions. First, acquisition approval generally requires a majority of total shares outstanding, while director elections and proxy contests concerning other issues require a simple majority of votes cast. Second, mergers and acquisitions are likely to have different consequences for corporate value. In a corporation with a staggered board, for example, a dissident proxy victory may not lead to significant changes in corporate value if the victory does not award control of the company to the dissident. Finally, other subjects of proxy votes, such votes on bylaw

¹⁶ The epanechnikov kernel weighting places greater weight on an observation the closer it is to 50. The weights go down in quadratic fashion as an observations vote share diverges from 50. Because the number of observations is limited, bandwidth sizes are larger than they would be if data were more plentiful. Smaller bandwidth sizes typically have almost no impact on point estimates, but raise standard errors. Bandwidth and kernel shapes for local regressions are included in all tables. Standard event studies can be viewed as a special case of regression discontinuities with infinite bandwidth and a rectangular kernel.

amendment, may have very different implications for corporate value than merger votes or director elections. As a result, I present several sets of results below, some combining outcomes for merger and director proxy contests and others separating the two categories.

V. Stock Price Responses to Proxy Voting Outcomes

Table 1 and Figure 3 present stock market responses to proxy voting outcomes about mergers and acquisitions. Merger proxy contests are likely to be the extremely significant for corporate value.

The results are striking. The dissident victories under study were not overwhelming victories; management received almost 50% of votes cast in these votes.¹⁷ Therefore the vote outcomes were likely both informative and controversial. The kernel regression estimates that a management victory leads to an 8.3% decrease in value, a result that is statistically significant at the 10% level in spite of the paucity of observations. Moreover, the result is not the artifact of one extreme case. The smallest positive abnormal return associated with a dissident victory was over 4%. Management victories, by contrast, are associated with zero to slightly negative abnormal returns.

Table 1 and Figure 4 present a similar but less pronounced story with respect to director election proxy contests. The regression discontinuity design estimates τ --the difference between management and dissident victories in the limit approaching 50%-- as approximately -6.0%, an estimate that is significant at the 10% level. Note that these results are not driven by the observations with management support between 30% and

¹⁷ Management lost the votes because they did not obtain a majority (or in one case a supermajority) of the votes of shares outstanding.

40% that have extremely high positive abnormal returns—the bandwidth size excludes these observations from the estimate of τ . Figure 4 presents further evidence that dissident victories are associated with increases (some of which are quite large) in stock market value while narrow management victories lead to decreases in value.

Table 1 and Figure 5 examine other issues that came to a vote subject to a proxy contest. This category is a hodgepodge of various bylaw amendment votes (on unspecified issues), votes on repricing underwater stock options, and votes regarding cumulative voting. Some of these issues could have large impacts on stock price, while others might be more symbolic. The regression discontinuity design estimates τ —the difference between management and dissident victories in the limit approaching 50% as approximately -3.5%. While the diversity of issues and scarcity of observations preclude confident conclusions (the results are not statistically significant), the results again indicate that price setting shareholder's view narrow management victories as bad for value.

Table 1 and Figure 6 combine all the issues in one specification. Because the management vote share variable is different depending on the vote (in some cases the denominator is the number of shares outstanding, in others the number of votes cast), this requires that the vote share variable be interpreted as a normalized measure relative to the appropriate standard. The regression discontinuity design provides an estimate of τ of -5.2%. This result is statistically significant at the 5% level. Moreover, it is quantitatively significant, suggesting that price setting shareholders place considerably higher value on dissident victories than on management victories. Figure 6 further demonstrates several extremely positive abnormal returns for dissident victories in the 35-45% management

vote share range, and some extremely negative abnormal returns in the 58-65% management share range. These observations are excluded from the estimate of τ because they are outside the bandwidth, but provide further support for the conclusion about price setting shareholder opinions.

Figures 7 and 8 demonstrate that (with one or two exceptions) the change in market values associated with close wins and close losses are generally not caused by large changes in the net positions held by institutions or insiders. In addition, the estimates of tau for these changes are statistically and economically significant for almost any choice of bandwidth. Institutional holdings of corporate shares generally rise regardless of whether management or dissidents win the vote. Insider holdings also stay relatively constant, although there are some cases of insider holdings rising considerably after a decisive dissident victory.¹⁸

VI. Implications and Conclusion

The theoretical framework developed in Section xxx demonstrated that close votes in contested proxy contests imply that the median shareholder/voter is nearly indifferent between management and dissident control. The empirical results of Section V, by contrast, demonstrated that the price setting shareholder is not indifferent between management and dissident control in close contests. Instead, price setting shareholders place higher value on dissident control than on management control. Thus, there appears to be sharp differences in rankings between median shareholders and price setting shareholders. Moreover, these differences are not random; the median shareholder values

¹⁸ One explanation for insider holdings rising after decisive management losses is that the identity of the insider has changed, perhaps because large shareholder have retaken direct control of a company from management.

management control more than the price-setting-shareholder values management control. Price-setting and shareholder voting are aggregating information very differently.

