european corporate governance institute

Short Campaigns by Hedge Funds

Finance Working Paper N° 609/2019
Revised July 2023

Ian Appel
Darden School of Business, University of Virginia and ECGI

Vyacheslav Fos
Carroll School of Management, Boston College, CEPR and ECGI

© Ian Appel and Vyacheslav Fos 2023. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

This paper can be downloaded without charge from:
https://doi.org/10.67929/ecgi-fin-609-2019

european corporate governance institute

ECGI Working Paper Series in Finance

Short Campaigns by Hedge Funds

Working Paper N° 609/2019
July 2023

Ian Appel
Vyacheslav Fos

© Ian Appel and Vyacheslav Fos 2023. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

Abstract

Recent years have seen the rise of short campaigns by hedge funds. Nearly 80% of campaigns are undertaken by activist hedge funds, particularly those that employ hostile tactics in their long campaigns. Short campaigns are associated with negative abnormal returns of -7%, with aggregate valuation effects similar in magnitude to the gains from long activism campaigns. In contrast to long campaigns, public communication is a critical component of short campaigns. We do not find evidence that such communication is manipulative. Overall, our analysis highlights the importance of short campaigns for understanding the economic impact of activist hedge funds.

Ian Appel

Boston College
Assistant Professor of Finance
Boston College, Carroll School of Management
e-mail: ian.appel@bc.edu

Vyacheslav Fos

Boston College,CEPR and ECGI
Professor of Finance
Boston College, Carroll School of Management
e-mail: fos@bc.edu

Short Campaigns by Hedge Funds☆

Ian Appel
Darden School of Business, University of Virginia
ECGI
appeli@darden.virginia.edu

Vyacheslav Fos
Carroll School of Management, Boston College
CEPR, ECGI
vyacheslav.fos@bc.edu

July 2023

☆We have benefited from comments by Yakov Amihud, Alon Brav, Adrian Corum, Nick Gantchev, Cliff Holderness, Robert Jackson, Wei Jiang, Marcel Kahan, Pab Jotikasthira, Peter Kelly, Andrey Malenko, and Jeff Pontiff and seminar/conference participants at Bentley University, Boston College, The Chinese University of Hong Kong, Fanhai International School of Finance, Georgetown University, Georgia State University, Korea University Business School, Securities and Exchange Commission, University of Alabama, University of South Carolina, University of Virginia, UC Berkeley Law, Economics, and Business workshop, Yale Junior Finance Conference, NYU Law & Finance seminar, the RCFS/RAPS Conference at Baha Mar, American Law and Economics Association annual meeting, PENN/NYU Conference on Law and Finance, SFS Cavalcade, and American Finance Association. We also thank Sourabh Banthia, Troy Heidenberg, Ryan Leary, Vinh Nguyen, Spencer Olson, Fisher Pressman, and Jonah Schumer for excellent research assistance. This paper previously circulated under the title "Active Short Selling by Hedge Funds."

Electronic copy available at: https://ssrn.com/abstract=3242516

Short Campaigns by Hedge Funds

Abstract

Recent years have seen the rise of short campaigns by hedge funds. Nearly 80% of campaigns are undertaken by activist hedge funds, particularly those that employ hostile tactics in their long campaigns. Short campaigns are associated with negative abnormal returns of -7%, with aggregate valuation effects similar in magnitude to the gains from long activism campaigns. In contrast to long campaigns, public communication is a critical component of short campaigns. We do not find evidence that such communication is manipulative. Overall, our analysis highlights the importance of short campaigns for understanding the economic impact of activist hedge funds.

Electronic copy available at: https://ssrn.com/abstract=3242516

The costs associated with the disclosure of short positions are often significant. In early 2021, for example, short sellers of GameStop were threatened with violence and called to testify before Congress.[1] In addition to hostility from the government and society at large, short sellers are also subject to various "anti-shorting" actions by firms that increase the costs associated with maintaining a position (Lamont, 2012). Because U.S. securities laws do not mandate the disclosure of their positions, short sellers can limit these costs by keeping their positions private.[2] Yet, recent years have seen a new phenomenon: high-profile short-selling campaigns waged by hedge funds. Lakewood Capital's short of Universal Insurance Holdings provides an illustrative example. Lakewood announced a short position in Universal at an investment conference in 2015, alleging (among other things) that the company lacked sufficient reserves. The announcement was covered by multiple media outlets, and the stock fell nearly 30% the following day.

Hedge funds' short campaigns potentially differ in important respects from those undertaken by other types of investors. Prior work argues that short campaigns by individuals or other small entities are motivated by limits to arbitrage (Ljungqvist and Qian, 2016). In contrast to such investors, hedge funds often have significant assets under management, suggesting that limits to arbitrage are less binding and perhaps not a primary motivation for campaigns. Even if financial constraints do not bind, some funds may have alternative motivations for short campaigns. Activist hedge funds, particularly those that use hostile tactics, are accustomed to public confrontation and may bear lower non-pecuniary costs from short campaigns. Such funds may also have relatively high reputational capital because their long campaigns often require support from other investors (e.g., in a proxy fight), thus increasing the strength of the signal sent via public disclosure.

While a rich literature studies the long positions of hedge funds, relatively little is known about their short campaigns. In this paper, we undertake the first comprehensive

[1] See "Wall Street's Most Reviled Investors Worry About Their Fate" (*New York Times*, February 8, 2021).

[2] Consistent with this idea, Jones et al. (2016) and Jank et al. (2016) find that mandatory disclosure of short positions reduces short selling.

Electronic copy available at: https://ssrn.com/abstract=3242516

analysis of such campaigns. First, we conduct a descriptive analysis of short campaigns: How common are they? What allegations are made? What are the characteristics of hedge funds that undertake campaigns and the firms they target? Second, we study the consequences of short campaigns: How do markets react to their announcement? Are the allegations made by campaigns accurate? Third, we compare short campaigns to long activism campaigns: What are the relative magnitudes of their economic impacts? Are there differences in the transmission of positive and negative information into prices?

We use media reports and a commercial database to construct our sample of short campaigns. We identify 323 campaigns between 1996 and 2019. The number of campaigns has increased considerably in recent years. Prior to 2009, the number of campaigns averaged fewer than five per year. Since 2009, however, the annual number of campaigns more than quintupled, peaking at 45 in 2015. Campaigns feature a wide array of allegations; the most common are general overvaluation, issues related to industry/competitors, defective product/business model, and fraud/accounting issues. Relative to matched firms, targets tend to be large, high-growth, and have higher short interest prior to a campaign.

First, we examine the characteristics of funds that undertake short campaigns. Activist hedge funds account for the bulk of campaigns in our sample. Specifically, while activists constitute less than a quarter of all hedge funds, they undertake nearly 80% of short campaigns. To the best of our knowledge, this paper is the first to document the link between short campaigns and activism experience. Other fund characteristics have little explanatory power. We do not, for example, observe a relation between AUM and the likelihood of undertaking a short campaign, suggesting that campaigns are not primarily motivated by limits to arbitrage. This finding contrasts with previous work studying short campaigns by "small arbitrageurs" (Ljungqvist and Qian, 2016).

Evidence suggests that the link between short campaigns and activism experience is related to non-pecuniary costs associated with campaigns. In particular, campaigns often highlight mismanagement of the target, potentially subjecting the short seller to public opprobrium and other costs. We conjecture that such costs are lower for activists

Electronic copy available at: https://ssrn.com/abstract=3242516

accustomed to confrontations. Consistent with this idea, activists that undertake short campaigns are nearly twice as likely to use hostile tactics (e.g., proxy fights) in their long campaigns. This relation is robust to controlling for a measure of reputation and proxies for skill (e.g., long campaign success rates).

Our second set of findings analyzes the valuation consequences of short campaigns. Cumulative abnormal returns (CARs) average -7% in a [t–20, t+20] window around campaign announcements. Abnormal returns do not revert over longer time horizons, with CARs averaging -10% for the [t–20, t+100] window. CARs are considerably larger in magnitude than those associated with large changes in short interest, suggesting that the public nature of campaigns has an incremental effect. We also find negative abnormal returns for the subset of campaigns that are announced at investment conferences, the timing of which are predetermined and likely orthogonal to other events that may affect target returns (e.g., negative news). Finally, CARs are related to the prominence of disclosures; campaigns covered by high-profile media outlets have 7% lower returns.

The aggregate impact of short campaigns by hedge funds is economically large. To quantify economic impact, we compare the valuation effects of short campaigns to those of long campaigns by analyzing abnormal returns for the value-weighted portfolio of all campaigns undertaken by activists. We limit the analysis to the second half of our sample, when the bulk of short campaigns occur. We find that value-weighted CARs for all campaigns over this period are precisely measured as zero, implying that the aggregate decrease in market value for short campaigns is similar in magnitude to the aggregate increase for long campaigns. This finding is a consequence, in part, of differences in the size of targeted firms. While long activism campaigns outnumber short campaigns by a 12-to-1 margin, short campaigns target considerably larger firms. Overall, the aggregate market cap targeted by long campaigns is just three times larger than that of short campaigns.

The difference in target sizes underscores the existence of fundamental asymmetries between short and long campaigns. In a long activism campaign, funds use traditional governance tools (e.g., voting) to influence managers and increase firm value. Such tools

Electronic copy available at: https://ssrn.com/abstract=3242516

typically strengthen when an activist owns a larger stake in the target. Yet, amassing a large stake is costly as it requires capital commitment by the activist. Consistent with this idea, Brav et al. (2008a) show that market capitalization is negatively correlated with the likelihood of a long activism campaign. Our finding that short campaigns target relatively large firms potentially reflects the costly nature of establishing a short position in small targets with low public float. However, because short campaigns do not use traditional governance tools, their success—as measured by the effect on a target's value—does not necessarily rely on amassing a large stake. Rather, the success of campaigns critically depends on the information communicated to other market participants.

We examine the relation between CARs and allegation specificity to shed light on differences in how short and long activism campaigns impound information into prices. For both types of campaigns, we classify their objectives/allegations as being general or specific. General campaigns feature only the disclosure of a position or comments related to valuation (e.g., the target's stock is mispriced). Specific campaigns identify a particular problem (e.g., the target's product is defective). We find that 73% of short campaigns feature specific allegations, compared to 52% of long activism campaigns. Abnormal returns exhibit starkly different patterns by accusation specificity. For short campaigns, CARs average -8% for specific allegations, compared to -3% for general allegations.[3] We do not observe differences between CARs for general and specific long campaigns, with both types averaging 4–5%. This asymmetry is consistent with differences in incentives to engage in public communication. In a long campaign, activists often initially engage in private communication with the target's managers (McCahery et al., 2016). If successful (i.e., the requested reforms are implemented), the activist may never engage in public communication. Short sellers, however, have weaker incentives to privately communicate with managers because the goal of campaigns is to enhance the flow of negative information into prices.

[3]Cvijanovic et al. (2022) document similar effects of investor credibility in the context of activists' exits from long positions.

Electronic copy available at: https://ssrn.com/abstract=3242516

Finally, we turn attention to the question of whether short campaigns convey accurate information. First, we classify campaigns as successful if their allegations are later confirmed (e.g., a firm is fined by a regulator for its alleged misconduct). The overall success rate for campaigns in our sample is 34%, similar to that of hostile long activism campaigns (Brav et al., 2008a). The extent to which a campaign's allegations are verifiable is strongly correlated with its eventual success. Second, we analyze target outcomes. We hypothesize that if a campaign's allegations are credible, we will observe differences in future outcomes of targets relative to matched firms. Our findings are consistent with this idea. Specifically, campaigns are associated with an increase in forced CEO turnover and litigation against the target. We also document an increase in the likelihood of bankruptcy-related delistings, no change in average profitability, and a drop in investment. These findings, which potentially reflect stock-picking by short sellers or information transmission via financial markets, contrast with manipulative short campaigns (e.g., Mitts, 2020).

Our findings contribute to two primary lines of literature. First, we contribute to the literature on hedge fund activism. This literature broadly finds that activism campaigns are associated with positive stock-price reactions and improved operating performance.[4] We make three primary contributions to this literature. First, we show that the economic impact of activist hedge funds on financial markets is considerably greater than what is measured from long positions alone. Indeed, in recent years, the overall effect of short campaigns on the market value of equities is of similar magnitude (though opposite sign) to the effect of long activism campaigns. Second, we document fundamental asymmetries between short campaigns and long activism campaigns. Whereas long activism campaigns often feature private communication between activists and targets (Becht et al., 2008; Brav et al., 2008a; McCahery et al., 2016), our results highlight the difference in the role public

[4]For example, see Albuquerque et al. (2021), Bebchuk et al. (2015), Brav et al. (2008a); Becht et al. (2008), Clifford (2008), and Klein and Zur (2009). Other papers examine the effects of activists on various outcomes, including innovative activities (Brav et al., 2018), productivity and asset allocation (Brav et al., 2015), and takeover offers (Boyson et al., 2017; Greenwood and Schor, 2009). See Brav et al. (2010), Denes et al. (2017), and Gillan and Starks (2007) for comprehensive reviews of this literature.

Electronic copy available at: https://ssrn.com/abstract=3242516

communication plays in short and long activism campaigns. Third, our findings speak to the channels through which activists affect valuation and real outcomes. In contrast to long activism campaigns, short campaigns do not involve the use of direct governance tools. Thus, our findings are consistent with the literature studying the potential of financial markets to induce real changes (Bond, Edmans, and Goldstein, 2012).

Second, we contribute to the literature on short selling. Several papers show that short interest is associated with weaker future performance at both the market and individual stock levels.[5] A related strand of literature studies the informational advantages of short sellers, including detection of financial misconduct (Karpoff and Lou, 2010), anticipation of earnings and analyst downgrades (e.g., Christophe et al., 2004, 2010), and the ability to process news (Engelberg et al., 2012). In contrast to this literature, information is not necessarily the primary motivation for hedge funds' short campaigns. The link between campaigns and activism experience, particularly the use of hostile tactics in long campaigns, suggests that campaigns are primarily undertaken by funds that bear lower costs from public confrontation.

Our paper is closely related to the strand of literature that studies the voluntary disclosure of positions by various types of investors. Ljungqvist and Qian (2016) show that short positions disclosed by individuals and research firms (e.g., Muddy Waters) are associated with negative abnormal returns and help to overcome limits to arbitrage. Brendel and Ryans (2021) study firms' responses to reports by research firms. Other papers use Seeking Alpha and other sources to study short-position announcements by a broader array of market participants. For example, Mitts (2020) uses Seeking Alpha to analyze return dynamics around the announcement of pseudonymous short campaigns. Zhao (2020) and Wong and Zhao (2017) use a sample of short positions disclosed by

[5]For example, see Seneca (1967), Senchack and Starks (1993), Desai et al. (2002), and Rapach et al. (2016). Previous work has also analyzed alternative measures of aggregate or institutional short selling, including required disclosure in European markets (e.g., Jones et al., 2016), costs associated with shorting (e.g., Cohen et al., 2007; Jones and Lamont, 2002), and institutional short-sale orders (e.g., Boehmer et al., 2008). See Reed (2013) for a comprehensive review of this literature.

Electronic copy available at: https://ssrn.com/abstract=3242516

institutions, research firms, and individuals, primarily from Seeking Alpha, to study the determinants of campaigns and firm outcomes. Kartapanis (2019) uses a similar sample to study allegations of fraud, finding that approximately 30% of such allegations are ultimately confirmed.

Our analysis differs from the existing literature along several important dimensions. First, we exclusively study campaigns by hedge funds. This distinction is important because these institutions face fewer capital constraints than the relatively small investors studied elsewhere in the literature. Second, our focus on hedge funds enables us to observe short sellers' long positions, offering novel insights into the economics of short campaigns. In particular, we document a link between short campaigns and experience with long activism and highlight the differences in the use of public communication between short and long activism campaigns. Third, in contrast to papers that study pseudonymous campaigns (e.g., from Seeking Alpha), we focus exclusively on non-anonymous campaigns. This difference is important as pseudonymity undermines reputational concerns, thus incentivizing manipulative behaviors (Mitts, 2020). By construction, our sample consists of campaigns that do not have such incentives. Reputational concerns may be particularly important for hedge funds because, in contrast to research firms and individuals, they manage capital on behalf of external clients (Ljungqvist and Qian, 2016).

1. Data

1.1. Sample and Data Sources

Our sample consists of short campaigns by hedge funds between 1996 and 2019. To construct the sample, we begin with a list of more than 1,200 hedge funds from Agarwal, Fos, and Jiang (2013). This list contains hedge funds that have filed Form 13Fs with the SEC. We use two sources to assemble a database of hedge funds' short campaigns. First, we use Activist Insight (AI), a commercial database that catalogs public short positions reported by the media. We restrict the campaigns from AI to those from our initial list of hedge funds as well as other investors that we confirm are hedge funds via media reports.

Electronic copy available at: https://ssrn.com/abstract=3242516

Second, we use Factiva to find additional campaigns. Specifically, we conduct searches of the form "Hedge Fund Name" and ("short position" or "short selling") as well as other variants of these phrases across the newspapers, newswires, blogs, and television transcripts covered by Factiva. In some cases, we conduct internet searches to find additional information about campaigns.

