

How are shareholder votes and trades related?

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Abstract

We study the relation between shareholder votes and trading. Using high frequency data, we demonstrate that around the shareholder meeting date, the abnormal daily volume, number of trades, and volatility are all substantially larger compared to the pre-voting period. This increase is particularly strong and persistent when shareholders are unsupportive of management. We next analyze the vote-trade relationship at the investor level, using data on daily trades and the corresponding votes of the same funds. We document that before vote results are made public, funds who vote in support of management also purchase these stocks, and vice versa. However, when a subsequent vote outcome contradicts a fund's vote, the fund updates its trading patterns and aligns them in the direction of the vote outcome. Our findings further demonstrate that votes catalyze trading particularly when the price reaction is large, the vote outcome is surprising, higher degrees of information asymmetries exist, and investors are not distracted.

JEL Classification: G11, G12, G14, G30, G40

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1. Introduction

Voting is a key way for shareholders to exercise “voice”, i.e., exert influence over the company’s management. According to the survey of institutional investors by McCahery, Sautner and Starks (2015), 53% of respondents view voting against management as an important form of voice. A large theoretical literature emphasizes that shareholders’ decisions about exercising voice are closely connected to their decisions about trading in the company’s stock.¹ Yet, empirically, we know very little about the relation between shareholder voting and trading: How do shareholders trade before and after casting their votes, and how does information conveyed by other investors’ votes affect shareholders’ trading decisions? The goal of this paper is to examine the relation between votes and trades both at the stock level and at the investor level.

We start by studying how voting and trading are related at the stock level. Prior studies that have examined whether the market responds to votes have typically focused on abnormal returns around shareholder meeting dates.² However, to examine the relation between voting and trading in more depth, it is important to look at additional measures besides stock returns. For example, Hong and Stein (2007) emphasize that if investors have heterogeneous priors, it is crucial to study not only prices, but also volume.³ Thus, following prior literature (Harris and Raviv, 1993; Kandel and Pearson, 1995; Garfinkel, 2009; Hong and Stein, 2007; and Bamber, Barron, and Stevens, 2011), we use *volume* to capture the extent to which shareholders update their priors around shareholder votes. We also

¹ See, e.g., Kahn and Winton (1998), Maug (1998), and Back et al. (2017). Edmans (2014) provides a comprehensive survey of this literature.

² See, e.g., Gillan and Starks (2000), Listokin (2009), Cuñat, Gine, and Guadalupe (2012), Eritmur, Ferri, and Oesch (2013), Kalay, Karakas, and Pant (2014), and Schwartz-Ziv and Wermers (2017).

³ In particular, the new information observed by two investors with different priors may lead one investor to increase her estimate of the company’s value relative to her prior, and accordingly purchase the stock; and may lead the second investor to decrease her estimate of value relative to her prior, and thus sell the stock. Hence, these updates will induce both investors to trade, albeit in different directions, which ultimately leads to no, or little, change observed in prices but large trading volume.

analyze several additional variables prior studies have used to capture the market's response to an event: *daily number of trades*, which as Bamber, Barron, and Stevens (2011) point out, reflects the number of times investors are motivated to act; *volatility* (as in Smith, White, Robinson, and Nason, 1997; Skinner, and Van Buskirk, 2009; and Pan, Wang and Weisbach, 2015); and *returns* (as in Gillan and Starks, 2000; Cuñat, Gine, and Guadalupe, 2012; DellaVigna and Pollet, 2009, and Alexander et al., 2010). We estimate the daily volume, number of trades, and realized volatility using the high frequency Trade and Quote (TAQ) dataset.

We document a continuous increase in the daily average volume, number of trades, and volatility, starting from the proxy filing date up to the meeting date. The abnormal trading persists until the vote outcome is reported by the company (several days after the meeting date), and gradually drops thereafter. The abnormal volume and volatility relative to the average (median) values during the -21 to -252 trading days before the proxy filing are equal to 12.3% (85.1%) and 12.3% (68.6%), respectively. We further demonstrate that the magnitude of abnormal volume and volatility around shareholder meetings is similar to that documented around annual earnings announcements. Taken together, these findings indicate that the market learns new meaningful information from the vote outcome, and uses this information to update its prior trading patterns.

We find negligible abnormal trading following the proxy filing date, although substantial information is revealed in the filing (e.g., the proposed slate of directors and executive compensation). This suggests that investors pay limited attention to the information revealed by management in the proxy filing and pay more attention to the vote outcome, potentially because the vote outcome reflects the extent to which shareholders support management and may urge the company to take certain responsive actions (Ertimur, Ferri, and Stubben, 2010).

To understand the relation between vote outcomes and trading patterns in more depth, we also examine whether the market responds differently to vote outcomes demonstrating that

shareholders are unsupportive of management (i.e., when at least one of the votes held resulted in an outcome contradicting management recommendation), versus those demonstrating that shareholders support management (all other votes). We find that when support rates are high, the market gradually converges to normal trading patterns after the meeting (i.e., abnormal volume, number of trades, and volatility gradually decrease), but when support rates are low, which potentially introduces more uncertainty, the meeting catalyzes a jump in these variables, and they remain large for more than one month. This confirms that trading patterns can be different depending on the vote outcome.

To further understand how votes and trades relate to each other, we next explore this relation at the *investor* level. To the best of our knowledge, we are the first to examine how an investor's trading patterns are related to its own voting behavior and to the aggregate voting outcome. Note also that votes are a particularly compelling setting for examining how investors update their trades following an event because, all else equal, the vote cast by the investor offers a proxy for investor priors.

For the investor level analysis, we focus on votes cast and trades made by mutual funds. Mutual funds cast a substantial fraction of all voted shares (approximately 37%, according to Schwartz-Ziv and Wermers, 2017), and both voting data and daily trading data are available for mutual funds. For our analysis, we use the ANcerno dataset, which includes data on daily trades of a subset of mutual funds, and the ISS Voting Analytics data, which reports mutual funds' votes.

We find that that a fund's trades during the period between the proxy filing date and the meeting date predict the fund's votes. For example, during the period between the proxy filing and meeting dates, a fund is more likely to purchase stocks of a company for which it votes in support of management, compared to a company for which it votes against management.

However, we find that after the vote result is made public, funds update their trading patterns in the direction of the vote outcome when the vote outcome contradicts the vote they cast.

For example, a fund that votes against management on say-on-pay or against directors, and then observes high shareholder support rates for both of these types of votes, is more likely to purchase the stock during the 10 trading days following the shareholder meeting compared to the 10 trading days preceding the meeting. We find the opposite trend for funds that vote against management and later observe that other shareholders are supportive of management. Hence, these findings suggest that funds update their trading patterns based on the vote outcome.

We next examine four hypotheses, which all focus on the question of whether for certain companies, or at certain times, the market particularly updates its priors following a shareholder vote. This analysis is performed at the stock level. Following Bamber (1987) and Kim and Verrecchia (1991), who argue that abnormal volume should be particularly high when an event is surprising, our first hypothesis is that abnormal trading should be particularly large when a surprising vote outcome is revealed. To capture events in which the vote outcome is surprising, we confine the analysis to observations in which ISS recommended to vote in one direction, yet the outcome was in the opposite direction. Because ISS recommendations are influential and typically provide a good predictor for the vote outcome (e.g., Alexander et al., 2010, and Malenko and Shen, 2016), the vote outcome is more likely to be surprising when it contradicts the ISS recommendation. Indeed, we find that when the vote outcome is surprising according to this definition, the abnormal volume is approximately twice as large compared to meetings in which the outcome is not surprising.

Following Kim and Verrecchia (1991) and Harris and Raviv (1993), we next hypothesize that abnormal volume will be particularly large when the price reaction is large, indicating that the precision of the new information revealed is high, and therefore sufficient to move prices in a certain direction. We find that abnormal volume increases as the absolute value of the price reaction increases.

Our third hypothesis is that the information revealed in votes should particularly catalyze trades in companies for which information asymmetry is high (Bamber (1987) and Chae (2005)). Our

proxy for the latter is companies that are followed by fewer analysts, and companies with lower market capitalization. Indeed, we document that the abnormal volume at the meeting date is at least 70% larger for companies with high information asymmetry (above median number of analysts/ market capitalization), as compared to companies for which information asymmetry is low.

Finally, following Hirshleifer and Teoh (2003) and DellaVigna and Pollet (2009), who argue that investors have limited attention, the fourth hypothesis we test is that the market will pay more attention to shareholder votes when fewer events distract investors' attention. To capture the latter, we use the total number of shareholder meetings that take place on the same day a company's shareholder meeting takes place. Shareholder meetings tend to be clustered on Tuesdays, Wednesdays, and Thursdays in April. Interestingly, we find that on days in which the largest number of meetings take place (approximately 12 days a year), abnormal volume is approximately one third smaller compared to days on which relatively fewer meetings take place (all other days).⁴

Our study contributes to three strands of literature. The first strand we contribute to is the literature on shareholder votes. This literature has investigated the determinants of vote outcomes (e.g., Davis and Kim, 2007; Cai, Garner, and Walking, 2009; and Iliev and Lowry, 2015) and how companies respond to shareholder votes (e.g., Ertimur, Ferri, and Stubben, 2010; and Fos, 2016), but to the best of our knowledge, no prior study has directly addressed the question of how shareholder voting and trading are related, especially at the level of individual funds or by looking at how volume, number of trades, and volatility change around shareholder meeting dates.

The second strand of literature to which our study contributes is on exit and voice. This literature argues that shareholders can govern their companies both through voice and through

⁴ We note that companies may want to avoid receiving the market's attention to a shareholder vote, possibly because they wish to attempt to conceal a vote that they expect will receive low support rates. Hence, companies may strategically schedule their shareholder meetings on a day on which many other shareholder meetings are expected to occur. However, these are precisely the meetings to which the market *should* particularly respond, and hence, the figure noted above would probably be even smaller if companies were not able to strategically schedule shareholder meetings.

trading, in particular, exit (e.g., Admati and Peiderer, 2009; and Edmans, 2009).⁵ This literature typically considers stronger incidences of voice, such as engaging in a proxy fight, making a tender offer, or promoting a takeover (Grossman and Hart, 1980; Shleifer and Vishny, 1986). Our study demonstrates that even the most routine shareholder votes, such as uncontested director elections and say-on-pay, have the power to change the investment decisions of institutional investors.

The third strand of literature to which we contribute is on investors' disagreement. This literature has documented that different investors interpret public information (e.g., earnings announcements) differently, which spurs trades (Atiase and Bamber, 1994; and Kandel and Pearson, 1995). In contrast to the findings pertaining to earnings announcements, in which abnormal trade is spurred by the information revealed by the company, in the setting of shareholder votes, it is the vote outcome, rather than the proxy statement filed by the company, that generates abnormal trading. This suggests that for shareholder votes, observing whether shareholders agree with each other and with management is more meaningful to shareholders in reevaluating their trading patterns than the information revealed by management.

2. Background on Shareholder Votes

Companies typically hold one shareholder meeting per year, during which they vote for the slate of directors proposed by management, approve the auditors proposed by management, and, starting from 2011, vote on say-on-pay. In addition, shareholders vote on proposals submitted by shareholders (e.g., declassify the board), if such a proposal is submitted.

Figure 1 reports the typical timeline around shareholder meetings, which includes the following events: the proxy filing date, the shareholder meeting date, and the outcome date (i.e., the

⁵ Exit, i.e., selling the company's shares governs the company because it drives down the stock price, and hence, induces management to maximize value ex ante.

day the company files the result of the vote). We obtain the proxy filing date and the outcome date by manually going over filings and collecting the dates, as described in Appendix A. Meeting dates are included in the ISS Voting Analytics dataset, and accordingly, have been used extensively in prior studies. We are not aware of any study that examines the market response surrounding the outcome date. However, it is possible that some investors learn about the result of the vote on the meeting date (e.g., if they are present at the shareholder meeting), while other investors learn about the vote outcome only on the filing date.

Panel A reports the timeline of the voting process for the meetings that took place during the January 1, 2006-February 27, 2010 period (“pre March 2010”), while Panel B reports the timeline for the February 28, 2010-June 30, 2013 meetings (“post February 2010”). We report a separate timeline for each of these periods because for meetings held until February 27, 2010, companies reported the vote outcome in a 10-Q or a 10-K filing for the quarter in which the shareholder meeting was held, which typically resulted in a long lag in reporting the vote outcome. For meetings held after February 28, 2010, companies were required to report the outcome of the vote in an 8-K form within 4 days of the meeting.

