

Living with the Frenemy: Common Ownership and Hedge Fund Activism

Gu, Zhaoyang, The Chinese University of Hong Kong

ZHANG, Chunqiu, Fudan University

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Abstract

Mutual funds do not always join hands with hedge funds in activism campaigns. In this study, we explore how the incentive divergence between hedge funds and mutual funds affects hedge funds' activism (HFA) campaign decisions, objectives and tactics. Such divergence arises when hedge funds aim at single target value maximization while mutual funds holding same-industry peers pursue for joint portfolio maximization. We find that hedge fund activists are less likely to target firms with co-owned peers (through a common mutual fund blockholder) and the effect is more pronounced when a higher fraction of firm shares is held by actively managed mutual funds and when the firm operates in industry of higher common ownership concentration. We also find that hedge funds pursue more specific objectives but choose less confrontational tactics when targeting firms with co-owned peers, consistent with hedge funds' cost benefit trade-offs. Additionally, targets with co-owned peers experience higher market reaction on campaign announcement and greater post-activism operational performance improvement. To further establish causality, we use annual reconstitution of Russell index as the instrumental variable of mutual fund common ownership. Collectively, our findings suggest that common ownership constitutes a subtle cost deterring activism intervention by hedge funds.

1. Introduction

Literature has explored the decision-making process of hedge fund activists, in terms of their target selection, intervention timing, and tactic choices. Because activists' decision-making process especially their target selecting is unobserved, it is worthwhile to explore but fairly difficult to directly test. Many of the studies to date focus on what type of companies do activist hedge fund target and relates targets' characteristics to their propensity of being targeted by hedge fund activists. Brav et al. (2010) summarize those target companies' characteristics including market value of equity, Tobin's Q, growth, profitability, capital structure, payout policy, investment choices, industry competition, shareholder sophistication, liquidity, and also governance metrics. One significant feature of those studies is that they general isolate the target firm and document how characteristics of target firms per se determine their probability of being targeted by activists. However, firms operate in a network-based environment. They compete or cooperate with industry peers. They rely on their suppliers and customers for future development. They would be influenced by their blockholders' interests. Putting target companies into a network-perspective environment and studying hedge fund activists' target-selecting and decision-making process would be interesting, nevertheless this is the an under explored angle. That is, activists would consider not only the wealth of target firm, but also the potential wealth impact of target firm on its related parties because those related parties would determine activists' costs and benefits of initiating a campaign.

Powerful shareholders, and their interest in the target firm, are non-negligible for hedge fund activists in their decision-making consideration. This is true in reality. In the letter to shareholders, William Ackman of Pershing Square stated that:

*"We review the **ownership structure** of a company before we invest to look for **large holders who might be opposed to the type of corporate changes** we intend to advocate, whether a company is in the S&P 500 or other major stock market indexes, or whether the owners are hedge funds or passive investors has not played a meaningful role in our analysis..."¹*

Apparently, activists would take into consideration of one category of target company's related parties, i.e. large holders or blockholders of the targets. The reason why this is important is that though hedge fund activists usually own substantial stake, they still need to seek help or avoid direct conflict from other fellow institutional shareholders of the target. Obtaining alliance with

¹ See details at <https://assets.pershingsquareholdings.com/2014/09/Pershing-Square-2015-Annual-Letter-PSH-January-26-2016.pdf>.

other fellow shareholders significantly reduces activists' coordination and intervention costs, while avoiding direct conflicts would reduce activists' opportunity costs. For activists, other fellow shareholders of the target could swing between friends and enemies, depending on their interests. Knowing the attitude of other fellow shareholders towards activism intervention, the activists would be able to better determine whether or not it is too costly to engage and how to determine their tactics accordingly.

Conventionally, when hedge fund activists initiate intervention, other fellow institutional shareholders would usually offer help. Because those fellow shareholders could free ride on activism and share the potential benefits of improved governance, strategies and valuation, without generating additional costs. Indeed, many studies directly or indirectly confirm this argument. Activists they themselves sometimes act as a wolfpack (Coffee & Palia, 2016; Wong 2016) or seek coordination by co-filing Schedule 13Ds (22% according to Brav et al. (2008) sample). Activists also tend to target firms with higher institutional holdings (Brav et al. 2008), and more specifically, they tend to use more aggressive tactics like proxy fights and to seek board representations when the passive ownership of target is higher (Appel et al. 2018). Activists do have knowledge about the shareholder base of the potential target and they are more likely to pick a target with relatively more pro-activist shareholder base when initiating proxy contests (Brav et al. 2019).

However, fellow institutional shareholders' facilitation effect holds only if we assume that other shareholders share the common objective of improving target's value with hedge fund activists. When there exist heterogeneous objectives, alliance would not always be achieved. Institutions, which are usually diversified sophisticated investors, seek for the joint value maximization with regard to their heterogeneous portfolio positions. Misalignment of interest between hedge fund activists and other fellow shareholders would thus arise, given the fact that hedge fund activists' objective is to maximize concentrated value in a specific target firm (Brav et al., 2008; Schneider, 2015). Such misalignment would either cause reluctant cooperation when a single target stock return has little influence on fellow institutions' giant portfolio, or lead to severe divergence when the target' value enhancement would negatively affect other firms within the fellow intuition's portfolio. Incentive divergence problem would be especially prominent when the fellow institution is a common blockholder (simultaneously holds over 5% in each firm, co-owner hereafter) of the target firm and its industry peers, causing the target a firm with co-owned industry peers.

Common ownership is becoming an international and fast-rising trend, attracting academic attention as well. With regard to the effect common ownership on corporate conduct, studies argue that because co-owners' objective is to maximize the joint value of overall portfolio (Admati et al., 1994; Hansen and Lott, 1996; Gordon, 2003), they do not want portfolio firms to compete aggressively. Intensified competition would reduce co-owners' overall payoffs because product market performance improvement of one firm usually comes at the costs of the others (Robin, 2006; Azar, 2012, 2017). Most of the studies on anti-competitive effect of common ownership are analytical models, only a few empirically test it. In airline industry, there is a positive relation between within-route changes in common ownership concentration and route-level changes in ticket prices (Azar et al, 2017). Using a more generalizable sample, Anton et al. (2017) find that managers are incentivized less to compete when an industry tends to be concentrated with common ownership (Anton et al., 2017).

To the extent that co-owners' divergent objective and voting power has become large enough to be decisive for hedge fund activism (HFA hereafter) campaigns, it is worthy to investigate, to what extent and how, the existence of co-owners affect HFA campaign decision, objectives and tactics, in terms of cost-benefit tradeoffs faced with activists.

We argue that misalignment of interests will trigger co-owners to be anti-cooperative when hedge fund activists initiate an activism campaign over a firm with co-owned industry peers. Such conflict is strengthened by the fact that HFA campaign creates long-lasting value for the target but does not have positive externalities to target' industry peers. On average, target's same-industry rival firms experience negative and real shareholder wealth loss (Aslan & Kumar, 2016). In some cases, HFA campaign transfers wealth from peers to the target, but for co-owners there is no difference of moving money from one pocket to the other. This is the case of imperfect alignment. In most cases, if hedge fund activists seek for aggressive competition, then intensified competition usually would reduce product prices, so would be the combined profits of target and its peers. This is the case of divergence of interests. Foreseeing the probability of resistance from co-owners, hedge fund activists would be rigorous in selecting the targets. We hypothesize and find supporting evidence that hedge fund activists tend to be less likely to target firms with co-owned industry peers.

However, this finding could be driven by the possibility that firms with co-owned industry peers are well governed already, so there is no need for hedge fund activists to initiate activism campaign to improve operations, management and governance. Or it could also be possible that common

shareholders could diversify away the risk that one of its portfolio firms is to be targeted by hedge fund activists by divesting from potential targets' same-industry peers, leaving the potential targets without co-owned industry peers. To address those concerns, we have conducted both channel tests and instrumental variable approach to facilitate identification.

We first exploit variations in ownership structure of firms that would affect the incentive of resistance by co-owners. Using firm level active mutual fund share percentage as a proxy for shareholders' incentive of involvement in corporate governance and policies, we find that the effect of deterrence on activist campaign is stronger for firms with a higher fraction of active mutual fund shares. Then we examine variations in industry level ownership concentration. We argue that industries with higher ownership concentration would be more anti-competitive. At the same time, the return potential or improvement capacity for those industries would be higher. However, the resistance from co-owners would also be stronger. This setting provides us a chance to tests hedge fund activist's trade-off of benefits and costs directly. We find that co-owners' resistance effect dominants, that the probability of being targeted is incrementally lower when a firm has co-owned industry peers and also operates in a high common ownership concentrated industry.

Then we utilize an instrumental variable approach to further establish causality. The instrumental variable we use is the annual reconstitution of Russell 1000 and Russell 2000 indexes. Annual reconstitution of Russell indexes is documented to be highly correlated with institutional investors' holding position. Specifically, in the first stage, we use the change of membership from Russell 2000 to Russell 1000 and vice verse, and the indicator of Russell 2000 membership as instruments for common ownership. In the second stage, WE rerun the main regression using fitted value from first stage and estimate the effect of common ownership on HFA campaign decision. The deterrence effect of common ownership on HFA campaign generally hold both qualitatively and quantitatively.

If hedge fund activists are rational, then whenever they decide to target a firm, they would expect gains outweighs costs. Then when they target firms with co-owned industry peers, the expected gains should be higher than when they target firms without, because the costs related to potential resistance of co-owners are higher in the first case. Short-term market reaction to activism campaign announcement would directly reflect market perception of expected gains of activism campaign. We found that indeed market reacts more positively when activists target firms with co-owned industry peers, indicating that market expects those campaigns would generate more

positive returns. In addition, on average industry peers of targets with co-owned industry peers react more negatively to activism campaigns compared to average industry peers of targets without around campaign announcement. This indicates that on average, industry peers of targets with co-owned industry peers experience more negative externalities, probably product market competition driven. Market is expecting that campaigns targeting firms with co-owned industry peers would pressure targets to compete more aggressively, thus leading to market share loss to average industry peers. Moreover, taking the last available position of co-owners' industry portfolio as given, we test the pseudo wealth change of co-owners' industry portfolio. Co-owners' wealth of keeping industry portfolio consists of targets and its co-owned peers strictly underperforms the wealth if they only hold the targets. Findings of average industry peer reaction to campaign announcement and pseudo co-owners' wealth change collaborate the argument that hedge fund activists would break the existing competition equilibrium within an industry, causing wealth loss of co-owners.

We also examine when hedge fund activists target a firm with co-owned industry peers, would they pursue different objectives and would they use certain tactics consistent with their cost benefit trade-off when faced with co-owners' potential resistance. From the benefit perspective, because of anti-competitive effect of common ownership, targets with co-owned peers are of high potential benefiting from competing proactively. Accordingly, hedge fund activists would pursue specific rather than general objectives to push the targets to be more aggressive in product market competition. We find results consistent with benefit argument that when targeting firms with co-owned peers, hedge fund activists are more likely to pursue specific objectives including changes in capital structure, business strategy, sale of the target and governance instead of general objectives such as improving valuation. Especially, they are more likely to go after business strategy which is closely related to product market strategy. From the cost perspective, in fear of potential resistance from co-owners, hedge fund activists would design their tactics accordingly to ensure campaign success. To avoid being beaten by co-owners in proxy contest like Trian Fund's loss in battle in DuPont, hedge fund activists would be more willing to communicate and persuade the existing management to implement their proposals or to gain board seats in a friendly way rather than to involve in costly proxy fight. We find that on targeting firms with co-owned peers, hedge fund activists are less likely to adopt confrontational tactics. Moreover, using a difference-in-difference-in-difference analysis, we further document that post-activism, targets with co-owned peers experience higher operational improvement and incentivize managers more.

These results collectively suggest that with the help of hedge fund activists, targets with co-owned peers are catching up in operating performance with targets without.

Our study complements a broad literature that examines hedge fund activism. Firstly, prior literature views the role of fellow shareholders in hedge fund activism campaign homogeneously, with one exception Brav et al. (2019) to our best knowledge. We argue that heterogeneity in ownership structure matters for HFA campaign decisions, objectives and tactics. Co-owners who simultaneously hold same-industry peers are less likely to support hedge fund activists because HFA campaigns would break the industry equilibrium and may negatively affect co-owners' vested interest. In choosing a target, hedge fund activists not only evaluate the target performance, but analyze the target's ownership structure and they decide accordingly to the extent of existence of co-owners. Our study significantly different from Brav et al. (2019). Though the two studies both focus on the pre-activism shareholder structure matters for hedge fund activists' target selection, the shareholder structures that the two studies explore are totally different. Brav et al. (2019) document the general phenomenon that passive funds are less likely to support hedge fund activists (though not the focus of their paper), they attribute the heterogeneity voting pattern is driven by value consideration and they only partition mutual fund characteristics to be passive vs. active. However, whether the mutual fund is passive or active is not the focus of our study. Rather, we emphasize mutual funds' portfolio structure (whether the pre-activism mutual fund is a common owner or not) would matter for their attitude towards the activists. With regard to the test of probability of supporting the activists, Brav et al. (2019) generally document the past observed pro-activist records (or self-revealed pro-activist type) would predict future supporting probability. Our main test is how the existing mutual fund portfolio structure (co-owner or not) would provide the funds economic incentive to oppose interference of activists. Moreover, Brav et al. (2019) concern more about the extreme case – proxy contest. Ours is much general. The two studies, to some extent, complement each other. Brav et al. (2019) emphasize activists' selection of friends, we argue activists' avoiding of enemies.

