Securities Lenders in Shareholder Activism

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February, 2024

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Keywords: Investor activism; Securities lending; Institutional investors; Event studies; Takeovers
JEL classification: G14, G23, G34

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We thank Alexander Becker, Tina Chiu, Jie Gao, Namho Kang, Steve Liu, Alok Nenami, Mahdi Mohseni, Kartik Raman, Grace Wang, Adam Kolasinski, and all other seminar participants at Bentley University, Texas A&M University, Paris Financial Management Association 2022, and Financial Management Association Meeting 2023.

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1 Introduction

An increasing number of institutions are engaging in securities lending programs to generate additional lending revenue. In 2020, the annual revenue from securities lending totaled $9.3 billion.[1] Large institutions such as pension funds, mutual funds, and insurance companies are the ultimate lenders of securities that are borrowed (D'Avolio (2002), Evans et al. (2017), Aggarwal et al. (2015), and Prado et al. (2016)). These large institutions play an important role in mitigating a classic free rider problem in public corporations where ownership is dispersed across many different shareholders (Grossman and Hart (1980), Shleifer and Vishny (1986)). Nevertheless, when a lender lends a security while maintaining its cash flow rights, the lender loses the voting rights attached to the share. The unique setting of the securities lending market raises many questions, including whether the practice of lending securities is compatible with ensuring responsible governance (stewardship responsibilities).[2]

The presence of institutional investors in target firms is an important determinant to the eventual success or failure of an activist's agenda (Levit (2019), Brav et al. (2020), Kedia et al. (2021), Brav et al. (2022)).[3] Activist campaigns involve a sequential decision-making process in which activists employ various tactics following the announcement to increase the likelihood of achieving their objectives (Gantchev (2013)). During the process, activists need to persuade fellow shareholders and secure their support to achieve their goals. It remains

[1] According to IHS Markit, industry-wide securities lending revenue rose steadily in the years after Financial Crisis and exceeded $10 billion by 2018. Fidelity launched its own in-house lending agency in 2021. (https://www.wsj.com/articles/fidelity-launches-platform-for-fund-managers-to-profit-from-short-sellers-11619607644?st=8t1xdbhdotm56cd&reflink=article_email_share)

[2] While the Securities and Exchange Commission (SEC) requires funds to recall loans for material events, 'materiality' is not clearly defined. An article published by BNY Mellon in January 2020 discusses the subject of corporate governance in the securities lending market. "Stock Lending: Dispelling the Myths" by Peter Madigan. (https://www.bnymellon.com/us/en/insights/aerial-view-magazine/stock-lending-dispelling-the-myths.html)

[3] Institutional investors can play a complementary role to activists by providing liquidity (Maug (1998), Edmans et al. (2013)) or by providing coordination and support (Brav et al. (2022), Levit (2019), Appel et al. (2019)). Institutional investors can substitute activist campaigns through better monitoring (Brav et al. (2008)).

unclear how lenders of target firms respond to activist campaign announcements regarding their loans. On one hand, securities lenders in target firm may show apathy toward activists as voting rights are transferred to other parties, or there may be no need for recalling of loans around the announcement of activism. On the other hand, lenders may respond to activist campaign announcement to support or resist activists by recalling their loans to support or resist activist if the campaign is likely to be contentious. In this paper, we address important yet still unanswered questions regarding the role of non-activists shareholders who are securities lenders in target firms.

More specifically, we ask the following questions: How do lending institutions respond to activist campaign announcements regarding their loans? Do securities lending institutions recall loans (restrict lendable supply) around the time of an activist campaign announcement?[4] If so, in which types of activist campaign do significant recalling occur and why? Does recalling loans around campaign announcement date affect activism outcome? Using comprehensive datasets on shareholder activist campaigns and the securities lending market, we attempt to answer these questions by examining the lending supply changes around the announcement of activist campaigns.

We first investigate whether the supply of lendable shares change significantly around the day on which an activist campaign is announced. The unconditional mean of lendable supply is 22% of the total shares outstanding for the sample around a 30-day period surrounding an activist campaign announcement, which is similar to the level in prior studies (Prado et al. (2016), Aggarwal et al. (2015)). The lendable supply decreases by approximately 3% in the following days of activist campaign announcement. Economically significant recalling is observed when the objective of a campaign is related to changes in control of the target firm. For example, when a campaign's objective is to block a merger deal, the lendable supply

[4]Following Aggarwal et al. (2015), we use the term recalling loans and restrictions of lendable supply interchangeably since the two cannot be distinguished

decreases by 11.3%, and when activist is interested in potentially acquiring the target firm, the supply decreases by 10%. These results indicate that lending institutions recall loans when activist campaigns are related to potential changes in control of target firms.

Then, we examine the association between loan recalls around announcement date and subsequent activism outcomes. We find that recalling loans around announcement date is associated with a twofold increase in the likelihood that the activist will achieve its goal when the campaign is related to a potential change in control of the firm. Greenwood and Schor (2009) show that firms targeted by activists are more likely to be acquired following activism announcements. We run similar analyses as in Greenwood and Schor (2009) to examine whether target firms are more likely to get acquired(delisted) after activist interventions and whether recalling has any significant differences in activism outcome. Target firms for which institutions recall loans are 43%(16%) more likely to get acquired(delisted) in the following months after activist campaign announcements than the target firms without such a recall. This evidence suggests that recalling loans around campaign announcement facilitates the sale of the target firms following activist campaigns.

To further understand the motives behind loan recalls around the announcement date of control-change campaigns, we examine selling activities by different types of institutions. We find evidence that recalls are associated with a significant decrease in quasi-index institutional ownership after acquisition-related activism announcements in target firms.[5] The decrease in quasi-index ownership and loan recalls further increase the likelihood of activists achieving its goal in acquisition-related campaigns. The results suggest that lenders recall to sell its shares when activists are interested in acquiring the firm. For blocking merger campaigns, a significant decrease in quasi-index ownership and the likelihood of activists

[5]Passive institutions such as quasi-index institutions are the ones who participate mostly extensively in lending programs and are the ultimate lenders of securities (D'Avolio (2002)). Moreover, our results are different from Gantchev and Jotikasthira (2018) that it is not institutions selling that attracts activists. Panel A in Figure 2 show that recalling occurs after acquisition-related campaign announcements not before.

achieving the objective of blocking a merger are *not* related. Taken together, these results indicate that recall to sell is only meaningful when the campaign's objective is to acquire the firm, but not when the objective is to block a merger.

Blocking a merger campaign is inherently different from acquisition-related campaigns. The latter occurs when activists themselves are bidders, whereas the former involves activists who are dissatisfied with an exiting merger deal and initiate a campaign to block the deal by soliciting 'no' votes from other shareholders ("jawboning" in risk arbitrage (Jiang et al. (2018))) or changing the term. Therefore, it is crucial that activists secure support from target firm shareholders to accomplish their goals in blocking merger campaigns. Using the hand-collect data on the outcomes of blocking merger campaigns, we find that when lending institutions recall their loans around the announcement of the campaign, the likelihood of the bid increasing from its initial price increases by 1.6 times. However, such an increase is not observed when institutions recall and sell. The results suggest that lending institutions recall to obtain votes during blocking merger campaign announcements when control is likely to be more contentious and valuable (Kalay et al. (2014)).

As recalling is associated with a higher likelihood of activists succeeding in their stated goals in control-change campaigns, it should also be associated with a higher announcement date CAR if it reflects a more certain and higher premium that the target firms can receive (Greenwood and Schor (2009)). The post-announcement date CAR for overall activist campaign in the sample is 3.8%. When lenders recall loans around announcement date, we find that the CAR is about 1.3 times higher. The post announcement date CAR is 15.1% for acquisition-related campaigns and the CAR is 10 percentage points higher when institutions recall loans (75% higher CAR).[6] The abnormal announcement return is not reversed after-

[6]Boyson et al. (2017) show that activist bids are associated with lower announcement CARs. Our results of higher CARs for control-change activism with recalling institutions are *not* inconsistent with their findings as we compare the CARs across shareholder activism-targeted firms whereas Boyson et al. (2017) compares activist bids with third-party bids. In fact, the reported average(median) 3-day CAR for activist bids are 11.6%(10.9%) in Boyson et al. (2017) and the average(median) 3-day CAR for acquisition-related campaigns

wards which rules out short-sale constraint explanation. Combined results suggest that the higher CAR for campaigns with recalling institutions reflect investors' expectation that the target firm will be acquired with more certainty and under better terms.

Finally, we examine record date recalling to further investigate recalling for votes. Lenders recall on proxy record date to obtain voting rights, as ownership and corresponding entitled votes are determined on these dates (Christoffersen et al. (2007), Aggarwal et al. (2015)). Consistent with the findings of Aggarwal et al. (2015), we observe approximately a 5% drop of lendable supply on record dates. However, we do not observe significant recalling activities for control change-related campaigns on the relevant record date. This suggests that recalling for votes occurs earlier, around the announcement date of control contests. We further examine the relationship between firm-level voting support on announcement dates and proxy record dates. Using a sample of the most recent proxy contest meetings followed by activist campaign announcements, we find that recalling on the announcement date is associated with less voting support for management. This result indicates that institutions recall loans around activist campaign announcements to secure votes, ultimately exerting a meaningful impact on voting outcomes during control contests.

We contribute to the growing literature that relates securities lending to corporate governance. Aggarwal et al. (2015) find that institutions recall shares on proxy record dates to obtain voting rights to affect voting outcomes. Hu et al. (2020) examines the trade-off between lending and voting decisions by index funds to find that these funds lend rather than recall for votes when more legal flexibility is allowed by the SEC. Further, Chang et al. (2019) show that short-selling threat discipline managers and improve mergers and acquisition decisions, where short-selling threat is high when lending supply is high. We present a novel finding that lending institutions recall around announcement date of control-change activism, not only for votes but also to sell. Target firms are more likely to be acquired and

in our sample is 14.8% (12.5%) which are comparable.

bid prices are more likely to increase when institutions recall. These results suggest that recalling by lending institutions during control change activism facilitates the more successful sale of target firms.

Our findings also add to the burgeoning literature that links the role of institutional investors in shareholder activism. The institutional investors in target firms can play complementary role by providing support to activists.[7] Kedia et al. (2021) show that the presence of "activism-friendly" institutions in target firms have a significant impact on the outcome and decisions of hedge fund activists. Appel et al. (2019) show that activists are more willing to adopt confrontational and costly tactics when large passive institutions are present. Brav et al. (2020) show that institutional investors play an important role in shaping the outcomes of proxy contests. Our study complements these studies by focusing on the role securities lenders in target firms during activist campaigns. Recalling around announcement date increases the likelihood of activists successfully achieving their goals in control-change activism, either through selling or voting. This indicates that the recalling actions of lending institutions are linked to a collaborative stance with activists.

Finally, our findings contribute to literature that links activism and takeover activities. Greenwood and Schor (2009) find that activism create value by enhancing the takeover probabilities of target firms. Boyson et al. (2017) show that third-party bids create more values than activist bids for takeover target firm shareholders. Relatedly, Corum and Levit (2019) show that activists have an inherent advantage relative to bidders in selling the target firm. Jiang et al. (2018) examine activism that specifically attempts block a merger to improve the terms of publicly announced takeover campaigns. Our paper contributes to the literature by showing that the presence of (non-activist) lending institutions can facilitate the sale of target firms. The facilitation occurs through two mechanisms: 1) by recalling shares to

[7]See for example, Chakraborty and Gantchev (2013), Appel et al. (2019), Boyson and Pichler (2019), Levit (2019), Brav et al. (2020), Kedia et al. (2021) and Brav et al. (2022)

sell in activism-related campaigns, and 2) by obtaining votes in blocking merger campaigns, which results in a higher bid price. Taken together, loan recalls by lending institutions facilitates a better sale of the target firm by providing support to activists in accomplishing their agendas.

2 Related Literature and Background

The equity lending market is a decentralized market wherein borrowers and lenders are matched by agent lenders, or prime brokers. The ultimate lenders are passive institutions such as pension funds, mutual funds and insurance companies and the ultimate borrowers are hedge funds, market makers, broker/dealers, and derivative traders. When a share is lent to a borrower, the lender experiences synthetic ownership. The lender is reimbursed for any dividends or other distributions, but the lender is not reimbursed for any votes if a proxy (voting) event occurs during the life of the loan unless the lender recalls the share to retain its voting rights. Because ownership can be transferred to a borrower during the life of the loan, the equity lending market can facilitate vote trading (Christoffersen et al. (2007)). Fos and Holderness (2023) show that New York Stock Exchange sells non public record-date information to select investors who votes, and activist investors buy marginal votes around record dates.

Most equity loans are made on a continuing basis, meaning that they are subject to renegotiation and termination by either party every day, and term loans are not common (Geczy et al. (2002)).[8] The lender has the right to recall the share from the borrower at any time, and hence the loans remain open and are effectively rolled over each day until either the lender recalls them or the borrower returns them voluntarily. Therefore, borrowers of a share face recall risk because lenders have the right to recall or cancel a loan at any time.

[8] A more detailed discussion of the equity loan market is available in D'Avolio (2002) and Kolasinski et al. (2013).

Loans are recalled for various reasons. First, when the lender's valuation of the security falls below the marginal investor's valuation, the lender will cancel the loan and sell the shares to more optimistic investors or re-lend them to a new borrower at a new price (D'Avolio (2002)). Second, recalling a share can be affected by tax motivations. Borrowers are responsible for repaying any type of distribution that occurs during the life of the loan. Dividend-substitute payments are subject to different taxation than the dividend itself. If the tax levied on dividend-like payments exceeds that levied on dividends, investors might want to recall shares or restrict the lendable supply of shares around dividend record dates (D'Avolio (2002), and Dixon et al. (2021)). Third, a loan can be recalled to retain ownership of the share. Lenders pass on voting rights to borrowers as securities are lent out, which can be recaptured by recalling them. In one of BlackRock's SEC disclosures on its proxy voting policy, the company makes the following argument:[9]

> "*The evaluation of the economic desirability of recalling loans involves balancing the revenue producing value of loans against the likely economic value of casting votes. Periodically, BlackRock analyzes the process and benefits of voting proxies for securities on loan, and will consider whether any modification of its proxy voting policies or procedures is necessary in light of future conditions. In addition, BlackRock may in its discretion determine that the value of voting outweighs the cost of recalling shares, and thus recall shares to vote in that instance.*"

Consistent with anecdotal evidence, Aggarwal et al. (2015) find that investors restrict the supply of lendable shares or recall loaned shares prior to proxy record dates, suggesting that investors value the right to vote and exercise their voting rights in the proxy process.

Material events such as control contests or activist campaign announcement can trigger loan recalls. As lenders have the right to recall loans at any time, there is no clear prediction as to which direction the supply of lendable shares shifts around the announcement day of activism. Stock prices typically respond positively to the announcement of activist

[9]The statement is taken from BlackRock's Global Corporate Governance and Engagement Principles https://www.sec.gov/Archives/edgar/data/1320375/000119312518074625/d516004dex99corpgov.htm.

campaigns.[10] Then, it is possible that lenders reassess the economic value of loans when activists aim to change the status quo. Lenders can recall shares to sell them to a more optimistic investor during such event (D'Avolio (2002), Shleifer and Vishny (1986)). Loans can be canceled and recalled to be sold to activist investors if they are seeking shares in the target firm. The uncertainty involving activism outcome at the time of announcement can trigger lenders to recall shares to obtain voting rights as proxy record date may become less certain during contentious control contests.[11] We hypothesize that lending institutions recall loans around announcement date of activist campaigns. If lending institutions recall loans to work with activists to achieve their agenda, recalling around announcement should be correlated with the probability of success outcomes of activism.

3 Sample, Data and Methods

3.1 Sample

The paper combines data from several sources. We use activist campaign-target firm level data from 2006 to 2014 which is from Factset. Security lending market data is from IHS Markit. The standard data such as firm characteristics and ownership characteristics are from CRSP, Compustat and Thomson Reuters. We get mutual fund ownership data from Thomson Reuters S12 mutual fund database. More details on the variables used in the paper are available in Appendix A. Below we describe more on activist campaign and securities lending market data.

[10] See for example, Gillan and Starks (2000), Brav et al. (2008), Klein and Zur (2009), and Appel et al. (2019).
[11] In Appendix B, we provide an anecdotal example of blocking a merger campaign and its full synopsis. During a fierce control contest, meeting dates tend to get adjourned multiple times which may induce lenders to recall loans to obtain voting rights early when the contest is initiated (announced).

