# Oracles of the Vote: Predicting the Outcomes of Proxy Contests*

Scott Hirst† Oğuzhan Karakaş‡ Ting Yu§

*Latest Version: January 2026*

**ABSTRACT**

This paper examines proxy contests and the value of shareholder voting rights (i.e., the voting premium) estimated using option prices. Using a sample of 1,074 proxy contests for board seats at U.S. publicly listed firms from 1994 to 2020, we find that voting premium helps predict the outcomes of those proxy contests. Specifically, increased voting premiums around campaign announcements are associated with a higher likelihood of the contest being subsequently settled or going to a vote, and a lower likelihood of the contest being withdrawn. Further, the likelihood of dissidents being elected if the contest goes to a vote increases with the voting premium around the record date.

**Keywords**: Proxy Contests, Market for Corporate Control, Voting Premium, Value of Voting Rights, Corporate Governance

**JEL classification**: G13, G30, G34, K22

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* We are grateful for helpful feedback from John Matsusaka, as well as seminar participants at Corporate Finance Webinar, CERF Webinar, FMA Consortium on Asset Management 2025, FMA Annual Meeting 2025, and New Zealand Finance Meeting. Karakaş gratefully acknowledges the financial support of the Cambridge Endowment for Research in Finance (CERF) and the J M Keynes Fellowship. Jonas Bahceci, Francis Figueroa, Garret Podolan, Harry Quinn, Jaclyn Rothenberg, and Ji Xi provided excellent research assistance. All errors are ours.

† Boston University School of Law, 765 Commonwealth Avenue, Boston, MA 02215, USA. Phone: +1 (617) 353 5753. Email: hirst@bu.edu.

‡ Centre for Endowment Asset Management, Cambridge Judge Business School, University of Cambridge, Trumpington Street, Cambridge CB2 1AG, UK. Phone: +44 (0)1223 766449. Email: o.karakas@jbs.cam.ac.uk.

§ Cambridge Judge Business School, University of Cambridge, Trumpington Street, Cambridge CB2 1AG, UK. Email: ty302@jbs.cam.ac.uk.

## 1 Introduction

What is the role of the value of shareholder votes during the proxy contests? Does the market predict the outcomes of proxy contests for board seats? In this paper, we seek to answer these questions, applying an options-based approach to calculate the market value of shareholder voting rights.

Most corporate elections are uncontested – the only directors eligible for election are those nominated by the incumbent directors, usually themselves. A proxy contest occurs when a "dissident" shareholder nominates their nominees for election to the board, who then compete with the "management nominees" put forward by the incumbent board. In many cases, the dissident withdraws their nominees, or the dissident and the directors settle, either agreeing to implement some of the requests of the dissident or appointing some dissident nominees to the board of directors, or both. If the dissident does not withdraw their nominees and a settlement is not reached, the contest goes to a vote of the shareholders. As part of this process, both the incumbents and the dissident will actively solicit "proxies" from shareholders.

Proxy contests for board seats can be categorized into those seeking a majority of the board ("control contests") and those seeking only a minority of the board ("non-control contests"). With the advent of the poison pill, proxy contests seeking board control became a critical element of a hostile takeover. Since that time, proxy contests seeking minority positions on boards have also become an important tool for hedge fund activists seeking to influence directors and executives (Fos (2017)).

Proxy contests for board seats can be understood as an application of the Priest-Klein hypothesis that postulates that litigation decisions will tend towards an even split between plaintiff and defendant victories (Priest and Klein (1984)).[1] For proxy contests, the key insight is that parties will generally avoid contests with obvious outcomes (i.e., clearly predictable wins or losses) through settlement or negotiations. As a consequence, the contests that do eventuate should typically reflect genuine uncertainty about the result and tend to be close contest (i.e., close to 50-50 outcomes in expectation).

[1] This hypothesis holds in a variety of cases as demonstrated by Lee and Klerman (2016).

Proxy contests are so named for the proxy, in the form of "proxy cards" distributed by both the incumbents and the dissident, which gives the soliciting party the right to vote on behalf of shareholder giving the proxy in the manner indicated on the card. In the period covered by our study, the proxy cards distributed by each party would give them the right to vote (on behalf of the shareholder) for some or all of the soliciting party's nominees.[2]

Proxy contests are generally considered to involve significant expense, both to the dissident and to the company. Gantchev (2013) estimates the cost of a proxy fight with the dissident to be $10.71 million. Rational dissidents can only be expected to outlay such significant expense if they expect the proxy contest to have some effect. Consistent with this theory, studies by Dodd and Warner (1983), Mulherin and Poulsen (1998), and Fos (2017) find positive and significant abnormal returns around proxy contests for target firms.

Early work regarding proxy contests raised the important question of the extent to which the share price increase observed around proxy contests relates to expected increases in the value of the firm. Dodd and Warner (1983) observe that a portion of share price increase around proxy contests is not permanent. They conjecture that these increases may not be associated with expected changes in the value of the company but instead be partially explained by a temporary change in the market value of the voting rights of shares, echoing an earlier suggestion by Manne (1962). Ghosh, Owers, and Rogers (1992) revisit this "value of the vote" hypothesis and find evidence consistent with increased demand for and value of votes during proxy contests.[3]

This paper sets out to examine the value of the vote hypothesis. We focus on how the value of the vote behaves around proxy contests, and whether it predicts the conduct or

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[2] After the period studied the rules governing proxy contests were modified to require "universal proxy cards" containing nominees from both parties, allowing shareholders to vote for a mix of both parties' nominees on either party's proxy card (Hirst (2018)).

[3] The value of vote is a function of the probability of going for a control contest and the expected benefits from the contest (Zingales (1995)). A contest can be expected to go to a vote where both the dissident and the incumbents expect to win the contest, as there will be no settlement or withdrawal. Proxy contests that are expected to go to a vote can therefore be expected to be more contentious, and consequently the voting premiums will be higher. When the incumbents face a credible threat of losing to the dissident, they can be expected to reach a settlement involving concessions, in order to avoid the (potential) adverse effects of losing the proxy contest (Chen et al. (2020)). In this case, the likelihood of the contest going to a vote is low, but the expected benefits of winning a contest could still be high. In contrast, if the dissident does not believe they have a significant likelihood of winning the contest, the probability of the contest going to a vote is close to zero. The dissident can be expected to withdraw the contest in order to avoid the substantial costs of conducting a proxy contest (Bhattacharya (1997)).

outcome of a proxy contest. Our sample consists of 1,074 proxy contests for board seats that occurred during the period 1994-2020 at "target" firms that were publicly listed on U.S. exchanges.[4] Of the 1,074 contests, 207 proxy contests (19%) were withdrawn by the dissidents before the annual or special meeting; 449 contests (42%) were settled between the incumbents and dissidents before the meeting date; and 418 contests (39%) "went the distance" to a vote.[5] We find a positive and significant share price performance around the proxy contest announcement in our sample, which is consistent with previous studies (Dodd and Warner (1983), Mulherin and Poulsen (1998), Fos (2017)).[6]

We take as our main measure the value of the vote, the "voting premium", the share price over the underlying value of the cash flow rights of a share. To isolate the voting premium, we use the method introduced by Kalay, Karakaş, and Pant (2014). They calculate the value of a synthetic stock constructed using options, which mimics the cash flow rights from a share of stock but does not incorporate any voting rights. They subtract the value of the synthetic stock from the actual stock price, which values both the voting rights and cash flow rights, and calculate the difference as the proportion of the stock price. We apply this method to calculate the voting premium of firms with proxy contests.

Of the 1,074 contests in our sample, 359 contests have options available. Based on our analysis of this subsample, we find a positive voting premium around the announcement date for proxy contests. Analyzing the proxy contests by their outcomes, we observe a higher voting premium for proxy contests that subsequently go to a vote, or are settled, compared to those that are withdrawn before the shareholder meeting. These findings suggest that a portion of positive stock market reaction around proxy contest announcements results from the change in the shareholder voting premium. Moreover, we find that the voting premium increases around the ex-vote date, and declines after the campaign end date, which reflects similar movements in the share price performance.

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[4] We restrict our sample to proxy contests for board seats since they are more contentious compared to "issue-only" contests, and can therefore be expected to involve larger voting premiums.

[5] Our sample is comparable with Brav et al. (2020), where 17% of proxy contests are withdrawn, 45% are settled, and 38% voted.

[6] To the best of our knowledge, our study is the first in the literature to observe that target firms with proxy contests that are subsequently withdrawn by the dissidents experience higher abnormal returns around the contest announcement date than contests that are settled or that go to a vote.

These results support the "value of the vote" hypothesis that shareholder voting premiums partially explain the share price performance around proxy contests.

We next conduct exploratory analysis to determine whether the outcomes of proxy contests are predictable from the behavior of the voting premium. Our findings suggest that it is possible to predict whether a proxy contest will subsequently be withdrawn (as opposed to being settled or going to a vote) from the voting premium around the campaign announcement date. For proxy contests that are later withdrawn by dissidents, we do not observe increase in the shareholder voting premium around the campaign announcement. In contrast, there is an increase in the voting premium around the campaign announcement for firms in contests that are subsequently settled or that go to a vote.

Applying the Priest-Klein hypothesis to proxy contests leads to the conjecture that the contests that go to a vote will be close contests. We examine whether the voting premium captures information beyond closeness, such as dissidents' strategic strength, investor coordination and resources, and/or dissidents' confidence in the outcome. For proxy contests that go to a vote, we find evidence that the voting premium can predict the level of success of the dissidents in the proxy contest from the shareholder voting premium around the record date.[7] Specifically, the proportion of board seats sought by the dissidents that they won increases in line with the shareholder voting premium around the record date. The significant result we observe indicates voting premium captures factors beyond anticipated closeness of the contest.

We further enhance our empirical analysis by controlling for *ex post* closeness based on the actual vote results for voted contests. The ex-post closeness measure helps to distinguish the actual result from the anticipated result, thus allowing us to test whether the voting premium captures strategic elements beyond closeness. We find that the interaction term of voting premium and closeness is significantly negative during the campaign end period. This indicates that the negative effect of rising voting premiums is more pronounced in closely contested elections, where marginal shifts in shareholder valuation exert greater influence. These results reinforce that voting premium captures strategic factors beyond closeness of the contest.

[7] "The 'record date' refers to the date on which the record holders of securities entitled to vote at the meeting is determined." Rule 14a-1(h), 17 CFR § 240.14a-1.

The aftermath analysis of proxy contest supports the view that proxy contests, especially those that dissidents win seats, serve as a credible threat to incumbent management, leading to higher likelihood of forced CEO turnover in the short-term and mid-term after contest. This reinforces the role of activist engagements as a governance mechanism that disciplines underperforming executives. For proxy contests with voting premium data available, those with higher proportional dissident success are more likely to produce immediate governance changes. The concentration of forced CEO turnover effects in the short-term window post-contest, combined with the elevated impact of hedge fund activism, points to a more assertive and decisive form of shareholder intervention in these cases.

Our paper contributes to the corporate governance literature on proxy contests in two main ways. First, our paper is the first to systematically analyze the voting premium around proxy contests, the events where voting premium can be expected to be most substantial. Our findings provide initial evidence suggesting that the shareholder voting premium can explain the share price performance around proxy contests. It also supports the hypothesis that the value of voting rights is a meaningful component of target firms' stock price reactions around proxy contests, separate from any anticipated cash-flow effects on the target firms. Second, this is the first paper to predict the outcomes of proxy contests, based on the behavior of the voting premium. This finding holds important implications for proxy contests since dissidents, incumbents, and other market participants could benefit from observing the market reaction on campaign announcement to re-assess their strategy and tactics during proxy contests.

The remainder of the paper is structured as follows: Section 2 outlines institutional details regarding proxy contests and other literature related to our study and sets out our empirical predictions. Section 3 introduces our data, describes our sample, and provides summary statistics. The methodology and empirical results are presented in Section 4. Section 5 examines the aftermath of proxy contests. Section 6 discusses the interpretations of the empirical results. Section 7 presents our conclusions.

## 2 Institutional Details and Empirical Predictions

### 2.1 How Do Proxy Contests Work?

The board of directors serves to appoint executives, to advise them, and to monitor their decision-making. When the shareholders are dissatisfied with incumbent directors' decisions or believe that the firm is being poorly managed, one option available to them is to seek to replace executives and/or directors through a proxy contest.[8] The public firms that are the targets of proxy contests vary widely in their size and past performance. However, previous research has demonstrated that firms that are undervalued or have poor share price performance are more likely to be targeted (Duvall and Austin (1965), Fos (2017)).[9]

During the period we consider, proxy contests were most commonly associated with shareholder activism.[10] As part of an activism campaign, the activist generally selects a potential target company and acquires a stake in that company. If the stake is more than 5% of the target firm, the activist must disclose it to the SEC on Schedule 13D. After acquiring a stake in the company, the activist generally engages in correspondence or discussions with the target company seeking changes in the company's strategy, operations, management, and/or governance. If the activist regards the engagement as unsuccessful, they may commence a proxy contest.

A proxy contest is commenced when the "dissident" shareholder informs the company that they are nominating directors for election at a subsequent shareholder meeting. However, the nomination does not mean that the proxy contest will necessarily go to a vote.[11] The dissident is entitled to withdraw its nominations at any time before the annual meeting.[12] In the meantime, the incumbents and dissidents may engage in dialogue. In some contests, the parties will settle before filing and distributing their proxy statement

[8] Proxy contests are governed by the general corporation laws of the company's state of incorporation, and by the federal proxy rules, which specify the information required to be disclosed by the parties soliciting proxies.

[9] Pound (1988) questions the efficiency of proxy contests, arguing that (i) proxy vote solicitation favors management, due to inefficiencies in the system, (ii) institutional investors may support management, due to conflict-of-interest, and (iii) dissidents may have to incur costs to signal that their bids are not 'crank' bids.

[10] In earlier periods proxy contests were mainly associated with attempts by third parties to acquire control of the target companies.

[11] It is not required for the dissidents to disclose their nominations and/or proposals publicly, and the incumbents have no obligation to announce the receipt of nominations and/or proposals to the public prior to filing the proxy statement.

[12] The dissidents seldom give a formal reason for the withdrawal. But it can be presumed that the dissidents withdraw proxy solicitations when their chance of winning the contest is low (Chen et al. (2020)). Brav et al. (2020) also confirm this proposition by studying the early votes of mutual funds.

to investors.[13] If there is no settlement or withdrawal, the dissidents and incumbents solicit proxy votes from shareholders, which requires the dissident and incumbents to file and distribute to shareholders their preliminary proxy statement (labeled PREC14A) and a definitive proxy statement (labeled DEFC14A) and vote at the annual or special meeting.[14] Appendix A highlights three proxy contests with outcomes of withdrawal, settlement, and shareholder voting, respectively.

In most proxy contests, the dissidents and incumbents undertake vigorous communications with investors seeking to win their proxies.[15] The term "solicitation" includes any request for a proxy from shareholders. All public communications that relate to a solicitation are required to be filed with the SEC.[16] The solicitation of proxies normally begins several months before the annual or special meeting. The record date determines the shares that are eligible to vote at the meeting – the shareholders as of the record date are entitled to sign and return a form of proxy (referred to as "proxy card" as the printed versions distributed to shareholders have traditionally been printed on card stock, though they are now generally submitted electronically). Separate proxy cards are distributed by each party. Each party employs a proxy solicitor that solicits, receives, and tracks completed proxies. Proxies give the recipient the right to vote on behalf of the shareholder at the meeting of shareholders.

The company is required to disclose the results of the election, and in many contests, there is a formal or informal announcement of the results at or shortly after the meeting. The nominees that are elected are the n nominees that receive the most votes, where n is

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[13] The incumbents choose to make concessions to the dissident group when facing credible threats (Chen et al. (2020) and Bebchuk et al. (2020)). Settled contests allow incumbents to avoid potential losses from losing a proxy contest (Huang and Yen (1996)). Bebchuk et al. (2020) also show that settlements are more likely when incumbents' reputation concerns are severer. Also, the dissident could avoid the costs of initiating a proxy contest (Bhattacharya (1997)).

[14] PREC14A and DEFC14A are the labels assigned in the SEC's EDGAR database to preliminary and definitive proxy statements for contested solicitations. Both contain the information required by Schedule 14A of the SEC's rules . These includes information about the details of the meeting and the solicitation, as well as the proxy card. The PREC14A is required to be filed at least 10 days before the DEFC14A.

[15] Parties in a proxy contest normally have a team that includes professional advisors consisting of executives, directors, and nominees in target firms, public relations personnel, outside legal counsel, proxy solicitors, and investment bankers (De Wied (2018)).

[16] Rule 14a-1(l), 17 CFR § 240.14a-1. See Black (1990) for comments.

the number of board seats up for election at the meeting. Generally, the party that obtains the most proxies will have more of their nominees elected.[17]

Figure 1 illustrates the timeline of proxy contests in our sample. Panel A displays the key dates during contests, and the median and mean number of days for the periods between certain dates for contests, as well as the interquartile range for those periods. The panel illustrates the sequence of key events in a shareholder activist campaign, aligned along a relative timeline where day 0 represents the campaign's end. The horizontal axis denotes days relative to the campaign end, with negative values indicating the number of days that the events occurred prior to that reference point. The timeline captures three milestones: (i) the dissident's announcement of the campaign (Campaign Start, marked in blue), (ii) the dissident's announcement of director nominations (Contest Start, marked in orange), and (iii) the Record Date (marked in red). Each of these events is accompanied by its interquartile range (IQR), represented by horizontal markers of corresponding colors, indicating the distribution of timing variation across campaigns. The duration of key subperiods between events is reported at the bottom, including the time intervals from Campaign Start to Contest Start (*Cam-Con*), Contest Start to Record Date (*Con-Rec*), and Record Date to Campaign End (*Rec-End*), with median and mean presented.

The campaign start date is when the dissident engages with the target firm. If the firm and the dissident fail to reach an agreement, the dissident commences a proxy contest by nominating directors for election. The dissident may go directly to a proxy contest without first announcing a campaign, in which case the campaign announcement date and the contest announcement date are the same. More than half of the contests in our sample go directly to nominating directors without engaging with the management, which explains the difference between median (0 days) and mean (54.9 days) in the Cam-Con period. The record date is set by the incumbent directors. Only the shareholders of the company as of that date are eligible to vote at the meeting. The record date could be before the campaign announcement or contest announcement but is usually after both dates. If the contest goes

[17] A small number of companies have "cumulative voting," which allows shareholders to "cumulate" votes that could otherwise only be used to vote for different nominees, such that they can cast votes equal to the number of shares they hold, multiplied by the number of directors up for election. This feature ensures that shareholders with a sufficiently-sized minority interest in a company can elect a minority of board seats. See Dodd and Warner (1983), Aranow and Einhorn (1968, p.331).

to a vote, then the campaign end date is the meeting date, the date on which the annual or special meeting takes place. If the parties reach a settlement, or the dissident withdraws its nominations, then the campaign end date is the date on which the contest was settled or withdrawn.

To illustrate the structure of a campaign, including the sequence and timing of engagement, proxy filings,Panel B shows the timeline of key events in the proxy contest between Trian Partners and E.I. du Pont de Nemours and Company (DuPont), culminating in DuPont's meeting in May 2015. The horizontal axis represents time, with notable events and filings annotated accordingly. Trian started acquiring stakes in DuPont in early 2013 without filing a Schedule 13D, as its ownership remained below 5%. The engagement phase between Trian and DuPont is depicted as a continuous period leading up to the record date. On January 8, 2015, Trian announced its proxy contest with a press release, prompting DuPont to respond with its own statement.[18] Both parties subsequently filed their PREC14A and DEFC14A, as well as many other additional soliciting materials. The record date for shareholder voting occurred on March 17, 2015, with additional proxy solicitations leading up to the meeting date (and the end of the campaign) in May 2015. The figure also shows the key time intervals within the campaign: The period from the contest announcement to the record date spans 68 days, while the total duration from contest start to campaign end is 125 days.