Why might this be? The results are consistent with, though they do not prove, several critiques of the corporate voting process. Critics of voting in proxy contests argue that management enjoys many advantages over dissidents including : (1) discretion over the timing of a vote (which is set by management); (2) relationships and contact information for shareholders (dissidents may have to sue to obtain a list of shareholders, while management has been in contact with shareholders for an extended period);(3) unlimited funds from corporate coffers for soliciting proxies (dissidents are only reimbursed for proxy expenses when they defeat management); and (4) the ability to use financial leverage to influence the vote of institutional shareholder (management may threaten to withhold business from financial institutions that vote against them). (Bebchuk 2007. pp. 688-693). Bebchuk adduces the small total number of dissident proxy campaigns as empirical evidence of management's systematic advantage, but critics (e.g. Macey 2007) correctly observe that Bebchuk has no baseline for the "correct" number of proxy fights. The evidence presented here, by contrast, offers information aggregation via stock market price-setting as a baseline for evaluating the efficacy of voting.

If management's campaign advantages alter the opinion of the median shareholder but have no (or less) impact on the price-setting shareholder, then the results observed here should follow. Suppose that the median shareholder and the price-setting shareholder originally share the same opinion, but that management's advantages are able to "move" the opinion of the median shareholder in favor of management. Thus, a very

close shareholder vote means that, absent campaign effects, the median shareholder preferred the dissident group. The price-setting shareholder, who by assumption is unmoved by campaign effects, therefore places greater value on dissident control than on management control whenever the median voter is indifferent. This explains why narrow dissident victories raise market value, while narrow management wins reduce value.¹⁹

If this interpretation of the data is correct, then several conclusions follow. Shareholder voting needs reform if its aim is to maximize shareholder value, which is voting's purpose according to Easterbrook and Fischel (1983). Reforms need to equilibrate proxy campaigns so that management cannot influence shareholder votes in a way that is irrelevant for market value. Several reforms, such as dissident proxy financing, shareholder access to the corporate ballot, and fixed election dates, will reduce some of management's unique campaign related advantages that may allow voting outcomes to diverge from value.

This interpretation of the results is plausible, but far from necessary. It assumes, as do all studies related to the event study methodology, that the market information aggregation mechanism (with price set by the "price setting shareholder") values companies accurately. This need not be the case. Instead corporate voting, using the median shareholder voter's information set to make decisions, may aggregate information more efficiently than the price setting mechanism. In this case, the price setting shareholder is wrong, and policymakers should consider reforms to improve the quality of information aggregation that occurs via price setting.

¹⁹ The results are also consistent with models of "insincere voting" in corporate law. That is, voting behavior that differs from an individual shareholder's private signal about the merits of management vs. dissidents. See, for example, Gilson and Schwartz (2001), Goshen (2001) and Feddersen and Pesendorfer (1997). While these models explain why shareholder voting may not aggregate information so as to maximize shareholder value, they cannot explain management's advantage relative to dissidents.

Whatever the interpretation, one conclusion is clear. Median shareholders and price setting shareholders exhibit disparate preferences for management control relative to dissident control of corporations subject to proxy contests. Voting and price setting are aggregating information in very different ways.