3.1.1 Activist campaign (shareholder activism) data

We obtain shareholder activist campaign data from Factset SharkRepellent Corporate Activism datafeed. The data provide information on campaign details, campaign associated events, defense tactics, objectives, announcement dates, campaign types, participants, activists type and campaign outcomes. A campaign has specific objectives demanded by activist which can be classified into either value-enhancing or governance related campaigns. The value-enhancing objectives include, for example, campaigns that seek to block a merger, potentially seeking to acquire the target firm, demanding for more payouts, demanding changes in capital structure and others. The governance-related campaigns include demands made by activists on corporate governance matters such as removal of anti-takeover defenses, removal of officer, removal of board members, requesting for independent directors and compensation related enhancements. Such objectives are not mutually exclusive; an activist can demand for one or more changes simultaneously and hence a campaign can seek for multiple objectives.

We categorize campaigns based on the activist's primary objective of a campaign in Factset: 1) control change related, 2) other value-enhancing and 3) governance-related. Following Kahan and Rock (2007), a control change related activism is identified as: 1) activist seeking to potentially acquire the company (*Acquire*), and 2) seeking to block a merger deal which include campaigns that solicit shareholders to vote 'no' for a merger (*Block-merger*).[12] Campaigns that are not related to potential changes in control but to enhance value of target firms are categorized as other value-enhancing objective campaigns (*Value Objectives*). Governance-related campaigns are those with primary objectives such as removing anti-takeover defenses, compensation-related, removing directors, obtaining a board

[12]Blocking a merger campaign is similar to an "activist risk arbitrage" where a shareholder attempts to improve the terms of an announced M&A (Jiang et al. (2018)). Additionally, one more category under corporate control change activism is to block an acquisition deal from the acquirer side (Kahan and Rock (2007)). There are very few campaigns with such objectives (0.8% of the campaign sample).

seat (*Governance (Gov.) Objectives*). We further hand-collect data on the details of block merger campaigns by reading the full synopsis of campaign description. For a subsample of campaigns with blocking merger objective, we record whether the initial bid price was increased after activist campaign announcements (*BidIncrease*).

The data provides information on activists, whether an activist launching a campaign is a hedge fund, individual, investment advisor, pension funds etc. Moreover, the data gives a scale on activist threat rating using the history of activists' previous campaigns. The top 50 well-known activists, known as Shark Watch 50, will have the highest threat rating. Activist hedge funds can be different from other institutional investors (Brav et al. (2008), Klein and Zur (2009), Brav et al. (2015)) and hence, we construct indicators for hedge fund activists (*HFA*), and Shark Watch 50 activists (*ThreatHigh*) to analyze whether recalling decisions are affected by different activists type.

3.1.2 Securities lending data

The securities lending market data is from IHS Markit. Markit collects information on daily equity lending information from more than 100 equity loan market participants, including prime brokers, agent lenders, hedge funds, investment banks, and beneficial owners. The data covers more than 85% of US securities loans (Muravyev et al. (2022)). The sample starts in July 2006 and ends in December 2014. The equity lending database includes several variables from the equity loan market, including the number of shares that are available for lending (lendable supply), number of shares borrowed (onloan), and the borrowing fee (indicative fee). The variable, *Supply*, is the total quantity of stock available to lend on a given day relative to a firm's total shares outstanding. The variable, *Onloan*, is the total quantity of stock on loan relative to a firm's shares outstanding. The *indicative fee* is a buy-side fee that Markit reports, using "both borrow costs between Agent Lenders and Prime Brokers as well as rates from hedge funds to produce an indication of the current market rate" (Muravyev

et al. (2022)).

The main variable of interest is the supply of lendable shares (*Supply*), and whether the availability of lendable shares significantly change around the announcement of activism. We compare the supply of lendable shares after the announcement date to its previous level using the variable *Recall*, which identifies a campaign where institutions decrease the supply of lendable shares/loans after activist campaign announcement. The term 'restricting lendable supply' or 'recalling of loans' are used interchangeably following Aggarwal et al. (2015).

3.1.3 Descriptive statistics

There are a total of 1,976 activist campaigns for 1,212 unique target firms with which we can match securities lending market information and activist campaign data. Table 1 reports summary statistics for the securities lending market, activist campaign and the target firm characteristics.

[Insert Table 1]

The first three rows in Panel A of Table 1 report summary statistics for lending market characteristics. Activist campaign targeted firms on average have 22.1% of their shares outstanding available for lending and 5.7% of shares are already on loan, which are measured at the announcement date of activism. The statistics are similar with previous studies which uses lending market data (Aggarwal et al. (2015), Prado et al. (2016), Engelberg et al. (2018)). The average indicative fee is around 100 basis point on the announcement date which is relatively higher than what other have documented (Muravyev et al. (2022)). Given that the sample only includes activism targeted firms, it could be possible that the fees are relatively higher than the normal times. The changes in the supply of lendable shares, $\Delta Supply$, is calculated as the change in the lendable supply from 20 days prior to the announcement [-30,-10] to post 30 days of the announcement [0,+30] following Aggarwal

et al. (2015).[13] *Recall* variable identifies a campaign where institutions decrease the supply of lendable shares after activist campaign announcement using the median value of $\Delta Supply$ (Median value: -0.0009).[14]

Activism targeted firm characteristics are reported in Table 1 Panel B. Target firm size and age are calculated as the logarithm of market capitalization, the natural logarithm of age, respectively. Activism targeted firms on average have negative operating performance (-1.3% *ROA*). Then we report various measures that can capture ownership structure of the sample. The average 13F institutional (IO) holdings in targeted firms is 66.6%. 5.3% of target firm shares are held by passive mutual funds and 9.3% of shares are held by active mutual funds. We also define motivated institutional investors using target firm's weight in the portfolio of an institution following Fich et al. (2015). On average, 6.5% of target firms shares are held by motivated institutional investors. The CAR is calculated using Carhart four-factor model (Carhart (1997)). The average 3-day CAR during [-1,+1] period of the announcement day of activism is approximately 3% and 30-day average CAR around announcement is 9% [-30,+30].

Activist campaign characteristics are reported in Panel C. On average, 14% of campaigns is related to corporate control change activism. For example, 6.8% of campaign's main objective is to potentially acquire the target firm (*Acquire*), and 7% of campaigns is to block or change the terms of an existing merger deal (*Blockmerger*). Campaigns with other other value-enhancing objectives such as those that request for payout increase, capital structure changes (*Value Objectives*) take up about 75.2% of the sample. 67.3% of campaign objectives are governance related campaigns (*Gov. Objectives*). As the numbers suggest, these groupings are not mutually exclusive, meaning that one campaign can have multiple objec-

[13] We follow Aggarwal et al. (2015) and measure the changes in supply. Additionally we use other windows to calculate the changes in the supply. The changes around 10 days around the announcement days [-10,+10] provide results that are qualitatively similar.

[14] When we re-define *recall* as the change being negative we find consistent results.

tives. We use primary objective stated to identify their goals. Campaigns which activists file 13Ds with the SEC is about 15.5% of the sample, implying the activist own more than 5% ownership in the target firm. 48.6% of campaigns are initiated by activist hedge funds (*HFA*) and 41% of campaigns are launched by the top 50 well-known activist, known as Shark Watch 50, which has the highest threat ratings of all activists (*ThreatHigh*).

4 Empirical Results

In this section, we present empirical results on the changes in lendable supply after activist campaign announcements and its effects on activism outcomes. More specifically, we first investigate whether lending supply of shares decrease after activist campaign announcements and whether the decrease in supply of lendable shares vary by the objectives of activists.

4.1 Lending supply around activism announcements

When an activist campaign is announced, activist attempts to change the status quo of the target firm (Gillian and Starks (2007)). If lending institutions are willing to sell loans to more optimistic investors, e.g., activists, institutions can recall loans and the supply of lendable shares can decrease after activist campaign announcements. Furthermore, the marginal benefit of retaining voting rights on the share can be higher than the foregone profit from lending when control is contested and therefore institutions can recall lendable supply for votes (Aggarwal et al. (2015)). However, if some group of investors are willing to accumulate votes to affect activism outcome, trading for votes could result in increased demand for borrowing shares. The supply of lendable shares could increase or not decrease for such case, depending on the net supply and demand effects (Christoffersen et al. (2007), Hu and Black (2006), Brav and Mathews (2011)). Ultimately, it is of an empirical question whether the supply of lendable shares decrease or increase when activists challenge incumbent

management.

Using daily observations of lendable supply, we start with an eyeball analysis by plotting the average supply of lendable shares around 30 days of activist campaign announcement. The result is reported in Panel A in Figure 1. The figure indicates that the average supply of lendable shares is approximately 23% prior to the announcement date of activist campaign [t=-30]. As the days move closer to the announcement date [t=0], there is a significant drop in lendable supply peaking its lowest level on two to three days after the announcement date. The eyeball analysis shows that the lendable supply of shares decreases by approximately 5% right before and after the announcement day of activist campaign compare to its prior level.

[Insert Figure 1]

Next, we present the result in a regression setting. We estimate following regression using the daily data, [-30,+30] period around activist campaign announcement [t=0].

$$Supply_{c,t} = \alpha_c + \beta Post_{c,t} + \gamma Post_{c,t} \times \boldsymbol{X_{c,t}} + \epsilon_{c,t} \tag{1}$$

$Post_{c,t}$ equals to one for post 30 days of activist campaign announcement [0,+30] and zero otherwise. We examine whether the supply of lendable shares are affected by different type of activism. $\boldsymbol{X_{c,t}}$ represent indicator variables that classify each campaign based on the campaign's primary objectives and its activists type. The indicator variables are defined as in Section 3.1.3. We include campaign (event) fixed effect, α_c, to account for any unobserved heterogeneity specific to activist campaigns. Since campaign fixed effect is used, target firm controls are not included as it would be subsumed by the fixed effect. We are examining the daily changes of lendable supply before the activism announcement date and compare it with the post periods.

Table 2 reports results for the supply changes around activist campaign announcement.

Column (1) shows that the supply of lendable shares decrease by 0.7 percentage points in days after activism announcement. Given that the average lendable supply is 22% in the sample, the decrease in lendable supply after activism announcement is approximately 3% for the whole sample.

[Insert Table 2]

Columns (2) to (7) examine whether the changes in lendable supply after activism announcement is affected by different campaign objectives and activist types. The coefficient in Column (2) and (3) indicate that the supply of lendable shares drop by 10% and 11%, for acquire and blocking a merger objective campaigns, respectively. The results suggest that economically significant changes in the supply of lendable shares after activism announcement is observed in control change-related activisms. On the other hand, activism campaigns with other value-enhancing objectives and governance-related objectives such as removing defenses or compensation related issues do not show significant decrease in the supply of lendable shares after campaign announcement (Column (4) and (5)).

Columns (6) to (7) report results for activists type. When the activist launching a campaign is a hedge fund, the decrease in lendable supply after announcement is economically insignificant, which is about 0.6 percentage points decrease.[15] However, when the activist's threat level is high, the lendable shares decrease by 0.6 percentage points more than other campaigns launched by less threatening activists. Overall, there is a significant heterogeneity in recalling decisions depending on the stated objectives of campaigns. Economically significant reduction in lendable supply occurs when a campaign is related to blocking a merger or when activists are interested in potentially acquiring the target firm, both of which are related to changes in control of the target firm. However, there is no significant decrease in

[15]The result is interesting that hedge fund activism is related to less reduction in lendable supply. Many of campaigns launched by hedge funds demand for board representations and it could be possible that hedge funds borrow shares to increase their chances of winning ('trade for votes') and hence less decrease in lendable shares (Christoffersen et al. (2007), Hu and Black (2007)). It is beyond the scope of this paper to investigate activists' motives for borrowing shares for votes but leave it for further studies.

supply of lendable shares after campaign announcements that are not control-change related. In the next section, we further explore the determinants related to recalling decisions and the subsequent effect of loan recalls on activism outcomes.

4.1.1 Target firm, ownership characteristics and recall

In this section, we examine which firm and campaign characteristics are related with recalling decisions around activism announcements. In Table 3, we report the determinants of recalling decisions. Following Aggarwal et al. (2015), we define the dependent variable for Column (1) to (3) as the change in the supply of lendable shares, $\Delta Supply$, as the average change in the lendable supply from prior 20 days of the announcement [-30, -20] to the post announcement dates [0,+30].[16] The dependent variable for Column (4) to (6) is an indicator variable, *Recall*, equals to one if the change in supply of lendable shares ($\Delta Supply$) is below median and zero otherwise (Median value: -0.0009). We regress each dependent variable on different firm and campaign characteristics.

[Insert Table 3]

Institutions are more likely to recall when target firm is smaller and has higher operating performance measured with ROA. More institutional ownership is positively associated with recalling decisions. When we break down 13F institutional investors into quasi-index, dedicated and transient ownership following Bushee (1998), we find that transient and quasi-index institutional ownership are associated with recalling but not dedicated institutions. The results are expected given that institutions, specifically long-term horizon investors such as quasi-index institutions, are the ultimate lenders of equity loans (D'Avolio (2002)). Passive and active mutual fund ownership are not associated with recalling decision. The

[16] We define $\Delta Supply$ using the changes in lendable supply from post announcement to pre announcement days [-30,-20], following Aggarwal et al. (2015). When we define the changes in lendable supply using 30 days following the announcement [0,+30] and compare it with 30 days prior to the announcement day [-30,-1] yields similar results.

higher the announcement date return, the more recalling is observed as indicated by the significant coefficients of *CAR30*. Since there is a positive correlation between announcement date CAR and recalling decisions, we control for 30-day CAR in all subsequent analyses to mitigate recalling decisions that are driven by the stock price reaction. When there is higher short-selling demand prior to activism announcement, measured using the shares on loan (*PrevDeamnd*), more recalling is observed.

In Column (3) and (6), the campaign characteristics are included. Campaigns where the primary objective of activist is to change the control of the target (*Acquire* or *Block-merger*) and when activist is categorized to have the highest threat ratings (*ThreatHigh*) are positively associated with recalling of loans around campaign announcement. These results are consistent with the result in Table 2. In sum, the multivariate analysis suggests that campaigns with control-change objectives are more related to recalling decisions. It is worth noting that institutions compare the trade off between giving up the lending revenue before recalling shares. Institutions have no incentive to give up the lending revenue for voting rights at the time of an activism announcement unless it is beneficial to do so. Given that economically significant recalling is observed in control change campaign announcements, we further investigate the implications of recalling around the announcement of control change campaigns in the following section.

4.2 The effect of changes in lendable supply on activism outcome

In this section, we explore whether the stated objective of an activist campaign is more likely to succeed when institutions recall lendable supply around announcement.

4.2.1 Activism outcomes: The likelihood of achieving activist agenda

Activists can either get more support or opposition from its fellow shareholders, which can eventually determine the success of activism (Appel et al. (2019)). If recalling is correlated

with the extent to which lending institutions cooperate with the activists, a campaign with more recalling of loans can be positively correlated with the likelihood of achieving the stated objective of activists.

[Insert Table 4]

Table 4 reports the results where the dependent variable equals to one if the stated campaign objective of activist is successful by the end of the campaign and zero otherwise. Each of campaign objective is denoted on the top of the table. For example, if an acquisition-related campaign is a success at the end of the campaign, *SuccessAcquire* equals to one and zero if it is a failure.[17] Firm controls included are the same as in Table 3 but omitted for brevity. We use two measures to capture recalling, $\Delta Supply$, which is the change in supply of lendable shares before and after the announcement date and *Recall* which is a dummy variable equals to one when the change is below the sample median.

Column (1) and (2) reports result for the effect of recalling on the success probability for acquisition-related campaigns. When institutions recall lendable shares, the success probability of the activist eventually acquiring the target firm increases by 1.3 percentage points. Given that the average success rate for the acquisition-related campaign is 1.6% in the sample, the effect of recalling is economically significant. Similarly, the success rate for blocking merger campaign increases by 4.3 percentage points (Column (3)). The average success rate for blocking a merger campaign in the whole sample is 2.9%, which indicates about 1.5 times higher likelihood of achieving the activist's goal when institutions recall in blocking a merger campaign. The continuous variable, $\Delta Supply$, show similar results (Column (4)). The effect of recalling on success likelihood of control change-related campaigns is robust after controlling for the 30-day announcement CAR (*CAR30*) and previous short sale demand, indicating that the effect is not likely to be driven by stock price reaction nor lenders being against short-sellers.

[17]The data on whether the stated objective of a campaign is achieved is obtained from Factset.

On the other hand, recalling loan supply is *not* significantly associated with the success rates for campaigns with other value-enhancing objectives and governance improving objectives. The coefficient of *Recall* or $\Delta Supply$ is insignificant in all specifications in Column (5) to (8), except one in Column (6). The results are expected given that we find no economically significant recalling around these campaign announcements in Table 2. Overall, our results indicate that recalling around control change activism announcements is correlated with higher success outcomes, suggesting collaborative actions between lenders and activists.