Secondly, prior literature generally explores governance role of hedge funds and mutual funds separately with one exception of Appel et al. (2016) that study passive investors in the role of mitigating free-rider problems in activism campaign. We extend the literature by studying the interaction between hedge funds and mutual funds, which would contribute to the literature of exploring the “boundaries” between activist investors and shareholders.

Lastly, we also contribute to the recent empirical literature that investigate the causes and consequences of “common ownership”. We identify a potential social cost that anti-competitive effects of common ownership (Anton et al., 2017; Azar et al., 2016) by mutual fund families transfer to resistance of hedge fund activism campaign, causing potential HFA targets to lose the chance of improvement.

The rest of the paper is organized as follows. Section 2 provides institutional background and an anecdote. Section 3 discusses related literature. Section 4 explains our data and statistics. Section 5 describes empirical design and tests and Section 6 concludes.

2. Institutional Background and Anecdotal Evidence

On May 13, 2015, Trian Fund Management, L.P., led by Nelson Peltz, lost its proxy battle against DuPont in the ambition of getting four board seats at DuPont. Though Institutional Shareholder Service’s (“ISS”) and Glass Lewis recommend Trian’s board nominees Nelson Peltz and John H. Myers, Trian lost the chance to get inside DuPont’s boardroom to a very small margin. Criticisms over Trian Fund’s failure include inappropriate target choice, retail investors’ involvement that makes the battle unpredictable, and DuPont management team’s recent promising movements. But the reason of losing the battle may not just rest on the side of Trian Fund. Uncovering the voting records of the battle, mutual fund families Vanguard, BlackRock, and State Street were instrumental in swinging Trian vote, they all sided with the company, a blow that Trian couldn't overcome. This makes the situation interesting, not only that mutual funds are not passive (Appel et al., 2016), but they do not go with the activists, contradicting the conventional view that hedge fund activists normally gain support from other institutional investors in initiating Hedge Fund Activism (HFA) campaign. Taking one step back, what’s more interesting is that Vanguard, BlackRock and State Street also rest as the largest shareholders of Trian’s major competitor, Monsanto. In fact, top 10 shareholders of DuPont and Monsanto overlap to a notable large extent.

This is the situation where common ownership arises, that a blockholder of a focal firm simultaneous block holds the focal firm’s same-industry peers. In this case, the blockholder is a “co-owner” and Monsanto is DuPont’s co-owned industry peer. Common ownership is the natural result of recent consolidation and increasing concentration in the asset management industry. One observation to date is that the ownership structure for most U.S. corporations is strikingly common, that the top shareholders across the major players in many industries are very similar. Large mutual fund families BlackRock, Vanguard, State Street and Fidelity are among the major holders of the largest corporations in many industries. Among which, with more than \$3.5 trillion in assets

under management, BlackRock was the “*single largest shareholder of one in five corporations in United States, often including the largest competitors in the same industry*” by 2011 (Davis, 2013). In fact, the United States has never before witnessed corporate ownership this concentrated under the control of a small number of financial institutions, even at the height of “finance capitalism” in the early twentieth century².

In order to maximize joint portfolio value, co-owners Vanguard, BlackRock, and State Street do not want DuPont to compete aggressively with its industry peers such as Monsanto. This might be the reason why they voted against Trian Fund. Because intensified competition may increase DuPont’s relative competitive edge and value, but would also press down the product prices and correspondingly joint profits of DuPont and its peers. However, pushing DuPont to invest aggressively in R&D and to incentivize CEO more to gain market share in order to achieve “best in class revenue growth” is the main goal of Trian Fund in initiating the activism campaign. Market seems to be disappointed by Trian’s failure in the proxy fight, with a drop over 5% of DuPont’s stock on the day post voting. Anti-competition co-owners beat favor-competition hedge fund activists, causing DuPont to miss the precious chance of change in operations and management. Indeed, the long-term stock market performance of DuPont recognized such social costs, with price kept dropping over 20% till October 2015 and the CEO finally stepped down.

3. Literature Review and Hypothesis Development

3.1 Alliance in Hedge Fund Activism

Prior literature generally views the role of other fellow institutional investors in hedge fund activism campaign homogenously. In other words, fellow institutional investors normally cooperate with hedge funds as they would share the payoffs of intervention post campaign.

Theoretical work has established that activists face classic free-rider problem that they bear all the costs of initiating intervention but have to share the profits with other shareholders (Grossman & Hart, 1980). To overcome free-rider problem, activists need to accumulate a significant fraction of shares (Shleifer & Vishny, 1986) or act collectively as a “wolf pack” (Coffee & Palia, 2016; Brav et al. 2016; Wong, 2016). However, given their minority stakes in the target firms, hedge fund activists usually rely on the understanding and support of fellow shareholders to implement their changes (Brav et al., 2008; Brav et al., 2010). Fellow shareholders with concentrated ownership eases the communication and coordination, which rally backing for activists (Bradley

² One extreme example. As of the second quarter of 2017, among United Airline’s top 100 investors which collectively hold more than 91% of outstanding shares, there are only 5 of them that don’t also hold stock of another top-4 airline.

et al., 2010). In fact, hedge fund activists are more likely to involve firms with high institutional ownership when weighing proxy contest (Fos, 2016). Among other fellow institutional investors, due to close track of underlying index, passive institutions are restrained from selling their poorly performing stocks in their portfolios, making them more willing to act as influential partners of hedge funds in an activist campaign. Appel et al. (2016) find that activists are more likely to pursue changes to corporate control rather than incremental changes to corporate policies when a larger fraction of the target company's stock is held by passively managed mutual funds. The cooperation between hedge fund and other institutional investors go beyond economic incentive. The presence of funds whose managers are socially connected to the lead activist are more likely to contribute to the activist's ultimate campaign success (He & Li, 2017).

Anecdotally, alliance between hedge fund activists and other institutional investors indeed exists. James Rossman claimed that "activists realize they can influence concentrated shareholder base at many companies, and they're tapping into the desires of shareholders to see change take place."

³ Sometimes large institutions even approach activists and offer ideas before a campaign has begun.⁴ With less than 1 percent of Microsoft's stock, ValueAct successfully obtained a seat on the board, knowing that some of the largest and oldest shareholders supported the need of change at the company. "Institutional investors want to share the sick children in their portfolio with someone who can help make them better".⁵

Internationally, Becht et al. (2017) find hedge fund activists seek out targets with high institutional ownership, especially high U.S. institutions for targets outside the United States because those institutions are cooperative.

3.2 Frenemy in Hedge Fund Activism

However, the interests between hedge funds and other institutional investors may not always be aligned. Institutional investors are heterogeneous in their investment pattern, expertise, preferred governance mechanism, horizon and interest (Edmans & Holderness, 2016). Institutional shareholders usually exert governance through "Wall Street Walk", the credible threat of exit (Admati & Pfleiderer, 2009) or they do not actively buy or sell shares to influence managerial decisions (Appel et al., 2016), or sell at the first sign of trouble rather than manage problems"

³ Head of corporate preparedness at Lazard, *The New York Times*, March 18, 2014.

⁴ William A. Ackman, founder of Pershing Square Capital noted "Periodically, we are approached by large institutions who are disappointed with the performance of companies they are interested in to see if we would be interested in playing an active role in effectuating change".

⁵ Bruce H. Goldfarb, chief executive of Okapi Partners, a proxy solicitation firm. See "New alliances in the battle for corporate control," *The New York Times*, March 18, 2014.

(*The Economist*, 2015⁶). Sometimes, when mutual fund managers compete for investor capital, their threat of exiting loses credibility, weakening the voice channel (Dasgupta & Piacentino, 2015). However, hedge fund activists usually invest with the intention of intervention by implementing changes to operations, management and governance. This is the difference in preference between mutual funds and hedge funds with regard to involvement in corporate governance.

Whereas, recent consolidation and increasing concentration in the asset management industry might even create conflicts of interests between hedge fund activists and mutual funds. The increasingly pronounced ownership links (common ownership) between firms, especially when mutual funds simultaneously hold same-industry peers, affects corporate behavior and would also have externalities towards HFA campaign.

The extent to which would co-owners affect firm behavior and the equilibrium outcome of industry competition has solid theoretical foundation. One extreme to the other, if shareholders all hold a single firm, then unanimous indifference or profit maximization is arrived (Fisher, 1930; DeAngelo, 1981); while when identical shareholders hold equal fractions of shares in all firms or they are fully diversified, the maximization of economy-wide profits can be agreed upon (Rotemberg, 1984). For the world in between, partial diversified shareholders pursue the objective to maximize the joint value of their portfolio as opposed to any particular individual firm profit maximization (Admati, Pfleiderer, and Zechner, 1994; Hansen and Lott, 1996) in an economy with incomplete market (Hart, 1979). Consequently, Gordon (2003) advances the literature by arguing the objective function for a firm would change if it internalizes between-firm externalities by aggregating shareholder preference to the extent their influential shareholders hold shares in industry competitors.

Given the fact that stand-alone firm profit maximization may not always coincide with portfolio value maximization (Hart, 1979), diversification can reduce competition in product market (Farrell, 1985; Gordon, 2003; Robin, 2006), leading to monopoly. The reasoning is that aggressive competing strategy and capacity expansion of a firm may hurt other portfolio rival firms of the common owner, because the market share increase of one firm comes at the expense of other firms and thus at the expense of joint profits. Assuming that firms have some market power and engage in strategic interaction with their industry competitors, Azar (2012, 2017) develops a model of

⁶ <https://www.economist.com/news/leaders/21642169-why-activist-investors-are-good-public-company-capitalisms-unlikely-heroes>.

firm behavior in the context of oligopoly. He argues that portfolio diversification generates tacit collusion that profit margin is positively correlated with common ownership. Using data of US airline industry to overcome the formidable identification challenge, Azar et al. (2017) explicitly document a positive correlation between within-route changes in common ownership concentration and route-level changes in ticket prices which they attribute as hidden social cost of reduced product market competition. A possible channel of the monopoly outcome established theoretically and empirically by Antón et al. (2017) is that executives are paid less for their own firm's performance and more for their rivals' performance if an industry's firms are controlled by shareholders with larger financial stakes in competitors. Consistent but slightly different in the taste, He & Huang (2017) finds that institutional cross-ownership facilitates product market collaboration.⁷

Unlike large mutual fund families that are required by law to maintain a diversified portfolio and to retain liquidity, hedge fund managers usually concentrate their investments in certain companies and they have sharp incentive to generate positive returns because their compensation depends primarily on performance (Brav et al., 2008; Schneider, 2015). They tend to have "skin in the game" (Brav et al., 2010) by investing a substantial amount of personal wealth into their funds. Hedge funds perceive the goal to produce absolute return which is "market neutral" (McClellan, 2006) or largely uncorrelated to financial market trends (Papier, 2005) and to generate high alpha (Till & Gunzberg, 2005).

Taking the above arguments and facts together, whether hedge funds and mutual funds would cooperate in an activism campaign is ambiguous. As long as there is divergence of economic incentives, hedge fund activists may not be able to get support to advance the campaign. If we view mutual fund investors as homogenous, then there should be no doubt for them to join hands with hedge fund activists because they have the common objective to maximize target firm value. Those fellow mutual funds can take advantage of hedge fund activists' expertise in "cemented their position as a force in U.S. markets and boardrooms"⁸ and share the benefits of post-campaign target performance improvement. However, if we decompose the mutual funds by their constitutions in the portfolio at industry level, those investors who simultaneously hold industry peers/competitors would have distinct objective to those who do not, as the former institutions

⁷ Schmalz (2017) provides a comprehensive review of theoretical research on common ownership concentration and corporate conduct, with descriptive statistics of the current U.S. firms' ownership structure.

⁸ <https://www.economist.com/news/leaders/21642169-why-activist-investors-are-good-public-company-capitalisms-unlikely-heroes>.

have the goal of maximizing their portfolio payoffs rather than a stand-alone target's profits (Admati, Pfleiderer, and Zechner, 1994; Hansen and Lott, 1996).