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Figure 1

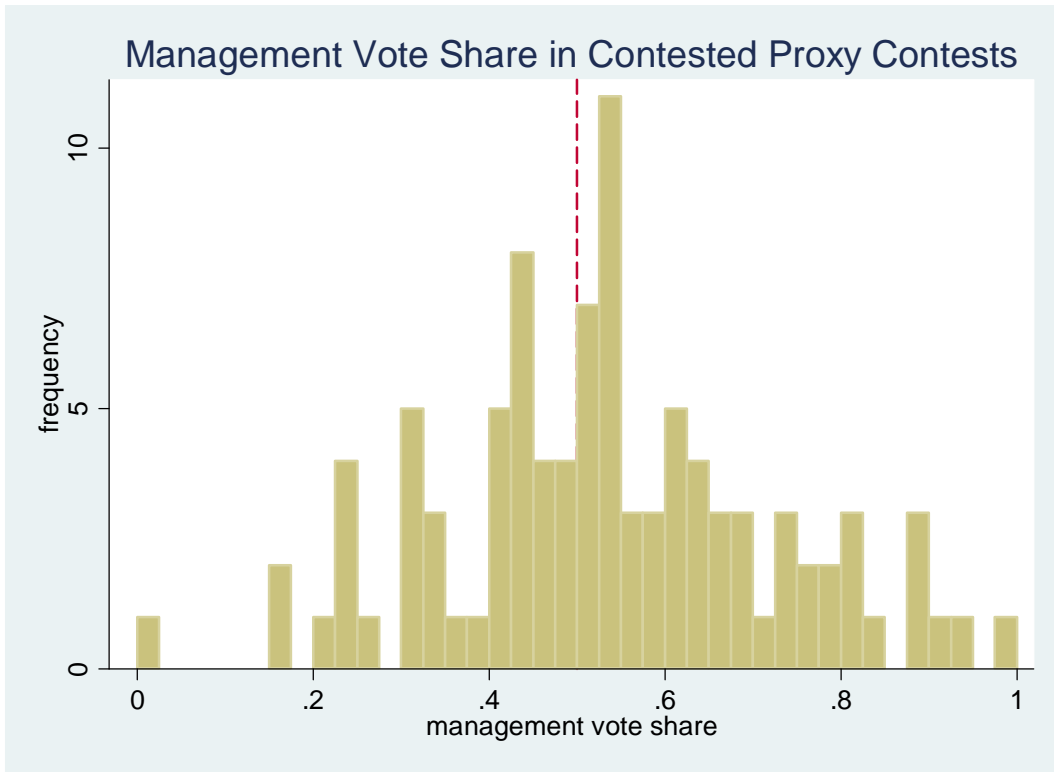


Figure 2a:

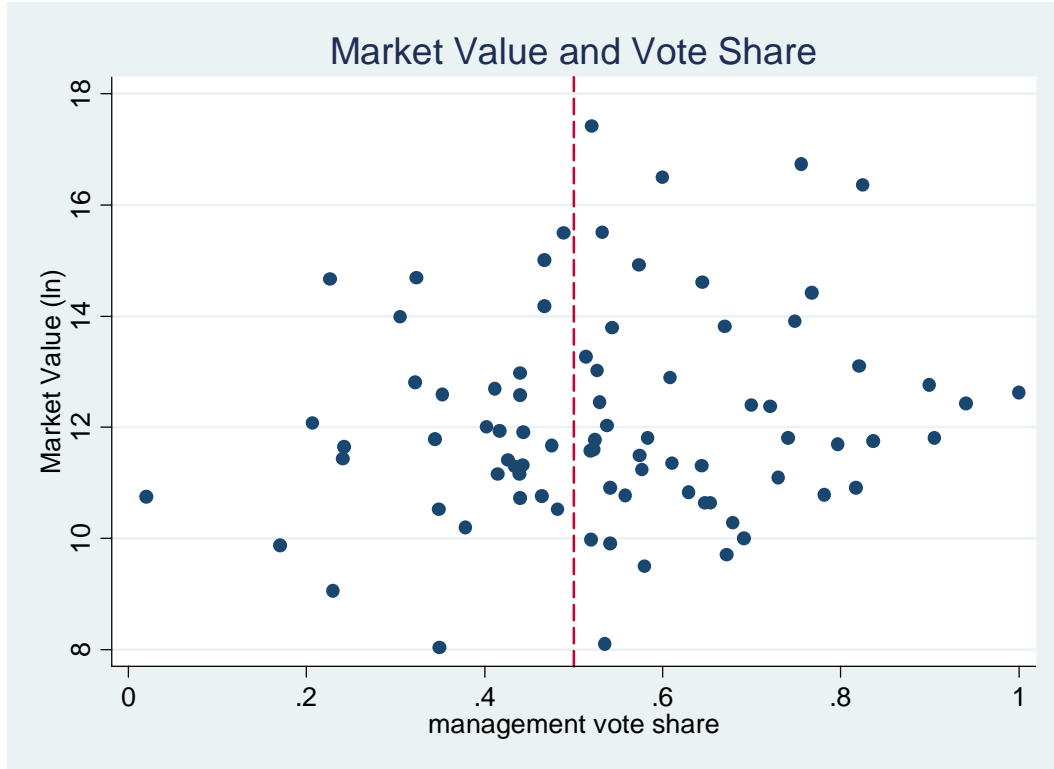


Figure 2b: Prevote Institutional Ownership and Management Vote Share

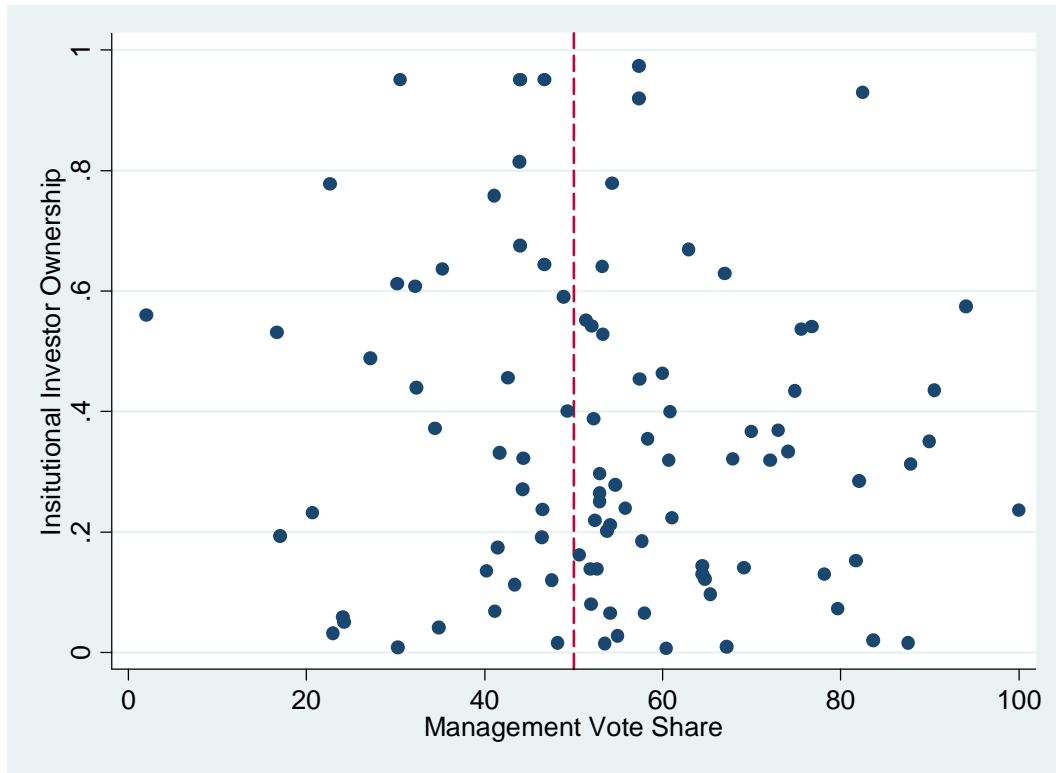


