Hedge funds as shareholder activists from 1994-2005

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Abstract

Recently, the mainstream media have paid considerable attention to hedge funds behaving as agents of corporate change. We study this phenomenon using a unique dataset of hedge fund activism for the period 1994-2005, and find strong evidence that hedge fund activists improve both short-term stock performance and long-term operating performance of their targets. The most dramatic changes in performance accrue to targets of aggressive activism, especially when the activists seek corporate governance changes and reductions in excess cash. Additionally, hedge funds themselves benefit from activism: the risk-adjusted annual performance of hedge funds practicing aggressive activism and/or seeking changes in corporate governance is about 7-11% higher than for non-activist hedge funds and hedge funds pursuing less aggressive activism. These results imply that hedge funds can facilitate long-lasting changes in corporate governance, cash flows, and operating performance that benefit target firm shareholders and hedge fund investors alike.

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Introduction

Media attention to hedge fund activism has been increasing.[1] The idea of hedge funds as activists is in direct contrast with their image as short-term, opportunistic investors. For example, in the early 2000's, prime brokerage operations of investment banks were sometimes the banks' only profitable divisions, due to heavy trading volume among their hedge fund clients. Hence, the thought of hedge funds as long-term investors is somewhat counterintuitive.

However, many hedge funds have been pursuing activist strategies for over a decade. In our sample which covers the period 1994-2005 and includes 418 separate activist events involving 111 hedge funds and 397 target firms, the year with the largest number of activist events is 1997.[2] These hedge funds are not short-term investors – the average period of activism is just over two years in length. Nor do they target operationally distressed firms: the average target firm is relatively small in size, has poor recent stock performance and low growth opportunities (with a large cash position, high book to market ratio, and low Tobin's Q), but strong operating performance (with a high return on assets and cash flows as a percentage of assets). In other words, the typical target is a cash cow with poor growth prospects, possibly suffering from the agency costs of free cash flow.

Our empirical results indicate that hedge funds are quite successful in achieving their stated objectives, such as making corporate governance changes or encouraging mergers. Most important, hedge fund activism significantly improves short-term and long-term performance of target firms compared to non-targets. These performance improvements often include reductions in cash positions, providing evidence that hedge funds reduce agency costs associated with free cash flows (see Jensen (1986), Shleifer and Vishny (1996), and Faleye (2004)). The performance-related benefits of activism accrue not only to shareholders of target firms but also to investors in activist hedge funds, and are most pronounced for activists that pursue well-defined objectives ("aggressive activism") as compared to less specific objectives ("communication-only activism"). Within the subset of aggressive activists, hedge funds that

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[1] See, for example, Thornton, Emily and Susan Zegal. "Hedge Funds: The New Raiders,"*Business Week*, February 28, 2005, and Worden, Nat. "Riding the Right Coattails," *TheStreet.com*, March 28, 2005.

[2] We define an activist event as the first time that a hedge fund files a 13D form with the SEC, indicating that the fund has purchased at least 5% of the target firm's stock. SEC regulations outlined in the Investment Advisers Act of 1934 and the Williams Act of 1968 requires that when a firm buys 5% or more of a public company's stock, that firm is required to file a 13D form with the SEC within 10 days of reaching the 5% ownership threshold. Examples of prior literature that use this definition of "activism" include Bethel, Liebiskind, and Opler (1998), Brav, Jiang, Partnoy, and Thomas (2006), and Klein and Zur (2006)).

discipline management of target firms through changes in corporate governance such as board representation, and those that reduce agency costs of managerial discretion related to excess cash positions induce the greatest improvements in long-term performance.

There is a large literature on shareholder activism dating from the early 1980's.[3] Activism takes on a number of forms, with actions ranging from buying large blocks of stock, threatening the sale of shares ("exit"), letter writing, and meeting with management, to asking questions at shareholder meetings and using corporate voting rights.[4] Typical activists include private and public pension funds, such as TIAA-CREF and CalPERS (see Carleton, Nelson, and Weisbach (1998), Gillan and Starks (1998), DelGurcio and Hawkins (1999) and Barber (2006)), block purchasers (see McConnell and Servaes (1990) and Bethel, Liebeskind, and Opler (1998)), and coordinated groups of activists (see Strickland, Wiles, and Zenner (1996)).

Black (1992) and Pound (1992) argue that shareholder activism could improve corporate performance through increased monitoring of management, thus reducing agency and incentive costs. However, most empirical studies indicate that although activists sometimes induce improvements in corporate governance (see Smith (1996) and Strickland, Wiles, and Zenner (1996)) and sometimes do not (see Bebchuk (2005a and 2005b)), they rarely, if ever, induce long-term changes in performance.[5]

The inability to improve long-term performance of targets has been explained by insufficient managerial skill among activists, political motivation of activists particularly among public pension funds, short-term focus of activists, and activist goals other than long-term performance improvement.[6] Other reasons cited are that activists spend too little money and time on activism (Black (1998), Kahan and Rock (2006)) and that there are better alternatives than shareholder activism to effect change (Karpoff, Malatesta, and Walkling (1996)). None of these prior studies examine hedge funds.

Our results differ significantly from previous literature. For our sample, on average both short-term and long-term target performance improves following hedge fund activist activity. One possible reason for this difference is that hedge funds target different types of firms than

[3] For surveys of this literature, see Gillan and Starks (2000, 2007) and Karpoff (2001).
[4] See Becht, et. al., (2006).
[5] See Wahal (1996), Karpoff, Malatesta, and Walkling (1996), Gillan and Starks (2000),and Johnson and Shackell (1997). For a counterexample, see Bethel, Liebiskind, and Opler (1998).
[6]See Lipton and Rosenblum (1991), Wohlstetter (1993), Romano (1994), Carleton, Nelson, and Weisbach (1998), Kim and Davis (2005), and Del Gurcio, Wallis, and Woidke (2006)).

other activists. Most other activists target large firms with poor stock and operational performance.[7] While hedge fund targets also typically have poor stock performance, they are small in size and usually have good operational performance, making them potentially better candidates for improvement by activists.

In addition, hedge funds themselves are different from other types of activists. First, hedge funds rarely have conflicts of interest (such as politically-motivated agendas) common among pension funds and mutual funds. Second, hedge funds are willing to spend money; the average target firm holding in our sample is about $18 million. Third, although hedge funds are often considered to be short-term investors, this is not true for our sample of activist funds, as the hedge funds typically stay active in their targets for over two years. Fourth, many activist hedge funds have lockup provisions. A lockup provision requires that hedge fund investors not withdraw their money for a fixed time (usually 6 months to 1 year), thus encouraging longer-term strategies.

Fifth, hedge funds are unregulated, and thus, are not required to limit their holdings in one firm's stock to 10% of total assets, as are diversified mutual funds. Hence, hedge funds can, and often do, take larger stakes in the firms they target. Finally, hedge fund managers have less severe agency conflicts than other activists. Since hedge fund managers invest a substantial portion of their personal assets in their funds, and receive performance-based compensation (fees usually include an option-like incentive fee calculated as 20% of fund profits), fund managers' objectives are better aligned with investor objectives.

While our findings regarding hedge fund activists differ from most of the prior literature on activism, our findings are similar to a study by Hotchkiss and Mooradian (1997) examining vulture investors. While vultures target financially distressed firms and the hedge funds in our sample target financially healthy firms, Hotchkiss and Mooradian (1997) also find that improvements in operating performance are strongly related to the type of activity undertaken. In particular, only "active" vultures (vultures that obtain particularly large stakes, board seats, or become the CEO or Chairman of the Board) improve target performance. This result likely occurs because targets of vultures suffer serious operational problems, so that vultures must get involved in management to substantially improve performance. This result is analogous to our finding that hedge funds that take aggressive action, particularly with respect to corporate

[7] See Karpoff (2001).

governance (notably, obtaining board seats), induce the largest improvement in target firm performance. While it is less common for a hedge fund manager than for a vulture to actually become the CEO or Chairman of the Board of a target, hedge funds provide discipline in rather similar ways (e.g., taking large stakes and obtaining seats on the Board).

While the topic of shareholder activism is not new, the topic of hedge funds as activists is new. Of late, four recent working papers (Brav, Jiang, Partnoy, and Thomas (2006), Becht, Franks, Meyer, and Rossi (2006), Clifford (2007), and Klein and Zur (2006)) examine this topic. While Becht et. al. is a clinical study of one large hedge fund, the U.K. Hermes Focus Fund, Brav et. al. (2006), Clifford (2007), and Klein and Zur (2006) are closest in spirit to our paper.[8] Our paper differs from these in a few key respects. First, while the others focus on more recent activist events, beginning in 1998, we examine a much longer time frame, from 1994-2005.[9] This longer time frame increases our sample size, allows us to investigate how activism has changed over time, and in addition, allows a more rigorous analysis of the impact of activism on long-term target firm and hedge fund performance, since many of the activist events are completed well before the end of our sample period.

The second differentiating aspect of our study is that in addition to examining the effects of activism on target firm performance, we also examine the impact of activism on the hedge funds themselves. In selecting target firms, we begin with a database of hedge fund managers and then identify target firms. Hence, our sample does not include all hedge fund activism for the period 1994-2005, but rather, includes the target firms and corresponding hedge funds for which we have hedge fund performance data so that we may examine the impact of activism on both targets and hedge funds for all activist events in the sample. Further, since we have selected only hedge funds from the database with at least $10 million in assets, we have a more homogeneous sample of funds to examine. This approach makes our study complementary to recent work, and adds to the literature in two major ways: the longer time frame allows a

[8] Other recent work on hedge fund activism includes Bratton (2006), Briggs (2007), Thomas and Partnoy (2007), and Thompson (2006). Bradley, Brav, Jiang and Goldstein (2005) examine hedge fund activism designed to open closed end funds.

[9] Clifford (2007) focuses on activism from 1998, Brav et.al. (2006) focus on activism from 2001-2005 while Klein and Zur (2006) focus on activism from 2003-2005.

rigorous analysis of long-term performance, and the data on hedge funds allow an investigation of the impact of hedge fund activism on the hedge funds themselves.[10]

The paper is organized as follows. Section II describes our data. Section III examines the performance of target firms. Section IV examines the performance of hedge funds. Section V concludes.

II. Data

A. Hedge Fund Data

Hedge fund data are obtained from CSFB/Tremont, formerly known as Tremont Advisory Shareholder Services (TASS). CSFB/Tremont has been collecting hedge fund data directly from managers since the late 1980's, and currently has over 5,000 funds in the database. The database includes monthly net-of-fee returns, as well as other fund characteristics. This data has been widely used in academic studies of hedge funds.[11] It has been well-documented that hedge fund databases suffer from several biases including survivorship bias and instant history or backfilling bias.[12] We control for survivorship bias by including defunct funds until they disappear from the database and mitigate the backfilling bias by excluding the fund's "incubation period" from the time-series of returns.[13]

We focus on funds that invest in equities, including the style categories of long/short equity, equity market neutral, other, global macro, event driven, and multi-strategy.[14] We require that each fund have at least 24 months of consecutive returns and average annual fund size of at least \$10 million in assets during the period January 1994 to December 2004 (the end date for our hedge fund sample). Our initial sample includes 456 potential activist hedge funds. Of this list, we identify 111 separate hedge funds from 89 hedge fund management firms that take activist positions, representing about 25% of the total hedge fund sample.

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[10] Clifford (2007) is the only other paper that we are aware of that also examines hedge fund performance. His approach is somewhat different than ours. He attempts to identify all activist events for the period 1998-2005 using an approach similar to Brav, et. al. (2006), and then matches his sample to a database of hedge fund managers, creating a subset of his initial sample.

[11] See, for example, Agarwal and Naik (2004), Aragon (2007), Baquero, ter Horst, and Verbeek (2005), Brown, Goetzmann and Park (2001), and Fung and Hsieh (2001).

[12] For example, see Ackermann, McEnally, and Ravenscraft (1999), Fung and Hsieh (2000), Liang (1999), and Brown, Goetzmann, and Park (2001).

[13] To mitigate the incubation bias, we use data from the "Performance Start Date" instead of the "Inception Date" from the CSFB/Tremont database.

[14] See Appendix A for a detailed description of the hedge fund styles represented in the TASS database. "Other" includes funds that are not classified by TASS.