We emphasize, however, that between the meeting date and the filing of the 8-K, companies are permitted to issue a press release announcing the voting results at the meeting.⁶ It is very common for companies to issue such press releases (Garner, Geissinger, and Woodley, 2017). However, the information included in the press release may vary. For example, in the 2017 proxy season, both General Motors (GM) and Walmart issued a press release on the meeting date. Walmart specified the support rate for each vote outcome. GM only noted that the proposals passed, but did not reveal the

⁶ The SEC notes in its Final Rule on Proxy Disclosure Enhancement that “our amendments to Form 8-K are not intended to preclude a company from announcing preliminary voting results during the meeting of shareholders at which the vote was taken and before filing the Form 8-K, without regard to whether the company webcast the meeting.” (see Final Rule (<https://www.sec.gov/rules/final/2009/33-9089.pdf>), p. 62, footnote 173). We thank Kobi Kastiel for clarifying this to us.

support rates, which were relatively low compared to those of other companies, and were only revealed in the 8-K filing.⁷

As Panels A and B of Figure 1 document for both periods, the median number of trading days from the date the proxy is filed to the annual shareholder meeting is 29 (which is equivalent to 40 calendar days). In contrast, the period between the shareholder meeting and the day the votes are published varies substantially between the two periods: the average (median) period is 52(56) trading days during the pre March 2010 period, while it is only 2.5 (2) trading days during the post February 2010 period.⁸

Investment advisors (which include mutual funds) typically cast their votes electronically through their proxy advisor. Once the vote is cast, Broadridge (the company that manages electronic voting), the proxy advisor, and the firm can observe the vote cast, but they are all required to keep the observed votes confidential. Nevertheless, we note that it is possible that information pertaining to the votes already cast may leak before the meeting date, which may catalyze trading already before the meeting date.

3. Data and Measures

3.1. Data

In this section, we describe the datasets used in the paper.

Voting data. Voting outcomes are obtained from the ISS Voting Analytics database. This

⁷ For example, see the press release of Walmart in the 2017 proxy season https://markets.ft.com/data/announce/detail?dockkey=600-201706021450BIZWIRE_USPRX_BW5797-1, and its subsequent filing, <https://www.sec.gov/Archives/edgar/data/104169/000010416917000031/form8-kx6617.htm>, and GMs initial press release, <http://media.gm.com/media/us/en/gm/news.detail.html/content/Pages/news/us/en/2017/jun/0606-proxy.html>, and its subsequent filing <https://www.sec.gov/Archives/edgar/data/1467858/000119312517201530/d395090d8k.htm>.

⁸ Our timeline does not include the day when ISS recommendations are issued. From our correspondence with ISS, we have learned that proxy advisory companies issue a recommendation 10-15 trading days before the shareholder meeting during periods in which few meetings take place; however, during the height of the proxy season, when the majority of shareholder meetings are held, proxy advisors issue a recommendation up to 7-10 trading days prior to the meeting.

dataset documents the aggregate vote outcomes for each proposal that came up for a vote at a shareholder meeting. These outcomes are reported in 8-K and 10-Q filings. In addition, the ISS Voting Analytics database includes data on the votes cast by mutual funds. These votes are reported via the N-PX form that mutual funds submit annually to the SEC. For each issue discussed at a shareholder meeting, the ISS dataset also includes the ISS and management recommendation on how shareholders should vote.

Mutual fund holding data. Data on mutual fund holdings is obtained from the CRSP mutual fund database and from the Thomson s-12 mutual fund holding files. Data on institutional shareholdings at the advisor level (13(f)) is obtained from the Thomson s-34 files. Appendix A of Schwartz-Ziv and Wermers (2016) describes the multiple procedures to match the Thomson s-12, Thomson s-34, and CRSP mutual fund databases to the ISS Voting Analytics dataset.

Mutual fund daily trading data. Ancerno Ltd. provides institutional trading data for the period from January 1999 to September 2011. Ancerno is a consulting firm that works with institutional investors to monitor execution costs, and its clients include pension plan sponsors and money managers. This database captures the complete history of all transactions of the institutions, including date of execution, execution price, number of shares traded, whether the transaction is a buy or sell, and the commissions paid. Since the ANcerno database does not disclose the actual identities of the funds, we follow the matching rules of Busse, Chordia, Jiang, and Tang (2016) to match the mutual funds in ANcerno to the quarterly holdings data of mutual funds in S12 data over the period from January 1999 to September 2011. We are able to identify 1390 unique S12 funds from ANcerno. We further match these S12 funds to the CRSP mutual fund data through the MFLINK data provided by WRDS and identify 1169 unique WFICNs during our sample period.

Daily aggregate trades. The TAQ database provides the trades for all individual securities listed on the NYSE, NASDAQ, and AMEX stock exchanges, resulting in a total of 19,896 unique securities

over the January 4, 1993 to December 31, 2013 sample period when matched according to the Center for Research in Securities Prices (CRSP) unique PERMNO numbers.

Dates vote results are made public. The ISS Voting Analytics dataset only reports the meeting dates, but not the dates the vote results are made public. In Appendix A, we describe how we identify the majority of the vote outcome dates.

Company data. Data on stock and accounting performance at the company level are obtained from CRSP and Compustat, respectively.

Identifying the filing dates – see Appendix A for details.

To examine how the market reacts to shareholder votes and whether mutual funds update their trading patterns given their own votes and the aggregate vote outcome, we combine the voting data, the mutual fund trading data, and the stock data at the daily level. Our final sample includes a total of 3103 firms and 399 mutual funds that have at least one vote observation over the period of 1551 days between August 2005 and September 2011.

3.2. Measuring Market Response

We use the TAQ dataset to estimate daily volume, number of trades, and volatility. To estimate volatility, we gather minute-by-minute price data by applying the cleaning rules of Barndorff-Nielsen et al. (2009) and Bollerslev et al. (2016). We compute the daily volatility as the sum of squared 5-minute returns. Since the TAQ transaction prices are raw prices without adjustments for share splits, we use the daily “cumulative factor to adjust price” and “dividend cash amount” variables from CRSP to adjust for splits and dividends. Data on daily returns are also obtained from CRSP.

To estimate the abnormal daily volume, number of trades, and volatility, we follow, amongst others, the approach of Ali, Klasa, Li (2008), and DellaVigna and Pollet (2009): for each of the three abovementioned variables, we divide the daily value by the average daily measure during the pre-voting

period, which we define as the [-22,-252] day window before the proxy filing, and subtract one. We use the pre-proxy window for the three events we examine (proxy filing, meeting date, and outcome date) because we want to have a benchmark that precedes any of the vote-related events. For example, a daily abnormal trading volume equal to 0.4 would indicate that relative to the pre-voting period, the trading volume was 40% larger. Finally, we estimate abnormal return as the daily return minus the daily value-weighted market return.

4. Do Shareholder Votes Catalyze Trades?

4.1. How Does the Market Respond to Shareholder Votes?

We start by examining the relation between votes and trades at the stock level. Our analysis focuses on three dates: (a) the proxy filing date, which is the date the company files the proxy (b) the meeting date, and (c) the outcome date, which is the date the company formally files the outcome of the vote. All these three events may be potentially important events to which the market may respond. The market may respond on the proxy date since substantial information is released on that date. In addition, as noted above, information on the vote outcome may be released at any point between the meeting date and the outcome date, and thus we examine all three dates.

As described in Section 2, the market response on the outcome date during the pre March 2010 period (such that the shareholder meeting took place between January 1, 2006 and February 28, 2010) pertains to 10-K and 10-Q filings (the annual and quarterly financial reports, respectively), which clearly include other substantial information. In contrast, during the post February 2010 period, vote outcomes are filed in 8-K filings (reports for material events), which typically report only vote outcomes but no other information. Hence, only the post February 2010 data allows to clearly identify the market response to the vote outcomes disclosed in the filings. Therefore, we restrict our analysis to the latter period.

Table 1 reports summary statistics. In Figure 2, we report the average abnormal volume, volatility, daily number of trades, and return around the proxy filing date (Panel A), meeting date (Panel B), and outcome date (Panel C). In Panel B we include a dashed line, which represents the median outcome date (two days after the meeting date), while in Panel C the dashed line represents the median meeting date. Figure 2 demonstrates that starting from the proxy filing date, volume, daily number of trades, and volatility increase and build up, peak at the day vote results are made public, and then gradually decline. These figures clearly demonstrate that shareholder votes generate extensive trading by shareholders. Panels B and C of Figure 2 imply that the abnormal volume and abnormal number of trades occur both on the meeting date and the outcome date, which is expected, as information may be released on either of these dates. In contrast, panels A-C of Figure 2 do not demonstrate a clear pattern for abnormal returns. This emphasizes the importance of looking at other variables that capture the market response to the vote (particularly volume and number of trades) beyond looking at abnormal returns.

In Table 2, we formally investigate the patterns of the daily abnormal volume, number of trades, volatility, and returns around proxy filings, meeting dates, and outcome dates. Once again, we only include the post February 2010 period. The goal is to formally test whether abnormal trading exists on and around the proxy filing date (Panel A), the meeting date (Panel B), and the outcome date (Panel C). The reported coefficients are estimated by regressing the corresponding dependent variable on a constant, where the sample in a given column only includes days from the time period specified at the top of the column. For example, the specification reported in the first column of Table 2 (“-20”) only includes observations on the 20th trading day preceding the proxy filing, for all proxy filings in our sample. For brevity, we do not report all dependent variables in all panels, but they are all consistent with the graphical results reported in Figure 2 and are available upon request.

Consistent with Figure 2 Panel A, Table 2 Panel A does not document any positive abnormal

trading on the day the proxy is filed, or on the following days. In fact, the abnormal volume and abnormal daily number of trades are negative on the proxy filing date. Hence, the proxy filing does not seem to catalyze trades. However, Panel B of Table 2 reports that the abnormal volume on the meeting date is 12.3%, and this abnormal volume is significant at the 1% level. This panel also shows that the cumulative abnormal trading volume relative to the mean, starting from the meeting date and until four trading days following the meeting (i.e., the last day the vote outcome may be filed) is 61.3% ($0.123+0.128+0.14+0.124+0.098$).

To provide a comprehensive indication on the magnitude of the abnormal trades, the second row of Panel B in Table 2 reports the abnormal volume relative to the median volume, as opposed to relative to the average volume (during the [-22,-252] window before the proxy filing). The abnormal volume on the meeting date is equal to 85.1%, and the cumulative abnormal volume during the five days starting from the meeting day is very large and equal to 427% ($0.851+0.841+0.904+0.849+0.823$). This large difference is attributed to the fact that average values include other events where trading is high, such as earning announcements, while median values typically capture days on which no event occurred. Hence, measuring abnormal values relative to average, rather than median, values follows a more conservative approach.

Panel C of Table 2 documents that on the day the vote outcome is filed, companies experience a significant abnormal volume equal to 13.6%, and a significant abnormal daily number of trades of 11.9%. These figures, which are similar to those reported above with respect to the meeting date, suggest that the outcome date is another date on which meaningful information on the vote outcome is released, at least for some firms.

To provide a sense of whether the magnitudes we document throughout this section are large and how they compare to prior events that have been studied in the literature, we repeat our analysis for earnings announcements. Specifically, instead of examining the market response around the

meeting date, we examine the market response around 10-k filings (i.e., annual earnings announcements), using the same measures and the same time period. The market response around this event has been investigated particularly comprehensively (e.g., Atiase and Bamber (1994); Kaniel, Liu, Saar, and Titman, 2012).

Panel D of Figure 2 reports the company's average daily abnormal volume, daily number of trades, daily volatility, and daily return on days around earnings announcements (10-K filings) relative to the pre-10K filing period (using the [-22,-252] window). Corresponding figures from regressions (similar to those in Panels A-C of Table 2) are reported in Panel D of Table 2. While the abnormal volume on the 10-K filing date is larger than that on the meeting date (21.9% and 12.3%, respectively), the cumulative abnormal volume starting from the 10-K filing until 4 days after this filing is equal to 63%, which is similar to the cumulative abnormal volume of 61.3% starting with the shareholder meeting date until 4 days after this date. A similar pattern is observed with respect to daily number of trades. Hence, the magnitude we document for abnormal volume and abnormal number of trades around shareholder votes is large and, overall, quite comparable with the magnitude of other important events such as earnings announcements.

Taken together, in this section, we show that trades build towards the meeting date, peak around the meeting date, and then gradually subside.

4.2. Does the Market Response Differ Depending on the Vote Outcome?

What drives the increased trading around shareholder meetings? We hypothesize that it is the realization of the vote outcome. We therefore examine whether the market responds differently to vote outcomes demonstrating that shareholders are unsupportive of management, versus those demonstrating that shareholders are supportive of management. Accordingly, we define a meeting as receiving low support rates if at least one of the votes held resulted in an outcome that was in the

opposite direction of management recommendation. For example, if a company held a vote on whether to declassify the board, and management recommended to vote against declassifying the board, however, the vote to declassify the board passed, this meeting would be categorized by us as a low support meeting. In our sample, 9.6% of the meetings are classified as low support meetings. All other meetings, i.e., meetings in which all vote outcomes were in line with management recommendation, are defined as meetings with high support rates.