4.2.2 Activism outcome: Potential takeovers and recalling lendable supply

How does recalling loans around control change activism announcement leads to higher success outcomes? Why do lenders recall loans during control change activism when activists attempt to acquire the target firm or block an existing merger deal? To answer these questions, we compare whether recalling activities are related to the probability of a firm being acquired or delisted in subsequent days of activist interventions.

Following Greenwood and Schor (2009), we define three variables to capture the takeover activities after activist campaign announcement in Table 5.[18] The dependent variable for Columns (1) and (2), *Acquired*, equals to one if target firm is acquired within 18 months of activism announcement (delisting code 2 or 3). The dependent variable for Columns (3) and (4), *Independent* equals to one if target firms remain independent till the end of 2018. The dependent variable in Column (5) and (6), *TakeoverBid*, equals one if the target firm received a takeover bid within 24 months of the activist campaign announcement. Both the continuous variable, $\Delta Supply$, and an indicator variable, *Recall*, are used to capture the changes in the supply of lendable shares around activism announcement. We control for the 30-day announcement date CAR to mitigate the effect of announcement date return on

[18]We run a similar analysis as in Greenwood and Schor (2009) by investigating the timeline of delisting outcomes and report the result in Appendix Table A1. The results are consistent with Table 5 which shows that it takes shorter time for target firms with institutions recalling to get delisted from the sample.

activism outcome (*CAR30*) and previous demand for short selling (*PrevDemand*).

[Insert Table 5]

When loan is recalled after activism announcement, the likelihood of a target firm being acquired increases by 8.9 percentage points, which translates to a 43% increase in the takeover likelihood (Column (1)). Using the changes in supply ($\Delta Supply$) yields similar results. Given that blocking a merger campaigns are launched when there is an existing merger deal, we find that the target firms with blocking merger campaigns are more likely to get acquired in the near future (37% more likely). The coefficients on both *GovObjectives* and *ValueObjective* are negative and significant suggesting that campaigns with governance enhancing and value-enhancing objectives are negatively associated with the target firm being acquired. Activist campaigns that are not related to control-change are unrelated with takeover outcome.

In Columns (3) and (4), we examine the probability of target firm remaining independent until the end of the sample period. If recalling facilitates the sale of target firms, we expect the coefficients of *Recall* ($\Delta Supply$) to be negative (positive), as firms are less likely to stay independent when the firm gets acquired or sold. As expected, we find that recalling is negatively associated with the likelihood of target firm remaining independent. On average, 42% of target firms remain independent in the sample. If lending institutions recall loans, the likelihood of remaining independent decreases by 16% than the target firms without institutions that recall lendable supply. The result using the continuous variable, $\Delta Supply$, is consistent. The coefficient is positive and significant implying that the more decrease in loan supply leads to a lower likelihood of the firm being independent (Column (4)). Recalling has an incremental effect on delisting outcome; firms are less likely to remain independent until the end of the sample period when institutions recall.

In Columns (5) and (6), we examine whether the target firms are more likely to receive a takeover bid from a third-party and whether recalling is associated with receiving a bid. We do not find any significant effect of recalling and takeover bid. Interestingly, the coefficient on

HFA is positive and significant in Column (5) and almost marginally significant in Column (6). The result is indicative of hedge funds brokering the sale of target firm to a third party as suggested by Burkart and Lee (2021) and Boyson et al. (2017).

Overall results in this section provide evidence that recalling facilitates the sale of target firms. Target firms with which lending institutions recall lendable supply after activist announcements are often more likely to get acquired or less likely to remain independent after activist interventions. The result can be evidence of monitoring by large shareholders, such as those lending institutions, facilitating takeovers by mitigating the free rider problem among dispersed shareholders (Shleifer and Vishny (1986)). In the following section, we examine the relation between recalling and selling by potential lenders which may be a mechanism through which lenders facilitate the sale of target firms.

4.2.3 Implications of Recalling: Selling by lending institutions

Among 13F institutional investors, specifically the quasi-index institution is regarded as the ultimate lenders of security loans (D'Avolio (2002)). If lending institutions are recalling lendable shares to sell, e.g., to those interested obtaining target firm shares, it can facilitate target firm sales. If so, we expect recalling to be negatively related with the changes in quasi index ownership. We conjecture that lending institutions recall to sell especially when activists are interested in acquiring the firm.

[Insert Table 6]

Table 6 investigates the changes in ownership by different type of institutions before and after the activist campaign announcement and its association with recalling. The dependent variable for each column is denoted in the top of each columns. Further, we classify institutions following Bushee (1998).

The results in Column (1) and (2) show results for the changes in 13F institutional

ownership. The average changes in 13F institutional ownership before and after activism announcement is -0.26% in the sample. The coefficient on *Recall* is -0.016 significant, which indicates that 13F ownership decreases by 1.6% points more when recalling is observed around the announcement date. The result in Column (2) show similar result. One standard deviation decrease in the loan supply leads to 1.5% points decrease in 13F institutional ownership, indicating recalling is associated with selling by 13F institutions.

In Columns (3) to (8), we decompose 13F institutions using Bushee's classification. We find similar results for quasi-index institutional ownership in Columns (3) and (4). The result in Column (3) indicates that recalling is associated with a decrease in quasi-index ownership by 2.5% points after activist campaign announcement. The average change in quasi-index ownership is 2% which makes the effect to be economically significant by more than 100%. $\Delta Supply$ in Column (4) yields similar result. The coefficients for *Acquire* and *Blockmerger* are both negative and significant in Column (3) and (4). Given that stock prices react more positively to control change activism, it is possible that quasi-index institutions recall their loans to sell for capital gains.

In Columns (5) to (8), we find that recalling is not associated with selling by transient institutions nor dedicated institutions. The results are expected given that dedicated or transient institutions are less likely to engage in lending activities. In Appendix Table A2, we examine changes in ownership by mutual funds. We do not find any significant association between recalling and the changes in ownership by active and passive mutual funds. Although quasi-index institutions include passive mutual funds who can be securities lenders, pure index funds have less discretion on their portfolio holding choices and hence recall to sell can be irrelevant for pure index funds. The overall results from Table 5 and Table 6 suggest that the mechanism through which the sales of target firm happen may be through selling of recalled shares.

[Insert Table 7]

In Table 7, we test whether selling and recalling is associated with a higher likelihood of achieving the stated objectives in control-change related activism. As recalling is associated with higher success outcomes in control-change activist campaigns, reported in Table 4, we interact the recalling variables with the changes in quasi-index ownership.

The dependent variable in Columns (1) and (2) equals one if acquisition-related campaign is a success and zero otherwise. The coefficient on the interaction term is negative and significant in Column (1), implying that when quasi-index institutions decrease its ownership by one standard deviation (7.3%) after activist campaign announcement and recall loans, the likelihood of success in activism-related campaign is higher by 2.0%, which translates to approximately 1.5 times higher likelihood compared to the average success rate of acquisition-related campaigns. The coefficient on the interaction $\Delta Quasi \times \Delta Supply$ is positive and significant in Column (2), also indicating that the success rate of acquisition-related campaign increases when the supply of loans decreases and quasi-index ownership decreases. The overall results in Columns (1) and (2) suggest that recalling and selling by quasi-index institutions increases the success likelihood of acquisition campaigns when activists are interested in acquiring the firm.

Columns (3) and (4) in Table 7 report results on the outcome of blocking a merger type activist campaign. The coefficient for recalling-related variables, *Recall* and Δ *Supply*, are both significantly positive and negative in Columns (3) and (4), respectively, implying that recalling loans are associated with higher success outcomes in blocking a merger campaigns as reported in Table 4. However, both of the coefficients for interactions, $\Delta Quasi \times Recall$ and $\Delta Quasi \times \Delta Supply$, are insignificant in Columns (3) and (4). The insignificance of these coefficients indicate that selling by quasi-index institutions do not increase the success likelihood of blocking merger campaigns. Given that blocking a merger campaign should require more engagement and monitoring by shareholders to cooperate with activists who attempt to change the terms of an existing deal and soliciting no votes, selling should *not* be associated

with success outcomes.

[Insert Figure 2]

Gantchev and Jotikasthira (2018) show that selling by institutions can increase the probability of being targeted by activists. In Figure 2, we examine the changes in the supply of lendable shares around 30 days period for acquisition-related campaigns (Panel A). We find that recalling happens after activist campaign announcement for acquisition-related campaigns, suggesting that selling is not likely to attract activist campaigns for acquisition-related campaigns when recall to sell is meaningful. The chanages in lendable supply for blocking a merger campaigns in reported in Panel B. There is a consistent decrease in the supply before the announcement of blocking a merger campaign. It is worth noting that the announcement of a blocking merger campaign occurs on average 90 days after the merger deal announcement. This means that the decrease in supply of lending shares prior to the announcement may reflect the disagreement and contentious nature of the announced deal, which could have led activist investors to launch a campaign to block. To investigate further on the consequences of recalling shares around blocking merger campaigns, we use a hand-collected subsample of block merger campaigns in the next section to examine the outcomes.

4.2.4 Implications of recalling: Blocking a merger campaigns

Our findings so far suggest that recalling to sell around activist campaign announcement date has a meaningful impact on success outcome when activists are interested in acquiring the firm. However, recall to sell is not associated with a higher success rate of blocking merger campaigns when activists are not satisfied with an ongoing merger deal. In this section, we attempt to investigate the implications of recalling in blocking a merger campaign, by examining the detail of the campaign outcomes.

We hand-collect information about the outcome of 138 blocking merger campaigns in our sample by reading the full synopsis of each of these campaigns and identify cases where the initial bid price of an existing merger has increased after blocking merger campaign intervention. Using this sample, we test whether recalling around activist campaign announcement is associated with an increased bid price. The results are reported in Table 8.

[Insert Table 8]

The dependent variable in Table 8, *BidIncrease*, equals to one if the final bid price is increased from the initial bid price and zero otherwise. We also add few additional controls in columns (3) and (4), *MultipleBidder*, which equals to one if the bidder for an existing deal is more than one. *SplitProxy* equals to one if proxy advisory firms such as ISS and Glass Lewis, provide conflicting recommendations on the deal.

The result in Column (1) shows that the coefficient on *Recall* is positive and significant, indicating lending institutions recalling loans around the announcement of blocking a merger leads to a higher chance that the bid price increases from its initial price. On average 43% of blocking merger campaigns result in the increase in the bid price, and the coefficient of *Recall* implies that recalling loans around the announcement increases the likelihood by 1.5 times. Using the continuous variable of the changes in supply, $\Delta Supply$ shows similar result. One standard deviation decrease in the supply of lendable shares leads to a 30% increase in the probability that the bid price will be revised upward. Including additional controls specific to blocking merger campaigns yield similar result in Columns (3) and (4). The economic magnitude drops slightly but there is no change in the implications.

The subsample analysis in Table 8 suggest that lending institutions recall loans to monitor the target firm, which leads to better terms of the deal. The further recalling of shares after the campaign announcement when there is dissension over the announced deal suggests that lending institutions recall to obtain votes in blocking a merger campaigns. In Section 4.3,

we further investigate the consequence of recalling for votes by examining aggregate voting outcomes at the firm level.

4.2.5 Recalling and CAR

Our results in the previous sections indicate that recalling facilitates the sale of target firms and leads to an increase in bid price. Then, recalling can be associated with higher announcement date CARs due to the expectation that activist campaigns, specifically the control change-related ones, are more likely to succeed when institutions recall. Moreover, a higher CAR can reflect more certain premium that target shareholders expect to receive (Greenwood and Schor (2009)). We first examine announcement date abnormal returns for all activist campaigns when institutions recall loans and compare CARs for different campaign objectives using the daily observations.

[Insert Figure 3]

Figure 3 panel A shows CARs for the [-30, +30] period around the announcement of activist campaigns. The average 30-day post announcement date CAR for activist campaign is 6%. The number is similar to what others have documented in prior studies (Brav et al. (2008), Klein and Zur (2009), Greenwood and Schor (2009)). The post announcement date CARs for activist campaigns with and without recalling lendable supply is compared. Figure 3 panel B shows that the CAR for activist campaigns with recalling lendable shares after activist campaign announcement is significantly higher than campaigns without recalling of lendable supply. The announcement date CAR for target firms with recalling loans is approximately two times higher (10%) than the CAR with no recalling (5%).

Using the daily observations, we observe the cumulative abnormal returns over 30 days before and after the announcement and test whether the post announcement date CARs for recalling and non-recalling campaign is statistically different by estimating the following

regression:

$$CAR_{c,t} = \alpha_c + \beta Post_{c,t} + \theta Recall_{c,t} + \gamma Post_{c,t} \times Recall_{c,t} + \epsilon_{c,t} \quad (2)$$

The variable, $Recall_{c,t}$, is a dummy equals to one when the changes in lendable supply, $\Delta Supply$, is below the median. $Post_{c,t}$ is a dummy variable equals to one for days after the announcement day of activism [0,+30]. We include campaign (event)-level fixed effect, α_c, to account for unobserved heterogeneity specific to campaigns.[19] We divide the sample based on campaign objective and activist type and estimate CARs for each of the subsamples. The coefficient γ captures the difference in CARs for campaigns with and without recalling of loan supply.

[Insert Table 9]

Table 9 reports the results. The post announcement CAR for activist campaign for overall sample is 3.8%. When institutions recall loans around activist campaign announcement, the post announcement date CAR for such campaign is higher by 4.9 percentage points. The difference is economically large and statistically significant.

The post announcement date CAR for campaigns when an activist is interested in acquiring the target firm is 15.1% (Column *Acquire*). The abnormal return for such campaign is the highest compared to other campaigns. The results are consistent with Greenwood and Schor (2009) that large positive announcement date CARs in shareholder activism reflect potential premium target shareholder expect to receive. When institutions recall in campaigns where activist seek to potentially acquire the target firm, the post announcement date CAR is 10 percentage points higher, which is about 67% higher CAR compare to campaigns without recalling. When the objective of a campaign is to block a merger, the post announcement date

[19]Some target firms have multiple share classes. Therefore, the *Recall* variable is not fully subsumed by campaign-fixed effects.

CAR is 6.1% and the CAR is 5 percentage points higher when institutions recall although the t-stat is 1.5. Given that the merger deal has been announced prior to the blocking merger campaigns, the magnitude of the CAR is smaller for blocking merger campaign announcement. Campaigns with other value-enhancing objectives also show significantly higher CAR when institutions recall (Column *Value* in Table 7). The post announcement date CAR for governance-related campaigns is 3.1%, and recalling loan supply is associated with another 3.1 percentage points higher CARs after the announcement.

Overall, the CAR analysis suggests that investors expect positive values to be created in target firms when activism is announced and that recalling is associated with even more value creation. The results complements findings of that recalling facilitate takeovers and the sale of target firms. Facilitating third-party takeovers can be one form of monitoring (Shleifer and Vishny (1986)). Although we did not find any economic significant recalling activities in campaigns other than control change-related, we observe positive announcement date returns in other campaigns when institutions recall.[20]

4.2.6 Recalling on proxy record date following activist interventions

Activist campaigns are a sequential decision process where resolutions are uncertain at the time of announcement (Gantchev (2013)). The analyses so far examine recalling activities around announcement date of activist campaigns and find that recalling is associated with selling and better terms of an existing deal. To shed more lights on recalling activity that are precisely related to retaining voting rights, we examine recalling activities on proxy record dates that follow after activist interventions.

Aggarwal et al. (2015) show that institutions exercise voting rights by recalling loans on proxy record dates. We collect information on annual shareholder meeting dates and proxy

[20]It is possible that the higher announcement date return triggers lending institutions to recall loans as short-selling demand decreases. In all of our analysis we control for 30-day CAR which indicates that the results are less likely to be driven by returns. Further, we examine the implications of higher CARs for other campaigns, as well as endogeneity issues, in Section 4.4.

record dates that occur within 12 months of activist campaign announcements. Among 1976 activist campaigns in the sample, we were able to collect proxy record dates for 1645 campaigns.[21]

We start by examining the changes in lendable supply around proxy record dates. Figure 4 plots the lendable supply around [-30,+30] window of proxy record dates. The graph shows that the lendable supply sharply decreases right before and on the record date and immediately jumps back to the previous level right after the record date. The graph is similar to what is reported in Aggarwal et al. (2015).

[Insert Figure 4]

Then, we run a similar regression to equation (1). We use [-30, +30] window of proxy record dates on target firms for which the record date is available. We define a dummy variable, *RecordDate*, which equals one on the proxy record date and zero otherwise. Table 10 reports the result.