B. Target Firm Data

The target firm data is obtained from the Securities and Exchange Commission (SEC) database at www.sec.gov, where all 13D filings since 1994 are available electronically. When a firm buys 5% or more of a public company's stock, that firm is required to file a 13D form with the SEC within 10 days of reaching the 5% ownership threshold; thus, we define this initial 13D filing as the first sign of activism. The 13D form describes the transaction, including the name of the filer(s), the name of the target firm, the number of shares purchased and the aggregate percentage of the target's shares represented by this purchase, the method of purchase, the date of the acquisition, and the purpose of the transaction. In Item 4 of the 13D form, the filer discloses details regarding the purpose, including whether the filer intends to purchase additional securities, to get involved with a corporate event such as a merger, to enact change in the target's corporate governance, to enact changes in capital structure or dividend policy, or to make changes in the target's charter or bylaws.[15]

To identify activist events, we search the population of 13D filings for the period January 1, 1994 to December 31, 2005 by each of the 456 potential hedge fund activists described above.[16] We search using both the hedge fund name and the hedge fund management company name. Our search results in 397 individual target firms for 111 separate activist hedge funds, for a grand total of 418 unique hedge fund-target pairs.[17] From the 13D filings, we compile the following information: filing date, event date if different from filing date, target name, hedge fund name, percentage of shares owned by the hedge fund, percentage of shares owned by all filers (if filed as a group), number of shares owned by the filer, purpose of the transaction, and the method by which the stock is acquired.

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[15] By contrast, a filer that is taking a "passive" stake in a target firm (defined as an ownership stake that does not meet the "intention" requirements of the 13D form), must file a 13G form with the SEC within 45 days of purchase. The 13G form is much shorter and requires less detail regarding the purchase, with no statement of intent.

[16] Note that the sample periods differ, with the hedge fund sample ending in 2004 and the target sample ending in 2005, due to data limitations. All analyses of targets use the full sample period, while analyses of hedge funds use the period through 2004. A robustness test on this data that matches the sample periods exactly does not change our empirical results.

[17] Sometimes hedge funds will act as a "group" and target a firm together, using the same 13D filing. To avoid counting the same 13D filing more than once, we select the hedge fund with the largest stake in the firm and associate this fund with the 13D filing. Had we not done this, our hedge fund-target pair sample would include over 500 items, but these would not all be unique. In addition, there are more individual hedge fund/target pairs than there are targets in our sample since target firms were sometimes targeted separately by different hedge funds at different times during the sample period.

A few of these data points require explanation. The event date is the actual date that the filer crossed over the 5% ownership threshold. Since filers have a 10-day window in which to file the 13D form, this date is typically prior to the filing date (the actual date the form is submitted). The percentage of shares owned by the hedge fund is sometimes, but not always, detailed separately from the percentage of shares owned by all filers if the form is filed by a group. In cases where both are detailed, we collect both; otherwise, we include only the aggregate percentage.[18]

In addition, we search the Lexis-Nexis and Factiva databases for news stories regarding each of the hedge fund/target pairs. We perform this search to ensure that we have a "clean" first event date for the event study that we perform later. In several cases, based on the news story, we find that the hedge fund has been involved with the target firm prior to filing the first 13D form. In these cases, we use the news story date as the activism event date for all the analyses that follow. In general, however, our results are qualitatively similar regardless of whether we base our analysis on the filing or the event date.[19]

Finally, it is important to note that during the course of activism, a hedge fund will often file several amended 13D statements (13D/A's per the SEC database). We examine each amended filing for each of the firms in the sample to track the activist activities through time.[20] Hedge funds file amendments for several reasons: to purchase or sell additional shares, when information about the filers changes, and/or when the purpose of activism (Item 4) changes. In the analyses that follow, these amended filings are considered new "activist events" if the purpose of activism in Item 4 has changed significantly.

C. Summary Statistics, Motives, and Outcomes of Activism

Table 1 provides descriptive statistics regarding activism. Panel A delineates the number of activists and target firms. Of the 397 individual targets, 376 are targeted by one hedge fund, 19 by two, and 2 by three. Additionally, a number of the hedge funds are very active. Of the

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[18] There are several cases in our sample where the percentage of shares owned by the hedge fund is less than 5% of the target company's stock. However, we still include these filings in our analysis since in almost all cases, the other filers are also hedge funds, although they are not always funds included in our hedge fund sample. The impact on the target's performance should not be affected by which hedge fund is doing the filing, and by including hedge funds in our sample who individually own less than 5% of a target company's stock, we are actually biasing *against* finding differences in hedge fund performance due to activism.

[19] Often, this involvement includes owning debt or other payables of the target firm prior to filing the first 13D form. In some cases, the hedge fund obtains common stock in exchange for debt or other payables in a restructuring or reorganization, often as the target is emerging from Chapter 11 bankruptcy.

[20] We follow filings through June 30, 2006, but do not search for new filings beyond December 31, 2005.

111 individual hedge funds, about half (58) have only one target between 1994 and 2005, while nine hedge funds have over 10 targets each. 1997 is the most active year, with 91 separate hedge fund/target pair filings, while 1994 was the least active year. There are no significant time trends in the data, but this is likely due to our sample selection methodology.

Panel B details the number of targets by 2-digit SIC code. 62 separate industries are represented; the top three are Business Services, Depository Institutions, and Electrical and Electronic Equipment. Panel C reports ownership statistics, excluding the "exit" filing (if present) in which the filer reports that ownership has dropped to below 5%. The mean stake over the life of activism is about 12% of a target's shares when reported separately by the hedge fund, and about 17% of shares when reported by the filers as a group. The average dollar holding for each of the 418 target/hedge fund pairs is just under $18 million.[21]

Panel D reports the average time a filer remains active with a target. Here, we divide the filings into three categories: communication only (or "investment purposes only"), communication then aggressive, and aggressive only. For our purposes, "communication then aggressive" filing requires that at least 30 days have passed between the first filing indicating a purpose of "communication only" and the next filing citing a specific motive. We define "aggressive" activism as any activism having a specific motive other than "communication" or "investment purposes only." For communication-only firms, the mean time in activism is about 1 and 1/3 years. For the other two categories, the average time active is just over 2 years.

Panel E reports the initial acquisition method for the target's shares. As noted earlier, when this initial acquisition is prior to the first 13D filing, we obtain the announcement (or event) date from a search of news stories. The most common acquisition method is buying common stock on the open market, although in 29 cases common stock is initially purchased through private placement. Preferred stock, debt, and derivatives are also purchased fairly frequently.[22] In some cases the fund acquires its initial stake in the target firm before the target firm goes public – either through private debt financing, or, in four cases, through provision of venture capital.

Finally, Panel F reports the target firm's status at the end of the sample period. In 75 cases, activism is ongoing on June 30, 2006. In a combined total of 221 cases, the hedge fund

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[21] We estimate the dollar amount by multiplying the number of shares reported in the filing by the firm's stock price at the filing date.

[22] When a firm purchases derivatives, they are not required to file a 13D. However, sometimes they do.

signals that activism is complete, either through a 13D "exit filing" indicating that they own less than 5% of the target's stock or by filing a 13G form, indicating they no longer have an activist agenda. In the remaining 122 cases, the target firm disappears from the sample due to a merger, going private, filing bankruptcy, purchase by the hedge fund, or another reason, such as delisting of the firm's stock or failure to file financial reports on a timely basis. In many cases, the merger or going private transaction is a stated objective of the hedge fund activism.

Table 2 provides additional descriptive data about hedge fund activism, including motives and outcomes. Of the 418 filings, or fund/target pairs, 270 have the motive of communication-only, 49 are communication then aggressive, and 99 are aggressive only. Funds with "aggressive-only" and "communication then aggressive" filings state a number of motives. Often a fund states multiple motives in a given filing. The most common motives relate to corporate governance recommendations, while other common motives include suggestions for operational changes or a sale of the company. Each of the motives has an outcome, which we code as a "success", "partial success" or "failure." "Success" indicates that the hedge fund obtains its exact motive. "Partial success" means that the hedge fund obtains some degree of success in achieving its motive. Examples include requesting two seats on the Board and obtaining only one, or requesting Board representation and obtaining non-voting rights on the Board. "Failure" means that the hedge fund fails to achieve its motive.

Hedge funds are quite successful in achieving their motives. For the most-cited motive, attempting to obtain Board representation for the hedge fund's nominee, hedge funds are successful or partially successful over 70% of the time. They are also quite successful in increasing the size of the board (76%), promoting a merger (66%), and making general capital structure changes (63%). They are less successful at forcing a firm to pay a dividend (33%), forcing a sale of the firm to a third party (22%), and revoking poison pills (30%). Although their samples and time frames differ significantly from ours, these success rates are comparable to those cited by Brav et. al. (2006) and Klein and Zur (2006).

III. Target Firm Characteristics and Performance

We now turn to our first research question: Can hedge fund activism induce improvements in the market performance and/or operating performance of target firms? We begin by documenting the characteristics of target firms before activism and comparing these to a matched sample. Next, we use a logistic regression model to predict the types of firms that hedge funds target, and finally, we examine whether hedge fund activism leads to improvements in short-term and long-term performance.

A. Comparing target firms to a matched sample

We begin by comparing the characteristics of target firms with a matched sample of firms not targeted by hedge funds. To select our matched sample, we follow Brav et. al. (2006) and select the sample based on 2-digit SIC code and the Fama-French 25 size and book to market matched portfolios. As in Brav et. al. (2006), when we match on size, the size criterion for matching is dropped, and when we match on book-to-market and Tobin's Q, the book-to-market matching criterion is dropped. All data are obtained from Compustat.

Table 3 compares target and matching firms in the year before activism. We report means, medians, and standard deviations, and due to a high degree of skewness, we winsorize the variables at the 1% level and focus our analysis on medians rather than means. We also perform a Wilcoxon signed rank test for differences in medians, and report p-values from this test. Targets differ from the matched sample in a number of significant ways. Targets are much smaller and have lower sales revenue than matches; for example, targets have median size of about \$52 million while matches have median size of about \$644 million. In addition, Tobin's Q is lower for targets, but book-to market ratio is higher, indicating that hedge funds target "value" firms with potential for stock price appreciation. Annual growth in sales is lower for targets (5% compared to about 20% for matches), but targets' return on assets (5% versus 2% for matches) and cash flows as a percentage of assets (2% versus -2% for matches) are higher.

Book and market leverage and cash holdings as a percentage of assets do not differ significantly among targets and matches, but new equity as a percentage of assets, dividend yield, and payout ratio are lower for targets than for matches. Finally, capital expenses and research and development expenses are lower for targets, while there is no significant difference in the Herfindahl index across the two groups of firms.

To summarize, target firm shares are "value" stocks, with their smaller size, higher book to market ratio, lower Tobin's Q, and inferior stock performance. Additionally, targets have good operating performance, with better return on assets and cash flows as a percentage of assets than matches. These firms can perhaps be best characterized as cash cows with poor growth prospects hampered by the agency costs of free cash flow.

Target firms appear to be excellent candidates for activism. Although our sample differs from that of Brav, et. al. (2006) in terms of both composition and time period, our findings are remarkably consistent with theirs. When we compare the targets in our sample to those in prior literature (where activists include pension funds, mutual funds, and other organized groups of investors), hedge fund targets differ in two key respects: they are smaller and have better operating performance, but are similar in one respect: they have poor prior stock performance.[23]

B. Predicting Hedge Fund Activism based on Target Firm Characteristics

We perform a logistic regression to predict hedge fund activism. The sample includes all target firms and matching firms in the year prior to activism. The dependent variable is a dummy set to 1 if the firm is a target of activism in the subsequent year and 0 if the firm is not a target. The independent variables include all the variables described above. Both the sales variable and the market value variable use a log transformation for the regression.

Results are presented in Table 4. We perform 2 specifications of the regression. The first includes all firm characteristics as independent variables, omitting cash flow as a percent of assets due to its high correlation with ROA and omitting market leverage due to its high correlation with book leverage. Including all characteristics reduces our sample size somewhat since a number of target firms are missing data for two variables, research and development (RND) and capital expenditures (CAPX). Since these two variables are either not significant or are only marginally significant in the first regression, they are excluded in the second regression specification, so that we may use the entire sample of hedge fund/target pairs. The results from this regression are consistent with the findings in Table 3. Target firms are smaller with lower sales. These are firms with excess cash, poor growth prospects, and good operating performance – excellent targets for changes aimed at reducing the agency costs of free cash flow.

C. Short- and Long- term Performance of Target Firms

This section examines long-term and short-term performance of target firms after activism. We first compare the performance of targets to the performance of matching firms, using a regression approach. The results of this analysis (presented in Section C.1) indicate that target firms have better post-activism short and long term performance than the matched sample of firms, evidence that, in general, hedge fund activism adds value. Given this result, we narrow

[23] See Karpoff (2001).

our focus to the target firms to determine the types of activism that are most highly correlated with performance improvements in targets.