For each campaign, we collect the date of the announcement, the revelation method (e.g., investment conference, media interview, release of a white paper, etc.), and the primary allegations made by the hedge fund (e.g., general overvaluation, fraud, threats from competitors, etc.). Our final sample consists of 323 events by 53 hedge funds.[6] Internet Appendix Table A1 reports the hedge funds with the most campaigns. Our sample is somewhat top-heavy, with 14 funds undertaking 5 or more campaigns. Funds with the most campaigns include Kynikos Associates, Kerrisdale Capital, Lakewood Capital, and Greenlight Capital.

We merge data from several other sources with our sample. Accounting and returns data are from Compustat annual files and CRSP daily files, respectively. Short interest data are from Compustat. Institutional ownership data are from Thomson Reuters and Form 13F filings. Analyst coverage is from IBES. Litigation data are from Audit Analytics. We use data on forced CEO turnovers available on WRDS from Peters and Wagner (2014) and Jenter and Kanaan (2015). Data on directors are from Boardex. Data on long activism campaigns are from and updated database of campaigns from Brav et al. (2008a). Variables constructed from these databases are defined in Internet Appendix Table A2.

1.2. Selection Issues

Our reliance on media reports to construct the sample raises selection bias concerns. For example, it is possible that the media only covers campaigns that are associated with large changes in stock prices. Two pieces of evidence suggest that such effects do not drive

[6] Of the 53 hedge funds in our sample, 40 are activists. There are a total of 240 activists in the database of hedge funds from Agarwal, Fos, and Jiang (2013). Thus, the majority of funds that undertake short campaigns undertake long activism campaigns as well, but the converse is not true.

Electronic copy available at: https://ssrn.com/abstract=3242516

our main findings.

First, small investors and individuals often report short positions on Seeking Alpha (Mitts, 2020; Zhao, 2020). If a short campaign by a hedge fund does not receive media attention, it can alternatively use this platform to share information non-anonymously. We do not find evidence that such behavior is widespread among large hedge funds. Specifically, searches for disclosures of short campaigns by the 10 largest activist and non-activist hedge funds do not reveal widespread posting on Seeking Alpha, suggesting that campaign announcements by such funds are likely to be covered by the media.

Second, we report our analysis of abnormal returns for the sub-sample of events disclosed at investment conferences, which often receive considerable media attention. For example, media outlets (e.g., CNBC and *The Wall Street Journal*) provide live analysis of the annual Sohn Investment Conference.[7] Thus, it is unlikely that there is a systematic bias for campaigns disclosed at conferences.

2. Campaign and Target Characteristics

In this section, we document the prevalence of short campaigns over time as well as their allegations and disclosure methods. We also examine the characteristics of targets and funds that predict campaigns.

2.1. Campaign Characteristics

Figure 1 shows the distribution of short campaigns over time. In the first half of our sample (1996–2007), the number of campaigns averaged fewer than five per year. In the second half (2008–2019), the number of campaigns increased substantially, averaging 23 per year. While some campaigns in our sample were in direct response to the financial crisis (e.g., Bill Ackman's campaign against Lehman Brothers), the number of campaigns remains elevated in the post-crisis period, peaking at 45 in 2015. The prevalence of campaigns is

[7]For example, see "Ira Sohn Conference: Live Blogging The David Einhorn Show," available at https://blogs.wsj.com/deals/2012/05/16/ira-sohn-conference-live-blogging-the-david-einhorn-show/.

Electronic copy available at: https://ssrn.com/abstract=3242516

lower in the final few years, but the total remains considerably higher than the first half of the sample.

[Insert Figure 1 here]

We classify campaign allegations into six categories: financials/capital structure, industry/competitors, fraud/accounting, product/business model, management/insider selling, and general overvaluation. Campaigns that do not state an explicit rationale are classified as general overvaluation. Classifications are not mutually exclusive, so some campaigns include multiple types of allegations. If an allegation is classified as general overvaluation, however, this implies that no other allegations are made. Panel A of Table 1 reports the distribution of short campaigns across the types of allegations.

[Insert Table 1 here]

Approximately 27% of campaigns make general allegations that the targets are overvalued but do not make specific allegations. The remainder of the campaigns make specific allegations. The most common allegations relate to a target's industry/competitors (22.5%), product/business model (37.5%), or fraud/accounting (13.5%). Other allegations relate to financials/capital structure (12.9%) and management/insider selling (4.0%). Conditional on making a specific allegation, the average campaign makes 1.2 allegations under our classification.

Panel B reports the distribution of disclosure methods for short campaigns. We base our classification of disclosure methods on how a fund initially announces a campaign, not necessarily how we learn about it. For example, if a campaign is announced at an investment conference and we learn about it from a newspaper article, this is classified as a conference announcement. We classify disclosure methods into four categories: letters to investors, newspapers/television, investment conferences, and white papers/other. The most common form of disclosure, in a newspaper or on television, accounts for 34.5% of short campaigns. Another 26.5% of positions are announced at investor conferences and

Electronic copy available at: https://ssrn.com/abstract=3242516

18.5% are disclosed in a letter to a fund's investors. The remaining 20.6% of campaigns are disclosed through white papers posted online or other methods.

2.2. Target and Fund Characteristics

Table 2 reports summary statistics. Columns 1–3 report the mean, median, and standard deviation for target characteristics. Columns 4–7 compare targets to a matched sample. The firm characteristics and matching methodology follow Brav et al. (2008a). Targets differ from the matched sample along a number of dimensions. One prominent difference is size. On average the market cap for targets is close to $4 billion larger than that for matched firms. We match on firm size (as measured by market cap) in the remainder of our analysis to account for this difference.

[Insert Table 2 here]

Targets also differ from matched firms in terms of valuation and growth. Specifically, targets have higher Q and sales growth and lower book-to-market ratios. We do not, however, observe strong differences in past performance, measured either by ROA or stock returns. Targets are characterized by higher institutional ownership and liquidity (as measured by the Amihud (2002) illiquidity measure), suggesting that short-selling costs may be lower. Consistent with this idea, targets have higher short interest. We do not observe differences for several other financial variables, including cash flow, leverage, cash holdings, dividends and payouts, and analyst coverage.

In Table 3, we analyze the target and fund characteristics that predict short campaigns. In Panel A, we use firm characteristics as explanatory variables in a probit model (column 1) and OLS models (columns 2–4). Columns 2, 3, and 4 include year, industry and year, and industry-year fixed effects, respectively. The dependent variable is an indicator that equals one if a firm is targeted by a campaign in year t. The sample consists of all Compustat firm-year observations from 1996 through 2019. As in Table 2, we find robust evidence across each specification that the likelihood of targeting is positively associated with target size, Q, and growth. These findings further confirm that

Electronic copy available at: https://ssrn.com/abstract=3242516

targets can generally be characterized as relatively large growth firms. Also consistent with Table 2, short interest predicts campaigns. The economic magnitude of this effect is large; the estimate reported in column 4 indicates that a five-percentage-point increase in short interest is associated with a 0.3% increase in the likelihood of targeting, approximately double the unconditional likelihood.

[Insert Table 3 here]

In Panel B, we analyze the predictive power of fund characteristics.[8] The sample includes Schedule 13F fund-quarter observations for all hedge funds. In column 1 we use a probit model, and in the remaining columns we use OLS with year-quarter (column 2) and fund and year-quarter (column 3) fixed effects. Columns 1 and 2 report a positive association between experience with long activism and the likelihood of undertaking a short campaign. Specifically, column 2 indicates that the likelihood of undertaking a campaign is 0.44% higher for activists than for non-activists. The magnitude of this coefficient is more than twice the unconditional likelihood of a short campaign. The predictive power of activism experience is consistent with our finding that activists initiate 251 out of 323 (78%) of campaigns in the sample. This relation is not driven by the composition of hedge funds, with less than a quarter of all funds being classified as activists. Other fund characteristics (e.g., assets under management, performance, portfolio concentration) have little explanatory power.

2.3. Why Activists?

The above findings suggest that there is a link between short campaigns and experience with long activism campaigns. We next shed light on what drives this relation. Ljungqvist and Qian (2016) argue that small, constrained investors publicly disclose short positions to mitigate limits to arbitrage. Our focus on relatively large, less-constrained investors suggests that such constraints may not be particularly important. Indeed,

[8] Internet Appendix Table A3 reports descriptive statistics for the fund-level variables used in this analysis.

Electronic copy available at: https://ssrn.com/abstract=3242516

while both activist and non-activist hedge funds incur costs associated with retaining short positions, it is not clear why limits to arbitrage would predict that campaigns are disproportionately undertaken by activists. In addition, limits to arbitrage are presumably more likely to bind for smaller hedge funds. In Table 3, however, we report that there is not a significant association between a fund's AUM and the likelihood of undertaking a short campaign. If anything, point estimates are positive (although not statistically significant), the opposite of what limits to arbitrage would predict.

We examine characteristics of activist hedge funds to shed light on why they undertake the bulk of short campaigns. We focus on the use of hostile tactics in long campaigns. We conjecture that short campaigns may be related to the use of hostile tactics for two reasons. First, hostile tactics are often used in long activism campaigns that require support from other shareholders (e.g., in a proxy fight). Investors that use such tactics may have relatively high reputational capital, increasing the credibility of allegations in a short campaign. Second, the use of hostile tactics may indicate that fund managers bear lower non-pecuniary costs stemming from public confrontations. Given that short campaigns likely feature such costs (e.g., in the form of public backlash, investigations by regulators), this may explain why activist hedge funds disproportionately engage in short campaigns.

To test this idea, we use long-campaign characteristics to predict whether a fund undertakes a short campaign in the cross-section. We use data on long campaigns from Brav et al. (2008a) to construct the explanatory variables for this test. The main variable of interest is an indicator for whether a fund uses hostile tactics in long campaigns. We also control for whether a fund is included in the "SharkWatch 50" list from SharkRepellent (Factset), a list of 50 prominent activist funds that proxies for reputation. Other controls include the proportion of long campaigns with different objectives (capital structure, business strategy, etc.) and the proportion of long campaigns that are classified as successes or failures.

[Insert Table 4 here]

Table 4 reports our findings. The main explanatory variable of interest is an indicator

Electronic copy available at: https://ssrn.com/abstract=3242516

for whether an activist uses hostile tactics in at least one of its long activism campaigns. Column 1 shows that this measure is associated with approximately a five-percentage-point increase in the likelihood that a fund undertakes at least one short campaign in our sample. Column 2 reports that investor reputation, as measured by inclusion on the SharkWatch 50 list, is also positively related to the likelihood of undertaking a short campaign. Column 3 shows that the coefficient on hostility remains positive and significant when controlling for this measure of reputation. The remaining columns control for additional long campaign characteristics. The inclusion of these controls has little effect on the main coefficient of interest. Of note, we do not find evidence of a significant effect for activists' success/failure rates for long campaigns, suggesting that short campaigns are not primarily motivated by skill or informational advantages.

Overall, this analysis suggests that the relation between long activism experience and short campaigns is driven, in part, by the use of hostile tactics in long campaigns. This relation is robust to controlling for the reputation and other activist characteristics, suggesting that hostile funds incur lower non-pecuniary costs from public confrontation.

3. Shareholder Wealth Effects

We next consider the valuation effects of short campaigns. First, we examine CARs around campaign announcements and test how they vary for different types of disclosures. Second, we compare the wealth effects of short campaigns with those of long activism campaigns. Third, we examine asymmetries between short and long campaigns, focusing on incentives to engage in public communication.

3.1. Abnormal Returns

Figure 2 plots CARs from a three-factor model in a [-20, 20] window around short campaign announcements. Panel A uses the full sample of campaigns. The solid line plots equal-weighted CARs associated with short campaigns. CARs drop after the announcement of a campaign, eventually reaching close to -7% by the end of the event window. The magnitude of this effect is similar to that of short campaigns in other contexts (e.g.,

Electronic copy available at: https://ssrn.com/abstract=3242516

Ljungqvist and Qian, 2016; Zhao, 2020). In contrast to Mitts (2020), who analyzes pseudonymous campaigns, we do not find evidence of mean reversion in abnormal returns (i.e., a "V" shape). This difference underscores the idea that while pseudonymity may facilitate manipulative behaviors that lead to temporary price distortions, this is not the case for campaigns undertaken by hedge funds.

[Insert Figure 2 here]

The gray bars in Figure 2 plot abnormal turnover, which trends higher prior to a campaign announcement and remains at an elevated level for several trading days. The dashed line plots CARs for large (i.e., greater than five percentage points) increases in short interest for all stocks in the CRSP database. Abnormal returns around such events differ dramatically from those for short campaigns. Specifically, abnormal returns slowly trend lower following large changes in short interest in contrast to a sharp decline in abnormal returns following a short campaign. Internet Appendix Table A4 reports statistical tests for announcement CARs (Panel A) and compares post-event CARs for short campaigns with those for large changes in short interest (Panel B).[9] The results suggest that short campaigns have an incremental effect on valuation beyond that stemming from changes in short interest, although the differences between these types of events are statistically noisy over longer time horizons.

A potential concern with our analysis is the endogenous timing of campaign announcements. Specifically, funds may time announcements to coincide with other events (e.g., negative earnings announcements) that also affect firm value. If this is the case, the above findings cannot be attributed solely to short campaigns. To address this concern, Panel B of Figure 2 confines the sample to the subset of campaigns that are announced at investment conferences, the timing of which are predetermined and likely orthogonal to other firm-specific events. CARs are somewhat larger for this sample,

[9]We calculate CARs starting at t–1 for this analysis in order to exclude the period of positive drift in returns prior to large changes in short interest.

Electronic copy available at: https://ssrn.com/abstract=3242516

reaching approximately -11% in the [-20, 20] window, suggesting that our main findings are not driven by the endogenous timing of short campaigns.

Internet Appendix Figure A1 plots the distribution of [-20, 20] CARs. The black bars, corresponding to short campaigns, indicate that the average effect shown in Figure 2 is not a consequence of a handful of campaigns with highly-negative returns.[10] Rather, the distribution of CARs around announcements exhibits a skewed distribution. For example, campaigns with CARs that fall between -15% and -25% outnumber those with CARs that fall between 15% and 25% by a 3-to-1 margin (39 vs. 13 campaigns). The gray bars in Figure A1 plot announcement CARs for long activism campaigns. To ease the comparison to short campaigns, we plot the opposite of CARs for long campaigns (i.e., negative returns indicate success for both types). Ex ante, the distribution of CARs for short campaigns might differ from long campaigns because short positions have unlimited potential losses. However, the figure indicates that announcement returns for these types of campaigns have similar distributions. This finding is consistent with the notion that target selection is an equilibrium outcome, and funds may avoid the riskiest targets for short campaigns.

Internet Appendix Figure A2 shows short campaign CARs over the [-20, 100] period for both the full sample (Panel A) and campaigns announced at conferences (Panel B). The magnitudes of abnormal returns are somewhat larger than the [-20, 20] window, reaching approximately -10% for the full sample. The full effect on target valuation is not immediate. While there is an initial price reaction, CARs drift lower for approximately 40 days following the announcement of a campaign.[11] In the next section, we shed further light on the return dynamics following campaign announcements.

[10] Approximately 6% of short campaigns have announcement returns of -45% or lower. In unreported analysis, we find that close to 13% of campaigns with allegations related to financials/capital structure are associated with returns below this threshold, nearly twice as high as any other type of allegation. This finding suggests that investors may update the probability of bankruptcy in response to some campaigns. We provide further discussion on the relationship between announcement returns and subsequent firm outcomes in Section 5.

[11] Internet Appendix Table A5 reports CARs for the [-1, +1] and [-5, +5] windows, confirming that there is an immediate announcement effect.

Electronic copy available at: https://ssrn.com/abstract=3242516

3.2. Abnormal Return Dynamics

We hypothesize that short campaign return dynamics may reflect the transmission of information not constituting a single event. That is, following a campaign announcement, there may be additional disclosures by either the fund initiating a campaign or other market participants that contain new information and affect the target's valuation. Bill Ackman's short of Farmer Mac, one of the campaigns in our sample, is a case in point. In May of 2002, Ackman (Gotham Partners) released a report arguing that Farmer Mac had inadequate loan-loss reserves and made misleading disclosures. The following month, Whitney Tilson (Tilson Capital Partners) announced that his research confirmed Ackman's allegations. In July, Ackman published two follow-up reports, addressing the firm's responses to his allegations. Thus, the short campaign against Farmer Mac consisted of a series of events that may have revealed information to market participants at different points in time.

We examine the sequence of events following short campaign announcements using the subset of campaigns from the Activist Insight database, which provides a detailed timeline of events related to campaigns. We define a "follow-up" as an action by a fund or another entity within 100 days of the start of a campaign that directly addresses the campaign's allegations. Close to half of campaigns (89 of 192 observations used to calculate long-term CARs in the AI sample) have a follow-up action. We define three non-mutually exclusive types of follow-ups: those by the fund initiating a campaign (26% of campaigns), those by other investors (21%), and those by other parties, typically the target or a regulator (15%). Follow-ups by the original fund or other investors may reiterate the allegations from the initial announcement or make new allegations. Follow-ups by the target typically attempt to refute the allegations of a campaign, and those by regulators often address investigations of the target.