As we shall demonstrate, the patterns discussed above in Section 4.1—abnormal volume, number of trades, and volatility peak at the meeting date— only reflect the patterns of high support meetings. In contrast, Figure 3 reports a different pattern for low support meetings: abnormal volume, daily number of trades, and volatility jump on the meeting day and remain high. This different pattern indicates that investors are particularly likely to update their priors, and disagree with each other, when the information revealed in the vote outcome is unsupportive of management.

Table 3 demonstrates this pattern more formally. The specifications in Table 3 include the trading days within the $[-5,+4]$ window around the meeting date. “After meeting” is an indicator that equals 1 if the day examined is in the $[0,+4]$ window around the meeting date, and 0 if it is in the $[-5,-1]$ period. The observations include a meeting fixed effect to ensure that we are contrasting the trades before and after the meeting, for a given meeting. The odd numbered regressions only include the low support meetings, while the even numbered regressions only include the high support meetings. In Regression 1, which pertains to low support meetings, the coefficient “after meeting” demonstrates that volume is 7.73% higher during the five days after the meeting relative to the five days preceding the meeting. Regression 2, which pertains to high support meetings, demonstrates that when support rates are high, the “after meeting” abnormal volume only increases by 1.91% relative to the five days preceding the meeting. Hence, the increase in volume is substantially larger for the low support meetings. Similar patterns are documented in Table 3 with respect to number of trades and volatility.

Taken together, Figure 3 and Table 3 demonstrate that when management support rates are high, the market gradually converges to normal trading patterns after the meeting, but when support rates are low, which potentially introduces uncertainty, the meeting catalyzes unusually large trading volume and disagreement.

5. The Relation between Voting and Trading at the Mutual Fund Level

In this section, we examine how votes and trades are related to each other at the investor level. By examining the investor level, we are able to address the question of whether investors revise their priors, which, other things equal, are proxied by their own vote, once they observe the aggregate vote outcome. The investors we examine are mutual funds. Mutual funds cast a substantial fraction of all votes cast—approximately 36% of the voted shares, and may represent the votes of all financial institutions, who cast approximately 90% of all votes (Schwartz-Ziv and Wermers, 2016). Hence, mutual funds are major players with respect to shareholder votes.

Mutual fund managers not only make investment decisions pertaining to the funds they manage, but are also involved in making the decision on how their funds should vote:⁹ RR Donnelley et al. (2015) survey asset managers and report that 68% of portfolio managers are involved in establishing proxy guidelines, and 76% of portfolio managers are involved in votes of specific proxy items.

The analysis in this section is confined to the March 2010-September 2011 period, i.e., almost two full proxy years, because 80% of shareholder meetings are held between March and September of a given calendar year (see Figure 4 on the distribution of shareholder meetings). We only include the post February 2010 period in our analysis, because we want to be certain that the

⁹ Bew and Fields (2012) stress that investment advisors, which include mutual funds, have a fiduciary duty to vote on issues brought up at a shareholder meeting.

funds were aware of the vote outcome at the meeting date, or very shortly thereafter. As discussed in Section 2, this is only the case for the post February 2010 period. Because the ANcerno data is only available until September 2011, the data we analyze in this section ends at that point of time.

5.1. Trades During the Period between the Proxy Filing and the Meeting Dates

We first examine the relation between a shareholder's votes and trades after the shareholder observes vote-relevant information as provided by the company, but before it observes the votes cast by other shareholders. Accordingly, our analysis in this section is limited to the period between the proxy filing and the meeting date (not including these dates). In Figure 5 we start by examining the average daily percentage of company bought by the fund, depending on the vote that the fund casts. We note that the average value of this variable is very small because on most days funds do not execute any trades, so we report this number in one thousandths.

To establish a measure that captures whether funds are supportive of management, we use two votes: director elections and say-on-pay (SOP).¹⁰ We focus on these two votes because they are both held routinely practically every year (see Cai, Garner, and Walking, 2009; Iliev and Vitanova, 2015; Cuñat, Gine, and Guadalupe, 2015; Schwartz-Ziv and Wermers, 2016), and therefore provide, for virtually all companies, a measure of whether funds are supportive of management.¹¹

Specifically, we define a fund as being supportive of management in a given meeting if it voted in support of say-on-pay and if its support rate for directors (measured as the percent of management-nominated directors that this fund voted in favor of) is below the 15th percentile. As the left column in Figure 5 demonstrates, funds that were supportive of management were likely to

¹⁰ The say-on-pay vote took effect starting from January 21, 2011, and hence our analysis includes the say-on-pay vote starting from that date.

¹¹ If we confine our analysis to companies that held other types of votes, which are non-routine and thus rare, we will remain with a very small number of observations.

purchase a daily average of 0.004% of the company (in one thousandths). Funds that were not supportive of management, i.e., whose support rates for directors were below the 15th percentile or that voted against say-on-pay, were likely to *sell* 0.134% of the company (in one thousandths). Hence, during the period that preceded the vote, funds that were supportive of management were likely to purchase stocks, while those that were unsupportive were likely to sell stocks.

In Table 4, we investigate more formally the hypothesis that before shareholders observe the vote outcome, their trades and votes are positively correlated. We confine the analysis at the fund-company-day level to the days between the proxy filing and the meeting date. We use two different dependent variables that capture the magnitude of the trade: “net percent of company traded” (net number of shares bought*1,000/number of shares outstanding), used in Regressions 1-2 and 5-6; and “net portfolio weight traded (in percentage)” (net value of shares bought*100/total value of portfolio), used in Regressions 3-4 and 7-8. Our primary variable of interest is “fund voted for SOP”, which is an indicator that equals one if the fund voted in support of say-on-pay, and “fund support for director above bottom 15th percentile,” which is an indicator equal to one if the fund’s average support rates for all directors were larger than the bottom 15th percentile.

The specifications in Table 4 include a fixed effect for each combination of fund and proxy year (July-June of the following calendar year). Including this fixed effect allows us to observe whether a given fund trades differently in a given period (in our case, a proxy season) for companies in which it is supportive of management, versus companies in which it is not supportive of management. In Regressions 1-4 we include only actively managed funds because these are the funds that have discretion with respect to their trades.¹² As Regression 1 demonstrates, during the period between the proxy filing and the shareholder meeting, a fund is likely to have a “net percent of company traded by

¹² We categorize funds as index funds if CRSP flags the fund as an index fund, or the fund’s name suggests this is an index fund (e.g., fund name contains the words “index” or “idx” or “S&P 500” or “Russell 1000”).

fund” (in one thousandths) that is 0.3407 larger for the companies in which the fund voted in support of management, compared to the companies in which it voted against management. Since the average “net percent of company traded by fund” (in one thousandths) for the sample included in the regression is -0.0808, the increase noted above is substantial and shifts the net percent of company traded from a negative average value to a positive value of 0.259 (-0.0808+0.3407). Similarly, Regression 2 documents that when a fund’s support rate for directors is high, meaning that the variable “fund support for director above bottom 15th percentile” has a value of one, the fund is likely to increase its portfolio weight in the company by 0.356, i.e., from a negative value to a positive value of 0.2752 (-0.0808+0.356).

We find similar results in Regression 3 and 4, which measure the magnitude of a trade in terms of the average daily percent of portfolio weight traded (in one thousandths). For example, Regression 3 documents that a fund is likely to increase its portfolio weight (as defined above) by an additional 0.2847 for companies in which it voted in support of management, compared to those in which it voted against management. Since the average net portfolio weight traded (in percentage) is equal to -0.0806, Regression 4 documents a sizable difference, indicating once again that when funds vote against management, they are more likely to sell stocks, while when they vote for management, they are more likely to buy stocks.

In Columns 5-8 of Table 4, we repeat the analysis, but confine it to index funds. Interestingly, in these specifications, we do not find any relation between votes and trades, which further strengthens our conclusion—funds that can make decisions on both voting and trading (i.e., actively managed funds) make decisions on trading and voting that are positively correlated.

5.2. Funds Updating their Trades when Vote Results are Made Public

We next examine if funds update their trading patterns once they observe the vote outcome. We focus

in this section on the cases in which a fund voted in one direction, and the vote outcome was in the opposite direction, since in these situations shareholders observe new information that contradicts their priors (as captured by their own vote). Following our findings in the prior section, which demonstrated that votes and trades are correlated only for actively managed funds, we limit our analysis to actively managed funds.

Figure 6 reports observations in which funds voted in one direction, yet the vote outcome was in the opposite direction. The figure reports the average daily net portfolio weight traded by funds (in percentage multiplied by 1,000) during the 10 trading days preceding the meeting day (the blue columns) versus the 10 days that follow the shareholder meeting (the orange columns). The left two columns report the trades of funds who were unsupportive of management while most other shareholders were supportive of management. Specifically, we define such cases as those in which the fund's support rate for say-on-pay or director elections was below the bottom 15th percentile, yet the aggregate support rate for the vote in which the fund opposed management was above this threshold. The right two columns report the trades of funds who were supportive of management, while most other shareholders were unsupportive. We define such cases as those in which the fund's support rates for say-on-pay and director elections was above the bottom 15th percentile, yet the aggregate support rate of shareholders for at least one of these two votes was below this threshold.

Figure 6 documents that in these contentious votes, in which either the fund opposed management or other shareholders opposed management, the net percent of company bought by the fund around the meeting date is negative. More importantly, Figure 6 documents that fund trades are updated in the direction of the vote outcome: the left two columns of Figure 6 demonstrate that compared to fund trades before the meeting date, funds that were unsupportive of management are less likely to sell the stock after the meeting date if they learned that other shareholders are supportive of management. Similarly, the right two columns indicate that a fund that voted in support of

management, but then observed that other shareholders were unsupportive of management, is more likely to sell stocks after the meeting date, indicating, once again, a change in trading patterns in the direction of the vote outcome.

In Table 5, we examine more formally whether funds update their trading patterns when the vote outcome contradicts their trades. In regression 1 we confine the analysis to 10 trading days surrounding the meeting date (-10,+10). We include a fixed effect for each fund-meeting combination to ensure that we can contrast the trades of a given fund for a given meeting of a company before and after the meeting date. We restrict the analysis to the post February 2010 period and to actively managed funds, for the reasons discussed above. Our primary variable of interest is “after meeting”, which is equal to one if a trade occurred on or after the meeting date, as opposed to before the meeting date. Regression 1 is confined to observations in which the fund was unsupportive of management, yet the vote outcome was supportive of management, as defined above for Figure 6. As Regression 1 indicates, in such cases, the percentage of company bought by a fund (in one thousandths) is expected to be 0.4399 larger in the 10 days after the meeting date, compared to the 10 trading days preceding the meeting date. Since the average percentage of company bought (in one thousandths) in the 10 days preceding the vote is equal to -0.3954, an additional 0.4399 moves the net average percentage of company bought (in one thousandths) to 0.0445 (-0.3954 + 0.4399). These results are consistent with those in Figure 6.

Because we are unsure of whether funds learn about the vote outcome on the meeting date or on the outcome date, in Regression 2 we contrast the 10 days after the outcome date (captured by the variable “after filing”) to the 10 days preceding the outcome date. Results are similar to those reported in Regression 1, but the magnitude is somewhat economically smaller, suggesting that overall, funds start learning about the vote outcome on the meeting date.

In Regressions 3 and 4, we examine the observations in which the fund was supportive of management, yet shareholders were unsupportive (as defined above). Here, we observe that funds are more likely to sell the stock after the meeting date and the outcome date. For example, while the average net percent of fraction bought in the 10 days before the meeting date is equal to -0.16209, this figure is equal to -0.4382 (-0.1621-0.2761) in the 10 days following the meeting date, indicating, once again, that funds' trading patterns shift in the direction of the vote outcome.

Finally, to further understand when and how votes alter trading patterns, in Table 6 we examine separately director votes (Columns 1-4) and say-on-pay votes (Columns 5-8) around the meeting date. The observations are on the fund-company-day level. The dependent variable in the odd-numbered regressions is an indicator variable that equals one if the fund bought the company's stock, while in the even-numbered regressions, it is an indicator that equals one if the fund sold the company's stock.

Our results show that when a vote outcome contradicts the fund's vote, funds stop following their prior trading pattern (e.g., an unsupportive fund stops selling stocks when it observes that other shareholders were supportive), but funds do not pursue the opposite trading pattern (e.g., purchasing stock after they observe large support rates). More specifically, Regressions 1-2 (director election votes) and 5-6 (say-on-pay votes) show that when funds vote against management but other shareholders are supportive, funds stop selling their shares after the meeting relative to the fund's trading patterns before the meeting (Regressions 2 and 6). However, the vote is not sufficient to induce funds to start buying stock (Regressions 1 and 5). Similar patterns are documented in the opposite direction—when funds are supportive, but other shareholders are unsupportive, funds are less likely to buy stock (Regressions 3 and 7), but do not start selling stock (Regressions 4 and 8).

To demonstrate the economic magnitude, consider Regression 2, which documents that when funds are unsupportive of directors, yet other shareholders are supportive of directors, funds

are 0.0059 more likely to sell a stock after the meeting, in comparison to their tendency to do so before the meeting. Since the average daily frequency of buying the stock during the 10 trading days before the meeting is 0.0241 for the funds included in Regression 2, this implies an increase of 24.5% ($0.0059/0.0241$) relative to the average daily frequency.