In Section C.2, we focus on short-term performance as measured by cumulative abnormal returns surrounding the first filing of a 13D form. We next use a regression analysis to link this performance to characteristics of hedge fund activism. In Section C.3, we perform a similar analysis of long-term performance measures, first comparing operational and stock performance changes from the year before to the year after activism, and then using a regression model to relate these performance changes to characteristics of hedge fund activism.

C.1. Comparison of Target Performance to Matched Sample Performance

This section performs three separate regression analyses comparing the performance of target firms with the matching sample. The first measure of performance (cumulative abnormal return (CAR) around the filing date or event date of the 13D form) is short-term, while the other two: change in return on assets (ΔROA) and change in cash flows as a percent of assets (ΔCF) from the year after activism compared to the year before activism are long-term. We calculate the CARs as described in Section C.2, and calculate the long term measures of performance as described in Section C.3.

Table 5 reports results. The dependent variable is the measure of performance: Model 1 uses short-term CAR based on the event date, Model 2 uses change in return on assets (ΔROA), and Model 3 uses change in cash flows as a percent of assets (ΔCF). The independent variables include a dummy variable set to 1 if the firm is a target of hedge fund activism and 0 otherwise, firm size, and time trend dummy variables to control for unobserved heterogeneity due to the long time frame of the sample. The firm size variable is the demeaned log of the firm size variable (where the mean is the mean size of the target firm over the entire period). We suppress the constant term so that the dummy variable coefficient may then be interpreted as the average abnormal return of one particular group of events assuming that the target firms are of mean size. This approach is consistent with Brav, et. al. (2006) and is used in all the models that follow.

Table 5 reports a positive and statistically significant coefficient on the target firm dummy variable for all measures of performance, indicating that targets of hedge fund activism have performance improvements in comparison to the matching firms. These improvements in terms of magnitude are quite impressive: target firms have average CARs of 16.5%; they have a change in ROA of about 6%; and a change in cash flows as a percentage of assets of about 8.4%.

Because the constant term in the regression is suppressed, these results are interpreted as the average abnormal return for target firms. This result indicates that hedge fund activism adds both long and short term value for target firm shareholders. We next investigate the determinants of this outperformance among targets.

C.2. Short-term Stock Performance

In this section, we investigate the short-term market performance of target and matching firms, with an event study using various performance windows, with either the filing date or the event date stated in the 13D form as time 0.[24] Table 6 summarizes the buy-and-hold returns for the target firms and the matching firms, and Figure 1 plots the -25 to +25 day cumulative abnormal returns (CARs). CARs are calculated in excess of the value weighted NYSE/AMEX/NASDAQ index from CRSP.

The results are quite dramatic. Using either the filing date or the event date as date 0, and a variety of time windows, the difference in performance between target firms and matching firms is always positive and statistically significant. For the filing date, the (-25,+25) return in excess of the matched sample is about 11%, and for the event date, it is about 9%. We use a window of this size since it is unclear at which date the news of activism is disseminated. The results in Figure 1 indicate that the market is aware of the activism as early as the event date, since the run-up in price prior to the event date is effectively 0. This result is borne out in the other time windows examined in Table 6: for the (0,10) window, the excess event date returns are about 5.5%, while the excess filing date returns are about 3%. Regardless of the date used, the results indicate major short-term stock price movements relative to non-target firms.

We next examine whether certain characteristics of hedge fund activism explain differences in CARs. For the target firms only, we regress the (-25,+25) event date cumulative abnormal returns against a number of factors. We control for the log of target firm size in these regressions, as well as time trend dummy variables, to control for unobserved heterogeneity in returns over time. As noted above, to facilitate the interpretation of the coefficients on the independent variables, many of which are dummy variables, we suppress the constant term in the regressions and use the demeaned log of target firm size variable (where the mean is the mean size of the target firm over the entire period). The dummy variable coefficients may then be

[24] As noted earlier, in some cases activism is first announced in a news story prior to the 13D filing. In these cases, we use the date of the news story announcement as the event date.

interpreted as the average abnormal return of one particular group of events assuming that the target firms are of mean size. These results are presented in Table 7.

We perform five specifications of the regression model. Model 1 relates performance to the means by which common stock is obtained. For example, the hedge fund may not directly purchase common stock, but may purchase some other claim or security and then either convert or exchange it for common stock. Model 1 provides weak evidence that an initial purchase of preferred stock or "other" (typically warrants or other derivatives) is linked to better performance. Model 2 examines whether the style of activism (COMM=communication only, COMMAGGR=communication then aggressive, or AGGR=aggressive only) is related to short-term performance. The results indicate that AGGR firms, firms experiencing aggressive activism, have better short-term stock performance (assuming the target firm is of mean size, this coefficient indicates that short-term stock performance is 25% better for targets than for matches, and is significant at the 1% level), and weak evidence that COMMAGGR firms have worse short-term performance. We interpret these results as indicating that simply purchasing a target's stock is not sufficient; the hedge funds must also indicate that they plan to take aggressive action, and the earlier they provide this signal, the better the result for the stock. This result is consistent with prior literature on vulture investors (see Hotchkiss and Mooradian (1997)).

In Model 3, we examine the initial motive for purchase. We show that when the motivation is corporate governance-related (MOTGOV), short term stock performance is better (assuming the target firm is of mean size, this coefficient indicates that for this motivation targets outperform matches by about 38%, which is significant at the 5% level). This result differs significantly from prior research on corporate activism, which shows that while activists are sometimes successful in enacting corporate governance changes, these changes are not generally linked to performance improvements.[25] It also differs from prior research on hedge funds, as Brav et. al. (2006) do not find this relationship in their sample of firms targeted by activist hedge funds, possibly due to the shorter time frame of their sample.

Model 4 examines the time spent in activism, and finds weak evidence that the longer a hedge fund spends pursuing activism that eventually turns out to be successful (LOGSUCTIME), the better the target stock performance. Finally, Model 5 examines whether there is a link

[25] See Karpoff (2001).

between the percentage of shares that the activist purchases and target stock performance, and finds a positive, though not statistically significant relationship.

The results of this section indicate that activism is perceived favorably by the stock market, with strong evidence of short-term run-ups in target firms' stock prices. Within the sample of targets, certain types of activism are strongly positively related to short-term stock performance. Targets of aggressive activism have better stock performance than targets of other types of activism. In addition, examining targets by activism motive, firms targeted for corporate governance reform experience the most favorable stock price reactions. Finally, there is some evidence that diligence in activism (measured as "time to success") that leads to a successful outcome is also a positively related to short-term stock performance.

We next examine longer-term performance. Because our sample covers a long time frame, we have a large number of completed activism events, allowing us to assess the long-term impact of activism. We also can answer the question of whether hedge fund activism creates lasting value for target firms, which benefits all stockholders in the target rather than only investors in the hedge fund.

C.3. Long-term Outcomes of Activism

We examine changes in target and matching firm characteristics over the period of activism, defined as differences between characteristics from the year after activism to the year before activism. The year after activism is the fiscal year following the completion of activism, which may be signaled in several ways. First, a hedge fund may file an "exit 13D" form stating that it has reduced its stake in the target to below 5%. Second, when the last 13D filing does not indicate a stake below 5%, the hedge fund may file a 13G form following its last 13D form, signaling that it is no longer active in the target firm (in this case, we use the date of the last 13D form as the last date of activism). Third, activism may end with a corporate event such as a merger, bankruptcy, or share delisting. Finally, activism may be ongoing at the end of the sample period, or even if activism has been completed at the end of the sample period, data may not be available to evaluate long-term performance in the year after activism.[26] If activism ends with a corporate event or is ongoing at the end of the sample period, we cannot obtain data for the target for the year after activism, which shrinks our "after-activism" sample to 166 hedge/fund target pairs.

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[26] As of the date of this paper, the 2006 data was not yet available from Compustat.

Table 8 reports the changes in target and matching firm characteristics calculated as the value in the year after activism less the value in the year before activism, and also presents differences in changes between the target and matching firms. The Tobin's Q of the target firms increases by 0.21 while the Tobin's Q of the matching firms decreases by 0.07. This difference is significant at the 10% level and indicates that the target firms have become less undervalued during the period of activism. Also, cash as a percentage of assets for the target firms decreases by 0.52% but increases by 0.55% for matching firms. This difference is significant at the 5% level. This result is consistent with the idea that activism can reduce the agency costs of managerial discretion (i.e., the costs of free cash flow). This result is also consistent with Klein and Zur's results regarding hedge funds (2006), although their sample and time period differ from ours.

We next examine whether the long-term performance of target firms is related to certain characteristics of hedge fund activism. Table 9 reports regressions where the dependent variable is the change in performance from the year after activism to the year before activism. We use two separate measures of performance: change in return on assets (ΔROA) and change in cash flows as a percentage of assets (ΔCF). We estimate five separate regression specifications, similar to the short-term performance analysis in Table 7. As in Table 7, all regressions control for the size of the target firm and include time trend dummy variables.

Panel A presents results using ΔROA as the dependent variable. The results from Model 1 (how shares obtained) provide weak evidence that when preferred stock is the security initially purchased, ROA improves. Model 2 examines the style of activism. Here, there is evidence that regardless of whether the target firm is a communication-only firm (COMM) or an aggressive (AGGR) firm, ROA performance improves by 7.7% and 24.7% respectively, relative to matching firms when the target firm is of mean size. This result indicates that for ΔROA, simply having an activist investor is sufficient to improve target firm performance. This result is different than the short-term result presented in Table 7 that only targets of aggressive activism see improvement in short-term performance. The results in Model 3 indicate that all motivations except for providing financing correspond to improvement in ROA.

Of these results, the most interesting is the finding that targeting corporate governance induces improvement in both long-term performance and short-term performance (as reported in Table 7). Also, the finding that targeting capital structure (which generally means targeting free cash flow) is related to improvement in long-term performance supports the hypothesis that hedge fund activism can be effective in reducing the agency costs of free cash flow.

Finally, when the motivation is providing financing, there is a decline in ROA. Based on a review of the 13D filings where the hedge fund provides financing, we believe that this result likely occurs because in most cases the hedge funds provide financing to target firms on the verge of bankruptcy. In addition, in many of these cases, the hedge fund has been involved in providing financing to the target prior to the first 13D filing. This appears to be a rare case where hedge fund activists are "throwing good money after bad." Finally, Model 5 provides modest evidence that the larger the stake in the target firm, the better the improvement in ROA.

Panel B presents results using the change in cash flow as a percent of assets (ΔCF) as the dependent variable. For Model 1, consistent with Panel A's results for ΔROA, there is evidence that ΔCF improves when the initial purchase is preferred stock. Model 2's results indicate that aggressive activism improves performance (by 29.6% relative to matches when targets are of average size) while communication-only activism does not. All other results for Models 3, 4, and 5 are consistent with the results for ΔROA.

Together, the analyses of short-term and long-term performance provide a consistent picture of activism. If the hedge fund makes an initial purchase of preferred stock, the hedge fund activism is related to better short-term and long-term performance. Targets of aggressive activism outperform targets of communication activism when measuring performance both long and short term. This result is particularly relevant as it indicates that not only does the market interpret aggressive activism as being good for the target firm, but that the long-term operational results of aggressive activism bear this out as well. Also, the activist motive of corporate governance reform leads to both short-term improvement in stock performance and long-term improvement in operating performance, evidence that corporate governance is indeed related to firm performance. Finally, the hedge fund motive of targeting capital structure and corporate cash flow is also linked to improvement in long-term performance, implying (consistent with Klein and Zur (2006)) that hedge fund activism can mitigate the agency costs of free cash flow.

These results are in strong contrast with most prior literature regarding shareholder activism. Previous literature indicates that the outcomes of shareholder activism are mixed, occasionally documenting short-term performance improvements but rarely documenting longer-term performance improvements. In contrast, hedge funds appear to be very good activists in that they facilitate changes related to both long term and short term performance. Contrary to the widespread belief that hedge funds focus only on the short-term, we provide evidence that there are long-term benefits to shareholders of hedge fund targets as well.

While we have documented that hedge fund activism, particularly aggressive activism, facilitates improvement in both short-term and long-term target firm performance, we have not yet examined the impact of activism on investors in activist hedge funds. We have intentionally selected our sample so that we may examine this question, which we do in the next section.

V. Impact of Activism on Hedge Fund Performance

In this section, we study the impact that activism has on hedge fund performance. Revisiting the data of Table 1, our sample includes 418 unique hedge fund/target pairs, comprising 111 individual hedge funds and 89 hedge fund management companies. The average number of targets per hedge fund is about 4, although about half the activist hedge funds have only 1 target and 9 activist hedge funds have 10 or more targets. The average dollar holding per target is about \$18 million, which represents about 17% of a target firm's stock. Clearly, these are large holdings that might be expected to affect activist hedge fund returns.