Figure 2c: Prevote Insider Ownership and Management Vote Share

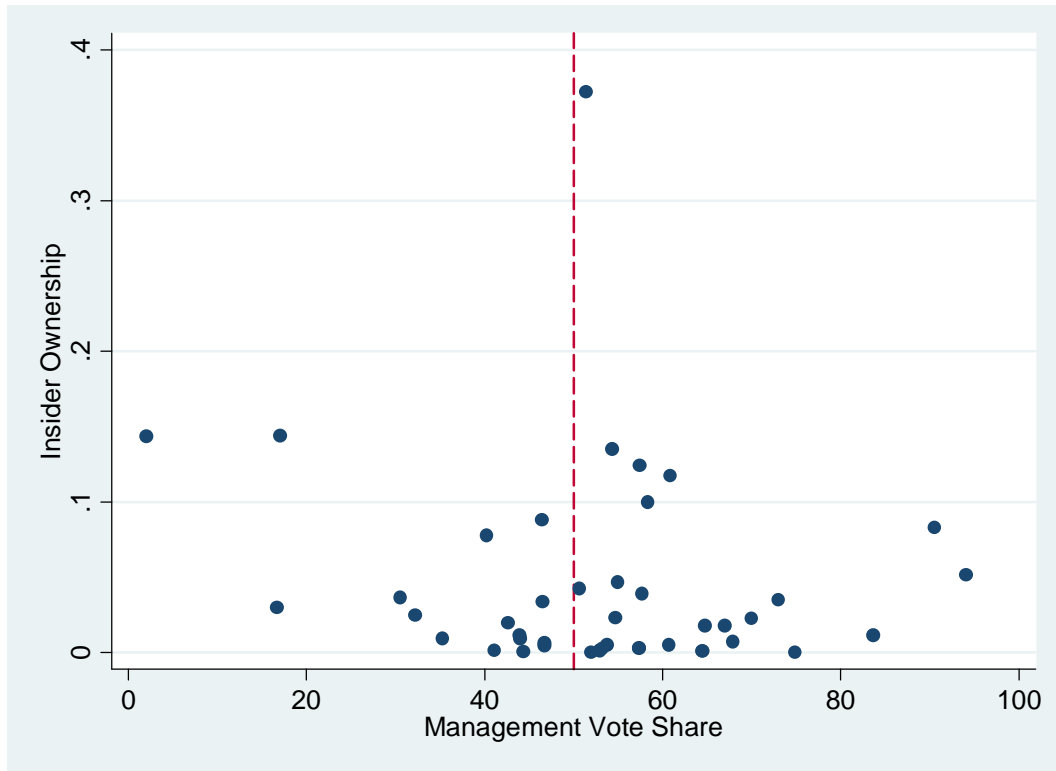
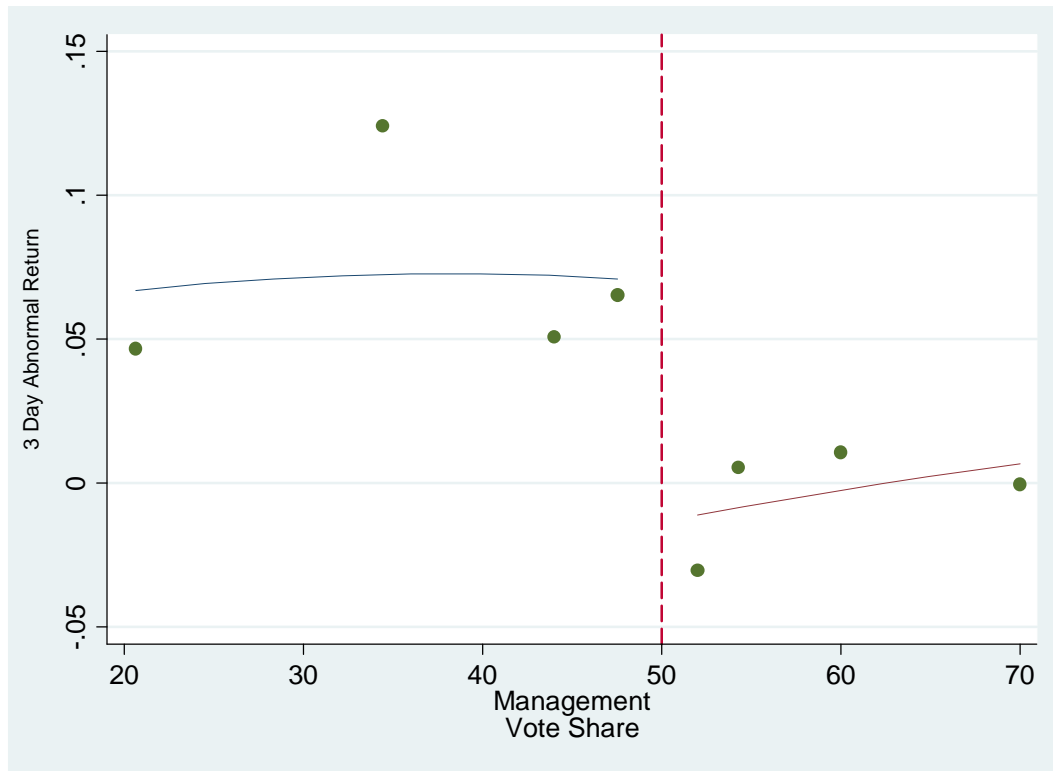
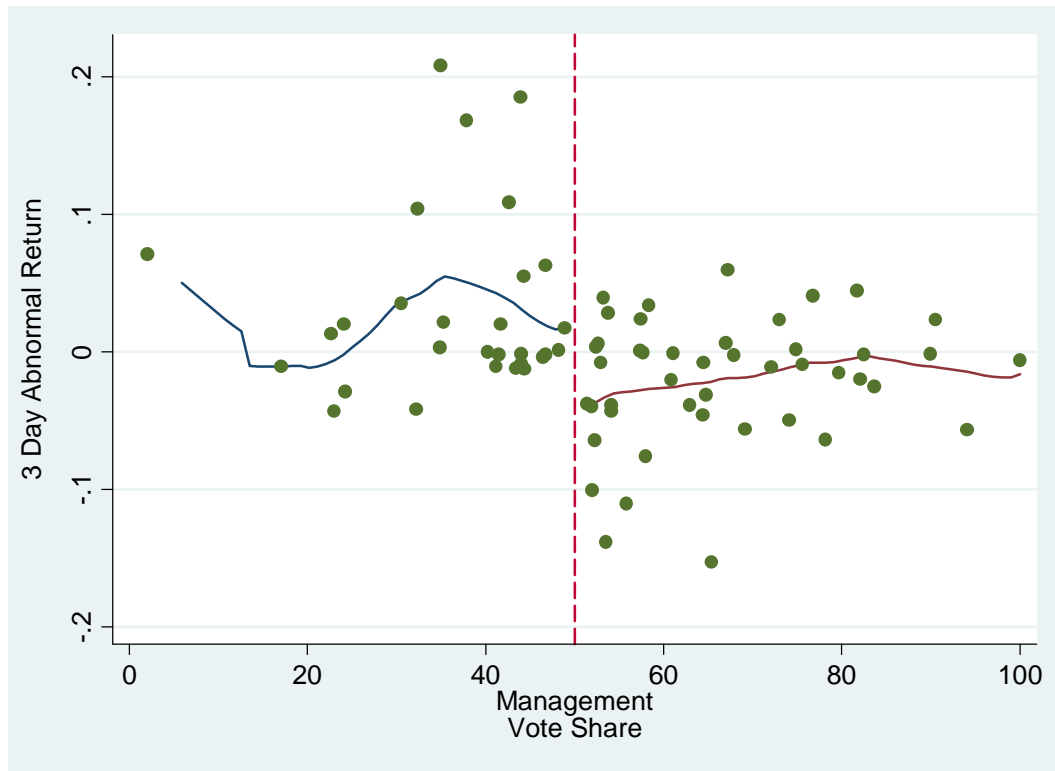