[ ~Insert Figure 1 about here~ ]

### 2.2 The Characteristics and Efficiency of Proxy Contests

Proxy contests can be divided into three basic categories based on the goals of the dissident and the proportion of the board that the dissident seeks to elect. Control contests are filed by dissidents who seek control of the firm by voting out incumbents and involve the dissident putting forward nominations for at least a majority of the board of directors. Short-slate contests are non-control contests where the dissident seeks to elect nominees that would constitute less than a majority of the board. In an issue contest, the dissident

[18] Because the press release and statement constitute soliciting material they are required to be filed on EDGAR as additional soliciting material, and are labeled DEFA14A if filed by management, and DFAN14A if filed by non-management. Both were filed on January 9, 2015.

focuses on making a particular change in the corporation without nominating any directors for election, using their proxy materials to propose amendments to the company's bylaws or policies.[19] This study focuses on proxy contests for the election of directors and thus includes both control contests and short-slate contests, but not issue contests.

The motivations of dissident investors to wage a proxy contest may be driven by several factors, depending on the type of dissident.[20] Activist hedge funds have become the most common sponsors of proxy contests (Fos (2017)).[21] Activist hedge funds normally acquire a stake in a potential target of between 5% and 10% (Brav, Jiang, and Kim (2010)). They then pressure the board of directors to undertake certain changes by (explicitly or implicitly) threatening a proxy contest to elect their nominees to the board (Brav et al. (2008)). The prevalence of activist investors generally using short-slate contests is consistent with the fact that the majority of proxy contests are non-control contests (Fos (2017), Goodwin (2017)). Other types of dissidents include current or former directors or executives who are in conflict with all or part of the incumbent board and seek to increase their power by having their nominees elected to the board. A third important category of dissidents in our sample, though less prevalent in recent times, are hostile acquirers seeking control of the board to approve the acquisition (Bertrand and Mullainathan (2003)). However, large investment managers and pension funds rarely initiate proxy contests despite the large blocks of corporate stock they hold (Bebchuk and Hirst (2019)).

The benefits of proxy contests and their effects on the value of the firms they target, have been the subject of considerable debate. This debate seeks to explain the widely observed evidence that the announcement of a proxy contest, or of an activist engagement that may lead to a proxy contest, is associated with an increase in the share price of the target company (e.g., Fos (2017), Brav et al. (2008)). One view is that proxy contests are corporate governance mechanisms that aim to replace managers responsible for the underperformance of firms. Even in contests where the dissident obtains a minority of

[19] Common topics of issue contests include opposition to mergers and acquisitions, or to executive compensation plans.

[20] Hedge fund activists typically own less than 10% of the target company's shares (Fos and Jiang (2016)). As a consequence, the hedge fund activist will only be successful in a proxy contest if they attract the support of other shareholders (Brav et al. (2020)).

[21] See Christie (2019) for a detailed discussion of the role of activist hedge funds in seeking and securing board representation in public firms, and Hancock (1992) for a review of proxy contests.

board seats or no dissidents elected, proxy contests may have disciplinary effects on targeted firms that may be sufficient for enhancing the performance of the company. Specifically, Dodd and Warner (1983) show evidence of positive and statistically significant share price performance around proxy contests regardless of the proxy contest outcome based on a sample consisting of 96 proxy contests for board seats from 1962 to 1978. Moreover, Mulherin and Poulsen (1998) find that proxy contests create value for target firms with a sample of 270 proxy contests for board seats between 1979 and 1994. Fos (2017) also shows that the average abnormal returns of targets reach 6.5% around proxy contest announcements using a dataset of all proxy contests from 1994 to 2012.

However, Dodd and Warner (1983) find that a portion of the share price increase around proxy contests is not permanent in the first part of their 1962-1978 sample period. They observe that share price falls between the contest announcement and the announcement of the outcome of the contest. They argue that this systematic phenomenon can be partially explained by the ‘market value of a vote’ as suggested by Manne (1962). During a proxy contest, the market value of voting rights will increase, and the price of shares will therefore also increase. According to this hypothesis, the share price should fall when the voting rights of shares cease to be vital in the contest. Dodd and Warner (1983) test this hypothesis by examining the abnormal returns around the record dates for contests. They find statistically significant negative abnormal returns around record dates for contests where the record date follows the contest announcement, but insignificant negative abnormal returns around record dates where the record date precedes or coincides with the announcement of the contest.

Ghosh, Owers, and Rogers (1992) re-examine the value of the vote hypothesis by studying proxy contests between 1974 and 1985. They include both issue contests and contests for board seats. Specifically, they show that those types of contests are not only distinct in the level of control sought, but also in the changes in voting premium. For contests for board seats, the dissidents’ vote solicitation can be expected to be more intense, due to the potential for control and participation in firms’ future decision-making, which could be expected to be reflected in increased demand for voting rights, and thus a higher voting premium. They find that the positive returns around the announcement and the negative returns around the record date are more significant for contests for board seats than for issue contests. Their results are consistent with the value of the vote hypothesis. However, their study design only allows indirect inferences regarding the value of the vote. Our study directly uses voting premium data from 1996 to 2020 calculated based on the method introduced by Kalay, Karakaş, and Pant (2014), and aims to test the hypothesis that the voting premium of shares can explain part of the change in share prices around proxy contests.

### 2.3 Voting Premium

Voting is one of the core rights of shareholders in corporations. Shareholders exercise their voting rights to elect directors, approve mergers, approve changes to the firm's charter, and many other matters.[22] This paper uses insights and methods developed by Kalay, Karakaş, and Pant (2014) to estimate the voting premium of shares. Kalay, Karakaş, and Pant (2014) estimate the voting premium as the difference in price between shares of a company (which provide both cash flow rights and voting rights) and a synthetic share of the same company constructed using put and call options (which provides the same cash flow rights as a share of the company, but not voting rights) normalized by the stock price.[23]

Analyzing U.S. public firms, Kalay, Karakaş, and Pant (2014) find that the voting premium is positive (about 1.5% of the share price, in annualized terms) and varies over time at the firm level. Their study analyzes types of control events (shareholder meetings, hedge fund activism, and mergers and acquisitions) and concludes that voting rights become more valuable as the firm approaches events affecting control of the company. For instance, the annualized voting premium increases from 0.86% to 2.28% during special shareholder meetings. The annualized voting premium increases when hedge fund activism

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[22] See Levit, Malenko, and Maug (2021) for a discussion of the voting premium.

[23] There exist three other methods in previous literature to measure the values of voting rights in stocks. First, the difference between multiple classes of stocks with diversified voting rights is a proxy for the value of voting rights (see, for example, Levy (1983), Zingales (1994, 1995), Rydqvist (1996), Nenova (2003)). Second, the premium of selling controlling blocks is a measurement of voting premium (see Barclay and Holderness (1989) and Dyck and Zingales (2004)). Third, Christoffersen et al. (2007) and Aggarwal, Saffi, and Sturgess (2015) use the incremental cost of borrowing stock, which is the equity lending fee to measure the voting premium. An important advantage of the Kalay, Karakaş, and Pant (2014) approach is that one could calculate the voting premium for a large sample of firms at any point in time, which suffer less from selection biases. For further discussion of the advantages and disadvantages of each of these methods, see Kalay, Karakaş, and Pant (2014).

is announced (from 1.05% to 1.72%), with engagements considered to be more hostile associated with higher voting premiums. The announcement of merger and acquisition events resulted in an increase in the annualized voting premium by 2.38% on average. The magnitude of the increase in voting premium is much higher for contentious deals, particularly in contests that are likely to involve pivotal votes. This finding is consistent with the hypothesis of Zingales (1995) that the value of a vote is "a function of the probability that a vote is pivotal in a control contest and the magnitude of the private benefits obtainable by controlling the company."[24]

### 2.4 Empirical Predictions

We predict that the value of the vote explains a portion of the share price performance of target firms around proxy contests, which has been documented in the prior literature using indirect evidence and that we replicate using direct measure of the voting premium in this paper.

Based on prior work, we further predict that there is likely to be an increase in the voting premium at the announcement of proxy contests and around the record dates for contests that are expected to go to a vote. In addition, we predict that the increase in the voting premium is likely to be strongest for contentious proxy contests where votes are more likely to be pivotal.[25] We also expect a decrease in the voting premium after the conclusion of proxy contests, following the shareholder meetings for those contests that go to a vote.

## 3 Data, Sample, and Summary Statistics

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[24] Two other recent papers have applied the methodology in Kalay, Karakaş, and Pant (2014) to determine voting premiums in other situations. Mohseni and Karakaş (2021) find that firms with staggered boards have higher voting premium, which is consistent with the entrenchment view of the staggered boards. Gurun and Karakaş (2021) find that negative earnings surprises lead to increases in the voting premiums, consistent with the increased chances of control contests following poor firm performance.

[25] The probability that market votes are pivotal is equal to the "Shapley value" of the market votes in a simple majority game. This is a model of a shareholder meeting with a small number of major shareholders that own large blocks of shares, and an infinite number of small shareholders with tiny shareholdings. The Shapley value of each shareholder reflects the ability of the respective shareholder to affect the outcome of a vote (Rydqvist (1987)). If one group controls 50% of the votes, then a marginal vote is unvalued. Also, if the group could not gather 50% of votes even if the marginal vote were included, then the marginal vote makes no contribution still. However, a vote is pivotal if this vote would change the game (i.e., from just below 50% to just above 50%) and make success in the voting process.

### 3.1 Data and Sample

Our sample consists of proxy contests at target companies publicly listed on the New York Stock Exchange (NYSE), the American Stock Exchange (AMEX), or NASDAQ. Proxy contest data from 2000 to 2020 are retrieved from the SharkRepellent dataset of FactSet Data Systems.[26] Separately, we collected all preliminary and definitive proxy statements filed on EDGAR from its inception in 1994 to 2020. We then manually added missing records and corrected missing or erroneous data, including contests that occurred before SharkRepellent began collecting proxy contest data in 2000. We collect voting data and recommendations for proxy contests from ISS Voting Analytics. We manually check the ownership by institutional investors and hedge funds for each company proxy contest from FactSet Ownership.

This process produces data on 1,904 proxy contests for board seats. We exclude proxy contests at closed-end funds, by excluding contests with targets that are funds or trusts. We further remove contests with missing data to ensure we have data available for the contest announcement date, campaign end date, and the outcome. The final sample is 1,074 proxy contests for board seats from 1994 to 2020. Of these, 207 contests (19.27%) were withdrawn by the dissident; 449 contests (41.81%) were settled among the incumbents and dissidents; and 418 contests (38.92%) went to a vote.

We collect options data from OptionMetrics, which contains options data on US exchange-listed and NASDAQ equities and market indices since 1996. We winsorize voting premiums at the 1% and 99% levels to eliminate outliers. We combine our proxy contest data with voting premium data and retain contests with voting premium data available during the contest period.[27] This gives us a sample of 359 proxy contests between 1997 and 2020 with option data. Of these contests, 108 proxy contests went to a vote. We merge proxy contest data with stock returns of target firms from the Center for Research in Security Prices (CRSP). Firm fundamentals are retrieved from Compustat. We use

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[26] The SharkRepellent dataset was previously part of SharkRepellent, which was later acquired by FactSet Data Systems and incorporated it into its Corporate Governance data product.
[27] The contest period is illustrated in Section 3.4.1.

forced CEO turnover data from Peters and Wagner (2014) for the period since 2001 and Jenter and Kanaan (2015) for the period before and including 2000.[28]

### 3.2 Summary Statistics

#### 3.2.1 Summary Statistics of the Full Sample and the Sample with Options

To see how representative of the sample with options, we compare the summary statistics of the sample with options with our full sample in Table 1. Panel A displays the proxy contests for board seats in the full sample and Panel B displays the sample with option. *Size* is the market capitalization of the target firm (in million dollars) and appears in the regressions as a logarithm. Return on Assets (*ROA*) is net income divided by total assets. *Tobin's Q* is the market value of assets divided by the book value of assets. *Excess Return* is stock return less market return over last financial year. *Ownership by 5% Holders* is total ownership of 5% holders excluding activists. *Activist Ownership* is the activist group ownership percentage. *Activist Fees Costs* is the aggregate amount of fees the activist expects to spend on their solicitation as reported in activist's DEFC14A filing (in thousand dollars) and appears in the regressions as a logarithm. We report the mean, standard deviation (Std), 5th percentile (P5), 25th percentile (P25), median, 75th percentile (P75), and 95th percentile (P95). Observations denote the valid number of observations for each variable.

In Panel A, the average firm size is $2,876.21 million with a standard deviation of 15379.49, indicating substantial variation in firm size across the sample. This evidence suggests that firms targeted by activists are not driven by firm size. The firm performance of target firms is negative with average *ROA* as -7% and average *Excess Return* as -17%, implying that target firms overall performed not well, and this might lead to the dissatisfaction of the dissidents. The mean of *Activist Fees Costs* is $759.89 thousand, suggesting the substantial costs involved in proxy solicitation process. In Panel B, we observe a larger average firm size of $5,106.51 million with a standard deviation of 22,618.06. This result validates that firms with options data are relatively larger firms.

[28] Florian Peters maintain a dataset of forced CEO turnovers together with Alex Wagner and we download the forced CEO turnover data from the website (https://www.florianpeters.org/data/). The dataset contains the announcement dates of forced CEO turnovers of all firms recorded in the Execucomp database between 1993 and 2020.

Similarly, we observe negative average *ROA* and average *Excess Return* for the sample with options (-2% and -20%, respectively). The mean of *Activist Fees Costs* in Panel B is $1.3 million, almost double the counterpart in Panel A, which is consistent with the firm size difference.

The mean of *Tobin's Q* is similar between Panel A (1.75) and Panel B (1.90), indicating that the market values the firms' assets at 70%/80% above their replacement cost. This suggests that the market perceives these firms to have good growth prospects or strong future potential on average. The total ownership of 5% holders excluding activists is comparable between Panel A and Panel B, implying that there is no significant difference in terms of total ownership of large shareholders. The average *Activist Ownership* is 9.21% in Panel A and 7.68% in Panel B., This evidence might result from the firm size of the sample with options. It is costly for the activists to obtain higher ownership in large firms.

[ ~Insert Table 1 about here~ ]

Overall, these descriptive statistics highlight the firm size difference in Panel A and Panel B. However, we do not observe significant difference in firm performance or ownership structure between the full sample and sample with options. Based on the comparison of summary statistics, the sample with options appears to be representative in terms of the universe of firms that are involved in proxy contests for board seats in the US during our sample period.

### 3.2.2 Time Distribution of Proxy Contests

Figure 2 illustrates the time distribution of proxy contests for board seats announced each year in the 1994 to 2020 sample period, and the number of contests at firms where options are available. The total number of proxy contests for board seats from 1994 to 2020 is 1,074 for the full sample and 359 for the subsample. The frequency of proxy contests is generally increasing over the sample period, though it fell slightly in 2004 and 2010. Overall, we observe an increase in the number of proxy contest occurrences each year in our sample period, which is consistent with the analysis of Fos (2017). The number of proxy contests for subsample follows a pattern similar to the full sample. Since firms with options data available are typically large and liquid firms, our evidence suggests that firms targeted by proxy contests are not limited to small or illiquid firms, particularly in the later part of our sample period.

[ ~Insert Figure 2 about here~ ]

### 3.2.3 Classification by Type and Outcome of Proxy Contests

Our study focuses on contests for board seats. We classify these contests as either control contests or short-slate contests, based on whether the dissidents nominate directors for 50% or more of the available board seats. We divide the outcome of proxy contests into three categories. The first category is proxy contests that went to a vote. The second category is proxy contests that were settled between the incumbents and the dissidents. If the incumbents believe they are unlikely to be successful, they have a greater incentive to settle with the dissidents. Often, the concessions will include the addition of one or more dissident nominees to the board of directors by the incumbents. The third category is proxy contests that were withdrawn by the dissidents. A withdrawal generally occurs when the dissidents believe there is a low likelihood of their nominees being elected.

Table 2 sets out the details of our sample of contests. Of the 1,074 proxy contests for board seats, 391 are control contests (36%), and 683 are short-slate contests (64%). The prevalence of short-slate contests that do not seek control of the target firm is consistent with the argument of Fos (2017), that the current corporate governance environment is closer to a "market for corporate influence" rather than a market for corporate control.

Of the control contests in our sample, 147 contests (37.60%) went the distance to a vote. In addition, 158 contests (40.41%) were settled, and 86 contests (21.99%) were withdrawn. Of the 683 short-slate contests in our sample, 271 (39.68%) went the distance, 291 (42.61%) settled, and 121 (17.72%) were withdrawn by the dissidents before the meeting.

[ ~Insert Table 2 about here~ ]

## 4 Methodology and Empirical Results

### 4.1 Excess Stock Returns Around Proxy Contests

This paper uses the Carhart (1997) four-factor model (consisting of factors for the return on the market portfolio, the size of the company, the book-to-market ratio of the company, and stock price momentum) to calculate excess returns (abnormal returns) for securities.[29] The contest period is defined as the period from 90 days before the initial campaign announcement date through 90 days after the campaign end date. The campaign end date is the meeting date if the contest went to a vote, otherwise, it is the date on which the dissident withdraws its nominees or the date when a settlement is announced. The estimation period is the 255-trading-day period before the contest period. For individual security *i*, the abnormal returns (AR) between two dates $d_{1i}$ and $d_{2i}$ is given by the cumulative abnormal returns (CARs), calculated as:

$$CAR_i = \sum_{t=d_{1i}}^{t=d_{2i}} AR_{it}. \tag{1}$$

For a sample of *N* securities, the abnormal stock performance is measured by the mean of cumulative abnormal returns, calculated as:

$$\overline{CAR} = \frac{1}{N}\sum_{i=1}^{N} CAR_i \tag{2}$$

**4.1.1 Share Price Performance Around Contest Announcement**

To analyze the share price performance around proxy contests, we calculate CARs for both the full-sample and the sample for which we have option data, based on monthly data from 24 months before and 24 months following the contest announcement. Figure 3 illustrates CARs around proxy contest announcements using monthly data. It shows two important features for the full sample returns.

First, the CARs declined by about 20% during the 24 months before the contest announcement, with the significant decrease starting about 12 months before the contest announcement. This feature is consistent with the finding of Fos (2017) and Brav et al. (2023) that target firms experience poor share price performance before proxy contests, which also explain dissidents' decisions to initiate proxy contests at those companies.

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[29] In unreported results we also use the market model and the Fama-French Three-Factor model to calculate the excess returns. We find that the results are not sensitive to the model we chose. Consistent with Brown and Warner (1980), if an event has a clear effect, the choice of the model only has an impact on abnormal return quantitatively, rather than qualitatively.

Second, the CARs increased two months before the contest announcement, by about 5%. This is generally the period after a campaign has been rumored or announced, suggesting that the market reacts favorably to the campaign or the prospect of a proxy contest. We observe an increase trend in CARs for the 2 months following the contest announcement and decease to -15% following two years.

The sample with options data exhibits a similar but amplified pattern before contest announcement. For this subsample, CARs declined to around -22% before the contest announcement date, which indicates that targets with options have worse share price performance compared to the full sample. The subsample, however, shows a significant increase in CARs 24 months after the contest announcement.

[ ~Insert Figure 3 about here~ ]

Monthly data gives us an overview of how share price behaves around the contest announcement. We then use daily data to focus on the period from 60 days before and 60 days after the contest announcement. Figure 4 illustrates the share price performance around the contest announcement date for the full sample and the subsample with options based on daily data. For both samples, CARs increased 60 days before the contest announcement date, which is consistent with the results illustrated in Figure 3. There is also a jump in returns around the contest announcement date, followed by further increases in returns after the contest announcement.

[ ~Insert Figure 4 about here~ ]

**4.1.2 Share Price Performance Around Contest Announcement by Contest Outcome**

In this part, we analyze and plot the CARs around proxy contests by outcomes. Figure 5 illustrates the share price performance around the contest announcement for the full sample and subsample with options using daily data, by the outcome of the contest (i.e., whether the contest was withdrawn, settled, or went to a vote). Panel A displays the full sample, where 207 cases are withdrawn, 418 cases are voted, and 449 cases are settled. Panel B displays the subsample with options data available, where 81 cases are withdrawn, 108 cases are voted, and 170 cases are settled.