We begin by comparing the hedge fund characteristics of the activists to a matched sample of non-activist hedge funds. The sample match is based on fund style and fund size (all hedge funds in the same style and same size quintile are included as matching funds). Table 10 compares the characteristics of activist and non-activist hedge funds in the year preceding activism. The characteristics include: fund flows as a percentage of assets, 24-month 4-factor alpha (stated monthly), 24-month 7-factor alpha (stated monthly), net annual returns, gross annual returns, fund size in millions of dollars, expenses stated as a percent of assets, incentive fee stated as a percent of profits, and minimum investment stated in millions of dollars.

A few of these variables require additional explanation. The 24-month 4-factor alpha is the monthly alpha calculated using the Carhart four-factor model. The four factors include the CRSP value-weighted market return, the two Fama and French (1993) factors – size (SMB) and book-to-market (HML), and the Jegadeesh and Titman (1993) UMD (momentum) factor. (see Carhart (1997) for detail). The 24-month 7-factor alpha is the monthly alpha calculated using the Fung and Hsieh (2004) seven-factor model, which includes an equity market factor, a size-spread factor, a bond market factor, a credit spread factor, and three option-based factors for bonds, currencies, and commodities.[27] For both models, we estimate alphas individually for each fund using the prior 24 months of gross-of-fee and net-of-fee returns for our gross and net performance measures.[28] Gross annual returns are calculated accounting for the option-like incentive-fee contract as in Agarwal, Daniel, and Naik (2006). The incentive fee stated as a percent of profits is the hedge fund incentive fee which is paid to managers based on the profitability of the fund in a given year. This fee is asymmetric in that managers who suffer a loss during a year do not have to "pay back" this incentive fee.

Table 10 reports data on means, medians, and standard deviation for the hedge fund activists and matched sample of non-activists in the year before activism. To be consistent with the target firm data, all variables are winsorized at the 1% level. Since skewness does not appear to be a large issue, we perform both a t-test of differences in means and a Wilcoxon signed rank test of differences in medians. Some key differences between the activists and non-activists are that activists appear to have better risk-adjusted performance in the year before activism than do non-activists, as measured by alpha. For both models used, the monthly difference in mean alpha is about 0.27%, or about 3.3% annually, which is statically significant at the 5% level. In addition, activist funds have a higher median size but a lower mean size. Finally, incentive fees are higher for activists than non-activists by about 1% annually, which is significant at the 5% level.

Table 11 reports changes in these variables for activists and non-activists based on differences between the year after activism and the year before activism. The only key changes are that fund flows decline for activist funds while fund size increases. While these results appears to be contradictory, note that activism often takes place over a long time frame, so that changes in flows measured year over year will not fully capture the gross changes in flows that take place over the entire term of activism. However, the change in fund size will capture the gross change in flows.

We perform a more detailed analysis of the changes in financial performance of hedge funds in Table 12. This table performs the same types of regressions as those performed for the target firms in Table 9, with one exception. In the analysis in Table 12, we also include the

[27] We thank Kenneth French and David Hsieh for making the returns data on the four and seven factors, respectively, available on their websites.

[28] Since some funds are missing return data for some months, we require that a fund have at least 12 of the prior 24 months' returns to be included in the sample.

matching non-activist hedge funds. For comparison, the analysis in Table 9 includes only target firms. This is because for the target firms, we establish in Table 5 that target firms significantly outperform non-targets, so that the analysis in Table 9 detects differences in performance within the subset of targets.

We have not established the same relationship for hedge funds (that is, we have not shown that activist hedge funds outperform non-activist hedge funds). In fact, when we perform a similar analysis to Table 5 using activist hedge funds and matching hedge funds, the coefficient on the "ACTIVIST-YES" dummy variable is insignificant for both measures of performance: annualized 24-month four factor alpha and annualized 24-month 7-factor alpha (results not reported in a table). Hence, we cannot say in general that activist hedge funds outperform the matched sample of non-activists.

However, it still may be the case that a subset of the activist hedge funds outperforms the matched sample of non-activist hedge funds. For example, we theorize that since the targets of "AGGRESSIVE ONLY" activism outperform targets of "COMMUNICATION ONLY" and "COMMUNICATION THEN AGGRESIVE" activism, that the same result could hold for the performance of the hedge funds themselves. To test this hypothesis, we re-perform the regression analyses from Table 9, Models 1, 2, and 3, which examine how the stock is obtained, the style of activism, and the initial activist motive. In these regressions, which include both activist hedge funds and matched non-activist hedge funds, we use the same dummy variables as in Table 9, but in the analyses in Table 12, we include a constant term to detect the effects of including non-activist firms (for which all other dummy variables except time trends will be set to 0). As a result, the coefficients on the dummy variables in the regressions of Table 12 are interpreted relative to non-activist firms.

The regressions in Table 12 control for hedge fund size, flows, and time-trend variables, but do not control for target firm size since the regression includes the sample of non-activist funds which have no targets. Model 1 focuses on how the shares in the target are initially obtained. For the four-factor alpha, if the initial security purchase precedes a target's bankruptcy reorganization, the hedge fund experiences a positive improvement in performance of about 11.5% greater than that of a non-activist firm. For the seven-factor alpha, if shares are obtained through an initial purchase of preferred stock, hedge fund performance improves by about 16% relative to a non-activist firm. Both these results are statistically significant. Model 2 focuses on the style of activism. Since these results are relative to the matched sample of non-activists, we interpret these coefficients as indicating that aggressive (AGGR) hedge funds outperform non-activist hedge funds by about 7.2% for the four-factor model and 11.3% for the seven-factor model, with results significant at the 5% and 1% levels respectively, but that “communication then aggressive" (COMMAGGR) hedge funds underperform non-activist hedge funds by about 5.5% for the four-factor model and 8.1% for the seven-factor model, with results significant at the 10% and 5% level, respectively. The difference in performance between communication-only (COMM) hedge funds and non-activists is not statistically significant. Although activism is not the only type of investment strategy the activist hedge funds pursue, those that are aggressive activists do see an improvement in fund performance. Model 3 focuses on the motivation of activist hedge funds. For the four-factor model, there are no significant differences in performance related to motive for activists and non-activists. However, for the seven-factor model, if the motivation is corporate governance-related, activist funds outperform non-activists by about 10.8%, significant at the 1% level, but if the motivation is capital structure, new financing, or lawsuits, the activists underperform by about 11.4%, also significant at the 1% level.

In Table 12a, we repeat Models 1, 2, and 3 from Table 12, but focus on the subset of hedge fund activists only. We also test Models 4 and 5 which are analogous to Models 4 and 5 from Table 9. We perform this analysis so that the results are directly comparable to Table 9, which does not include matching firms. The results for Models 1, 2, and 3 are broadly consistent with Table 12. Model 4 focuses on the time that hedge funds remain active in their targets. Both total time in activism (LOGTTIME) and time to success in activism for successful hedge funds (LOGSTIME) are positively related to hedge fund performance. Finally, Model 5 examines whether the percentage of the target firm held (PCTOFTARGET) and the percentage of the hedge fund’s total assets that are devoted to the target firm (PCTOFHFUND) are related to hedge fund performance. For both the four and seven factor models, the PCTOFTARGET is positively related to fund performance, and for the four-factor model, the PCTOFHFUND is also positively related to fund performance.

In general, hedge funds that pursue aggressive activism agendas are rewarded with improvements in risk-adjusted performance. Consistent with the results for target firms, hedge funds that pursue changes in corporate governance see improvements in performance. Finally, the greater the proportion of a hedge fund's assets that are devoted to activism, the stronger the improvement in hedge fund performance.

One issue with our results regarding hedge fund performance is that perhaps it is not activism that is related to the good performance, but instead, the activist hedge funds are simply superior investors. While it is impossible to test this hypothesis using the holdings of the hedge funds in our sample, since this data is unavailable, one recent paper argues that hedge funds may *not* be superior stock pickers in general. Griffin and Xu (2007) study a sample of hedge fund stock holdings (long-only) based on the 13F SEC filings of these firms, and find that the hedge fund stock picks do not appear to outperform. Although their evidence is for hedge funds in general, it is not unreasonable to conclude that our results are indeed linked to activist activities among hedge funds, particularly since the key determinants of performance improvement in target firms (notably aggressive activism and activism with corporate governance motives) are the same determinants of performance improvement in hedge funds.

V. Conclusion

For a large sample of data from 1994-2005, this paper examines the prevalence, motives, and outcomes of hedge fund activism along with the impact on target firms' short-term and long-term performance. We conclude that hedge fund activists, particularly those that pursue aggressive, well-defined objectives, can act as agents of corporate change, improving both the short-term market and long-term operating performance of the firms they target. In addition, aggressive activist hedge funds provide strong returns for their own investors, in comparison to returns for investors of non-aggressive activist funds and for matching non-activist hedge funds.

The idea that hedge funds can discipline management through changes in corporate governance and can reduce agency costs is particularly compelling when compared to the impact of activism efforts of other institutional and individual investors documented in previous literature on activism. Our results regarding hedge funds are in sharp contrast to this literature, which finds that, generally, activism is not effective in facilitating improvement in performance. While the literature provides some examples of success in activism (see, for example, Bethel, Liebeskind, and Opler (1998) and Hotchkiss and Mooradian (1997), who study the impact of vulture investors on target firm performance), most of the literature finds little success (see Karpoff (2001) for a survey).

Our results that aggressive activism and activism targeting changes in corporate governance are strongly related to improvement in long-term performance and improvement in cash positions are consistent with Black (1992), Jensen (1986), and Pound (1992) who argue that agitators for corporate change and management discipline should be able achieve these goals.

What makes hedge funds so different? Our study provides a number of clues. First, hedge funds target firms that are small, cash-rich, and undervalued. These are excellent targets for change. Second, hedge funds get involved and stay involved. On average, aggressive activist funds stay active for over two years. Third, hedge funds purchase large blocks of stock. The average blockholding of 17% of outstanding shares representing about $18 million is not trivial either relative to the size of the target or to the size of the hedge fund. Hedge funds are serious about activism.

In addition, from an organizational and regulatory perspective, hedge funds are different than other types of activists studied in the literature thus far. They do not have the regulatory requirements and political pressures of mutual funds or pension funds. They have incentives fees that directly reward strong performance. Managers are typically large investors in their own funds. Finally, since hedge funds do not have to disclose their holdings on a quarterly basis, they can quietly accumulate fairly large blocks of stock and only announce these holdings after they have crossed the 5% ownership threshold.

Given the strong performance incentives, hedge funds are successful activists. Not only do hedge funds induce changes in target firm performance, aggressive hedge funds, in particular, provide strong returns for their own investors. For the subset of target firms where hedge funds are more aggressive and have greater impact on targets, we find the greatest improvement in hedge fund performance.