Figure 3: Stock Market Responses to Proxy Contest Outcomes Regarding Mergers



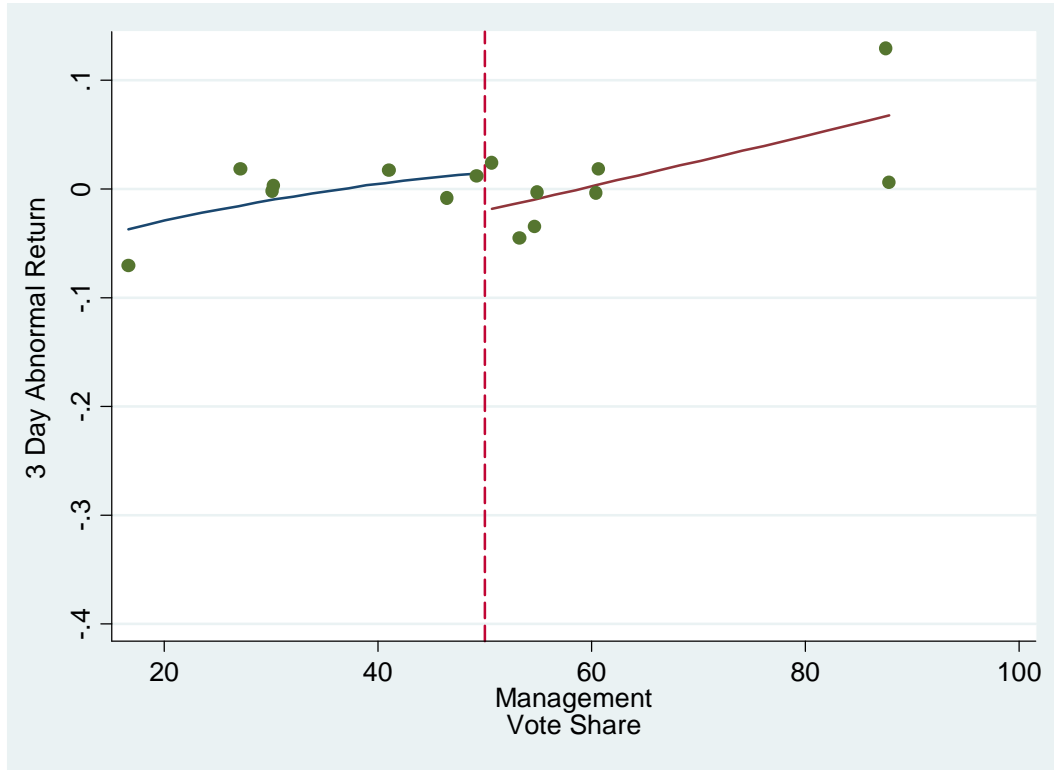
Note: Management vote share is calculated relative to the total shares outstanding when the vote concerns selling the company. If a proposal must receive a majority of shares outstanding to win, then the management vote share is calculated relative to the number of shares outstanding. The management vote share in these cases is therefore lower than it would be if it was calculated as a proportion of votes cast. Each scatter point represents a particular proxy vote and the subsequent abnormal return for the company's stock. Each line is a kernel regression using an Epanechnikov kernel and a bandwidth of 20.

Figure 4: Stock Market Responses to Proxy Contest Outcomes Regarding Director Elections