[Insert Table 10]

We find that the lendable supply decreases by 1.1 percentage points on the record date.[22] The average lendable supply during the [-30,+30] time window of record date is 22%, implying that the supply decrease by approximately 5%. In Columns (2) to (7), we add interaction terms that categorizes campaigns to different objectives and activist types. The results in Table 10 is quite different from the results reported in Table 2. No more significant recalling of shares is observed on proxy record dates that follow acquisition-related or blocking a merger type campaigns. The insignificant coefficients on $Post \times Acquire$ and $Post \times Blockmerger$ implies that institutions do not recall more shares for voting on proxy record dates after

[21] We search for DEF14A, DEFA14A, DEFC14A, DEFM14A, 8-K filings in Edgar to search for annual shareholder meeting date and record dates associated with the meeting. If shareholder meeting date is not available within 12 months following activist campaign announcement, the firm is dropped from the sample.
[22] The magnitude is similar to that of reported in Aggarwal et al. (2015).

control change-related campaigns. However, there is more significant recalling activities on proxy record dates that come after campaigns with other objectives such as value-enhancing or hedge fund activism. The result suggest that recalling for votes can happen early on for control change-related activism when the campaign is announced and no more significant recalling is observed on the record date.

Some of control-change related activism can lead to contentious voting events. We provide an anecdotal example of blocking merger campaign in Appendix B, which involves competition and adjournment of special meetings. As the proxy record dates may become less certain during such control contests, lenders may recall to obtain votes early when activism is announced. The results suggest that institutions recall to retain votes around announcement of campaigns to monitor activist interventions when events are contentious.

4.3 Recalling and voting outcome

To further substantiate on the recalling for votes, we examine the effect of recalling around announcement and voting outcomes. To better understand the motive of recalling around campaign announcements, we examine whether the campaign announcement-date recalling has a significant effect on voting outcomes during control contest.

We collect information on most recent shareholder meetings that occur after activist interventions with which we can match with ISS Company Vote Results database. The merged voting analysis sample consists of 983 shareholder meetings with a total of 12,388 voting agenda items. The merged data shows that the meeting date is on average 134 days after the announcement date of an activist campaign, and the record date is on average 80 days after the announcement date of activist campaigns. The days between proxy record date and meeting date is on average 54 days, which is similar to what Aggarwal et al. (2015) report in their paper.

If lending institutions recall to obtain votes early on when activist campaign is announced,

we expect to find voting support to be negatively associated with campaign announcement-date recalling. There are two recall-related variables: 1) *Recall* equals to one if the change in the average supply of lendable shares from pre-campaign announcement days [-30,-20] to post-announcement days [0,+30] is below the median and zero otherwise, and 2) *Recall(Rec)* which equals to one if the change in the average supply of lendable shares during pre-record date days [-30,-20] to the proxy record date [T=0] is below zero. To control for voting agenda heterogeneity, we include proposal agenda fixed effect. We examine voting outcomes for which the meeting type is classified as a proxy contest. The results are reported in Table 11.[23]

[Insert Table 11]

Activist campaigns that fight for control may result in contentious control events such as proxy contest meetings. Interestingly, campaign announcement date-recalling, *Recall*, is negatively related to voting support in contentious meeting. On average, proposals receive 82.5% voting support in proxy contest meetings. When lending institutions recall around activist campaign announcement date, the coefficient in Column (1) implies that such re-calling is associated with approximately a 3.3% less voting support from shareholders. The results in Column (2) show that shareholder-sponsored proposals do not receive more support when lending institutions recall shares around activist campaign announcement date but management-sponsored proposals receive less support as the coefficient of *Recall* is negative and significant. In Column (3) and (4), proxy record-date recalling is observed for contentious proxy contest subsample. We do not find any significant effect of record-date recalling on voting support for proxy contests.

Taken together, the results in Table 11 suggest that announcement-date recalling leads

[23]In Appendix Table A3, we replicate the results in Aggarwal et al. (2015) by examining all proposals that are voted during shareholder meetings. Consistent with the findings of Aggarwal et al. (2015), proxy record date-recalling is negatively associated with voting outcome (Column (3)) implying that lending institutions recall to obtain voting rights on proxy record date to actively and shareholder-sponsored proposals receive more voting support when lending institutions recall loans on proxy record date (Column (4)).

to active voting during control contests. For contentious meetings such as proxy contests, the announcement date-recalling is associated with less voting support for management proposals. This result implies that lending institutions recall for votes around campaign announcements, when the campaign is more likely to be contentious such as during control change related campaigns.

4.4 Robustness analyses: Alternative explanations of short selling, borrowing demand, and firms that do not get acquired

One might argue that the reduction in the supply of lendable shares could be due to a decrease in borrowing demand after the announcement of activist campaigns. The decrease in demand for borrowing can lead to a downward bias in the lendable supply shifts around campaign announcements. On the other hand, some sophisticated investors such as hedge funds can establish empty voting positions where they hold more votes than economic ownership through borrowing (Brav and Mathews (2011), Hu and Black (2006) and Hu and Black (2007)). For example, wishing to influence the upcoming outcome of an activist campaign by accumulating votes may lead to an upward bias in the supply shifts around campaign announcements. Although the upward bias due to a demand increase is less of a concern in this context as the direction is against finding any results, it would still be important to identify the net effect.

One way to mitigate such concern is to control the effect through demand changes. Although we control for previous short selling demand in all our analyses, following Aggarwal et al. (2015), we construct two instruments that are related to the borrowing fee through demand but are unrelated to the supply. Hedging demand and a surprise in earnings (SUE) are the instruments that affect the supply through the changes in demand (via fee) and estimate instrumental variable regression. We present results in Table A4. In the first stage (Column

(2)), the instruments, *hedging demand* and *SUE*, are negatively related to the borrowing fee. When the instrumented fee is included in the second stage, the supply of lendable shares decreases after the announcement of activist campaign (*Post Announcement* equals to one for 30 days after the announcement [0,+30]). The result indicates that the supply of lendable shares decreases after activist campaign announcements, after controlling for the changes in the borrowing demand through the borrowing fee.

When stock prices jump after campaign announcements, short sellers might have to put up more collateral and bear the risk of recalling from lenders which further increases the cost of borrowing. The increased burden on short sellers may induce them to close out positions by purchasing shares to cover their short position which can cause more jumps in stock prices.[24] If the higher CARs for target firms with recalling institutions capture covering of short positions by short sellers, the announcement date CARs should reverse in the near future. However, we do not find any evidence of return reversals in the short-run and in the long-run. The calendar time portfolio analysis provide supporting evidence that there is no return reversal following activism announcement for both recalling and non-recalling target firms (Table A5).

Then, we investigate the changes in borrowing costs (fees) around the announcement of activist campaigns. In Appendix Table A6 reports the result for borrowing fee changes after activism announcement. We find that the cost of borrowing increases slightly after activist campaign announcement by 10 bp (Column (1)). The increase in fee is observed in campaigns with value-enhancing objectives and in hedge fund activism. However, the changes in borrowing fee is not different in control-change activism where most significant recalling occurs. Christoffersen et al. (2007) and Kolasinski et al. (2013) show that a supply curve is

[24] Although returning borrowed shares will not affect lendable supply, when a short seller returns the share to the lender, she can borrow it from another lender to return. Alternatively, the borrower's broker could issue its own recall notice to another borrower (Duffie et al. (2002)). If the broker cannot locate lendable shares, the stock has to be bought in which may result in a short squeeze.

relatively flat within moderate levels of quantity and hence borrowing fees are largely insensitive to demand shocks in moderate levels. The results in Table A6 show that the fees are generally insensitive and do not vary by campaign objectives, which implies that the supply change after activism announcements is less likely to be driven by demand (price) changes.

Finally, we examine a sample of target firms that remain independent after activist interventions. Greenwood and Schor (2009) show that hedge fund activism announcement date returns and long-run abnormal returns are not different from zero for target firms that remain independent. Given that the significant recalling is observed for control change related campaign, facilitating the better sale of target firms, do lending institutions play any role in target firms that remain independent after activist interventions? To answer the questions, we explore the effect of recalling loan supply on activism outcomes for the following two subsamples of target firms: 1) target firms that do not get delisted within 18 months of activist announcement and 2) target firms that stay independent until the end of 2018. The results are reported in Appendix Table A7.

Table A7 report the results for announcement date CARs on [-30,+30] window for a subsample of target firms that remain independent. The subsample of firms that do not get delisted within 18 months are reported under 'NotDelist' columns and the results for the subsample that remain independent until the end of 2018 is reported under 'Independent' column. The post announcement date CARs for both not-delisted and independent subsamples are 3.5%, which is similar to the post announcement CAR for the whole sample in Table 9. When institutions recall lendable shares, the post announcement CAR is higher by 2.4 percentage points and 2.6 percentage points for respective subsamples. Recalling lendable supply has a positive and significant effect on the post announcement CARs even in target firms that remain independent, indicating monitoring by lending institutions through other channels than facilitating sales. The abnormal return estimated using Fama-French three-factor model gives similar results.

Next, we examine the effect of recalling on long-run CARs. Table A8 report the results. Long-run abnormal return is calculated over [-10,+260] period where t=0 is the announcement day of activist campaign, using both Fama-French three- and four-factor models. The results imply that when lending institutions recall loan supply, more value is created for shareholders over the long-run even in target firms that remain independent consistent with recalling around announcement is associated with monitoring.

In Table A9, we examine the association between proxy record-date recalling and long-run CARs for both subsamples. The proxy record-date recalling is also positively associated with long-run CARs for the whole sample and the sample that do not get acquired or delisted. The results are important given that prior studies find most of positive value creation in activist interventions come from potential takeovers (Greenwood and Schor (2009), Boyson et al. (2017)). The higher announcement date and long-run abnormal returns for target firms that remain independent suggest that lending institution can monitor in various ways, not only through facilitating sale of the target but also by monitoring activist campaigns.

5 Conclusion

The fierce competition in money-management industry made securities lending business to emerge as an important source of extra revenue. Nonetheless, one of the world's largest pension funds, Government Pension Investment Fund of Japan, suspended stock lending in 2019 based on two grounds: 1) securities lending is "inconsistent with the fulfillment of the stewardship responsibilities of a long-term investor" and 2) "the current stock lending scheme lacks transparency". The decision by the fund brought the subject of corporate governance to the front of securities lending practices. It raises many questions whether lending practices and steward responsibilities are compatible. The findings in this paper can speak to some of these questions on the role of institutional investors in the event of activist

campaigns using the unique setting of securities lending market.

We find a significant reduction in lending supply after control change-related activism announcements. Such campaigns are more likely to succeed when institutions recall and target firms are more likely to get acquired when institutions recall. Institutions recall to sell their shares in acquisition-related campaigns and recall for votes in blocking a merger campaign, which results in higher bid prices and facilitation of target firm sales. The evidence suggests that recalling around announcement is related to the extent to which institutions cooperate with activists in control change activism.

Overall findings suggests that lending institutions recall to either sell or exercise steward responsibilities when activist agendas are deemed to be more important and contentious. However, lending institutions can choose to not recall in less important campaigns where the benefits of recalling might be lower than the forgone profits from lending. As no counterfactual world exists had corporations not owned by security lenders, as more institutions are engaging in lending practices, beneficial owners have to enforce better governance not only in corporations but also in asset management industries.

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Figure 1: Lendable supply around the announcement of activist campaign [-30,+30]

Panel A plots the supply of lendable shares around 30 days of activist campaign announcement. The vertical axis report the number of shares available for loan relative to the total shares outstanding (lendable supply). The vertical axis report the number of shares on loan relative to the total shares outstanding. Date 0 is the day when activist campaign is announced. The horizontal axis report the relative days to the announcement of activism.

Panel A. Lending supply around activist campaign announcement

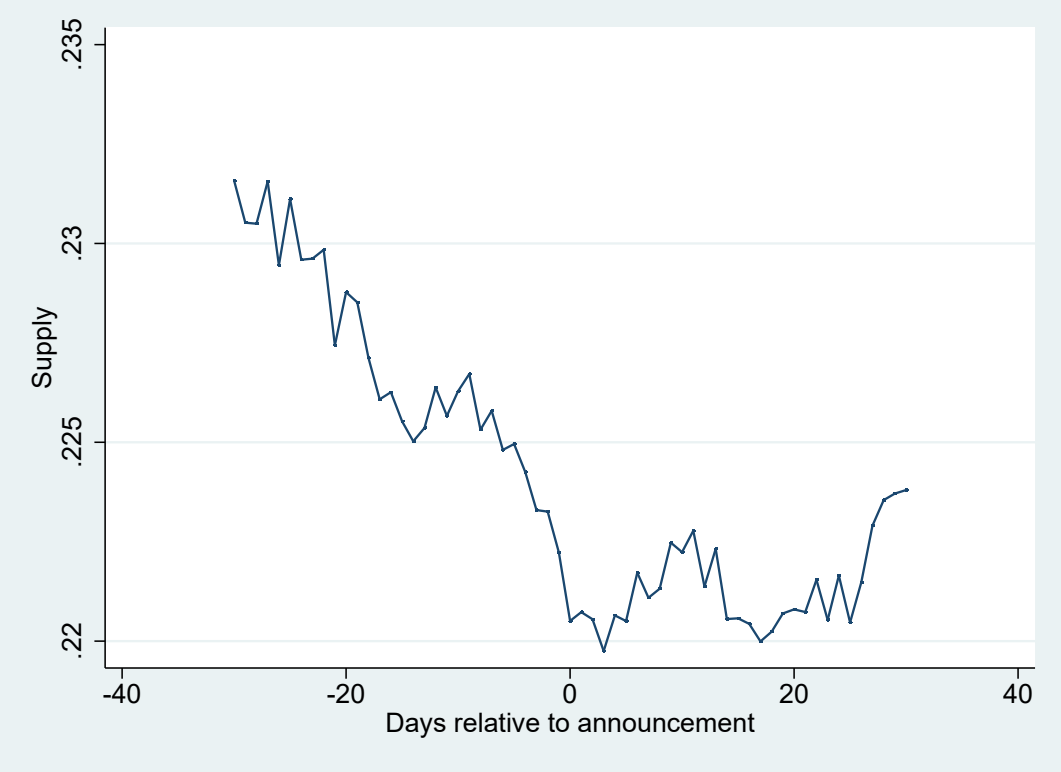
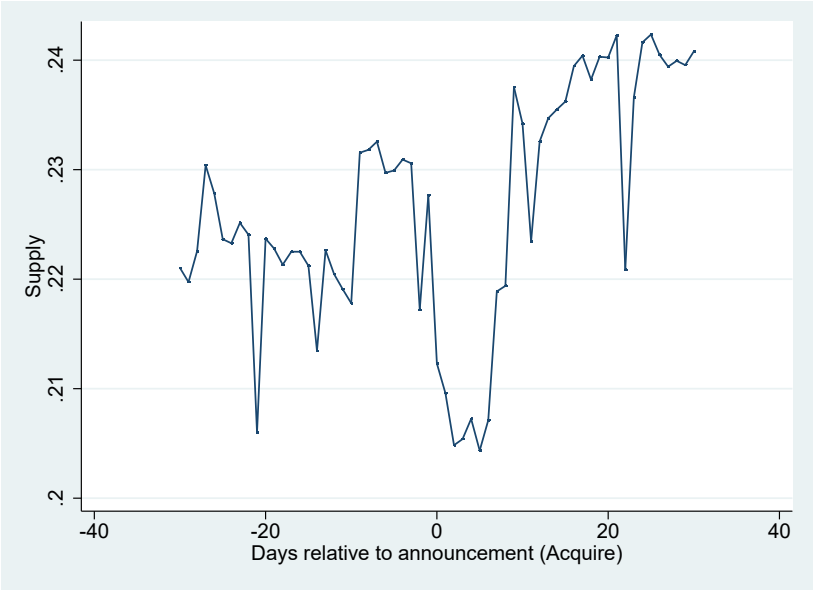


Figure 2: Lendable supply around the announcement of control-change activism [-30,+30]

Panel A plots the supply of lendable shares around 30 days of acquisition-related campaign announcement. Panel B plots the supply of lendable shares around 30 days of blocking a merger campaign announcement. The vertical axis report the number of shares available for loan relative to the total shares outstanding (lendable supply). The vertical axis report the number of shares on loan relative to the total shares outstanding. Date 0 is the day when activist campaign is announced. The horizontal axis report the relative days to the announcement of activism.