Taken together, our results in this section show that funds update their trading patterns in the direction of the vote outcome.

6. When Do Shareholder Votes Have a Particularly Large Impact?

In this section, we test four hypotheses that all try to understand at which times and in which situations shareholder votes will draw particularly extensive attention from the market.

6.1. Surprising Vote Outcome

Following Bamber (1987) and Kim and Verrecchia (1991) who argue that abnormal volume should be particularly large when an event is surprising, we hypothesize that abnormal volume will be particularly large when the vote outcome is surprising. We focus on the two most routine votes – director elections and say-on-pay.

We define a vote outcome as surprising if ISS recommended to vote in one direction, yet the vote outcome was in the opposite direction and/or received relatively low support rates. Accordingly, the following four vote outcomes are defined as surprising: (a) ISS recommended to vote against SOP, but the vote received support rates exceeding 70%;¹³ (b) ISS recommended to vote for SOP, but the vote received support rates below 70%; (c) ISS recommended to vote “for” at least 85%

¹³ The 70% threshold is the threshold ISS considers to be a reasonable support rate (see ISS, 2010). This is also approximately the bottom 10th percentile of support rates.

of the directors up for election, but the average support rates for directors were below 85%;¹⁴ (d) ISS recommended to vote “against” at least 85% of the directors up for election, but the average support rates for directors exceeded 85%.

Indeed, in Table 7, we document that when a “surprise outcome” occurs, the market response is particularly dramatic. For example, the constant in Regression 1 of Table 7 documents that the unconditional abnormal volume at the meeting date is equal to 9.23%. However, companies that have a surprising vote outcome experience an additional 9.57% abnormal volume, i.e., an abnormal volume twice as large compared to a non-surprising vote outcome. Similarly, Regression 2 documents that the unconditional abnormal number of trades is equal to 13.59%, and this figure increases by an additional 16.03% if the vote outcome is surprising.

Regression 3 of Table 7 documents that surprising vote outcomes experience, overall, larger abnormal volatility relative to non-surprising vote outcomes. Once again, we do not find any clear result with respect to abnormal returns (Regression 4). Overall, these results demonstrate that investors update their priors considerably more frequently if the vote outcome is surprising. These findings provide further support for the hypothesis that abnormal trading around the meeting date occurs due to the vote outcome being revealed.¹⁵

6.2. Volume and Price Reactions

Kim and Verrechia (1991 and 1992) and Harris and Raviv (1993) predict in their models that when a

¹⁴ Director election votes receiving support rates below 85% percentile are in the bottom 10th percentile of the support rates.

¹⁵ We note that there is no reason to believe that our findings are driven by short sellers. As Christoffersen, Geczy, Musto, and Reed (2007) explain, investors who wish to gain voting rights may short sell stocks up until the record date which is the official date an investor must be an owner on the company's records in order to participate in the annual meeting and corporate elections. The record date is typically before the proxy filing (the law (DGCL §213(a)) requires that the record date be no more than 60 days and nor less than 10 days before the meeting date). However, short sellers can return the shares immediately after the record date, and do not need to wait until the meeting date.

public announcement is made, abnormal volume will exist only when returns differ from zero, indicating that the precision of the new information is relatively high and therefore sufficed to move prices in a certain direction. In contrast to the predictions of these models, Kandel and Pearson (1995) and Bamber, Barron and Stober (1999) demonstrate that on earnings announcement days, abnormal volume is positive and large even when returns around the announcement day are zero or close to zero. Nevertheless, as Atiase and Bamber (1994) point out, and consistent with the findings of Kandel and Pearson (1995), abnormal volume increases as the absolute value of the price reaction increases, which supports the models of Kim and Verrechia (1991 and 1992) and Harris and Raviv (1993).

Following this prior literature, which has focused on earnings announcements, we hypothesize that with respect to shareholder votes, we will observe abnormal positive volume around the meeting date even when returns are zero or close to zero, and that abnormal volume will be larger as the absolute values of returns increase. We test this hypothesis in Table 8. In Panel A (B) of Table 8, abnormal volume is estimated relative to its average (median) value during the pre-voting period ([-22,-252] window before the proxy filing). In Regressions 1-5 of Table 8, we split the sample conditional on the magnitude of the return on meeting date. We confine the analysis to the period between the meeting day until four days after the meeting day, i.e., until the last day companies when are permitted to file an 8-K reporting the vote outcomes.

As Regression 1 of Panel A indicates, companies that experienced an abnormal return within the top 15th percentile (i.e., a particularly large and positive abnormal return), also experienced an abnormal trading volume equal to 54.44%. Regression 1 of Panel B documents a substantially larger magnitude relative to the median—174.7%, indicating, once again, that the magnitudes of abnormal trading are substantially larger relative to the median day, on which it is likely that no special event occurs. Regression 2 demonstrates that companies within the 16th -30th percentile of returns on the meeting date (i.e., positive returns, but smaller than those included in Regression 1) experienced an

abnormal volume equal to 2.81%, i.e., positive but substantially smaller relative to the meetings that were followed by a large price change. In Regression 3 of both panels, following Bamber, Barron and Stober (1999), we confine the analysis to the observations in which there is almost no price reaction, i.e., those within the bottom decile of the *absolute* return on the meeting date. Panel A reports an abnormal volume of -4.22% (relative to the average) while Panel B reports abnormal volume of 37.68% (relative to the median). Hence, when no, or virtually no, price reaction occurs, abnormal volume exists relative to the median trading volume, but not relative to the average trading volume. One way or the other, abnormal volume is smaller compared to the meetings in which the price reaction is large.

Regression 5 of both panels is confined to the bottom 15th percentile of daily returns (i.e., large negative returns), and documents that when returns are particularly large and negative, the abnormal volume is unusually large—55.18% relative to the average volume, or 200% relative to the median volume. Finally, in Regressions 6 and 7 we confine the sample to companies that experienced a positive and negative abnormal return on the meeting date, respectively. We include the variable “absolute return” that controls for the absolute value of return. Regressions 6 and 7 of both panels demonstrate that the abnormal volume significantly increases as absolute return increases. For example, Regression 6 of Panel A demonstrates that a 1% increase in absolute return on the meeting date is expected to increase the abnormal volume by 24.5%.

Kim and Verrecchia (1991) also argue that abnormal volume will increase as the importance of the information revealed increases. In Appendix B, we report results that support this argument.

In sum, in this section we document that abnormal trading volume increases as the price reaction increases, and that abnormal trading relative to the median trading day (but not relative to the average day) exists even when the price reaction is close to zero. Hence, abnormal trading occurs extensively particularly when information revealed in the vote outcome is sufficient to move prices.

6.3. Information Asymmetry

Following Atiase and Bamber (1994) and Chae (2005), we hypothesize that the information revealed in votes should particularly catalyze trades in companies with high levels of information asymmetry. We use the proxies used in these papers to capture companies with high information asymmetry: companies with a relatively small market capitalization and companies followed by a small number of analysts. We obtain the number of analysts from the I/B/E/S summary files.

We test our hypothesis in Table 9. We focus on abnormal volume relative to the median as our dependent variable, but results are very similar in unreported specifications that use the abnormal daily number of trades. The analysis is confined to the days between the meeting day until four days after the meeting day (including these days). In Regression 1, we only include companies followed by a number of analysts below the median (i.e., seven analysts or less), and observe a significant abnormal volume of 11.88% on the meeting date. In Regression 2, we include companies that are followed by a number of analysts above the median. Here the abnormal volume is not significant and the economic magnitude is negligible. In Regression 3, we include all companies and define an indicator variable “few analysts,” which is equal to one if the number of analysts following the company is within the bottom quartile. As Regression 3 demonstrates, companies followed by a number of analysts within the bottom quartile are likely to experience an additional abnormal volume of 202% (0.0790/0.0391) around the meeting date relative to companies that are tracked by a larger number of analysts.

In Regressions 4-6 of Table 9, we perform similar analysis but proxying for information asymmetry with market capitalization. We find that the abnormal return on the meeting date for small companies (i.e., companies with below median market capitalization, Regression 4) is approximately 219% (0.1433/0.0654) larger compared to large companies (i.e., companies with above median market capitalization, Regression 5). This pattern is also evident in Regression 6, in which the indicator

variable “small company” is equal to one if the company is within the bottom quartile ranked by market capitalization. As Regression 6 indicates, small companies experience an additional abnormal volume of 70.6% (0.058/0.0821) relative to that experienced by large companies.

Overall, these findings are consistent with the hypothesis that abnormal trading around vote outcomes is particularly high for companies in which information asymmetry is high.

6.4. Distracted Investors

Hirshleifer and Teoh (2003) and DellaVigna and Pollet (2009) argue that investors have limited attention. Following these studies, we hypothesize that the market will pay more attention to shareholder votes when fewer events distract investors’ attention. To capture the latter, we use the number of shareholder meetings that take place on the same day that a company’s shareholder meeting takes place. Shareholder meetings tend to be clustered on Tuesdays, Wednesdays and Thursdays during April. We demonstrate this in Figure 4 by reporting the distribution of shareholder meetings during the 2011 proxy year; the distribution is very similar for other years.

We test out hypothesis on distracted investors in Table 10. In Regression 1, we only include shareholder meetings held on days on which investors were not distracted, which we define as days with less than 0.5% of shareholder meetings of that proxy year (July to June of the following calendar year). The majority of trading days and approximately one quarter of the meetings fall under this definition. As Regression 1 documents, the abnormal volume for such meetings is equal to 14.77%. In Regression 2, we restrict attention to meetings that were held on days when investors could be distracted, which we define as days with at least 2.5% of all meetings within the proxy year. Approximately 12 trading days and one quarter of the meetings in each proxy year fall under this definition. As Regression 2 documents, the abnormal volume is only 9.21% for such meetings, suggesting that the abnormal volume is smaller when a large number of shareholder meetings is held

on the same day.

In Regressions 3 and 4, we include the full sample. In Regression 3, we find that the “log of percentage meetings held on date” significantly decreases the abnormal volume, indicating that the larger the number of meetings held on a given day, the lower the abnormal volume. In Regression 4, the indicator variable “percent of meetings on date larger than 2.5%” demonstrates that companies that held a meeting on a day with at least 2.5% of all meetings during the corresponding proxy year, experienced an abnormal volume that was 5.47% smaller relative to companies that held their meetings on days in which less than 2.5% of the annual shareholder meetings were held. Hence, abnormal volume is approximately one third smaller compared to days on which relatively few meetings take place (-0.0547/0.1493). In sum, Table 10 demonstrates that abnormal volume is higher when investors are not distracted by other shareholder meetings.

We note that companies that want to avoid receiving the market’s attention to a shareholder vote (possibly because they wish to attempt to conceal a vote which they expect will receive low support rates) may strategically schedule their shareholder meeting on a day on which many other shareholder meetings are scheduled or are expected to be scheduled. However, these are precisely the meetings for which the market *should* particularly pay attention and respond to. Hence, the magnitude of our results could potentially have been even larger if strategic scheduling of meetings were not possible.

7. Conclusions

The goal of this paper is to examine the relation between shareholders’ voting and trading decisions, both at the company and at the investor level. At the company level, we study how the stock’s abnormal trading volume, daily number of trades, and volatility change around the date of the vote. We show that all these measures are substantially larger around the shareholder meeting date

compared to the pre-voting period, and that this increase is particularly pronounced when shareholders vote against management. At the investor level, we study the relation between a shareholder's trading and voting decisions before the aggregate vote outcome is made public, as well as the relation between a shareholder's trades and the aggregate vote outcome after it is disclosed. We show that before vote results are disclosed, mutual funds' trades and votes are positively correlated: funds voting in support of management are more likely to buy the stock, and vice versa. However, after the vote outcome is made public, funds change the pattern of their trades if the aggregate vote outcome contradicts their own vote. Taken together, our study shows that there is a strong link between investors' trading and voting decisions both in the pre-vote and in the post-vote periods.

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Figure 1: Timeline around Shareholder Meetings

The figures on the timeline represent the average (median) number of trading days between the events. Panel A reports figures for the January 1, 2006- February 27, 2010 period, while Panel B reports figures for the February 28, 2010-June 30, 2013 period. The sample is split into these two sub-periods because starting from February 28, 2010 companies are required to report the outcome of the vote within 4 days in an 8-K . Before that date they were permitted to report the vote outcomes in a 10-Q or a 10-K.