Similar to our prior analyses, we observe positive share price performance around the contest announcement for all groups of contests. However, there are substantial differences in the nature of these increases. Target firms where proxy contests were withdrawn by the dissident experience the highest abnormal returns around the contest announcement date. Contests that are settled or that went to a vote experienced more moderate market responses.

[ ~Insert Figure 5 about here~ ]

This result suggests that market reactions around the contest announcement vary by proxy contest outcomes – the market incorporates information that reflects the likely outcome of the contest. To better understand the source of these abnormal returns and the extent to which shareholder voting premiums can explain the share price performance, we examine the behavior of voting premiums around proxy contests in section 4.4.

### 4.1.3 Share Price Performance Around Proxy Contests for Voted Cases

In this part, we shed light on share price performance around proxy contests for voted contests by their types and outcomes. In our full sample of contests, 418 contests went the distance to a vote. Table 3 summarizes the daily excess (abnormal) returns around proxy contests for all voted contests by types and outcomes, for different event windows relative to the contest announcement date, the date after which the shares lose the right to vote, which we refer to as the "ex-vote date", and the meeting date.[30]

[ ~Insert Table 3 about here~ ]

[30] In our analysis, we refer to the last day a share could be traded before it loses the right to vote at the meeting as the "ex-vote" date (analogous to an "ex-rights" date). Shareholders of the company as of the record date are entitled to vote at the meeting. If a share is sold prior to the record date, it will lose the right to vote at the meeting. The date on which this would occur depends on the length of time it takes to settle the trade. Prior to September 5, 2017, the standard settlement period for most broker-dealer transactions was three business days ("T+3"). Hence, the ex-vote date was the date three days before the record date. On September 5, 2017, the SEC adopted Rule 15c6-1(a), which amended the settlement cycle to two days ("T+2") for most broker-dealer transactions. As a result, after that date, the ex-vote date is two days before the record date.

The cumulative mean residual for the period from 60 days before and including the contest announcement through the meeting date ([-60, 60] event window) is 9.90%, with a t-statistic of 4.072. There is positive share price performance across all contests, regardless of their type or outcome, which is consistent with the findings of Dodd and Warner (1983).

We observe an increase in cumulative mean residuals from 21 days before and including the ex-vote date ([-21, 0] event window). It is economically and statistically significant for all contests except for contests where dissidents win no seat. One explanation is that the shareholder voting premium increases and peaks around the ex-vote date since that is the date determines which shares are eligible to vote at the meeting.

During the [–1,0] event window around the meeting date, however, the share price moves slightly and none of these changes is statistically significant. The relatively minor adjustment of the share price around the meeting date could result from that the information on whether the dissidents are likely to win seats is largely anticipated.

We observe negative cumulative mean residuals for all contests during the [1, 20] event window following the meeting date. Normally, we would expect some non-negative share price movement where the market expects the proxy contest outcome to benefit shareholders. One possible explanation for the negative movement is that the market value of votes decreases since the votes cease to be important after the election.

We next analyze the share price performance around voted contests where voting premium data is available. Table 4 provides the excess returns around voted contests for this subsample. The results are consistent with those in Table 3. There are positive share price performances before and including the contest announcement through the meeting date for all contests regardless of types and outcomes. There is an increase in CARs during the [-21, 0] period around the ex-vote date, followed by declines after the meeting date.[31]

[ ~Insert Table 4 about here~ ]

[31] We note one difference between the results for our full sample in Table 3 and those for the subsample in Table 4. For the subsample, the cumulative mean for contests where dissidents win seats are less significant than those contests where dissidents win no seats. We do not believe there are conclusions that can be drawn from these differences, other than the effects of a smaller sample size.

Overall, the share price performance around proxy contests for all voted contests and voted contests with options are similar. We observe a positive share price performance around the proxy contest. Moreover, the cumulative mean residual jumps during the period leading up to and including the ex-vote date and decreases after the meeting date.

### 4.2 Voting Premium

We calculate the voting premium of stocks using option pairs. An option pair consists of a call option on the underlying stock, matched with a put option of the same strike price $X$ and time to expiration $T$.[32] The option pairs we used in our sample are subject to four constraints. First, we only use data for options that have between 10 and 90 days to expiration.[33] Second, we discard option pairs where the quotes for either the call or the put option are locked or crossed. Third, we drop option pairs for which the volume for either the call or put is less than zero, or for which the implied volatility (calculated using the binomial option pricing model) for the call or the put is undefined. Fourth, among possible option pairs for a particular stock, we select the most liquid options – those that have the highest volume, that are closest-to-the-money, and that have the shortest maturity.[34]

We calculate the value of the vote using the following function:

$$Vote = \frac{S - \hat{S}(T)}{S} \tag{3}$$

where $S$ is the stock price (the closing price, or the average of the bid and ask if the closing price is not available), and $\hat{S}(T)$ is calculated as follows:

$$\hat{S}(T) = C - EEP_{call}^{div} - P + EEP_{put}^{div} + PV(X) + PV(Div) \tag{4}$$

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[32] Constructing synthetic stocks using options involves transaction costs such as bid-ask spreads and brokerage fees. These additional costs reduce the overall payoff from the synthetic position. In other words, these costs represent frictions that limit arbitrage opportunities. When transactions costs are high, investors face a reduced incentive to exploit the price difference between the actual stock and synthetic stock. In practice, this may narrow the observed voting premium because the synthetic position is less effective in capturing the non-voting stock price. In our paper, we focus on the most liquid options, for which we expect the transaction costs to be small. In addition, our predictor is the change of voting premiums, which will further reduce the influence of transaction costs on our findings.

[33] We limit the maturity of our options for calculating the voting premium to those greater than 10 days because the prices of options with maturity less than 10 days to be too noisy to include in our analysis.

[34] For each firm, there exist options with multiple strike price and maturity on each date. The moneyness is defined as *ln(S/X)*, where S is the stock price on the date and X is the strike price of the option.

where $C$ and $P$ are American option prices for call and put options, calculated (in each case) as the midpoint of the bid and ask quotes. $PV(X)$ is the present value of the strike price of each option in the pair (with the present value calculated using the time to expiration and the risk-free rate). $PV(Div)$ is the present value of any dividend payments paid before exercise. $EEP^{div}_{[option]}$ is the early excise premium of each of the options due to dividends.

$EEP^{div}_{[option]}$ is calculated as follows:

$$EEP^{div}_{[option]} = Price(American) - Price\ (European) \tag{5}$$

The *EEP* is calculated using the 1,000-step binomial option pricing model. Up and down factors are calculated as $u = e^{\sigma\sqrt{\Delta t}}$ and $d = e^{-\sigma\sqrt{\Delta t}}$. The implied volatility, time to expiration, strike price, price of the underlying share, dividends, and ex-dates are obtained from OptionMetrics.

As a measure of the annualized value of voting rights, we calculate the normalized, annualized voting premium (*AVote*) as follows:[35]

$$Annualized\ Voting\ Premium = 1 - (1 - Vote)^{\frac{365}{T}} \tag{6}$$

**4.2.1 Event and Benchmark Windows**

Figure 6 illustrates hypothetical voting premium movements during the contest period using hypothetical data. Our main variable of interest is the change in annualized voting premium (*ΔAVote*), which is the difference between *AVote* during the event period and *AVote* during the 20-business-day benchmark period. To investigate the various results presented in Table 3 and Table 4, we choose corresponding 20-business-day event windows for different critical periods of a contest. To capture the campaign announcement effect, we choose a [0, 19] business-day window around the campaign announcement date. To capture contest announcement effects, we use a [–19, 0] window around the contest announcement date. To capture any ex-vote effects, we use a [–19, 0] window around the ex-vote date. To capture campaign end effects, we use a [0, 19] window around the campaign end date. For the campaign announcement period, contest announcement period,

[35] For an explanation and further details of this approach, see the Internet Appendix of Kalay et al. (2014).

and ex-vote date period, the benchmark window is [-90, -71] relative to the campaign announcement date. For the campaign end period, the benchmark window is the ex-vote date period.

[ ~Insert Figure 6 about here~ ]

### 4.3 What Predict Board-Seat Proxy Contests?

#### 4.3.1 Probit Analysis of Board-Seat Proxy Contest

To examine what firm characteristics of targets predict the likelihood of a board-seat proxy contest, we use probit regressions following Fos (2017).

$$\Pr(PC_{it} = 1) = \Phi(X_{it}\alpha + \zeta_t + \epsilon_{it}) \tag{7}$$

In the probit analysis, the dependent variable $PC_{it}$ is a dummy variable equal to 1 if the company is targeted in a board-seat proxy contest during the year, Φ is the cumulative normal distribution, $X_{it}$ is a vector of lagged covariates, and $\zeta_t$ are time fixed effects. The sample covers all Compustat firm-year observations from 1999 through 2020, including both event and nonevent observations. *BM* is the ratio of the book value of equity to the market value of equity following Fama and French (1992). *Cash* is the ratio of total cash and cash equivalents (item CHE) to total assets (item AT). *Dividend Payout Ratio* is the dividend payout ratio defined as the ratio of total dividend payments (item DVC plus item DVP) to net income before extraordinary items (item IB). *Dividend* is a dummy variable equal to 1 if the firm initiates dividend payments. *Amihud Illiquidity* is the Amihud (2002) illiquidity measure defined as the yearly average (using daily data) of $1{,}000\sqrt{\frac{|Return|}{Dollar\ Trading\ Volume}}$. *Total IO* is the proportion of shares held by institutions. *HF IO* is the proportion of shares held by activist hedge funds. *Investment* is the research and development expense and capital expenditures less the sale of property, plant, and equipment, divided by mean total assets, where the mean of total assets is the average of current and lagged total assets. *Leverage* is the net book leverage ratio defined as (book value of debt − cash) / (book value of debt + book value of equity). *MV (log)* is the logged market capitalization calculated as CSHO multiplied by PRCC_F (in millions of dollars). *Repurchases* is the ratio of net repurchases to income before extraordinary items. *ROA* is earnings before interest, taxes, depreciation, and amortization divided by lagged total assets. *BHR 12M* is the 12-month buy-and-hold return. Table 5 reports estimate of the probit regressions.

[ ~Insert Table 5 about here~ ]

Firms targeted in board-seat contests exhibit low dividend payout ratio, high institutional ownership, high hedge fund ownership, and poor past share performance (as proxied by 12-month buy and hold returns). A low dividend payout ratio may signal inefficient capital allocation or managerial entrenchment. According to agency theory (Jensen 1986), when firms retain excess free cash flow without distributing it to shareholders, managers may be more likely to engage in value-destroying projects. Activist investors often target such firms to demand either a return of capital to shareholders through increased dividends or share repurchases or to advocate for more disciplined investment strategies. This behavior is consistent with Brav et al. (2008), who document that activists frequently push for improved payout policies in underperforming firms with excess cash holdings.

The significant positive coefficient of institutional ownership (0.428) suggests a more sophisticated and engaged shareholder base, which is crucial for dissidents in launching successful proxy contests. Institutions are more likely to evaluate the merits of competing slates and may provide the necessary voting support for board changes. As noted in previous literature (Gillan and Starks (2000), Hartzell and Starks (2003)), institutional investors play a central role in corporate governance due to their substantial shareholdings and monitoring capacity. Moreover, their support signals legitimacy to broader shareholder bases, increasing the likelihood of a successful campaign.

High hedge fund ownership (*HF IO*) leads to higher likelihood of board-seat contest reflects the growing role of activist hedge funds in initiating governance changes, especially those involving board representation. Hedge funds are uniquely positioned to pursue aggressive activist strategies, including the nomination of directors. Their presence is often an indicator of a forthcoming contest, as they are known to challenge management when firm performance lags or governance structures are weak (Brav, Jiang, and Kim

(2010)). The theoretical framework of Fos and Kahn (2019) further suggests that activist ownership increases the probability of governance through intervention rather than exit.

The evidence also suggests that poor past stock performance is a trigger for activist engagement. Dissidents often use underperformance as evidence of managerial failure or misalignment with shareholder interests. Prior empirical studies show that firms with lackluster stock returns are significantly more likely to be targeted in proxy contests (e.g., Klein and Zur (2009), Bebchuk, Brav, and Jiang (2015)). Activists leverage these performance metrics in their campaigns to persuade shareholders that a change in board composition is necessary to restore firm value.

Overall, probit regression results confirm that several firm-level characteristics are systematically associated with the likelihood of being targeted in a board-seat proxy contest. The combination of low payout, poor returns, and concentrated ownership by institutions and hedge funds provides both the motive and the means for activist shareholders to challenge incumbent boards and propose governance changes.

### 4.3.2 Probability of Board-Seat Proxy Contest and Voting Premium

Table 6 reports the mean and median values of two voting premium proxies (*Vote* and *AVote*) across terciles of predicted proxy contest probability (*p_contest*). The variable *p_contest* is the fitted value from the probit model in Table 5, where the dependent variable is an indicator equal to one if a firm is targeted in a board-seat proxy contest during year t. We divide *p_contest* into 3 equal-sized groups (tertiles) and assigns Low, Medium, or High to each observation. Low contains the observations in the lowest third (by probability of proxy contest during the year). Medium contains the observations in the middle third. High contains the observations in the top third. All voting premium proxies are winsorized at 1% and 99%.

[ ~Insert Table 6 about here~ ]

We find that voting premium proxies increase monotonically across the *p_contest* terciles. The mean (median) *Vote* increases from 0.000195 (0.000128) in the Low group to 0.000865 (0.000324) in the High group. A similar pattern holds for *AVote*, where the mean (median) rises from 0.001999 (0.001489) to 0.006368 (0.003532). These findings suggest a positive relationship between the magnitude of voting premium and the likelihood of a board-seat proxy contest.

This empirical finding supports the theoretical prediction that the voting premium reflects the expected value of control-related rights. As formalized in Zingales (1995), the voting premium can be decomposed into two parts: the probability of a control contest and the expected gains from winning such a contest. The observed correlation between voting premium and *p_contest* is consistent with this decomposition and provides motivation for using the voting premium as a predictive signal for contest outcomes in subsequent analysis.

#### 4.3.3 Probit Analysis of Board-Seat Proxy Contest with Different Outcomes

This part shows the results of probit regressions examining firm-level determinants of board-seat proxy contest outcomes, i.e., whether a contest is withdrawn, settled, or proceeds to a vote. The dependent variable is a binary indicator equal to one if a firm experiences a board-related contest in a given year and the contest resolves with the specified outcome. The analysis is conducted on the full Compustat universe of firm-year observations from 1999 to 2020, including both targeted and non-targeted firms, with year fixed effects and robust standard errors clustered at the three-digit SIC level.

[ ~Insert Table 7 about here~ ]

Institutional ownership emerges as a key predictor of contest incidence across all outcomes. Both total institutional ownership (*Total IO*) and activist hedge fund ownership (*HF IO*) exhibit positive and statistically significant coefficients in all specifications, with the strongest association observed for *Settled* contests. These results underscore the central role of sophisticated investors in facilitating or mediating contest resolution.

Firm fundamentals are also predictive of contest activity. Targeted firms tend to be smaller and underperforming – market capitalization (in log) is negatively associated with all outcomes at the 1% level, while stock underperformance (*BHR 12M*) significantly increases the likelihood of contest occurrence, especially for *Withdrawn* cases. Higher cash holdings are positively associated with *Withdrawn* contests, suggesting that activists may initially target cash-rich firms but subsequently withdraw if internal resistance or private negotiation alters expected payoffs. Dividend-related variables show mixed effects. The dividend payout ratio is negatively associated with all outcomes, while dividend initiation is positively associated with *Voted* contests, potentially reflecting efforts to preempt activist pressure. Other controls, including book-to-market, leverage, investment activity, and repurchases, generally lack consistent explanatory power across specifications.

Overall, these findings highlight the differential economic and ownership characteristics that shape the trajectory of board-seat proxy contests and suggest that the presence of institutional and activist ownership is critical in determining both the occurrence and outcome of engagement.

### 4.4 Predictability of Voting Premium on Proxy Contest Outcome

#### 4.4.1 Predictability Around Campaign Announcement

In this part, we explore whether we can predict the outcomes of contests by observing shareholder voting premiums around proxy contests. Table 8 reports univariate analyses of voting premium behavior for event windows around the most important dates during proxy contests – the campaign announcement date, the contest announcement date, the ex-vote date, and the campaign end date. For each event window, Table 8 reports the mean, median, and standard deviation of voting premium, annualized voting premium, and the change of annualized voting premium. To enhance robustness, we consider two event windows for each date. We use [0, 14] and [0, 19] business day event windows around the campaign announcement date; [–14, 0] and [–19, 0] event windows around the contest announcement date. We use [–14, 0] and [–19, 0] event windows around the ex-vote date as trading to buy or sell shares around the ex-vote date will be effective up to and including the ex-date date itself. We use [0, 14] and [0, 19] event windows around the campaign end date since we are most interested in the behavior of the voting premium after the campaign ends.

[ ~Insert Table 8 about here~ ]

Table 8 shows that contests that were withdrawn exhibit much lower *ΔAVote* than those that settled or those that went to a vote, both around the campaign announcement date and contest announcement date. This suggests that it could be possible to predict whether a proxy contest will be withdrawn by observing voting premiums at an early stage of the proxy contest.

To test whether such prediction is possible, we conduct multinomial logit regressions of proxy contest outcomes on voting premium. We conduct separate regressions comparing voting premiums for (i) contests that go to a vote versus those that are withdrawn, and (ii) contests that are settled versus those that are withdrawn. For each of these pairs, we run regressions using five separate specifications, each including progressively more independent variables. Our main explanatory variable is *ΔAVote*, which is *AVote* for the [0, 19] window around the campaign announcement less *AVote* for the benchmark window [-90, -71] relative to the campaign announcement date.

*Size* is the size of the target firm in logarithm. *ROA* is net income divided by total assets. *Tobin's Q* is the market value of assets divided by the book value of assets. *Excess Return* is stock return less market return over the last financial year. *Ownership by 5% Holders* is the total ownership of 5% holders excluding activists. *Hedge Fund* is a dummy which equals 1 if the dissident was a hedge fund dissident, otherwise 0. *Activist Ownership* is the activist group ownership percentage. *Cumulative Voting* is a dummy that equals 1 if the company permits cumulative voting for the corresponding election campaign, otherwise 0. *Activist Fees Costs* is the aggregate amount of fees the activist expects to spend on their solicitation as reported in the activist's DEFC14A filing and appears as a logarithm in regressions. *Gadfly* is a dummy which equals 1 if the dissident was a gadfly, otherwise 0.

Table 9 reports the regression results. Consistent with the univariate analysis, the difference in the annualized voting premium around the campaign announcement date has predictive power in determining whether a contest will be withdrawn. An increase in *ΔAVote* around the campaign announcement is associated with a greater likelihood that the contest will go to a vote and a lower likelihood that the contest will be withdrawn. While an increase in the voting premium also results in a greater likelihood of settlement, the effect is not statistically significant. Interestingly, the involvement of hedge funds increases the likelihood of settlement (Table 9, Regression 4 and 6), which is consistent with results observed by Bebchuk et al. (2020). In addition, when the target company permits cumulative voting for the corresponding election campaign, there is a higher likelihood that the contest will go to a vote. The aggregate amount of fees the activist expects to spend on their solicitation is positively correlated with the likelihood of the contest going to a vote. For contests that are waged by a gadfly, the empirical results show that the contest is more likely to be withdrawn.

[ ~Insert Table 9 about here~ ]

Table 10 reports the results of multinomial logit regressions of vote outcome (voted or settled) on the same independent variables as in Table 9. We find that *ΔAVote* around the campaign announcement date is a predictor (though weak and statistically insignificant) of whether the contest will go to a vote or be settled. The higher *ΔAVote* around campaign announcements for contests that go to a vote could reflect the fact that both the dissidents and the incumbents will participate in the electoral process only if they both expect to be successful in the contest. If that is the case, the probability of the contest going to a vote is likely to be higher, and the value of the vote will increase accordingly. Similar to Table 9, we find that the involvement of hedge funds decreases the chances of the contest going to a vote, in favor of settlement. Also, cumulative voting increases the likelihood of a contest going to a vote and reduces the likelihood of settlement.