Panel A. Lending supply around acquisition-related campaign announcement



Panel B. Lending supply around blocking a merger campaign announcement

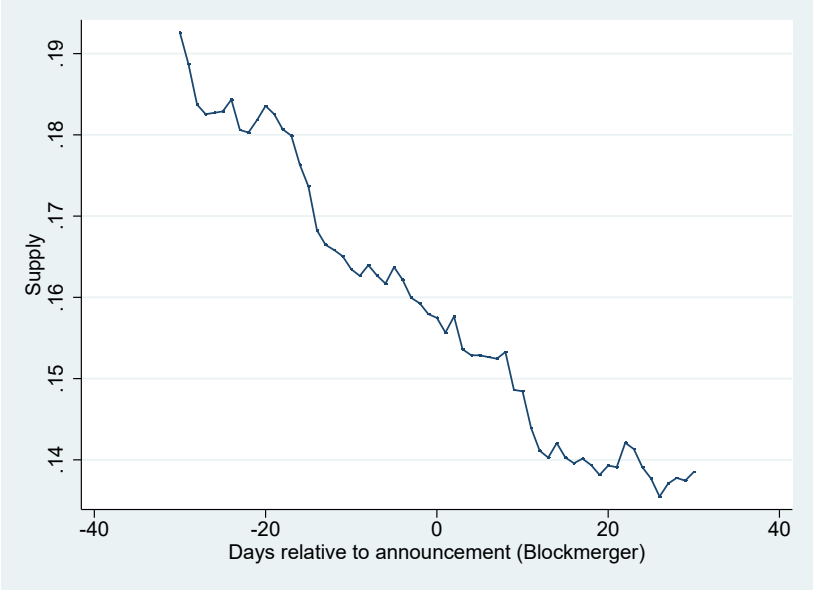
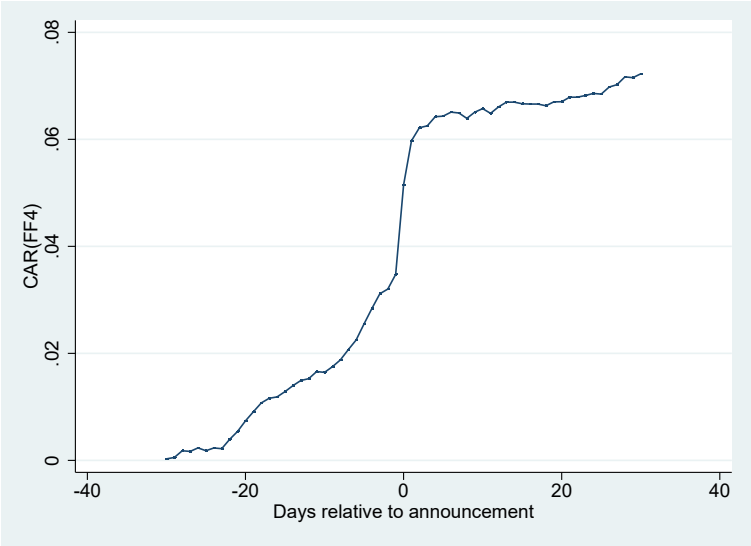


Figure 3: Cumulative-Abnormal-Return (CAR) around the announcement of activist campaign [-30,+30]

The figure plots CAR around 30 days of the announcement of activist campaign. The abnormal return is calculated using Cahart four factor model (Cahart (1997)). Panel A reports CAR around activism announcement for the whole sample. Panel B reports CAR for activist campaign with and without recalling loan supply. The red line plots CAR for campaigns without recalling lendable supply by institutions and the blue line plots CAR for campaigns with recalling of loan supply by institutions. If the change in lendable supply from [-30,-10] days to post 30 days [0,+30] of the announcement is below the median value (median value: -0.0009), a campaign is categorized as institutions with recalling loan supply (*Recall*). Date 0 is the date activist campaign is announced. The horizontal axis report the relative days to the announcement of activism.

Panel A. CAR around activism announcement



Panel B. CARs for recalling and non-recalling target firms

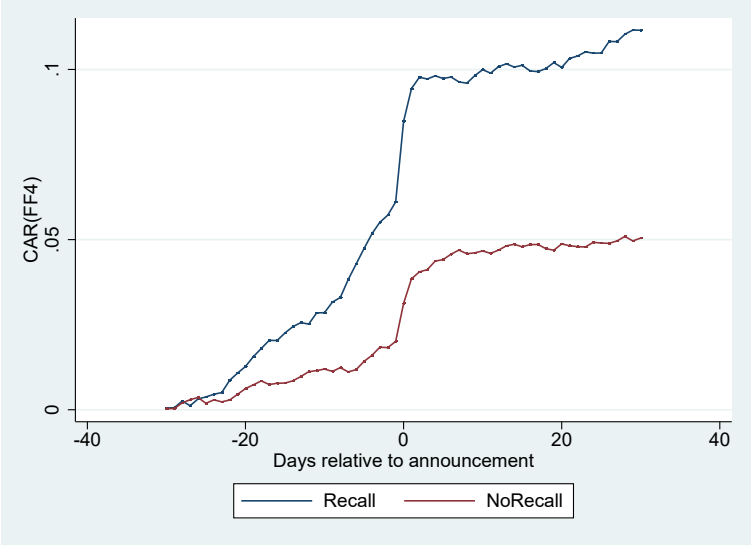


Figure 4: Lendable supply around record date of activist campaign [-30,+30]

The figure plots the supply of lendable shares around 30 days of (proxy) record dates that are within 12 months of activist campaign announcement. Date 0 is the proxy record date. The vertical axis report the number of shares available for loan relative to the total shares outstanding (lendable supply). The horizontal axis report the relative days to the record date.

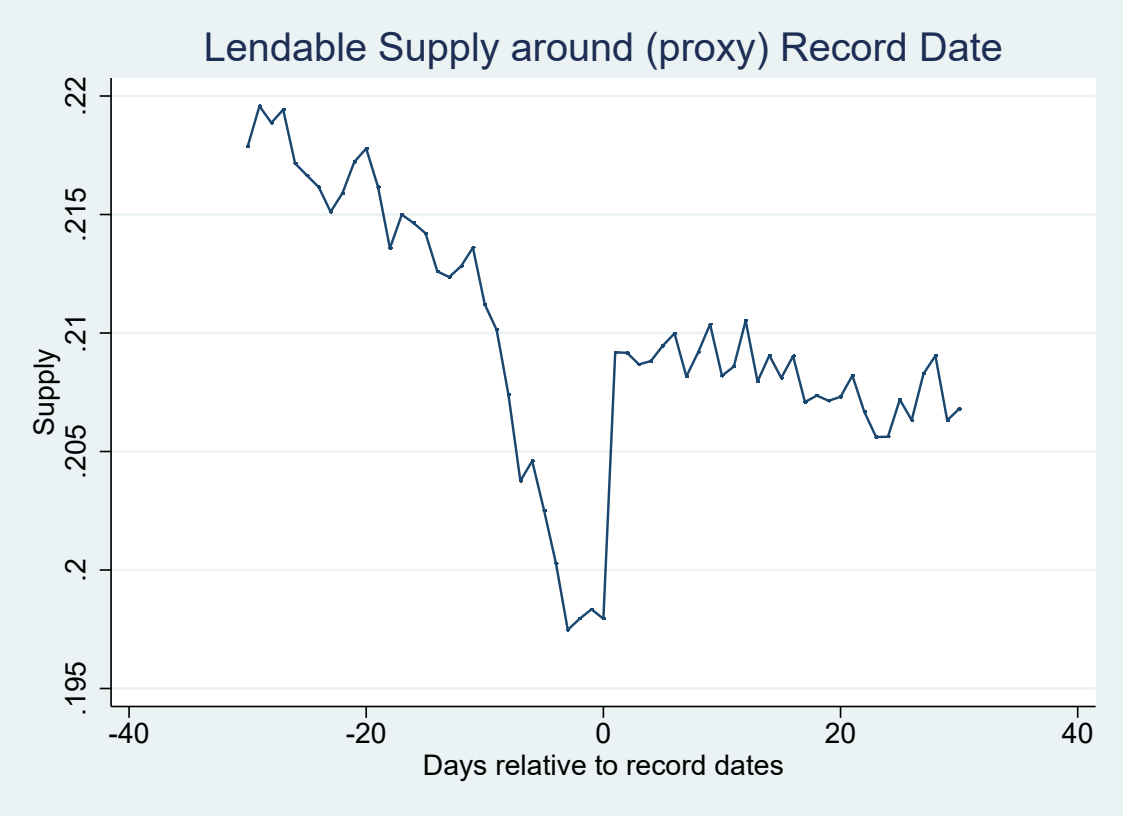


Table 1: Summary Statistics

The table reports summary statistics for the variables used throughout the paper. Panel A report lending market characteristics. Panel B reports activism target firm characteristics. Panel C reports activist campaign characteristics. A detailed description on how the variables are constructed is explained in Appendix. The sample includes 1976 activist campaigns launched between 2006 and 2014. There are 1212 unique target firms.

	Mean	SD	P5	Median	P95
Panel A. Lending Market Characteristics					
Supply	0.221	0.295	0.015	0.186	0.412
On Loan	0.057	0.126	0.000	0.019	0.208
Indicative Fee	0.010	0.029	0.004	0.004	0.045
ΔSupply	-0.007	0.051	-0.059	-0.001	0.019
Recall	0.521	0.500	0.000	1.000	1.000
Panel B. Target Firm Characteristics					
Size	6.724	2.279	3.728	6.276	11.487
Age	2.869	0.730	1.609	2.833	4.060
Tobin's Q	1.602	1.050	0.819	1.300	3.322
Previous 1yr Return	0.039	0.839	-0.707	-0.012	0.855
ROA	-0.013	0.163	-0.345	0.020	0.151
Lev	0.193	0.190	0.000	0.148	0.559
DivYield	0.013	0.040	0.000	0.000	0.053
Cash	0.138	0.151	0.005	0.085	0.450
ILLIQ	1.600	19.217	0.000	0.007	1.957
IOC HHI	0.097	0.123	0.025	0.058	0.293
IO Holding	0.666	0.284	0.084	0.715	1.029
Passive	0.053	0.038	0.000	0.049	0.121
Active	0.099	0.082	0.000	0.086	0.254
Investor Turnver	0.253	0.095	0.136	0.234	0.429
Motivated holdings	0.065	0.171	0.000	0.000	0.561
CAR3 (3day)	0.029	0.092	-0.067	0.013	0.187
CAR30 (30day)	0.090	0.327	-0.358	0.061	0.639
Panel C. Campaign Characteristics					
Acquire	0.068	0.252	0.000	0.000	1.000
Blockmerger	0.070	0.255	0.000	0.000	1.000
Governance Objective	0.752	0.901	0.000	1.000	2.000
Value Increase Objective	0.673	0.989	0.000	0.000	3.000
13-D Filings	0.155	0.362	0.000	0.000	1.000
Hedge Fund Activist (HFA)	0.486	0.500	0.000	0.000	1.000
Threat High Activist	0.410	0.492	0.000	0.000	1.000
N	1976				

Table 2: Supply of lendable shares around the announcement day of activist campaign [-30,+30]

The table reports the supply of lendable shares around the announcement of activist campaigns. Post equals to one for days after the announcement of activism [0,+30], and zero for days before the announcement [-30,-1]. *Acquire* equals to one if activist campaign's objective is to acquire the target, *Blockmerger* equals to one if the objective of campaign is to block an existing merger, *Value Objective* equals to one if the objective of campaign is to enhance the target firm value, *Gov Objective* equals to one for campaigns with governance change objective. Campaigns with value-enhancing objectives exclude acquire and blocking merger objective campaigns. *HFA* equals to one when the activist initiating the campaign is a hedge fund and *ThreatHigh* equals to one when the threat rating of the activist is high classified by SharkWatch (top 50 activists). The sample uses -30 to 30 days around the announcement of activist campaign. Campaign-level (event) fixed effect is used and the standard errors are clustered at the campaign (event) level and t-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	Lendable Supply						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Post	-0.007***	-0.006***	-0.006***	-0.009***	-0.014***	-0.010***	-0.005***
	(-5.806)	(-4.777)	(-4.580)	(-5.798)	(-6.702)	(-4.913)	(-3.003)
Post × Acquire		-0.016***					
		(-3.207)					
Post× BlockMerger			-0.019***				
			(-5.953)				
Post × Value Objective				0.006**			
				(2.066)			
Post × Gov Objectives					0.011***		
					(4.440)		
Post × HFA						0.004*	
						(1.663)	
Post × ThreatHigh							-0.006**
							(-2.228)
Constant	0.228***	0.228***	0.228***	0.228***	0.228***	0.231***	0.228***
	(359.937)	(361.037)	(360.926)	(360.329)	(362.029)	(348.357)	(360.013)
FE	Event	Event	Event	Event	Event	Event	Event
N	118295	118295	118295	118295	118295	111784	118295
R^2	0.976	0.977	0.977	0.976	0.977	0.976	0.976

Table 3: Recalling lendable supply and target firm/campaign characteristics

The table reports target firm and campaign characteristics and their effects on recalling activities. The dependent variable for Column (1) to (3) is the average change in the supply of lendable shares from prior 20 days of the announcement [-30,-10] to the post announcement days [0,+30], **ΔSupply**. The dependent variable for Columns (4) to (6), **Recall**, is a dummy variable equals to one if the change in the supply of lendable shares is below the sample median (median value: -0.0009). A detailed description on other variables is available in Appendix. Industry(SIC) and year fixed effects are included. Standard errors are clustered at the industry level and t-statistics are reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	$\Delta Supply$			Recall		
	(1)	(2)	(3)	(4)	(5)	(6)
13DFile(prior)	0.003	0.003	0.002	-0.011	-0.002	-0.004
	(1.241)	(1.471)	(0.798)	(-0.329)	(-0.076)	(-0.131)
Size	0.001	0.001	0.001	-0.024*	-0.023	-0.025*
	(1.295)	(1.455)	(1.420)	(-1.796)	(-1.634)	(-1.793)
Age	0.001	0.001	0.001	-0.002	-0.010	0.012
	(0.343)	(0.685)	(0.361)	(-0.082)	(-0.394)	(0.481)
Tobin_Q	-0.001	-0.001	-0.001	0.010	0.012	0.004
	(-1.019)	(-0.946)	(-0.497)	(0.768)	(0.892)	(0.322)
Prev1YrRet	-0.003**	-0.003**	-0.002*	0.022**	0.022**	0.008
	(-2.372)	(-2.277)	(-1.920)	(2.137)	(2.237)	(0.794)
ROA	-0.031***	-0.028***	-0.030***	0.273***	0.246**	0.251**
	(-2.986)	(-2.691)	(-2.772)	(2.698)	(2.403)	(2.436)
Lev	0.003	0.003	0.008	-0.017	0.002	-0.059
	(0.412)	(0.342)	(1.020)	(-0.199)	(0.025)	(-0.687)
DivYield	-0.013	-0.013	-0.007	0.442	0.411	0.381
	(-0.869)	(-0.885)	(-0.490)	(1.503)	(1.326)	(1.258)
Cash	-0.015	-0.013	-0.012	0.154	0.141	0.077
	(-1.611)	(-1.425)	(-1.295)	(1.346)	(1.212)	(0.667)
ILLIQ	0.000	0.000	0.000***	-0.001	-0.001	-0.001
	(1.505)	(1.259)	(2.961)	(-1.246)	(-1.024)	(-1.147)
NUM_ANALYST	0.000	0.000	-0.000	0.001	-0.000	0.001
	(0.042)	(0.250)	(-0.055)	(0.346)	(-0.025)	(0.314)
IO Concentration	-0.031**	0.010	-0.033**	0.167	-0.083	0.100
	(-2.171)	(0.734)	(-2.105)	(1.042)	(-0.354)	(0.593)
IOHolding	-0.032***		-0.033***	0.419***		0.329***
	(-5.058)		(-4.935)	(5.022)		(4.004)
Passive	0.067	0.062	0.073	-0.379	-0.387	-0.324