If these common shareholders are dominant shareholders in both industry peers, then their lack of cooperating incentive and their power to confront is not negligible for hedge fund activists. In some cases, post-activism performance improvement of the target may come at the cost of its industry peers. Aslan & Kumar (2016) document that hedge fund activism has negative and real stockholder wealth effects on the average rival firms of the same SIC industry. For the common shareholders, it is just a wealth transfer from one pocket to the other, so they are less motivated to help hedge funds. This is the case of imperfect interest alignment. However more prevalently, hedge fund activists usually urge changes of a target firm in the productivity, capital redeployment, labor efficiency and product differentiation (Brav et al., 2015) and they push the target to compete more aggressively in product market. Co-owners of same-industry peers would suffer from such increase in competition. Product price would be lower, so would be the combined profits of the two firms. Such outcome is strictly out of tune with the economic interests of co-owners who pursue combined profit maximization. This is the source of interest disagreement. As large institutions, those co-owners usually hold sufficient fraction of shares. Co-owners' divergent economic interest together with their voting power make it less likely that an activism campaign to pass the ballot, especially if it is aimed at tougher competition. It could even be questionable for hedge fund activists that it is worthy targeting a firm with co-owned industry peers (through a common owner) in the first place. The incentive divergence effect is reinforced given the widespread common dominant shareholders of U.S. corporations nowadays. Consequently, we predict that the presence and strength of common dominant shareholders would affect hedge fund activists' campaign decision:

H1: *Hedge fund activists are less likely to target firms with co-owned industry peers.*

When hedge fund activists initiate an activism campaign, they would trade off benefits and costs related to whether the targets have co-owned industry peers or not. Targets with co-owned industry peers are those that have the higher potential in product market performance relative to those that without, because anticompetitive shareholder incentive from co-owners are translated into anticompetitive behavior of firms (Azar, 2012, 217; Azar et al. 2017) prior to hedge fund intervention. Hedge fund activists would expect to gain higher profits by affecting the operational issues such as pushing the targets for aggressive competition and for aggressive investment, to improve target's product market share and status. Consequently, hedge fund activists would pursue for

consistent objectives in their campaigns and such objectives would be more related to product market competition. On the other hand, hedge fund activists would also take into consideration of costs related to potential resistance from co-owners. Expecting less likely to gain support in adversarial tactics such as proxy contests, hedge fund activists would rather use more friendly tactics to avoid costly fight but to persuade targets' management to implement changes through friendly communication or shareholder proposal or through gaining board representation friendly. Friendly tactics would better guarantee campaign success. Then we have the following prediction with regard to hedge fund activists' objectives and tactics:

H2: *When targeting a firm with co-owned industry peers, hedge fund activists are more likely to pursue business strategy-oriented objectives and are more likely to use less confrontational tactics.*

4. Data and Key Variables

4.1 Overall Sample Selection

The sample examined in this study starts from the merged sample of Thomson Reuters S12 and CRSP from 1993 to 2014. We choose 1993 as the starting year as we collect hedge fund activism data from 1994, thus leaving one year for the calculation of pre-activism mutual fund holdings. Financial data is obtained from Compustat, and market data is obtained from CRSP. Analyst following data is subtracted from I/B/E/S.

4.2 Hedge Fund Activism Data

Generally, we follow the strategy of Brav, Jiang & Kim (2008) to construct an extension of their sample based mostly on Schedule 13D filings, the mandatory federal securities law filings under Section 13(d) of the 1934 Exchange Act that investors must file with the SEC within 10 days of acquiring more than 5% of any class securities of a publicly traded company if they have the interest in influencing the management of the company⁹. 13D filings contains information of the filer identity (Item 2 "Identity and Background"), the actual percentage holdings of the filer in the target firm (Item 5 "Interest in Securities of the Issuer"), the purpose of the transaction and intention and tactics in further acquisition or disposition of shares, engaging in merger, reorganization or liquidation, sale or transfer of material amount of assets, changes in the present board of directors or management, a material change in present capitalization or dividend policy, any other material change in business or corporate structure, changes in certificate of incorporation

⁹ In contrast, passive institutional investors that acquire more than 5% but less than 10% of the company's stock and do not intend to seek to influence control at the target company, but are merely investing in the ordinary course of business, are required to file Schedule 13G within 45 days of the end of the calendar year in which they cross the ownership threshold.

or bylaws, delisting, termination of registration pursuant to Section 12(g) involving the target firm or its subsidiaries (Item 4 “Purpose of Transaction”). We follow the activism campaign list shared by Alon Brav¹⁰ covering the period 1994 to 2014, and download all the 13D filings from EDGAR, then manually identify hedge funds’ ownership, categorize the objectives and tactics of hedge fund activists¹¹. We gather information from Factiva search using the hedge fund and target firm names if 13D filings fail to provide hedge fund’s motives and tactics. This procedure leads to a list of 3278 hedge fund activism events with 13D filing.

Next, there are some large-cap targets for which the hedge funds are not able to acquire a 5% stake but still initiate activism campaign, we hand collect the event date by using Factiva news search using different combination of fund name, fund partner name, company name, “activist”, and “hedge fund” as key words. The event date is set as the first available date that a hedge fund makes the intervention intention publicly visible. All other information regarding fund motives and tactics are collected from the news as well. This process generates a list of 420 hedge fund activism events not accompanied by 13D filing. After determining the event dates, we construct a firm-fund-year level dummy variable “Indicator of HFA Campaign” equals to 1 if the firm is targeted by a hedge fund during a year, and 0 otherwise. Requiring for mutual fund holding information and control variables, there are 3471 events left for empirical tests.

Then we categorize hedge fund stated objectives into five non-mutually exclusive categories following Brav et al. (2008, 2010, & 2015): undervaluation where the hedge fund believes that the company is undervalued without more aggressive tactics other than work or communicate with the management; payout policy or capital structure where the hedge fund proposes changes of reducing excess cash, increase leverage, stock repurchase, dividend to shareholders, or reducing seasonal equity offering or proposing debt restructuring; business strategy where the hedge fund pursuing for improvement in general operating efficacy, spin-off or refocus of strategy, merger or acquisition, and better growth strategy; sale of the target where hedge funds attempts to force a sale of the target to maximize shareholder value; corporate governance with regard to top management, board composition, compensation and information disclosure¹². Furthermore, if a hedge fund pursues any of the specific objectives, i.e. capital structure, business strategy, sale of the target, governance, then we treat such campaigns with specific objectives. Otherwise, if a

¹⁰ We sincerely acknowledge prof. Alon Brav in sharing the lists of hedge fund activism lists for our comparison.

¹¹ Sometimes the filer may provide additional information such as letter to shareholders/board as Exhibits. This supplementary information also helps identify the objective and tactics.

¹² See details in Brav et al. (2008) for detailed description.

hedge fund only discusses about general undervaluation, then we treat such campaigns with only general objectives.

The classification for seven non-mutually exclusive tactics also follows the definition of Brav et al. (2008, 2010, & 2015). First tactic category refers to the situation where a hedge fund states its intention of regular communication. Such tactic is the friendliest way and usually is conducted privately. The second category includes cases in which a hedge fund seeks board representation without a proxy contest or confrontation with the existing management or board. The third category refers to events that a hedge fund makes formal shareholder proposals, or publicly criticize the target and demands for change. The first three categories are relatively friendly tactics, while the following four categories are confrontational to current management. The fourth category includes events in which the hedge fund threatens to wage a proxy fight in order to gain board representation, or to sue the company for breach of fiduciary duty. The fifth category refers to cases when the hedge fund actually launches a proxy contest in order to replace the board. The remaining two categories include situations when the hedge fund sues the company or intends to control the company with a takeover bid. One campaign can have more than one tactic or both friendly and confrontational. If a hedge fund uses any of the confrontational tactics, we then coded the overall tactic as confrontational regardless of whether the hedge fund uses friendly tactics. The information of stated objectives and tactics are hand collected from 13D filings Item 4 “Purpose of Transaction” together with Factiva news search if the filings do not provide sufficient information and if the campaign is without 13D filings.

4.3 Common Ownership Measure

For each quarter in 1993-2014, we use Thomson Reuters S12 mutual fund holdings data to compute mutual fund holdings in a stock as a percentage of its market capitalization. Mutual fund family information is obtained from CRSP mutual fund databases and we link fund family details with fund holdings through WRDS MFLINK. We define a mutual fund as blockholder if the fund holds more than 5% of the outstanding shares. Co-owner arises when a mutual fund simultaneously holds more than one blocks in the same four-digit SIC industry at a given quarter. Using S12 mutual fund holdings data rather than 13F data is to partially address potential endogeneity, as 13F incorporates some information of hedge fund holdings because 13F is reported at institutional investment manager level. S12 mutual fund holdings is much cleaner, though the effect of common ownership is understated as other types of institutions may also

constitute to the existence and intensity of common ownership, such as large pension funds, insurance companies, banks and corporations¹³.

To determine a firm's common ownership status in given year, we follow He & Huang (2017) to construct five measures. Co-Owner, is a dummy variable equals to one if the firm has any common mutual fund blockholder (co-owner) with any same-industry peer in any of the four quarters in a year and zero otherwise. NumConnectedPeer, is the number of unique same-industry peers that share any common mutual fund blockholder with the focal firm. NumComFund, is the number of unique mutual funds that simultaneously block hold the focal firm and its industry peers. The first variable Co-Owner measures the existence of common ownership, while NumConnectedPeer and NumComFund measures the extent to which a focal firm is connected to other same-industry peers through common mutual funds. The next measure, AvgPeer, is the number of same-industry peers commonly-held by the average co-owner. We first calculate the number of same-industry peers (other than the focal firm) block-held by each co-owner during a given quarter, then we take the average across all co-owners. This measure captures the intensity of common-holding activities for the average co-owner and the incentive to influence focal firm management and policies. The last measure, TotalComOwnp, is the sum of all co-onwers' percentage holdings in the focal firm. This measure captures the potential aggregate power and influence of all common-holding mutual funds on focal firm management. To convert all quarterly level measures into annual basis except for Common, we first calculate the quarter level measure and then take the average across four quarters in a given year.

4.4 Control Variables

To control for the general characteristics of target companies, we control several dimensions following Brav et al. (2008, 2010, & 2015). The first dimension captures controls for size (MV), book-to-market (BM) and Q (Q) because hedge funds are usually viewed as "value investors". Then we control for the operational performance, measured by sales growth (GROWTH), return on assets (ROA), and cash flow generations (CF). The third dimension refers to capital structure, measured by leverage (LEV), cash-to-asset ratio (CASH), dividend yield (DIVYLD), payout ratio (PAYOUT). The next dimension measures the firms' investment characteristics, research and development spending (R&D), capital expenditure (CAPEX), and segment diversification (SegHHI). Then we turn to governance characteristics, measured by Gompers, Ishii & Metric

¹³ We also construct the common ownership based on 13f data, the existence of co-owner is as high as 47% for U.S. public firms if all institutional investors are under consideration, and this figure is much higher than 10% if common ownership is calculated at mutual fund level.

(2003) (GINDEX), institutional ownership (INST) and analyst following (ANALYST). As the G-index data is only available for large firms till 2006 which constitutes a small subset of the overall sample, we reported the results including G-index separately. The rest control variables capture the trading liquidity (AMIHUD) following Amihud (2002) because higher liquidity makes it easier for activists to accumulate a stake within a short period of time. We also control for annual buy-and-hold stock return (BHRET) to capture the stock market performance of a firm as hedge funds are more likely to target poorly performing firms.

4.5 Summary Statistics

As hedge fund activism campaigns is relative rare events, we utilize a matching procedure to account for any possible heterogeneity across covariates to ensure we are comparing similar firms. Practically, we follow Brav, Jiang, Partnoy & Thomas (2008) and Brav, Jiang & Kim (2013) updated tables to match treatment firms (firms that are targeted by hedge fund activists) with firms of the same SIC 2 digit industry, and same MV and BM quintiles as control sample. For treatment firms that cannot be matched with industry/MV/BM firms, we first match them on industry and year, and then we get the closed MV and BM ranked firms.

Table 1 provides the summary statistics for the matched sample. 11.6% firms are targeted by hedge fund activists at least once in a year. About 13% of firm years, a firm has at least one co-owner. The rest of the table summarizes the control variables. For example, the mean market valuation for sample firms is about \$2 million, with a book-to-market about 1.226, indicating lower valuation. Return on assets is 4% and payout ratio is about 5%. Generally, there are 6 analysts following a firm and the average percentage by total institutional holdings is about 41%. The annual buy-and-hold return is over 13%, indicating that firms are generally performing well. While G-index is only available for large firms till 2006, the average number of takeover defenses is 9.

[Insert Table 1 Here]

Table 2 reports the comparison of covariates between treatment firms and control firms. Target firms tend to be smaller in size and lower book-to-market and lower Q compared with matched control firms. This feature is generally consistent with hedge funds are “value investors” and they are targeting firms with the expectation to profit from potential improvement in market valuation. Target firms generally have significantly higher leverage and lower cash-to-asset ratio than matched peers. Targets’ dividend payout is significantly lower than peers, measured by dividend yield and dividend payout ratio, which is not surprising, as in many cases, hedge fund initiate a

campaign to pressure the target to repurchase shares and increase dividends. With regard to investment, target firms have significantly lower R&D expenses and are more diversified than peers, measured by Herfindahl-Hirschman indices (SegHHI, HHIindex of sales in different business segments as reported by Compustat Segment data). Target firms have significantly higher institutional ownership. On average, the difference in institutional ownership is 10%. This is an interesting point, showing that on average hedge funds rely on the support of fellow institutional investors to implement changes. Analyst following indicates the sophistication of shareholder clientele, though targets have slightly less number of analyst following, about 0.3 less analysts. But on average, there are more than 6 analysts follow the target firms, suggesting that investor base of the target firms is sophisticated. Though target firms are smaller, the liquidity is not a big issue, facilitating hedge funds to accumulate sufficient shares before campaign initiation.

[Insert Table 2 Here]

5. Empirical Design and Tests

5.1 Campaign Decision

Hedge funds are characterized as “offensive” in their activism (Amour & Cheffins, 2012; Cheffins & Armour, 2011) thus they are strategic and ex ante (Kahan & Rock, 2007). Distinguished from other institutional investors who invest first and then become active if dissatisfied with the firm, the selection of targets is critical to their success and they devote expertise and networking in the process (Sorkin, 2005; Schneider, 2015).