[ ~Insert Table 10 about here~ ]

**4.4.2 Predictability Around Contest Announcement Date**

We further examine whether *ΔAVote* around the contest announcement date could predict whether the contest will go to a vote or be settled. Table 11 shows the results of multinomial logit regressions of proxy contest outcomes on voting premium and other independent variables around contest announcement. As Table 11 shows, the change of annualized voting premium around contest announcement does not allow us to differentiate whether a contest will go to a vote or be settled.

[ ~Insert Table 11 about here~ ]

### 4.4.3 Predictability Around Ex-vote Date

Applying the Priest-Klein hypothesis to proxy contests leads to the conjecture that the contests that go to a vote will be close contests. We examine whether the voting premium captures information beyond closeness such as dissidents' strategic strength, investor coordination and resources, and/or dissidents' confidence in the outcome.

We next examine whether *ΔAVote* can predict which side is likely to prevail in the contest if contests go to a vote. We create a variable, *seats won/sought*, which is the number of seats won by the dissident as a proportion of the number of dissident nominees in the contest. The mean (median) of *seats won/sought* in our sample is 36% (33%).

Table 12 shows the results of ordinary least squares regression of *seats won/sought* on *ΔAVote* around the ex-vote date and other independent variables. The coefficients on *ΔAVote* are consistently economically and statistically significant across eight different specifications. These regressions show that it is possible to predict the proportion of dissidents who are elected in a contest. Specifically, during the [-19, 0] business-day window around the ex-vote date, *seats won/sought* increases by 16% for one standard deviation increase in *ΔAVote*, *ceteris paribus*. This corresponds to a 44% (48%) increase in the mean (median) of *seats won/sought*. We find that the increase in *ΔAVote* around the ex-vote date strongly predicts the fraction of board seats won by the dissident. The significant result we observe indicates voting premium captures factors beyond anticipated closeness of the contest.

[ ~Insert Table 12 about here~ ]

### 4.4.4 Predictability Around Campaign End Date

This section presents an ex-post examination of shareholder voting outcomes in board-seat proxy contests, with a particular focus on election closeness and changes in the *AVote* for voted cases. We enhance our empirical analysis by controlling for *ex post* closeness based on the actual vote results for voted contests. The ex-post closeness measure helps to distinguish the actual result from the anticipated result, thus allowing us to test whether the voting premium captures strategic elements beyond closeness.

We define *Closeness* as a measure of electoral competitiveness between dissident nominees and incumbents. *Closeness* is operationalized as votes cast for the dissidents divided by the total for votes cast (i.e., votes for the dissidents and votes for the opponent), after centered scaling by subtracting 0.5. We further aggregate the measure by taking the average of all voted contests. A value of *Closeness* that is close to zero indicates a more tightly contested election, suggestive of divided shareholder support and greater uncertainty over voting outcomes. Closely fought contests have been shown to attract greater attention from institutional investors and serve as a proxy for the perceived importance of governance change (e.g., Aggarwal et al. (2011), Matvos and Ostrovsky (2010)).

In a prediction regression where the dependent variable is the proportion of board seats won relative to seats sought, the expected sign of closeness of votes is conditional. One hypothesis is that closeness indicates active competition, where the dissident side has strategic leverage or motivation to mobilize shareholders, in which case a close vote would positively predict dissident success. Another hypothesis is that closeness indicates high uncertainty about the outcome, or an expectation of equal strength from the dissident and management sides. If that is the case, greater closeness would either make outcomes more unpredictable, or could possibly predict lower dissident success.

We also introduce a *Variation* measure, which captures the dispersion in voting outcomes across individual director nominees within the same proxy card. High variation suggests that shareholders selectively support nominees within a proxy card, rather than voting uniformly along dissident or management lines. This within-card heterogeneity in support levels may reflect nuanced assessments of director quality or disagreement about the optimal board composition.

We conduct a univariate analysis of voting outcomes, *Closeness*, and changes in the annualized voting premium around the campaign end (the date on which final vote outcomes are announced or certified). The analysis is limited to contests that proceeded to a vote. Table 13 shows the summary statistics of *Closeness* and voting premium (*ΔAVote*) across terciles of activist success in gaining seats for voted contests, measured by *Seats Won/Sought*. Group 1 includes observations in the bottom third of *Seats Won/Sought*, indicating the group of low success. Group 2 includes observations in the middle third of

*Seats Won/Sought*, indicating the group of medium success. Group 3 includes observations in the top third of *Seats Won/Sought*, indicating the group of high success. The table reports the mean and median of *Closeness* and *ΔAVote* within each tercile.

[ ~Insert Table 13 about here~ ]

Preliminary results reveal that contests characterized by higher *ΔAVote* around the Campaign End Date tend to exhibit close to zero *Closeness* values, indicating more indecisive outcomes. This pattern is consistent with the interpretation of voting premium as a forward-looking measure of contest intensity and anticipated private benefits of control (see Zingales (1995) and Dyck and Zingales (2004)). As shown in Group 3, the drop in *AVote* following a decisive vote outcome suggests that the resolution of uncertainty reduces the control premium embedded in voting shares.

These findings support the view that voting premium metrics, particularly *ΔAVote*, are not only predictive of the *ex ante* probability of a proxy contest but also reflect *ex post* contest dynamics, including electoral competitiveness and market expectations regarding control shifts. The use of such market-based measures in conjunction with voting data offers a novel lens through which to assess the informational efficiency of corporate control markets and shareholder governance mechanisms. In the following analysis, we use |*Closeness*|, the absolute value of *Closeness* in regressions. We also interact the closeness with voting premium to see the effect of voting premium in close contest in predicting dissident success.

Table 14 shows the results of OLS regressions examining the relationship between changes in voting premiums (*ΔAVote*) and activist success in obtaining board seats, measured as the proportion of seats won relative to those sought. *ΔAVote* is computed as the change in voting premium around campaign end date relative to record date, capturing shifts in the value of vote during this window. Across specifications, a negative and statistically significant association emerges between *ΔAVote* and activist success (for instance, specifications (1), (3), (5), (6), (7), (8), (9)), suggesting that more significant drop in voting premiums is associated with higher activist effectiveness in securing board representation. These results can be interpreted as the converse of the comparable results for the change in the annualized voting premium around the ex-vote date in Table 12. After the contest, the voting premium decreases. The decrease in the voting premium is negatively related to the proportion of the available seats won by the dissidents, consistent with our findings in Table 12.

Control variables behave largely as expected. Greater activist ownership is positively and significantly associated with board seat acquisition (e.g., columns (5), (6), (7), (9)), underscoring the importance of financial commitment and engagement. Cumulative voting rules significantly enhance activist success (column (9)), aligning with prior findings that cumulative voting mitigates entrenched board dynamics. ROA is negatively associated with activist success (columns (3) to column (9), and (11)), consistent with activists targeting underperforming firms. The inclusion of *Variation* does not void the predictability of voting premium. The interaction term $\Delta AVote$ × |Closeness| (column (11)) is significantly negative, indicating that the negative effect of rising voting premiums is more pronounced in closely contested elections, where marginal shifts in shareholder valuation exert greater influence. These results reinforce that voting premium captures strategic factors beyond closeness of the contest.

[ ~Insert Table 14 about here~ ]

Overall, the empirical results described in this part support the hypothesis that the voting premium of shares can partially explain share price performance around proxy contests, as well as some outcomes of proxy contests. We show that a portion of the positive market reaction around proxy contest announcements is related to the change in the shareholder voting premium, especially for contests that go to a vote and those that are settled. In addition, we observe an increase in voting premium around the ex-vote date, and a decrease after the campaign end date, which also reflects the share price performance of target firms in those circumstances. Finally, we find that we can predict whether the proxy contest will be withdrawn by the dissidents from observation of the shareholder voting premium around the campaign announcement date, and that we can predict how successful the dissidents will be in the contest from the voting premium around the ex-vote date.

## 5 Forced CEO Turnover after Proxy Contests

### 5.1 Full Sample Analysis

A growing body of research has examined the antecedents and immediate outcomes of shareholder activism, particularly proxy contests for board control (e.g., Brav et al. (2008), Fos and Tsoutsoura (2014), Bebchuk, Brav, and Jiang (2015)). While much of this literature focuses on market reactions and governance changes at the announcement of activist campaigns, less attention has been paid to the longer-term consequences that unfold after a proxy contest concludes. The most economically significant of these consequences is CEO turnover, a key indicator of managerial accountability and governance restructuring (Weisbach (1988), Huson, Parrino, and Starks (2001)). Proxy contests represent a challenge to incumbent leadership, and when successful (or even when partially resolved through settlement), they often create pressure for leadership change, either as a concession to the dissident, or as part of a broader strategic reset (Gantchev and Jotikasthira (2018)).

By analyzing forced CEO turnover in the years following a proxy contest, this paper contributes to the literature by examining whether contests lead to substantive changes in corporate leadership beyond initial market signaling.

Table 15 reports the Incidence Rate Ratio (IRR) of the Poisson regressions regarding the forced CEO turnover after the end of proxy contest for the full sample. The dependent variable is the count of forced CEO Turnover from campaign end date to 1 year after the campaign end date in regressions (1), (3), and (5). The dependent variable is the count of forced CEO Turnover from campaign end date to 3 years after the campaign end date in regressions (2), (4), and (6). The key variable of interest, *seats won/sought* is seats won by dissidents divided by seats sought by dissidents. Other control variables are defined as in previous tables.

[ ~Insert Table 15 about here~ ]

The results provide compelling evidence that dissident success in proxy contests significantly increases the likelihood of subsequent forced CEO turnover. The key variable of interest, *seats won/sought*, demonstrates economically and statistically significant effects across all specifications in both the short and medium term. For instance, in specification (1), an IRR of 2.751 implies that a complete shift from total failure (*seats won/sought* = 0) to complete success (*seats won/sought* = 1) increases the expected forced CEO turnovers by 175% within one year. More practically, an increase of 0.1 in the success ratio (equivalent to winning one additional seat out of ten sought) would increase expected turnover by approximately 11%. The result is more significant in specifications (3) and (5) after controlling for firm and dissident characteristics with an IRR of 3.937 and 3.577. These findings are consistent with the disciplinary effect of shareholder activism (Brav, Jiang, and Kim (2010)).

Firm-level fundamentals display patterns consistent with performance-based monitoring. Larger firms are more likely to experience turnover following contests (e.g., *Size* in specification (5) with IRR of 1.555), while higher profitability (*ROA*) and valuation (*Tobin's Q*) are associated with lower forced CEO turnover. These results align with the notion that CEO replacement is more likely when firm performance is weak (Weisbach (1988), Huson, Parrino, and Starks (2001)).

Among dissident characteristics, hedge fund involvement is positively associated with forced CEO turnover within one year with IRR of 2.167 (specification (5)), consistent with prior findings that hedge fund activists are particularly effective in driving leadership and strategic change (Brav et al. (2008), Bebchuk, Brav, and Jiang (2015)). The fact that there are significant increases in short-term turnover likelihood, but no significant long-term effects suggests that these sophisticated activists create immediate pressure but may exit once their objectives are achieved. In contrast, campaigns led by gadflies are negatively associated with forced CEO turnover, both over a one-year and three-year periods (IRR extremely small in specifications (5) and (6)), reflecting their limited influence and lack of institutional support.

Overall, the results support the view that proxy contests serve as a credible threat to incumbent management, especially cases where dissidents win, and that contests lead to higher likelihood of forced CEO turnover post-contest. This reinforces the role of activist engagements as a governance mechanism that disciplines underperforming executives.

### 5.2 Subsample Analysis

Table 16 presents the results of Poisson regressions analyzing forced CEO turnover following proxy contests for a subsample of cases in which voting premium data are available. The dependent variable measures the number of forced CEO turnovers within one year (specifications 1, 3, and 5) and three years (specifications 2, 4, and 6) following the campaign end date. The key independent variable, *seats won/sought*, reveals important nuances in how the proportion of dissident success affects forced CEO turnover following contests.

[ ~Insert Table 16 about here~ ]

Consistent with the full sample results (Table 15), *seats won/sought* remains a statistically significant predictor of short-term forced CEO turnover in all one-year models (specifications 1, 3, and 5). The estimated IRRs are slightly lower in magnitude (e.g., 1.746 in specification 6) compared to the full sample (e.g., 2.105 in Table 15, specification 6) over the three-year window, indicating that the impact is concentrated in the near term. This pattern supports the interpretation that control contests with observable voting premiums tend to result in immediate leadership consequences, aligning with theories that link the market's pricing of voting rights to anticipated shifts in governance (Zingales (1995)).

Hedge fund involvement exhibits a significantly stronger association with forced CEO turnover in the subsample. The IRR increases from 2.167 in the full sample (Table 15, specification 5) to extremely large in the subsample (Table 16, specification 5) and rising in significance.

The control variables exhibit notably different behavior in the subsample, with traditional performance metrics like *ROA* losing predictive power entirely. The investment variable shows particularly dramatic effects, with high-investment firms experiencing virtually zero CEO turnover regardless of dissident success levels, suggesting that growth-oriented strategies provide strong CEO protection even against partially successful activist campaigns.

Overall, the subsample results reinforce the notion that proxy contests with the availability of voting premium data, are more likely to produce immediate governance changes. The concentration of forced CEO turnover effects in the short-term post-contest window, combined with the elevated impact of hedge fund activism, points to a more assertive and decisive form of shareholder intervention in these cases.

## 6 Interpretations of the Empirical Results

This section describes potential threats to our interpretations of the empirical results. In the context of proxy contests identifying the causal relationships between voting premiums and contest outcomes is complicated by endogeneity and reverse causality. Endogeneity refers to the possibility that unobserved factors affect both the voting premiums and the outcomes, leading to biased estimates. Reserve causality refers to the possibility that the proxy contest outcomes influence the voting premiums rather than the other way around.

In this study, our predictor is *ΔAVote*, which is the change in the annualized voting premium between the benchmark window and the event window. Applying the changes in voting premiums rather than its level helps alleviate concerns regarding potential endogeneity and reverse causality issues. By examining changes, we control for unobserved, time-invariant factors that might influence both voting premiums and contest outcomes.

Despite the control variables we include in our analysis and the use of changes in voting premiums, other unobserved factors that vary by year but are constant across entities should be accounted for, such as economic conditions, regulatory changes, or market sentiment. To do so, in the analysis of activist success in obtaining board seats around ex-vote date (Table 12), we control for year fixed effects. The results in regression 5 and regression 6 show that the $R^2$ increases from 0.384 to 0.718 with the inclusion of year fixed effects, and the statistical significance of the coefficient on *ΔAVote* decreases. We should interpret this result with caution, but this does not negate the observed correlation between voting premiums and proxy contest outcomes.

## 7 Conclusion

This paper investigates how share price behaves around proxy contests, and in particular, the part of the share price attributable to the voting premium. We explore the extent to which shareholder voting premium can explain contest outcomes and target share price performance. Consistent with prior literature, we find a positive and statistically significant increase in share price performance around the announcement of proxy contests. However, the positive market reaction differs among proxy contests with different outcomes. Contests that are withdrawn experience higher abnormal returns around contest announcement than contests that are settled, or than contests that go to a vote.

We estimate the shareholder voting premium and find that a portion of the positive market reaction around proxy contest announcements results from the change in the shareholder voting premium, especially for contests that were settled, and those that go to a vote. Moreover, we find that the voting premium increases around the ex-vote date, and declines after the campaign end date, which reflects similar movements in the share price performance. These results suggest that shareholder voting premiums can partially explain the share price performance around proxy contests.

We also find that we can predict certain aspects of the outcome of a proxy contest based on the behavior of the voting premium. In particular, an increased voting premium around the campaign announcement predicts a decrease in the likelihood of the contest being withdrawn by the dissident. A higher voting premium around the ex-vote date also predicts a greater proportion of dissidents nominated in the contest being elected. This finding has important implications for the proxy contest market, as dissidents and incumbents could observe the market reaction to the campaign announcement as an indication of the likely outcome of the contest and use that information to inform their decision whether to pursue the contest and which tactics and strategies to adopt.

Our aftermath analysis of proxy contest supports the view that proxy contests, especially those that dissidents win, serve as a credible threat to incumbent management, leading to higher likelihood of forced CEO turnover post-contest. This reinforces the role of activist engagements as a governance mechanism that disciplines underperforming executives. For proxy contests with voting premium data available, higher proportional dissident success are more likely to produce immediate governance changes.

The observation that withdrawn contests exhibit the highest CAR around the proxy contest announcement date is puzzling. As highlighted by Jensen and Warner (1988), the wealth effect shown by the share price increase contains both a real effect and an information effect. If a proxy contest has a disciplining effect on incumbents, we would expect a positive abnormal share price reaction (the real effect). However, it is difficult to understand how a contest that is ultimately withdrawn has a disciplining effect. That leaves two potential information effects that could explain the extremely high CAR for withdrawn contests. One possibility is that activist hedge funds, the most common dissidents in proxy contests, are promoting short-term goals at the expense of long-term value, as many of their critics have argued. If that is the case, if the market expects them to withdraw their contest, that would be construed as having a positive effect on the company's share price. Another potential explanation is that, because proxy contests impose considerable costs on companies, the likely withdrawal of a contest is expected to increase the value of the company. A final possibility is that the causal relationship might run in the reverse direction. It is not that the market predicts withdrawn contests and trades in such a way as to increase share price performance, but rather that better share price performance makes the dissident more likely to withdraw the contest. For example, incumbents could cause the company to repurchase stock, which would increase stock price performance, and might also meet or obviate the demands of the dissident. These findings and the open questions they reveal suggest that shareholder voting premiums around proxy contests merit further investigation.

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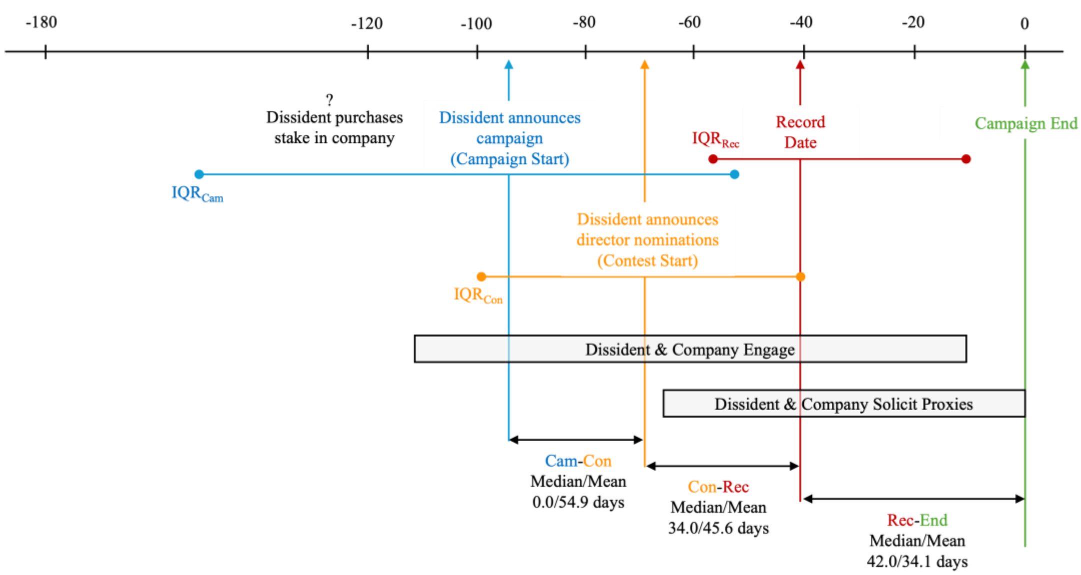
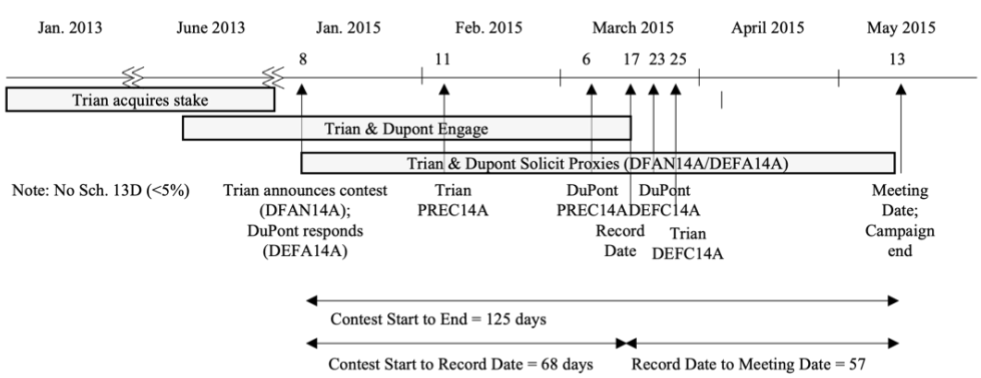
## Figure 1. The Timeline of Proxy Contests.