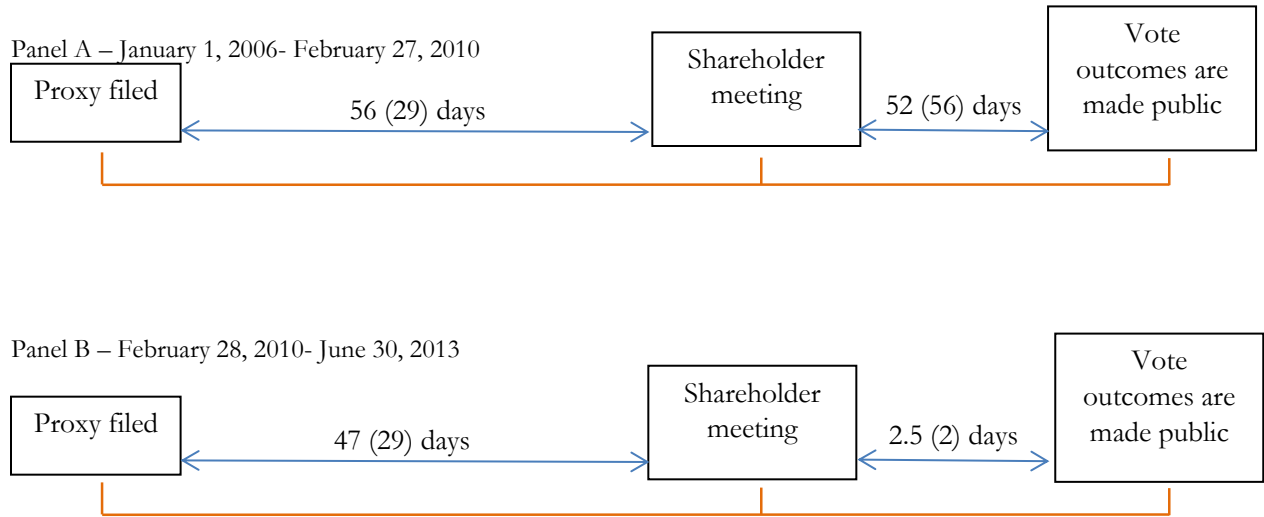
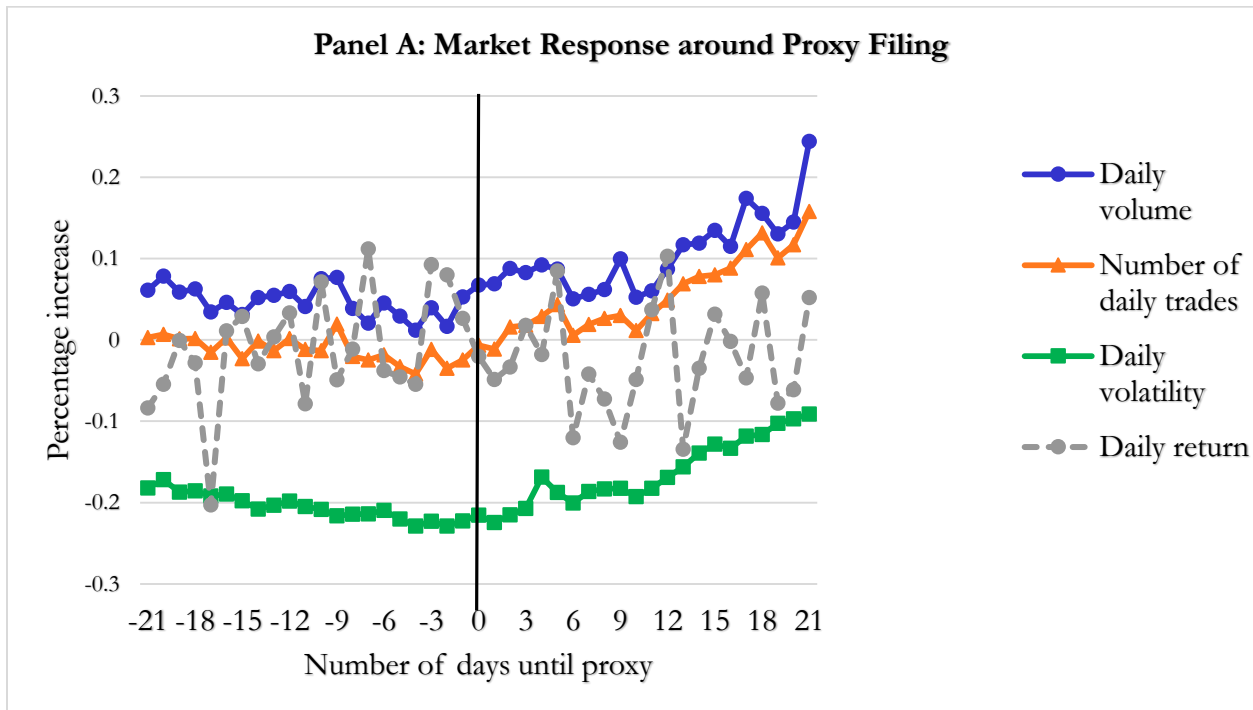
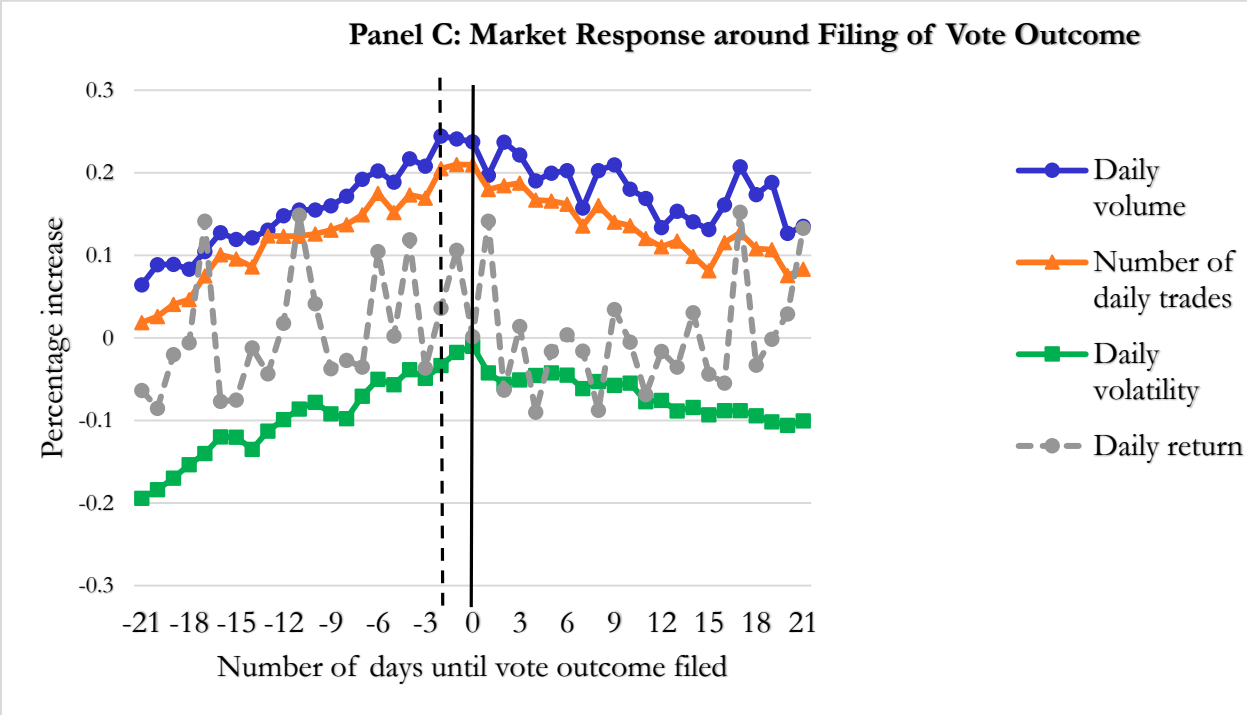
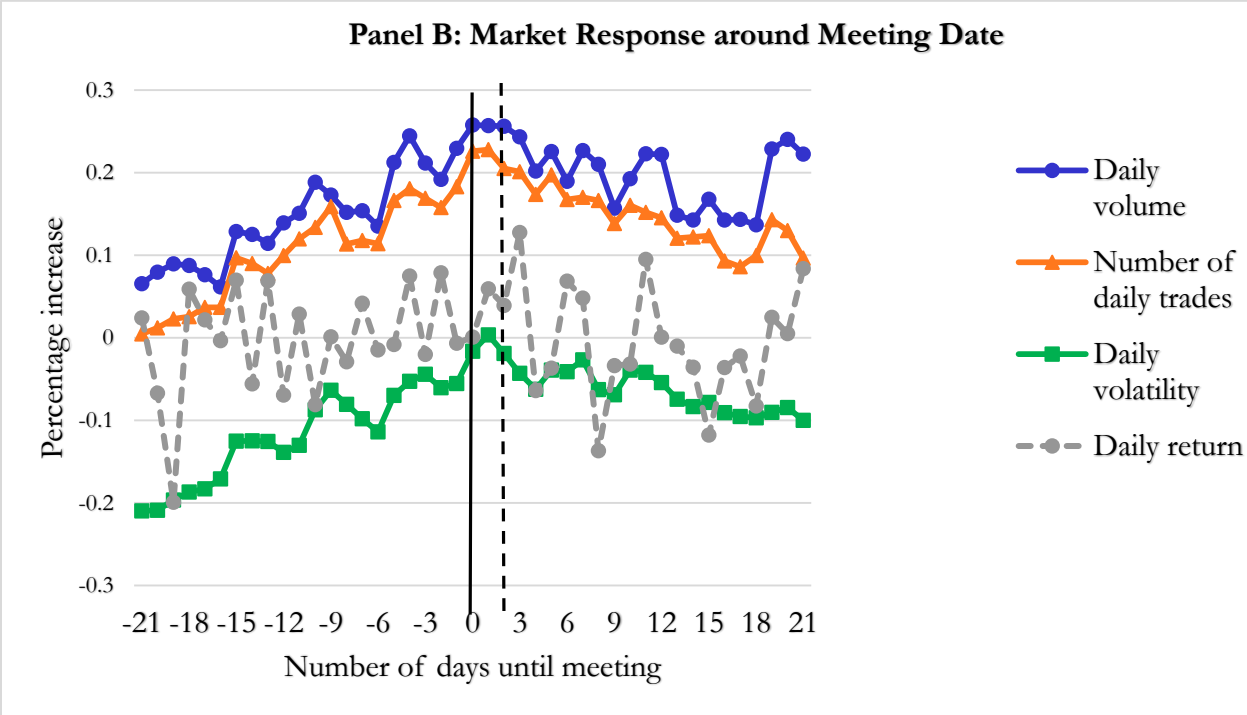


Figure 2: Company’s Volume, Daily Number of Trades, Volatility and Return around Proxy Filings, Shareholder Meetings, and Vote Outcomes

This figure reports the company’s average abnormal daily volume, daily number of trades, daily volatility and daily return on days around proxy filings (Panel A), shareholder meetings (Panel B), and vote outcomes (i.e., the date a filing which reveals the vote outcome is filed, Panel C). In panels A-C, abnormal values are estimated by dividing the daily value by the average daily measure during the pre-voting period (the [-22,-252] window before the proxy filing) minus one. Panel D reports the company’s average abnormal daily volume, daily number of trades, daily volatility and daily return on days around earnings announcements (10-K filings), where abnormal values are estimated by dividing the daily value by the average daily measure during the pre-10-K period, (the [-22,-252] window before the 10-K filing) minus one. All panel report data for meetings that were held between March 1st, 2010-June 28, 2013.





Panel D: Market Response around 10-K Filing

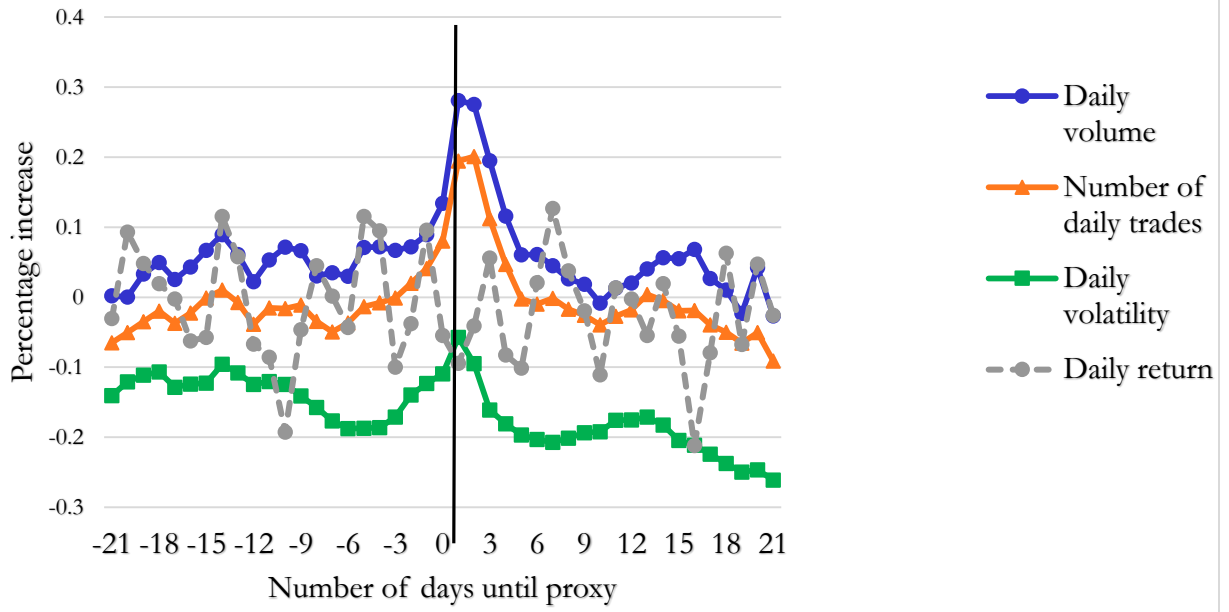


Figure 3: Market Response Conditional on Vote Outcome

This figure reports the daily average abnormal volume, number of trades, volatility, and returns conditional on whether support rates on votes being low. Abnormal values are estimated by dividing the daily value by the average daily measure during the pre-voting period (the [-22,-252] window before the proxy filing) minus one. A meeting with low shareholder support of management is defined as a meeting in which the result of at least one of the votes is in the opposite direction than recommended by management. All observations are from the February 28, 2010-June 30, 2013 period.