To assess the effect of other institutional investors especially large mutual funds’ common holding of industry peers on hedge fund activists’ campaign decision, i.e. hypothesis one, we estimate various forms of the following model using HFA campaign level Logistic regression¹⁴:

$$Y_{it} = \alpha + \beta ComMeasure_{it-1} + Controls_{it-1} + Year_t + \epsilon_{it} \quad (1)$$

where $Y_{it} = 1$ if the firm is targeted by a hedge fund in a given year and 0 otherwise. *ComMeasure* is one of the five distinct measures capturing different aspects of mutual fund common ownership in the focal firm: Co-Owner; NumConnectedPeer; NumComFund; AvgPeer; and TotalComOwnp. Control variables includes for controls for “value” of the firm, operational performance, capital structure, governance, liquidity and stock performance. We include year fixed effects to control for any possible trend in common ownership by mutual funds to ensure our estimates are identified using within-year variation in common ownership. Standard errors are

¹⁴ We also conducted probit regression analysis and the results are both quantitatively and qualitatively similar.

clustered at firm level. All continuous variables are winsorized at the 1% and 99% extremes. The regression is conducted on the matched sample where matched firms for each target firm are assigned from the same year, same SIC 2-digit industry, and same 5 × 5 size and book-to-market sorted portfolios.

Equation (1) tests whether the focal firm has common ownership same-industry peers and intensity of common ownership would influence the decision of hedge fund with regard to initiate an activism campaign or not. Table 3 reports the regression results of campaign decision. Each measure of common ownership is put into the regression separately. Panel A shows the all sample regression. All five measure of common ownership significantly load at 1% or 5% level in the regressions. The coefficients are all significantly negative, suggesting that when a firm has a co-owner and when the intensity of common ownership increases, hedge fund activists are less likely to target such firms. The results are consistent with Hypothesis One that when a mutual fund holds both focal firm and its industry peers, its objective is to maximize the portfolio return rather than single firm value maximization then it is less likely to cooperate with or even disagree with hedge fund activists since the mutual fund suffers from increased competition between focal firms and its industry peers ex-post to activism campaign. In terms of economic significance, holding all other variables at the mean, appearance, column (1) implies that the probability of being targeted by a hedge fund during a year is reduced by 20% when the firm has any co-owner. The magnitude of this effect is economically meaningful.

Other control variables are generally consistent with prior literature. When a firm is larger and has higher Q, it is less likely to be targeted by hedge funds. When a firm is slower in generating sales growth and cash or has higher leverage, or holds excess cash and pays less dividends, it is more likely to be targeted, suggesting needs of change in operations and payout policies. Firms invests more in research and development are less likely to be targeted, suggesting that hedge fund are not myopic and they invest in long-term. Higher institutional ownership accompanies higher probability of being targeted, which is consistent with general consensus that, on average fellow institutional investors offer support to hedge fund in the activism campaign. This sharp opposite coefficients' direction of general institutional ownership vs. the common ownership measures offers interesting inference. Though in average cases fellow institutional investors play a helping role, when they have dispute in objectives with regard to single target value maximization, they are less likely to cooperate with or even fight against hedge funds.

Because of the data availability of G-index for only the largest 2000 companies till 2006, and most of the targets tend to be smaller in size, and our sample period is much longer, we reported separately in Table 1 Panel B, the regression result of equation (1) by adding G-index as a control variable. With no surprise, the sample size drop sharply from 29,816 firm years to only 5,131 firm years, but the coefficient on Co-Owner still loads significantly negative at 5% level. The coefficients on other measures of common ownership load consistently negative, though not significant. Still, the overall results are consistent with prediction.

[Insert Table 3 Here]

5.2 Identification

The first endogeneity concern is that whether the firms with co-owned industry peers is actually a good firm? Given the existence of block holding by mutual funds, the focal firm could be well governed that there is no need for hedge fund activism as the incremental improvement for such a firm might be marginal. This is less likely to be the case, since we have controlled for the level of institutional ownership in all the regressions and the direction on common ownership and institutional ownership all significantly load opposite. Higher institutional ownership is actually associated with higher probability of being targeted by hedge fund activists, indicating that the level of ownership does not necessarily means the level of governance.

Another concern is that could the co-owners diversify away the risk that their portfolio firms might be subject to hedge fund activists? If mutual fund managers could foresee the probability that one of their portfolio firms to be targeted by hedge funds, they could divest from this firm's same-industry peers prior to the campaign. In this way, the target naturally becomes a standalone firm without connected industry peers. This is the possibility of reverse causality. However, in reality, mutual fund managers are less likely to have the information of predicting potential activism campaign, not only because hedge funds are moving secretly and are not subject to mandatory disclosure of the status of their holdings, but they even act like a wolf pack to exactly hide their visibility till the last minute. Moreover, even mutual fund managers precisely predict potential activism campaign, they may be subject to restrictions of divesting from focal firm's industry peers. Mutual funds must adhere strictly to a stated investment objective, develop and maintain a diversified portfolio and retain liquidity (Schneider, 2015). Sometimes, mutual funds even closely stick to certain indexes to construct their portfolios. They are restrained from timely divestiture of certain firms.

We use both channel tests and instrumental variable approach to address those endogeneity concerns. Channel tests explore further variations in ownership structure while instrumental variable approach explores the causality inference.

5.2.1 Active Share

The first channel test is to explore governance incentive variations of mutual funds. We argue that the more actively managed fund, the stronger incentive for them to involve in corporate governance and policies (Aghion, Van Reenen & Zingales, 2013), either through voice or exit. As opposed to actively management fund, passively managed funds seek to deliver the performance of benchmark without too much involvement in an individual stock's performance, though they have some governance role documented by Appel, Gormley & Keim (2016). So we hypothesize that when a higher fraction of firm's shares is held by actively managed mutual funds and when the firm also has any co-owners, then incentive for co-owners to dispute with hedge fund activists is higher.

We measure the fraction of actively managed mutual fund shares in a given firm following the method of Gremers & Petajisto (2009) and Petajisto (2013) which measures the portion of fund portfolio holdings that differ from its benchmark holdings, or "assets deployed differently than in the index":

$$Active\ share_{iq} = \sum_{j=1}^j Active\ share_{ijq} * Ownership_{ijq} \quad (2)$$

where i denotes for a firm, q denotes for a given quarter, j denotes for a fund. The *Active share* is first calculated at quarter level, then converted to annual level by average across four quarters. We partition firms into groups with high vs. low *Active share*. Then we interact *Active share* with common ownership measures to test the incremental deterrence effect of HFA campaign by actively managed mutual funds when they simultaneously hold both the focal firm and its industry peers. The equation (1) is then revised as follows:

$$Y_{it} = \alpha + \beta ComMeasure_{it-1} * Active\ share_{it-1} + \gamma ComMeasure_{it-1} + \theta Active\ share_{it-1} + Controls_{it-1} + Year_t + \epsilon_{it} \quad (3)$$

As reported by Table 4 column (1), the interaction of active share and Co-Owner is significantly negative while the main effect of Co-Owner is insignificant, indicating that it is the active co-owners that deters hedge fund activism campaign decision.

5.2.2 Common Ownership Concentration

The next channel we explore is variation in industry level common ownership concentration induced by institutional investors' diversification across competitors. Higher common ownership concentration in a specific industry leads to anti-competitive effects at the market level (Azar et al., 2017; Schmalz, 2017; Anton et al., 2016) and monopoly arises. If a firm operates in a high ownership concentration industry, then the potential rewards for the firm to compete more aggressively with its industry peers would be higher. Hedge fund activists would be incentivized to initiating campaign. However, higher common ownership concentration also means it's more difficult for hedge funds since those co-owners would rather enjoy industry level monopoly profits than cooperate with hedge funds to improve single target performance at the cost of joint monopoly profits. So we expect the resistance would be larger for firms operate in higher common ownership concentration industry and have any co-owners. We test the following equation:

$$Y_{it} = \alpha + \beta ComMeasure_{it-1} * HighMHHId_{it-1} + \gamma ComMeasure_{it-1} + \theta HighMHHId_{it-1} + Controls_{it-1} + Year_t + \epsilon_{it} \quad (4)$$

We measure *MHHId* developed by O'Brien & Salop (2000) and empirically used by Azar et al. (2017) and Anton et al. (2016) that captures the incremental industry concentration above general *HHI*:

$$MHHId = \sum_j \sum_{k \neq j} s_j s_k \frac{\sum_i \gamma_{ij} \beta_{ik}}{\sum_i \gamma_{ij} \beta_{ij}} \quad (5)$$

where β_{ij} is the ownership share of firm j accruing to shareholder i , γ_{ij} is the control share of firm j exercised by shareholder i . s_j is the market share of firm j , while s_k is the market share of firm j 's industry peer k . For calculation of *MHHId*, we use Thomson Reuters 13F data taking into account of all power institutional investors at the management firm level with more than 1% ownership in a given firm. *MHHId* measures ownership concentration not only at industry level but also includes all institutional investors including mutual funds, pension funds, insurance companies, banks and or other institutions. 13F also provides information of number of shares of voting rights, and we use number of shares of voting rights to measure γ_{ij} . Equation (5) is a transformation of a firm's objective function by taking into the externalities of common ownership to the extent of its shareholders' holdings in other same-industry peers¹⁵. Moreover, *MHHId* is

¹⁵ Azar et al. (2017) provides a detailed illustration of how to get the *MHHId* from the firms' objective function.

first calculated at quarter level and then covert to annual average. We then partition the firms belonging to high vs. low *MHHId*¹⁶.

Regression results are shown in Table 4 column (2). Both the main effect of high *MHHId* and the interaction between co-owner at firm-mutual fund level and common ownership concentration at industry level are significantly negative at 1% level. Hedge fund activists are less likely to target firms operating in common ownership concentrated industries and such effect is stronger if focal firm has any common owner industry peers.

[Insert Table 4 Here]

5.2.3 Instrumental variables Approach

Channel tests provide supports the argument that conflicts of interests as the mechanism of deterrence of HFA campaign rather than good governance or risk diversification argument, however, they could not rule out such possibilities. So, we further utilize an instrumental variable approach to facilitate identification.

The instrumental variable we use is the annual reconstitution of Russell 1000 and Russell 2000 index, which is a plausible exogenous change in a firm's shareholder structure, following Chang et al. (2014), Appel et al. (2016) and Schmidt & Fahlenbrach (2017). The reconstitution of the two indexes are conducted each last trading day of May, based on market capitalization¹⁷. Since the two indexes are value weighed, the firms rank lowest of Russell 1000 index have significantly lower institutional ownership than those rank highest of Russell 2000 because of their differences of weights in the two indexes. Thus changing from Russell 1000 to Russell 2000 and vice versa has significant effects on mutual fund ownership as many of the mutual funds stick to certain benchmark portfolios, but such a change has no effect on the HFA campaign decision because hedge fund are not passive investors and they do not follow certain indexes. So we use a two-step instrumental variable approach to estimate the causal effect of common ownership on hedge fund activism campaign decision. In the first stage, we estimate the following equation:

$$\begin{aligned}
 ComMeasure_{it-1} &= \alpha + Change2t1_{it-1} + Change1t2_{it-1} + Rus2000_{it-1} + Controls_{it-1} \\
 &+ Year_t + \epsilon_{it}
 \end{aligned}
 \tag{6}$$

¹⁶ The average *MHHId* across all industries including those are not in the sample is 14.4%, which is almost a quarter of traditional *HHI*, and this result is consistent with Anton et al. (2016).

¹⁷ Since 2007, Russell changes the ranking methodology of a banking policy around the 1000 cutoff to mitigate index turnover.

where $Change2t1_{it-1}$ equals one if a firm switches from the Russell 2000 to Russell 1000 from year $t - 2$ to $t - 1$ and zero otherwise. $Change1t2_{it-1}$ equals one if a firm switches from the Russell 1000 to Russell 2000 from year $t - 2$ to $t - 1$ and zero otherwise. $Rus2000_{it-1}$ is an indicator variable equals one if a firm belongs to Russell 2000 index in year $t - 1$.

Then in the second stage, we rerun equation (1) using the fitted value from the first stage and the results are reported in Table 5. With regard to the validity of instruments, the instrumental variables are relatively significantly related with common ownership measures in the first stage, with partial F-tests larger than 40 in all first stage regressions, indicating some extent of validity. The coefficients of second stage regression are all significantly negative, consistent with main regression reported in Table 3 that hedge funds are less likely to target firms with co-owned industry peers.

One point to note is Russell 1000 and Russell 2000 incorporates the largest firms, but many of the activism targets are small in size. Restricting treatment and control firms to be Russell 1000 and Russell 2000 members significantly reduces sample size. Such restriction influences the first stage regression as well because it is harder for institutions to cross 5% blockholding threshold. This means IV regression results understates the deterrence effect of common ownership on HFA campaign decision. Still, we get the consistent results with main regression in Table 3.

[Insert Table 5 Here]

5.3 Campaign Objectives and Tactics

We now turn attention to whether common ownership affects the types of campaigns in terms of objectives and tactics. The presence and intensity of common ownership affects the types of campaigns by changing hedge funds' expected benefits and costs. Since mutual fund managers pursue for portfolio return maximization, they would prefer less competition between industry peers if they simultaneously hold the peers. Intensified competition comes at the costs of price reduction and additional costs expenditure such as promotions and advertisement which all decrease the portfolio return. However, since the existence of anti-competitive effects of common ownership, hedge fund activists would expect higher potential of operational improvement and value maximisation by pushing the targets to compete aggressively in product market. Hedge fund activists' objectives of campaigns should be consistent with their ultimate expectation of improvement direction conditional on existence of co-owners. In other words, hedge fund activists would pursue for product market competition related objectives if targets have co-owners. To

analyse this possible shift in the composition of campaign types, we restricted the sample to HFA campaigns (treatment firms) and categorize the events into two categories based on existence of co-owners.