Figure 1 characterizes the timeline of proxy contests in our sample. The *campaign start date* is the date on which the dissident announces the campaign. The dissident generally engages with the target firm during the campaign. If the firm and the dissident fail to reach an agreement, the dissident commences a proxy contest (the *contest start date*), by nominating directors for election. The dissident may go directly to a proxy contest, without first beginning a campaign and engaging with the target directors, in which case the campaign announcement date and the contest announcement date are the same. The *record date* is set by the incumbent directors. Only the shareholders of the company as of that date are eligible to vote at the meeting. The record date could be before the campaign announcement or contest announcement but is usually after both dates. If the contest goes to a vote, then the *campaign end date* is the same as the meeting date. The *meeting date* is the date of the annual or special meeting when the director election takes place. If the two parties reach a settlement, or the dissident withdraws its nominees, then the campaign end date is the date on which the contest was settled or withdrawn. Panel A displays the timeline of the proxy contest in our sample, which shows the key dates during contests, and the median, mean, and interquartile range for the periods between certain dates for contests in our sample. Panel B shows the timeline of the proxy contest between DuPont and Trian in 2015.

*Panel A: The Timeline of Proxy Contests in our Sample*




*Panel B: DuPont and Trian 2015 Proxy Contest Timeline*



## Figure 2. Time Distribution of Proxy Contests.

Figure 2 shows the number of proxy contests announced each year in the 1994-2020 period, and the number of those contests for which sufficient option data exist for inclusion in our sample. The total number of proxy contests for board seats from 1994 to 2020 is 1,074 for the full sample and 359 for the sample with option data.

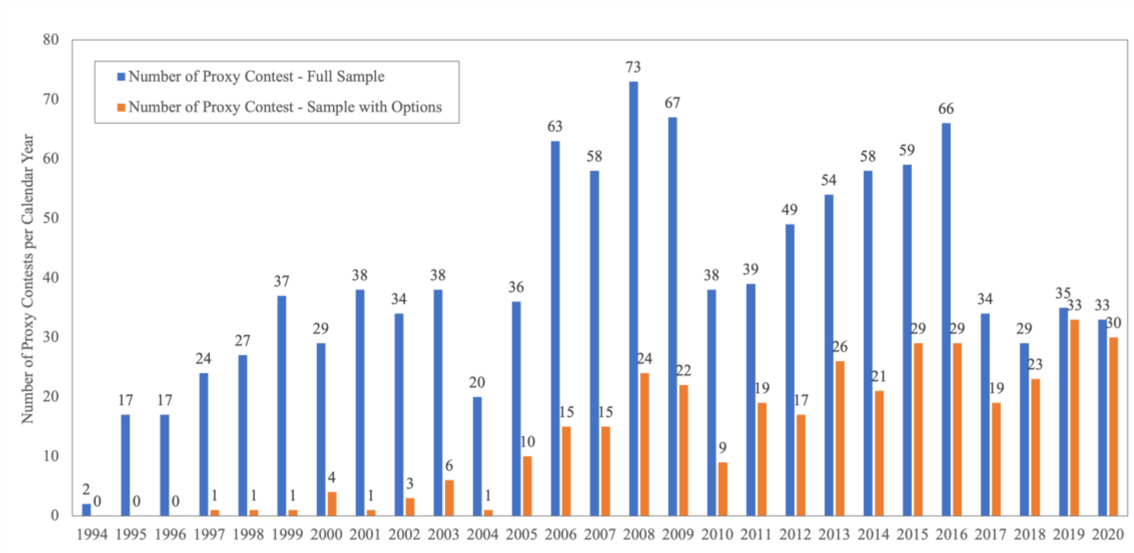


**Figure 3. CARs Around Proxy Contests Using Monthly Data for the Full Sample and Subsample with Options.**

Figure 3 illustrates the share price performance, by cumulative abnormal returns (monthly), for proxy contests in both the full sample and the subsample with for which options data is available. The sample sizes of the full sample and the subsample with options are 1,074 and 359, respectively.

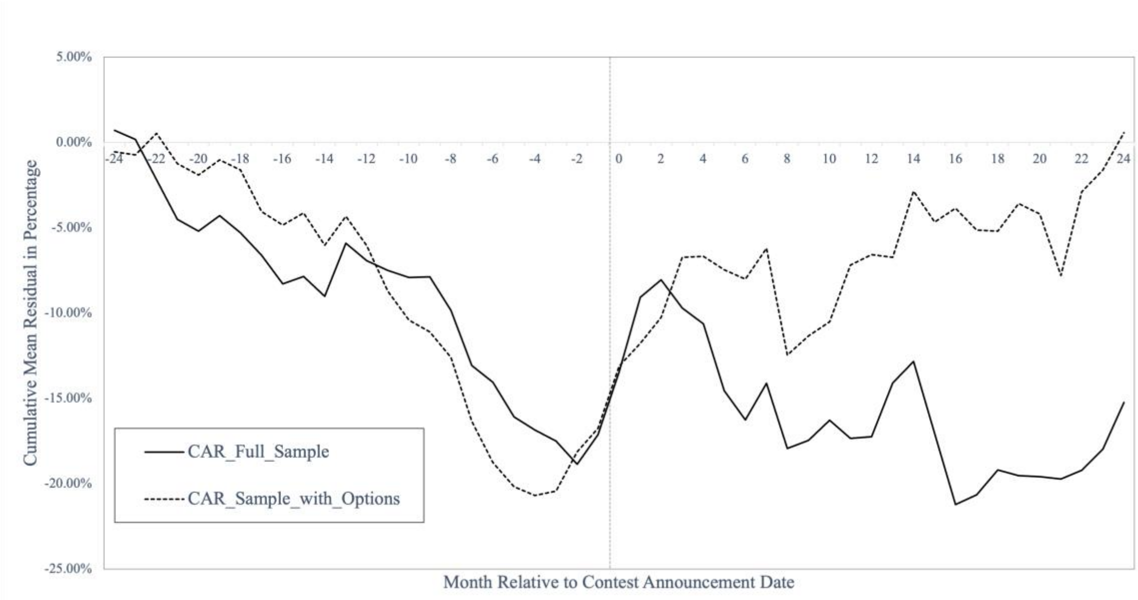


**Figure 4. CARs Around Proxy Contest Announcement Using Daily Data for Full Sample and Subsample with Options.**

Figure 4 uses daily data to report the share price performance around the proxy contest announcement date for the full sample and the subsample with options. The sample sizes of the full sample and the subsample with options are 1,074 and 359, respectively.

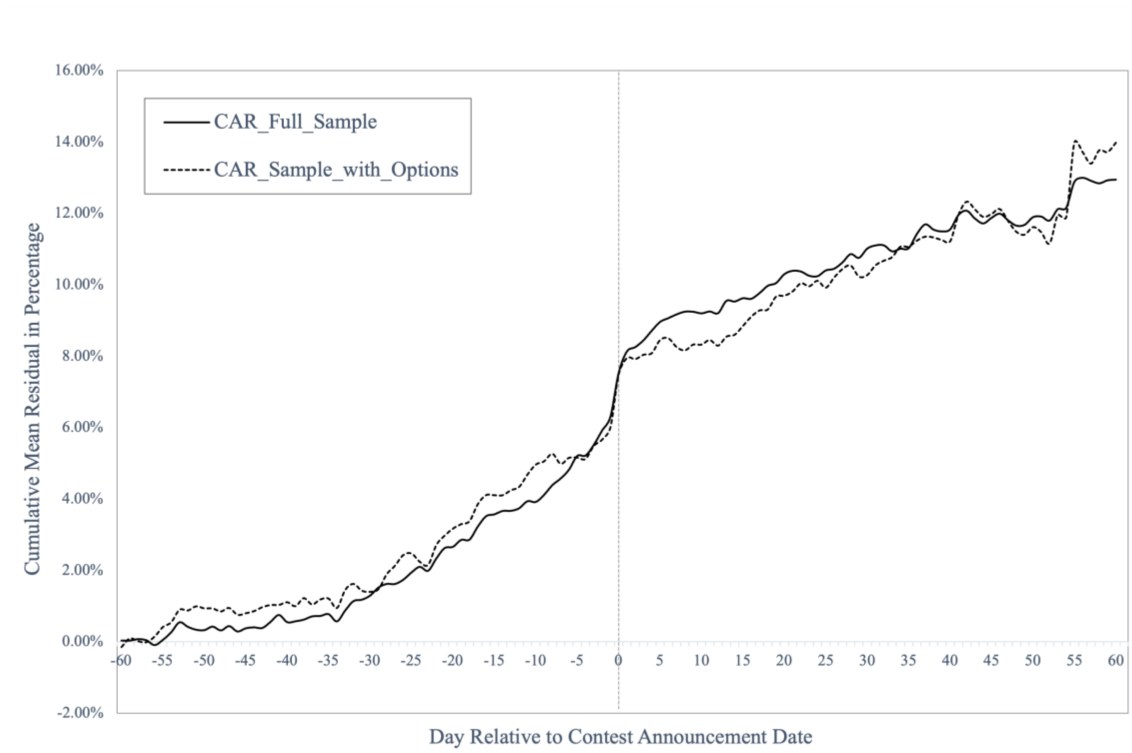
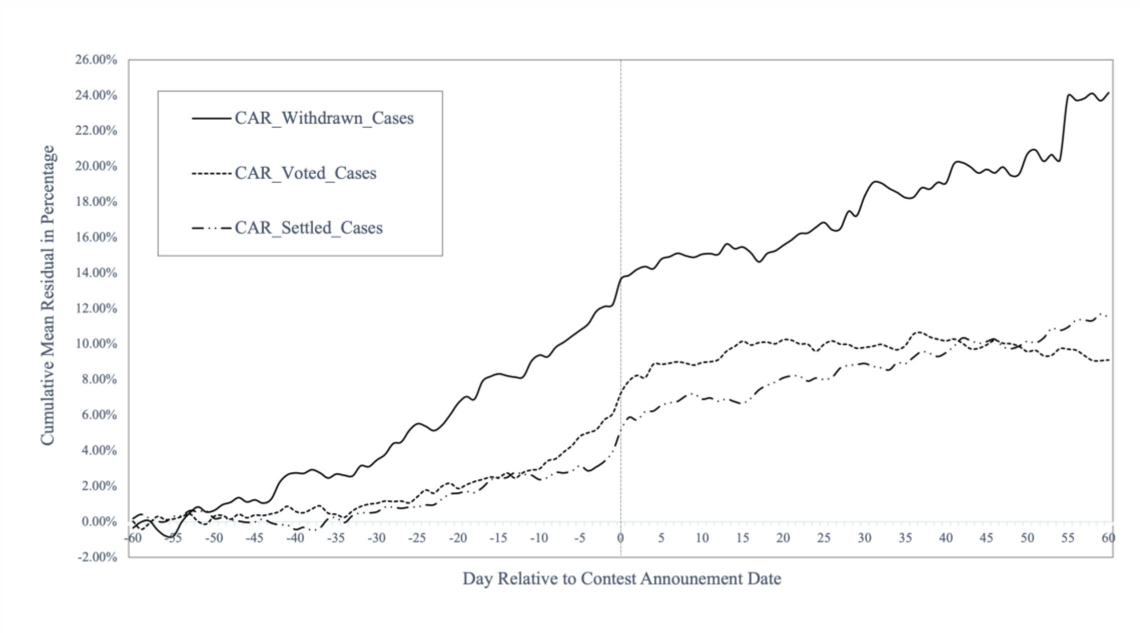


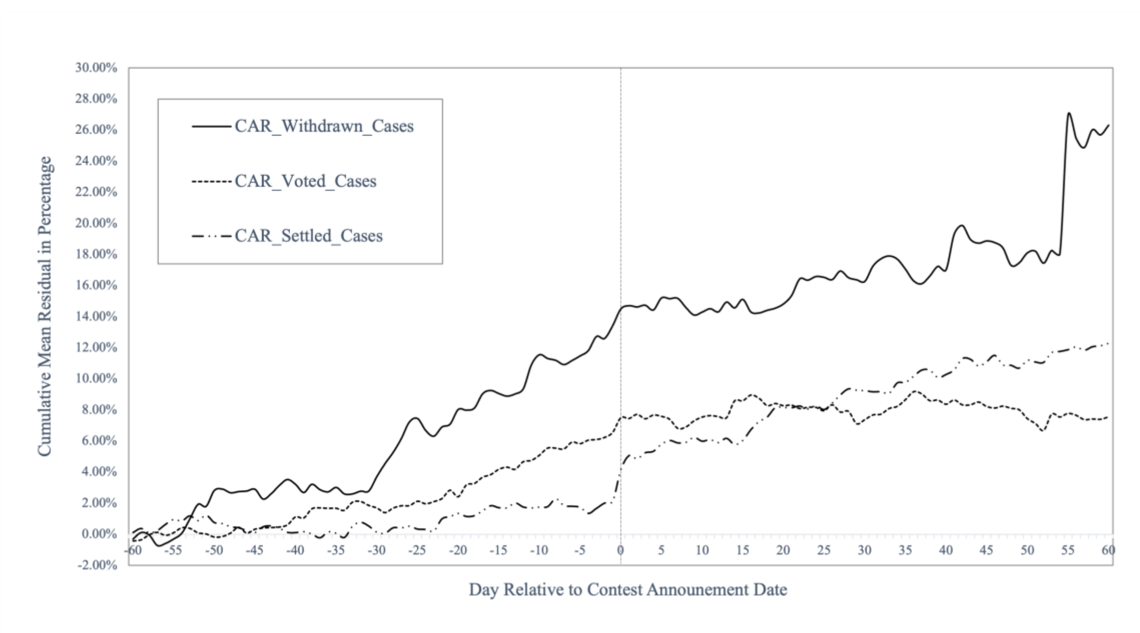
**Figure 5. CARs Around Proxy Contest Announcement Using Daily Data by Contest Outcomes.**

Figure 5 reports the share price performance around proxy contests using daily data, by the outcome of the contest. Panel A displays the full sample, where 207 cases are withdrawn, 418 cases are voted, and 449 cases are settled. Panel B displays the subsample with options data available, where 81 cases are withdrawn, 108 cases are voted, and 170 cases are settled.

*Panel A: Full Sample*

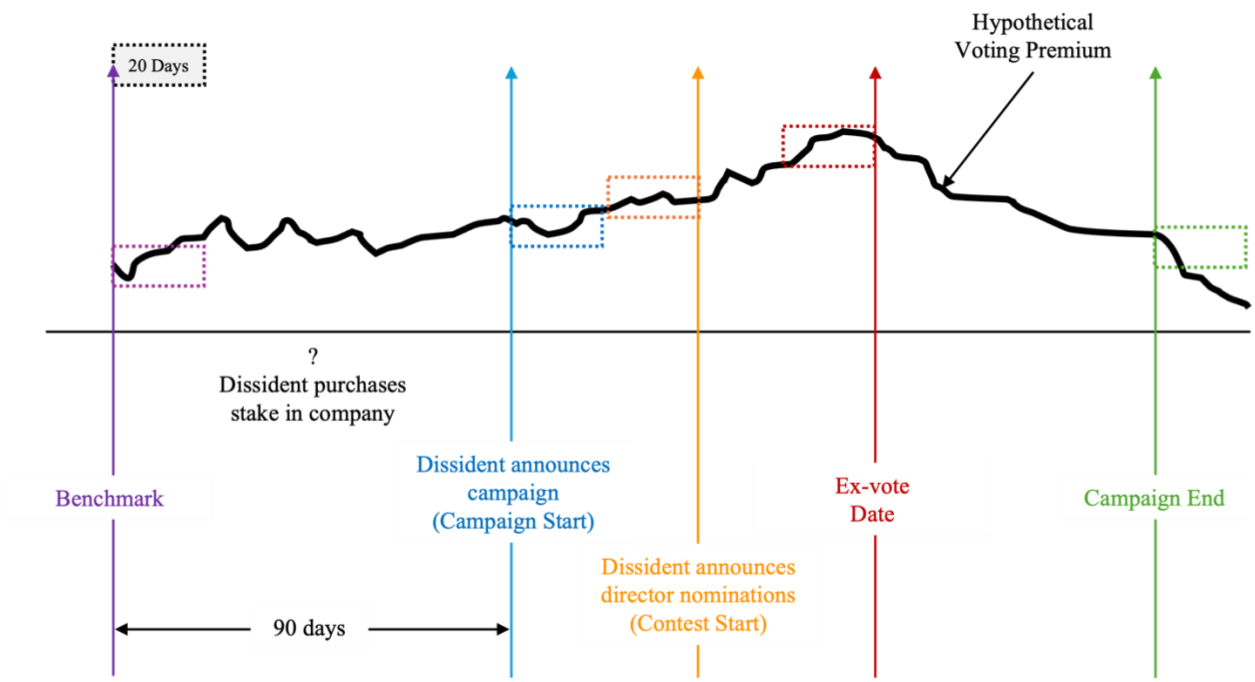



*Panel B: Subsample with Options*



## Figure 6. Event and Benchmark Windows.

Figure 6 depicts the event and benchmark windows used in our analyses. The hypothetical voting premium is represented as a bold black line. Each rectangular box corresponds to a 20-day window. The benchmark window is [-90, -71] relative to the campaign announcement date. The campaign announcement window is [0, 19] relative to the campaign announcement date. The contest announcement window is [-19, 0] relative to contest announcement date. The ex-vote date window is [-19, 0] relative to the ex-vote date. The campaign end window is [0, 19] relative to the campaign end date. Event windows are in business days.