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Table 1: Summary statistics regarding activism

Panel A

Number of activists and target firms

Individual hedge fund/target pairs	418
Number of individual targets	397
Number of individual activist hedge funds	111
Number of hedge fund management companies	89

Number of firms targeted by 1 activist hedge fund	376
Number of firms targeted by 2 activist hedge funds	19
Number of firms targeted by 3 activist hedge funds	2

Number of activist hedge funds with 1 target	58
Number of activist hedge funds with 2 targets	16
Number of activist hedge funds with 3 targets	5
Number of activist hedge funds with 4 targets	6
Number of activist hedge funds with 5 targets	3
Number of activist hedge funds with 6 targets	5
Number of activist hedge funds with 7 targets	3
Number of activist hedge funds with 8 targets	4
Number of activist hedge funds with 9 targets	2
Number of activist hedge funds with 10 or more targets	9

Number of hedge fund/target pairs by year of first 13D filing

1994 or before	13
1995	20
1996	34
1997	91
1998	42
1999	34
2000	24
2001	21
2002	33
2003	43
2004	42
2005	21

Table 1: Summary statistics, continued

Panel B
Number of targets by 2-digit SIC code

Total Number of 2-digit SIC codes represented: 62
Most frequently represented SIC codes (10 or more firms per SIC code)

SIC code 73 – Business services	41
SIC code 60 – Depository institutions	38
SIC code 36 – Electrical and electronic equipment	30
SIC code 28 – Chemicals and allied products	28
SIC code 38 – Instruments and related products	26
SIC code 48 – Communications	22
SIC code 67 – Finance, insurance, real estate holdings and other investment offices	17
SIC code 35 – Industrial machinery and equipment	10
SIC code 50 – Wholesale trade – durable goods	10

Panel C
Dollar value and percentage of shares owned by hedge fund/target pair

	Mean: Initial Filing	Mean: over entire term of activism (excludes filing indicating <5%)	Maximum: over entire term of activism (excludes filing indicating <5%)
Percent owned by fund	8.83%	12.44%	90.60%
Percent owned by all filers (if different than % owned by fund)	11.45%	16.75%	97.20%
Number of shares owned by fund	2,393,449	2,829,004	382,789,385
Estimated dollar value of shares at year end	$14,761,770	$17,905,677	$731,963,282

Panel D
Average length of activism event by hedge fund/target pair, in days, excluding those still ongoing at end of sample period (using initial filing date as "first date")

	Mean days	Maximum days
Communication-only pairs (number completed=232, ongoing=38)		
Number of days from initial 13D to exit	496	4,140
Communication first, then aggressive (completed=37, ongoing=12)		
Number of days from initial 13D to exit	791	2,737
Aggressive-only pairs (completed=74, ongoing=25)		
Number of days from initial 13D to exit	773	3,849

Table 1: Summary statistics, continued

Panel E:
Method of initial acquisition (will sum to more that total number of hedge fund-target pairs because some funds use multiple acquisition methods)

Stock	**Number of pairs**
Common stock – open market	300
Common stock – private placement	29
Common stock – IPO	13
Class B limited voting stock	2
ADR	4
Preferred stock	
Convertible preferred stock	28
Cumulative preferred stock	3
Debt and other payables	
Senior debt	27
Private placement of promissory note	11
Subordinated debt	6
Senior subordinated debt	5
Bank debt	3
Trade payables	2
Derivative securities	
Warrants	19
Options	5

Panel F:
Target firm status at end of sample period

Status	**Number of pairs**
Ongoing (hedge fund still owns > 5% at end of sample period)	75
Final 13D filing indicates < 5% ownership	152
Final 13D filing not < 5% but next filing is a 13G	69
Target merged or went private	88
Target failed or filed bankruptcy	22
Hedge fund purchased target	2
Target left sample for other reason	10

Table 2: Approaches, Motives, and Outcomes of Activism

Approach

Approach	Number of occurrences
Communication only	270
Communication first, then aggressive	49
Aggressive only	99

Motives and outcomes

Motive	Number of occur.	Percent success	Percent partial success	Percent failed	Percent ongoing
1. Communication only	270	N/A	N/A	N/A	N/A
2. Capital structure changes					
a. General changes to capital structure	11	54.5%	9.1%	18.2%	18.2%
b. Pay a regular or one-time dividend	3	0%	33.3%	33.3%	33.3%
c. Buy back stock	12	50.0%	8.3%	33.3%	8.3%
d. Restructure debt	1	0%	0%	100%	0%
3. Operational changes					
a. General operational changes	2	50%	0%	50%	0%
b. Spinoff a segment of the company	9	33.3%	0.0%	11.1%	55.6%
c. Get involved in a merger	35	65.7%	0.0%	31.4%	2.9%
4. Sell the company					
a. Force a sale to another party	31	19.4%	3.2%	51.6%	25.8%
b. Tender offer by hedge fund	22	27.3%	9.1%	40.9%	22.7%
5. Corporate governance recommendations					
a. General governance recommendations	4	50%	0%	50%	0%
b. Fire management	15	46.7%	6.7%	33.3%	13.3%
c. Obtain Board representation for hedge fund nominee	106	68.9%	3.8%	20.8%	6.6%
d. Want more independent Board	30	40.0%	6.7%	43.3%	10.0%
e. Increase Board size	17	76.5%	0.0%	11.8%	11.8%
f. Complain about CEO or Board pay	3	0%	0%	33.3%	66.7%
g. Revoke poison pill or anti-takeover amendment	20	25.0%	5.0%	50.0%	20.0%
h. Change voting rules	10	30%	20%	30%	20%
6. Provide financing	17	100%	0%	0%	0%
7. Lawsuit	17	50%	20%	0%	30%

Table 3: Characteristics of Target and Matching Firms in the Year Before Activism
All variables are winsorized at the 1% level

This table reports the characteristics of target firms and matching firms for the year before activism. All data are from Compustat. Market value is a firm's share price times number of shares outstanding and is measured in millions of dollars. Sales is a firm's sales in millions of dollars. Tobin's Q is defined as (long term debt + the market value of equity/long term debt + the book value of equity). Book to market ratio is a firm's book value of equity/market value of equity. Growth in sales is annual percentage growth in sales. Cash flows are measured as a percentage of assets. Annual stock return is measured at the end of the calendar year. Book leverage is defined as debt/(debt+book value of equity), market leverage is defined as debt/(debt+market value of equity), cash as a percentage of assets is defined as (cash+cash equivalents)/assets, new equity as a percentage of assets is defined as the amount of new equity issued during the year/lagged assets, dividend yield is defined as (common dividends+preferred dividends)/(market value of common stock+market value of preferred stock), payout is defined as total dividends/net income before extraordinary items, capital expenses are measured as a percentage of assets, research and development is measured as a percentage of assets, and Herfindahl index is defined as the Herfindahl index for segment sales as reported by Compustat. All variables are winsorized at the 1% level. A Wilcoxon signed rank test of differences between target and matching firm medians is performed, and p-values for this test are reported. Differences marked with *** are significant at the 1% level and differences marked with ** are significant at the 5% level.

	Target Firms			**Matching Firms**			**Tests of Differences between target and matching firms**	
Characteristic	Mean	Median	Standard Deviation	Mean	Median	Standard Deviation	Difference in medians (target-match)	p-value: Wilcoxon signed rank test
Market Value ($ mil.)	$215.60	$52.13	$533.17	$1281.81	$643.61	$1713.12	-$591.48***	<0.0001
Sales ($ mil.)	$342.01	$69.03	$773.06	$548.13	$158.59	$1584.11	-$89.56***	<0.0001
Tobin's Q	2.45	1.24	6.82	2.25	2.05	1.43	-0.81***	<0.0001
Book/Market	-1.55	0.60	15.43	0.44	0.39	0.49	0.21***	<0.0001
Growth in Sales	83.21%	5.43%	436.88%	30.83%	19.81%	36.80%	-14.38%***	<0.0001
Return on Assets	-4.29%	5.08%	47.06%	-9.16%	2.40%	34.66%	2.68%***	0.0002
Cash Flows (% assets)	-11.26%	1.96%	52.35%	-17.93%	-1.69%	41.14%	3.65%***	0.0002
Annual Stock Return	5.91%	-3.31%	68.63%	12.76%	4.64%	48.88%	-7.95%***	0.0063
Book Leverage	29.89%	16.36%	41.73%	21.59%	20.17%	39.18%	-3.81%**	0.0111
Market Leverage	24.86%	13.68%	28.97%	19.82%	16.73%	14.24%	-3.05%	0.2164
Cash as % of Assets	19.42%	9.24%	23.21%	18.53%	16.20%	11.98%	-6.96%	0.3613
New Equity as % of Assets	31.62%	0.26%	130.60%	28.70%	9.68%	41.38%	-9.42%***	<0.0001
Dividend Yield	2.45%	0.0%	9.66%	1.01%	0.73%	1.40%	-0.73%***	<0.0001
Payout	6.47%	0.0%	60.02%	9.95%	4.72%	22.97%	-4.72%***	<0.0001
Capital Expenses (% of assets)	8.70%	3.76%	19.41%	8.56%	6.69%	6.93%	-2.93%***	<0.0001
Research & Dev.(% of assets)	13.51%	6.04%	26.43%	2.38%	7.66%	15.54%	-1.62%**	0.0109
Herfindahl index	0.847	1.000	0.241	0.875	0.896	0.109	0.104	0.1666

Table 4
Logistic Model Predicting Hedge Fund Activism

The probability of hedge fund activism is modeled as the outcome of a logistic regression. The dependent variable is set to 1 if the firm is targeted by a hedge fund in the subsequent year and 0 otherwise. The sample includes funds that are targeted in the subsequent year and firms that are not targeted (the matched sample). The matched sample includes all firms included in Compustat matched on 2-digit SIC code and the 25 Fama-French (1997) book to market and size portfolios. The independent variables include LOGSALES (the log of firm sales in millions), GROWTH (the growth in sales measured relative to the previous year), ROA (the return on assets), LEVB defined as book leverage defined as debt/(debt+book value of equity), CASH defined as (cash+cash equivalents)/assets, NEWEQ defined as the amount of new equity issued during the year/lagged assets, DIVYLD defined as (common dividends+preferred dividends)/(market value of common stock+market value of preferred stock), PAYOUT defined as total dividends/net income before extraordinary items, ARETURN is the annual stock return for the firm for the year, HERF defined as Herfindahl index for segment sales as reported by Compustat, LOGMV defined as the log of market capitalization in millions of dollars, BM defined as the book to market ratio, CAPX defined as capital expenses over lagged assets, RND defined as research and development expense over lagged assets, and TOBINQ defined as long term debt + the market value of equity/long term debt + the book value of equity. The p-value from a chi-squared test is reported below each coefficient. Coefficients marked with *** are significant at the 1% level, ** at the 5% level, and * at the 10% level.

	Model 1: Includes all variables	Model 2: Excludes CAPX and RND
Intercept	7.773***	7.177***
	(<0.001)	*(<0.001)*
LOGSALES	-0.416***	-0.297***
	(0.004)	*(0.006)*
GROWTH	0.473*	0.253*
	(0.061)	*(0.082)*
ROA	2.144**	1.310**
	(0.013)	*(0.041)*
LEVB	1.103	1.388***
	(0.144)	*(0.009)*
CASH	3.547***	1.839**
	(0.001)	*(0.018)*
NEWEQ	-0.536	-0.530
	(0.164)	*(0.251)*
DIVYLD	0.638	1.567
	(0.821)	*(0.651)*
PAYOUT	0.131	-0.264
	(0.786)	*(0.420)*
ARETURN	0.713**	0.600***
	(0.016)	*(0.009)*
HERF	-3.119***	-2.186***
	(0.004)	*(0.003)*
LOGMV	-0.796***	-0.869***
	(<0.001)	*(<0.001)*
BM	-0.059	-0.009
	(0.470)	*(0.890)*
CAPX	-2.693	.
	(0.289)	.
RND	2.672*	.
	(0.063)	.
TOBINQ	-0.297***	-0.069*
	(0.003)	*(0.056)*
R^2	38.98	38.75

Table 5: Comparison of Short-Term and Long-Term Performance of Target Firms and the Matched Sample of Non-Targets

We report regressions for a sample that includes all firms targeted by hedge fund activism and the matched sample of firms not targeted by hedge fund activism. The matched sample includes all firms included in Compustat matched on 2-digit SIC code and the 25 Fama-French (1997) book to market and size portfolios. The independent variable is one of three performance measures: either short-term cumulative abnormal returns (-25, +25 days) around the event date listed in the firm's first 13D filing (Model 1), the change in return on assets from the year before activism to the year after activism (Model 2), or the change in cash flows as a percentage of assets from the year before activism to the year after activism (Model 3). Independent variables include a dummy variable set to one if the firm is a target of hedge fund activism and zero otherwise (TARGET-YES), a control variable for firm size calculated as the log of firm size – the mean log size for the entire sample, and time-trend variables (not reported) to control for year effects. All standard errors are calculated using the Huber-White-Sandwich robust methodology. Coefficients marked with *** are significant at the 1% level, ** at the 5% level, and * at the 10% level.

Independent Variable	**Model 1: CAR**	**Model 2: ΔROA**	**Model 3: ΔCF/ASSETS**
TARGET-YES	0.165***	0.060*	0.084**
	(5.24)	*(1.67)*	*(2.00)*
LOGSIZE-MEAN LOG SIZE	0.226***	0.025***	0.026*
	(5.89)	*(2.73)*	*(1.89)*
R^2	2.86	1.35	0.87

Table 6: Short Term Financial Success in Activism: Cumulative Abnormal Returns
Target Firms and Matching Firms

This table reports cumulative abnormal returns (CARs) around the activism date for firms targeted by hedge fund activists, and compares these returns to the matched sample of firms not targeted by activists. The activism date is defined as either the filing date of the first 13D form or the "event date"- the earlier of the news story announcement date and the date stated on the first 13D form. The cumulative abnormal returns are calculated using several event windows, as below. Time is measured in days. Returns are all in excess of the value-weighted CRSP composite index. Coefficients marked with *** are significant at the 1% level, ** at the 5% level, and * at the 10% level.