[Insert Figure 3 here]

Figure 3 shows CARs for campaigns with and without follow-ups. CARs for campaigns without follow-ups are of smaller magnitude than those with follow-ups,

Electronic copy available at: https://ssrn.com/abstract=3242516

consistent with the idea that such actions are an endogenous response to campaign allegations.[12] CARs for campaigns without follow-ups trend downward for approximately 20–30 days before stabilizing around -6%. In contrast, CARs for campaigns with follow-ups do not stabilize until 50–60 days after the announcement. This pattern is perhaps even more apparent for value-weighted returns (Internet Appendix Figure A3); abnormal returns reach their nadir within approximately 15 days for campaigns in which there is no follow-up. In contrast, campaigns that include at least one follow-up continue to decrease for approximately 70 days.

3.3. Disclosure Heterogeneity

Short campaigns and long activism campaigns differ notably in how they are disclosed. Long campaigns are often disclosed via Schedule 13D filings, which are required when an investor accumulates a stake of 5% and intends to change/influence control of the target. Short campaigns, however, do not have a standard method of disclosure. Instead, funds use a variety of channels (e.g., TV/newspaper, investment conferences, online white papers) to disclose positions. We next analyze whether campaign CARs are related to methods of disclosure. We focus on whether the prominence of disclosures is associated with larger CARs. There are two reasons this may be the case. First, large media outlets may be more likely to cover "sensational" allegations that are associated with larger abnormal returns. Second, the salience of announcements may be related to market reactions (Bordalo et al., 2013).

[Insert Table 5 here]

We define an announcement as "high profile" if it is covered by a major media outlet (e.g., *The Wall Street Journal*, *The Financial Times*, CNBC, etc.) or if it was announced at

[12]Internet Appendix Table A6 reports that CARs for campaigns with follow-ups average -13.1%, compared to -6.0% for campaigns without follow-ups. The difference between the coefficients is not statistically significant at conventional levels (p-value =14.3%). We also do not observe significant heterogeneity based on the type of follow-ups, with CARs averaging between -10% and -14% for all three types.

Electronic copy available at: https://ssrn.com/abstract=3242516

the Sohn Investment Conference, which receives significant attention from the media. Table 5 reports the relationship between short campaign disclosures and CARs. Our findings indicate that coverage by a "high-profile" outlet is associated with lower abnormal returns of approximately -7%. Column 2 includes indicators for different methods of disclosure. Consistent with our above discussion, campaigns announced at investment conferences are associated with lower abnormal returns; other types of disclosures are not associated with differential effects. The remaining columns in the table include controls for whether a campaign is undertaken by an activist hedge fund (column 3), fixed effects for campaign accusations (column 4), and firm-level controls (column 5). Of note, the coefficient for the activist indicator is negative and statistically significant across columns 3–5, indicating that campaigns initiated by activist hedge funds are associated with more negative CARs than those initiated by non-activists.

4. Comparison to Long Activism

In this section, we compare short campaigns to long activism campaigns. First, we quantify the aggregate economic impact of short campaigns relative to long campaigns. Second, we discuss differences in how these types of campaigns facilitate the flow of information into prices, specifically focusing on the role of public communication.

4.1. Aggregate Value Effects

To assess the economic impact of short campaigns by hedge funds, we compare their effects on shareholder wealth to those of long activism campaigns. We restrict our sample in two ways for this analysis. First, we consider only short campaigns by activist hedge funds. Second, we limit our analysis to the post-2008 period, during which the bulk (87%) of short campaigns in our sample occur. In unreported analysis, we find that announcement CARs are similar in the first and second halves of the sample.

Figure 4 plots value-weighted CARs for short campaigns, long activism campaigns, and for all campaigns (both long and short) carried out by activist hedge funds in a [-20, 20] window around campaign announcements. Weights are calculated using market

Electronic copy available at: https://ssrn.com/abstract=3242516

caps 20 days prior to the announcement of a campaign. The solid black line shows that value-weighted CARs for short campaigns average approximately -5%, somewhat smaller in magnitude than the equal-weighted CARs documented above. The solid gray line shows value-weighted CARs for long activism campaigns, which average approximately 2%.[13] CARs for both short and long activism campaigns are similar until five days prior to announcements, at which time CARs increase for long campaigns and decrease for short campaigns.

[Insert Figure 3 here]

The dashed line in Figure 4 plots the aggregate value-weighted returns for activists' short and long campaigns. Aggregate CARs for all campaigns undertaken by activists are close to zero, indicating that the impact (in dollars) of short campaigns by activists on the value of targets is similar to that of long activism campaigns. Internet Appendix Figure A4 shows that aggregate CARs remain close to zero over a [-20, 100] window. Internet Appendix Figure A5 shows that the use of CRSP-adjusted market caps for weighting (rather than raw market caps) does not affect this inference.

Table 6 reports CARs for [-20, 20] and [-20, 100] windows in columns 1–3 and 4–6, respectively. Columns 1 and 4 report abnormal returns from the market-factor model, columns 2 and 5 report abnormal returns from the three-factor model, and columns 3 and 6 report abnormal returns from the five-factor model. Consistent with the visual evidence, CARs are economically small and statistically indistinguishable from zero across all specifications.

[Insert Table 6 here]

Two factors explain this finding. First, as noted above, value-weighted CARs for short campaigns are nearly twice the magnitude of those for long activism campaigns (albeit with

[13] This is consistent with estimates found using an updated sample of campaigns from Brav et al. (2008a). See `https://faculty.fuqua.duke.edu/~brav/HFactivism_March_2019.pdf`.

Electronic copy available at: https://ssrn.com/abstract=3242516

the opposite sign). Second, while long activism campaigns are considerably more common, short campaigns tend to target larger firms. Internet Appendix Figure A6 illustrates this idea. Panel A shows the number of firms targeted by all short campaigns, short campaigns undertaken by activists, and long activism campaigns from 2008 through 2018. During this period, the number of activists' long campaigns outnumbers their short campaigns by a 12-to-1 ratio. This difference, however, is attenuated when comparing the total market capitalization of targeted firms. Specifically, the results reported in Panel B show that the total market cap targeted by long campaigns is only three times larger than the total market cap targeted by activists' short campaigns over the second half of our sample. We discuss reasons for the difference in target size for short and long activism campaigns in the next section of the paper.

In sum, our analysis indicates that the value effects of short campaigns rival those of long activism campaigns. This finding has implications for the study of activist investors. Specifically, while many papers use stock returns to assess the economic impact of activist investors (e.g., Bebchuk et al., 2015; Becht et al., 2008; Brav et al., 2008a; Klein and Zur, 2009), the focus of the existing literature on long campaigns considerably underestimates the effects of this class of institutional investors.

4.2. Information Transmission

Next, we turn our attention to asymmetries between short and long activism campaigns. At a fundamental level, both types of campaigns feature a fund that holds private information about a firm. Short campaigns center on communicating negative information about a target. If prices move in the intended direction, hedge funds realize profits on their short positions. Long activism campaigns focus on communicating information about positive effects of activism engagements. If prices move in the intended direction, hedge funds realize profits on their long positions. Therefore, the goal of these campaigns is, ultimately, to impound this information into prices. The potential payoffs stemming from campaigns differ as short sellers face limited upside and unlimited downside. In this section, our goal is to examine differences between short and long activism

Electronic copy available at: https://ssrn.com/abstract=3242516

campaigns. Our analysis focuses on the role of public communication with other market participants.

In a long activism campaign, activists have positive information about the target that may increase the share price. This information may relate to an activist's own intentions to intervene (Brav et al., 2008b). To impound this information into prices, activists typically use or threaten to use traditional governance tools (e.g., voting). The strength of such tools is directly related to the size of the activist's ownership stake. Previous research shows that market capitalization is negatively related to the likelihood that a long activism campaign occurs, consistent with the idea that capital commitment is costly (e.g., Brav et al., 2008a). Public communication is not necessarily a critical component of long activism campaigns. Indeed, such campaigns often feature private communications with managers, and activists may make their demands public only if such communications do not achieve the desired outcome (McCahery et al., 2016).

In a short campaign, funds have negative information about a target. Because they do not own shares, short sellers cannot use traditional governance tools to impound this information into prices. Thus, the size of a short position may not be directly related to campaign success. Our finding that that targets of short campaigns are larger than those of long activism campaigns is consistent with this idea.[14] Instead, the success of a short campaign relies on the communication of negative information to other market participants. In contrast to long activism campaigns, short sellers have relatively weak incentives to privately communicate negative information to managers. Indeed, the public backlash against short sellers is potentially a consequence of their incentives to widely disseminate negative information rather than work with managers to mitigate its effects.

To shed light on differences in the importance of public communication in short and long activism campaigns, we examine the relationship between CARs and the information content of public communications. Specifically, we classify communications in both short

[14]This is not the only reason that short campaigns may target relatively large firms. For example, firm size may also be negatively related to short constraints. These explanations are not mutually exclusive.

Electronic copy available at: https://ssrn.com/abstract=3242516

and long activism campaigns as being specific or general. Specific campaigns provide an allegation (in the case of a short) or objective (in the case of a long).[15] General campaigns involve only the disclosure of a position or information related to valuation (e.g., the target has a high/low earnings multiple). Overall, 73% of short campaigns are specific compared with 53% of long campaigns.

Figure 5 plots CARs from the three-factor model in the [-20, 20] window for specific and general campaigns. The solid and dashed black lines correspond to short campaigns with specific and general allegations, respectively. The dynamics for specific and general short campaigns are markedly different. While CARs for both types of campaigns fall following campaign announcements, CARs for specific campaigns are roughly twice the magnitude of those for general campaigns. This pattern, however, is not observed for long activism campaigns. The solid and dashed gray lines correspond to long activism campaigns with specific and general objectives, respectively. In contrast to short campaigns, specific and general CARs for long campaigns closely track each other over the [-20, 20] period, suggesting that abnormal returns are not related to the specificity of communications.

[Insert Figure 5 here]

Table 7 reports statistical tests corresponding to the above figure. Panel A reports tests for short campaigns, and Panel B reports tests for long activism campaigns. Both panels include CARs for the [-20, 20] window in columns 1–3, and for the [-20, 100] window in columns 4–6.[16] In Panel A, CARs for short campaigns with specific allegations are economically large and statistically significant across all columns. CARs for short campaigns with general allegations are smaller, although they remain statistically significant for the one-factor model (columns 1 and 4). The difference between general/specific CARs is generally not significant, perhaps because of the limited statistical

[15]For short campaigns, specific allegations are financials/capital structure, industry/competitors, fraud/accounting, product/business model, and management/insider trading. For long activism campaigns, we use the campaign classification data provided by Brav et al. (2008a). Specific objectives for long activism campaigns are capital structure, business strategy, sale of the target, or governance.

[16]Internet Appendix Figure A7 plots CARs from the three-factor model in the [-20, 100] window.

Electronic copy available at: https://ssrn.com/abstract=3242516

power of this test. For long activism campaigns (Panel B), CARs for specific and general campaigns are of similar economic magnitude and both are statistically significant across all columns. Indeed, for the [-20, 100] window, point estimates for general campaigns are larger than those for specific campaigns.

[Insert Table 7 here]

In unreported analysis, we consider whether the difference between CARs for specific and general short campaigns is driven by the verifiability of allegations. We classify allegations as verifiable if there hypothetically exists proof (e.g., a target's internal books and records) that would confirm or refute an allegation. Claims which are only verifiable ex post (e.g., "the target will lose market share to competitors"), including all campaigns with general allegations, are classified as non-verifiable. We do not find strong evidence that the verifiability of allegations drives heterogeneity in announcement returns.

Overall, this analysis highlights differences in the communication strategies employed in long and short campaigns. The success of long campaigns, as measured by targets' abnormal returns, does not necessarily rely on communicating specific information to other market participants. In contrast, the success of short campaigns is related to the specificity of allegations, consistent with the idea that public communication plays a key role in impounding negative information into prices.

5. Campaign and Target Outcomes

In this section, we seek to shed further light on the credibility of short campaign allegations by studying campaign and firm outcomes. First, we directly examine whether campaign allegations are confirmed by subsequent events. Second, we consider how campaigns affect the behavior of directors, shareholders, and other stakeholders. Finally, we analyze the relationship between campaigns and subsequent firm performance and policies.

Electronic copy available at: https://ssrn.com/abstract=3242516

5.1. Campaign Outcomes

To determine the success of campaigns, we analyze events following the announcement of a campaign to determine whether the allegations are eventually verified. We restrict the sample to campaigns covered by the Activist Insights database for this analysis. We use information from the campaign timelines from AI as well as extensive news/financial report searches to classify campaigns as successful. We do not consider stock price performance when classifying a campaign as successful and omit campaigns with general overvaluation allegations from the analysis.

For some campaigns, we find information that decidedly verifies the allegations. For example, Kerrisdale Capital announced a short position against EZChip in 2013, arguing that the firm was vulnerable to competitive threats. Six months later, the stock dropped 18% in response to news that Cisco announced a new network processor. We classify the campaign as a success based on this event. In other cases, we rely on somewhat circumstantial evidence to classify campaign outcomes. For example, Kerrisdale initiated a campaign against Adeptus Health in 2016, arguing that the firm's existing markets were saturated, volumes were declining, and customers were unsatisfied. The CEO was fired later that year, and the firm filed for bankruptcy the following year. While it's not possible to attribute the firing of the CEO or bankruptcy solely to the factors highlighted by Kerrisdale, we classify the campaign as successful because these events are consistent with the allegations from the campaign.

The primary drawback of our approach is that the determination of success is, to an extent, subjective. For example, Bill Ackman argued that Herbalife was a "criminal enterprise" and a "pyramid scheme" in a 2012 campaign. Eventually, Herbalife agreed to a $200 million settlement over charges that it misled consumers. An article describing the settlement stated that it "in many ways vindicates Ackman's scathing indictment of the firm." However, the Federal Trade Commission "stopped short of calling it [Herbalife] a pyramid scheme."[17] We classify the campaign as a success based on this event but

[17]See "Ackman Dealt Blow as Herbalife Settles With FTC" (*Wall Street Journal*, July 15, 2016).

Electronic copy available at: https://ssrn.com/abstract=3242516

acknowledge that there is a degree of subjectivity in this decision because the allegations were not fully confirmed.

The overall rate of success for campaigns is 34%, similar to what Brav et al. (2008a) find for hostile long activism campaigns. Table 8 reports determinants of campaign success. Column 1 shows that success is strongly related to the verifiability of allegations. We classify allegations as verifiable if there exists information (at the time of the campaign announcement) that could validate a short seller's claims (see Section 4.2). Verifiable allegations constitute 23% of the AI sample. The magnitude of the association between verifiability and success is large; verifiable allegations are approximately two-thirds more likely to be successful than those that are unverifiable. This finding is not mechanical. As the above example of EZChip demonstrates, campaigns can be unverifiable at the time of announcement while the allegations ultimately prove to be correct. Column 2 shows that there is not a strong relation between types of accusations and successful outcomes. Columns 3 and 4 control for whether campaigns are reported by a high-profile media outlet and whether a campaign is initiated by an activist hedge fund, two important correlates of announcement returns (Table 5). We do not find strong evidence that either variable is strongly correlated with the success of campaigns.

[Insert Table 8 here]

We also examine the correlation between success and returns. In Internet Appendix Figure A8, we plot CARs for both successful (black line) and unsuccessful campaigns (gray line) under our classification. We extend the window of our analysis to [-20, 200] around announcements to fully capture the return dynamics. The difference between CARs for successful and unsuccessful campaigns is somewhat apparent soon after campaign announcements.[18] This difference, however, widens dramatically over time. Two hundred days after a campaign announcement, CARs for successful campaigns are approximately

[18]Successful and unsuccessful campaign CARs average -10.8% and -6.9% in the [-20, 20] window around announcements, respectively.

Electronic copy available at: https://ssrn.com/abstract=3242516

25% lower than those for unsuccessful campaigns. This analysis should be interpreted with caution, however, as it essentially conditions on an outcome variable, potentially biasing the estimates.

5.2. Target Outcomes

Next, we turn attention to target outcomes. If a short seller makes a false claim about a target, this may have short-term ramifications for the target's share price but not otherwise have a lasting impact (Mitts, 2020). If, however, short sellers communicate credible information about the target, we might observe changes in target outcomes. In this section, we analyze the association between short campaigns and actions to punish responsible parties (e.g., firing the CEO). We also examine changes in firm policies and performance following campaign announcements.

For our analysis, we compare outcomes for targeted firms with a matched sample for five years before/after a campaign, using a difference-in-differences framework. Our matching methodology follows Brav et al. (2008a). We use the following specification:

$$y_{iet} = \beta_1 Target_{ie} \times Post_{iet} + \beta_2 Target_{ie} + \beta_3 Post_{iet} + \zeta_e + \varepsilon_{iet}, \tag{1}$$

where y_{iet} is the dependent variable for firm i, event e, and year t. $Target_{ie}$ is an indicator that equals one if a firm i is targeted by event e, $Post_{iet}$ is an indicator for the five years following event e for firm i, and ζ_e is an event fixed effect. The coefficient on $Target_{ie} \times Post_{iet}$ (β_1) is the difference-in-differences estimate. We cluster standard errors at the event level for this analysis.

While the use of a matching strategy helps to control for observable differences between treatment and control firms, short campaigns are not randomly assigned and there are likely unobservable differences between targets and matched firms. Thus, our findings do not necessarily imply a causal effect and may instead reflect the ability of short sellers to select targets that will experience negative future outcomes. Both interpretations are consistent with the idea that funds initiating short campaigns are, on average, informed.