## Table 1. Summary Statistics of the Full Sample and Sample with Options.

Table 1 reports the summary statistics of proxy contests for board seats from 1994 to 2020. Panel A displays the proxy contests for board seats in the full sample and Panel B displays the sample with option. *Size* is the market capitalization of the target firm (in million dollars). *Return on Assets (ROA)* is net income divided by total assets. *Tobin's Q* is the market value of assets divided by the book value of assets. *Excess Return* is stock return less market return over last financial year. *Ownership by 5% Holders* is total ownership of 5% holders excluding activists. *Activist Ownership* is the activist group ownership percentage. *Activist Fees Costs* is the aggregate amount of fees the activist expects to spend on their solicitation as reported in activist's DEFC14A or 8-K filing (in thousand dollars). We report the mean, standard deviation (Std), 5th percentile (P5), 25th percentile (P25), median, 75th percentile (P75), and 95th percentile (P95). Observations denote the valid number of observations for each variable.

| | Mean | Std | P5 | P25 | Median | P75 | P95 | Obs. |
|---|---|---|---|---|---|---|---|---|
| | | | | **Panel A: Full Sample** | | | | |
| ***Size*** | 2,876.21 | 15,379.49 | 13.38 | 72.18 | 215.63 | 887.12 | 9,935.84 | 810 |
| ***ROA*** | -0.07 | 0.44 | -0.53 | -0.07 | 0.00 | 0.05 | 0.15 | 819 |
| ***Tobin's Q*** | 1.75 | 2.11 | 0.74 | 0.99 | 1.24 | 1.78 | 3.78 | 810 |
| ***Excess Return*** | -0.17 | 0.47 | -0.75 | -0.40 | -0.21 | 0.04 | 0.48 | 929 |
| ***Ownership by 5% Holders*** | 31.52 | 16.92 | 6.77 | 19.20 | 30.85 | 41.39 | 61.93 | 990 |
| ***Activist Ownership*** | 9.21 | 7.92 | 0.10 | 4.40 | 7.90 | 11.56 | 25.77 | 1,040 |
| ***Activist Fees Costs*** | 759.89 | 2,110.35 | 20.00 | 100.00 | 250.00 | 600.00 | 2,747.50 | 602 |
| | | | | **Panel B: Sample with Options** | | | | |
| ***Size*** | 5,106.51 | 22,618.06 | 116.19 | 279.00 | 719.25 | 2,295.40 | 16,683.87 | 336 |
| ***ROA*** | -0.02 | 0.31 | -0.38 | -0.05 | 0.02 | 0.07 | 0.16 | 336 |
| ***Tobin's Q*** | 1.90 | 2.28 | 0.86 | 1.07 | 1.39 | 2.11 | 4.14 | 336 |
| ***Excess Return*** | -0.20 | 0.45 | -0.71 | -0.41 | -0.24 | -0.02 | 0.28 | 349 |
| ***Ownership by 5% Holders*** | 32.16 | 15.49 | 10.59 | 20.45 | 31.84 | 40.04 | 58.44 | 348 |
| ***Activist Ownership*** | 7.68 | 6.24 | 0.10 | 3.80 | 7.00 | 9.78 | 17.79 | 343 |
| ***Activist Fees Costs*** | 1,336.19 | 3,201.19 | 60.00 | 300.00 | 550.00 | 1,100.00 | 4,764.00 | 177 |

## Table 2. Proxy Contests from 1994 to 2020 by Type and Outcome.

Table 2 reports the sample of proxy contests for board seats from 1994 to 2020, by type and outcome. The total sample size is 1,074 proxy contests, of which 391 are control contests and 683 are short-slate contests. *Control contests* are contests where dissidents seek a majority of board seats available, i.e., for corporate control. *Short-slate contests* are contests where dissidents seek less than half of the board seats available. *Voted* indicates that the contest "went the distance" to a vote at a shareholder meeting. *Dissident Won* indicates the dissidents won at least one seat. *Dissident No Won* indicates the dissidents won no seat. *Settled/Concessions made* indicates that the contest was settled between the incumbent and the dissident before the annual or special meeting, with concessions by the incumbent. *Withdrawn* indicates that the contest was withdrawn by dissidents before the meeting. Panel A shows the number of contests and associated percentage for different outcomes of the full sample. Panel B shows the number of contests and associated percentage for different outcomes of the control contest sample. Panel C shows the number of contests and associated percentage for different outcomes of the short-slate contest sample.

**Panel A: Overall**

| | Total | Outcomes | | | |
|---|---|---|---|---|---|
| | | *Voted* | | *Settled/Concessions made* | *Withdrawn* |
| **No. of contests** | 1,074 | 418 | | 449 | 207 |
| **Percentage** | 100% | 38.92% | | 41.81% | 19.27% |
| | | *Dissident Won* | *Dissident No Won* | | |
| | | 188 | 230 | | |
| | | 44.98% | 55.02% | | |

**Panel B: Control Contests**

| | Total | Outcomes | | | |
|---|---|---|---|---|---|
| | | *Voted* | | *Settled/Concessions made* | *Withdrawn* |
| **No. of contests** | 391 | 147 | | 158 | 86 |
| **Percentage** | 100% | 37.60% | | 40.41% | 21.99% |
| | | *Dissident Won* | *Dissident No Won* | | |
| | | 85 | 62 | | |
| | | 57.82% | 42.18% | | |

**Panel C: Short-slate Contests**

| | Total | Outcomes | | | |
|---|---|---|---|---|---|
| | | *Voted* | | *Settled/Concessions made* | *Withdrawn* |
| **No. of contests** | 683 | 271 | | 291 | 121 |
| **Percentage** | 100% | 39.68% | | 42.61% | 17.72% |
| | | *Dissident Won* | *Dissident No Won* | | |
| | | 103 | 168 | | |
| | | 38% | 61.99% | | |

## Table 3. Summary of Excess Returns Around Proxy Contests for All Voted Contests.

Table 3 reports the summary of daily excess returns around all voted contests by types and outcomes. The sample consists of all voted proxy contests for board seats from 1994 to 2020. The table provides cumulative abnormal returns (in percentages) using different event windows around the contest announcement date, the ex-vote date, and the meeting date. Two-sided t-statistics are displayed in parentheses. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

| **Mean Cumulative Residuals in Percentages** | | | | | |
|---|---|---|---|---|---|
| | | | | **All contests where dissidents** | |
| | **All contests (1)** | **Control (2)** | **Short slate (3)** | **Win seat (4)** | **Win no seat (5)** |
| | [418] | [147] | [271] | [188] | [230] |
| **(1) [–60, 60] around contest announcement date[36]** | 9.90*** | 9.13** | 10.26*** | 13.92*** | 6.53* |
| | (4.072) | (2.183) | (3.431) | (4.774) | (1.754) |
| **(2) [-60, 0] around contest announcement date** | 7.32*** | 9.88*** | 6.12*** | 10.87*** | 4.35* |
| | (4.293) | (3.176) | (3.006) | (4.354) | (1.879) |
| **(3) [1, 60] around contest announcement date** | 2.59* | -0.75 | 4.14** | 3.06* | 2.19 |
| | (1.675) | (-0.235) | (2.428) | (1.704) | (0.909) |
| **(4) [-21, 0] around ex-vote date** | 3.68*** | 5.32** | 2.94*** | 5.58*** | 2.10 |
| | (3.667) | (2.369) | (2.811) | (3.616) | (1.603) |
| **(5) [1, 2] around ex-vote date** | 0.33 | 0.28 | 0.35 | -0.17 | 0.75 |
| | (0.995) | (0.371) | (1.039) | (-0.423) | (1.519) |
| **(6) [–1, 0] around meeting date** | -0.09 | -0.01 | -0.13 | 0.07 | -0.23 |
| | (-0.280) | (-0.021) | (-0.318) | (0.172) | (-0.457) |
| **(7) [1, 20] around meeting date** | –3.03*** | –5.49*** | –1.92** | –1.95 | -3.92*** |
| | (-3.686) | (-2.957) | (-2.283) | (-1.545) | (-3.648) |

[36] The mean (median) business days between contest announcement date and meeting date for voted contests in our sample is 60 (54).

## Table 4. Summary of Excess Returns Around Proxy Contests for Voted Contests with Options.

Table 4 reports the summary of daily excess returns around voted contests with options available by types and outcomes. The sample consists of all voted proxy contests for board seats from 2000 to 2020. The table provides cumulative abnormal returns (in percentages) using different event windows around the contest announcement date, the ex-vote date, and the meeting date. Two-sided t-statistics are displayed in parentheses. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

| **Mean Cumulative Residuals in Percentages** | | | | | |
|---|---|---|---|---|---|
| | | | | **All contests where dissidents** | |
| | **All contests (1)** | **Control (2)** | **Short slate (3)** | **Win seat (4)** | **Win no seat (5)** |
| | [108] | [26] | [82] | [51] | [57] |
| **(1) [–60, 66] around contest announcement date**[37] | 7.50** | 9.95 | 6.68* | 6.92 | 8.05** |
| | (2.351) | (1.303) | (1.945) | (1.323) | (2.138) |
| **(2) [-60, 0] around contest announcement date** | 7.51*** | 15.56*** | 4.82* | 6.65* | 8.33*** |
| | (3.168) | (2.822) | (1.913) | (1.793) | (2.766) |
| **(3) [1, 66] around contest announcement date** | -0.01 | -5.62 | 1.86 | 0.27 | -0.28 |
| | (-0.006) | (-1.044) | (0.832) | (0.083) | (-0.098) |
| **(4) [-21, 0] around ex-vote date** | 3.01** | 3.47 | 2.86* | 1.67 | 4.30* |
| | (2.218) | (1.093) | (1.929) | (1.017) | (2.005) |
| **(5) [1, 2] around ex-vote date** | 0.34 | 1.27 | 0.04 | 0.65 | 0.05 |
| | (0.808) | (1.058) | (0.089) | (1.289) | (0.078) |
| **(6) [–1, 0] around meeting date** | -0.02 | -0.46 | 0.13 | 0.31 | -0.33 |
| | (-0.030) | (-0.374) | (0.222) | (0.435) | (-0.413) |
| **(7) [1, 20] around meeting date** | –2.50* | –10.91** | 0.31 | –4.05 | -1.00 |
| | (-1.704) | (-2.390) | (0.285) | (-1.529) | (-0.755) |

[37] The mean (median) business days between contest announcement date and meeting date for voted contests in our sample with options is 66 (62).

## Table 5. Probit Analysis of Board-Seat Proxy Contest from 1999 to 2020.

Table 5 reports estimates of the probit regression: $\Pr(PC_{it} = 1) = \Phi(X_{it}\alpha + \zeta_t + \epsilon_{it})$, where the dependent variable $PC_{it}$ is a dummy variable equal to 1 if the company is targeted in a board-seat proxy contest during the year, $\Phi$ is the cumulative normal distribution, $X_{it}$ is a vector of lagged covariates, and $\zeta_t$ are time fixed effects. These regressions cover all Compustat firm-year observations from 1999 through 2020, including both event and nonevent observations. *BM* is the ratio of the book value of equity to the market value of equity following Fama and French (1992). *Cash* is the ratio of total cash and cash equivalents (item CHE) to total assets (item AT). *Dividend Payout Ratio* is the dividend payout ratio defined as the ratio of total dividend payments (item DVC plus item DVP) to net income before extraordinary items (item IB). *Dividend* is a dummy variable equal to 1 if the firm initiates dividend payments. *Amihud Illiquidity* is the Amihud (2002) illiquidity measure defined as the yearly average (using daily data) of $1{,}000\sqrt{\frac{|Return|}{Dollar\ Trading\ Volume}}$. *Total IO* is the proportion of shares held by institutions. *HF IO* is the proportion of shares held by activist hedge funds. *Investment* is the research and development expense and capital expenditures less the sale of property, plant, and equipment, divided by mean total assets, where the mean of total assets is the average of current and lagged total assets. *Leverage* is the net book leverage ratio defined as (book value of debt − cash) / (book value of debt + book value of equity). *MV (log)* is the logged market capitalization calculated as CSHO multiplied by PRCC_F (in millions of dollars). *Repurchases* is the ratio of net repurchases to income before extraordinary items. *ROA* is earnings before interest, taxes, depreciation, and amortization divided by lagged total assets. *BHR 12M* is the 12-month buy-and-hold return. Column (1) reports probit coefficients. Column (2) reports the average partial effects (APEs). The APE corresponds to the change in the likelihood of a board-seat proxy contest as a result of a standard deviation change of a covariate. Column (3) reports t-statistics calculated using heteroscedasticity robust standard errors and within correlation clustered by industry (three-digit SIC code). $*$, $**$, and $***$ indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

| | **Coefficient (1)** | **AME (2)** | **t-stat (3)** |
|---|---|---|---|
| ***BM*** | -0.008 | -0.00017 | -0.62 |
| ***Cash*** | 0.113 | 0.00235 | 1.11 |
| ***Dividend Payout Ratio*** | -0.002*** | -0.00003** | -2.62 |
| ***Dividend*** | 0.041 | 0.00086 | 0.80 |
| ***Amihud Illiquidity*** | -0.055 | -0.00114 | -1.47 |
| ***Total IO*** | 0.428*** | 0.00890*** | 8.45 |
| ***HF IO*** | 0.503*** | 0.01046*** | 4.67 |
| ***Investment*** | 0.039 | 0.00080 | 0.30 |
| ***Leverage*** | -0.003 | -0.00005 | -0.79 |
| ***MV (log)*** | -0.109*** | -0.00227*** | -5.96 |
| ***Rephurchases*** | -0.000 | -0.00000 | -1.10 |
| ***ROA*** | -0.000 | -0.00000 | -0.95 |
| ***BHR 12M*** | -0.194*** | -0.00402*** | -5.79 |
| ***Constant*** | -2.188*** | | -15.24 |
| ***Year Dummies*** | Yes | | |
| ***Observations*** | 79,672 | | |
| ***Pseudo $R^2$*** | 0.048 | | |

## Table 6. Mean and Medium of Voting Premium Proxies Sorted by Probability of Board-Seat Contest.

Table 6 reports the mean and medium of voting premium proxies (*Vote* and *AVote*) based on *p_contest* sorted into terciles. *p_contest* is the predicted value of the probit regression: where $\widehat{\Pr}(PC_{it} = 1)$ is a dummy variable equal to 1 if the company is targeted in a board-seat proxy contest during the year. We divide *p_contest* into 3 equal-sized groups (tertiles) and assigns Low, Medium, or High to each observation, depending on which group it falls into. Low contains the observations in the lowest third (bottom 1/3 of the distribution). Medium contains the observations in the middle third. High contains the observations in the top third (top 1/3 of the distribution). All voting premium proxies are winsorized at 1% and 99%.

| **Tercile (*p_contest*)** | **Mean *Vote*** | **Medium *Vote*** | **Mean *AVote*** | **Medium *AVote*** |
|---|---|---|---|---|
| **Low** | 0.000195 | 0.000128 | 0.001999 | 0.001489 |
| **Medium** | 0.000325 | 0.000149 | 0.002546 | 0.001738 |
| **High** | 0.000865 | 0.000324 | 0.006368 | 0.003532 |

## Table 7. Probit Analysis of Board-Seat Proxy Contest from 1999 to 2020 for Withdrawn, Settled, and Voted Groups.

Table 7 reports estimates of the probit regression: $\Pr(PC_{it} = 1\ \&\ Outcome) = \Phi(X_{it}\alpha + \zeta_t + \epsilon_{it})$, where the dependent variable $PC_{it}$ is a dummy variable equal to 1 if the company is targeted in a board-seat proxy contest during the year and Outcome is Withdrawn, Settled, or Voted, $\Phi$ is the cumulative normal distribution, is a vector of lagged covariates, and are time fixed effects. These regressions cover all Compustat firm-year observations from 1999 through 2020, including both event and nonevent observations. *BM* is the ratio of the book value of equity to the market value of equity following Fama and French (1992). *Cash* is the ratio of total cash and cash equivalents (item CHE) to total assets (item AT). *Dividend Payout Ratio* is the dividend payout ratio defined as the ratio of total dividend payments (item DVC plus item DVP) to net income before extraordinary items (item IB). *Dividend* is a dummy variable equal to 1 if the firm initiates dividend payments. *Amihud Illiquidity* is the Amihud (2002) illiquidity measure defined as the yearly average (using daily data) of $1{,}000\sqrt{\frac{|Return|}{Dollar\ Trading\ Volume}}$. *Total IO* is the proportion of shares held by institutions. *HF IO* is the proportion of shares held by activist hedge funds. *Investment* is the research and development expense and capital expenditures less the sale of property, plant, and equipment, divided by mean total assets, where the mean of total assets is the average of current and lagged total assets. *Leverage* is the net book leverage ratio defined as (book value of debt − cash) / (book value of debt + book value of equity). *MV (log)* is the logged market capitalization calculated as CSHO multiplied by PRCC_F (in millions of dollars). *Repurchases* is the ratio of net repurchases to income before extraordinary items. *ROA* is earnings before interest, taxes, depreciation, and amortization divided by lagged total assets. *BHR 12M* is the 12-month buy-and-hold return. Column (1) reports probit coefficients for Withdrawn cases. Column (2) reports probit coefficients for Settled cases. Column (3) reports probit coefficients for Voted cases. Robust standard errors clustered by industry (three-digit SIC code) are reported in parentheses. $*$, $**$, and $***$ indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

| | **Coefficient_Withdrawn (1)** | **Coefficient_Settled (2)** | **Coefficient_Voted (3)** |
|---|---|---|---|
| ***BM*** | 0.005 | -0.003 | -0.029 |
| | (0.011) | (0.013) | (0.023) |
| ***Cash*** | 0.244** | -0.011 | 0.177 |
| | (0.109) | (0.167) | (0.135) |
| ***Dividend Payout Ratio*** | -0.001** | -0.001** | -0.001* |
| | (0.001) | (0.001) | (0.001) |
| ***Dividend*** | 0.043 | -0.036 | 0.112* |
| | (0.074) | (0.059) | (0.061) |
| ***Amihud Illiquidity*** | -0.163 | -0.063 | -0.012 |
| | (0.130) | (0.039) | (0.043) |
| ***Total IO*** | 0.345*** | 0.494*** | 0.299*** |
| | (0.100) | (0.069) | (0.072) |
| ***HF IO*** | 0.315** | 0.528*** | 0.306** |
| | (0.153) | (0.121) | (0.155) |
| ***Investment*** | 0.052 | 0.108 | -0.098 |
| | (0.123) | (0.185) | (0.176) |
| ***Leverage*** | -0.003 | -0.005 | 0.002 |
| | (0.004) | (0.003) | (0.011) |
| ***MV (log)*** | -0.086*** | -0.130*** | -0.076*** |
| | (0.026) | (0.022) | (0.025) |
| ***Rephurchases*** | -0.000 | -0.000 | -0.000 |
| | (0.000) | (0.000) | (0.000) |

| | | | |
|---|---|---|---|
| ***ROA*** | 0.000 | -0.000 | -0.000 |
| | (0.000) | (0.000) | (0.000) |
| ***BHR 12M*** | -0.300*** | -0.112*** | -0.205*** |
| | (0.078) | (0.043) | (0.048) |
| ***Constant*** | -2.904*** | -2.238*** | -2.777*** |
| | (0.210) | (0.169) | (0.213) |
| ***Year Dummies*** | Yes | Yes | Yes |
| ***Observations*** | 75,270 | 79,330 | 79,276 |
| ***Pseudo $R^2$*** | 0.0481 | 0.0649 | 0.0367 |

## Table 8. Univariate Analysis of Voting Premium, Annualized Voting Premium, and Change in Annualized Voting Premium Around Proxy Contests.