Panel A: Cumulative abnormal returns around the filing date: All targets

Time in days	Mean CAR: target firms	Mean CAR: matched sample	Difference in means	t-test for difference
(-25,+25)	8.10%	-2.87%	10.97%***	5.34
(-10,+10)	6.53%	-2.15%	8.68%***	4.65
(0,2)	2.00%	-0.12%	2.12%***	4.22
(0,10)	2.54%	-0.62%	3.16%***	4.27
(0,25)	2.45%	0.15%	2.30%**	2.13

Panel B: Cumulative abnormal returns around the event date: All targets

Time in days	Mean CAR: target firms	Mean CAR: matched sample	Difference in means	t-test for difference
(-25,+25)	8.13%	-0.72%	8.85%***	3.98
(-10,+10)	5.18%	-1.65%	6.83%***	5.51
(0,2)	2.16%	-0.16%	2.32%***	4.45
(0,10)	4.97%	-0.67%	5.64%***	6.27
(0,25)	7.49%	0.60%	6.89%***	3.86

Table 7: Short Term Financial Success in Activism: TARGET FIRMS ONLY

We regress short-term cumulative abnormal returns (-25, +25 days) on a variety of characteristics of activism. All regressions control for fund size, measured as the log of fund size less the median of the log of fund size for the entire sample. Model 1 examines the method by which the target firm's stock was obtained. The independent variables include: OBDEBT set to 1 if the initial purchase of claims or securities of the target firm is a purchase of debt and 0 otherwise, OBPREF set to 1 if the initial purchase is target firm preferred stock and 0 otherwise, OBCOMM set to 1 if the initial purchase is common stock, either publicly or privately placed and 0 otherwise, OBOT set to 1 if the initial purchase is "other" such as an ADR, or derivatives, and OBANK if the initial purchase is debt followed by an exchange for stock in a bankruptcy reorganization or other restructuring and 0 otherwise. The above categories are not mutually exclusive. Model 2 compares communication-only, communication then aggressive, and aggressive-only hedge funds. COMM is set to 1 if the hedge fund never takes aggressive action and 0 otherwise, COMMAGG is set to 1 if the hedge fund begins with a "communication only" purpose and then switches to a more active approach later and 0 otherwise, and AGGR is set to 1 if the hedge fund is aggressive throughout and 0 otherwise. Model 3 examines the motive of the hedge fund at the time of the initial 13D filing. The independent variables include: GEN set to 1 if the hedge fund stated no particular motive or the motive was "communication" and 0 otherwise, MOTCAP set to 1 if the hedge fund stated a motive related to the firm's capital structure and 0 otherwise, MOTOP set to 1 if the hedge fund stated a motive related to the firm's operations and 0 otherwise, MOTSALE set to 1 if the hedge fund stated a motive related to the sale of the firm and 0 otherwise, MOTGOV set to 1 if the hedge fund stated a motive related to the corporate governance of the firm and 0 otherwise, MOTFIN set to 1 if the hedge fund stated a motive related to providing financing for the firm and 0 otherwise, and MOTLAW is set to 1 if the hedge fund stated a motive related to filing a lawsuit against the target and 0 otherwise. Model 4 examines whether the time a hedge fund is active is related to CARS. LOGTOTTIME measure the log of the total time in days that the hedge fund is active in the firm, and LOGSUCTIME measures the log of the total time in days until the particular goal of the hedge fund is resolved. Finally, Model 5 examines whether the stake that the hedge fund held in the target firm is related to success. PCTALL represents the total percentage of the target firm's shares held by the hedge fund. All regressions include time-trend dummies, and all standard errors are calculated using the Huber-White-Sandwich robust methodology. Coefficients marked with *** are significant at the 1% level, ** at the 5% level, and * at the 10% level.

	Model 1: How obtained	**Model 2: Style of activism**	Model 3: Initial motive	Model 4: Time active	Model 5: Ownership stake
LOGSIZE-MED. LOG SIZE	0.015	0.009	N/A	N/A	N/A
	(0.56)	*(0.38)*			
OBDEBT	0.089	N/A	N/A	N/A	N/A
	(0.30)				
OBPREF	0.587*	N/A	N/A	N/A	N/A
	(1.64)				
OBCOMM	0.503	N/A	N/A	N/A	N/A
	(1.46)				
OBOT	0.447*	N/A	N/A	N/A	N/A
	(1.77)				
OBANK	0.202	N/A	N/A	N/A	N/A
	(1.24)				
COMM	N/A	-0.020	N/A	N/A	N/A
		(-0.65)			
COMMAGGR	N/A	-0.116*	N/A	N/A	N/A
		(-1.73)			
AGGR	N/A	0.251***	N/A	N/A	N/A
		(2.51)			
R^2	16.43	16.93	N/A	N/A	N/A

Table 7: Short Term Financial Success in Activism: TARGET FIRMS ONLY, continued

	Model 1: How obtained	Model 2: Style of activism	**Model 3: Initial motive**	**Model 4: Time active**	**Model 5: Ownership stake**
LOGSIZE-MED. LOG SIZE	N/A	N/A	0.019	0.012	0.022
			(0.74)	*(0.40)*	*(0.84)*
GEN	N/A	N/A	0.104	N/A	N/A
			(0.68)		
MOTCAP	N/A	N/A	0.287	N/A	N/A
			(1.05)		
MOTOP	N/A	N/A	0.251	N/A	N/A
			(1.08)		
MOTSALE	N/A	N/A	0.166	N/A	N/A
			(1.01)		
MOTGOV	N/A	N/A	0.385**	N/A	N/A
			(2.11)		
MOTFIN	N/A	N/A	0.121	N/A	N/A
			(0.40)		
MOTLAW	N/A	N/A	0.016	N/A	N/A
			(0.08)		
LOGTOTTIME	N/A	N/A	N/A	0.013	N/A
				(0.51)	
LOGSUCTIME	N/A	N/A	N/A	0.028*	N/A
				(1.82)	
PCTFUND	N/A	N/A	N/A	N/A	0.383
					(1.00)
R^2	N/A	N/A	15.66	16.61	12.58

Table 8: Changes in Characteristics of Target and Matching Firms for Year Before and Year Following Activism
All variables are winsorized at the 1% level

This table reports the characteristics of target firms and matching firms for the years before and after activism. All data is from Compustat. Market value is a firm's share price times number of shares outstanding and is measured in millions of dollars. Sales is a firm's sales in millions of dollars. Tobin's Q is defined as (long term debt + the market value of equity/long term debt + the book value of equity). Book to market ratio is a firm's book value of equity/market value of equity. Growth in sales is annual percentage growth in sales. Cash flows are measured as a percentage of assets. Annual stock return is measured at the end of the calendar year. Book leverage is defined as debt/(debt+book value of equity), market leverage is defined as debt/(debt+market value of equity), cash as a percentage of assets is defined as (cash+cash equivalents)/assets, new equity as a percentage of assets is defined as the amount of new equity issued during the year/lagged assets, dividend yield is defined as (common dividends+preferred dividends)/(market value of common stock+market value of preferred stock), payout is defined as total dividends/net income before extraordinary items, capital expenses are measured as a percentage of assets, research and development is measured as a percentage of assets, and Herfindahl index is defined as the Herfindahl index for segment sales as reported by Compustat. All variables are winsorized at the 1% level. A Wilcoxon signed rank test of differences between changes in targets and matching firm medians is performed, and p-values for this test are reported. Differences marked with *** are significant at the 1% level and differences marked with ** are significant at the 5% level.

	Target Firms		**Matching Firms**		**Test of differences between change in medians between target and matching firms**	
Characteristic	Change in Mean (after-before)	Change in Median (after – before)	Change in Mean (after-before)	Change in Median (after – before)	Difference in Δ in medians (target-match)	p-value: Wilcoxon signed rank test
Δ Market Value ($ mil.)	$146.53	$35.07	$581.84	$608.42	-$573.35	0.5407
Δ Sales ($ mil.)	$70.11	-$9.06	$227.94	$101.11	-$110.17	0.7726
Δ Tobin's Q	-0.12	0.21	-0.06	-0.07	0.28	0.1000*
Δ Book/Market	2.11	-0.09	-0.04	-0.01	-0.08	0.6742
Δ Growth in Sales	18.59%	2.24%	8.60%	7.33%	-5.09%	0.2328
Δ Return on Assets	3.83%	-1.57%	-16.31%	-6.18%	4.61%	0.1421
Δ Cash Flows (% assets)	6.26%	-0.37%	-19.32%	-9.28%	8.91%	0.5583
Δ Annual Stock Return	19.21%	7.72%	4.79%	1.07%	6.65%	0.5431
Δ Book Leverage	1.01%	7.40%	1.91%	3.84%	3.56%	0.3102
Δ Market Leverage	-2.51%	-1.30%	0.14%	-1.13%	-0.17%	0.1678
Δ Cash as % of Assets	1.32%	-0.52%	1.20%	0.55%	-1.07%	0.0251**
Δ New Equity as % of Assets	-17.28%	0.10%	4.10%	3.19%	-3.09%	0.4627
Δ Dividend Yield	-0.69%	0.00%	0.17%	-0.03%	0.03%	0.3472
Δ Payout	1.90%	0.00%	-2.89%	-2.28%	2.28%	0.4396
Δ Capital Expenses (% of assets)	-2.52%	-0.31%	-0.61%	-0.25%	-0.06%	0.1249
Δ Research & Dev. Exp. (% of assets)	1.57%	1.37%	13.38%	3.35%	-1.98%	0.3016
Δ Herfindahl Index	0.002	0.000	-0.021	-0.021	0.021	0.5431

Table 9: Long Term Financial Success in Activism: TARGET FIRMS ONLY

We regress long term performance measures, including ROA, and cash flows as a % of assets on a variety of characteristics of activism. All performance measures are calculated as the change in performance for the target firm (year following activism less the year prior to activism). All regressions control for fund size, measured as the log of fund size less the median of the log of fund size for the entire sample. Model 1 examines the method by which the target firm's stock was obtained. The independent variables include: OBDEBT set to 1 if the initial purchase of claims or securities of the target firm is a purchase of debt and 0 otherwise, OBPREF set to 1 if the initial purchase is target firm preferred stock and 0 otherwise, OBCOMM set to 1 if the initial purchase is common stock, either publicly or privately placed and 0 otherwise, OBOT set to 1 if the initial purchase is "other" such as an ADR, or derivatives, and OBANK if the initial purchase is debt followed by an exchange for common stock in a bankruptcy reorganization or other restructuring and 0 otherwise. These categories are not mutually exclusive. Model 2 compares communication-only, communication then aggressive, and aggressive-only hedge funds. COMM is set to 1 if the hedge fund never takes aggressive action and 0 otherwise, COMMAGG is set to 1 if the hedge fund begins with a "communication only" purpose and then switches to a more active approach later and 0 otherwise, and AGGR is set to 1 if the hedge fund is aggressive throughout and 0 otherwise. Model 3 examines the initial motive of the hedge fund when the at the time of the 13D filing. The independent variables include: GEN set to 1 if the hedge fund stated no particular motive or the motive was "communication" and 0 otherwise, MOTCAP set to 1 if the hedge fund stated a motive related to the firm's capital structure and 0 otherwise, MOTOP set to 1 if the hedge fund stated a motive related to the firm's operations and 0 otherwise, MOTSALE set to 1 if the hedge fund stated a motive related to the sale of the firm and 0 otherwise, MOTGOV set to 1 if the hedge fund stated a motive related to the corporate governance of the firm and 0 otherwise, MOTFIN set to 1 if the hedge fund stated a motive related to providing financing for the firm and 0 otherwise, and MOTLAW is set to 1 if the hedge fund stated a motive related to filing a lawsuit against the target and 0 otherwise. Model 4 examines whether the time a hedge fund is active is related to CARS. LOGTOTTIME measures the log of the total time in days that the hedge fund is active in the firm, and LOGSUCTIME measures the log of the total time in days until the particular goal of the hedge fund is resolved. Finally, Model 5 examines whether the stake that the hedge fund held in the target firm is related to success. PCTOFTARGET represents the total percentage of the target firm's shares held by the hedge fund. All regressions include time-trend dummies, and all standard errors are calculated using the Huber-White-Sandwich robust methodology. Coefficients marked with *** are significant at the 1% level, ** at the 5% level, and * at the 10% level.