Electronic copy available at: https://ssrn.com/abstract=3242516

5.2.1. Director, Shareholder, and Stakeholder Responses

To the extent that campaigns make credible allegations, we hypothesize that directors, shareholders, and other stakeholders will take steps to punish responsible parties. To test this idea, we examine three outcomes: forced CEO turnover, director turnover (non-retirement), and litigation against the target. Table 9 reports our findings. For each outcome, we report the difference-in-differences estimate from Equation 1 (columns 1, 3, and 5), as well as coefficient trends obtained by replacing $Post_{iet}$ with indicators for each year before and after an event (columns 2, 4, and 6).

We find evidence that short campaigns are associated with changes in subsequent behavior by these groups. Columns 1–4 of Table 9 investigate career consequences for CEOs and directors. Column 1 reports that campaigns are associated with an increase in forced CEO turnover of approximately 4 percentage points. The magnitude of this effect is economically large relative to the sample mean of 2.6% for the matched sample. Column 2 reports a large spike in the likelihood of forced CEO turnover in the year of a campaign (i.e., in year 0). We investigate director turnover in columns 3 and 4. While the point estimates are positive, they are not significant at conventional levels.

[Insert Table 9 here]

Columns 5 and 6 investigate litigation. The dependent variable is an indicator for shareholder litigation, fraud/accounting suits (potentially initiated by the SEC or other regulators), IP suits, product liability suits, and antitrust suits. Such lawsuits are relatively common, with approximately three-quarters of targets subject to litigation in our matched sample. Column 5 indicates that campaigns are associated with a statistically significant increase in the likelihood of litigation. The economic magnitude of this effect is large, corresponding to an increase of approximately one-third relative to the sample mean. The effect is particularly strong for shareholder and fraud/accounting suits. Column 6 indicates that litigation increases during the year of a campaign and remains at an elevated level in subsequent years.

Electronic copy available at: https://ssrn.com/abstract=3242516

As noted above, our findings are not necessarily causal in nature. For example, our findings could stem from short campaigns targeting firms that appear vulnerable to litigation. Molk and Partnoy (2021) find evidence that the allegations of shareholder class actions often rely on research conducted by short sellers, suggesting that this effect is not entirely driven by reverse causality. Another challenge to the interpretation of our findings is that they may be driven by changes in short interest rather than a short campaign itself. For example, Karpoff and Lou (2010) show that short interest predicts financial misconduct and litigation. This is a valid concern in our setting. In unreported analysis, we find that campaigns are associated with an increase in aggregate short interest. Internet Appendix Table A7 reruns the specifications from columns 1, 3, and 5 of Table 9 while controlling for short interest. We find qualitatively similar results for this analysis, suggesting that our findings are not driven by changes in short interest.

5.3. Firm Performance and Policies

Next, we examine the relationship between short campaigns and firm performance and policies. We continue using the matched sample and difference-in-differences specification (Equation 1) for this analysis. Table 10 reports our findings.

[Insert Table 10 here]

First, we examine the relationship between short campaigns and firm performance. The dependent variables for columns 1–2 and 3–4 are ROA and an indicator for bankruptcy, respectively. Column 1 reports a negative association between short campaigns and ROA, but this effect is statistically indistinguishable from zero. Column 3, however, reports a positive association between campaigns and the likelihood of bankruptcy. Column 4 shows that this effect is not immediate; coefficients are indistinguishable from zero until 3 years following a campaign. We view the general timing as plausible as there is likely to be a lag between the identification of a problem and a firm's filing for bankruptcy. This finding should be viewed with a degree of caution, however, as bankruptcy is a relatively rare event, limiting variation in our sample. Overall, these findings indicate that, while short

Electronic copy available at: https://ssrn.com/abstract=3242516

campaigns are not associated with changes in average profitability, there is an increase in the likelihood of extreme negative outcomes.

Next, we examine the relationship between short campaigns and corporate policies. We focus specifically on investments (columns 5–6) and payouts (columns 7–8). Column 5 reports a negative and significant association between campaigns and investments, similar to that found by Wong and Zhao (2017) for a sample of campaigns primarily from Seeking Alpha. Column 6 shows that this effect starts one year after the campaign and strengthens over the following years. Column 7 reports a negative association between campaigns and payouts, but column 8 shows that coefficients are indistinguishable from zero in each individual year following a campaign.

In Internet Appendix Table A8, we control for short interest in the baseline specification. The estimates for ROA, bankruptcy, and investments are qualitatively similar to those reported in Table 10. The effect on payouts is negative but statistically indistinguishable from zero, further suggesting that this association is sensitive to the empirical specification.

6. Conclusion

In this paper, we conduct the first comprehensive analysis of short campaigns by hedge funds. The bulk of campaigns are conducted by activist hedge funds, particularly those that use hostile tactics in their long campaigns. Campaigns have negative announcement returns, with aggregate losses in target value approximately equal to the aggregate gains from long activism campaigns. Public communication plays a critical role in the success of short campaigns, highlighting an important asymmetry between the transmission of positive and negative information into prices. Additional evidence suggests that the information transmitted by short campaigns is credible. The allegations of 34% of campaigns are eventually confirmed, a success rate similar to long activism campaigns. Moreover, campaigns are associated with changes in target outcomes relative to matched firms (e.g., CEO turnover, bankruptcy), consistent with short sellers being informed.

Electronic copy available at: https://ssrn.com/abstract=3242516

Our findings have important implications for the literature studying activist hedge funds, which almost exclusively focuses on long campaigns. While short campaigns are rarer than long campaigns, they target larger firms. Overall, the economic effects of activists' short campaigns, as quantified by changes in firm value, is of similar magnitude to that of their long campaigns. Thus, the existing literature considerably underestimates the aggregate economic impact of this class of institutional investors.

Our analysis also informs policy debates related to short selling. Recently, policymakers have proposed rules targeting tactics used by short sellers.[19] These proposals are, in part, a response to the rise of pseudonymous short campaigns on platforms like Seeking Alpha. Pseudonymity undermines non-pecuniary costs associated with the disclosure of short positions and facilitates price manipulation (Mitts, 2020). Our findings underscore the difference between pseudonymous and non-anonymous short campaigns. While pseudonymous campaigns are associated with price reversals soon after announcements, this is not the case for the campaigns in our sample. Rather, our findings are consistent with short campaigns promoting price discovery and economic efficiency. Thus, efforts to impose uniform restrictions on short campaigns may not be welfare enhancing.

[19]See, for example, "Are Activist Short Sellers Misunderstood?" (*New York Times*, February 14, 2022).

Electronic copy available at: https://ssrn.com/abstract=3242516

References

Agarwal, V., Fos, V., Jiang, W., 2013. Inferring reporting-related biases in hedge fund databases from hedge fund equity holdings. Management Science 59 (6), 1271–1289.

Albuquerque, R., Fos, V., Schroth, E., 2021. Value creation in shareholder activism. Journal of Financial Economics.

Amihud, Y., January 2002. Illiquidity and stock returns: Cross-section and time-series effects. Journal of Financial Markets 5 (1), 31–56.

Bebchuk, L. A., Brav, A., Jiang, W., 2015. The long-term effects of hedge funds activism. Columbia Law Review 115, 1085–1155.

Becht, M., Franks, J., Mayer, C., Rossi, S., 2008. Returns to shareholder activism: Evidence from a clinical study of the Hermes UK Focus Fund. Review of Financial Studies 22 (8), 3093–3129.

Boehmer, E., Jones, C. M., Zhang, X., 2008. Which shorts are informed? Journal of Finance 63 (2), 491–527.

Bond, P., Edmans, A., Goldstein, I., 2012. The real effects of financial markets. Annual Review of Financial Economics 4 (1), 339–360.

Bordalo, P., Gennaioli, N., Shleifer, A., 2013. Salience and asset prices. American Economic Review 103 (3), 623–28.

Boyson, N. M., Gantchev, N., Shivdasani, A., 2017. Activism mergers. Journal of Financial Economics 126 (1), 54–73.

Brav, A., Jiang, W., Kim, H., 2010. Hedge fund activism: A review. Foundations and Trends in Finance 4 (3), 1–66.

Brav, A., Jiang, W., Kim, H., 2015. The real effects of hedge fund activism: Productivity, asset allocation, and labor outcomes. Review of Financial Studies 28 (10), 2723–2769.

Brav, A., Jiang, W., Ma, S., Tian, X., 2018. How does hedge fund activism reshape corporate innovation? Journal of Financial Economics 130 (2), 237–264.

Brav, A., Jiang, W., Partnoy, F., Thomas, R., 2008a. Hedge fund activism, corporate governance, and firm performance. Journal of Finance 63 (4), 1729–1775.

Brav, A., Jiang, W., Partnoy, F., Thomas, R. S., 2008b. The returns to hedge fund activism. Financial Analysts Journal 64 (6), 45–61.

Brendel, J., Ryans, J., 2021. Responding to activist short sellers: Allegations, firm responses, and outcomes. Journal of Accounting Research 59 (2), 487–528.

Electronic copy available at: https://ssrn.com/abstract=3242516

Christophe, S. E., Ferri, M. G., Angel, J. J., 2004. Short-selling prior to earnings announcements. Journal of Finance 59 (4), 1845–1876.

Christophe, S. E., Ferri, M. G., Hsieh, J., 2010. Informed trading before analyst downgrades: Evidence from short sellers. Journal of Financial Economics 95 (1), 85–106.

Clifford, C. P., 2008. Value creation or destruction? Hedge funds as shareholder activists. Journal of Corporate Finance 14 (4), 323–336.

Cohen, L., Diether, K. B., Malloy, C. J., 2007. Supply and demand shifts in the shorting market. Journal of Finance 62 (5), 2061–2096.

Cvijanovic, D., Dasgupta, A., Zachariadis, K., 2022. The Wall Street stampede: Exit as governance with interacting blockholders. Journal of Financial Economics, Forthcoming.

Denes, M. R., Karpoff, J. M., McWilliams, V. B., 2017. Thirty years of shareholder activism: A survey of empirical research. Journal of Corporate Finance 44, 405–424.

Desai, H., Ramesh, K., Thiagarajan, S. R., Balachandran, B. V., 2002. An investigation of the informational role of short interest in the Nasdaq market. Journal of Finance 57 (5), 2263–2287.

Engelberg, J. E., Reed, A. V., Ringgenberg, M. C., 2012. How are shorts informed? Short sellers, news, and information processing. Journal of Financial Economics 105 (2), 260–278.

Gillan, S. L., Starks, L. T., 2007. The evolution of shareholder activism in the United States. Journal of Applied Corporate Finance 19 (1), 55–73.

Greenwood, R., Schor, M., 2009. Investor activism and takeovers. Journal of Financial Economics 92 (3), 362–375.

Jank, S., Roling, C., Smajlbegovic, E., October 2016. Flying under the radar: The effects of short-sale disclosure rules on investor behavior and stock prices, working paper.

Jenter, D., Kanaan, F., 2015. CEO turnover and relative performance evaluation. The Journal of Finance 70 (5), 2155–2184.

Jones, C. M., Lamont, O. A., 2002. Short-sale constraints and stock returns. Journal of Financial Economics 66 (2-3), 207–239.

Jones, C. M., Reed, A. V., Waller, W., 2016. Revealing shorts an examination of large short position disclosures. Review of Financial Studies 29 (12), 3278–3320.

Karpoff, J. M., Lou, X., 2010. Short sellers and financial misconduct. The Journal of Finance 65 (5), 1879–1913.

Kartapanis, A., 2019. Activist short-sellers and accounting fraud allegations, working paper.

Electronic copy available at: https://ssrn.com/abstract=3242516

Klein, A., Zur, E., 2009. Entrepreneurial shareholder activism: Hedge funds and other private investors. The Journal of Finance 64 (1), 187–229.

Lamont, O. A., 2012. Go down fighting: Short sellers vs. firms. Review of Asset Pricing Studies 2 (1), 1–30.

Ljungqvist, A., Qian, W., 2016. How constraining are limits to arbitrage? Review of Financial Studies 29 (8), 1975–2028.

McCahery, J., Sautner, Z., Starks, L., 2016. Behind the scenes: The corporate governance preferences of institutional investors. The Journal of Finance 71 (6), 2905–2932.

Mitts, J., 2020. Short and distort. The Journal of Legal Studies 49 (2), 287–334.

Molk, P., Partnoy, F., 2021. The long-term effects of short selling and negative activism. University of Illinois Law Review, Forthcoming.

Peters, F., Wagner, A., 2014. The executive turnover risk premium. The Journal of Finance 69 (4), 1529–1563.

Rapach, D. E., Ringgenberg, M. C., Zhou, G., 2016. Short interest and aggregate stock returns. Journal of Financial Economics 121 (1), 46–65.

Reed, A. V., 2013. Short selling. Annual Review of Financial Economics 5 (1), 245–258.

Senchack, A. J., Starks, L. T., 1993. Short-sale restrictions and market reaction to short-interest announcements. Journal of Financial and Quantitative Analysis 28 (2), 177–194.

Seneca, J. J., 1967. Short interest: Bearish or bullish? Journal of Finance 22 (1), 67–70.

Wong, F., Zhao, W., 2017. Post apocalyptic: The real consequences of activist short selling, working paper.

Zhao, W., 2020. Activist short-selling and corporate opacity, working paper.

Electronic copy available at: https://ssrn.com/abstract=3242516

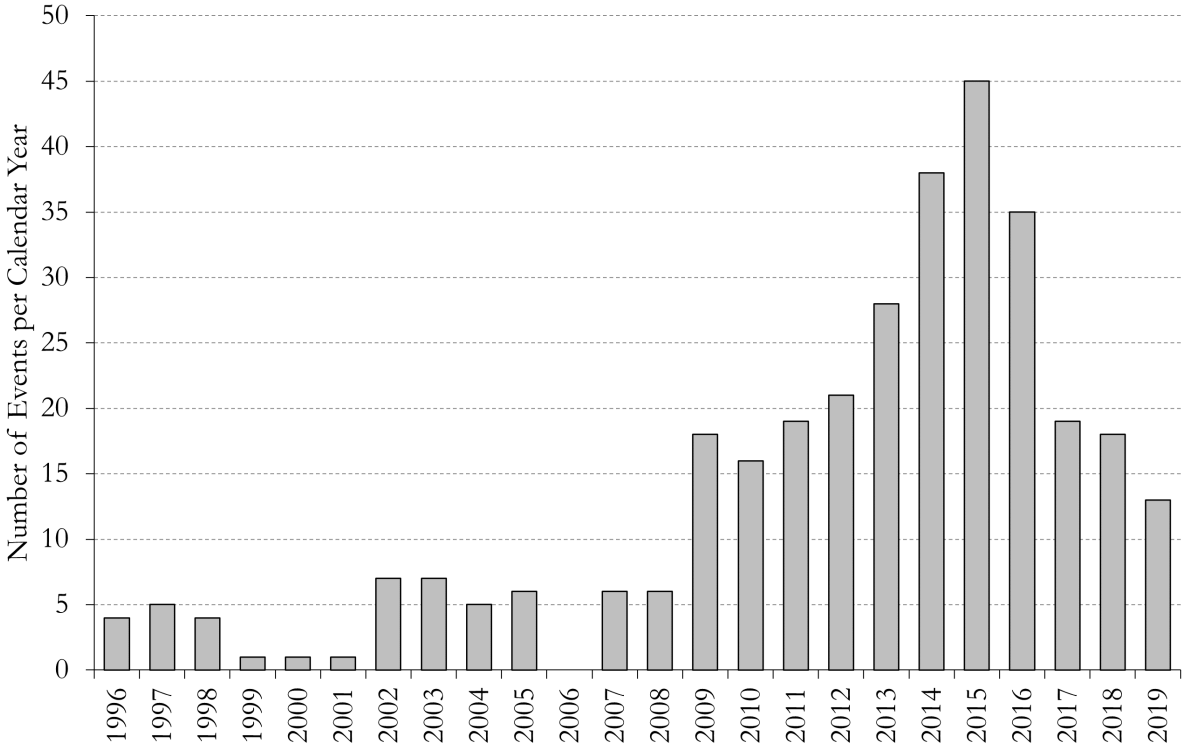
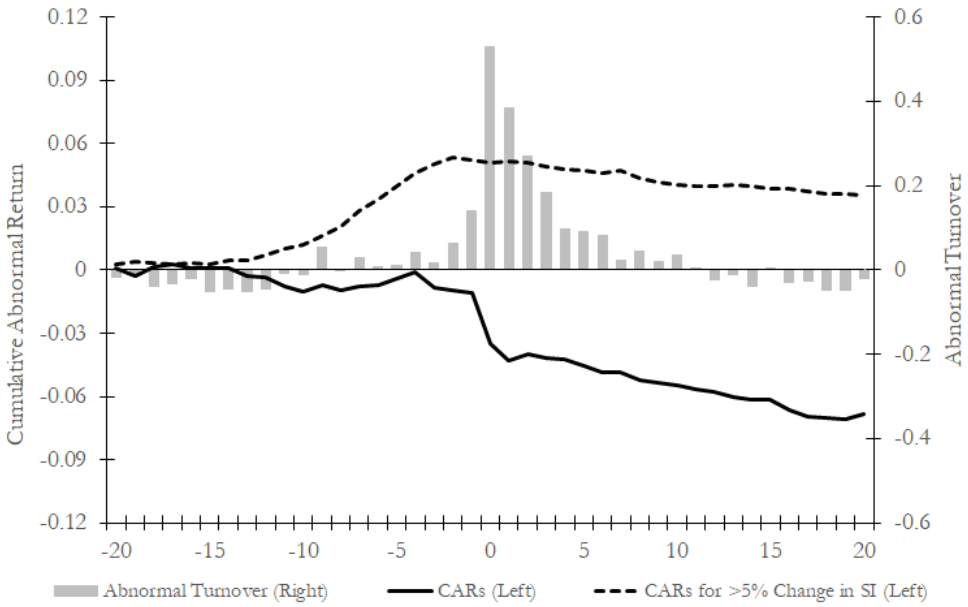
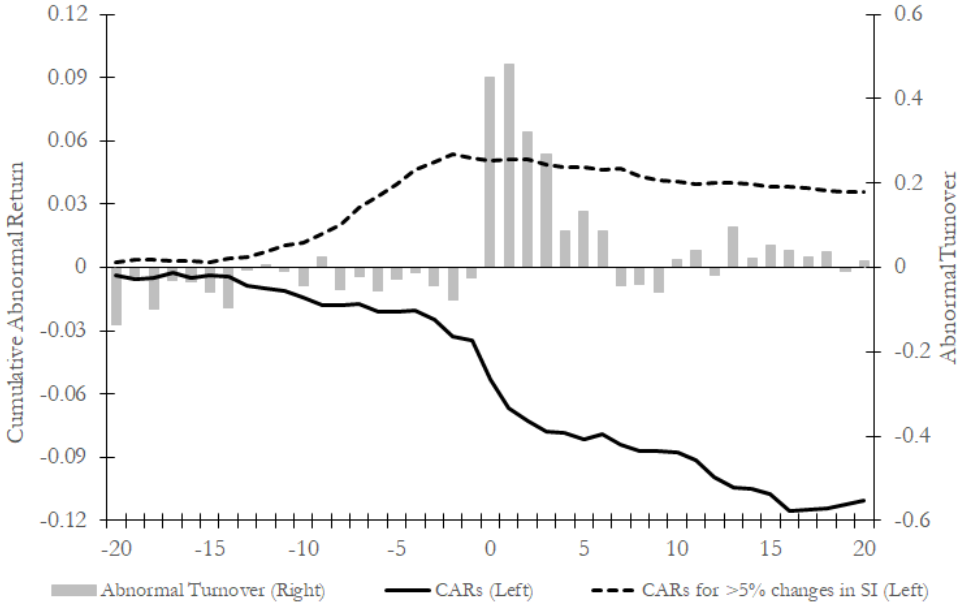