Table 8 reports the mean (in percentages), median (in percentages), and standard deviation of voting premium (*Vote*), annualized voting premium (*AVote*), and change in annualized voting premium (*ΔAVote*) for our sample of contests with options. The sample consists of 359 proxy contests for board seats from 1997 to 2020. Voting premium are winsorized at 1% and 99%. *AVote* is estimated as: $AVote = 1 - (1 - Vote)^{\frac{365}{T}}$. *ΔAVote* is calculated as the difference between the median of *AVote* during event window and the median of *AVote* during the benchmark window. For campaign announcement period, contest announcement period, and ex-vote date period, the benchmark window is [-90, -71] relative to the campaign announcement date. For campaign end period, the benchmark window is the ex-vote date period. Event windows are in business days.

| | | | ***Vote*** | | | ***AVote*** | | | ***ΔAVote*** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Event Windows** | | | *Voted* | *Settled* | *Withdrawn* | *Voted* | *Settled* | *Withdrawn* | *Voted* | *Settled* | *Withdrawn* |
| **Around Campaign Announce Date** | [0, 14] | Mean | 0.09 | 0.03 | 0.03 | 1.02 | 0.27 | 0.42 | 0.89 | 0.05 | -1.11 |
| | | Median | 0.04 | 0.00 | 0.03 | 0.45 | 0.09 | 0.43 | 0.13 | -0.12 | -0.13 |
| | | S.D. | 0.0052 | 0.0023 | 0.0020 | 0.0552 | 0.0217 | 0.0324 | 0.0365 | 0.0413 | 0.0423 |
| | [0, 19] | Mean | 0.12 | 0.04 | 0.02 | 1.23 | 0.38 | 0.22 | 0.85 | 0.20 | -1.14 |
| | | Median | 0.03 | 0.01 | 0.02 | 0.45 | 0.21 | 0.13 | 0.11 | –0.05 | 0.13 |
| | | S.D. | 0.0046 | 0.0024 | 0.0022 | 0.0475 | 0.0239 | 0.0325 | 0.0333 | 0.0390 | 0.0424 |
| **Around Contest Announce Date** | [–14, 0] | Mean | 0.13 | 0.00 | 0.06 | 1.49 | 0.11 | 0.73 | 0.89 | -0.32 | -0.39 |
| | | Median | 0.04 | 0.00 | 0.00 | 0.39 | 0.01 | 0.07 | 025 | -0.11 | 0.10 |
| | | S.D. | 0.0056 | 0.0028 | 0.0016 | 0.0561 | 0.0370 | 0.0207 | 0.0433 | 0.0415 | 0.0181 |
| | [–19, 0] | Mean | 0.11 | 0.00 | 0.07 | 1.36 | 0.02 | 0.81 | 0.83 | 0.05 | -0.28 |
| | | Median | 0.04 | 0.02 | 0.01 | 0.38 | 0.23 | 0.19 | 0.00 | 0.05 | 0.03 |
| | | S.D. | 0.0054 | 0.0025 | 0.0018 | 0.0510 | 0.0315 | 0.0247 | 0.0378 | 0.0408 | 0.0216 |
| **Around Ex-vote Date** | [–14, 0] | Mean | 0.15 | 0.10 | 0.02 | 1.55 | 1.11 | -0.13 | 1.45 | 0.79 | -0.59 |
| | | Median | 0.02 | 0.01 | -0.00 | 0.30 | 0.03 | -0.15 | 0.13 | 0.39 | 0.10 |
| | | S.D. | 0.0058 | 0.0038 | 0.0031 | 0.0683 | 0.0367 | 0.0348 | 0.0551 | 0.0433 | 0.0460 |
| | [-19, 0] | Mean | 0.19 | 0.07 | 0.00 | 2.04 | 0.79 | -0.12 | 1.56 | 0.72 | -0.73 |
| | | Median | 0.02 | 0.01 | -0.01 | 0.31 | 0.10 | -0.24 | 0.06 | 0.32 | -0.24 |
| | | S.D. | 0.0057 | 0.0037 | 0.0028 | 0.0622 | 0.0402 | 0.0354 | 0.0552 | 0.0438 | 0.0450 |
| **Around Campaign End Date** | [0, 14] | Mean | 0.16 | 0.16 | -0.05 | 1.01 | 1.78 | -1.06 | -1.02 | 1.85 | -1.41 |
| | | Median | 0.02 | 0.01 | -0.03 | 0.13 | 0.28 | -0.33 | -0.03 | 0.17 | 0.17 |
| | | S.D. | 0.0068 | 0.0057 | 0.0032 | 0.0907 | 0.0625 | 0.0412 | 0.0924 | 0.0717 | 0.0467 |
| | [0, 19] | Mean | 0.14 | 0.13 | 0.02 | 0.96 | 1.39 | -0.75 | -1.10 | 2.12 | –0.47 |
| | | Median | 0.02 | 0.01 | 0.01 | 0.25 | 0.17 | 0.07 | –0.04 | 0.17 | 0.08 |
| | | S.D. | 0.0065 | 0.0057 | 0.0045 | 0.0824 | 0.0625 | 0.0658 | 0.0756 | 0.0779 | 0.0270 |

## Table 9. Multinomial Logit Regressions of Proxy Contest Outcomes and Voting Premium: Voted vs. Withdrawn and Settled vs. Withdrawn Around Campaign Announcement.

Table 9 reports the voting premium that predict the occurrence of a *voted* or *settled* contest versus a *withdrawn* contest around campaign announcement. The base outcome is *withdrawn*. The predicted outcomes of column (1), (3), (5), (7) and (9) are *voted*. The predicted outcomes of column (2), (4), (6), (8), and (10) are *settled*. These models are estimated using multinomial logit regressions. Our main explanatory variable is the change in annualized voting premium (*ΔAVote*), which is the Annualized Voting Premium (*AVote*) for the [0, 19] window around the campaign announcement, less *AVote* for the benchmark window [-90, -71] relative to the campaign announcement date. *Size* is the size of target firm in logarithm. *Return on Assets (ROA)* is net income divided by total assets. *Tobin's Q* is the market value of assets divided by the book value of assets. *Excess Return* is equal to stock return less market return over last financial year. *Ownership by 5% Holders* is total ownership of 5% holders excluding activists. *Hedge Fund* is a dummy which equals 1 if the dissident was a hedge fund dissident, otherwise 0. *Activist Ownership* is the activist group ownership percentage. *Cumulative Voting* is a dummy which equals 1 if the company permits cumulative voting for the corresponding election campaign, otherwise 0. *Activist Fees Costs* is the aggregate amount of fees the activist expects to spend on their solicitation (in logarithm) as reported in activist's DEFC14A or 8-K filing. *Gadfly* is a dummy which equals 1 if the dissident was a gadfly, otherwise 0. The sample is proxy contests for board seats with voting premium data available. The number of observations in each specification is reduced by the number of contests for which independent variables are not available. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. Z-statistics based on robust standard errors are reported in parentheses.

| | Voted (1) | Settled (2) | Voted (3) | Settled (4) | Voted (5) | Settled (6) | Voted (7) | Settled (8) | Voted (9) | Settled (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| ***ΔAVote* (Campaign Announcement [0, 19])** | 12.53** | 8.879 | 15.18** | 11.01* | 14.37** | 10.79* | 12.66** | 10.25 | 11.40* | 9.015 |
| | (2.148) | (1.572) | (2.221) | (1.841) | (2.143) | (1.835) | (1.961) | (1.281) | (1.786) | (1.177) |
| ***Size*** | | | -0.051 | -0.192 | 0.045 | -0.083 | 0.166 | -0.083 | 0.627 | 0.343 |
| | | | (-0.252) | (-0.939) | (0.161) | (-0.295) | (0.462) | (-0.174) | (0.925) | (0.454) |
| ***ROA*** | | | -2.323 | -0.189 | -1.952 | 0.207 | 0.0409 | 2.361 | -1.918 | 0.506 |
| | | | (-0.619) | (-0.050) | (-0.488) | (0.052) | (0.008) | (0.448) | (-0.317) | (0.080) |
| ***Tobin's Q*** | | | 0.495** | 0.424* | 0.565** | 0.495** | 1.573** | 1.900** | 1.767** | 2.091** |
| | | | (2.268) | (1.809) | (2.440) | (2.007) | (2.019) | (2.212) | (2.186) | (2.386) |
| ***Excess Return*** | | | 0.212 | -0.187 | -0.005 | -0.472 | -0.514 | -1.106 | 0.261 | -0.406 |
| | | | (0.273) | (-0.214) | (-0.005) | (-0.443) | (-0.289) | (-0.485) | (0.114) | (-0.152) |
| ***Ownership by 5% Holders*** | | | -0.002 | 0.0119 | -0.007 | 0.010 | -0.002 | 0.014 | -0.007 | 0.008 |
| | | | (-0.094) | (0.651) | (-0.326) | (0.521) | (-0.058) | (0.372) | (-0.224) | (0.215) |
| ***Hedge Fund*** | | | 0.573 | 2.040** | 0.900 | 2.156** | 0.711 | 1.645 | -0.230 | 0.766 |
| | | | (0.817) | (2.471) | (1.174) | (2.526) | (0.705) | (1.458) | (-0.151) | (0.483) |
| ***Activist Ownership*** | | | | | 0.050 | 0.030 | 0.277* | 0.302* | 0.308 | 0.332 |
| | | | | | (0.611) | (0.378) | (1.790) | (1.856) | (1.444) | (1.530) |
| ***Cumulative Voting*** | | | | | | | 13.05*** | -4.165 | 12.33*** | -4.757 |
| | | | | | | | (9.202) | (-1.529) | (6.313) | (-1.553) |
| ***Activist Fees Costs*** | | | | | | | 0.389* | 0.365 | -0.357 | -0.330 |
| | | | | | | | (1.675) | (0.781) | (-0.448) | (-0.369) |
| ***Gadfly*** | | | | | | | | | -25.64*** | -23.13*** |
| | | | | | | | | | (-3.507) | (-2.894) |
| **Constant** | 0.659*** | 0.888*** | 0.0865 | -0.270 | -1.302 | -1.545 | -6.659* | -7.656 | -4.375 | -5.508 |
| | (2.585) | (3.616) | (0.0420) | (-0.136) | (-0.442) | (-0.551) | (-1.720) | (-1.569) | (-0.999) | (-1.044) |
| **Observations** | 130 | 130 | 118 | 118 | 113 | 113 | 66 | 66 | 66 | 66 |
| **Pseudo $R^2$** | 0.017 | 0.017 | 0.088 | 0.088 | 0.099 | 0.099 | 0.197 | 0.197 | 0.214 | 0.214 |

## Table 10. Multinomial Logit Regression of Proxy Contest Outcomes and Voting Premium: Voted vs. Settled Around Campaign Announcement.

Table 10 reports the voting premium that predict the occurrence of a *voted* versus *settled* contest around campaign announcement. The base outcome is *settled*. The predicted outcomes of column (1), (2), (3), and (4) are *voted*. These models are estimated using multinomial logit regressions. Our main explanatory variable is the change in annualized voting premium (*ΔAVote*), which is the Annualized Voting Premium (*AVote*) for the [0, 19] window around the campaign announcement, less *AVote* for the benchmark window [-90, -71] relative to the campaign announcement date. *Size* is the size of target firm in logarithm. *Return on Assets (ROA)* is net income divided by total assets. *Tobin's Q* is the market value of assets divided by the book value of assets. *Excess Return* is equal to stock return less market return over last financial year. *Ownership by 5% Holders* is total ownership of 5% holders excluding activists. *Hedge Fund* is a dummy which equals 1 if the dissident was a hedge fund dissident, otherwise 0. *Activist Ownership* is the activist group ownership percentage. *Cumulative Voting* is a dummy which equals 1 if the company permits cumulative voting for the corresponding election campaign, otherwise 0. *Activist Fees Costs* is the aggregate amount of fees the activist expects to spend on their solicitation (in logarithm) as reported in activist's DEFC14A or 8-K filing. The sample is proxy contests for board seats with voting premium data available. The number of observations in each specification is reduced by the number of contests for which independent variables are not available. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. Z-statistics based on robust standard errors are reported in parentheses.

| | **Voted (1)** | **Voted (2)** | **Voted (3)** | **Voted (4)** |
|---|---|---|---|---|
| ***ΔAVote*** **(Campaign Announcement [0, 19])** | 3.522 | 4.236 | 3.588 | 2.336 |
| | (0.661) | (0.760) | (0.644) | (0.306) |
| ***Size*** | | 0.175 | 0.173 | 0.276 |
| | | (1.221) | (1.154) | (0.845) |
| ***ROA*** | | -2.781* | -2.775 | -2.639 |
| | | (-1.654) | (-1.621) | (-1.039) |
| ***Tobin's Q*** | | 0.0715 | 0.0713 | -0.334 |
| | | (0.429) | (0.413) | (-0.978) |
| ***Excess Return*** | | 0.570 | 0.602 | 0.762 |
| | | (0.819) | (0.718) | (0.564) |
| ***Ownership by 5% Holders*** | | -0.0122 | -0.0151 | -0.0130 |
| | | (-0.878) | (-1.058) | (-0.583) |
| ***Hedge Fund*** | | -1.593** | -1.380* | -1.081 |
| | | (-2.183) | (-1.792) | (-1.254) |
| ***Activist Ownership*** | | | 0.0290 | -0.022 |
| | | | (0.883) | (-0.270) |
| ***Cumulative Voting*** | | | | 17.66*** |
| | | | | (8.093) |
| ***Activist Fees Costs*** | | | | -0.042 |
| | | | | (-0.102) |
| **Constant** | -0.229 | 0.209 | -0.078 | 1.333 |
| | (-1.154) | (0.150) | (-0.049) | (0.436) |
| **Observations** | 105 | 99 | 95 | 57 |
| **Pseudo $R^2$** | 0.004 | 0.088 | 0.090 | 0.091 |

## Table 11. Multinomial Logit Regression of Proxy Contest Outcomes and Voting Premium: Voted vs. Settled Around Contest Announcement.

Table 11 reports the voting premium that predict the occurrence of a *voted* versus *settled* contest around contest announcement. The base outcome is *settled*. The predicted outcomes of column (1), (2), (3), and (4) are *voted*. These models are estimated using multinomial logit regressions. Our main explanatory variable is the change in annualized voting premium (*ΔAVote*), which is the Annualized Voting Premium (*AVote*) for the [-19, 0] window around the contest announcement, less *AVote* for the benchmark window [-90, -71] relative to the campaign announcement date. *Size* is the size of target firm in logarithm. *Return on Assets (ROA)* is net income divided by total assets. *Tobin's Q* is the market value of assets divided by the book value of assets. *Excess Return* is equal to stock return less market return over last financial year. *Ownership by 5% Holders* is total ownership of 5% holders excluding activists. *Hedge Fund* is a dummy which equals 1 if the dissident was a hedge fund dissident, otherwise 0. *Activist Ownership* is the activist group ownership percentage. *Cumulative Voting* is a dummy which equals 1 if the company permits cumulative voting for the corresponding election campaign, otherwise 0. *Activist Fees Costs* is the aggregate amount of fees the activist expects to spend on their solicitation (in logarithm) as reported in activist's DEFC14A or 8-K filing. The sample is proxy contests for board seats with voting premium data available. The number of observations in each specification is reduced by the number of contests for which independent variables are not available. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. Z-statistics based on robust standard errors are reported in parentheses.

| | Voted (1) | Voted (2) | Voted (3) | Voted (4) |
|---|---|---|---|---|
| ***ΔAVote*** | 3.333 | 0.948 | 1.097 | -0.485 |
| **(Contest Announcement [-19, 0])** | (0.703) | (0.217) | (0.245) | (-0.0829) |
| ***Size*** | | 0.138 | 0.160 | 0.112 |
| | | (1.011) | (1.086) | (0.352) |
| ***ROA*** | | -0.858 | -0.879 | 2.883 |
| | | (-0.543) | (-0.555) | (1.208) |
| ***Tobin's Q*** | | 0.0341 | 0.0320 | -0.219 |
| | | (0.197) | (0.179) | (-0.711) |
| ***Excess Return*** | | 0.587 | 0.644 | 0.191 |
| | | (0.936) | (0.902) | (0.185) |
| ***Ownership by 5% Holders*** | | -0.0102 | -0.0127 | -0.00644 |
| | | (-0.695) | (-0.826) | (-0.305) |
| ***Hedge Fund*** | | -1.466** | -1.243* | -0.714 |
| | | (-2.087) | (-1.677) | (-0.686) |
| ***Activist Ownership*** | | | 0.0435 | 0.0235 |
| | | | (1.240) | (0.206) |
| ***Cumulative Voting*** | | | | 0.891 |
| | | | | (0.745) |
| ***Activist Fees Costs*** | | | | 0.0975 |
| | | | | (0.205) |
| **Constant** | -0.199 | 0.396 | -0.225 | 0.512 |
| | (-0.977) | (0.295) | (-0.144) | (0.145) |
| **Observations** | 99 | 95 | 91 | 55 |
| **Pseudo $R^2$** | 0.004 | 0.071 | 0.080 | 0.093 |

## Table 12. OLS Regression of Activist Success in Obtaining Board Seats: Around Ex-vote Date.

Table 12 reports the results of ordinary least squares regressions regarding the success of activists in obtaining board seats on *ΔAVote* around the ex-vote date. The dependent variable is *seats won divided by seats sought*. *ΔAVote* is calculated as the *AVote* for the [-19, 0] window around the ex-vote date, less *AVote* for the benchmark window [-90, -71] relative to the campaign announcement date. *Size* is the size of target firm in logarithm. *Return on Assets (ROA)* is net income divided by total assets. *Tobin's Q* is the market value of assets divided by the book value of assets. *Excess Return* is equal to stock return less market return over last financial year. *Hedge Fund* is a dummy which equals 1 if the dissident was a hedge fund dissident, otherwise 0. *Activist Ownership* is the activist group ownership percentage. *Cumulative Voting* is a dummy which equals 1 if the company permits cumulative voting for the corresponding election campaign, otherwise 0. *Activist Fees Costs* is the aggregate amount of fees the activist expects to spend on their solicitation (in logarithm) as reported in activist's DEFC14A or 8-K filing. *Variation* is a measure of the election variation within proxy card. Regressions are clustered on *campaignid*, which is the arbitrary index number of each proxy contest. Year fixed effects are included in the even columns. The sample is proxy contests for board seats with voting premium data available. The number of observations in each specification is reduced by the number of contests for which independent variables are not available. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. *t*-statistics based on robust standard errors are reported in parentheses.

| | Seats Won / Sought (1) | Seats Won / Sought (2) | Seats Won / Sought (3) | Seats Won / Sought (4) | Seats Won / Sought (5) | Seats Won / Sought (6) | Seats Won / Sought (7) | Seats Won / Sought (8) | Seats Won / Sought (9) | Seats Won / Sought (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| ***ΔAVote*** **(Ex-vote date [–19, 0])** | 3.223*** | 2.744** | 2.980*** | 2.890* | 3.111*** | 2.737* | 2.907*** | 2.766 | 3.019*** | 1.317 |
| | (4.418) | (2.166) | (3.446) | (2.092) | (3.140) | (1.822) | (2.953) | (1.680) | (2.986) | (0.713) |
| ***Size*** | | | 0.0309 | 0.0737 | 0.0247 | 0.0776 | 0.00261 | 0.0706 | -0.0952 | -0.150 |
| | | | (0.630) | (1.460) | (0.386) | (0.637) | (0.0358) | (0.548) | (-1.003) | (-0.782) |
| ***ROA*** | | | -1.259** | -1.121* | -1.054* | -1.102* | -1.153 | -1.075 | -0.606 | -0.0542 |
| | | | (-2.442) | (-1.960) | (-1.916) | (-1.794) | (-1.625) | (-1.547) | (-0.961) | (-0.0741) |
| ***Tobin's Q*** | | | -0.0700** | -0.0374 | -0.0578 | -0.0622 | -0.0636 | -0.0483 | 0.0352 | 0.0319 |
| | | | (-2.057) | (-0.648) | (-1.343) | (-1.027) | (-0.897) | (-0.346) | (0.357) | (0.186) |
| ***Excess Return*** | | | 0.406* | 0.476 | 0.315 | 0.430 | 0.205 | 0.422 | 0.479 | 0.503 |
| | | | (1.772) | (1.205) | (1.263) | (0.939) | (0.720) | (0.820) | (0.960) | (1.006) |
| ***Hedge Fund*** | | | -0.426*** | -0.500** | -0.373** | -0.554** | -0.290 | -0.539* | -0.483* | -0.273 |
| | | | (-2.848) | (-2.747) | (-2.142) | (-2.616) | (-1.500) | (-2.026) | (-1.892) | (-0.797) |
| ***Activist Ownership*** | | | | | 0.00789* | 0.0257 | 0.0132 | 0.0257 | 0.0227 | -0.00477 |
| | | | | | (1.931) | (1.047) | (0.632) | (0.980) | (0.844) | (-0.110) |
| ***Cumulative Voting*** | | | | | | | 0.300 | -0.0632 | | |
| | | | | | | | (0.840) | (-0.0990) | | |
| ***Activist Fees Costs*** | | | | | | | 0.0917 | 0.0128 | 0.0527 | -0.266 |
| | | | | | | | (1.033) | (0.106) | (0.328) | (-1.074) |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Variation*** | | | | | | | | | 0.943 | 0.190 |
| | | | | | | | | | (1.088) | (0.159) |
| **Constant** | 0.418*** | 0.838*** | 0.738* | 0.558 | 0.608 | 0.291 | 0.0373 | 0.237 | 0.879 | 4.137 |
| | (5.906) | (11.17) | (1.859) | (1.107) | (1.022) | (0.216) | (0.0419) | (0.149) | (0.976) | (1.341) |
| **Year FE** | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes |
| **Observations** | 41 | 41 | 41 | 41 | 39 | 39 | 37 | 37 | 26 | 26 |
| **$R^2$** | 0.163 | 0.532 | 0.358 | 0.672 | 0.384 | 0.718 | 0.393 | 0.699 | 0.541 | 0.780 |