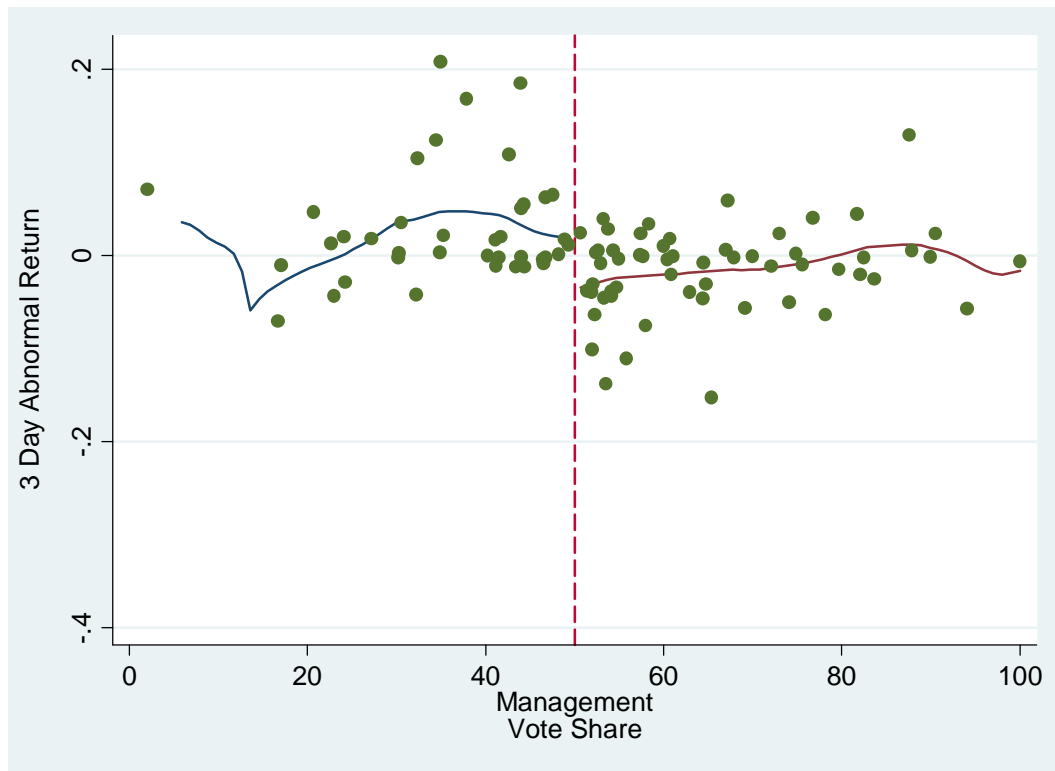
Note: Management vote share is calculated relative to votes cast. Each scatter point represents a particular director election and the subsequent abnormal return for the company's stock. Each "line" is constructed via a kernel regression using an Epanechnikov kernel and a bandwidth of 5.

Figure 5: Stock Market Responses to Proxy Contest Outcomes Regarding Bylaw Amendments and Other Issues



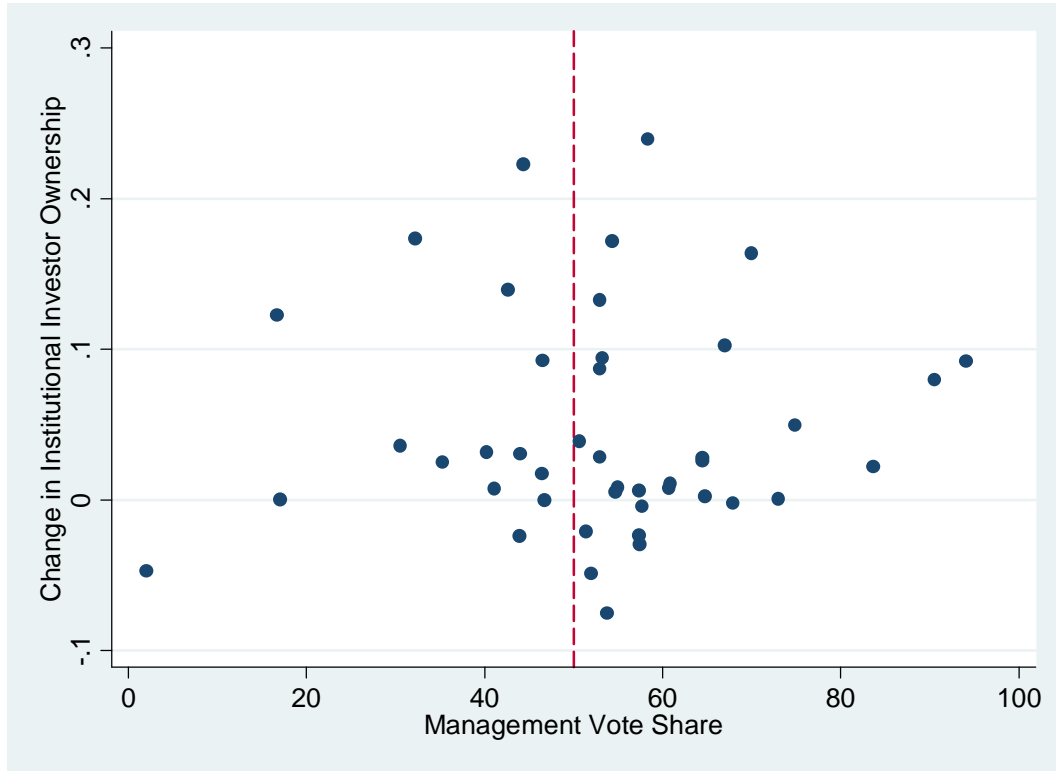
Note: Management vote share is calculated relative to votes cast. Each scatter point represents a particular director election and the subsequent abnormal return for the company's stock. Each "line" is constructed via a kernel regression using an Epanechnikov kernel and a bandwidth of 20.