Figure 1: **Time Series of Short Campaigns**
This figure shows the number of short campaigns initiated by hedge funds from 1996 through 2019.

Electronic copy available at: https://ssrn.com/abstract=3242516



(a) Full Sample



(b) Campaigns Announced at Conferences

Figure 2: **Short Campaign CARs and Abnormal Turnover**
Panel (a) includes all short campaigns in the sample. Panel (b) restricts the sample to campaigns announced at investment conferences. For both panels, the solid line plots the cumulative abnormal returns for short campaigns. The dashed line plots the cumulative abnormal returns for large (i.e., more than 5% of shares outstanding) increases in short interest. The histogram plots abnormal share turnover. CARs are calculated using the three-factor model for the [-20, 20] window around campaign announcements.

Electronic copy available at: https://ssrn.com/abstract=3242516

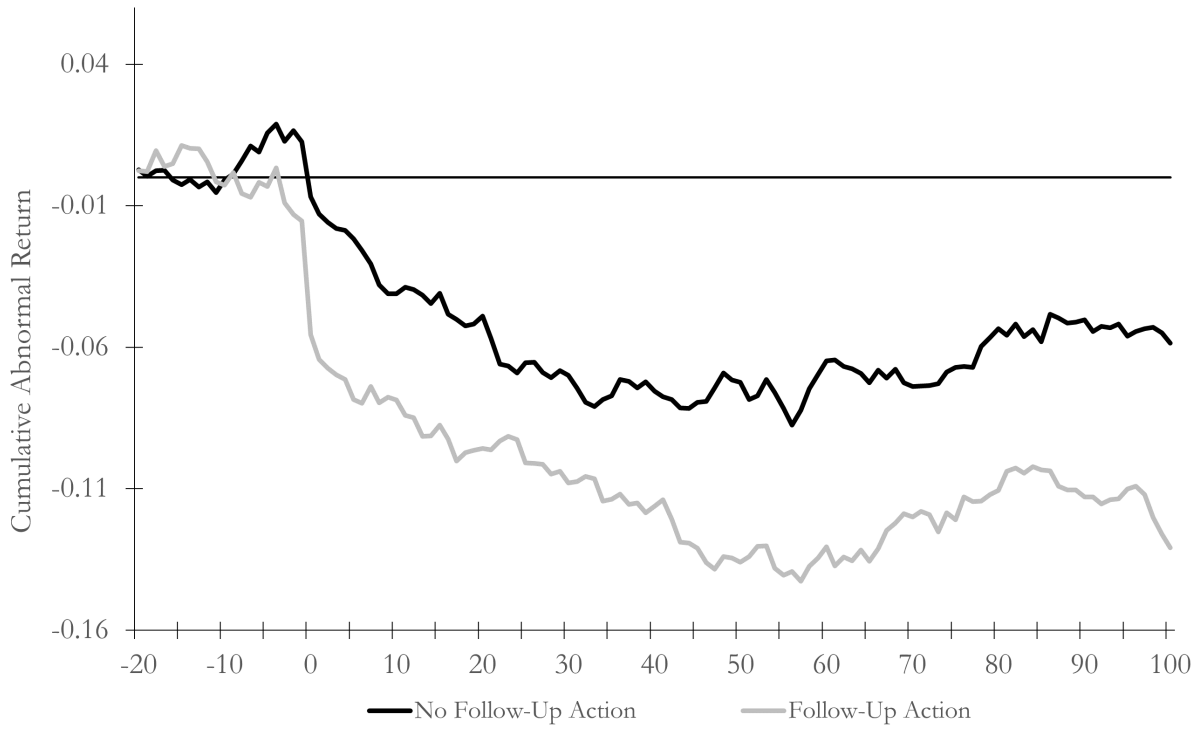


Figure 3: **Short Campaign CARs and Follow-Up Actions**
The gray line plots CARs for short campaigns with follow-up actions. The black line plots CARs for short campaigns without follow-up actions. There are three non-mutually exclusive types of follow-up actions: those by the fund initiating a campaign, those by other investors, and those by other entities (e.g., regulators or the target). The sample consists of short campaigns by hedge funds in the Activist Insights database. CARs are calculated using the three-factor model for the [-20, 100] window around campaign announcements.

Electronic copy available at: https://ssrn.com/abstract=3242516

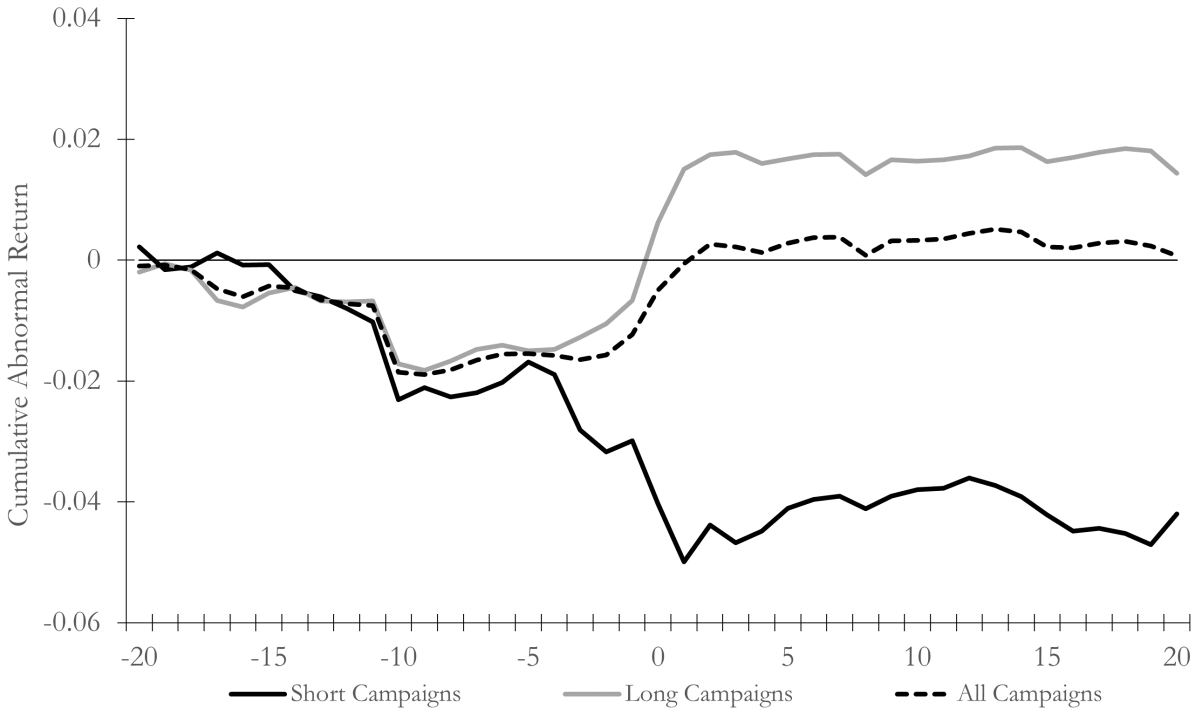


Figure 4: **Activist Hedge Fund Long/Short Value-Weighted CARs**
The solid black line plots value-weighted CARs for short campaigns by activist hedge funds. The solid gray line plots value-weighted CARs for long campaigns by activist hedge funds. The dashed line plots the aggregate value-weighted returns for long and short campaigns. Weights are based on market capitalization 20 trading days prior to the announcement of a campaign. CARs are calculated using the three-factor model for the [-20, 20] window around campaign announcements.

Electronic copy available at: https://ssrn.com/abstract=3242516

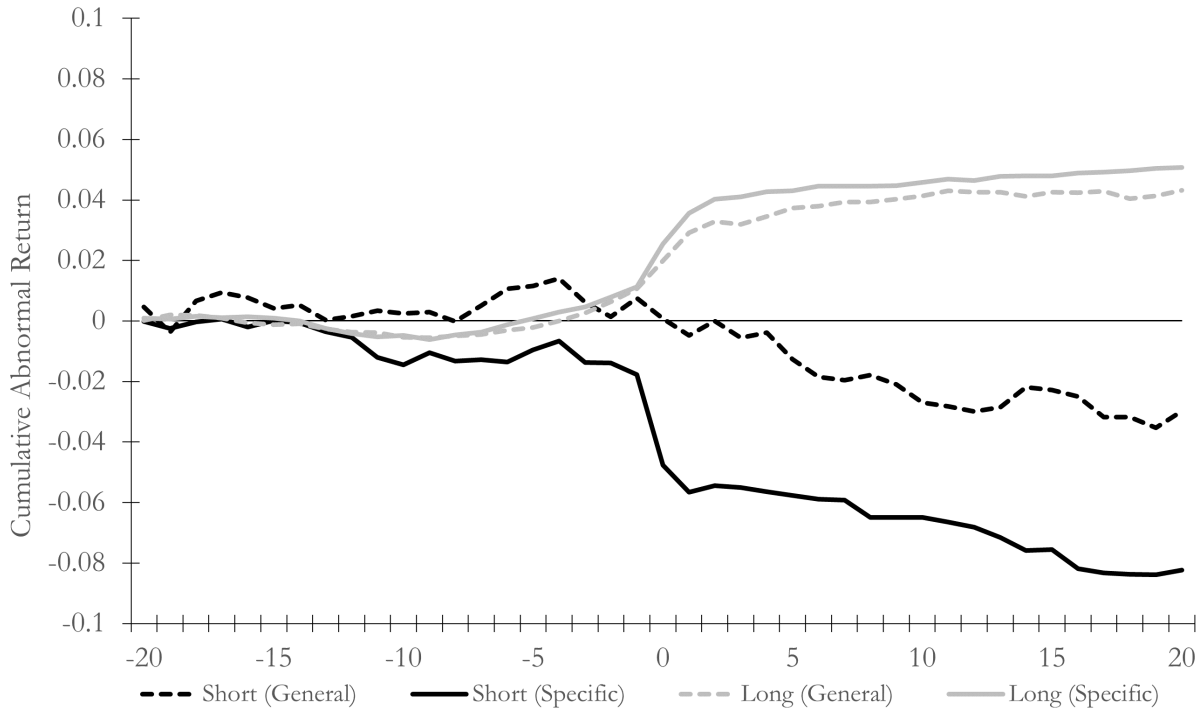


Figure 5: **Long/Short Campaign CARs by Accusation Specificity**
The black lines plot CARs for short campaigns. The gray lines plot CARs for long campaigns. Campaigns with specific accusations are solid, and campaigns with general allegations are dashed. CARs are calculated using the three-factor model for the [-20, 20] window around campaign announcements.

Electronic copy available at: https://ssrn.com/abstract=3242516

Table 1: **Allegations and Disclosure Methods**
Panel A reports allegations made by hedge funds in short campaigns. Allegations are not mutually exclusive except for the general overvaluation category. Panel B reports disclosure methods.

	Number of Campaigns (1)	Percent of Total (2)
Panel A: *Allegations*		
General Overvaluation	87	26.8
Industry/Competitors	73	22.5
Product/Business Model	122	37.5
Fraud/Accounting	44	13.5
Financial/Capital Structure	42	12.9
Management/Insider Selling	13	4.0
Panel B: *Disclosure Methods*		
Newspaper/TV	110	34.5
Conference	86	26.5
Letter to Investors	60	18.5
White Paper/Other	67	20.6
Total Campaigns	*323*	

Electronic copy available at: https://ssrn.com/abstract=3242516

Table 2: **Target Characteristics**

This table reports summary statistics for the targets of short campaigns. Columns (1)–(3) report mean, median, and standard deviation of each variable. Column (4) reports the average difference with matched firms and column (5) reports the t-statistic of the difference. Columns (6) and (7) report the median difference and the corresponding Wilcoxon signed-rank test statistic. Following Brav et al. (2008a), matched firms are chosen based on 3-digit SIC codes and MV and BM deciles. If no match is found, we change the matching criteria to 2-digit SIC codes and MV and BM quintiles, or 2-digit SIC codes and MV and BM terciles if necessary. Variables are defined in Internet Appendix Table A2.

	Summary Statistics			Difference with Matched Firms			
	Mean	Median	SD	Avg. Diff.	t-stat	Median Diff.	Wilcoxon z-stat
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
MV (log)	8.29	8.25	1.72	1.41	12.11	1.35	10.17
BM	0.34	0.25	0.48	-0.13	-4.65	-0.13	-7.52
Q	3.19	2.28	2.56	0.81	5.63	0.17	4.42
Growth	0.16	0.12	0.32	0.07	3.22	0.03	2.54
ROA	0.11	0.13	0.26	-0.01	-0.40	-0.01	-0.39
CF	0.06	0.09	0.25	-0.01	-0.41	-0.01	-0.61
Leverage	0.55	0.58	0.25	-0.01	-0.68	0.00	-0.05
Cash	0.24	0.15	0.24	0.01	0.96	-0.01	-0.08
Dividend Yield	0.01	0.00	0.02	0.00	-1.19	0.00	-4.08
Payout	0.24	0.00	0.56	-0.08	-1.69	-0.06	-5.28
# Analysts (log)	2.16	2.56	1.21	0.12	1.54	0.09	2.42
Institutional Ownership	0.68	0.72	0.29	0.06	2.53	0.05	2.60
Stock Return	0.19	0.08	0.53	0.05	1.68	-0.01	0.76
Amihud	0.04	0.02	0.06	-0.03	-4.36	-0.01	-7.91
Short Interest (Annual)	0.10	0.09	0.07	0.05	11.75	0.04	9.00

Electronic copy available at: https://ssrn.com/abstract=3242516

Table 3: **Predicting Short Campaigns**

Panel A uses firm-level variables to predict short campaigns. The dependent variable is an indicator defined at the firm-year level for whether a firm is targeted by a campaign. The sample includes all Compustat firms from 1996 through 2019, and standard errors are clustered at the firm level. Panel B uses fund-level variables to predict campaigns. The dependent variable is an indicator defined at the fund-year-quarter level for whether a fund undertakes a short campaign. The sample includes all hedge funds with Schedule 13F filings, and standard errors are clustered at the fund level. Both panels use a probit model in column (1) and OLS in the remaining columns. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. All independent variables are defined in Internet Appendix Table A2.