## Table 13. Summary Statistics Based on Groups Sorted by Vote Outcomes

Table 13 shows the summary statistics of vote Closeness and voting premium (*ΔAVote*) across terciles of activist success in gaining seats for voted contests, measured by *Seats Won/Sought*. Group 1 includes observations in the bottom third of *Seats Won/Sought*, indicating the group of low success. Group 2 includes observations in the middle third of *Seats Won/Sought*, indicating the group of medium success. Group 3 includes observations in the top third of *Seats Won/Sought*, indicating the group of high success. Closeness is calculated as votes for of the dissidents divided by the total votes for (i.e., votes for of the dissidents and votes for of the opponent) after centered scaling by subtracting 0.5. *ΔAVote* is calculated as the *AVote* for the [0, 19] window around the campaign end date, less *AVote* for the window [-19, 0] relative to the ex-vote date. The table reports the mean and median values of Closeness and *ΔAVote* within each tercile.

| Tercile (Seats Won/Sought) | Mean Closeness (1) | Mean ΔAVote (2) | Median Closeness (3) | Median ΔAVote (4) |
|---|---|---|---|---|
| **1 (Low success)** | -0.218 | 0.0004 | -0.193 | -0.0004 |
| **2 (Medium success)** | 0.024 | 0.0056 | -0.017 | 0.0029 |
| **3 (High success)** | 0.224 | -0.0353 | 0.221 | -0.0055 |
| **Total** | -0.030 | -0.0096 | -0.061 | -0.0004 |

## Table 14. OLS Regression of Activist Success in Obtaining Board Seats: Around Campaign End Date.

Table 14 reports the results of ordinary least squares regressions regarding the success of activists in obtaining board seats on *ΔAVote* around the campaign end date. The dependent variable is *seats won divided by seats sought*. *ΔAVote* is calculated as the *AVote* for the [0, 19] window around the campaign end date, less *AVote* for the window [-19, 0] relative to the ex-vote date. *Size* is the size of target firm in logarithm. *Return on Assets (ROA)* is net income divided by total assets. *Tobin's Q* is the market value of assets divided by the book value of assets. *Excess Return* is equal to stock return less market return over last financial year. *Hedge Fund* is a dummy which equals 1 if the dissident was a hedge fund dissident, otherwise 0. *Activist Ownership* is the activist group ownership percentage. *Cumulative Voting* is a dummy which equals 1 if the company permits cumulative voting for the corresponding election campaign, otherwise 0. *Activist Fees Costs* is the aggregate amount of fees the activist expects to spend on their solicitation (in logarithm) as reported in activist's DEFC14A. |*Closeness*| is the absolute value of *Closeness*, a measure of the election closeness between the dissidents and the management. *Variation* is a measure of the election variation within proxy card. Regressions are clustered on *campaignid*, which is the arbitrary index number of each proxy contest. Year fixed effects are included in the even columns. The sample is proxy contests for board seats with voting premium data available. The number of observations in each specification is reduced by the number of contests for which independent variables are not available. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. *t*-statistics based on robust standard errors are reported in parentheses.

| | Seats Won / Sought (1) | Seats Won / Sought (2) | Seats Won / Sought (3) | Seats Won / Sought (4) | Seats Won / Sought (5) | Seats Won / Sought (6) | Seats Won / Sought (7) | Seats Won / Sought (8) | Seats Won / Sought (9) | Seats Won / Sought (10) | Seats Won / Sought (11) | Seats Won / Sought (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***ΔAVote* (End date [0, 19])** | -1.126* | -0.0968 | -1.751*** | -0.931 | -2.454*** | -1.823** | -2.242*** | -1.251* | -2.899*** | -1.719 | -1.330 | -1.641 |
| | (-1.876) | (-0.0958) | (-3.014) | (-0.991) | (-3.799) | (-2.126) | (-4.665) | (-2.057) | (-4.390) | (-1.774) | (-1.686) | (-1.789) |
| ***Size*** | | | -0.0150 | -0.0155 | 0.0276 | -0.0150 | 0.0233 | 0.00681 | -0.00339 | -0.0395 | 0.0403 | -0.0275 |
| | | | (-0.312) | (-0.229) | (0.467) | (-0.155) | (0.407) | (0.0668) | (-0.0479) | (-0.319) | (0.545) | (-0.213) |
| ***ROA*** | | | -0.907*** | -0.689* | -0.976*** | -0.835** | -1.167*** | -0.994** | -1.378** | -0.742 | -1.287** | -0.814 |
| | | | (-2.933) | (-1.832) | (-3.275) | (-2.741) | (-3.753) | (-2.663) | (-2.238) | (-0.883) | (-2.081) | (-1.234) |
| ***Tobin's Q*** | | | -0.0539 | -0.0271 | -0.0346 | -0.0114 | -0.0607 | -0.0419 | 0.0326 | 0.00761 | 0.0301 | 0.0643 |
| | | | (-1.532) | (-0.571) | (-0.981) | (-0.284) | (-1.230) | (-0.747) | (0.378) | (0.0436) | (0.321) | (0.269) |
| ***Excess Return*** | | | 0.189 | 0.230 | 0.0817 | 0.190 | -0.114 | -0.0239 | 0.121 | 0.316 | -0.102 | 0.0832 |
| | | | (1.017) | (0.870) | (0.419) | (0.749) | (-0.530) | (-0.0719) | (0.361) | (0.649) | (-0.324) | (0.143) |
| ***Hedge Fund*** | | | -0.176 | -0.129 | -0.172 | -0.0857 | -0.0813 | -0.0653 | -0.322 | -0.217 | -0.372* | -0.156 |
| | | | (-1.244) | (-0.731) | (-1.195) | (-0.499) | (-0.449) | (-0.359) | (-1.655) | (-0.630) | (-1.944) | (-0.392) |
| ***Activist Ownership*** | | | | | 0.0170*** | 0.0152* | 0.0280* | 0.0280 | 0.0285* | 0.0105 | 0.0194 | 0.00350 |
| | | | | | (3.304) | (1.899) | (1.955) | (1.353) | (1.790) | (0.367) | (1.325) | (0.149) |
| ***Cumulative Voting*** | | | | | | | 0.528*** | 0.455 | | | | |
| | | | | | | | (2.822) | (1.629) | | | | |
| ***Activist Fees Costs*** | | | | | | | 0.0868 | 0.0774 | -0.0679 | -0.248 | -0.161 | -0.339* |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | (0.938) | (0.676) | (-0.548) | (-1.225) | (-1.632) | (-1.869) |
| ***Variation*** | | | | | | | | | 0.917 | 0.352 | | |
| | | | | | | | | | (1.155) | (0.337) | | |
| **\|*Closeness*\|** | | | | | | | | | | | -0.794 | -0.907 |
| | | | | | | | | | | | (-1.290) | (-0.776) |
| ***ΔAVote*\|Closeness\|*** | | | | | | | | | | | -13.80** | -7.691 |
| | | | | | | | | | | | (-2.368) | (-0.648) |
| **Constant** | 0.426*** | 1.002*** | 0.816* | 1.315** | 0.237 | 1.142 | -0.493 | 0.257 | 0.704 | 3.055 | 1.281 | 3.536 |
| | (6.649) | (45.78) | (1.925) | (2.204) | (0.439) | (1.294) | (-0.565) | (0.203) | (0.796) | (1.395) | (1.281) | (1.646) |
| **Year FE** | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes |
| **Observations** | 51 | 51 | 51 | 51 | 49 | 49 | 46 | 46 | 33 | 33 | 36 | 36 |
| **$R^2$** | 0.035 | 0.433 | 0.194 | 0.519 | 0.317 | 0.609 | 0.402 | 0.628 | 0.544 | 0.751 | 0.515 | 0.773 |

## Table 15. CEO Turnover after Proxy Contest – Full Sample

Table 15 reports the Incidence Rate Ratio (IRR) of the Poisson regressions regarding the CEO turnover after the end of proxy contest for the full sample. The dependent variable is the count of CEO Turnover from campaign end date to 1 year after the campaign end date in regressions (1), (3), and (5). The dependent variable is the count of CEO Turnover from campaign end date to 3 years after the campaign end date in regressions (2), (4), and (6). *Seats won/sought* is seats won by dissidents divided by seats sought by dissidents. *Size* is the size of target firm in logarithm. *Return on Assets (ROA)* is net income divided by total assets. *Tobin's Q* is the market value of assets divided by the book value of assets. *Excess Return* is equal to stock return less market return over last financial year. *Cash* is the ratio of total cash and cash equivalents (item CHE) to total assets (item AT). *Investment* is the research and development expense and capital expenditures less the sale of property, plant, and equipment, divided by mean total assets, where the mean of total assets is the average of current and lagged total assets. *Leverage* is the net book leverage ratio defined as (book value of debt − cash) / (book value of debt + book value of equity). *Hedge Fund* is a dummy which equals 1 if the dissident was a hedge fund dissident, otherwise 0. *Activist Ownership* is the activist group ownership percentage. *Gadfly* is a dummy which equals 1 if the dissident was a gadfly, otherwise 0. The number of observations in each specification is reduced by the number of contests for which independent variables are not available. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. Z-statistics based on robust standard errors are reported in parentheses.

| | CEO $\text{Turnover}_{0\text{-}1}$ (1) | CEO $\text{Turnover}_{0\text{-}3}$ (2) | CEO $\text{Turnover}_{0\text{-}1}$ (3) | CEO $\text{Turnover}_{0\text{-}3}$ (4) | CEO $\text{Turnover}_{0\text{-}1}$ (5) | CEO $\text{Turnover}_{0\text{-}3}$ (6) |
|---|---|---|---|---|---|---|
| ***Seats won/sought*** | 2.751*** | 1.857*** | 3.937*** | 2.289*** | 3.577*** | 2.105*** |
| | (4.251) | (2.969) | (4.623) | (3.361) | (4.137) | (2.952) |
| ***Size*** | | | 1.439*** | 1.404*** | 1.555*** | 1.489*** |
| | | | (5.225) | (6.490) | (4.874) | (6.180) |
| ***ROA*** | | | 0.719* | 0.757* | 0.618*** | 0.730** |
| | | | (-1.880) | (-1.787) | (-2.631) | (-1.980) |
| ***Tobin's Q*** | | | 0.697 | 0.601** | 0.608 | 0.535** |
| | | | (-0.999) | (-2.077) | (-1.052) | (-2.163) |
| ***Excess Return*** | | | 0.705** | 0.799 | 0.694** | 0.817 |
| | | | (-1.969) | (-1.292) | (-2.020) | (-1.076) |
| ***Cash*** | | | 1.147 | 1.401 | 1.237 | 1.562 |
| | | | (0.206) | (0.658) | (0.313) | (0.865) |
| ***Investment*** | | | 0.100 | 0.622 | 0.0666 | 0.670 |
| | | | (-1.029) | (-0.310) | (-1.168) | (-0.252) |
| ***Leverage*** | | | 0.998 | 0.994* | 0.996 | 0.994 |
| | | | (-0.486) | (-1.826) | (-0.926) | (-1.527) |
| ***Hedge Fund*** | | | | | 2.167* | 1.029 |
| | | | | | (1.655) | (0.0976) |
| ***Activist Ownership*** | | | | | 1.026* | 1.005 |
| | | | | | (1.873) | (0.234) |
| ***Gadfly*** | | | | | 7.29e-06*** | 6.57e-07*** |
| | | | | | (-19.91) | (-28.53) |
| **Constant** | 0.0255*** | 0.0602*** | 0.00541*** | 0.0174*** | 0.00187*** | 0.0143*** |
| | (-17.95) | (-18.50) | (-8.779) | (-9.374) | (-8.562) | (-7.965) |
| **Observations** | 1,065 | 1,065 | 754 | 754 | 734 | 734 |
| **Pseudo $R^2$** | 0.0287 | 0.0114 | 0.1118 | 0.0874 | 0.1380 | 0.1039 |

## Table 16. CEO Turnover after Proxy Contest – Subsample

Table 16 reports the Incidence Rate Ratio (IRR) of the Poisson regressions regarding the CEO turnover after the end of proxy contest for the subsample. The dependent variable is the count of CEO Turnover from campaign end date to 1 year after the campaign end date in regressions (1), (3), and (5). The dependent variable is the count of CEO Turnover from campaign end date to 3 years after the campaign end date in regressions (2), (4), and (6). *Seats won/sought* is seats won by dissidents divided by seats sought by dissidents. *Size* is the size of target firm in logarithm. *Return on Assets (ROA)* is net income divided by total assets. *Tobin's Q* is the market value of assets divided by the book value of assets. *Excess Return* is equal to stock return less market return over last financial year. *Cash* is the ratio of total cash and cash equivalents (item CHE) to total assets (item AT). *Investment* is the research and development expense and capital expenditures less the sale of property, plant, and equipment, divided by mean total assets, where the mean of total assets is the average of current and lagged total assets. *Leverage* is the net book leverage ratio defined as (book value of debt − cash) / (book value of debt + book value of equity). *Hedge Fund* is a dummy which equals 1 if the dissident was a hedge fund dissident, otherwise 0. *Activist Ownership* is the activist group ownership percentage. *Gadfly* is a dummy which equals 1 if the dissident was a gadfly, otherwise 0. The sample is proxy contests for board seats with voting premium data available. The number of observations in each specification is reduced by the number of contests for which independent variables are not available. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. Z-statistics based on robust standard errors are reported in parentheses.

| | CEO Turnover$_{0\text{-}1}$ (1) | CEO Turnover$_{0\text{-}3}$ (2) | CEO Turnover$_{0\text{-}1}$ (3) | CEO Turnover$_{0\text{-}3}$ (4) | CEO Turnover$_{0\text{-}1}$ (5) | CEO Turnover$_{0\text{-}3}$ (6) |
|---|---|---|---|---|---|---|
| ***Seats won/sought*** | 2.734*** | 1.598* | 4.021*** | 1.879* | 3.576*** | 1.746* |
| | (3.494) | (1.694) | (3.762) | (1.928) | (3.170) | (1.670) |
| ***Size*** | | | 1.349** | 1.305*** | 1.447** | 1.351** |
| | | | (2.490) | (2.844) | (2.531) | (2.499) |
| ***ROA*** | | | 0.386 | 0.491 | 0.500 | 0.442 |
| | | | (-0.668) | (-0.581) | (-0.502) | (-0.606) |
| ***Tobin's Q*** | | | 1.080 | 0.743 | 1.070 | 0.763 |
| | | | (0.339) | (-1.021) | (0.260) | (-0.844) |
| ***Excess Return*** | | | 0.600 | 0.794 | 0.543 | 0.746 |
| | | | (-1.634) | (-0.774) | (-1.625) | (-0.854) |
| ***Cash*** | | | 1.155 | 1.976 | 1.014 | 1.611 |
| | | | (0.135) | (0.938) | (0.0124) | (0.649) |
| ***Investment*** | | | 0.000181** | 0.0352 | 0.000105** | 0.0262 |
| | | | (-2.306) | (-1.325) | (-2.563) | (-1.485) |
| ***Leverage*** | | | 0.999 | 0.991*** | 0.929** | 0.985*** |
| | | | (-0.290) | (-6.345) | (-2.520) | (-3.567) |
| ***Hedge Fund*** | | | | | 2.307e+13*** | 7.076* |
| | | | | | (4.079) | (1.752) |
| ***Activist Ownership*** | | | | | 1.031* | 1.000 |
| | | | | | (1.894) | (0.000538) |
| ***Gadfly*** | | | | | 2.947e+06** | 1.54e-05*** |
| | | | | | (1.977) | (-7.370) |
| **Constant** | 0.0324*** | 0.0848*** | 0.00502*** | 0.0235*** | 0*** | 0.00332*** |
| | (-12.45) | (-12.02) | (-5.567) | (-5.296) | (-4.628) | (-3.513) |
| **Observations** | 357 | 357 | 328 | 328 | 314 | 314 |
| **Pseudo $R^2$** | 0.0376 | 0.0073 | 0.1227 | 0.0694 | 0.1936 | 0.1049 |

## Appendix A. Illustrative Proxy Contests by Outcome (Withdrawn, Settled, and Went to a Vote)

Appendix A presents three proxy contests with different outcomes in our sample. Panel A shows the contest between Borland Software Corporation (the company) and C. Robert Coates (the activist), where the nominations were withdrawn by the dissident. Panel B shows the contest between BioDelivery Sciences International, Inc. (the company) and Broadfin Capital LLC (the activist), where the outcome was a settlement between the two sides. Panel C shows the contest between Exar Corporation (the company) and GWA Investments, LLC (the activist), where the contest went to a vote at the company's annual meeting and the dissident's nominees were elected.

*Panel A: Borland Software Corporation / C. Robert Coates – Withdrawn by the Dissident*

Background:

On March 15, 2007, Mr. C. Robert Coates, a former director of Borland Software Corporation, nominated himself and Mr. Jason Donahue for election to the company's board of directors at the annual meeting on May 16, 2007 and filed a preliminary proxy statement with the SEC. Mr. Coates had served on the company's board from 1999 to 2000. Since that time Mr. Coates had engaged with the company's board, including requesting, in 2003, that the board take the necessary steps to declassify the board of directors, which the board subsequently implemented in 2004, and nominating himself for election to the company's board in 2004, which he subsequently withdrew. Following Mr. Coates' 2007 nomination the board advised shareholders to vote against Mr. Coates' slate at the 2007 annual meeting on the grounds that his election would not be in their best interests.

Outcome:

On April 26, 2007, Mr. Coates withdrew his nominations and disclosed that he would no longer pursue a proxy fight at the annual meeting. Mr. Coates disclosed that as a result of the lack of time left till the annual meeting, that there was too little time left to mount a credible campaign to solicit proxies and obtain sufficient votes to be elected to the board of directors.

*Panel B: BioDelivery Sciences International, Inc. / Broadfin Capital LLC – Settlement Reached*

Background:

On April 10, 2018, Broadfin Capital LLC filed a 13D, disclosing a 7.3% stake in BioDelivery Sciences International, Inc. Broadfin sought discussions about adding a shareholder representative to the board, but BioDelivery's nominating committee rejected the suggestion. Broadfin stated that if a mutual agreement was not reached, it reserved the right to nominate candidates for election at the 2018 annual meeting. It also warned that any attempt by the company to move up the meeting or nomination deadline would be seen as an effort to block shareholder input. On May 1, 2018, Broadfin sent a letter to the company nominating three candidates for the board. It argued that its nominees were well-qualified and reiterated its intent to engage with BioDelivery on board composition, financial strategy, and shareholder value. Two days later, BioDelivery responded, affirming its commitment to constructive dialogue with shareholders, including Broadfin. The company stated it would present its recommendations on director elections in its proxy statement.

Outcome:

On May 17, 2018, BioDelivery announced an agreement with Broadfin to appoint three of its recommended directors to the board. In return, Broadfin withdrew its nominations and agreed to certain standstill provisions that would limit its potential actions until the 2019 annual meeting.

BioDelivery also agreed to reimburse Broadfin's related expenses. On May 21, Broadfin disclosed that the agreement had been amended to adjust provisions on director replacements. The next day, BioDelivery appointed Broadfin's Peter Greenleaf as Chairman of the board of directors.

*Panel C: Exar Corporation / GWA Investments, LLC – Went to a Vote, Dissident Won*

Background:

On April 13, 2005, hedge funds GWA Investments, LLC and GWA Master Fund L.P. (collectively "GWA") disclosed their intention to launch a proxy fight to elect a slate of two nominees to the company's board in opposition to the company's director nominees at the 2005 annual meeting. GWA, a stockholder of less than 1% of the company's outstanding common stock, nominated its Managing Director and GWA Capital Partners LLC founder Guy W. Adams and Silicon Valley venture capitalist Richard Leza. The dissident slate was later increased to three with the addition of Pete Rodriguez, an executive with substantial semiconductor and electronics industry experience, after the company disclosed that three seats of the company's nine-person staggered board were up for election at the meeting. GWA also submitted a non-binding proposal to declassify the company's board.

Outcome:

At the annual meeting held on October 27, 2005, the entire dissident slate was elected and the proposal to declassify the board was overwhelmingly approved. Mr. Adams received 60% of the votes cast, Mr. Leza 48%, and Mr. Rodriguez 53% while each of the three management nominees received less than 38% of the votes cast. Four days after the meeting, the company announced that Donald L. Ciffone, Jr., the company's Chairman of the Board and former CEO had retired as Chairman and as a member of the company's board.