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# Trends in Abnormal Returns to Hedge Fund Activism: An Empirical Analysis

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## Abstract

Using a manually collected dataset of 2111 hedge fund activist campaigns, spanning the years 1999-2014, we find that the abnormal returns in the activist market exhibited a declining trend in the early years of the sample period. Since 2002 abnormal returns have been stable around 6-9% and show no signs of approaching zero. The short-term market reactions to activist campaigns remain to be significantly positive, and long-term reversals have not picked up. Despite the prevalence of abnormal returns to activist campaigns, the number of interventions have been stable during the years 2009-2014. In contrast to results from the European activist market, we also find that hedge funds not specialized in activism have been successful in generating abnormal returns in their sporadic ventures into shareholder activism in US target companies.

**Key words:** Hedge Fund Activism, Shareholder Activism, Abnormal Returns
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# 1 Introduction

Shareholder activism has been on the rise since the 1980s, when institutional investors such as pension and mutual funds started to invest in companies with the explicit objective of influencing their management. While some early activists appeared to be more successful than others, they in general failed to realize abnormal returns from the activist strategy (Gillan & Starks, 2007).

Hedge fund activism is a more recent phenomenon which gained significance during the 90s (Brav, et al., 2013). Hedge funds are under lighter regulation than other institutional investors. They are also equipped with stronger financial incentives to make profits, and have thus proven to be more successful in creating value in target firms through shareholder activism. (Brav, et al., 2010)

Previous authors, most prominently Clifford (2008), Boyson and Mooradian (2007), Klein and Zur (2009), Brav et al (2008) and Becht et al (2015) coherently find that hedge fund activist campaigns has exhibited significant abnormal returns during sample periods extending to 2010. Later research on hedge fund activism has focused on other issues, such as its impact on innovation (Brav, et al., 2014) and productivity (Brav, et al., 2015) in target firms. Another finding in earlier research is that the abnormal returns to hedge fund activism has declined sharply (see Becht et al (2015, p. 26) and Brav et al. (2008)). Since their samples extend to 2010 or earlier, the question whether the trend of declining returns has persisted still remains unanswered.

Our main hypothesis is that *the abnormal returns have continued to decline and approached zero*. Behind this hypothesis are two rationales. First, the pattern in earlier studies show a downward trend in abnormal returns for the years prior to 2010. Second, since hedge fund activism was a novel phenomenon, the competition in the activist market had likely not caught up during its early years. As long as it exhibits abnormal returns, more investors should pour their money into hedge fund activism until the abnormal returns becomes adjusted and the market reaches its equilibrium. Brav, et al., (2008) discuss that hedge fund activism might just be another form of arbitrage, which will disappear as the market corrects itself.

Another question that remains unanswered by the previous literature, is whether hedge funds with explicit activist strategies are alone in being able to generate abnormal returns by conducting activist interventions in the U.S. There is some evidence from the European activist market that hedge funds with other strategies than activism on average fail to realize any abnormal returns from activist campaigns (Becht, et al., 2010). The topic has not been studied

for U.S. activist interventions. Differences in laws, rules and institutions between jurisdictions affect the characteristics of hedge fund activism in different countries and regions (Becht, et al., 2015). Therefore, we formulate a second hypothesis, that *hedge funds focused on the activist strategy have on average generated larger abnormal returns in their activist campaigns, than have the non-activist hedge funds.*

As there is no central database for hedge funds, we manually construct a dataset of activist campaigns. Whenever an investor acquires more than 5% ownership in a publicly traded firm with the intention to influence that firm, they are by federal securities law under section 13(d) in the 1934 Exchange Act, obliged to file a beneficiary ownership report (Schedule 13D form) within 10 days of reaching the 5% threshold.[1] Using the Securities and Exchange Commission's EDGAR Archive we search for Schedule 13D filings between 1999 and 2014.

We also classify each hedge fund into two categories, based on their strategy. Through fund websites, Factiva searches, and by reading Item 2 "Identity and Background" in the Schedule 13D filings we are able to categorize most of the hedge funds that have engaged in shareholder activism. With this process we collect data on 2111 Hedge fund-target firm pairs, including 279 hedge funds and 1857 individual targets, from 1999 to 2014. The data is complemented with firm characteristics and returns to the stocks of each target firm, from Compustat Annual and CRSP.