Panel A: *Firm Characteristics*				
Dependent Variable:	$\mathbb{1}$(Short Campaign – Firm Level)			
Model:	Probit	OLS	OLS	OLS
	(1)	(2)	(3)	(4)
MV (log)	0.0005***	0.0013***	0.0014***	0.0014***
	(0.0001)	(0.0002)	(0.0002)	(0.0002)
Q	0.0000***	0.0003**	0.0003**	0.0003**
	(0.0000)	(0.0001)	(0.0001)	(0.0001)
Growth	0.0004**	0.0020**	0.0020**	0.0022**
	(0.0002)	(0.0009)	(0.0009)	(0.0009)
ROA	-0.0003	-0.0005	-0.0008	-0.0004
	(0.0002)	(0.0012)	(0.0013)	(0.0014)
Leverage	0.0003	0.0020**	0.0030**	0.0032**
	(0.0003)	(0.0010)	(0.0015)	(0.0016)
Div. Yield	-0.0044	-0.0157***	-0.0044	-0.0078
	(0.0034)	(0.0051)	(0.0052)	(0.0061)
# Analysts (log)	-0.0001	-0.0004	-0.0003	-0.0004
	(0.0001)	(0.0003)	(0.0003)	(0.0004)
Institutional Ownership	0.0008***	-0.0018	-0.0025**	-0.0023*
	(0.0002)	(0.0011)	(0.0013)	(0.0014)
Short Interest	0.0110***	0.0686***	0.0657***	0.0625***
	(0.0020)	(0.0124)	(0.0128)	(0.0137)
Industry FE	No	No	Yes	No
Year FE	No	Yes	Yes	No
Industry-Year FE	No	No	No	Yes
Observations	65,579	65,579	65,578	64,748
Pseudo R^2 / R^2	0.1623	0.0085	0.0144	0.0799

Electronic copy available at: https://ssrn.com/abstract=3242516

Panel B: *Fund Characteristics*			
Dependent Variable:	$\mathbb{1}$(Short Campaign – Fund Level)		
Model:	Probit	OLS	OLS
	(1)	(2)	(3)
Activist	0.0030**	0.0044***	
	(0.0012)	(0.0016)	
AUM (log)	0.0001	0.0004	0.0003
	(0.0001)	(0.0004)	(0.0003)
Portfolio Return	0.0007	-0.0013	-0.0066
	(0.0019)	(0.0086)	(0.0093)
% Portfolio Short Interest	0.0076	0.0299	0.0906
	(0.0095)	(0.0435)	(0.0681)
# Holdings (log)	-0.0002	-0.0006	0.0001
	(0.0001)	(0.0004)	(0.0003)
Portfolio Turnover	-0.0002	-0.0002	-0.0002
	(0.0002)	(0.0004)	(0.0003)
Portfolio Concentration	-0.0023	-0.0045**	-0.0006
	(0.0016)	(0.0020)	(0.0016)
Portfolio Illiquidity	-0.0000	-0.0000	-0.0000
	(0.0000)	(0.0000)	(0.0000)
Year-Quarter FE	No	Yes	Yes
Fund FE	No	No	Yes
Observations	51,268	51,268	51,248
Pseudo R^2 / R^2	0.1629	0.0061	0.1113

Electronic copy available at: https://ssrn.com/abstract=3242516

Table 4: **Short Campaigns and Activist Hostility**
This table reports the cross-sectional relation between short campaigns and the use of hostile tactics (e.g., proxy fights) in long activism campaigns. The analysis is conducted at the activist level. The dependent variable is an indicator for whether an activist undertakes a short campaign at any point during the sample. *Hostile Activist* is an indicator for whether an activist uses hostile tactics in long activism campaigns. *SharkWatch 50* is an indicator for whether a fund is included on the SharkWatch list of top activists. *Long Objective-* variables denote the portion of long activism campaigns with different objectives. *Long Success Rate* and *Long Failure Rate* are average success/failure rates for activists. Long activism campaign data are from Brav et al. (2008a). *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Varaible:	$\mathbb{1}$(Fund with Short Campaign)				
	(1)	(2)	(3)	(4)	(5)
Hostile Activist	0.0487***		0.0378***	0.0533***	0.0526***
	(0.0136)		(0.0132)	(0.0161)	(0.0161)
SharkWatch 50		0.1189**	0.0971*	0.0960*	0.0967*
		(0.0523)	(0.0530)	(0.0529)	(0.0532)
Long Objective–Sale				-0.0140	-0.0057
				(0.0165)	(0.0161)
Long Objective–Business Strategy				0.0123	0.0183
				(0.0182)	(0.0203)
Long Objective–Governance				-0.0385***	-0.0245
				(0.0124)	(0.0151)
Long Objective–Capital Structure				-0.0169	-0.0118
				(0.0136)	(0.0139)
Long Objective–General					0.0237
					(0.0160)
Long Success Rate					0.0029
					(0.0143)
Long Failure Rate					0.0196
					(0.0247)
Observations	947	947	947	947	947
R^2	0.0166	0.0193	0.0286	0.0356	0.0366

Electronic copy available at: https://ssrn.com/abstract=3242516

Table 5: **CAR Disclosure Heterogeneity**

This table reports cross-sectional heterogeneity in abnormal returns. CARs are calculated from the three-factor model for the [-20, 20] window around campaign announcements. High-Profile Media is an indicator for whether a campaign is reported by a prominent news source (e.g., *Wall Street Journal*, *The Financial Times*, CNBC, etc.) or was announced at the Sohn Investment Conference. Firm controls consist of Q, MV (log), and sales growth. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable:	[-20, 20] CAR				
	(1)	(2)	(3)	(4)	(5)
High-Profile Media	-0.0592*	-0.0751**	-0.0704**	-0.0715**	-0.0697*
	(0.0309)	(0.0346)	(0.0349)	(0.0356)	(0.0384)
Revealed – Letter		0.0294	0.0436	0.0308	0.0404
		(0.0463)	(0.0488)	(0.0508)	(0.0555)
Revealed – Conference		-0.0713**	-0.0832**	-0.0921***	-0.0827**
		(0.0343)	(0.0326)	(0.0347)	(0.0371)
Revealed – Other		-0.0988*	-0.0843	-0.0944	-0.0716
		(0.0566)	(0.0588)	(0.0601)	(0.0642)
Activist			-0.0586**	-0.0482*	-0.0565**
			(0.0256)	(0.0252)	(0.0253)
MV (log)					0.0144
					(0.0114)
Q					0.0072
					(0.0072)
Growth					-0.1011
					(0.0770)
Accusation FEs	No	No	No	Yes	Yes
Observations	304	304	304	304	304
R^2	0.0117	0.0443	0.0578	0.0569	0.0621

Electronic copy available at: https://ssrn.com/abstract=3242516

Table 6: **Aggregate Long/Short Value-Weighted CARs for Activist Hedge Funds** This table reports value-weighted CARs for activist hedge funds' combined short and long campaigns. CARs are calculated from the three-factor model for the [-20, 20] window around campaign announcements in columns (1)–(3) and for the [-20, 100] window in columns (4)–(6). Columns (1) and (4) report abnormal returns from the market factor model, columns (2) and (5) report abnormal returns from the three-factor model, and columns (3) and (6) report abnormal returns from the five-factor model. Weights are calculated using market capitalization 20 trading days prior to the announcement of a campaign. Long activism data are from Brav et al. (2008a).

Dependent Variable:	[t-20, t+20] VW CAR			[t-20, t+100] VW CAR		
Model:	one-factor	three-factor	five-factor	one-factor	three-factor	five-factor
	(1)	(2)	(3)	(4)	(5)	(6)
CAR	0.0045	0.0007	0.0108	-0.0053	-0.0079	0.0088
	(0.0168)	(0.0158)	(0.0126)	(0.0251)	(0.0230)	(0.0187)
Observations	2,512	2,512	2,512	2,375	2,375	2,375

Electronic copy available at: https://ssrn.com/abstract=3242516

Table 7: **Long/Short CARs by Specificity**

This table reports CARs for long and short campaigns based on the specificity of accusations/objectives. Panel A examines short campaigns. Panel B examines long campaigns. Both panels report CARs for specific and general campaigns. CARs are calculated from the three-factor model for the [-20, 20] window around campaign announcements in columns (1)–(3) and for the [-20, 100] window in columns (4)–(6). Columns (1) and (4) report abnormal returns from the market-factor model, columns (2) and (5) report abnormal returns from the three-factor model, and columns (3) and (6) report abnormal returns from the five-factor model. Long activism campaign data are from Brav et al. (2008a) *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: *Short Campaigns*						
Dependent Variable:	[t-20, t+20] CAR			[t-20, t+100] CAR		
Model:	one-factor	three-factor	five-factor	one-factor	three-factor	five-factor
	(1)	(2)	(3)	(4)	(5)	(6)
			Specific			
CAR	-0.0795***	-0.0824***	-0.0738***	-0.1249***	-0.1143***	-0.0968***
	(0.0192)	(0.0183)	(0.0179)	(0.0233)	(0.0240)	(0.0264)
Observations	223	223	223	218	218	218
			General			
CAR	-0.0619**	-0.0297	-0.0091	-0.0651*	-0.0401	-0.0149
	(0.0246)	(0.0269)	(0.0299)	(0.0375)	(0.0440)	(0.0492)
Observations	81	81	81	78	78	78

Panel B: *Long Campaigns*						
Dependent Variable:	[t-20, t+20] CAR			[t-20, t+100] CAR		
Model:	one-factor	three-factor	five-factor	one-factor	three-factor	five-factor
	(1)	(2)	(3)	(4)	(5)	(6)
			Specific			
CAR	0.0509***	0.0506***	0.0506***	0.0422***	0.0431***	0.0441***
	(0.0050)	(0.0050)	(0.0052)	(0.0080)	(0.0083)	(0.0087)
Observations	2,270	2,270	2,270	2,135	2,135	2,135
			General			
CAR	0.0478***	0.0432***	0.0465***	0.0698***	0.0633***	0.0712***
	(0.0079)	(0.0081)	(0.0083)	(0.0116)	(0.0119)	(0.0124)
Observations	1,801	1,801	1,801	1,721	1,721	1,721

Electronic copy available at: https://ssrn.com/abstract=3242516

Table 8: **Campaign Success and the Verifiability of Allegations**
This table examines the relationship between campaign success and the verifiability of allegations. The dependent variable (*Successful Campaign*) is an indicator for whether the allegations of a campaign are confirmed by subsequent events. *Verifiable Accusation* is an indicator for whether there exists information at the time of the announcement of the campaign that would confirm or refute the main allegations. The remaining independent variables are indicators for allegation types, an indicator for whether a campaign was reported in a high-profile media outlet, and an indicator for whether a campaign is initiated by an activist hedge fund. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable:	$\mathbb{1}$(Successful Campaign)			
	(1)	(2)	(3)	(4)
Verifiable Accusation	0.2364***	0.2497**	0.2410**	0.2271*
	(0.0837)	(0.1129)	(0.1138)	(0.1160)
Accusation - Industry/Competitors		0.0083	-0.0053	-0.0035
		(0.1023)	(0.1032)	(0.1019)
Accusation - Product/Business Model		-0.0114	-0.0352	-0.0309
		(0.1022)	(0.1032)	(0.1023)
Accusation - Fraud/Accounting		-0.0423	-0.0534	-0.0405
		(0.1342)	(0.1329)	(0.1371)
Accusation - Financial/Capital Structure		0.0887	0.0865	0.0781
		(0.1294)	(0.1299)	(0.1307)
High-Profile Media			-0.0901	-0.0715
			(0.0778)	(0.0788)
Activist				0.1118
				(0.0785)
Observations	171	171	171	171
R^2	0.0497	0.0559	0.0623	0.0725

Electronic copy available at: https://ssrn.com/abstract=3242516

Table 9: **Director, Shareholder, and Stakeholder Responses**
This table examines the relationship between short campaigns and subsequent actions by directors, shareholders, and other stakeholders. *Target* is an indicator for whether a firm is targeted by a short campaign. *Post* is an indicator for post-campaign years. In columns (2), (4), and (6), *Post* is replaced with a set of event-time dummy variables (t=-5 is the reference period). In columns (1) and (2) the dependent variable is an indicator for whether a firm experiences forced CEO turnover in year t. CEO turnover analysis uses the Execucomp sample. In columns (3) and (4) the dependent variable is an indicator for whether a firm experiences director turnover in year t. In columns (5) and (6) the dependent variable is an indicator for whether a firm was subject to a lawsuit in year t. The sample covers all targets of short campaigns as well as matched control firms for five years before and after a campaign. Following Brav et al. (2008), matched firms are chosen based on 3-digit SIC codes and MV and BM deciles. If no match is found, we change the matching criteria to 2-digit SIC codes and MV and BM quintiles, or 2-digit SIC codes and MV and BM terciles if necessary. All regressions include short campaign fixed effects. Standard errors are clustered at the short campaign level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable:	$\mathbb{1}$(Forced CEO Turnover)		$\mathbb{1}$(Director Turnover)		$\mathbb{1}$(Litigation)	
	(1)	(2)	(3)	(4)	(5)	(6)
Target × Post	0.0412***		0.0185		0.1010***	
	(0.0068)		(0.0204)		(0.0230)	
Target × T=-4		0.0010		-0.0117		-0.0023
		(0.0135)		(0.0426)		(0.0359)
Target × T=-3		-0.0112		-0.0023		-0.0273
		(0.0116)		(0.0425)		(0.0367)
Target × T=-2		0.0201		-0.0087		-0.0375
		(0.0173)		(0.0458)		(0.0392)
Target × T=-1		0.0336*		-0.0309		0.0135
		(0.0197)		(0.0493)		(0.0377)
Target × T=0		0.0818***		-0.0106		0.1043**
		(0.0234)		(0.0476)		(0.0427)
Target × T=+1		0.0342*		0.0265		0.1030**
		(0.0200)		(0.0489)		(0.0421)
Target × T=+2		0.0293		0.0573		0.0431
		(0.0228)		(0.0481)		(0.0426)
Target × T=+3		0.0459*		0.0299		0.1070**
		(0.0250)		(0.0465)		(0.0464)
Target × T=+4		0.0580*		0.0133		0.0862*
		(0.0312)		(0.0480)		(0.0460)
Target × T=+5		0.0477		-0.0227		0.0954*
		(0.0346)		(0.0563)		(0.0552)
Event FE	Yes	Yes	Yes	Yes	Yes	Yes
Uninteracted Terms Included	Yes	Yes	Yes	Yes	Yes	Yes
Observations	10,671	10,671	17,442	17,442	17,893	17,893
R^2	0.043	0.045	0.037	0.053	0.159	0.159

Electronic copy available at: https://ssrn.com/abstract=3242516

Table 10: **Firm Outcomes and Policies**

This table examines the relationship between short campaigns and subsequent firm policies/outcomes. *Target* is an indicator for whether a firm is targeted by a short campaign. *Post* is an indicator for post-campaign years. In columns (2), (4), and (6), *Post* is replaced with a set of event-time dummy variables (t=-5 is the reference period). In columns (1) and (2) the dependent variable is ROA. In columns (3) and (4) the dependent variable is an indicator for whether the firm experienced a delisting due to bankruptcy or liquidation in year t. In columns (5) and (6) the dependent variable is investment normalized by total assets. In columns (7) and (8) the dependent variable is payouts normalized by net income. The sample covers all targets of short campaigns as well as matched control firms for five years before and after a campaign. Following Brav et al. (2008), matched firms are chosen based on 3-digit SIC codes and MV and BM deciles. If no match is found, we change the matching criteria to 2-digit SIC codes and MV and BM quintiles, or 2-digit SIC codes and MV and BM terciles if necessary. All regressions include short campaign fixed effects. Standard errors are clustered at the short campaign level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable:	ROA		$\mathbb{1}$(Bankruptcy)		Investment		Payouts	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Target × Post	-0.0145		0.0045**		-0.0117***		-0.0542**	
	(0.0207)		(0.0020)		(0.0044)		(0.0259)	
Target × T=-4		0.0346		-0.0002		0.0049		0.0704
		(0.0851)		(0.0002)		(0.0074)		(0.0480)
Target × T=-3		0.0432		-0.0001		0.0056		0.0804*
		(0.0828)		(0.0002)		(0.0072)		(0.0473)
Target × T=-2		0.1021		-0.0001		-0.0015		0.0570
		(0.0722)		(0.0001)		(0.0074)		(0.0448)
Target × T=-1		0.0850		-0.0001		-0.0047		0.0240
		(0.0664)		(0.0001)		(0.0073)		(0.0406)
Target × T=0		0.0574		-0.0004		-0.0118		0.0791
		(0.0657)		(0.0002)		(0.0072)		(0.0500)
Target × T=+1		0.0530		0.0030		-0.0198***		0.0314
		(0.0631)		(0.0041)		(0.0068)		(0.0435)
Target × T=+2		0.0389		0.0033		-0.0269***		0.0470
		(0.0668)		(0.0043)		(0.0072)		(0.0443)
Target × T=+3		0.0123		0.0201**		-0.0274***		-0.0211
		(0.0601)		(0.0100)		(0.0073)		(0.0434)
Target × T=+4		0.0328		-0.0004		-0.0338***		0.0685
		(0.0632)		(0.0012)		(0.0073)		(0.0502)
Target × T=+5		0.0449		0.0008*		-0.0371***		0.0838
		(0.0679)		(0.0005)		(0.0077)		(0.0597)
Event FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Uninteracted Terms Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	17,212	17,212	17,893	17,893	17,385	17,385	16,821	16,821
R^2	0.274	0.274	0.032	0.039	0.287	0.281	0.274	0.190