The effect of common ownership on the campaign objectives is reported in Table 6 column (1) to column (4). Instead of testing the effect of every single stated objective, we focus on both the specificity of the overall objectives and the objective of business strategy. The specificity of stated objectives captures whether the hedge fund activists are pursuing for specific changes such as capital structure, business strategy, sale of the target and governance, rather than general improvement in valuation. While business strategy objective is most closely related to product market competition, such as investing, spending, cost management and operational focus. In pursuing for business strategy, hedge fund activists may ask the targets to improve operating margin and ROA, to focus on core business, to divest from money-losing segments, to gain market share, and to compete with industry competitors. Interestingly, we find that existence of co-owners increases the likelihood of hedge fund pursuing for specific objectives rather than general valuation purpose. Co-Owner is positively correlated with specific objectives. Moreover, hedge funds are more likely to pursue for business strategy if targets have co-owners. These results indicate that hedge fund activists expect to gain more benefits by interrupting the current product market equilibrium under the anti-competitive effect of common ownership and then profiting from improvement of targets in their competitive edge.

We also analyse the effect of common ownership on the choices of tactics with results reported in Table 6 column (5) to (8). If objectives capture the expected benefits, then choices of tactics are the result of costs trade-off. Hedge fund trades off between friendly and confrontational tactics in pushing their objectives in order to achieve campaign success. If a firm has co-owners, then initiating confrontational tactics would be costly, not only in monetary, time but also in the expected successful rate. Because those co-owners are less likely to vote in favour of hedge fund activists in confrontational activities such as proxy contests. Rather, hedge funds are more likely to communicate friendly with management through direct talk or shareholder proposal in order to implement changes and to gain board representation without proxy contests. Friendly tactics ensure campaign success at lower costs. We find that common ownership reduces the likelihood of utilizing confrontational tactics, rather hedge fund activists are more likely to communicate with management.

[Insert Table 6 Here]

5.4 Market Reaction

The next question we explore is that, given the difficulty of targeting firms with co-owned industry peers, does market react differently for campaigns that targeting those firms? Stock price reaction of targets is the direct measure of the expected wealth effects of HFA campaign, i.e. market perception of value creation of HFA campaign. We conduct short-window event study to see market reaction to different types of campaigns with regard to existence of co-owners.

In Table 7 panel A, we conduct non-parametric comparison of market adjusted cumulative abnormal return for campaigns targeting firms with co-owned industry peers vs. firms without, varying the return windows around the event date. Following Brav et al. (2008), we first test the differential market reaction for -20 to 20 trading days around event date and find that even though on average abnormal return is positive for HFA campaigns, market react incrementally positive for campaigns that target firms with co-owned industry peers. The average -20 to 20 CAR is 6.9% for campaigns targeting firms with co-owned industry peers, an amount nearly doubles CAR for campaigns targeting stand-alone firms. The result of -10 to 10 trading day CAR comparison is similar. Though the difference in CAR is not significant for -5 to 5 trading day, CAR is still higher for campaigns targeting firms with co-owned industry peers. The reason of insignificant difference of -5 to 5 window could be that hedge funds are only required to file 13D within 10 days if they have accumulated more than 5% shares. And in most cases, hedge fund file until the last minute. Market might preempt before actual filing date.

We also regress cumulative abnormal return on size, book-to-market, leverage and return volatility in Table 7 panel B. Consistent with non-parametric tests, targets with co-owned industry peers is associated with higher cumulative abnormal return. Taking all these results together, market rewards more for more difficult campaigns, in terms of existence of common ownership, perhaps market foresees the upward potential post intervention at the time of campaign initiation.

[Insert Table 7 Here]

If HFA campaign benefits targets that have co-owners more because of improved product market competition strategy, then it may not benefit those targets' industry rivals to the same extent or may even hurt targets' industry rivals if those rivals share common ownership with targets. Aslan & Kumar (2016) documented that on average, industry rivals of target firms react negatively to HFA announcements, which they attribute as negative product market spillover effects of HFA. If indeed, HFA campaigns breaks industry equilibrium and induces price competition, it would negatively impact the industry rivals of targets more, if those industry rivals share common owners

with the targets prior to HFA campaign. The reason is that prior to HFA campaign, targets and industry rivals with common owners compete less intensively as exposed to common ownership. Once the target take the first step in competition, connected rivals would suffer. This HFA pro-competition effect would be less if targets and industry rivals do not share common owners prior to HFA campaign. Short window market reaction on industry peers around HFA announcement would be a direct test of how market react differently to the potential product market effect of HFA campaigns. We follow Lang & Stulz (1992) Aslan & Kumar (2016) to use a portfolio approach and place all rivals at the time of HFA into one portfolio and treat the returns to this portfolio as a single observation. So this gives industry rivals equal weight in each portfolio and accounts for any contemporaneous cross-correlation among returns in the industry. Cumulative abnormal return is measured as market adjusted cumulative stock return over window [-5, 5] and [-20, 20] where date 0 is defined as the HFA campaign announcement date.

Table 8 Panel A reports the results of short window market reaction on industry peers of targets. Partitioning targets with vs. without common owners, market reacts significantly different across the two group of targets' peers. CAR for industry peers of targets with common owners is -0.4% during window [-5, 5], while CAR for industry peers of targets without common owners is slightly positive 01%, and the difference is significant at 5% level. This confirms that market is expecting industry rivals to perform bad as targets are gaining market share from those rivals post HFA. CAR results generate similar results during window [-20, 20]. However, industry peers should not be equally affected by HFA campaigns. At the industry level, for industries subject to low competition before HFA campaigns, industry players would enjoy quiet life previously. As HFA campaigns break such equilibrium by pushing the targets to compete aggressively, industry peers would accordingly suffer more. The effect should be stronger when the targets have co-owned industry peers, because for those targets, hedge fund activists are more likely to pursue for product market related objectives. At the firm level, peers that are subject to higher product competition prior to HFA campaigns are expected to suffer more post HFA campaign, because targets are expected to initiate more intensive product competition under the pressure of hedge fund activists. Table 8 panel B presents the results of different peers' market reaction around HFA campaign announcement. Peers operate in high competition industries react more negatively to HFA campaign announcements and peers whose products are subject to higher competition react more negatively.

[Insert Table 8 Here]

5.5 Placebo Test of Co-owners' Wealth Change

The next test we conduct is a placebo test that examine how co-owners' wealth would be different assuming they hold both the HFA target and its industry peers. The aim of test is to examine whether co-owners indeed suffer if one firm of their portfolio is targeted by activists. If co-owners' wealth decreases post HFA campaign, then it confirms that HFA campaign breaks industry equilibrium and induce intensive competition, impacting co-owners' wealth negatively. The benchmark case is if the co-owners are not co-owners, that they only hold the target firms. If co-owners' portfolio return of simultaneous holding targets and industry peers is lower than when they only hold the targets, then co-owners would be resisted to HFA campaigns. This would be reinforced if co-owners cannot easily divest from target' connected industry peers.

Table 9 presents the results of pseudo wealth change of co-owners. Cumulative raw return is calculated for 3 months, 6 months and 12 months after HFA campaign. The cumulative stock return for co-owners for 3 months period is 8.6% if they only hold the target. Whereas the cumulative stock return for co-owners for 3 months period is 4.9% if they hold both the target and its connect industry peers and the difference is significant at 1% level. The portfolio construction assigns equal weight of each firm, following Aslan & Kumar (2016). Figure 1 shows clearly the trend of cumulative return of two cases. The trends of the two cases are similar, however return for holding targets only is always higher than holding targets and connected industry peers, meaning that the gap between two portfolios is attributed to the decrease in performance of targets' connected industry peers. Co-owners' wealth is thus negatively affected when they could not easily divest from targets' industry peers, for instance, those large index funds.

[Insert Table 9 Here]

5.6 Post-activism Performance and Management Compensation

To test the post-activism performance across targets with common ownership vs. those without, we adopt a difference-in-difference-in-difference approach. Basically, we first construct annual match of targets with industry and 5 × 5 market value, book-to-market peers. Then for each year, we take the difference of performance measures between targets and matched controls. Then we compare the difference across targets with co-owned industry peers vs. targets without, year-by-year and analyze the difference pre- and post-activism.

Table 10 reports the performance change from -2 to +3 years around activism campaign for targets with and without common ownership. All targets experience performance drop from 2 years before activism campaign and recover after the campaign. However, targets with co-owned

industry peers experience more significant drop compared with targets without common ownership, but their performance exhibits no difference 3 years after the campaign, though all outperform their peers in ROA and margin. It is consistent with hedge funds identify deterioration of product market performance induced by the anti-competitive common ownership thus push the targets to be more aggressive in competition.

[Insert Table 10 Here]

Table 11 reports management compensation before and after hedge fund activism. Before activism campaign, targets with co-owned industry peers pay less to their CEO though they incentivize CEO more compared with matched firms. After activism campaign, the pattern seems to switch, total pay for CEOs of targets with co-owned industry peers drops while incentive part remains no change. Hedge fund activists seem to try to balance on the pay structure to avoid over pay but to keep sufficient incentive.

[Insert Table 11 Here]

5.7 Learning Effect

If targeting firms with co-owned industry peers is rather costly to hedge fund activists, then they would be less likely to select those targets if activists have such experienced before. Or if expected benefits is not high enough, they would hesitate before making the decision. Testing the learning effect of hedge fund activists reconfirm the main hypothesis that potential resistance from common owners is an important concern for hedge fund activists in their selection process of the targets. Results of learning effect is presented in Table 13. In panel A, to test the hedge fund level learning effect, we restricted the sample to targets only and also restrict hedge funds to those that have target more than one firm. We found that if hedge fund activists have targeted firms with co-owned industry peers before, they are slightly less likely to target firms with co-owned industry peers in the future. At the industry level, if the whole sample is divided into different time periods, we find that in later periods except for the period 2000 to 2005, the deterrence effect is getting stronger in the later years, presented in panel B.

5.8 Additional tests

In the main tests, the sample is constructed by matching on MV and BM quintiles. To establish more rigorous matching, we further rerun the main tests using different matching procedure. In Table 12 panel A, we construct the sample using propensity score matching, where in the logit

model, we put in all the covariates that documented by prior literature to be correlated with the probability of being targeted by hedge fund activists. In panel B, we allow the treatment firms' non-treated years as controls. In both tests, the results hold.

6. Conclusion

This study presents evidence of deterrence effect of mutual fund induced common ownership on hedge fund activism campaign decision, objectives and tactics. In particular, when mutual funds simultaneously hold same-industry peers, their incentive is to maximize joint portfolio value, whereas hedge fund activists pursue single target firm profit maximization. Such conflicts of interests make it less likely for hedge fund activists to gain support from mutual funds in initiating activism campaign. We find that ex-ante, hedge fund activists are less likely to initiate an activism campaign targeting a firm with co-owned industry peers. Ex-post, conditional on campaign initiation, hedge fund activists are more likely to pursue for specific objectives especially business strategy when targeting firms with common ownership. However, they are less likely to use confrontational tactics in afraid of potential resistance from common shareholders, rather, they prefer to communicate and work with management to implement their appeals.

To better identify the causal inference, we use channel tests by varying the incentive of mutual fund intervention in corporate governance and also use annual reconstitution of Russell index as instrumental variables for common ownership. The results further support our arguments.

Additionally, market react more positively for campaigns targeting firms with co-owned industry peers, varying the length of event windows. Consistent with hedge fund pursuing for business strategy when targeting firms with common ownership, we find that operational performance of targets with common ownership improves more as they are catching up with targets that are standalone firms. Such improvement might be results of increase in incentivizing managers.

Overall, our study examines the interaction between shareholders, hedge funds and mutual funds in the role of corporate governance by identifying a potential hidden social cost of common ownership in the effect of deterring hedge fund activism.