Panel A: Independent variable=Change in Return on Assets (ROA)

Independent Variable: ΔROA	**Model 1: How obtained**	**Model 2: Style of activism**	Model 3: Initial motive	Model 4: Time active	Model 5: Ownership stake
LOGSIZE-MED. LOG SIZE	-0.006 *(-0.37)*	-0.013 *(-0.63)*	N/A	N/A	N/A
OBDEBT	0.497 *(1.32)*	N/A	N/A	N/A	N/A
OBPREF	0.706* *(1.85)*	N/A	N/A	N/A	N/A
OBCOMM	0.445 *(1.19)*	N/A	N/A	N/A	N/A
OBOT	0.017 *(0.06)*	N/A	N/A	N/A	N/A
OBANK	-0.160 *(-1.32)*	N/A	N/A	N/A	N/A
COMM	N/A	0.077*** *(2.97)*	N/A	N/A	N/A
COMMAGGR	N/A	0.059 *(0.94)*	N/A	N/A	N/A
AGGR	N/A	0.247** *(1.95)*	N/A	N/A	N/A
R^2	23.50	16.85	N/A	N/A	N/A

Table 9: Long Term Financial Success in Activism: TARGET FIRMS ONLY, continued
Panel A, continued: Independent variable=Change in Return on Assets (ROA)

Independent Variable: ΔROA	Model 1: How obtained	Model 2: Style of activism	**Model 3: Initial motive**	**Model 4: Time active**	**Model 5: Ownership stake**
LOGSIZE-MED. LOG SIZE	N/A	N/A	-0.019	-0.001	0.003
			(-0.93)	*(-0.03)*	*(0.17)*
GEN	N/A	N/A	0.102	N/A	N/A
			(1.55)		
MOTCAP	N/A	N/A	0.227^{***}	N/A	N/A
			(3.26)		
MOTOP	N/A	N/A	0.544^{*}	N/A	N/A
			(1.73)		
MOTSALE	N/A	N/A	0.123^{*}	N/A	N/A
			(1.67)		
MOTGOV	N/A	N/A	0.321^{**}	N/A	N/A
			(2.19)		
MOTFIN	N/A	N/A	-0.379^{***}	N/A	N/A
			(-4.17)		
MOTLAW	N/A	N/A	0.270^{**}	N/A	N/A
			(2.06)		
LOGTOTTIME	N/A	N/A	N/A	0.022	N/A
				(0.88)	
LOGSUCTIME	N/A	N/A	N/A	0.015	N/A
				(0.83)	
PCTOFTARGET	N/A	N/A	N/A	N/A	1.079^{*}
					(1.64)
R^2	N/A	N/A	19.76	15.41	19.84

Table 9: Long Term Financial Success in Activism: TARGET FIRMS ONLY, continued
Panel B: Independent variable=Change in Cash Flows as a Percent of Assets

Independent Variable: ΔCash Flows/Assets	Model 1: How obtained	Model 2: Style of activism	Model 3: Initial motive	Model 4: Time active	Model 5: Ownership stake
LOGSIZE-MED. LOG SIZE	-0.001	-0.010	-0.016	0.000	0.014
	(-0.05)	*(-0.37)*	*(-0.57)*	*(0.01)*	*(0.57)*
OBDEBT	0.732	N/A	N/A	N/A	N/A
	(1.51)				
OBPREF	1.112**	N/A	N/A	N/A	N/A
	(2.23)				
OBCOMM	0.741	N/A	N/A	N/A	N/A
	(1.56)				
OBOT	-0.018	N/A	N/A	N/A	N/A
	(-0.07)				
OBANK	-0.024	N/A	N/A	N/A	N/A
	(-0.17)				
COMM	N/A	0.044	N/A	N/A	N/A
		(1.25)			
COMMAGGR	N/A	0.023	N/A	N/A	N/A
		(0.32)			
AGGR	N/A	0.296*	N/A	N/A	N/A
		(1.83)			
GEN	N/A	N/A	0.048	N/A	N/A
			(0.47)		
MOTCAP	N/A	N/A	0.173*	N/A	N/A
			(1.74)		
MOTOP	N/A	N/A	0.577*	N/A	N/A
			(1.73)		
MOTSALE	N/A	N/A	0.026	N/A	N/A
			(0.30)		
MOTGOV	N/A	N/A	0.381**	N/A	N/A
			(1.96)		
MOTFIN	N/A	N/A	-0.441***	N/A	N/A
			(-3.80)		
MOTLAW	N/A	N/A	0.261*	N/A	N/A
			(1.66)		
LOGTOTTIME	N/A	N/A	N/A	0.010	N/A
				(0.36)	
LOGSUCTIME	N/A	N/A	N/A	0.020	N/A
				(0.89)	
PCTOFTARGET	N/A	N/A	N/A	N/A	1.631***
					(1.96)
R^2	26.79	15.33	18.71	11.68	20.71

Table 10: Characteristics of Activist Hedge Funds and Matching Hedge Funds in the Year Before Activism

This table reports the characteristics of activist hedge funds and matching hedge funds for the year before activism. All data is from TASS. The 24-month four-factor alpha is calculated using the Carhart (1997) 4-factor model and is reported monthly. The 24-month 7-factor alpha is calculated using Fung and Hsieh's (2004) 7-factor model, and is reported monthly. Net annual return is net of expenses and fees. Gross annual return uses the methodology of Agarwal, Daniel, and Naik (2006) to adjust for expenses and incentive fees. Fund size is measured at the end of the year and is reported in millions of dollars. Expenses are measured as a percent of assets. Incentive fee is measured as a percent of profits. Minimum investment is the fund's required minimum investment and is stated in millions of dollars. All variables are winsorized at the 1% level. A Wilcoxon signed rank test of differences between target and matching firm medians is performed, and a t-test for differences in means is performed, and p-values for these tests are reported. Differences marked with *** are significant at the 1% level and differences marked with ** are significant at the 5% level.

	Activist Hedge Fund			**Matching Hedge Fund**			**Tests of differences in medians**		**Tests of differences in means**	
Characteristic	Mean	Median	Std. Dev	Mean	Median	Std. Dev	Difference in medians (activist-non-activist)	p-value: Wilcoxon signed rank test	Difference in means (activist-non-activist)	p-value: Paired t-test
Fund flows as a % of assets	166.67%	30.75%	366.14%	73.64%	55.71%	74.75%	-24.96%	0.239	93.03%	0.087
24-month 4-factor alpha (monthly)	0.74%	0.58%	1.09%	0.46%	0.45%	0.42%	0.13%	0.082*	0.28%	0.040**
24-month 7-factor alpha (monthly)	0.79%	0.66%	1.06%	0.52%	0.50%	0.37%	0.16%	0.057*	0.27%	0.047**
Net annual return	19.09%	17.44%	22.84%	14.29%	15.54%	11.51%	1.90%	0.322	4.80%	0.231
Gross annual return	20.66%	19.60%	23.07%	15.68%	17.08%	11.56%	2.52%	0.237	4.98%	0.207
Fund size (millions of $)	$228.6	$66.0	$525.4	$263.0	$41.4	$464.7	$24.60	0.000***	-$34.40	0.053*
Expenses (% of assets)	1.33%	1.00%	0.50%	1.23%	1.22%	0.13%	-0.22%	0.515	0.10%	0.050**
Incentive fee (% of profits)	19.70%	20.00%	4.99%	18.75%	18.99%	1.16%	1.01%	0.000***	0.95%	0.060*
Minimum investment (millions of $)	$1.44	$1.00	$2.93	$2.17	$0.84	$4.57	$0.16	0.005***	-$0.73	0.057*

Table 11: CHANGES in Characteristics of Activist Hedge Funds and Matching Hedge Funds for Year Before and Year Following Activism
All variables are winsorized at the 1% level

This table reports differences in characteristics of activist hedge funds and matching hedge funds from before to the year after activism. All data is from TASS. The 24-month four-factor alpha is calculated using the Carhart (1997) 4-factor model and is reported monthly. The 24-month 7-factor alpha is calculated using Fung and Hsieh's (2004) 7-factor model, and is reported monthly. Net annual return is net of expenses and fees. Gross annual return uses the methodology of Agarwal, Daniel, and Naik (2006) to adjust for expenses and incentive fees. Fund size is measured at the end of the year and is reported in millions of dollars. Expenses are measured as a percent of assets. Incentive fee is measured as a percent of profits. Minimum investment is the fund's required minimum investment and is stated in millions of dollars. All variables are winsorized at the 1% level. A Wilcoxon signed rank test of differences between changes in target and matching firm medians is performed, and a t-test for differences in means is performed, and p-values for these tests are reported. Differences marked with *** are significant at the 1% level and differences marked with ** are significant at the 5% level.

	Activist Hedge Fund		**Matching (Non-Activist Hedge Fund)**		**Tests of differences in Δ in means**		**Tests of differences in Δ in medians**	
Characteristic	Change in Mean (after-before)	Change in Median (after – before)	Change in Mean (after-before)	Change in Median (after – before)	Diff. in Δ means (activist-match)	Paired t-test	Diff. in Δ medians (activist-match)	p-value: Wilcoxon signed rank test
Fund flows as a % of assets	-133.05%	-34.21%	22.40%	32.27%	-155.45%	0.132	-66.48%	0.007 ***
24-month 4-factor alpha (monthly)	-0.13%	-0.04%	0.19%	0.14%	-0.32%	0.110	-0.18%	0.117
24-month 7-factor alpha (monthly)	0.06%	0.19%	0.24%	0.19%	-0.18%	0.906	0.00%	0.956
Net annual return	-2.60%	-3.84%	4.64%	-2.02%	-7.24%	0.103	-1.82%	0.107
Gross annual return	-2.76%	-4.40%	4.71%	-2.14%	-7.47%	0.102	-2.26%	0.097 *
Fund size (millions of $)	$360.30	$110.00	$88.96	$86.52	$271.34	0.002 ***	$23.48	0.000 ***
Expenses (% of assets)	-0.08%	0.00%	0.01%	-0.01%	-0.09%	0.970	0.01%	1.000
Incentive fee (% of profits)	-0.05%	0.00%	-0.03%	-0.20%	-0.02%	0.740	0.20%	1.000
Minimum investment (millions of $)	$0.41	$0.00	$0.67	$0.11	-$0.26	0.843	-$0.11	0.250

Table 12: Comparison of Long-Term Performance of Activist Hedge Funds and the Matched Sample of Non-Activist Hedge Funds

We regress performance measures of hedge funds, defined as annualized 24-month alphas from a four factor model and annualized 24-month alphas from a 7-factor model, on a variety of characteristics of activism. The sample includes all hedge funds, both activist funds and matching non-activist funds. All performance measures are calculated as the change in performance for the hedge fund (year following activism less the year prior to activism). All regressions control for the change in hedge fund size (HFSIZE) and the change in hedge fund cash flows measured as a percentage of assets (HFLOW). The models and the independent variables are as defined in Table 9, with a few differences. In Model 3, due to hedge fund sample size constraints, the motives of capital structure change, financing, and lawsuits are combined into one variable, MOTCAPFINLAW and the motives of operational changes and getting involved in a sale are combined into one variable, MOTOPSALE. In addition, these regressions include a constant term to pick up the effects of the matched sample of non-activist hedge funds, so that all coefficients should be interpreted relative to non-activists. All regressions include time-trend dummies, and all standard errors are calculated using the Huber-White-Sandwich robust methodology. Coefficients marked with *** are significant at the 1% level, ** at the 5% level, and * at the 10% level.

	Model 1: How obtained		Model 2: Style of activism		Model 3: Initial motive	
	Δ in 4 factor α	Δ in 7 factor α	Δ in 4 factor α	Δ in 7 factor α	Δ in 4 factor α	Δ in 7 factor α
CONSTANT	0.006	0.014	0.006	0.014	0.006	0.014
	(0.42)	*(0.81)*	*(0.42)*	*(0.81)*	*(0.42)*	*(0.81)*
HFSIZE	0.000	0.000**	0.000	0.000**	0.000	0.000**
	(-1.45)	*(-2.02)*	*(-1.37)*	*(-2.04)*	*(-1.40)*	*(-2.03)*
HFLOW	0.009***	0.009***	0.009***	0.009***	0.009***	0.009***
	(4.29)	*(3.27)*	*(4.30)*	*(3.28)*	*(4.30)*	*(3.28)*
OBDEBT	-0.024	0.013				
	(-0.88)	*(0.18)*				
OBPREF	0.022	0.160*				
	(0.63)	*(1.82)*				
OBCOMM	-0.019	0.008				
	(-1.21)	*(0.45)*				
OBOT	-0.038	0.019				
	(-0.58)	*(0.16)*				
OBANK	0.115***	0.034				
	(3.44)	*(0.45)*				
AGGR			0.072**	0.113***		
			(2.12)	*(3.05)*		
COMM			-0.027	0.013		
			(-1.60)	*(0.63)*		
COMMAGGR			-0.055*	-0.081***		
			(-1.88)	*(-2.79)*		
GEN						
MOTCAPFINLAW					-0.038	-0.114***
					(-0.30)	*(-3.92)*
MOTOPSALE					0.024	0.050
					(0.57)	*(0.96)*
MOTGOV					0.055	0.108***
					(1.19)	*(2.53)*
R^2	8.79	6.77	9.02	7.25	8.65	6.85

Table 12a: Long-Term Performance of Activist Hedge Funds ONLY

We regress performance measures of hedge funds, defined as annualized 24-month alphas from a four factor model and annualized 24-month alphas from a 7-factor model, on a variety of characteristics of activism. The sample includes all hedge funds, both activist funds and matching funds. All performance measures are calculated as the change in performance for the hedge fund (year following activism less the year prior to activism). All regressions control for the change in hedge fund size (HFSIZE) and the change in hedge fund cash flows measured as a percentage of assets (HFLOW). The models and the independent variables are as defined in Table 9, with a few differences. In Model 3, due to hedge fund sample size constraints, the motives of capital structure change, financing, and lawsuits are combined into one variable, MOTCAPFINLAW and the motives of operational changes and getting involved in a sale are combined into one variable, MOTOPSALE. In addition, these regressions include a constant term to pick up the effects of the matched sample of non-activist hedge funds, so that all coefficients should be interpreted relative to non-activists. All regressions include time-trend dummies, and all standard errors are calculated using the Huber-White-Sandwich robust methodology. Coefficients marked with *** are significant at the 1% level, ** at the 5% level, and * at the 10% level.