Electronic copy available at: https://ssrn.com/abstract=3242516

Short Campaigns by Hedge Funds

Internet Appendix

Ian Appel and Vyacheslav Fos

Electronic copy available at: https://ssrn.com/abstract=3242516

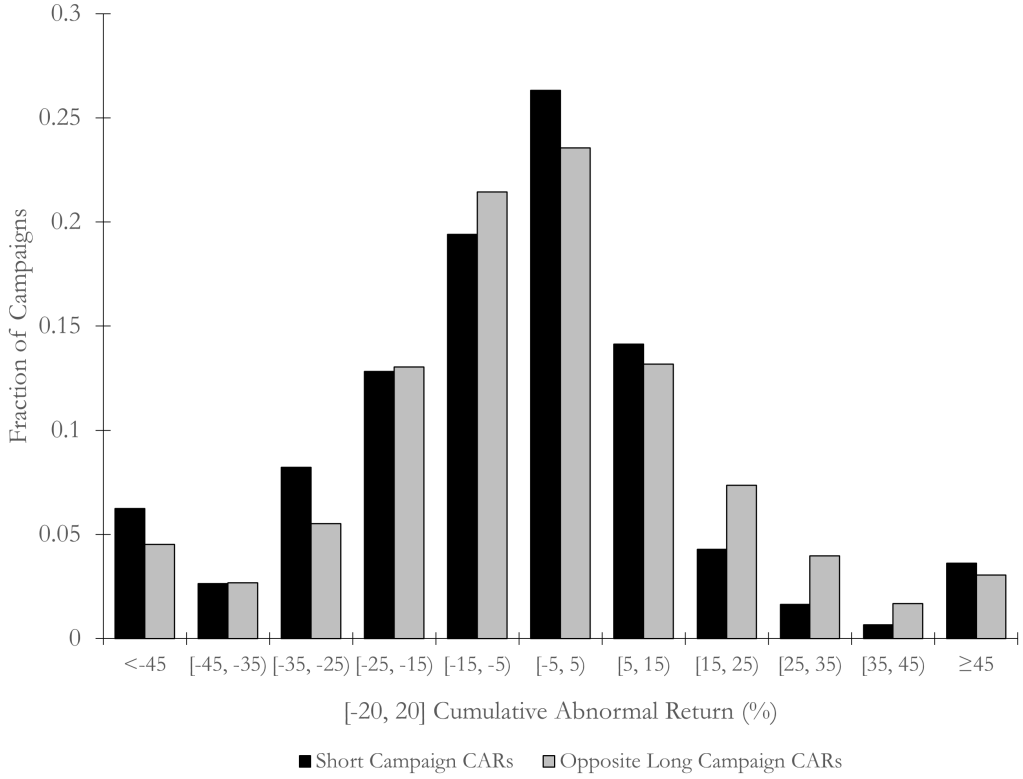
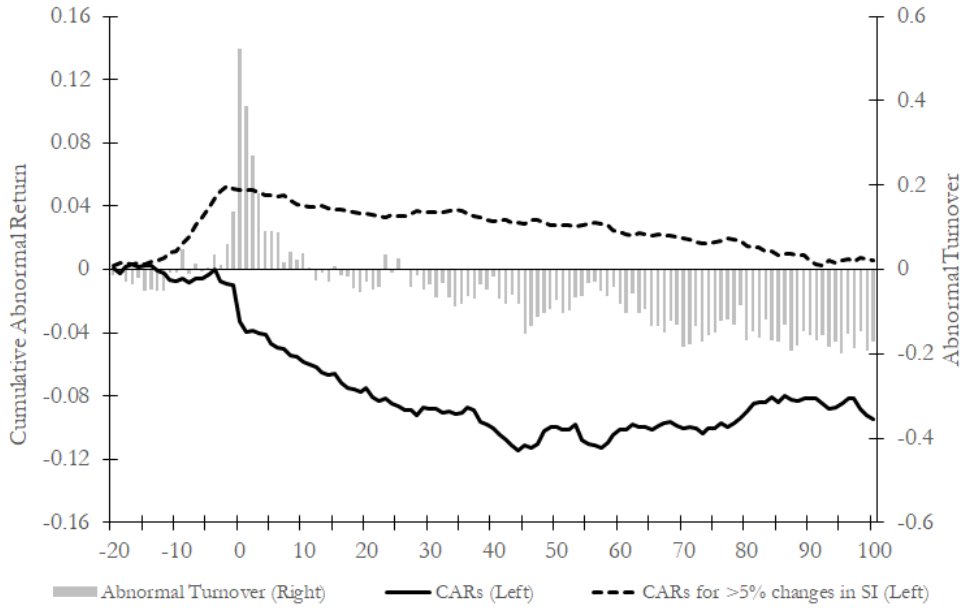
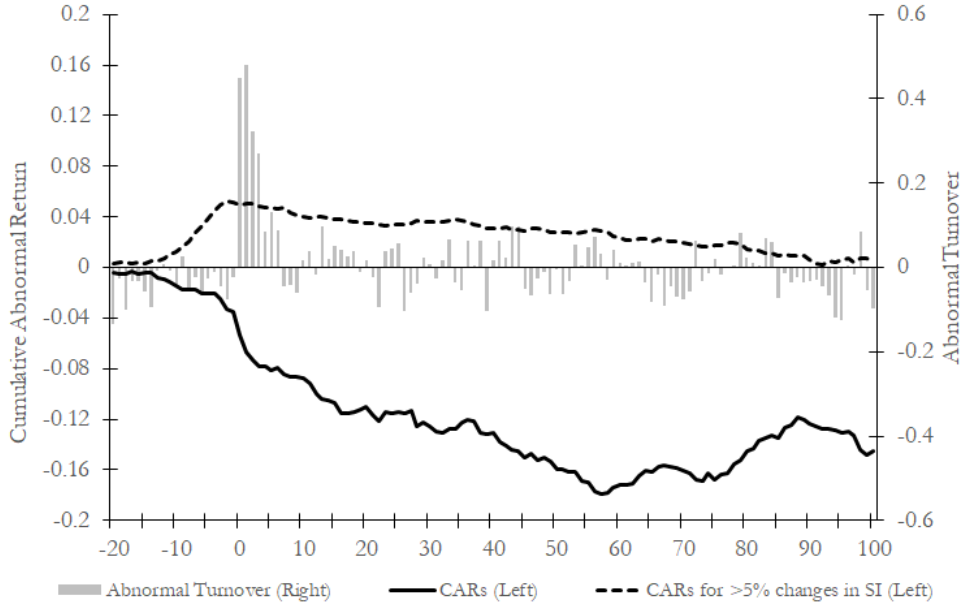


Figure A1: **CAR Distribution: Short vs. Long Activism Campaigns**
The figure shows the distribution of CARs for short and long activism campaigns. CARs are calculated from the three-factor model for the [-20, 20] window around campaign announcements. The figure plots the opposite of long campaign CARs. Thus, negative returns indicate successful outcomes for both types of campaigns.

Electronic copy available at: https://ssrn.com/abstract=3242516



(a) Full Sample



(b) Campaigns Announced at Conferences

Figure A2: **Short Campaign CARs and Abnormal Turnover: [-20, 100] Window** Panel (a) includes all short campaigns in the sample. Panel (b) restricts the sample to campaigns announced at investment conferences. For both panels, the solid line plots the cumulative abnormal returns for short campaigns. The dashed line plots the cumulative abnormal returns for large (i.e., more than 5% of shares outstanding) increases in short interest. The histogram plots abnormal share turnover. CARs are calculated using the three-factor model for the [-20, 20] window around campaign announcements.

Electronic copy available at: https://ssrn.com/abstract=3242516

Figure A3: **Short Campaign Value-Weighted CARs and Follow-Up Actions**
The gray line plots CARs for short campaigns with follow-up actions. The black line plots CARs for short campaigns without follow-up actions. There are three non-mutually exclusive types of follow-up actions: those by the fund initiating a campaign, those by other investors, and those by other entities (e.g., regulators or the target). The sample consists of short campaigns by hedge funds in the Activist Insights database. Value-weighted CARs are calculated using the three-factor model for the [-20, 100] window around campaign announcements.

Electronic copy available at: https://ssrn.com/abstract=3242516

Figure A4: **Activist Long/Short Value-Weighted CARs: [-20, 100] Window**
The solid black line plots value-weighted CARs for short campaigns by activist hedge funds. The solid gray line plots value-weighted CARs for long campaigns by activist hedge funds. The dashed line plots the aggregate value-weighted returns for long and short campaigns. Weights are based on market capitalization 20 trading days prior to the announcement of a campaign. CARs are calculated using the three-factor model for the [-20, 100] window around campaign announcements.

Electronic copy available at: https://ssrn.com/abstract=3242516

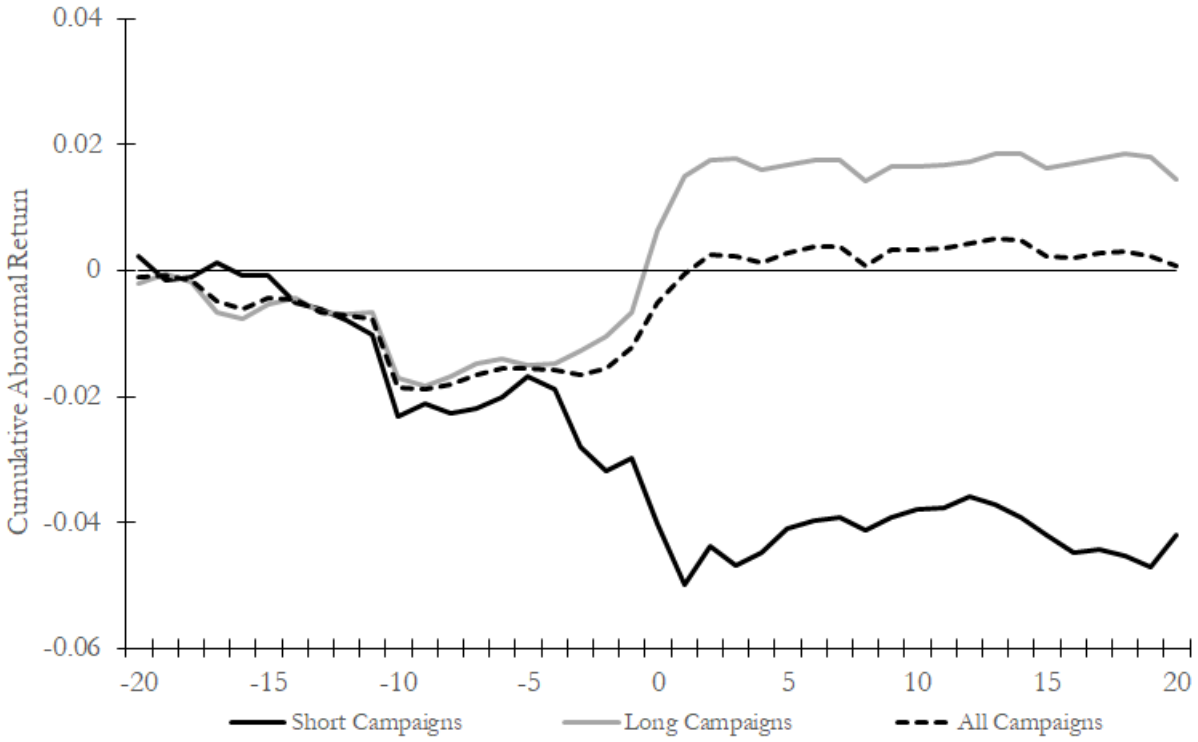
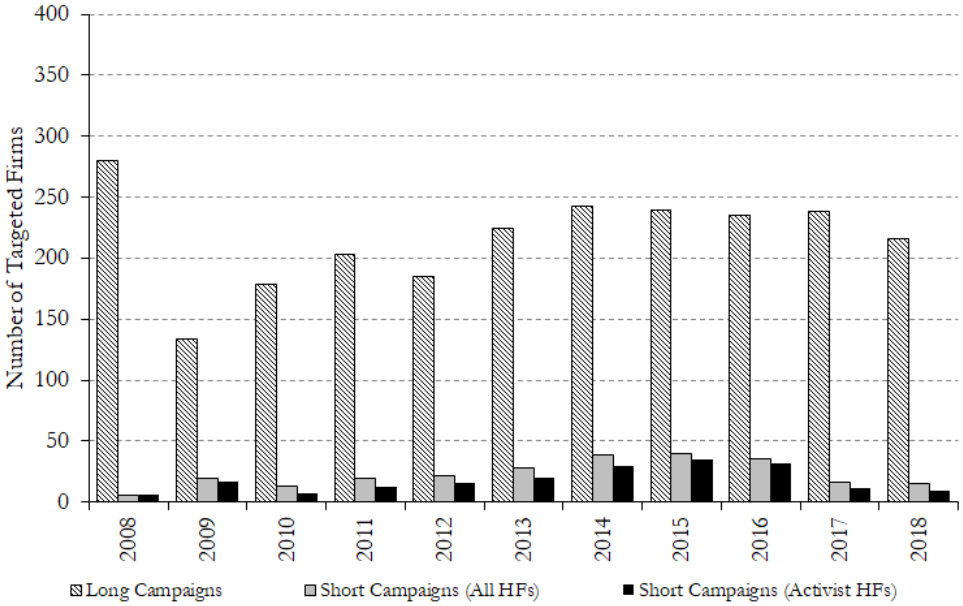
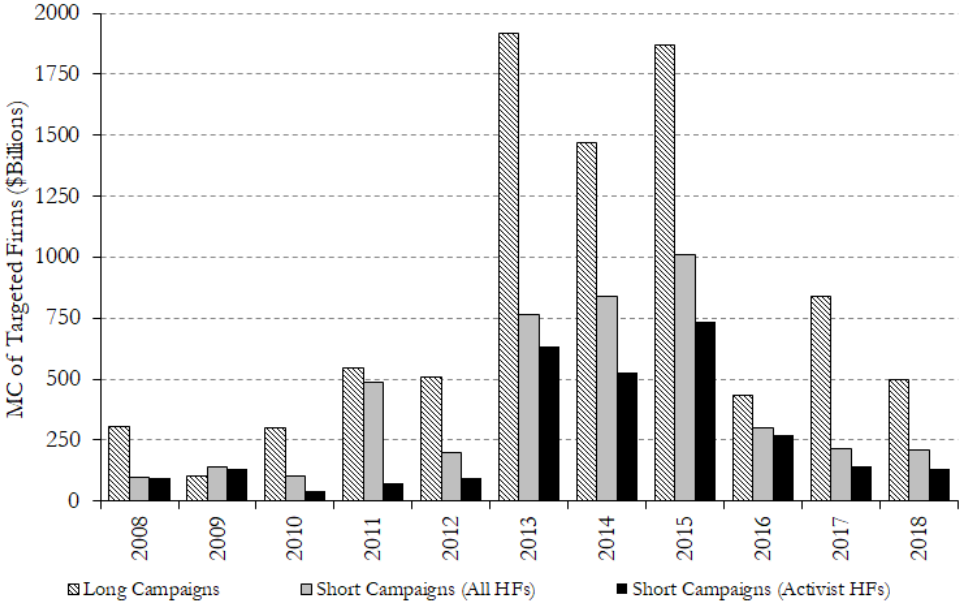


Figure A5: **Activist Long/Short Index-Adjusted Value-Weighted CARs**
The solid black line plots value-weighted CARs for short campaigns by activist hedge funds. The solid gray line plots value-weighted CARs for long campaigns by activist hedge funds. The dashed line plots the total value-weighted returns for long and short campaigns. Weights are based on market capitalization (adjusted by the CRSP VW Index) 20 trading days prior to the announcement of a campaign. CARs are calculated from the three-factor model for the [-20, 20] window around campaign announcements.

Electronic copy available at: https://ssrn.com/abstract=3242516



(a) Number of Targeted Firms



(b) Market Cap of Targeted Firms

Figure A6: **Long/Short Campaign Targets: 2008–2018**
Panel (a) shows the number of targets for long and short campaigns. Panel (b) shows the total market capitalization of targets for long and short campaigns.

Electronic copy available at: https://ssrn.com/abstract=3242516

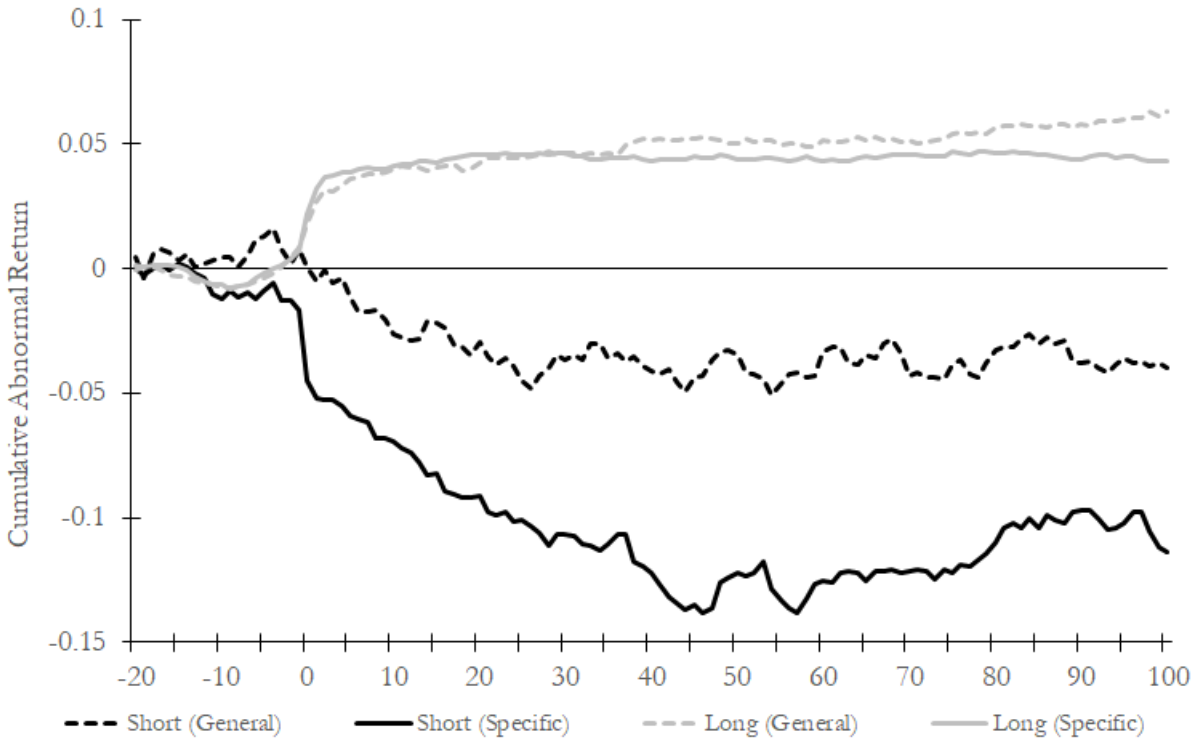


Figure A7: **Long/Short Campaign CARs by Accusation Specificity: [-20, 100] Window**

The black lines plot CARs for short campaigns. The gray lines plot CARs for long campaigns. Campaigns with specific accusations are solid, and campaigns with general allegations are dashed. CARs are calculated from the three-factor model for the [-20, 100] window around campaign announcements.