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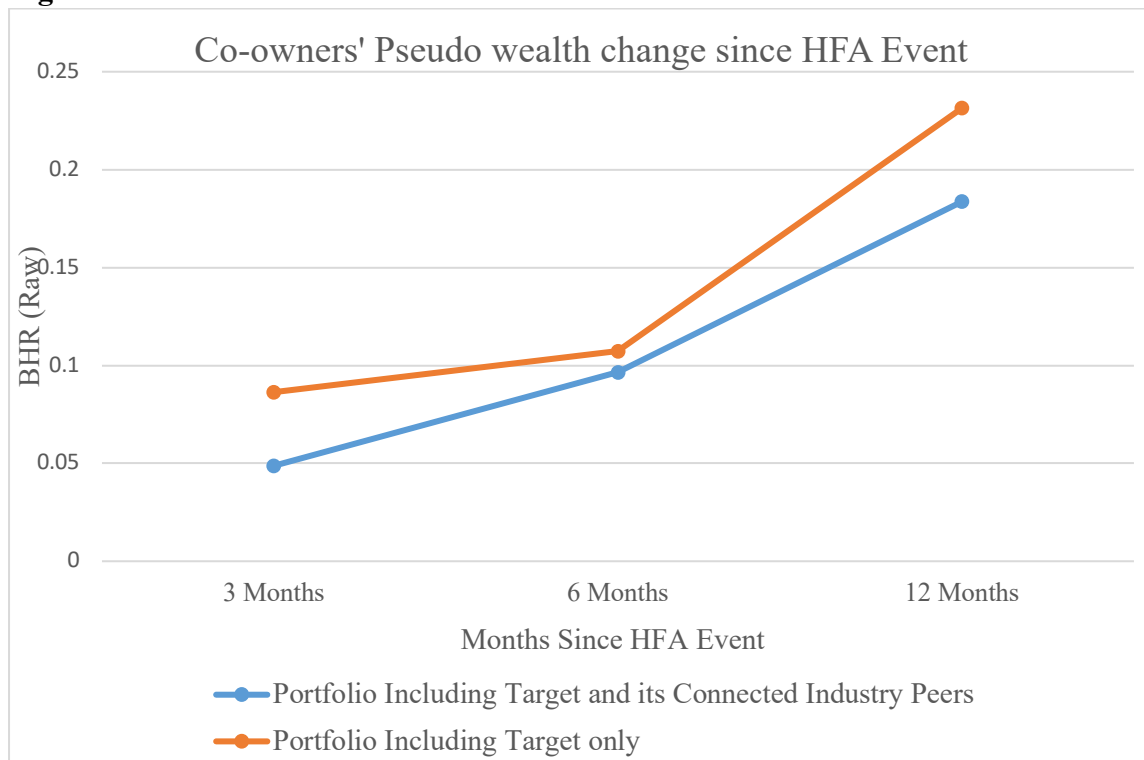
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Appendix

Variable	Definition
HFA Campaign	Dummy variable equals to one if a firm is targeted by hedge fund activists in a given year.
Co-Owner	Dummy variable equals to one if a firm has any mutual fund blockholder simultaneously hold same-industry peers in any of the four quarters in a given year.
NumConnectedPeer	The number of same-industry peers that share any common mutual fund blockholders.
NumComFund	Number of unique mutual funds that simultaneously hold focal firm and its same-industry peers.
AvgPeer	Number of same-industry peers commonly-held by the average common-holding mutual fund.
TotalComOwnp	Sum of all common-holding mutual funds' percentage in the focal firm.
MV	Market capitalization.
BM	Book-to-market ratio defined as (book value of equity/market value of equity).
Q	Defined as (book value of debt + market value of equity)/ (book value of debt + book value of equity).
GROWTH	Growth rate of sales over the previous year.
ROA	Return on assets, defined as EBITDA/lagged assets.
CF	Cash flow, defined as (net income + depreciation and amortization)/lagged assets.
LEV	Book leverage ratio defined as debt/ (debt+book value of equity).
CASH	Defined as (cash + cash equivalents)/assets.
DIVYLD	Dividend yield, defined as (common dividend)/MV.
PAYOUT	Total payout ratio, defined as (common dividend payments + share repurchases)/MV
R&D	R&D (missing values are imputed as zeros) / lagged assets.
CAPEX	Capital expenditure scaled by lagged assets.
SegHHI	Herfindahl-Hirschman index of sales in different business segments as reported by Compustat.
BHRET	Buy-and-hold return during the 12 months before the announced activism.

AMIHU	Amihud (2002) liquidity measure, defined as the yearly average (using daily data) of $\sqrt{ \text{Return} /(\text{DollarTradingVolume})}$.
INST	The portion of shares held by institutions.
ANALYST	Number of analysts covering the company from I/B/E/S.
GINDEX	Gompers, Ishii & Metrick (2003) governance index.
ActiveShare	Percentage of firm shares that are attributed as actively managed using Petajisto (2013) method.
MHHId	Industry level common ownership concentration using O'Brien & Salop (2000) method.
Change2t1	Change from membership of Russell 2000 to Russell 1000.
Change1t2	Change from membership of Russell 1000 to Russell 2000.
Russell2000	Indicator variable equals to one if the firm is member of Russell 2000 in a given year.

Figure 1.



Tables

Table 1. Summary Statistics

The sample consists of 29,816 firm year observations (industry, year, 5*5 MV-BM matched sample) during the period of 1994-2014. Variable definitions are provided in the Appendix. All continuous variables are winsorized at the 1th and 99th percentiles.

Variables	Mean (1)	P25 (2)	P50 (3)	Max (4)	S.D. (5)	N (6)
HFA Campaign	0.116	0.000	0.000	0.000	0.321	29816
Co-Owner	0.126	0.000	0.000	0.000	0.332	29816
NumConnectedPeer	0.300	0.000	0.000	129.000	1.909	29816
NumComFund	0.101	0.000	0.000	4.000	0.303	29816
AvgPeer	0.260	0.000	0.000	129.000	1.814	29816
TotalComOwnp	0.008	0.000	0.000	0.499	0.025	29816
MV	2,009,116	57,910	195,589	50,500,000	6,642,964	29816
BM	1.226	0.283	0.544	0.945	3.808	29816
Q	2.180	0.575	1.195	18.626	2.959	29816
GROWTH	0.213	-0.029	0.085	0.247	0.668	29816
ROA	0.044	0.012	0.070	0.159	0.228	29816
CF	0.002	-0.008	0.043	0.117	0.239	29816
LEV	0.313	0.010	0.250	0.523	0.313	29816
CASH	0.148	0.022	0.076	0.212	0.177	29816
DIVYLD	0.080	0.000	0.000	0.320	0.165	29816
PAYOUT	0.053	0.000	0.000	0.227	0.159	29816
R&D	0.070	0.000	0.000	0.090	0.131	29816
CAPEX	0.048	0.006	0.025	0.058	0.070	29816
SegHHI	0.846	0.674	1.000	1.000	0.247	29816
BHRET	0.134	-0.244	0.037	0.345	0.652	29816
AMIHUD	0.480	0.057	0.183	0.570	0.734	29816
INST	0.412	0.139	0.361	0.672	0.303	29816
ANALYST	6.292	1.000	3.000	9.000	7.961	29816
GINDEX	8.919	7.000	9.000	11.000	2.547	5133

Table 2. Characteristics of HFA Target Firms

This table reports the characteristics target firms compared to a set matched control firms (firms in the same two-digit SIC industry and same MV and BM quintiles). Column (1) reports the mean of the characteristic for target firms. Column (2) reports the mean of characteristic for control firms. Column (3) reports the average difference between treatment firms and control firms and Column (4) reports the T-statistics of the average difference. Definition of variables are described in Appendix. All continuous variables are winsorized at the 1th and 99th percentiles. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

	Treatment Firms	Matched Control Firms	Difference	T-stat (diff)
	Mean	Mean		
	(1)	(2)	(3)	(4)
MV	12.285	12.416	-0.131***	-3.6922
BM	0.783	1.285	-0.502***	-7.3076
Q	1.573	2.260	-0.687***	-12.8947
GROWTH	0.146	0.222	-0.076***	-6.3294
ROA	0.045	0.044	0.001	0.2394
CF	-0.002	0.002	-0.004	-0.9873
LEV	0.343	0.309	0.034***	6.032
CASH	0.140	0.149	-0.010***	-3.0198
DIVYLD	0.011	0.025	-0.014***	-7.308
PAYOUT	0.019	0.017	0.002	1.6384
R&D	0.053	0.072	-0.019***	-8.1
CAPEX	0.052	0.047	0.005***	4.2142
SegHHI	0.820	0.849	-0.029***	-6.5364
BHRET	0.023	0.149	-0.126***	-10.7099
AMIHUUD	0.438	0.485	-0.047***	-3.5331
INST	0.517	0.398	0.119***	21.9405
ANALYST	6.052	6.324	-0.271*	-1.8863
GINDEX	9.087	8.893	0.194*	1.8582
N	3471	26345		

Table 3. Panel A HFA Campaign Decision

This table reports the logistic regression of common ownership measures on the probability of being targeted by hedge fund activists. The dependent variable is a dummy variable equals to one if the company is targeted by hedge fund activists during year t. Panel A excludes variable GINDEX, while in Panel B GINDEX is included to reflect significant loss of observations due to data availability. All independent variables are lagged by one year. Variables are defined in Appendix. All continuous variables are winsorized at the 1th and 99th percentiles. P values are reported in the square brackets. Standard errors are clustered at firm level. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

	Indicator of HFA Campaign				
	(1)	(2)	(3)	(4)	(5)
Co-Owner	-0.230*** [0.001]				
NumConnectedPeer		-0.062*** [0.006]			
NumComFund			-0.225*** [0.002]		
AvgPeer				-0.066** [0.013]	
TotalComOwnp					-2.589*** [0.003]
MV	-0.302*** [0.000]	-0.298*** [0.000]	-0.301*** [0.000]	-0.297*** [0.000]	-0.301*** [0.000]
BM	-0.112*** [0.000]	-0.112*** [0.000]	-0.112*** [0.000]	-0.112*** [0.000]	-0.112*** [0.000]
Q	-0.095*** [0.000]	-0.095*** [0.000]	-0.095*** [0.000]	-0.095*** [0.000]	-0.095*** [0.000]
GROWTH	-0.085* [0.077]	-0.083* [0.082]	-0.084* [0.081]	-0.084* [0.079]	-0.084* [0.080]
ROA	-0.255 [0.305]	-0.257 [0.301]	-0.253 [0.310]	-0.254 [0.306]	-0.252 [0.310]
CF	-0.524** [0.018]	-0.523** [0.018]	-0.529** [0.016]	-0.524** [0.018]	-0.531** [0.016]
LEV	0.256*** [0.001]	0.265*** [0.001]	0.259*** [0.001]	0.265*** [0.001]	0.259*** [0.001]
CASH	0.448***	0.439***	0.444***	0.442***	0.445***

	[0.006]	[0.008]	[0.007]	[0.007]	[0.007]
DIVYLD	-0.742	-0.715	-0.733	-0.717	-0.731
	[0.203]	[0.216]	[0.207]	[0.215]	[0.208]
PAYOUT	0.554	0.550	0.558	0.554	0.562
	[0.193]	[0.196]	[0.189]	[0.193]	[0.187]
R&D	-1.518***	-1.501***	-1.527***	-1.504***	-1.529***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
CAPEX	2.012***	1.992***	2.010***	1.993***	2.010***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
SegHHI	-0.390***	-0.387***	-0.392***	-0.389***	-0.392***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
BHRET	-0.196***	-0.196***	-0.196***	-0.196***	-0.196***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
AMIHUD	-0.128***	-0.125***	-0.126***	-0.125***	-0.125***
	[0.004]	[0.005]	[0.004]	[0.005]	[0.004]
INST	2.239***	2.207***	2.230***	2.197***	2.227***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ANALYST	-0.006	-0.007	-0.007	-0.007	-0.007
	[0.207]	[0.192]	[0.189]	[0.188]	[0.182]
Constant	0.881	0.842	0.873	0.832	0.870
	[0.462]	[0.481]	[0.466]	[0.486]	[0.467]
Observations	29,816	29,816	29,816	29,816	29,816
Year FE	YES	YES	YES	YES	YES
Cluster	FIRM	FIRM	FIRM	FIRM	FIRM
Pseudo R-square	0.0734	0.0733	0.0732	0.0732	0.0732

Table 3. Panel B Campaign Decision

This table reports the logistic regression of common ownership on the probability of being targeted by hedge fund activists. The dependent variable is a dummy variable equals to one if the company is targeted by hedge fund activists during year t. Panel A excludes variable GINDEX, while in Panel B GINDEX is included to reflect significant loss of observations due to data availability. All independent variables are lagged by one year. Variables are defined in Appendix. All continuous variables are winsorized at the 1th and 99th percentiles. P values are reported in the square brackets. Standard errors are clustered at firm level. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

	Indicator of HFA Campaign				
	(1)	(2)	(3)	(4)	(5)
Co-Owner	-0.267** [0.049]				
NumConnectedPeer		-0.044 [0.380]			
NumComFund			-0.236 [0.135]		
AvgPeer				-0.040 [0.498]	
TotalComOwnp					-2.455 [0.198]
GINDEX	0.042** [0.033]	0.043** [0.030]	0.042** [0.032]	0.043** [0.029]	0.042** [0.031]
Controls	YES	YES	YES	YES	YES
Observations	5,131	5,131	5,131	5,131	5,131
Year FE	YES	YES	YES	YES	YES
Cluster	FIRM	FIRM	FIRM	FIRM	FIRM
Pseudo R-square	0.112	0.111	0.111	0.111	0.111

Table 3. Panel C Campaign Decision ---- by Size Quintile

This table reports the logistic regression of common ownership on the probability of being targeted by hedge fund activists, partitioning the sample into quintiles. Firm size increases from Quintile 1 to Quintile 5. The dependent variable is a dummy variable equals to one if there is hedge fund activism targeting the company during year t. All independent variables are lagged by 1 year. Variables are defined in Appendix. All continuous variables are winsorized at the 1th and 99th percentiles. P values are reported in in the square brackets. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

Size Quintile	(1) Common	(2) NumConnectedPeer	(3) NumComFund	(4) AvgPeer	(5) TotalComOwnp	(6) Number of obs
1	-0.183 [0.287]	-0.100* [0.056]	-0.195 [0.275]	-0.132** [0.047]	-2.348 [0.247]	4,938
2	-0.255* [0.056]	-0.014 [0.775]	-0.305** [0.038]	-0.016 [0.784]	-4.176** [0.019]	7,322
3	-0.135 [0.267]	-0.070* [0.093]	-0.122 [0.308]	-0.073 [0.135]	-0.898 [0.559]	6,209
4	-0.395*** [0.010]	-0.079* [0.062]	-0.379** [0.032]	-0.073 [0.135]	-5.329*** [0.009]	5,585
5	-0.089 [0.613]	-0.030 [0.557]	-0.379** [0.032]	-0.016 [0.736]	-0.054 [0.986]	5,762
Controls	YES	YES	YES	YES	YES	
YEAR FE	YES	YES	YES	YES	YES	
Cluster	FIRM	FIRM	FIRM	FIRM	FIRM	