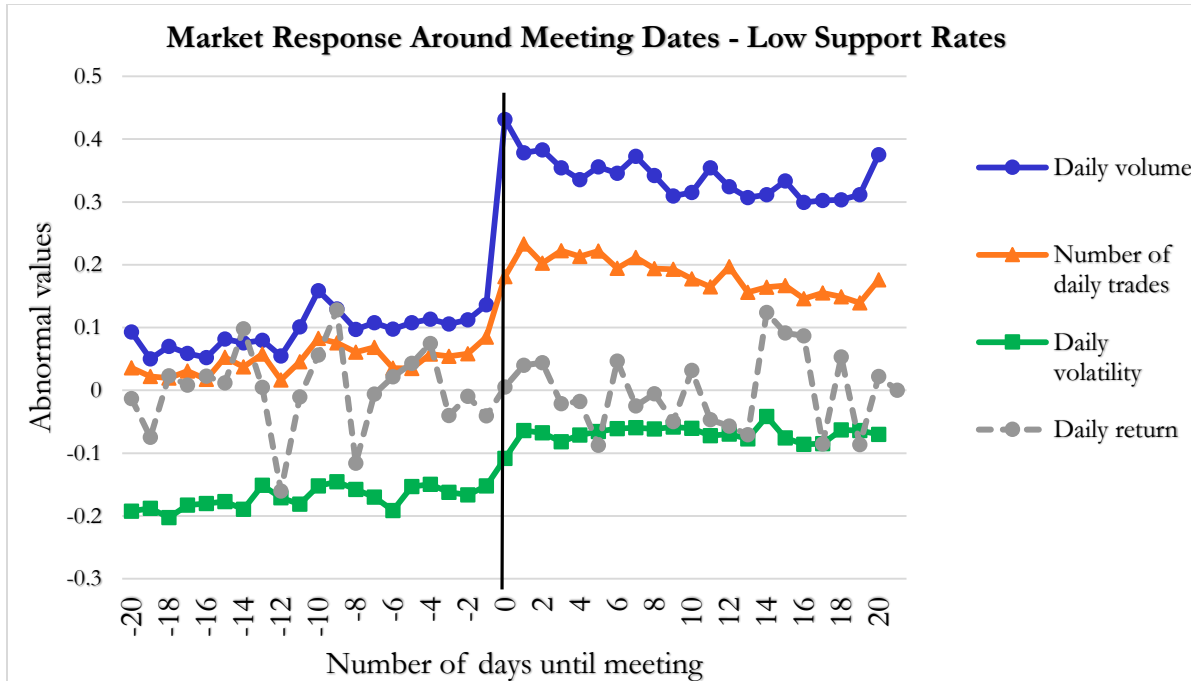


Figure 4: Number of Shareholder Meetings Held on each Day during the 2011 Proxy Year

The figure reports the number of shareholder meetings held on each day during the 2011 proxy year (July 1st 2010-June 30th 2011) for the 2853 companies included in the ISS Voting Analytics dataset.

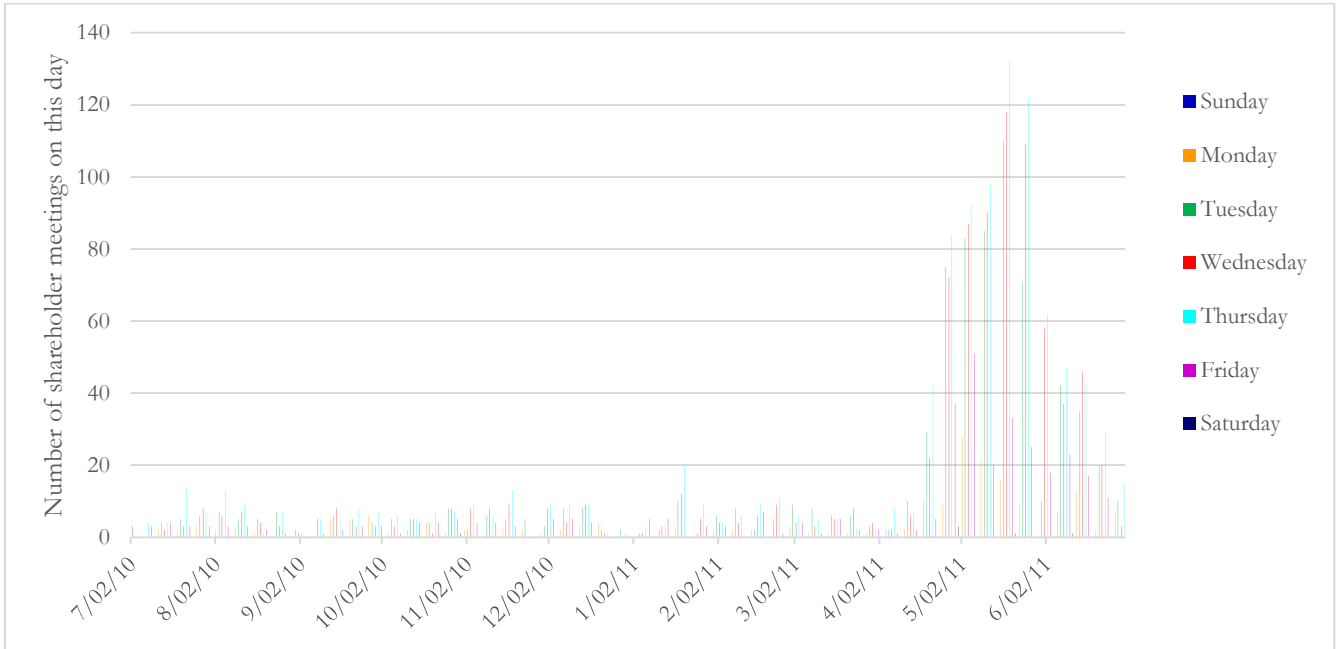


Figure 5: Fund Trades Prior to the Meeting Date

The figure includes observations from the March 2010-September 2011 period, and reports the average daily percentage of company bought (in one thousandths, i.e., multiplied by 1,000) during the period between the proxy date and the shareholder meeting date (not including these days). The left column reports percentage of company bought by funds that were ultimately supportive of management in their vote, which we define as funds whose support rates with respect to director elections was above the bottom 15th percentile, and also voted in support of say-on-pay (in the years this vote took place). The right column reports trades by funds that were not supportive of management in their vote, defined as funds whose support rates with respect to director election was within the bottom 15th percentile, or voted against say-on-pay.

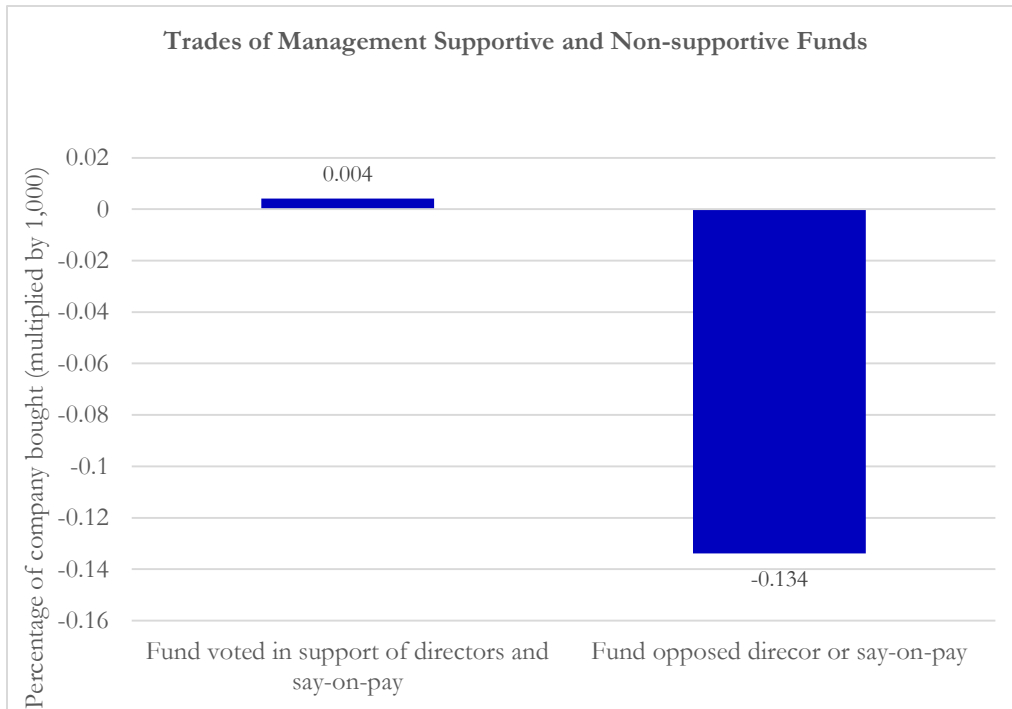


Figure 6: Funds Trades Before and After the Meeting

The figure includes observations from the March 2010-September 2011 period, and reports the average daily net portfolio weight traded by funds (in percentage multiplied by 1,000) during the 10 trading days before the meeting day (the blue columns) versus the 10 days that follow the shareholder meeting (the orange columns). The left two columns report figures for funds whose votes were unsupportive of management, yet, ultimately, shareholders were supportive of management. We define the latter as cases in which funds support rate for say-on-pay or director elections was in the bottom 15th percentile, yet the average support rate for the vote for which the fund opposed management was above the bottom 15th percentile of support rates. The right two columns reports votes of funds that were supportive of management, yet shareholders were ultimately unsupportive. We define the latter as funds whose support rates with respect to director elections and say-on-pay was above the bottom 15th percentile, yet the average support rate of shareholders for at least one of these two votes was below this threshold.

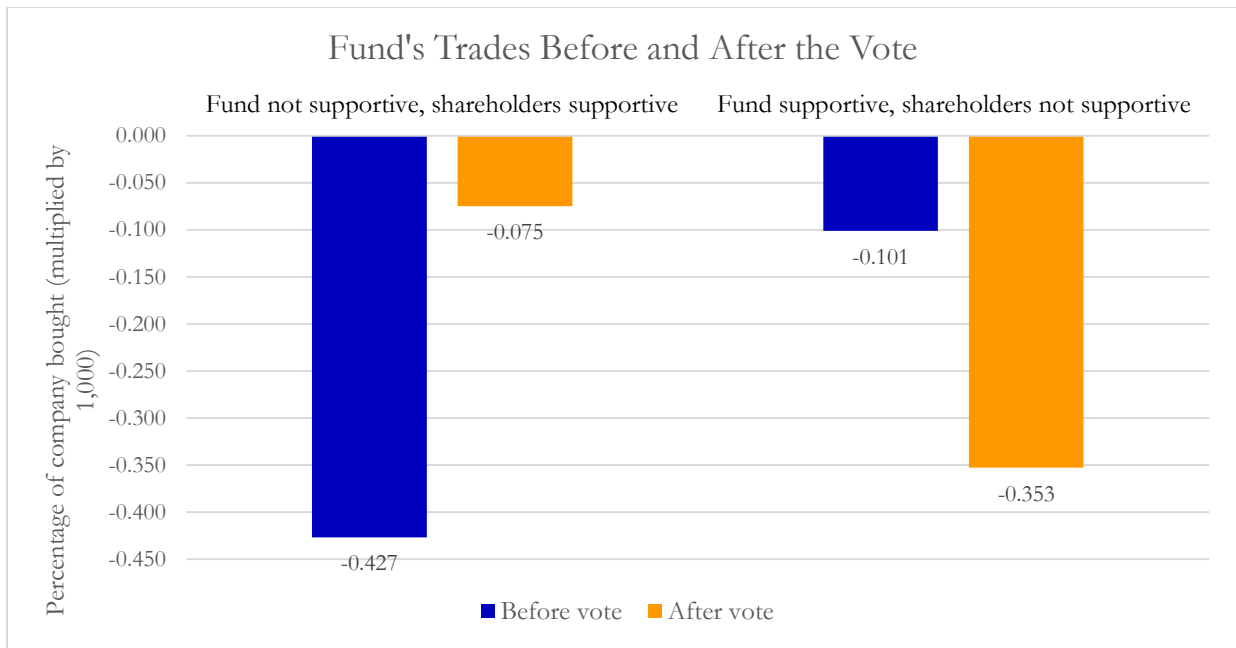


Table 1: Summary Statistics

This table provides summary statistics.