	Model 1: How obtained		Model 2: Style of activism		Model 3: Initial motive		Model 4: Time active		Model 5: Ownership stake	
	Δ in 4 factor α	Δ in 7 factor α	Δ in 4 factor α	Δ in 7 factor α	Δ in 4 factor α	Δ in 7 factor α	Δ in 4 factor α	Δ in 7 factor α	Δ in 4 factor α	Δ in 7 factor α
HFSIZE	0.000^{***}	0.000^{***}	0.000^{***}	0.000^{***}	0.000^{***}	0.000^{***}	0.000^{***}	0.000^{***}	0.000^{***}	0.000^{***}
	(-5.68)	*(-10.83)*	*(-4.83)*	*(-10.41)*	*(-5.18)*	*(-10.47)*	*(-4.87)*	*(-10.49)*	*(-6.45)*	*(-11.86)*
HFLOW	0.047^{***}	0.063^{***}	0.040^{**}	0.067^{***}	0.043^{**}	0.072^{***}	0.041^{**}	0.076^{***}	0.026	0.082^{***}
	(2.44)	*(2.85)*	*(2.11)*	*(3.36)*	*(2.22)*	*(3.64)*	*(2.11)*	*(3.62)*	*(1.06)*	*(3.72)*
OBDEBT	0.113^{**}	0.204^{***}								
	(1.99)	*(3.15)*								
OBPREF	0.111^{**}	0.281^{***}								
	(2.08)	*(3.92)*								
OBCOMM	0.090^{*}	0.197^{***}								
	(1.74)	*(2.87)*								
OBOT	-0.024	-0.002								
	(-0.55)	*(-0.05)*								
OBANK	0.126	0.023								
	(1.60)	*(0.34)*								
AGGR			0.077^{*}	0.151^{***}						
			(1.67)	*(2.86)*						
COMM			-0.007	0.049						
			(-0.19)	*(1.14)*						
COMMAGGR			-0.024	-0.010						
			(-0.59)	*(-0.25)*						
GEN					-0.099^{***}	0.002				
					(-6.53)	*(0.05)*				
MOTCAPFINLAW					-0.034	-0.012				
					(-0.34)	*(-0.22)*				
MOTOPSALE					-0.070	0.084				
					(-1.29)	*(1.32)*				
MOTGOV					-0.031	0.110^{**}				
					(-0.66)	*(2.08)*				
LOGTTIME							0.016^{*}	0.001		
							(1.75)	*(0.11)*		
LOGSTIME							0.011	0.020^{**}		
							(1.30)	*(2.21)*		
PCTOFTARGET									0.490^{**}	0.422^{**}
									(2.24)	*(2.29)*
PCTOFHFUND									0.266^{**}	-0.171
									(2.08)	*(-1.14)*
R^2	33.87	62.79	33.06	63.56	31.07	62.61	33.78	62.20	37.48	62.84

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Figure 1: Cumulative Abnormal Returns for all Targets and Matched Sample
Panel A: t=Filing Date

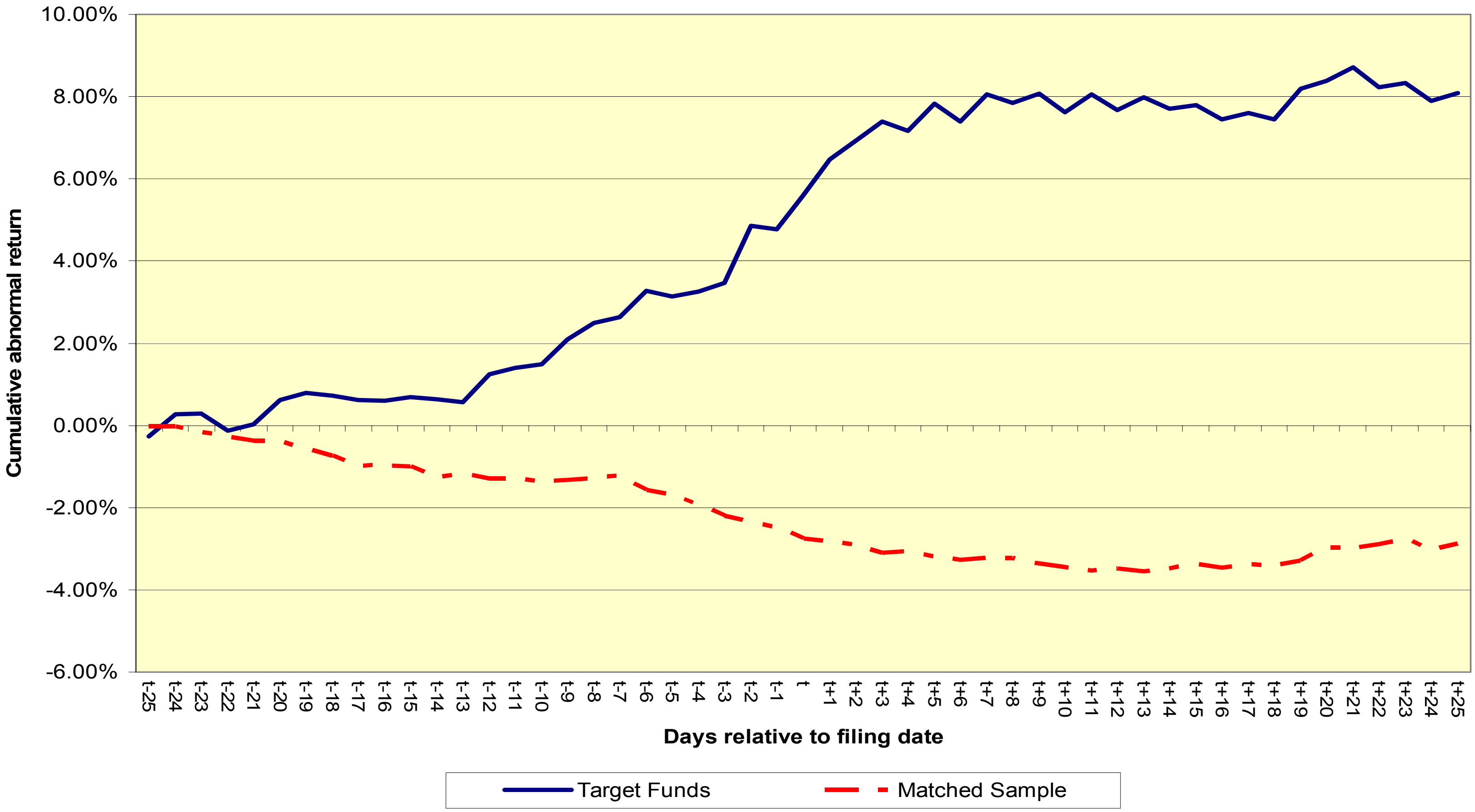
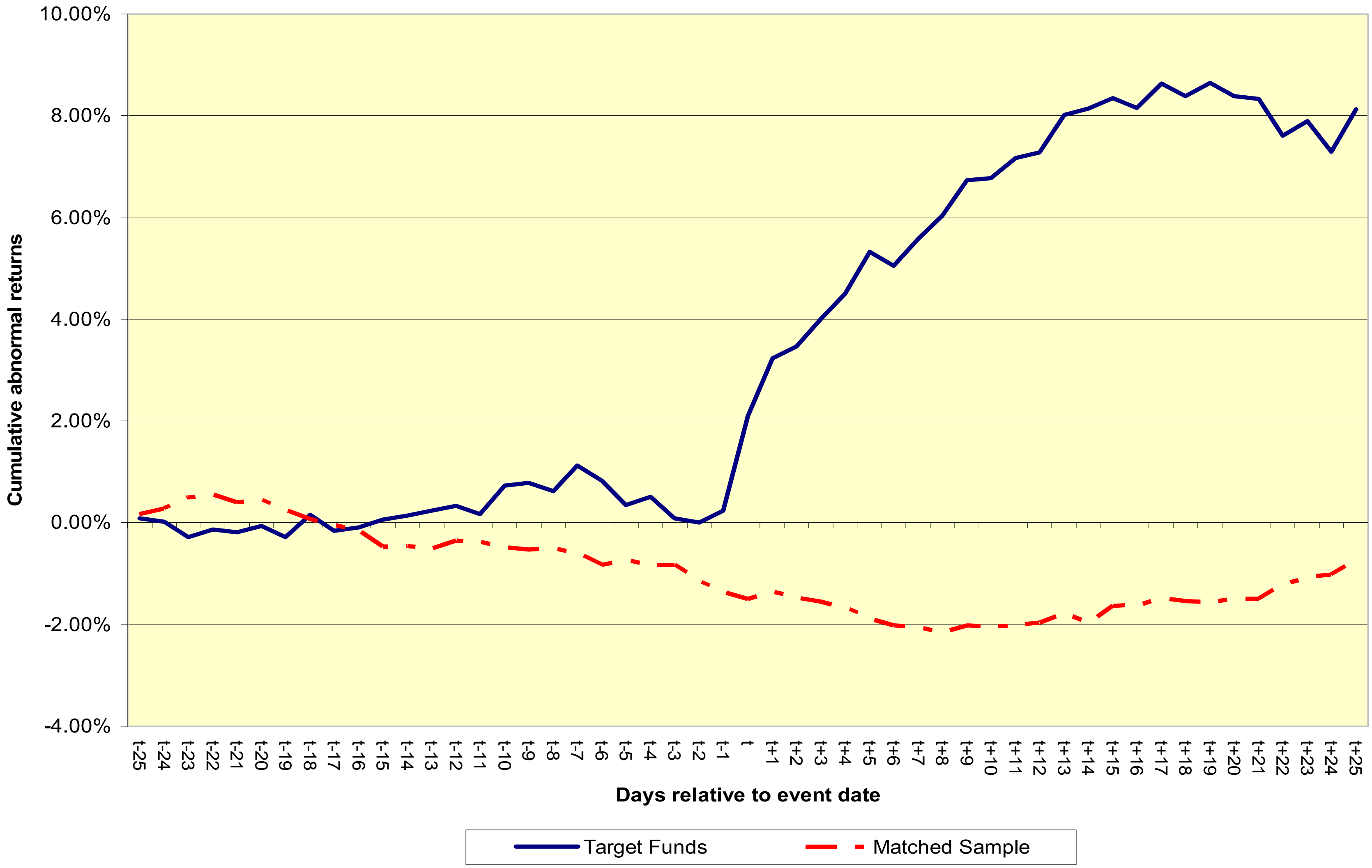


Figure 1, continued: Cumulative Abnormal Returns for all Targets and Matched Sample
Panel B: t=Event Date



Appendix A: Description of hedge fund styles
(Source: www.hedgeindex.com)

CONVERTIBLE ARBITRAGE
Exploiting price inefficiencies between convertible securities and stock.

DEDICATED SHORT BIAS
Equity and derivatives portfolios with net short, bearish focus.

EMERGING MARKETS
Equity and fixed income investments in emerging markets worldwide.

EQUITY MARKET NEUTRAL
Offsetting long and short equity positions that are beta-neutral, currency neutral or both.

EVENT DRIVEN
Corporate strategies focused on distressed securities, high-yield debt, Regulation D, and risk arbitrage.

FIXED INCOME ARBITRAGE
Exploiting price inefficiencies between related debt securities.

GLOBAL MACRO
Directional macroeconomic strategies.

LONG-SHORT EQUITY
Directional equity and equity derivative strategies.

MANAGED FUTURES
Listed futures strategies often driven by technical or market analysis.

MULTI-STRATEGY
Multiple strategies.