Figure 6: Stock Market Responses to All Proxy Contest Outcomes Regarding Director Elections



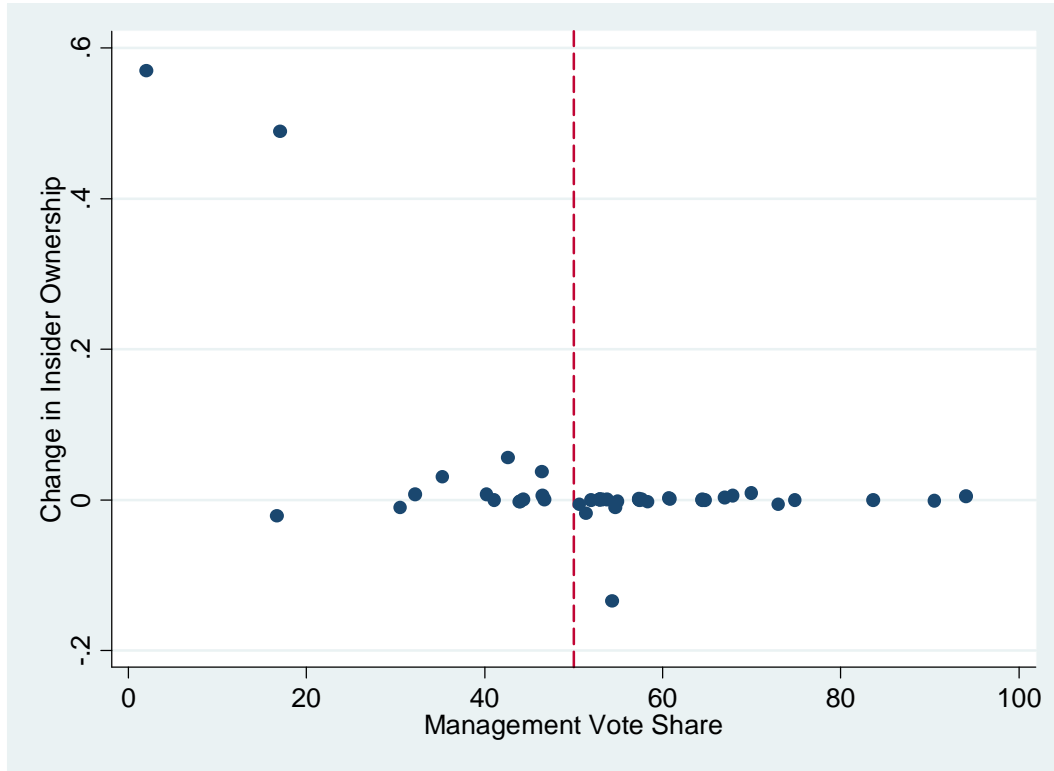
Note: Management vote share is calculated relative to votes cast. Each scatter point represents a particular director election and the subsequent abnormal return for the company's stock. Each "line" is constructed via a kernel regression using an Epanechnikov kernel and a bandwidth of 5.

Figure 7: Change in Institutional Ownership Share and Management Vote Shares



Note: The change in institutional investor ownership is calculated by subtracting the institutional ownership share in the quarter before the vote from the institutional ownership share in the quarter after the vote.

Figure 7: Change in Insider Ownership Share and Management Vote Share



Note: The change in insider ownership is calculated by subtracting the insider ownership share in the quarter before the vote from the insider ownership share in the quarter after the vote.

Table 1: Stock Price Responses to News of Proxy Contest Outcomes

	Merger Votes	Director Elections	Other Vote Types	All Vote Types
τ (limit of change in market value when management wins minus change in value when management loses)	-.083* (.047)	-.059* (.031)	-.035 (.056)	-.052** (.024)
Kernel	Epanechnikov	Epanechnikov	Epanechnikov	Epanechnikov
Bandwidth	20	5	20	5
Average Management Vote Share %	47.9	54.9	50.1	53.6
Number of Observations	8	74	15	97

Notes: RD estimates of differences in value between management and dissident victory as the vote share approaches 50%. The number of votes necessary to win each vote differs. Target votes on acquisition generally require supermajorities (e.g. two thirds of votes shares outstanding or majority of shares outstanding). Acquirer votes on acquisitions require a simple majority of votes cast. See, e.g. NYSE Listed Company Manual, Sections 312.03, 312.07. The All votes cast estimates use normalized vote shares where the vote share is compared to the number necessary for management to win. Bandwidths are chosen to balance bias vs. variance. The more observations, the smaller the bandwidth. See Deaton (1997) for details. Generally, smaller bandwidths have a small impact on the point estimates (leaving them unchanged or raising them slightly, but raise standard errors).