<u>Item</u>	<u>Total</u>
Number of unique companies	3,087
Number of unique funds	639
Unique number of shareholder meetings	21,291
Unique meeting-trading dates	10,636,437
Unique company-fund-trading dates examined	36,431,038
Of these, percentage of days trade occurred	3.8%

Table 2: Fund Volume, Daily Number of Trades, Volatility and Returns Around Vote Events

This table reports on the stock level, the abnormal daily volume, abnormal daily number of trades, abnormal daily volatility and/or abnormal daily returns during the February 28, 2010-June 30, 2013 period. Abnormal volume, trades and volatility are estimated by dividing the daily value by the average/ median daily measure during the pre-voting period (the [-22,-252] window before the proxy filing) minus one. The estimates reported are estimated by regressing the corresponding dependent variable on a constant, where the sample in a given column only includes days from the time period specified at the top of the column (for example, the specification reported in the first column only includes observations on the 20th trading day preceding the proxy filing, for all proxy filings in our sample. T-statistics are reported in parenthesis. * indicates $p < .10$, ** $p < .05$, and *** $p < .01$.

Panel A: Market Response around Proxy Filing

Dependent variable	Trading days to proxy filing																
	-20	-16	-12	-8	-4	-3	-2	-1	0	1	2	3	4	8	12	16	20
Abnormal volume (relative to average)	-0.001 (-0.080)	-0.058*** (-4.780)	-0.044*** (-3.296)	-0.047*** (-3.390)	-0.076*** (-5.876)	-0.062*** (-4.320)	-0.063*** (-4.509)	-0.053*** (-3.606)	-0.030** (-1.961)	-0.036** (-2.240)	-0.024 (-1.478)	-0.012 (-0.743)	-0.02 (-1.269)	-0.019 (-1.413)	-0.003 (-0.212)	0.016 (1.071)	0.044*** (2.966)
Abnormal daily number of trades (relative to average)	0.007 (.584)	-0.013 (-1.249)	-0.008 (-0.716)	-0.019* (-1.729)	-0.045*** (-4.087)	-0.033*** (-2.788)	-0.037*** (-3.180)	-0.031*** (-2.720)	-0.015 (-1.212)	-0.023* (-1.921)	-0.003 (-0.203)	0.014 (1.099)	0.015 (1.131)	0.027** (2.204)	0.045*** (3.554)	0.080*** (5.642)	0.102*** (7.550)

Panel B: Market Response around Shareholder Meetings

Dependent variable	Trading days to shareholder meeting																
	-20	-16	-12	-8	-4	-3	-2	-1	0	1	2	3	4	8	12	16	20
Abnormal volume (relative to average)	0.011 (.901)	0.045*** (3.494)	0.064*** (4.872)	0.067*** (5.209)	0.107*** (8.298)	0.076*** (6.186)	0.097*** (7.611)	0.102*** (8.178)	0.123*** (9.401)	0.128*** (9.899)	0.140*** (10.229)	0.124*** (9.516)	0.098*** (7.900)	0.114*** (8.375)	0.092*** (6.790)	0.078*** (5.858)	0.096*** (7.126)
Abnormal volume (relative to median)	0.685*** (9.755)	0.787*** (10.303)	0.807*** (10.473)	0.822*** (10.787)	0.863*** (11.418)	0.843*** (10.847)	0.844*** (11.216)	0.814*** (11.281)	0.851*** (11.596)	0.841*** (11.629)	0.904*** (11.782)	0.849*** (11.546)	0.823*** (11.184)	0.885*** (11.378)	0.869*** (11.114)	0.862*** (11.001)	0.916*** (11.311)
Abnormal daily number of trades (relative to average)	0.012 (1.343)	0.023*** (2.612)	0.043*** (4.561)	0.065*** (6.887)	0.102*** (10.320)	0.086*** (8.976)	0.086*** (9.132)	0.102*** (11.018)	0.123*** (12.662)	0.116*** (11.896)	0.109*** (11.034)	0.109*** (11.394)	0.093*** (10.205)	0.074*** (8.000)	0.059*** (6.531)	0.039*** (4.199)	0.028*** (3.191)
Abnormal daily number of trades (relative to median)	0.756*** (9.226)	0.604*** (8.932)	0.611*** (9.203)	0.796*** (10.005)	0.833*** (10.549)	0.838*** (10.213)	0.670*** (10.090)	0.647*** (10.463)	0.686*** (10.740)	0.745*** (10.508)	0.716*** (10.463)	0.622*** (10.617)	0.584*** (10.299)	0.643*** (9.852)	0.662*** (9.683)	0.685*** (9.414)	0.619*** (9.123)
Abnormal volatility (relative to average)	-0.143*** (-31.639)	-0.129*** (-28.340)	-0.115*** (-24.538)	-0.086*** (-17.468)	-0.068*** (-13.801)	-0.070*** (-14.196)	-0.082*** (-17.328)	-0.074*** (-16.089)	-0.042*** (-8.409)	-0.045*** (-8.888)	-0.058*** (-12.243)	-0.068*** (-14.805)	-0.076*** (-16.970)	-0.087*** (-20.242)	-0.077*** (-17.661)	-0.089*** (-21.209)	-0.092*** (-22.381)
Abnormal volatility (relative to median)	-0.050*** (-9.424)	-0.035*** (-6.604)	-0.021*** (-3.783)	0.014** (2.345)	0.033*** (5.706)	0.031*** (5.324)	0.017*** (3.070)	0.025*** (4.752)	0.060*** (10.436)	0.057*** (10.004)	0.044*** (8.008)	0.030*** (5.898)	0.022*** (4.365)	0.011** (2.138)	0.022*** (4.493)	0.009* (1.902)	0.007 (1.406)
	0.050**	0.002	0.008	0.001	0.032	0.02	0.031	-0.011	0.063***	0.045*	0.044**	0.038*	-0.002	-0.007	-0.002	0.047**	0.007

Abnormal return (relative to market)	(2.289)	(.093)	(.338)	(.025)	(1.403)	(.895)	(1.376)	(-0.505)	(2.695)	(1.950)	(1.987)	(1.659)	(-0.082)	(-0.322)	(-0.084)	(2.231)	(.346)
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Panel C: Market Response around Vote Outcome Filing

Dependent variable	Trading days to Vote Outcome Filing																
	-20	-16	-12	-8	-4	-3	-2	-1	0	1	2	3	4	8	12	16	20
Abnormal volume (relative to average)	0.011 (.907)	0.070*** (5.501)	0.080*** (6.289)	0.083*** (6.584)	0.088*** (7.150)	0.121*** (9.219)	0.114*** (9.229)	0.121*** (9.334)	0.136*** (10.154)	0.107*** (8.482)	0.117*** (8.919)	0.123*** (8.728)	0.102*** (7.644)	0.105*** (7.454)	0.062*** (4.817)	0.058*** (4.608)	0.054*** (4.086)
Abnormal daily number of trades (relative to average)	0 (.040)	0.066*** (6.808)	0.070*** (7.437)	0.086*** (8.714)	0.090*** (9.770)	0.110*** (11.387)	0.113*** (11.840)	0.105*** (11.030)	0.119*** (12.035)	0.099*** (10.554)	0.088*** (9.667)	0.098*** (10.123)	0.073*** (8.013)	0.067*** (7.225)	0.041*** (4.524)	0.030*** (3.346)	0.016* (1.867)

Panel D: Market Response around 10-K Filing

Dependent variable	Trading days to 10-K filing																
	-20	-16	-12	-8	-4	-3	-2	-1	0	1	2	3	4	8	12	16	20
Abnormal volume (relative to average)	-0.018 (-1.224)	0.007 (.438)	0.008 (.485)	0.001 (.078)	0.022 (1.389)	0.018 (1.159)	0.058*** (3.548)	0.098*** (5.630)	0.219*** (11.048)	0.204*** (10.008)	0.127*** (7.087)	0.067*** (4.013)	0.013 (.891)	-0.057*** (-4.165)	-0.014 (-0.889)	-0.055*** (-3.800)	-0.095*** (-6.582)
Abnormal daily number of trades (relative to average)	0.01 (.826)	0.033** (2.321)	0.040*** (2.760)	0.015 (1.076)	0.054*** (3.772)	0.070*** (4.950)	0.110*** (7.227)	0.152*** (9.566)	0.256*** (14.118)	0.255*** (14.009)	0.174*** (11.010)	0.100*** (6.948)	0.050*** (3.948)	0.001 (.102)	0.037*** (2.693)	-0.024* (-1.933)	-0.067*** (-5.720)

Table 3: Market Response Depending on Shareholder Support

This table reports, on the stock level, the abnormal daily volume, number of trades, volatility, and abnormal return during the February 28, 2010-June 30, 2013 period. The analysis includes the trading days in the [-5,+4] window around the meeting date. “After meeting” is an indicator that equals one if the day examined is within the [0,+4] window around the meeting date, and zero if it is in the [-5,-1] window. A meeting with low shareholder support of management is defined as a meeting in which the result of at least one of the votes was in the opposite direction than that recommended by management. Meetings with high support rates are defined as meetings in which all vote outcomes were in line with management recommendations. T-statistics are reported in parentheses. * indicates $p < .10$, ** $p < .05$, and *** $p < .01$.

	Abnormal volume		Abnormal number of trades		Abnormal volatility		Abnormal return	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
After meeting	0.0773*** (4.219)	0.0191*** (3.174)	0.0684*** (4.843)	0.0077 (1.623)	0.0357*** (4.411)	0.0145*** (5.355)	-2.0684 (-0.787)	1.6346* (1.910)
Shareholder support for management	Low	High	Low	High	Low	High	Low	High
Days included	[-5,+4] around meeting date							
Meeting fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.392	0.513	0.493	0.449	0.295	0.284	0.028	-0.005
N	7,740	73,032	8,110	74,938	8,110	74,938	8,276	77,212

Table 4: Trades between Proxy Filing and Meeting Date

This table reports, on the fund-company-day level, fund's trades between the proxy filing and the meeting date (not including these dates), during the March 2010–September 2011 period. Regressions 1-4 include only actively managed funds, whereas Regressions 5-8 include only index funds. T-statistics are reported in parenthesis. * indicates $p < .10$, ** $p < .05$, and *** $p < .01$.

	Net percent of company traded by fund		Net portfolio weight traded (in percentage)		Net percent of company traded by fund		Net portfolio weight traded (in percentage)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fund voted for SOP	0.3407** (2.203)		2.8467** (2.369)		-0.0488 (-0.473)		-0.1434* (-1.727)	
Fund support for director top 85th percentile		0.3560*** (3.761)		2.0905*** (2.950)		0.0081 (.153)		0.0322 (.696)
Book-to-market ratio	0.058 (.744)	-0.0383 (-1.091)	-0.3271 (-0.540)	-0.133 (-0.506)	-0.0540* (-1.665)	-0.0563** (-2.368)	0.0873*** (3.346)	0.0513** (2.459)
Fraction of company held	130.9943*** (-14.585)	-98.8953*** (-18.073)	14.6463 (.210)	51.7505 (1.263)	41.3580*** (4.666)	41.8977*** (5.648)	-42.5718*** (-5.964)	-33.3392*** (-5.120)
Portfolio weight (in percentage)	-13.5697** (-2.140)	-15.7150*** (-3.599)	-433.3098*** (-8.796)	-348.6909*** (-10.668)	-2.259 (-1.132)	-2.1739 (-1.219)	151.1897*** (94.108)	140.0883*** (89.480)
Total institutional holding	0.6805*** (2.858)	0.3997*** (2.678)	2.7779 (1.502)	0.3087 (.276)	-0.14 (-1.488)	-0.1258 (-1.626)	0.2632*** (3.475)	0.3310*** (4.872)
Expense ratio	182.0336 (.751)	8.3483 (.090)	-420.977 (-0.224)	21.3234 (.031)	14.5846 (.125)	-17.1975 (-0.194)	-53.8369 (-0.575)	270.9993*** (-3.482)
Turnover ratio	-0.1062 (-0.625)	-0.0267 (-0.187)	-10.8973*** (-8.261)	-8.8880*** (-8.316)	-0.9155 (-1.035)	0.7171 (.984)	-3.7394*** (-5.248)	-2.3713*** (-3.708)
Constant				3.0682*			(1.231)	0.8317 (1.012)
Period examined	Proxy filing to meeting date							
Observations included	Non-index	Index						
Fund - proxy year combination fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.004	0.003	0.006	0.006	0.004	0.003	0.044	0.034
N	546,215	826,868	546,215	826,868	290,184	356,968	290,184	356,968

Table 5: Funds Updating Trading Patterns

This table reports on the fund-company-day level fund's trades during the March 2010–September 2011 period. Regressions include fund and year fixed effects. T-statistics are reported in parenthesis. * indicates $p < .10$, ** $p < .05$, and *** $p < .01$.