	(1.471)	(1.409)	(1.588)	(-0.639)	(-0.658)	(-0.550)
Active	0.019	0.020	0.023	-0.215	-0.344	-0.138
	(1.052)	(1.080)	(1.289)	(-0.952)	(-1.474)	(-0.607)
InvestorTurnover	-0.012	-0.007	-0.010	0.022	0.046	-0.003
	(-0.928)	(-0.482)	(-0.698)	(0.145)	(0.220)	(-0.021)
Motivated Holdings	0.010	0.009	0.004	-0.532***	-0.519***	-0.433***
	(1.167)	(1.014)	(0.422)	(-4.355)	(-4.202)	(-3.524)
CAR30	-0.019***	-0.019***	-0.016***	0.144***	0.149***	0.118***
	(-5.175)	(-5.322)	(-4.168)	(3.711)	(3.743)	(2.975)
PrevDemand	-0.042***	-0.040***	-0.047***	0.183**	0.166*	0.253***
	(-2.912)	(-2.608)	(-3.128)	(2.085)	(1.852)	(2.744)
Transient		-0.039***			0.421**	
		(-2.677)			(2.295)	
QuasiIndexer		-0.030***			0.499***	
		(-3.390)			(4.506)	
Dedicated		0.019			-0.197	
		(1.263)			(-0.801)	
Acquire			-0.011**			0.126**
			(-2.265)			(2.487)
Blockmerger			-0.017***			0.289***
			(-4.043)			(5.207)
Value activism			0.004**			-0.008
			(2.248)			(-0.233)
Gov. Activism			0.002			-0.003
			(1.192)			(-0.096)
HFA			0.009***			-0.014
			(4.246)			(-0.471)
ThreatHigh			-0.010***			0.131***
			(-5.325)			(4.373)
Constant	0.008	-0.004	0.003	0.395***	0.444***	0.373***
	(0.880)	(-0.453)	(0.341)	(3.400)	(3.558)	(3.159)
FE	SIC3, Year	SIC3, Year	SIC3, Year	SIC3, Year	SIC3, Year	SIC3, Year
N	1900	1865	1788	1900	1865	1788
R^2	0.105	0.118	0.154	0.127	0.135	0.154

Table 4: Success probability of activist campaign based on stated objectives

The table reports the effect of recalling lendable supply on the success probability of stated campaign objectives. The dependent variables equals to one if the stated objective of a campaign is success and zero if failure. Each stated objectives of a campaign is denoted on the top of each column. The dependent variable, **SuccessAcquire**, equals to one if activist campaign's objective is to acquire the target and the activist achieved its objective. **SuccessBlockmerger** equals to one if the objective of campaign is to block an existing merger and the activist achieved its objective. **SuccessValue** equals to one if the objective of campaign is to enhance the target firm value and the activist achieved its objective. **SuccessGov** equals to one for campaigns with governance change objective and the activist achieved its objective. *Recall* equals to one if the changes in lendable supply from previous 20 days [-30,-10] to post announcement days [0,+30] is below the median. Δ*Supply* is the change in the average supply of lendable shares from pre announcement days [-30,-10] to post-announcement days [0,+30]. *HFA* equals to one when the activist initiating the campaign is a hedge fund and *ThreatHigh* equals to one when the threat rating of the activist is high classified by SharkWatch (top 50 activists). *CAR30* is the CAR around 30 days of the announcement of activist campaign. *PrevDemand* is the average shares on loan during the 20-day period prior to the campaign announcement day. Firm controls included are the same as in Table 3 but omitted for brevity. Industry(SIC) and year fixed effects are included. Standard errors are clustered at the industry level and t-statistics are reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	SuccessAcquire		SuccessBlockMerger		SuccessValue		SuccessGovernance	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Recall	0.013**		0.043***		-0.008		0.013	
	(2.012)		(3.992)		(-0.578)		(0.865)	
ΔSupply		-0.143		-0.311***		0.330*		0.220
		(-1.462)		(-2.819)		(1.821)		(1.265)
HFA	-0.023***	-0.022***	0.016	0.019**	0.093***	0.090***	0.028	0.026
	(-3.193)	(-2.890)	(1.617)	(1.987)	(6.249)	(6.071)	(1.553)	(1.451)
ThreatHigh	-0.027***	-0.028***	-0.043***	-0.043***	-0.048***	-0.045***	-0.017	-0.014
	(-3.313)	(-3.360)	(-4.850)	(-4.793)	(-3.651)	(-3.547)	(-1.078)	(-0.893)
CAR30	0.028*	0.027*	0.032**	0.032**	0.019	0.024	-0.019	-0.014
	(1.849)	(1.769)	(2.148)	(2.090)	(1.029)	(1.229)	(-0.886)	(-0.602)
Prev.Demand	-0.017	-0.021	-0.065**	-0.070**	-0.034	-0.021	0.076	0.090*
	(-1.194)	(-1.463)	(-2.393)	(-2.541)	(-0.896)	(-0.568)	(1.547)	(1.769)
Constant	0.002	0.006	-0.050	-0.037	0.002	-0.001	-0.017	-0.014
	(0.063)	(0.185)	(-0.750)	(-0.564)	(0.024)	(-0.018)	(-0.236)	(-0.186)
FE	SIC, Year	SIC, Year	SIC, Year	SIC, Year	SIC, Year	SIC, Year	SIC, Year	SIC, Year
FirmControls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1788	1788	1788	1788	1788	1788	1788	1788
R^2	0.035	0.034	0.151	0.142	0.077	0.078	0.045	0.045

Table 5: The effect of recalling (changes in lendable shares) and takeover outcomes

The table reports the effect of recalling lendable supply on takeover outcomes. The dependent variable in column 1 and 2, **Acquired**, equals to one if target firms get delisted from CRSP database within 18 months of activism announcement because it was acquired. The dependent variable in column 3 and 4, **Independent**, equals to one if targeted firms remain independent to the end of 2018. The dependent variable in column 5 and 6, **TakeoverBid**, equals one if the target firm received takeover bid within 24 months of the activist campaign announcement. *Recall* equals to one if the change in the average supply of lendable shares from pre-announcement days [-30,-10] to post-announcement days [0,+30] is below the median and zero otherwise. Δ*Supply* is the change in the average supply of lendable shares from pre announcement days [-30,-10] to post-announcement days [0,+30]. Campaigns with acquisition objective (*Acquire*), blocking a merger (*BlockMerger*), value-enhancing(*Value*), governance(*Governance*)-related objectives equals to one with respective stated campaign objectives. *CAR30* is the 30-day CAR around the campaign announcement date. *HFA* equals to one when the activist initiating the campaign is a hedge fund and *ThreatHigh* equals to one when the threat rating of the activist is high classified by Shark Watch (Shark Watch 50 activists). In all specification, firm controls are included. Firm controls included are the same as in Table 3. Industry (SIC) fixed effect is used and the standard errors are clustered at the industry level. t-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	Acquired		Independent		TakeoverBid	
	(1)	(2)	(3)	(4)	(5)	(6)
Recall	0.089***		-0.069***		-0.011	
	(4.479)		(-3.076)		(-0.528)	
ΔSupply		-0.488*		0.476***		-0.017
		(-1.832)		(3.003)		(-0.152)
Acquire	-0.019	-0.016	-0.085*	-0.086	0.083**	0.068
	(-0.354)	(-0.300)	(-1.668)	(-1.647)	(2.568)	(1.585)
Blockmerger	0.373***	0.388***	-0.196***	-0.207***	-0.074*	-0.098**
	(7.772)	(8.246)	(-5.112)	(-5.331)	(-1.823)	(-2.526)
Value Objectives	-0.046*	-0.048*	-0.004	-0.002	0.033	0.033
	(-1.800)	(-1.874)	(-0.146)	(-0.089)	(1.629)	(1.087)
Gov Objectives	-0.207***	-0.203***	0.130***	0.127***	0.007	0.007
	(-7.636)	(-7.455)	(5.229)	(5.086)	(0.238)	(0.313)
HFA	-0.174***	-0.168***	0.017	0.013	0.089***	0.088***
	(-6.685)	(-6.574)	(0.557)	(0.401)	(4.131)	(3.832)
ThreatHigh	0.071***	0.077***	0.017	0.013	-0.047***	-0.058***
	(3.418)	(3.565)	(0.719)	(0.554)	(-3.003)	(-3.632)
CAR30	0.161***	0.161***	-0.019	-0.017	-0.018	-0.012
	(5.318)	(5.314)	(-0.565)	(-0.500)	(-0.740)	(-0.448)
Constant	0.259**	0.281***	0.173	0.157	0.358***	0.383***
	(2.589)	(2.873)	(1.536)	(1.390)	(4.658)	(4.420)
FE	SIC, Year	SIC, Year	SIC, Year	SIC, Year	SIC, Year	SIC, Year
FirmControls	Yes	Yes	Yes	Yes	Yes	Yes
N	1788	1788	1788	1788	1815	1788
R^2	0.401	0.397	0.392	0.391	0.108	0.143

Table 6: Recalling and selling by different types of institutions

The table reports the effect of recalling lendable supply on the changes in ownership by different institutions. The dependent variable in column 1 and 2, **ΔIO**, is the changes in ownership by 13F institutional investors after campaign announcements from the recent quarter before the announcement. The dependent variable in column 3 and 4,**ΔQuasi**, is the change in ownership by quasi-index institution before and after the activism campaign announcement. The dependent variable in column 5 and 6, **ΔTransient**, is the changes in ownership by transient institutional investors after campaign announcements from the recent quarter before the announcement. The dependent variable in column 7 and 8, **ΔDedicated**, is the changes in ownership by dedicated institutional investors after campaign announcements from the recent quarter before the announcement. *Recall* equals to one if the change in the average supply of lendable shares from pre-announcement days [-30,-10] to post-announcement days [0,+30] is below the median and zero otherwise. Δ*Supply* is the change in the average supply of lendable shares from pre announcement days [-30,-10] to post-announcement days [0,+30]. Campaigns with acquisition objective (*Acquire*), blocking a merger (*Block-Merger*), value-enhancing(*Value*), governance(*Governance*)-related objectives equals to one with respective stated campaign objectives. *HFA* equals to one when the activist initiating the campaign is a hedge fund and *ThreatHigh* equals to one when the threat rating of the activist is high classified by SharkWatch (Shark Watch 50 activists). In all specification, firm controls are included. Firm controls included are the same as in Table 3. Industry (SIC) fixed effect is used and the standard errors are clustered at the industry level. *t*-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	ΔIO		ΔQuasi		ΔTransient		ΔDedicated	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Recall	-0.016***		-0.025***		0.006		0.004	
	(-4.300)		(-6.101)		(1.575)		(0.997)	
ΔSupply		0.304***		0.532***		-0.124		-0.069
		(2.772)		(4.975)		(-1.216)		(-0.693)
Acquire	-0.006	-0.005	-0.029***	-0.027***	0.015	0.015	0.013*	0.013*
	(-0.797)	(-0.689)	(-3.420)	(-3.099)	(1.640)	(1.628)	(1.864)	(1.950)
Blockmerger	-0.002	-0.002	-0.034***	-0.034***	0.029***	0.029***	0.000	-0.000
	(-0.177)	(-0.186)	(-4.002)	(-4.212)	(2.874)	(2.940)	(0.002)	(-0.029)
ValueObjectives	-0.001	-0.001	-0.001	-0.001	0.000	0.000	-0.000	-0.000
	(-0.162)	(-0.217)	(-0.115)	(-0.212)	(0.004)	(0.023)	(-0.104)	(-0.094)
GovObjectives	-0.006	-0.007	-0.001	-0.002	-0.009***	-0.009***	0.004	0.004
	(-1.485)	(-1.638)	(-0.269)	(-0.533)	(-3.018)	(-2.955)	(1.063)	(1.115)
HFA	0.010**	0.009*	0.010*	0.007	-0.007	-0.006	0.005	0.005
	(2.207)	(1.834)	(1.903)	(1.436)	(-1.548)	(-1.445)	(1.175)	(1.403)
ThreatHigh	0.003	0.002	-0.003	-0.004	0.010**	0.010**	0.003	0.003
	(0.863)	(0.661)	(-0.507)	(-0.733)	(2.228)	(2.300)	(0.753)	(0.769)
CAR30	0.023***	0.024***	-0.006	-0.003	0.025***	0.024***	-0.002	-0.003
	(2.948)	(3.002)	(-0.881)	(-0.487)	(4.513)	(4.260)	(-0.362)	(-0.413)
Constant	0.045**	0.038*	0.002	-0.009	0.031	0.033	0.000	-0.001
	(2.165)	(1.809)	(0.105)	(-0.456)	(1.455)	(1.509)	(0.003)	(-0.031)
FE	SIC, Year	SIC, Year	SIC, Year	SIC, Year	SIC, Year	SIC, Year	SIC, Year	SIC, Year
FirmControls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1641	1641	1641	1641	1601	1601	853	853
R^2	0.122	0.121	0.167	0.170	0.094	0.094	0.099	0.099

Table 7: Success outcome of acquisition-related activist campaign and selling

The table reports the effect of recalling lendable supply on the outcome of acquisition-related campaign objectives (Acquire). The dependent variable for column 1 and 2, **SuccessAcquire**, equals to one if activist campaign's objective is to acquire the target and the activist achieved its objective. The dependent variable for column 3 and 4, **SuccessBlockmerger**, equals to one if activist campaign's objective is to block a merger deal and the activist achieved its objective. *Recall* equals to one if the changes in lendable supply from previous 20 days [-30,-20] to post announcement days [0,+30] is below the median (median value: -0.0009). Δ*Supply* is the change in the average supply of lendable shares from pre announcement days [-30,-10] to post-announcement days [0,+30]. ΔQuasi, is the change in ownership by quasi-index institution before and after the activism campaign announcement. *HFA* equals to one when the activist initiating the campaign is a hedge fund and *ThreatHigh* equals to one when the threat rating of the activist is high classified by SharkWatch (Shark Watch 50 activists). *CAR30* is the 30-day CAR around the campaign announcement date. *PrevDemand* is the average shares on loan during the 20-day period prior to the campaign announcement day. Firm controls included are the same as in Table 3 but omitted for brevity. Industry(SIC) and year fixed effects are included. Standard errors are clustered at the industry level and *t*-statistics are reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	SuccessAcquire		SuccessBlockmerger	
	(1)	(2)	(3)	(4)
Recall	0.006		0.022***	
	(1.112)		(2.860)	
ΔSupply		-0.107		-0.314**
		(-0.960)		(-2.076)
ΔQuasi × Recall	-0.276**		-0.120	
	(-2.123)		(-1.285)	
ΔQuasi× ΔSupply		3.251*		1.501
		(1.933)		(0.877)
ΔQuasi	0.014	-0.140**	0.009	-0.064
	(0.167)	(-2.557)	(0.146)	(-1.416)
CAR30	0.025	0.024	0.033**	0.032**
	(1.599)	(1.508)	(2.503)	(2.392)
HFA	-0.026***	-0.025***	-0.001	0.001
	(-3.216)	(-3.175)	(-0.158)	(0.130)
ThreatHigh	-0.015**	-0.015**	-0.019**	-0.018**
	(-2.341)	(-2.338)	(-2.207)	(-2.117)
PrevDemand	-0.016	-0.022*	-0.034*	-0.038*
	(-1.399)	(-1.753)	(-1.834)	(-1.852)
Constant	0.014	0.016	-0.034	-0.025
	(0.399)	(0.460)	(-0.718)	(-0.544)
FE	SIC, Year	SIC, Year	SIC, Year	SIC, Year
FirmControls	Yes	Yes	Yes	Yes
N	1641	1641	1670	1670
R^2	0.049	0.047	0.165	0.163

Table 8: Activist campaign with blocking merger objective outcome: Bid increase

The table reports the effect of recalling lendable supply on the outcome of blocking a merger campaign, using a subsample of activist campaigns in which the stated objective is to block a merger deal. The dependent variables, **Bid Increase**, equals to one if an existing bid price has increased over the course of activist campaign and zero if not. *Recall* equals to one if the changes in lendable supply from previous 20 days [-30,-20] to post announcement days [0,+30] is below the median (median value: -0.0009). $\Delta Supply$ is the change in the average supply of lendable shares from pre announcement days [-30,-10] to post-announcement days [0,+30]. *Multiple Bidder* equals to one if there is more than one bidder interested in acquiring the firm. *SplitProxy* equals to one if proxy advisory firms have conflicting advice on the deal. *HFA* equals to one when the activist initiating the campaign is a hedge fund and *ThreatHigh* equals to one when the threat rating of the activist is high classified by SharkWatch (Shark Watch 50 activists). *CAR30* is the CAR around 30 days of the announcement of activist campaign. Firm controls included are the same as in Table 3 but omitted for brevity. Industry(SIC) and year fixed effects are included. t-statistics are reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	Bid Increase			
	(1)	(2)	(3)	(4)
Recall	0.633***		0.492**	
	(3.077)		(2.174)	
$\Delta Supply$		-4.372**		-3.907*
		(-2.059)		(-1.700)
Multiple bidder			0.792**	0.925***
			(2.409)	(2.768)
SplitProxy			-0.682	-0.690
			(-1.676)	(-1.606)
HFA			-0.274**	-0.171
			(-2.315)	(-1.412)
ThreatHigh			-0.001	-0.140
			(-0.006)	(-0.950)
CAR30	0.075	0.059	0.199	0.166
	(0.292)	(0.212)	(0.857)	(0.663)
Constant	-0.235	0.267	-1.131	-0.678
	(-0.241)	(0.297)	(-1.200)	(-0.710)
N	107	107	101	101
R^2	0.479	0.398	0.575	0.550

Table 9: CARs around the announcement day of activist campaign [-30,+30]