Table 4 **Campaign Decision ---- Channel Tests**

This table reports the logistic regression of common ownership on the probability of being targeted by hedge fund activists by varying the incentives of intervention. Column (1) interacts firm level active share percentage with common ownership. Column (2) interacts industry level common ownership concentration with firm level common ownership. Variables are defined in Appendix. All continuous variables are winsorized at the 1th and 99th percentiles. P values are reported in in the square brackets. Standard errors are clustered at firm level. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

VARIABLES	Indicator of HFA Campaign	
	(1)	(2)
Co-Owner	0.012 [0.908]	-0.161* [0.093]
ActiveShare	-0.117* [0.052]	
Co-Owner*ActiveShare	-0.334** [0.018]	
HighMHHId		-0.357*** [0.000]
Co-Owner*HighMHHId		-0.545*** [0.000]
MV	-0.109*** [0.000]	-0.289*** [0.000]
BM	-0.051 [0.358]	-0.109*** [0.000]
Q	-0.186 [0.523]	-0.096*** [0.000]
GROWTH	-0.737*** [0.007]	-0.079* [0.095]
ROA	0.217** [0.024]	-0.381 [0.128]
CF	0.491** [0.016]	-0.436* [0.051]
LEV	-2.866** [0.017]	0.263*** [0.001]
CASH	0.474 [0.377]	0.496*** [0.003]

DIVYLD	-1.546*** [0.000]	-0.782 [0.172]
PAYOUT	1.543*** [0.000]	0.569 [0.185]
R&D	-0.189* [0.073]	-1.302*** [0.000]
CAPEX	-0.238*** [0.000]	1.952*** [0.000]
SegHHI	0.135** [0.019]	-0.314*** [0.001]
BHRET	2.380*** [0.000]	-0.198*** [0.000]
AMIHUD	0.135** [0.019]	-0.131*** [0.003]
INST	2.380*** [0.000]	2.121*** [0.000]
ANALYST	-0.032*** [0.000]	-0.004 [0.488]
Constant	-0.191 [0.647]	0.882 [0.454]
Observations	22,349	29,816
Year FE	YES	YES
Cluster	FIRM	FIRM
Pseudo R-square	0.0800	0.0773

Table 5 Campaign Decision ---- Instrumental Approach

This table reports two stage Ivprobit regression of campaign decision on common ownership. In the first stage, we use change from Russell1000 to Russell2000, change from Russell2000 to Rusell1000 and indicator of Russell2000 membership as instruments for common ownership measures. Variables are defined in Appendix. All continuous variables are winsorized at the 1th and 99th percentiles. P values are reported in in the square brackets. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively. Standard errors are clustered at firm level.

	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage
	Common	HFA Campaign	NumConn ectedPeer	HFA Campaign	NumCom Fund	HFA Campaign	AvgPeer	HFA Campaign	TotalCom Ownp	HFA Campaign
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Common		-4.964*								
		[0.087]								
NumConnectedPeer				-2.690**						
				[0.013]						
NumComFund						-8.516**				
						[0.042]				
AvgPeer								-3.334**		
								[0.025]		
TotalComOwnp										-102.999**
										[0.019]
Change2t1	0.009		0.172**		0.02		0.121**		0.002	
	[0.716]		[0.024]		[0.337]		[0.064]		[0.151]	
Change1t2	0.005		-0.115		-0.029		-0.101		-0.002	

Rus2000	[0.835]		[0.121]		[0.155]		[0.114]		[0.126]	
	0.027**		0.061*		0.021**		0.034		0.002**	
	[0.023]		[0.098]		[0.038]		[0.289]		[0.013]	
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Exogeneity Test (p-value)	0.0251		0.0001		0.0011		0.0004		0.0004	
Partial F-test (Instruments, 1st stage)	43.72		50.35		40.12		48.6		40.84	
Observations	13251		13251		13251		13251		13251	
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Cluster	FIRM	FIRM	FIRM	FIRM	FIRM	FIRM	FIRM	FIRM	FIRM	FIRM
(Pseudo) R-square	0.1064	0.104	0.1206	0.1182	0.0985	0.0961	0.1169	0.1145	0.1001	0.0977

Table 6 Objectives and Tactics

This table reports the logistic regression objectives pursued and tactics used by hedge fund activists. Column (1) to (4) reports probability that hedge fund activists pursue specific objectives especially business strategy objectives. Column (5) to (8) reports the probability that hedge fund activists use confrontational or friendly tactics. Variables are defined in Appendix. All continuous variables are winsorized at the 1th and 99th percentiles. P values are reported in in the square brackets. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

VARIABLES	(1) Specific Objective	(2) Specific Objective	(3) Business Strategy	(4) Business Strategy	(5) Confrontational Tactics	(6) Confrontational Tactics	(7) Communication	(8) Communication
Co-Owner	1.080*** [0.000]	1.032*** [0.000]	0.994*** [0.000]	0.938*** [0.000]	-1.619*** [0.000]	-1.540*** [0.000]	0.967*** [0.000]	0.800*** [0.000]
Controls	NO	YES	NO	YES	NO	YES	NO	YES
Observations	3,571	3,557	3,571	3,546	3,571	3,569	3,486	3,482
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Cluster	FIRM	FIRM	FIRM	FIRM	FIRM	FIRM	FIRM	FIRM
Pseudo R-square	0.0232	0.0655	0.0219	0.0500	0.0290	0.112	0.0123	0.0836

**Table 7 Panel A Short Window Market Reaction to HFA
Campaign Announcement**

This table reports non-parametric tests of market reaction to HFA targets with and without co-owners, around HFA event date. Cumulative abnormal returns (CAR) is measured as market adjusted cumulative stock return. Event windows [-5, 5], [-10, 10] and [-20, 20] where day 0 is the initial Schedule 13D filing date or first identifiable activism announcement by hedge fund activists. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

	Co-Owner=1	Co-Owner=0	Difference	T-stat
	Mean	Mean		
	(1)	(2)	(3)	(4)
CAR [-20,20]	0.069	0.038	0.031***	2.8091
N	433	2713		
CAR [-5,5]	0.045	0.039	0.006	0.9341
N	432	2708		
CAR [-10,10]	0.061	0.041	0.020**	2.4194
N	432	2711		

Table 7 Panel B Short Window Market Reaction Regression

This table reports OLS regression of market reaction to HFA targets with and without co-owners, around HFA event date. Cumulative abnormal returns (CAR) is measured as market adjusted cumulative stock return. Event windows [-5, 5], [-10, 10] and [-20, 20] where day 0 is the initial Schedule 13D filing date or first identifiable activism announcement by hedge fund activists. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

	(1)	(2)	(3)
	CAR [-20, 20]	CAR [-5,5]	CAR [-10,10]
Co-Owner	0.030** [0.026]	0.005 [0.431]	0.019* [0.055]
MV	-0.008*** [0.006]	-0.001 [0.380]	-0.004** [0.048]
BM	0.020** [0.015]	0.009** [0.026]	0.015*** [0.008]
REV	-0.011 [0.474]	-0.001 [0.862]	-0.009 [0.443]
RETVOL	-0.012*** [0.000]	-0.006*** [0.000]	-0.007*** [0.000]
Constant	0.171*** [0.001]	0.067*** [0.002]	0.105*** [0.001]
Observations	3,143	3,137	3,140
R-squared	0.015	0.008	0.013
Cluster	FIRM	FIRM	FIRM
Cluster	YEAR	YEAR	YEAR

Table 8. Short Window Market Reaction on Industry Peers Around HFA Announcement
Panel A

This panel reports average market reaction of HFA target firms' industry peers around HFA announcement. Common equals 1 if the HFA targets have connected industry peers through common ownership and 0 otherwise. Industry peers are defined as all firms with the same four-digit Standard Industrial Classification (SIC) code. Firms without complete data on the CRSP Daily Returns are not included in the sample. Cumulative abnormal returns (CAR) is measured as market adjusted cumulative stock return. Event windows [-5, 5] and [-20, 20] where day 0 is the initial Schedule 13D filing date or first identifiable activism announcement by hedge fund activists. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

	Common=1	Common=0	Difference	T-stat
	Mean	Mean		
	(1)	(2)	(3)	(4)
CAR [-5,5]	-0.004	0.001	-0.005**	-2.234
N	449	2,854		
CAR [-20,20]	-0.006	-0.004	-0.002	-0.420
N	449	2,854		

Table 8. Panel B Partitioned Industry Peer Reaction to HFA Announcement

This table presents average HFA target firms' industry peers' market reaction around HFA announcement. Industry peers are partitioned to different groups. For each industry peer, equal weight is assigned when constructing the peer portfolio. Common equals 1 if the HFA targets have connected industry peers through common ownership and 0 otherwise. Industry peers are defined as all firms with the same four-digit Standard Industrial Classification (SIC) code. Firms without complete data on the CRSP Daily Returns are not included in the sample. Cumulative abnormal returns (CAR) is measured as market adjusted cumulative stock return. High_Herfindahl Index equals to 1 if the industry that the target firm belongs has higher than sample median Herfindahl Index and 0 otherwise. High_MHHIdelta equals to 1 if the industry that the target firm belongs has higher than sample median Modified Herfindahl Index delta, and 0 otherwise. High_Fluidity equals to 1 if the target firms' industry peers has higher product fluidity than industry median and 0 otherwise. Product fluidity measure is constructed using Homberg & Philips database. Event windows [-5, 5] and [-20, 20] where day 0 is the initial Schedule 13D filing date or first identifiable activism announcement by hedge fund activists. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

a: Partition treatment firms based on industry competition

	COMMON=1	COMMON=0
High_Herfindahl Index=1	0.0018	0.0068
High_Herfindahl Index=0	-0.0019	-0.0004

b: Partition treatment firms based on institutional investors' industry level common holding intensity

	COMMON=1	COMMON=0
High_MHHIdelta=1	-0.0016	0.0007
High_MHHIdelta=0	-0.0023	0.0016

c: Partition treatment firms' industry peers based on their relative product market competitive power

	COMMON=1	COMMON=0
High_Fluidity=1	-0.0035	0.0007
High_Fluidity=0	-0.0023	-0.0002

Table 9**Placebo Test of Co-Owners' Wealth Change**

This table presents the placebo test of Co-owners' wealth change, assuming if the co-owners only hold the HFA targets (constituting as non-co-owners) vs. if the co-owners hold both the targets and their connected industry peers post HFA campaigns. When constructing co-owners' portfolios, firms are assigned equal weight. Returns are calculated as buy-and-hold raw return over 3, 6, and 12 months after HFA campaigns accordingly. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

Months since HFA	N	Target Return	Portfolio Return	Difference	T-stat
					H0: Mean(Difference)=0
	(1)	(2)	(3)	(4)	(5)
3 Months	528	0.086	0.049	0.038***	3.916
6 Months	528	0.107	0.096	0.011	0.759
12 Months	528	0.231	0.184	0.048	1.423

Table 10 Panel A Target Firm Performance before and after Hedge Fund Activism

This table reports various statistics of target company performance in excess of a matched sample in years before and after being targeted by hedge fund activists. The matching is conducted on a "Year-by-Year" basis of firms in the same industry and same MV, BM quintile. Comparison is further conducted for targets with and without co-owners. T is the event year of activism campaign. Panel A reports results of ROA and Margin. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

	ROA				Margin			
	Co-Owner=1	Co-Owner=0	Diff-in-Diff	T-stat	Co-Owner=1	Co-Owner=0	Diff-in-Diff	T-stat
	Mean Diff	Mean Diff			Mean Diff	Mean Diff		
T-2	0.007	0.019	-0.012	-1.237	0.019	0.031	-0.029	-1.244
T-1	-0.021	0.006	-0.027***	-2.815	-0.005	0.022	-0.027***	-2.818
T	-0.023	-0.013	-0.010	-1.011	0.008	0.018	-0.010	-1.001
T+1	0.001	0.014	0.014	-1.325	0.024	0.038	-0.014	1.337
T+2	-0.004	0.019	-0.023**	-2.069	0.000	0.023	-0.023**	-2.071
T+3	0.030	0.034	0.004	-0.344	0.033	0.037	-0.005	0.357

Table 10 Panel B Target Firm Performance before and after Hedge Fund Activism

This table reports various statistics of target company performance in excess of a matched sample in years before and after being targeted by hedge fund activists. The matching is conducted on a "Year-by-Year" basis of firms in the same industry and same MV, BM quintile. Comparison is further conducted for targets with and without common ownership. T is the event year of activism campaign. Panel B reports results of Market Share and Market Share Growth. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

	Market Share				Market Share Growth			
	Co-Owner=1	Co-Owner=0	Diff-in-Diff	T-stat	Co-Owner=1	Co-Owner=0	Diff-in-Diff	T-stat
	Mean Diff	Mean Diff			Mean Diff	Mean Diff		
T-2	0.000	0.002	-0.002***	-4.806	0.040	0.002	0.038	1.505
T-1	0.000	0.002	-0.002***	-4.938	-0.004	-0.012	0.008	0.334
T	0.000	0.002	-0.002***	-4.510	-0.005	-0.039	0.035	1.338
T+1	0.000	0.002	-0.002***	-4.381	-0.067	-0.044	-0.023	0.840
T+2	0.000	0.002	-0.002***	-4.210	-0.013	-0.058	0.045*	1.682
T+3	0.000	0.002	-0.002***	-3.840	0.000	-0.048	0.048	1.652