Electronic copy available at: https://ssrn.com/abstract=3242516

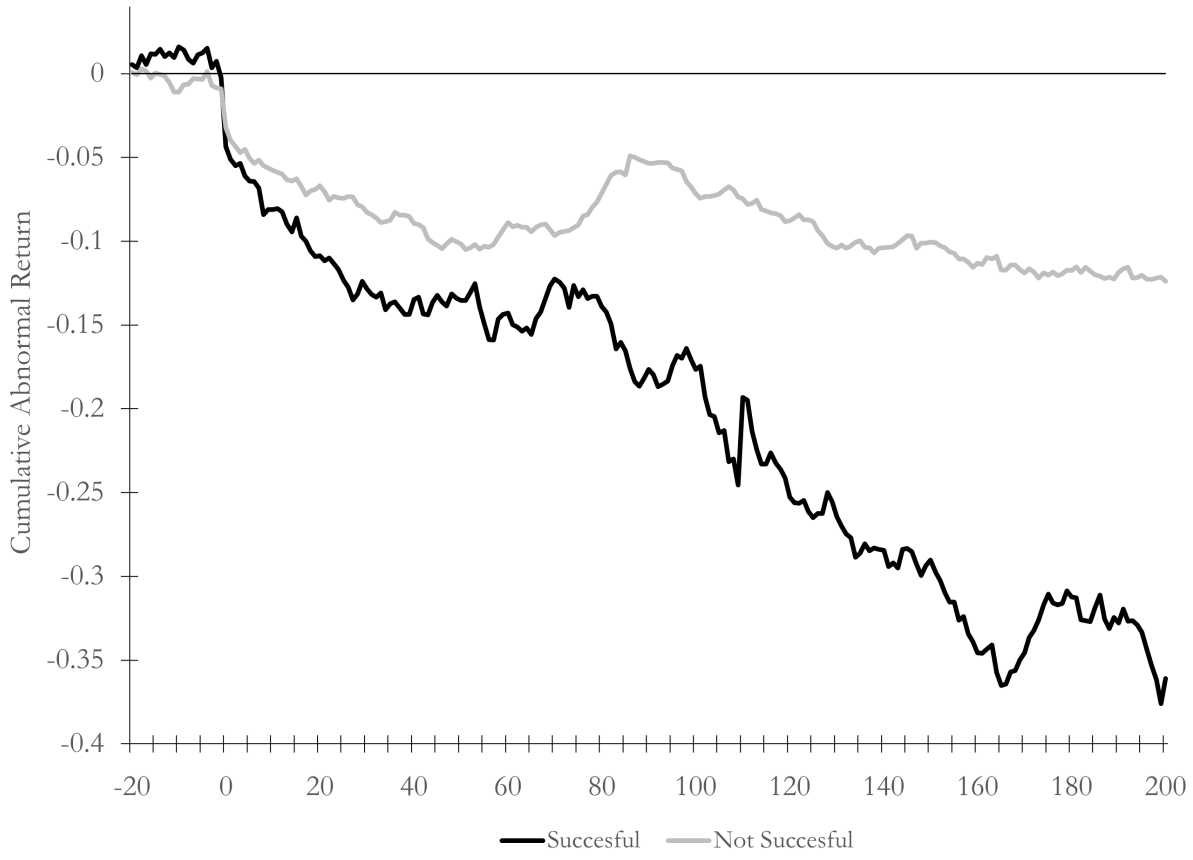


Figure A8: **Campaign Success and CARs: [-20, 200] Window**
The black lines plot CARs for short campaigns. The gray lines plot CARs for long campaigns. Campaigns with specific accusations are solid, and campaigns with general allegations are dashed. CARs are calculated from the three-factor model for the [-20, 100] window around campaign announcements.

Electronic copy available at: https://ssrn.com/abstract=3242516

Table A1: **Most Prominent Hedge Funds in Sample**
This table reports the hedge funds with five or more campaigns in our sample. Column (1) reports the number of campaigns in our sample. Column (2) reports an indicator for whether funds are classified as activists.

Fund	Short Campaigns	Activist
Kynikos Associates	51	0
Whitney Tilson	50	1
Kerrisdale Capital	36	1
Lakewood Capital Management	29	1
Greenlight Capital	27	1
Dialectic Capital	14	1
Hayman Capital Management	12	1
Heartland Advisors	8	1
Cannell Capital	8	1
Pershing Square Capital Management	6	1
Chapman Capital	6	1
BlueMountain Capital	6	1
Frontpoint Partners	5	0
Eminence Capital	5	1

Electronic copy available at: https://ssrn.com/abstract=3242516

Table A2: **Variable Definitions**

Variable	Definition
Firm-level variables	
MV (log)	log of market capitalization
BM	market value of equity / book value of equity
Q	(book value of debt + market value of equity) / (book value of debt + book value of equity)
Growth	log of sales growth
ROA	EBITDA / total assets
Leverage	total liabilities / total assets
Payouts	total dividend payments / net income before extraordinary items
Investments	(capex + R&D) / total assets
Dividend Yield	(common dividends + preferred dividends)/(market value of common equity + book value of preferred equity)
# Analysts (log)	log of 1 + the number of analysts following the firm
Institutional Ownership	percentage of shares held by institutions
Short Interest	short interest / shares outstanding (biweekly)
Forced CEO Turnover	dummy for forced CEO turnover
Director Turnover	dummy for director turnover (non-retirement)
Lawsuit	indicator for shareholder, fraud/accounting, product liability, IP, or antitrust lawsuit
Bankruptcy	dummy variable equal to one if a firm is delisted due to bankruptcy
Fund-level variables	
Activist	dummy variable equal to one if a fund is an activist hedge fund
# Analysts (log)	log of 1 + the number of analysts following the firm
AUM (log)	log of 1 + assets under management (in dollars)
Portfolio Return	value-weighted return of a fund's 13F holdings
% Portfolio Short Interest	average short interest for portfolio holdings
Holdings (log)	number distinct long positions on a fund's 13F
Portfolio Turnover	sum of the holding-level absolute dollar value change across all 13F portfolio holdings divided by the sum of the the holding-level average dollar value over the last two quarters across all 13F portfolio holdings
Portfolio Concentration	Herfindahl-Hirschman Index (HHI) of a fund's long positions on its 13F
Portfolio Illiquidity	value-weighted Amihud (2002) measure of illiquidity across a funds 13F portfolio holdings

Electronic copy available at: https://ssrn.com/abstract=3242516

Table A3: **Fund-Level Characteristics**
This table reports descriptive statistics for fund characteristics. All variables are defined in Table A2.

	Mean (1)	Median (2)	SD (3)
Short Campaign	0.0013	0.0000	0.0367
Activist	0.25	0.00	0.43
AUM (log)	20.04	19.91	1.76
Portfolio Return	0.0015	0.0000	0.0131
# Holdings (log)	4.17	4.16	1.39
Portfolio Turnover	0.5472	0.3991	0.4805
Portfolio Concentration	0.0877	0.0372	0.1483
% Portfolio Short Interest	0.0012	0.0001	0.0035
Portfolio Illiquidity	11.62	2.85	29.56

Electronic copy available at: https://ssrn.com/abstract=3242516

Table A4: **Short Campaign CARs**

Panel A reports cumulative abnormal returns for short campaigns. Columns (1)–(3) report CARs for a [-20, 20] window around campaign announcements. Columns (4)–(6) report CARs for a [-20, 100] window around campaign announcements. Panel B compares post-event CARs for short campaigns to those for changes in short interest greater than 5% of shares outstanding. Columns (1)–(3) report CARs for a [-1, 20] window around campaign announcements. Columns (4)–(6) report CARs for a [-1, 100] window around campaign announcements. For both panels, columns (1) and (4) report abnormal returns from the market-factor model, columns (2) and (5) report abnormal returns from the three-factor model, and columns (3) and (6) report abnormal returns from the five-factor model. *** indicates statistical significance at the 1% level.

Panel A: Baseline CARs						
Dependent Variable:	[t-20, t+20] CAR			[t-20, t+100] CAR		
Model:	one-factor	three-factor	five-factor	one-factor	three-factor	five-factor
	(1)	(2)	(3)	(4)	(5)	(6)
CAR	-0.0748***	-0.0684***	-0.0566***	-0.1092***	-0.0947***	-0.0752***
	(0.0155)	(0.0152)	(0.0154)	(0.0198)	(0.0212)	(0.0235)
Observations	304	304	304	296	296	296

Panel B: Post-Event Comparison to >5% Change in SI						
Dependent Variable:	[t-1, t+20] CAR			[t-1, t+100] CAR		
Model :	one-factor	three-factor	five-factor	one-factor	three-factor	five-factor
	(1)	(2)	(3)	(4)	(5)	(6)
CAR	-0.0603***	-0.0585***	-0.0541***	-0.0938***	-0.0859***	-0.0740***
	(0.0118)	(0.0117)	(0.0117)	(0.0195)	(0.0193)	(0.0213)
Observations	304	304	304	296	296	296
ΔSI CAR	-0.0184***	-0.0178***	-0.0154***	-0.0556***	-0.0472***	-0.0385***
	(0.0031)	(0.0031)	(0.0032)	(0.0059)	(0.0061)	(0.0064)
Observations	5,819	5,819	5,819	5,754	5,754	5,754
Difference	-0.0419***	-0.0408***	-0.0386***	-0.0383	-0.0387	-0.0354
	(0.0140)	(0.0140)	(0.0143)	(0.0266)	(0.0270)	(0.0286)

Electronic copy available at: https://ssrn.com/abstract=3242516

Table A5: **Short Campaign CARs: [-1, 1] and [-5, 5] Windows**
This table reports CARs for narrow windows around short campaign announcements. Columns (1)–(3) report CARs for a [-1, +1] window. Columns (4)–(6) report CARs for a [-5, +5] window. Columns (1) and (4) report abnormal returns from the market-factor model, columns (2) and (5) report abnormal returns from the three-factor model, and columns (3) and (6) report abnormal returns from the five-factor model. *** indicates statistical significance at the 1% level.

Dependent Variable:	[t-1, t+1] CAR			[t-5, t+5] CAR		
Model:	one-factor	three-factor	five-factor	one-factor	three-factor	five-factor
	(1)	(2)	(3)	(4)	(5)	(6)
CAR	-0.0336***	-0.0330***	-0.0330***	-0.0407***	-0.0385***	-0.0360***
	(0.0054)	(0.0057)	(0.0057)	(0.0084)	(0.0083)	(0.0084)
Observations	304	304	304	304	304	304

Electronic copy available at: https://ssrn.com/abstract=3242516

Table A6: **Short Campaign CARs: Follow-up Events**
This table reports CARs for a [-20, +100] window around campaign announcements. Column (1) reports CARs for campaigns without a follow-up action. Column (2) reports CARs for campaigns with a follow-up action. Column (3) reports CARs for campaigns with a follow-up action by the original short seller. Column (4) reports CARs for campaigns with a follow-up action by another investor. Column (5) reports CARs for campaigns with a follow-up action by the target firm or a regulator. ** and *** indicate statistical significance at the 5% and 1% levels, respectively.

Dependent Variable:	[t-20, t+100] CAR				
Sample:	No Follow-Up	Follow-Up	Follow-Up Orig. HF	Follow Up Other Inv.	Follow-Up Target/Reg
	(1)	(2)	(3)	(3)	(3)
CAR	-0.0600*	-0.1309***	-0.1235**	-0.1011*	-0.1374**
	(0.0338)	(0.0341)	(0.0490)	(0.0573)	(0.0614)
Observations	103	88	49	41	28

Electronic copy available at: https://ssrn.com/abstract=3242516

Table A7: **Director, Shareholder, and Stakeholder Responses: Controlling for Short Interest**

This table examines the relationship between short campaigns and subsequent actions by directors, shareholders, and other stakeholders controlling for short interest of the target. *Target* is an indicator for whether a firm is targeted by a short campaign. *Post* is an indicator for post-campaign years. In column (1) the dependent variable is an indicator for whether a firm experiences forced CEO turnover in year t. CEO turnover analysis uses the Execucomp sample. In column (2) the dependent variable is an indicator for whether a firm experiences director turnover in year t. In column (3) the dependent variable is an indicator for whether a firm was subject to a lawsuit in year t. The sample covers all targets of short campaigns as well as matched control firms for five years before and after a campaign. Following Brav et al. (2008), matched firms are chosen based on 3-digit SIC codes and MV and BM deciles. If no match is found, we change the matching criteria to 2-digit SIC codes and MV and BM quintiles, or 2-digit SIC codes and MV and BM terciles if necessary. All regressions include short campaign fixed effects. Standard errors are clustered at the short campaign level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable:	$\mathbb{1}$(Forced CEO Turnover) (1)	$\mathbb{1}$(Director Turnover) (2)	$\mathbb{1}$(Litigation) (3)
Target × Post	0.0226***	0.0164	0.0774***
	(0.0071)	(0.0223)	(0.0237)
Short Interest	0.0912***	0.1200	0.4556***
	(0.0248)	(0.1183)	(0.1203)
Event FE	Yes	Yes	Yes
Uninteracted Terms Included	Yes	Yes	Yes
Observations	17,893	17,442	17,893
R^2	0.030	0.037	0.159

Electronic copy available at: https://ssrn.com/abstract=3242516

Table A8: **Firm Outcomes and Policies: Controlling for Short Interest**
This table examines the relationship between short campaigns and subsequent firm policies/outcomes controlling for short interest of the target. *Target* is an indicator for whether a firm is targeted by a short campaign. *Post* is an indicator for post-campaign years. In column (1) the dependent variable is ROA. In column (2) the dependent variable is an indicator for whether the firm experienced a delisting due to bankruptcy or liquidation in year t. In column (3) the dependent variable is investment normalized by total assets. In column (4) the dependent variable is payouts normalized by net income. The sample covers all targets of short campaigns as well as matched control firms for five years before and after a campaign. Following Brav et al. (2008), matched firms are chosen based on 3-digit SIC codes and MV and BM deciles. If no match is found, we change the matching criteria to 2-digit SIC codes and MV and BM quintiles, or 2-digit SIC codes and MV and BM terciles if necessary. All regressions include short campaign fixed effects. Standard errors are clustered at the short campaign level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable:	ROA (1)	$\mathbb{1}$(Bankruptcy) (2)	Investments (3)	Payouts (4)
Target × Post	-0.0236	0.0028*	-0.0086**	-0.0433
	(0.0159)	(0.0017)	(0.0037)	(0.0264)
Short Interest	-0.0541	0.0088	0.0316*	-0.6150***
	(0.1097)	(0.0058)	(0.0186)	(0.1113)
Event FE	Yes	Yes	Yes	Yes
Uninteracted Terms Included	Yes	Yes	Yes	Yes
Observations	16,362	16,631	16,536	15,740
R^2	0.289	0.028	0.320	0.209

Electronic copy available at: https://ssrn.com/abstract=3242516

european corporate governance institute

About ECGI

ECGI is an international non-profit membership organisation that provides a platform for debate and dialogue among academics, policymakers, and business leaders, with a focus on major corporate governance, ESG, and stewardship issues.

The views expressed in this working paper are those of the authors, not those of the ECGI or its members.

www.ecgi.global

european corporate governance institute

ECGI Working Paper Series in Finance

Editorial Board

Editor	**Nadya Malenko,** Professor of Finance, Boston College
Consulting Editors	**Renée Adams,** Professor of Finance, University of Oxford
	Franklin Allen, Professor of Finance and Economics, Imperial London
	Julian Franks, Professor of Finance, London Business School
	Mireia Giné, Professor of Finance, IESE Business School
	Marco Pagano, Professor of Economics, Facoltà di Economia Università di Napoli Federico II
Series Manager	**Asif Malik**, ECGI Working Paper Series Manager

https://www.ecgi.global/publications/working-papers