The table reports CARs around the announcement of activist campaigns. The abnormal return is calculated using Cahart four factor model (Carhart (1997)). The first column uses the whole sample. 'Acquire' column reports the result for subsample of campaigns which the activist's stated objective is to potentially acquire a target firm. 'Blockmerger' column reports subsample which the activist's objective is to block a merger deal of the target firm. Value-enhancing objectives (Value), governance related objectives (Gov) columns represent the subsamples of campaigns with respective stated campaign objectives.*Recall* equals to one if the change in the average supply of lendable shares during pre announcement days [-30,-10] to post announcement days [0,+30] is below the median and zero otherwise (median value: -0.0009). *Post* equals to one for days after the announcement of activist campaign and zero otherwise. The sample uses 30 days around the announcement of activist campaign [-30,+30]. Campaign-level (event) fixed effect is used and the standard errors are clustered at the campaign (event) level. t-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	CAR(FF4)				
	(Total)	(Campaign Objective)			
	(All)	(Acquire)	(Blockmerger)	(Value)	(Gov)
Post	0.038***	0.151***	0.061**	0.048***	0.031***
	(7.746)	(5.274)	(2.325)	(5.379)	(5.706)
Post×Recall	0.049***	0.100**	0.046	0.029**	0.031***
	(5.778)	(2.504)	(1.487)	(2.046)	(2.815)
Constant	0.016***	0.014	0.059***	-0.001	0.006**
	(7.696)	(1.289)	(8.647)	(-0.179)	(2.268)
FE	Event	Event	Event	Event	Event
N	118295	8254	7823	32690	63912
R^2	0.690	0.720	0.732	0.681	0.675

Table 10: Supply of lendable shares around record date [-30,+30] following activism announcement

The table reports the supply of lendable shares on proxy record dates following activist campaign announcements. The dependent variable is the supply of lendable shares relative to total shares outstanding. *RecordDate* equals one on the record date and zero for other days. *Acquire* equals to one if activist campaign's objective is to acquire the target, *Blockmerger* equals to one if the objective of campaign is to block an existing merger, *Value Objective* equals to one if the objective of campaign is to enhance the target firm value, *Gov Objective* equals to one for campaigns with governance change objective. Campaigns with value-enhancing objectives exclude acquire and blocking merger objective campaigns. *HFA* equals to one when the activist initiating the campaign is a hedge fund and *ThreatHigh* equals to one when the threat rating of the activist is high classified by SharkWatch (Shark Watch 50 activists). The sample uses [-30,-30] days around the record dates of shareholder meeting after activist campaign, where [t=0] is the proxy record date. Campaign-level (event) fixed effect is used and the standard errors are clustered at the campaign (event) level. *t*-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	Lendable Supply						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
RecordDate	-0.011***	-0.011***	-0.011***	-0.009***	-0.014***	-0.008***	-0.011***
	(-9.664)	(-9.089)	(-9.332)	(-6.787)	(-7.655)	(-4.825)	(-7.374)
RecordDate × Acquire		-0.004					
		(-0.944)					
RecordDate × BlockMerger			0.003				
			(1.390)				
RecordDate × Value Objective				-0.009***			
				(-3.157)			
RecordDate × Gov Objective					0.005**		
					(2.093)		
RecordDate ×HFA						-0.006***	
						(-2.711)	
RecordDate ×ThreatHigh							-0.001
							(-0.374)
Constant	0.220***	0.220***	0.220***	0.220***	0.220***	0.223***	0.220***
	(11363.137)	(11366.301)	(11364.873)	(11404.893)	(11379.750)	(12047.268)	(11363.603)
FE	Event	Event	Event	Event	Event	Event	Event
N	89637	89637	89637	89637	89637	84137	89637
R^2	0.989	0.989	0.989	0.989	0.989	0.989	0.989

Table 11: Recalling of lendable supply and voting outcome in the following control contests

The table report results for recalling around announcement date and recalling on record date and their effects on voting outcome on proxy contest meetings. We identify the most recent proxy contest meetings that are followed by activist campaign announcements and each voting agendas voted in the meeting. The dependent variable, *VoteSupport*, is the percentage of vote support for the proposal. *Recall* equals to one if the change in the average supply of lendable shares from pre-announcement days [-30,-10] to post-announcement days [0,+30] is below the median and zero otherwise. *Recall(Rec)* equals to one if the change in the average supply of lendable shares during pre-record date days [-30,-10] to the record date [t=0] is below zero. *SHSProposal* equals to one for shareholder-sponsored proposal (agenda) and zero for management-sponsored proposals. *ISSrecomm* equals one if ISS and management recommendation on the voting agenda is the same and zero if different. In all specification, firm controls are included. Firm controls included are the same as in Table 3. ISS agenda fixed effect, industry (SIC) fixed effect, and year fixed effects are used and denoted at the bottom of the table. The standard errors are clustered at the firm level, and t-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	VoteSupport(VS)			
	(1)	(2)	(3)	(4)
Recall	-0.027*	-0.032*		
	(-1.754)	(-1.730)		
Recall × SHSProposal		0.015		
		(0.272)		
Recall(Rec)			-0.008	-0.031
			(-0.552)	(-1.490)
Recall(Rec) × SHSProposal				0.218
				(1.321)
ISSRecomm	0.094***	0.094***	0.100***	0.100***
	(4.790)	(4.670)	(5.162)	(4.982)
Constant	0.626***	0.639***	0.628***	0.403**
	(4.511)	(4.645)	(5.280)	(2.177)
AgendaFE	Yes	Yes	Yes	Yes
IndFE	Yes	Yes	Yes	Yes
YearFE	Yes	Yes	Yes	Yes
FirmControls	Yes	Yes	Yes	Yes
N	1197	1197	1144	1144
R^2	0.469	0.469	0.489	0.505

Appendix A. Variable Definitions

Panel A. Lending Market Characteristics

Supply	The number of shares that are available for lending relative to total number of shares outstanding (IHS Markit)
OnLoan	The number of shares that are currently on loan relative to the total number of shares outstanding (IHS Markit)
(Indicative) Fee	A buy-side fee: "the estimate of the expected borrow cost, in fee terms, for a hedge fund on a given day" (IHS Markit)
PrevFee	The average indicative fee over [-30,-10] period where t=0 is the day an activist campaign is announced
PrevDemand	The average shares on loan (demand) over [-30,-10] period where t=0 is the day an activist campaign is announced
ΔSupply	The change in the supply of lendable shares from prior 20 days of activism announcement [-30,-10] to post days of the announcement [0,+30] (IHS Markit)
Recall	An indicator variable equals to one if the changes in supply, ΔSupply, is below the sample median

Panel B. Target Firm Characteristics

Size	The natural logarithm of market capitalization (Compustat)
Age	The natural logarithm of the number of years the firm appears in Compustat (Compustat)
Tobin Q	(Total Asset + Market Capitalization - Book value of Equity) / Total Asset (Compustat)
ROA	Net Income / Total assets (Compustat)
Prev.1yrReturn	The compounded return over 12 months period before activist campaign announcement (CRSP)
Leverage (Lev)	(LongTerm Debt +Short Term Debt)/Total Asset
DividendYield(DivYield)	(Common Dividend+Preferred Dividend) /(Common TSO + Preferred Stock) (Compustat)
Cash	Cash and Short term investments (Compustat)
NumAnayst	Number of analyst following the firm (I/B/E/S)
Illiquidity (ILLIQ)	Amihud's illiquidity measure
Institutional Ownership (IO) Concentration(HHI)	Institutional Ownership (IO) concentration measured with Herfindahl-Hirschman Index (Thomson Reuters 13F)
IO Holding	The percentage of shares held by 13F institutional investors (Thomson Reuters 13F)
Passive	The percentage of shares held by passive mutual funds (Thomson Reuters S12)
Active	The percentage of shares held by active mutual funds (Thomson Reuters S12
Investor Turnover	Investor investment horizon measure using the churn rate of investor's portfolio following Gaspar et al. (2005) (Thomson Reuters 13F)
Motivated Holding	The percentage of shares held by motivated institutions. Motivated institution is defined as the institutions in which the value of holdings in the firm is in the top 10% of their portfolio following Fich et al. (2015)
Dedicated	The percentage of shares held by dedicated institution classified as in Bushee (1999,2001)
Quasi-index (Quasi)	The percentage of shares held by quasi-index institution classified as in Bushee (1999,2001)
Transient	The percentage of shares held by transient institution classified as in Bushee (1999,2001)
Cumulative-Abnormal-Return (CAR) (FF4)	Abnormal return is calculated using Carhart four-factor model (1997) estimated using [-210,-30] window of announcement of activist campaign

CAR(FF3)	Abnormal return is calculated using Fama-French three-factor model (1992) estimated using [-210,-30] window of announcement of activist campaign
Spread	Bid-Ask spread
Penny	A dummy variable equals to one if the price of stock is less than $5
Turnover	Stock turnover
Short Momentum	The cumulative return over the previous 5 days
Long Momentum	The cumulative return over the previous 252 days
Hedging Demand	Below-average relative cumulative returns in the previous year, where the relative returns are defined as the equal-weighted cumulative return over the past 252 days of related firms with the same four-digit GICS industry classification code (Aggarwal et al. 2015)
Standardized Unexpected Earnings (SUE)	The standardized unexpected earnings measure defined as the last quarter's earnings surprise relative to analysts' median earnings forecasts
CAR3	The cumulative abnormal return calculated from four-factor (market, size, book-to-market and momentum) model around [-1,+1] days of the announcement date of activism.
CAR30	The cumulative abnormal return calculated from the four-factor (market, size, book-to-market, and momentum) model from -30 days prior to the announcement date of activism to 30 days after[-30,-30].
CAR(FF3)[-10,+260]	The cumulative abnormal return calculated from the three-factor (market, size, and book-to-market) model from -10 days prior to the announcement date of activism to 260 days after.
CAR(FF4)[-10,+260]	The cumulative abnormal return calculated from four-factor (market, size, book-to-market and momentum) model from -10 days prior to the announcement date of activism to 260 days after.
CAR(Rec)[-10,+260]	The cumulative abnormal return calculated from the four-factor (market, size, book-to-market and momentum) model from -10 days prior to proxy record date of activism to 260 days after.

Panel C. Activist Campaign Characteristics from FactSet

13D Filing	An indicator variable for campaigns that are 13D filings by an activist without a stated objective of campaign
13D(Prior announcement)	An indicator variable equals to one if the activist had filed 13D prior to the announcement of the campaign
Acquire	An indicator variable equals to one if activist campaign's objective is to potentially acquire the target firm
Blockmerger	An indicator variable equals to one if activist campaign's objective is to block a merger deal
Value objectives	An indicator variable equals to one if activist campaign's objective is to enhance the target firm value which include seeking sale, return cash to shareholders, capital structure changes, review alternatives
Governance objectives	An indicator variable equals to one if activist campaign's objective is to change governance which include compensation-related issues, removing anti-takeover provisions, removing officers, removing directors, ESG
Hedge Fund Activist (HFA)	An indicator variable equals to one if the activist initiating a campaign is a hedge fund
Threat High	An indicator variable equals to one if the activist initiating a campaign has the highest threat rating classified by SharkWatch (top 50 well-known activist known as SharkWatch 50)
Success_objective	An indicator variable equals to one if the stated objective of activist campaign is success and zero if failure

Table A1: Delisting outcome after activist campaign announcement

The table reports delisting outcome of target firms after activist campaign announcements. Panel A reports results for the whole sample. Panel B report results for the subsample of target firms that gets delisted within 12 months of activist campaign announcements. Panel C report results for the subsample of target firms that gets delisted within 18 months of activist campaign announcements. *Independent* takes value of one when a target firm stays independent until the end of 2018 and zero if the firm gets delisted from exchanges between activist campaign announcement and the end of 2018. *Acquired* takes value of one if the delisting reason from exchanges is because the firm was acquired (CRSP delisting code equals to 2 or 3), and zero if the firm is not acquired. *Other Delist* equals to one if the delisting reason is other than being acquired (CRSP delisting code either 4 or 5). *Days to Delist* calculates the number of days between the announcement of shareholder activism and the date of delisting. 'NoRecall' column reports the percentage of target firms with institutions that do not recall lendable supply and 'Recall' column reports the percentage of target firms with institutions recalling lendable supply around the announcement of activism. *Recall* is identified if the change in the supply of lendable shares during pre announcement days [-30,-10] to post announcement days [0,+30] is below the median and zero otherwise (median value: -0.0009). 'N' columns report the number of firms in each of 'NoRecall' and 'Recall' sample. 'MeanDiff' column report results for the difference between recalling and non-recalling sample. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

Panel A. Independent and delisting outcomes after activist campaign announcement

Variables	N	NoRecall	N	Recall	MeanDiff
Independent	947	0.530	1029	0.321	0.209***
Acquired	947	0.389	1029	0.576	-0.188***
Other Delist	947	0.081	1029	0.103	-0.022*
Days to Delist	445	993.3	699	730.3	262.94***

Panel B. Target firms delisted within 12 months of activist campaign announcement

Variables	N	NonRecall	N	Recall	MeanDiff
Acquired	106	0.906	305	0.944	-0.039
Other Delist	106	0.094	305	0.056	0.039
Days to Delist	106	104.8	305	90.91	13.859*

Panel C. Target firms delisted within 18 months of activist campaign announcement

Variables	N	NoRecall	N	Recall	MeanDiff
Acquired	144	0.896	366	0.929	-0.033
Other Delist	144	0.104	366	0.071	0.033
Days to Delist	144	160.3	366	128.4	31.87***

Table A2: Changes in ownership by different types of mutual funds

The table reports the effect of recalling lendable supply on the changes in ownership by different institutions. The dependent variable in column 1 and 2, **ΔActive**, is the changes in ownership by active mutual fund investors after campaign announcements from the recent quarter before the announcement. The dependent variable in column 3 and 4, **ΔPassive**, is the changes in ownership by passive mutual fund investors after campaign announcements from the recent quarter before the announcement. *Recall* equals to one if the change in the average supply of lendable shares from pre-announcement days [-30,-10] to post-announcement days [0,+30] is below the median and zero otherwise. Δ*Supply* is the change in the average supply of lendable shares from pre announcement days [-30,-10] to post-announcement days [0,+30]. Campaigns with acquisition objective (*Acquire*), blocking a merger (*BlockMerger*), value-enhancing (*Value*), governance(*Governance*)-related objectives equals to one with respective stated campaign objectives. *HFA* equals to one when the activist initiating the campaign is a hedge fund and *ThreatHigh* equals to one when the threat rating of the activist is high classified by SharkWatch (Shark Watch 50 activists). *CAR30* the 30-day CAR around activist campaign announcement date. In all specification, firm controls are included. Firm controls included are the same as in Table 3. Industry (SIC) fixed effect is used and the standard errors are clustered at the industry level. *t*-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	ΔActive		Δ Passive	
	(1)	(2)	(3)	(4)
Recall	-0.008***		-0.000	
	(-3.603)		(-0.213)	
ΔSupply		0.209***		0.034
		(4.372)		(1.511)
Acquire	-0.010**	-0.009**	-0.001	-0.001
	(-2.356)	(-2.232)	(-0.717)	(-0.578)
Blockmerger	-0.019***	-0.018***	-0.003	-0.003
	(-4.261)	(-4.345)	(-0.817)	(-0.732)
Value Objectives	0.001	0.001	-0.000	-0.000
	(0.611)	(0.515)	(-0.202)	(-0.247)
Gov Objectives	0.003	0.003	0.002**	0.002**
	(1.388)	(1.231)	(2.375)	(2.342)
HFA	-0.000	-0.001	0.001	0.001
	(-0.128)	(-0.462)	(0.508)	(0.439)
ThreatHigh	-0.006**	-0.006**	-0.002	-0.002
	(-2.432)	(-2.561)	(-1.491)	(-1.452)
CAR30	-0.003	-0.002	-0.001	-0.001
	(-0.664)	(-0.414)	(-0.685)	(-0.585)
Constant	0.001	-0.003	-0.007	-0.007
	(0.099)	(-0.350)	(-1.404)	(-1.508)
FE	SIC, Year	SIC, Year	SIC, Year	SIC, Year
FirmControls	Yes	Yes	Yes	Yes
N	1645	1645	1645	1645
R^2	0.233	0.241	0.165	0.166

Table A3: Recalling of lendable supply and voting outcome in the following shareholder meetings