Table 11 Management Compensation before and after Hedge Fund Activism

This table reports various statistics of target company's management compensation in excess of a matched sample in years before and after being targeted by hedge fund activists. The matching is conducted on a "Year-by-Year" basis of firms in the same industry and same MV, BM quintile. Comparison is further conducted for targets with and without common ownership. T is the event year of activism campaign. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

	CEO Contracted Pay (\$1,000)				CEO Pay-for-Performance (%)			
	Co-Owner=1	Co-Owner=0	Diff-in-Diff	T-stat	Co-Owner=1	Co-Owner=0	Diff-in-Diff	T-stat
	Mean Diff	Mean Diff			Mean Diff	Mean Diff		
T-2	-106.707	374.801	-481.507	0.896	0.056	-0.036	0.092	0.811
T-1	-536.043	8.669	-544.712	-1.236	0.055	-0.043	0.098	1.046
T	-476.290	417.400	-893.690*	1.706	-0.143	-0.163	0.021	0.280
T+1	812.332	596.827	215.505	0.392	-0.168	-0.110	-0.058	-0.604
T+2	1.677	393.376	-391.699	-0.793	-0.007	-0.138	0.132	1.251
T+3	-361.598	488.888	-850.486	-1.509	-0.066	-0.108	0.042	0.351

Table 12. Panel A Campaign Decision ---- Propensity Score Matching

This table reports the logistic regression of common ownership on the probability of being targeted by hedge fund activists, using propensity score matching approach. Treatment firms are matched to control firms on dimensions that would influence hedge fund activists' campaign decisions. The matched sample is constructed through 1 to 1 match. The dependent variable is a dummy variable equals to one if there is hedge fund activism targeting the company during year t. All independent variables are lagged by 1 year. Variables are defined in Appendix. All continuous variables are winsorized at the 1th and 99th percentiles. P values are reported in the square brackets. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

VARIABLES	(1)	(2)	(3)	(4)	(5)
	Indicator of HFA Campaign				
Common	-0.141*				
	[0.085]				
NumConnectedPeer		-0.054**			
		[0.012]			
NumComFund			-0.139		
			[0.111]		
AvgPeer				-0.061**	
				[0.013]	
TotalComOwnp					-1.849*
					[0.070]
MV	-0.086***	-0.084***	-0.085***	-0.083***	-0.085***
	[0.008]	[0.009]	[0.008]	[0.010]	[0.008]
BM	0.015	0.014	0.015	0.014	0.017
	[0.764]	[0.780]	[0.755]	[0.779]	[0.730]
SegHHI	0.106	0.111	0.107	0.111	0.109
	[0.367]	[0.342]	[0.361]	[0.345]	[0.354]
GROWTH	-0.019	-0.016	-0.017	-0.016	-0.018
	[0.747]	[0.788]	[0.768]	[0.785]	[0.767]
ROA	0.245	0.241	0.247	0.245	0.245
	[0.458]	[0.465]	[0.454]	[0.458]	[0.458]
CF	-0.153	-0.147	-0.154	-0.150	-0.152
	[0.614]	[0.628]	[0.611]	[0.621]	[0.616]
LEV	0.067	0.064	0.067	0.063	0.065
	[0.517]	[0.536]	[0.516]	[0.538]	[0.525]
CASH	-0.369*	-0.380*	-0.371*	-0.377*	-0.373*
	[0.071]	[0.063]	[0.070]	[0.065]	[0.069]
CAPEX	0.359	0.325	0.349	0.328	0.350
	[0.438]	[0.482]	[0.450]	[0.478]	[0.448]
R&D	0.523	0.564	0.522	0.566	0.524
	[0.215]	[0.181]	[0.216]	[0.180]	[0.214]
Q	-0.065***	-0.066***	-0.066***	-0.066***	-0.065***
	[0.002]	[0.002]	[0.002]	[0.001]	[0.002]
DIVYLD	-3.545***	-3.549***	-3.557***	-3.552***	-3.565***
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
PAYOUT	0.374	0.367	0.379	0.358	0.375
	[0.516]	[0.525]	[0.512]	[0.535]	[0.516]
BHRET	-0.088	-0.087	-0.088	-0.087	-0.088

	[0.138]	[0.145]	[0.140]	[0.142]	[0.141]
ANALYST	0.010*	0.010*	0.010*	0.010*	0.010*
	[0.062]	[0.066]	[0.063]	[0.065]	[0.064]
AMIHUD	-0.056	-0.055	-0.056	-0.055	-0.055
	[0.361]	[0.374]	[0.365]	[0.372]	[0.371]
INST	-0.219	-0.225	-0.225	-0.232*	-0.221
	[0.127]	[0.109]	[0.115]	[0.098]	[0.120]
Constant	1.219	1.192	1.211	1.185	1.212
	[0.411]	[0.421]	[0.414]	[0.424]	[0.414]
Observations	6,008	6,008	6,008	6,008	6,008
Year FE	YES	YES	YES	YES	YES
Cluster	FIRM	FIRM	FIRM	FIRM	FIRM
Pseudo R-square	0.093	0.098	0.092	0.097	0.093

Table 12. Panel B Campaign Decision ---- Allow Treatment Firms' Non-treated years as Controls

This table reports the logistic regression of common ownership on the probability of being targeted by hedge fund activists. Treatment firms are matched to control firms within the same MV and BM quintiles. Additionally, treatment firms' non-treated years are allowed to be control firms. The dependent variable is a dummy variable equals to one if there is hedge fund activism targeting the company during year t. All independent variables are lagged by 1 year. Variables are defined in Appendix. All continuous variables are winsorized at the 1th and 99th percentiles. P values are reported in the square brackets. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

VARIABLES	(1)	(2)	(3)	(4)	(5)
	Indicator of HFA Campaign				
Common	-0.225*** [0.000]				
NumConnectedPeer		-0.061*** [0.006]			
NumComFund			-0.225*** [0.001]		
AvgPeer				-0.065** [0.012]	
TotalComOwnp					-2.631*** [0.001]
MV	-0.279*** [0.000]	-0.275*** [0.000]	-0.278*** [0.000]	-0.274*** [0.000]	-0.278*** [0.000]
BM	-0.110*** [0.000]	-0.111*** [0.000]	-0.110*** [0.000]	-0.110*** [0.000]	-0.110*** [0.000]
SegHHI	-0.370*** [0.000]	-0.367*** [0.000]	-0.372*** [0.000]	-0.368*** [0.000]	-0.372*** [0.000]
GROWTH	-0.084* [0.071]	-0.083* [0.076]	-0.083* [0.076]	-0.083* [0.073]	-0.083* [0.074]
ROA	-0.232 [0.332]	-0.234 [0.328]	-0.230 [0.336]	-0.231 [0.335]	-0.230 [0.336]
CF	-0.555*** [0.009]	-0.555*** [0.009]	-0.560*** [0.008]	-0.556*** [0.009]	-0.561*** [0.008]
LEV	0.261*** [0.001]	0.269*** [0.000]	0.263*** [0.001]	0.270*** [0.000]	0.263*** [0.001]
CASH	0.451*** [0.004]	0.442*** [0.005]	0.447*** [0.004]	0.445*** [0.004]	0.448*** [0.004]
CAPEX	1.944*** [0.000]	1.920*** [0.000]	1.942*** [0.000]	1.922*** [0.000]	1.943*** [0.000]
R&D	-1.524*** [0.000]	-1.509*** [0.000]	-1.533*** [0.000]	-1.512*** [0.000]	-1.534*** [0.000]
Q	-0.092*** [0.000]	-0.092*** [0.000]	-0.092*** [0.000]	-0.092*** [0.000]	-0.092*** [0.000]
DIVYLD	-0.739 [0.184]	-0.712 [0.197]	-0.731 [0.188]	-0.713 [0.196]	-0.729 [0.189]
PAYOUT	0.509 [0.204]	0.503 [0.209]	0.512 [0.201]	0.506 [0.206]	0.515 [0.198]
BHRET	-0.193***	-0.192***	-0.193***	-0.193***	-0.193***

	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ANALYST	-0.007	-0.007	-0.007	-0.007	-0.007
	[0.145]	[0.133]	[0.131]	[0.130]	[0.127]
AMIHUD	-0.106**	-0.103**	-0.104**	-0.103**	-0.103**
	[0.014]	[0.017]	[0.015]	[0.017]	[0.016]
INST	2.165***	2.135***	2.159***	2.125***	2.156***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Constant	0.600	0.560	0.595	0.551	0.593
	[0.613]	[0.637]	[0.617]	[0.642]	[0.618]
Observations	30,674	30,674	30,674	30,674	30,674
Year FE	YES	YES	YES	YES	YES
Cluster	FIRM	FIRM	FIRM	FIRM	FIRM
Pseudo R-square	0.0684	0.0683	0.0683	0.0682	0.0682

Table 13 Panel A. Learning Effect at Hedge Fund Level

This table reports hedge fund activists' campaign decisions if they have targeted firms with co-owned industry peers. PastCTarget equals one if the hedge fund activists have targeted firms with co-owned industry peers ever in the past, and zero otherwise. The sample is restricted to HFA campaign targets. Hedge fund activists that do not have past campaign information are deleted from the sample. All independent variables are lagged by 1 year. Variables are defined in Appendix. All continuous variables are winsorized at the 1th and 99th percentiles. P values are reported in the square brackets. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

VARIABLES	Dummy=1 if Targets have Co-Owned Industry Peers
PastCTarget	-0.140 [0.271]
MV	-0.487*** [0.000]
BM	0.017 [0.900]
SegHHI	-0.121 [0.684]
GROWTH	-0.061 [0.585]
ROA	-1.231 [0.162]
CF	1.229 [0.120]
LEV	-0.262 [0.308]
CASH	-0.354 [0.512]
CAPEX	0.475 [0.705]
R&D	0.622 [0.460]
Q	0.061 [0.280]
DIVYLD	1.857 [0.677]
PAYOUT	-1.087 [0.478]
BHRET	-0.125 [0.399]
ANALYST	0.035** [0.015]
AMIHUD	-0.245* [0.087]
INST	3.474*** [0.000]
Constant	2.987**

	[0.018]
Observations	2,573
Year FE	YES
Industry FE	YES
Cluster	FIRM
Pseudo R-square	0.134

Table 13 Panel B. Learning Effect Across Years

This table reports hedge fund activists' campaign decisions, partitioning sample into different periods. All independent variables are lagged by 1 year. Variables are defined in Appendix. All continuous variables are winsorized at the 1th and 99th percentiles. P values are reported in the square brackets. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

VARIABLES	(1) On & Before 2000	(2) 2001-2005	(3) 2006-2010	(4) Since 2011
COMMON	-0.391*** [0.006]	0.080 [0.528]	-0.270*** [0.005]	-0.291** [0.033]
MV	-0.239*** [0.000]	-0.147*** [0.004]	-0.276*** [0.000]	-0.394*** [0.000]
BM	-0.051 [0.124]	-0.092*** [0.001]	-0.193*** [0.000]	-0.089*** [0.009]
SegHHI	-0.877*** [0.000]	-0.131 [0.442]	-0.255* [0.069]	-0.374** [0.023]
GROWTH	0.019 [0.785]	-0.240* [0.055]	-0.071 [0.351]	-0.076 [0.527]
ROA	-0.602 [0.158]	0.455 [0.365]	-0.655* [0.094]	0.232 [0.718]
CF	-0.743* [0.069]	-0.767* [0.065]	-0.342 [0.308]	-0.415 [0.459]
LEV	0.516*** [0.001]	0.308* [0.065]	-0.001 [0.991]	0.318** [0.041]
CASH	-0.234 [0.504]	0.864** [0.012]	0.489** [0.050]	0.167 [0.586]
CAPEX	1.152** [0.024]	2.073*** [0.002]	2.158*** [0.000]	1.944*** [0.001]
R&D	-1.546*** [0.002]	-1.925*** [0.007]	-1.510*** [0.002]	-1.188* [0.078]
Q	-0.066** [0.034]	-0.098*** [0.008]	-0.151*** [0.000]	-0.060** [0.029]
DIVYLD	-14.651*** [0.000]	-0.537 [0.652]	0.177 [0.766]	-0.607 [0.563]
PAYOUT	2.878*** [0.000]	-1.114 [0.236]	0.597 [0.348]	-0.278 [0.763]
BHRET	-0.213** [0.026]	-0.327*** [0.001]	-0.031 [0.719]	-0.339*** [0.001]
ANALYST	-0.042*** [0.003]	-0.046*** [0.000]	-0.014* [0.072]	0.027*** [0.000]
AMIHU	-0.086 [0.355]	0.109 [0.181]	-0.130* [0.083]	-0.439*** [0.000]
INST	2.274*** [0.000]	2.400*** [0.000]	2.322*** [0.000]	1.574*** [0.000]
Constant	0.775	-0.811	0.936*	2.218*

	[0.317]	[0.213]	[0.060]	[0.087]
Observations	7,117	7,552	9,535	6,470
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Cluster	FIRM	FIRM	FIRM	FIRM
Pseudo R-square	0.0863	0.0771	0.0759	0.0546