	Net fraction of company bought			
	(1)	(2)	(3)	(4)
After meeting	0.4399** (2.145)		-0.2761** (-2.211)	
After filing		0.3932* (1.905)		-0.2965** (-2.121)
Fund X meeting fixed effect	Yes	Yes	Yes	Yes
Fund supported management	Unsupportive		Support	
Vote outcome support management	Support		Unsupportive	
Meeting times fund fixed effects	Yes	Yes	Yes	Yes
Days included	10 days around meeting	10 days around outcome filing	10 days around meeting	10 days around outcome filing
Meeting X fund fixed effects	Yes	Yes	Yes	Yes
R-squared	0.068	0.068	0.053	0.053
N	19,123	18,967	27,990	28,097

Table 6: Funds Buying and Selling Stocks Before and After the Vote

This table reports on the fund-company-day level fund's trades during the March 2010–September 2011 period. Regressions include fund and year fixed effects. The dependent variable in the odd-numbered regressions is an indicator that equals one if the fund bought a stock, and in the even-numbered regressions it is an indicator that equals one if the fund sold a stock. T-statistics are reported in parenthesis. * indicates $p < .10$, ** $p < .05$, and *** $p < .01$.

	Fund bought stock (1)	Fund sold stock (2)	Fund bought stock (3)	Fund sold stock (4)	Fund bought stock (5)	Fund sold stock (6)	Fund bought stock (7)	Fund sold stock (8)
After meeting	-0.0015 (-0.755)	-0.0059** (-2.403)	-0.0090** (-2.175)	-0.002 (-0.339)	-0.0007 (-0.135)	-0.0126* (-1.946)	-0.0065*** (-2.829)	0.0009 (.387)
Vote examined	Director				Say-on-pay			
Fund supported management	Unsupportive		Supportive		Unsupportive		Supportive	
Vote outcome	Supportive		Unsupportive		Supportive		Unsupportive	
Market update direction	Positive		Negative		Positive		Negative	
Range of dates examined	10 days around meeting date							
Meeting and fund fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.072	0.118	0.039	0.108	0.071	0.021	0.055	0.053
N	22,601	22,601	4,069	4,069	2,625	2,625	22,848	22,848

Table 7: Surprising Vote Outcomes

This table reports on the stock level, the abnormal daily volume, number of trades, volatility and abnormal return during the February 28, 2010–June 30, 2013 period. A “surprising outcome” is defined as a vote outcome in which ISS recommended to vote in one direction with respect to say-on-pay or director elections, yet the vote outcome was in the opposite direction/ received relatively low support rates (as defined in the paper). The analysis includes the trading days starting from the meeting day, until 4 days after the meeting day, i.e., until the last day companies are permitted to file an 8-K reporting the vote outcomes. T-statistics are reported in parenthesis. * indicates $p < .10$, ** $p < .05$, and *** $p < .01$.

	Abnormal volume (1)	Abnormal number of trades (2)	Abnormal volatility (3)	Abnormal return (4)
Constant	0.0923*** (18.556)	0.1359*** (28.06)	-0.0557*** (-23.333)	0.0442*** (3.831)
Surprising outcome	0.0957*** (3.22)	0.1603*** (6.19)	0.0520*** (3.767)	-0.0403 (-0.611)
R-squared	0	0.001	0	0
N	33,208	34,181	34,181	35,253

Table 8: Abnormal Volume and Returns

This table reports on the stock level, the abnormal volume of companies on shareholder meeting days during the February 28, 2010-June 30, 2013 period. The analysis includes the trading days starting from the meeting day, until 4 days after the meeting day, i.e., until the last day companies are permitted to file an 8-K reporting the vote outcomes. In Panel A, the abnormal volume is estimated relative to *average* value during the pre-voting period ([-22,-252] window before the proxy filing), while in Panel B it is estimated relative to *median* values. In both panels, in Regressions 1-5 we split the sample depending on the magnitude of the return on the meeting date. For example, Regression 1 includes companies that experienced on the meeting date an abnormal return within the top 15th percentile (i.e., a particularly large and positive abnormal return), while Regression 2 includes companies within the 16th-30th percentile of returns on the meeting date. Regression 3 includes companies that experience almost no price reaction, i.e., those within the bottom decile of the absolute return on the meeting date. Regression 4 includes companies within the bottom 16th-30th percentile of returns on the meeting date. Regression 5 includes companies that experience the largest negative abnormal returns on the meeting date. Regression 6 and 7 includes companies that experience positive and negative abnormal returns, respectively. T-statistics are reported in parenthesis. * indicates $p < .10$, ** $p < .05$, and *** $p < .01$.

Panel A: Abnormal Returns estimated using Average Values During the Pre-voting Period

	Abnormal volume relative to average						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant	0.5444*** (24.041)	0.0281*** (2.616)	-0.0422*** (-2.964)	0.0363*** (2.848)	0.5518*** (22.100)	-0.2252*** (-23.447)	-0.2364*** (-23.267)
Absolute abnormal return						24.4973*** (57.928)	26.3611*** (52.645)
Subset	Top 15h percentile of daily return	Top 16th-30th percentile of daily return	Bottom 10th percentile of <i>absolute</i> value of daily returns	Bottom 16th-30th percentile of daily return	Bottom 15h percentile of daily return	Positive abnormal returns	Negative abnormal returns
R-squared	0	0	0	0	0	0.142	0.121
N	5,410	6,677	3,983	6,087	4,798	20,200	20,115

Panel B: Abnormal Returns estimated using Median Values during the Pre-voting Period

	Abnormal volume relative to median						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant	1.7468*** (14.748)	0.5557*** (8.904)	0.3768*** (5.501)	0.5885*** (8.407)	1.9996*** (13.886)	0.0773 (1.407)	-0.0188 (-0.318)
Absolute abnormal return						51.2891*** (21.193)	61.5825*** (21.154)
Subset	Top 15h percentile of daily return	Top 16th-30th percentile of daily return	Bottom 10th percentile of <i>absolute</i> value of daily returns	Bottom 16th-30th percentile of daily return	Bottom 15h percentile of daily return	Positive abnormal returns	Negative abnormal returns
R-squared	0	0	0	0	0	0.022	0.022
N	5,410	6,677	3,983	6,087	4,798	20,200	20,115

Table 9: Information Asymmetry

This table reports on the stock level, the abnormal volume of companies on shareholder meeting days during the February 28, 2010-June 30, 2013 period. Abnormal volume is estimated by dividing the daily value by the average daily measure during the pre-voting period (the [-22,-252] window before the proxy filing) minus one. The analysis includes the trading days starting from the meeting day, until 4 days after the meeting day, i.e., until the last day companies are permitted to file an 8-K reporting the vote outcomes. Companies followed by “few analysts” are those that are followed by a number of analysts below the median number of analysts that cover companies in a given year, while those followed by “many analysts” are those followed by a number of analysts equal to or above the median. “Small companies” are defined as companies below the median market capitalization, while “large companies” are companies with a market capitalization above or equal to the median. T-statistics are reported in parenthesis. * indicates $p < .10$, ** $p < .05$, and *** $p < .01$.

	Abnormal volume					
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.1188*** (11.689)	0.0009 (.134)	0.0391*** (4.599)	0.1433*** (15.009)	0.0654*** (10.159)	0.0821*** (11.223)
Few analysts			0.0790*** (5.830)			
Small company						0.0581*** (4.900)
Subset	Few analysts	Many analysts	All	Small companies	Large companies	All
R-squared	0	0	0.001	0	0	0.001
N	14,950	10,510	25,460	17,654	17,672	35,326

Table 10: Distracted Investors

This table reports on the stock level, the abnormal volume of companies on shareholder meeting days during the February 28, 2010-June 30, 2013 period. Abnormal volume is estimated by dividing the daily value by the average daily measure during the pre-voting period (the [-22,-252] window before the proxy filing) minus one. The analysis includes the trading days starting from the meeting day, until 4 days after the meeting day, i.e., until the last day companies are permitted to file an 8-K reporting the vote outcomes. Regression 1 is confined to meeting days on which shareholders are not expected to be distracted since few meetings take place on these days (i.e., less than 0.5% of the meetings of that proxy year were held on that day), while regression 2 is confined to meeting for which investors are expected to be distracted since many shareholder meetings take place on the same day (more than 4% of the meetings of that proxy year). T-statistics are reported in parenthesis. * indicates $p < .10$, ** $p < .05$, and *** $p < .01$.

	Abnormal volume			
	(1)	(2)	(3)	(4)
Constant	0.1477*** (10.900)	0.0921*** (8.026)	0.0495** (2.111)	0.1493*** (18.309)
Log of percentage meetings held on date			-0.0166*** (-3.209)	
Percent of meetings on date larger than 2.5%				-0.0547*** (-4.701)
Subset	less than 0.5% of the meetings of that year held on that day	More than 2.5% of the meetings of that year held on that day	All	All
Observations included	Meeting day - 4 days after meeting day			
R-squared	0	0	0	0.001
N	9,216	9,815	40,381	40,381

Appendix A - Identifying the Filing Dates

To identify the dates the vote outcomes were made public, we use Seekedgar, which allows searching through SEC filings. We search within 8-K and 10-Q filings for the phrase “vote for”, “votes for”, or “voted for”, or for tables that include the words “against” and “abstain”, “against” and “withheld”, or “against” and “broker”. We exclude from our sample a small number of observations that match these criteria, but were filed more than 5 months after the meeting date, because companies are required to file 10-Qs up to 45 days after the end of the quarter (<https://www.sec.gov/answers/form10q.htm>).

Hence, even if a meeting is held at the beginning of a quarter (or in the last few days of a quarter), the vote outcome should be filed within 5 months. We apply the latter criteria for filings filed until February 28, 2010, since after this date companies were required to disclose their vote results within 4 day. Starting from March 1, 2010 companies were required to report their vote results within 4 trading days, but not all companies do this, however, at times companies file several days after this deadline. Accordingly, we exclude from our sample filings that were filed after March 1st 2010, and were filed more than 14 days after the meeting date.

Appendix B – Important Votes

Table I examines if the market trades particularly intensively following meetings in which important votes are held. We use two definitions to define important votes. In Regressions 1-4, we use the variable “special meeting”, which is an indicator that equals one if the meeting held was a special meeting, as opposed to an annual routine shareholder meeting. In Regressions 5-8, the indicator “merger vote” is equal to one if a vote was held on whether to merge the company (perhaps the only type of binding vote). The Regressions document a large abnormal volume and daily number of trades around “important” votes. For example, Regression 1 documents that on each of the 5 days within the [0,+5] window around the meeting date, a special meeting generate an abnormal volume 67.5% larger compared to that of a regular meeting. Regression 5 documents that compared to meetings without a merger vote, meetings with a merger vote experience an additional abnormal daily volume of 133.4%. Hence, the market updates its trading patterns particularly intensively when an important vote is held.

Table I: Important Votes

This table reports on the stock level, the abnormal daily volume, number of trades, volatility and abnormal return during the February 28, 2010-June 30, 2013 period. The analysis includes the trading days starting from the meeting day, until 4 days after the meeting day, i.e., until the last day companies are permitted to file an 8-K reporting the vote outcomes. The dependent variables is the abnormal volume relative to the pre-voting period, as defined in the paper. A “special meeting” indicator is equal to one if the meeting was a special meeting. A “merger vote” indicator equals one if at the meeting a vote was held on whether to merge the company. We further define this variable in detail in the paper. T-statistics are reported in parenthesis. * indicates $p < .10$, ** $p < .05$, and *** $p < .01$.

	Abnormal volume (1)	Abnormal number of trades (2)	Abnormal volatility (3)	Abnormal return (4)	Abnormal volume (5)	Abnormal number of trades (6)	Abnormal volatility (7)	Abnormal return (8)
Constant	0.1150*** (19.688)	0.1062*** (24.549)	-0.0570*** (-26.552)	0.0391*** (3.834)	0.1197*** (20.574)	0.1090*** (25.299)	-0.0574*** (-26.875)	0.0371*** (3.650)
Special meeting	0.6750*** (12.099)	0.3228*** (8.247)	-0.0557*** (-2.867)	-0.1311 (-1.403)				
Merger vote					1.3336*** (10.326)	0.4864*** (5.595)	-0.1099** (-2.548)	0.2138 (1.008)
R-squared	0.004	0.002	0	0	0.003	0.001	0	0
N	40,381	41,543	41,543	42,750	40,381	41,543	41,543	42,750