The table report results for recalling around announcement date and recalling on record date and their effects on voting outcome on shareholder meetings. We identify the most recent shareholder meetings that are followed by activist campaign announcements and each voting agendas voted in the meeting. The dependent variable, *VoteSupport*, is the percentage of vote support for the proposal. *Recall* equals to one if the change in the average supply of lendable shares from pre-announcement days [-30,-10] to post-announcement days [0,+30] is below the median and zero otherwise. *Recall(Rec)* equals to one if the change in the average supply of lendable shares during pre-record date days [-30,-10] to the record date [t=0] is below zero. *SHSProposal* equals to one for shareholder-sponsored proposal (agenda) and zero for management-sponsored proposals. *ISSrecomm* equals one if ISS and management recommendation on the voting agenda is the same and zero if different. In all specification, firm controls are included. Firm controls included are the same as in Table 3. ISS agenda fixed effect, industry (SIC) fixed effect, and year fixed effects are used and denoted at the bottom of the table. The standard errors are clustered at the firm level, and t-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	VoteSupport(VS)			
	(1)	(2)	(3)	(4)
Recall	-0.001	-0.003		
	(-0.204)	(-0.583)		
Recall × SHSProposal		0.022		
		(0.960)		
Recall(Rec)			-0.011*	-0.021***
			(-1.739)	(-2.929)
Recall(Rec) × SHSProposal				0.119***
				(3.070)
ISSRecomm	0.143***	0.143***	0.144***	0.144***
	(12.597)	(12.595)	(12.524)	(12.662)
Constant	0.662***	0.664***	0.651***	0.653***
	(19.648)	(19.684)	(18.599)	(18.697)
AgendaFE	Yes	Yes	Yes	Yes
IndFE	Yes	Yes	Yes	Yes
YearFE	Yes	Yes	Yes	Yes
FirmControls	Yes	Yes	Yes	Yes
N	10489	10489	10148	10148
R^2	0.768	0.768	0.771	0.776

Table A4: 2SLS approach: Changes in the supply of lendable shares around activist campaign announcement

The table reports the first and second stage estimation result using the instrumented borrowing fee to control for the endogeneity of the fee. The second stage dependent variable is the supply, *Supply*, which is the percentage of shares available to lend (lendable supply). The first stage estimation, in the second column, reports the effect of instruments on indicative fee after activist campaign announcement that are not related to supply. The first instrument, *hedging demand*, is the equal-weighted cumulative return over the past 252 days of related firms with the same four digit GICS industry classification. The second instrument, *SUE*, is the surprise in earnings relative to the median analyst earnings expectations for the recent quarter of activist campaign announcement. *Post Announcement* is a dummy variable equals to one for days after the activist campaign announcement and zero otherwise [0,+30]. Control variables include size, book-to-market (BTM), share turnover, passive holdings, top 5 institutional investor ownership concentration, spread, penny stock dummy, short- and long-momentum. The results are estimated using -30 and +30 days of activist campaign announcement data. Industry (SIC2) fixed effect is used and the standard errors are clustered at the industry level. *t*-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	Supply	Fee
	(2nd stage)	(1st stage)
Post Announcement	-0.007**	0.001***
	(-2.529)	(2.742)
$\widehat{Fee}$	6.108*	
	(1.797)	
IO holding	0.178***	-0.006
	(3.518)	(-1.593)
Size	-0.001	-0.001***
	(-0.264)	(-3.839)
BTM	0.024	-0.004***
	(1.522)	(-3.088)
Spread	-1.823***	0.002
	(-3.638)	(0.067)
Turnover	-0.000	0.000***
	(-1.403)	(4.492)
Penny	0.034	0.010***
	(0.722)	(3.965)
Short Momentum	-0.070*	0.001
	(-1.721)	(0.125)
Log momentum	-0.002	0.000
	(-1.283)	(0.224)
CAR[-1,+1]	0.076	-0.019
	(0.682)	(-1.615)
Passive Holding	1.532***	-0.012
	(5.109)	(-0.553)
Top5 IO concentration	0.633***	0.008
	(3.637)	(0.761)
Hedging Demand		-0.004***
		(-3.385)
Earnings Surprise(SUE)		-0.156***
		(-2.929)
N	71183	71183
F-Stat		9.222

Table A5: Calendar time portfolio for recalling campaigns

The table reports results for regression estimates of equal-weighted calendar time portfolios for recalling and non-recalling campaigns. The 'Window(Months)' column indicates the buying time relative to the activist campaign announcement date month, and the holding period in months. 'Event' is the month of activist campaign announcement. 'Intercept' is the estimate of the regression intercept (alpha) from the Fama-French and Carhart (1997) four-factor models. 'MKTRF', 'SMB', 'HML' and 'UMD' are the estimates of factor loading on the market, size, book-to-market and the Carhart momentum factor. R^2 is the adjusted R-square from the regression. t-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	Recall						No-Recall					
Window (Months)	(Intercept)	(MKTRF)	(SMB)	(HML)	(UMD)	(R^2)	(Intercept)	(MKTRF)	(SMB)	(HML)	(UMD)	(R^2)
[-15, -13]	-0.56%*	1.09	0.69	0.059	-0.18	0.79	-0.28%	1.00	0.77	0.11	-0.34	0.84
	(-1.66)	(12.50)	(4.01)	(0.41)	(-2.49)		-0.91	12.92	5.03	0.89	-5.16	
[12, -10]	-0.45%	0.95	0.73	0.05	-0.35	0.80	-0.62%**	1.13	0.55	0.11	-0.16	0.83
	(-1.39)	(11.63)	(4.48)	(0.39)	(-5.06)		-2.02	14.60	3.56	0.89	-2.37	
[-9, -7]	-0.62%**	0.98	0.79	-0.25	-0.46	0.85	-0.15%	0.86	1.13	0.10	-0.83	0.82
	(-2.18)	(13.76)	(5.48)	(-2.19)	(-7.52)		-0.38	8.63	5.58	0.61	-9.69	
[-6, -4]	-1.22%***	0.90	0.91	-0.35	-0.20	0.77	-0.64%*	0.94	0.93	-0.50	-0.41	0.74
	(-3.91)	(11.50)	(5.83)	(-2.68)	(-2.97)		-1.71	10.01	4.97	-3.25	-5.04	
[-3, -1]	0.67%	1.06	0.58	0.09	-0.26	0.66	0.17%	1.03	0.41	0.31	-0.13	0.72
	(1.43)	(8.97)	(2.51)	(0.46)	(-2.54)		0.44	10.49	2.10	1.90	-1.52	
Event	5.26%***	1.09	0.63	0.73	-0.60	0.69	3.62%***	1.00	0.61	-0.01	-0.38	0.65
	(6.78)	(5.73)	(1.74)	(2.04)	(-3.69)		5.72	6.43	2.08	-0.04	-2.79	
[1, 3]	0.77%	1.04	0.12	-0.25	-0.57	0.60	-0.15%	0.90	0.60	-0.14	-0.18	0.75
	(1.38)	(7.60)	(0.46)	(-1.10)	(-4.76)		-0.48	11.68	3.93	-1.07	-2.68	
[4, 6]	0.42%	0.89	0.77	0.18	-0.46	0.76	-0.27%	0.88	0.53	-0.10	-0.21	0.73
	(1.08)	(9.26)	(4.18)	(1.13)	(-5.51)		-0.83	10.90	3.39	-0.71	-2.98	
[7, 9]	-0.33%	1.06	0.96	0.02	-0.25	0.83	-0.13%	0.98	0.65	0.00	-0.22	0.75
	(-1.01)	(13.62)	(6.34)	(0.18)	(-3.70)		-0.36	11.40	3.87	-0.01	-2.88	
[10, 12]	0.08%	1.02	0.76	0.07	-0.29	0.78	0.12%	1.01	0.53	0.12	-0.30	0.77
	(0.22)	(11.78)	(4.40)	(0.45)	(-3.82)		0.34	11.52	3.17	0.81	-3.81	
[13, 15]	0.08%	0.948	0.56709	0.15702	-0.36	0.80	0.46%	1.14	0.60	0.23	-0.22	0.46
	(0.23)	(11.65)	(3.73)	(1.14)	(-5.04)		0.57	5.92	1.66	0.70	-1.29	

Table A6: Borrowing fee around the announcement day of shareholder activism [-30,+30]

The table reports changes in the borrowing fee on loan around the announcement of activist campaigns. *Post* equals to one for days after the announcement of activism [0,+30], and zero for days before the announcement [-30,-1]. Acquisition-related (*Acquire*), blocking a merger (BlockMerger), value-enhancing (*Value*), governance-related (*Gov*) equals to one for respective campaign objectives. *HFA* is when the activist is a hedge fund and *ThreatHigh* is when the threat level of activist is classified as high measured with prior activist campaign involvement. The sample uses 30 days around the announcement of activist campaign [-30,+30]. Campaign-level (event) fixed effect is used and the standard errors are clustered at the campaign (event) level and t-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	Borrowing Fee						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Post	0.001**	0.001***	0.001***	0.001**	0.000	0.000	0.001**
	(2.982)	(3.098)	(2.669)	(2.272)	(1.234)	(0.613)	(2.236)
Post× Acquire		-0.001					
		(-0.986)					
Post× BlockMerger			0.001				
			(1.076)				
Post×Value Objective				0.000			
				(0.104)			
Post× Gov Objective					0.001		
					(1.300)		
Post× HFA						0.001*	
						(1.783)	
Post× ThreatHigh							-0.000
							(-0.711)
Constant	0.010***	0.010***	0.010***	0.010***	0.010***	0.010***	0.010***
	(77.499)	(77.516)	(77.439)	(77.575)	(77.354)	(73.701)	(77.251)
FE	Event	Event	Event	Event	Event	Event	Event
N	118295	118295	118295	118295	118295	111784	118295
R^2	0.901	0.901	0.901	0.901	0.901	0.904	0.901

Table A7: Subsample analysis: CARs around the announcement day of shareholder activism [-30,+30] for target firms that do not delist/remain independent

The table reports cumulative abnormal returns (CARs) around the announcement of activist campaign for target firms that remain independent and are not delisted. The abnormal return is calculated using Carhart four factor model (FF4) and Fama-French 3 factor model (FF3). *Recall* equals to one if the change in the supply of lendable shares from pre announcement days [-30,-10] to post announcement days [0,+30] is below the median and zero otherwise. *Post* equals to one for days after the announcement of activist campaign and zero otherwise. 'NotDelisted' columns report results for the subsample of targeted firms that do not get delisted within 18 months of activist campaign announcements. 'Independent' columns report results for the subsample of targeted firms that stay independent until the end of 2018. The sample uses 30 days around the announcement of activist campaign. Campaign-level (event) fixed effect is used and the standard errors are clustered at the campaign (event) level. t-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	CAR(FF4)		CAR(FF3)	
	(NotDelist)	(Independent)	(NotDelist)	(Independent)
Post	0.035***	0.034***	0.035***	0.036***
	(6.116)	(5.152)	(5.896)	(5.175)
Post × Recall	0.024***	0.026**	0.028***	0.025**
	(2.642)	(2.391)	(3.047)	(2.252)
Constant	0.002	0.002	0.003	0.003
	(0.859)	(0.870)	(1.150)	(1.129)
FE	Event	Event	Event	Event
N	82475	50611	82475	50611
R^2	0.671	0.663	0.673	0.674

Table A8: Long-term CARs [-10,+260] of target firms that do not delist/remain independent

The table reports long-term CAR around the announcement of activist campaigns during [-10,+260] period, where [t=0] is the announcement day of activism. The abnormal return is calculated using Cahart four-factor model (FF4) and Fama-French three-factor model (FF3). *Recall* equals to one if the change in the average supply of lendable shares during pre announcement days [-30,-10] to post announcement days [0,+30] is below the median and zero otherwise. 'NotDelisted' columns report results for the subsample of targeted firms that do not get delisted within 18 months of activist campaign announcements. 'Independent' columns report results for the subsample of targeted firms that stay independent until the end of 2018. Industry (SIC) fixed effect is used and the standard errors are clustered at the industry level. *t*-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	CAR(FF4)[-10,+260]		CAR(FF3)[-10,+260]	
	(NotDelist)	(Independent)	(NotDelist)	(Independent)
Recall	0.116*	0.119*	0.142**	0.127**
	(1.891)	(1.785)	(2.271)	(1.982)
Constant	0.862***	0.802	1.039***	0.841*
	(2.792)	(1.632)	(3.375)	(1.700)
FE	SIC, Year	SIC, Year	SIC, Year	SIC, Year
FirmControls	Yes	Yes	Yes	Yes
N	1280	754	1280	754
R^2	0.124	0.294	0.129	0.289

Table A9: Long-term CARs [-10,+260] of record-date recalling after activist campaigns

The table reports long-term CARs around the record date during [-10,+260] period, where [t=0] is the proxy record date. The abnormal return is calculated using Cahart four factor model (Carhart (1997)). Columns (1) and (2) report results for the whole sample. Column (3) and (4) report results for the subsample of target firms that do not get delisted within 18 months of activist campaign announcements. Column (5) and (6) report results for the subsample of target firms that remain independent until the end of 2018. *Recall(Rec)* equals to one if the change in the average supply of lendable shares during pre-record date days [-30,-10] to the record date [t=0] is below zero. The changes in the supply of lendable shares, Δ*Supply(Rec)*, is the change in lendable supply from days [-30,-10] to the record date [t=0]. Firm controls included are the same as in Table 3 but omitted for brevity. Industry (SIC) fixed effect is used and the standard errors are clustered at the industry level. *t*-statistics is reported in parentheses. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

	Whole		NotDelisted		Independent	
	(1)	(2)	(3)	(4)	(5)	(6)
Recall(Rec)	0.142**		0.134*		0.175**	
	(2.450)		(1.778)		(2.080)	
ΔSupply(Rec)		-1.156**		-1.146**		-2.936
		(-2.204)		(-2.050)		(-1.648)
Constant	0.092	0.135	-0.017	-0.004	-0.750	-0.835
	(0.209)	(0.316)	(-0.028)	(-0.007)	(-0.735)	(-0.796)
FE	SIC, Year	SIC, Year	SIC, Year	SIC, Year	SIC, Year	SIC, Year
FirmControls	Yes	Yes	Yes	Yes	Yes	Yes
N	1423	1423	1096	1096	648	648
R^2	0.056	0.058	0.063	0.067	0.143	0.161

Appendix B. A full synopsis of blocking a merger activist campaign initiated by Timmins Gold Corporations on Capital Gold Corporation (Feb. 10, 2011)

On 2-10-2011, Timmins Gold Corp. filed a preliminary proxy statement to solicit votes against the acquisition of Capital Gold Corporation by Gammon Gold. Timmins had been publicly pursuing an acquisition of Capital Gold itself since 9-27-2010. At the same time, Timmins filed a preliminary consent statement to replace the current board of directors at Capital Gold. Timmins' offer of 2.27 shares per Capital Gold share had an implied value of $5.55 per share, exceeding the Gammon cash-and-stock offer by $0.64. Timmins said it would soon commence an exchange offer to allow shareholders to choose for themselves whether to accept its offer. On 3-9-2011, Capital Gold announced that Glass Lewis recommended that shareholders support the Gammon merger. On 3-11-2011, Timmins addressed Capital Gold's concerns about Timmins stock liquidity by receiving conditional approval for a Toronto Stock Exchange listing. On 3-14-2011, Timmins announced that Sprott Asset Management, Capital Gold's largest shareholder, and also Timmins' largest shareholder, planned to vote against the Gammon deal and in favor of Timmins' proposals. Also on 3-14-2011, Capital Gold announced that Institutional Shareholder Services (ISS) recommended that shareholders vote in favor of the Gammon deal. On 3-15-2011, Timmins increased its bid by $0.25 in cash. The total consideration offered now had an implied value of $5.89 per Capital Gold share, exceeding the value of the Gammon offer by $0.47, Timmins said. Later that day, Gammon increased its own bid by $0.30, calling the new bid its "final offer". On 3-16-2011, Timmins noted that the Gammon CEO had said on television the day before that he was unsure when the Capital Gold special meeting would be held. Timmins questioned who was really in charge of Capital Gold-the Gammon CEO or the Capital Gold board?-and it urged Capital Gold not to postpone its special meeting, scheduled for 3-18-2011. **On 3-17-2011, Capital Gold announced its intention to convene the special meeting solely for the purpose of voting on an adjournment to a later date, in order to allow stockholders additional time to consider Gammons' revised offer. Timmins said it would deliver its proxies against the adjournment. On 3-18-2011, the company announced that it convened and then adjourned the special meeting.** The adjournment proposal won 63.6% of votes cast, although it received the support of only 48.6% of shares outstanding. The meeting would be reconvened on 4-1-2011. On 4-1-2011, Capital Gold announced that shareholders approved the Gammon merger, with the support of 52.7% of shares outstanding. In a press release, Timmins acknowledged the results, and it thanked "fundamental shareholders" of Capital Gold for their support. The Gammon merger closed a week later."