To test our hypotheses we compute cumulative abnormal returns during a 41 days event window (-20,20) centered around the Schedule 13D filing date. We regress the average cumulative abnormal returns over time and for individual years, to analyse the trends for different periods in our sample. Regressions are also made for the different strategies individually to address whether funds with an activist strategy generate larger abnormal returns than funds with a non-activist strategy. We perform similar regression for the long-term buy and hold returns to research whether hedge fund activism suffers from any long-term reversals. To to accurately measure the abnormal returns in the long-term perspective, we benchmark our target firms to a matched set of control firms. Pairing the control firms to each target firm we calculate the one year buy-and-hold abnormal return for the targeted firms, starting from the end of the short-term event window. If such long-term abnormal returns are close to zero, the short-term abnormal returns can be deemed appropriate proxies of the total returns to an activist campaign.

[1]If an investor acquires a 5% stake in a firm *without* the intention to influence that firm, they can instead file a form called Schedule 13G

Consistent with previous research we find positive abnormal returns to hedge fund activism, and a negative trend in abnormal returns during the period 1999-2010. However, there is no support for the hypothesis that average cumulative abnormal returns have continued to decrease towards zero. We find that short-term cumulative abnormal returns have stabilized around 6-9% during the years 2002-2014.

For the whole sample period, we conclude that hedge fund activism do not suffer from any significant long-term reversals. We study whether long-term reversals might have picked up during the last years, but find no evidence that could support any such trend.

Both hedge funds with activist strategies and non-activist strategies on average generate positive abnormal returns in their activist campaigns. Regarding our second hypothesis, we do not find any conclusive evidence that hedge funds with activist strategies outperform hedge funds with non-activist strategies, in their respective activist interventions.

On a more general note, we discover that the activist market is increasingly stable and predictable. Abnormal returns and volatility in abnormal returns and were considerably lower during the last years, compared to the first few years in our sample period. Additionally, the number of activist campaigns was more stable.

# 2 Previous literature

## 2.1 Shareholder activism

In early literature on shareholder activism, all types of institutional activists were typically studied. Black (1998) reasons that shareholder activism may improve corporate performance by an increase in monitoring of management, thus reducing the agency costs of the firm. Early studies on shareholder activism indicate that activists sometimes are able to improve corporate governance structure (Strickland, et al., 1996) and other times not (Bebchuk, 2005). In conclusion, researchers did not find enough evidence to conclude that shareholder activism as a general phenomenon increases long-term performance of targeted firms.

In order to explain the inability of shareholder activists to induce long-term performance improvements, previous researches discussed their lack of managerial skill and short-term focus (Lipton & Rosenblum, 1991). However, none of the early research on shareholder activism specifically studied hedge fund activism, partly due to hedge fund activism being a more novel phenomenon.

Hedge funds are subject to lighter regulation and have stronger financial incentives to generate returns. They are a new breed of institutional activists that have proved to be more successful in creating value in target firms (Brav, et al., 2010).

### 2.2 Hedge fund activism

The comparability of earlier work is limited by the various definitions of hedge fund activism used by different authors. Some researchers use a narrow definition of hedge fund activism and only include campaigns by hedge funds with an explicit activist strategy, while others use wider definitions.

Schedule 13D filings are used in most previous studies to identify activist campaigns in the US. Any hedge fund that obtains a 5% stake in a target company's equity, and has the intention to exert influence over that company, is required to file a Schedule 13D with the Securities and Exchange Commission (SEC), within ten days.

Becht et al (2010) study 362 activist interventions in Europe, and divide their sample based on the strategy of the hedge funds. 183 of the events in their sample are carried out by specialist activist funds, which use shareholder activism as a substantial part of their investment strategy. The rest of the activist interventions are done by "non-specialist funds", which engage in shareholder activism sporadically or only in special situations. They find that the funds focused on activism on average generate cumulative abnormal returns of 6.9% over a 40 day event window, whereas the non-specialists on average generate cumulative abnormal returns of 0.6%, insignificantly different from zero. The authors note that the better performance of specialist funds "*may reflect the fact that they engage more frequently, and with intent to profit from their engagement strategy*".

While abovementioned results may seem predictable, they carry important implications for both fund managers and scholars trying to understand hedge fund activism. If the abnormal returns are largely dependent on the strategic focus of the hedge funds, non-specialist hedge funds should be wary of pursuing shareholder activism, and scholars should be careful when comparing results from studies using different definitions of what constitutes an activist event. For example, Greenwood and Schor (2009) use a wide definition of activism and include both interventions pursued by hedge funds with focused activist strategies and campaigns by less specialized hedge funds. They find no improvements in target firms' performance after activist interventions, despite other studies having done so (Brav, et al., 2010). One explanation for such discrepancies could be that the inclusion of a large amount of interventions carried out by

non-specialist hedge funds will skew the results negatively compared to studies using more narrow definitions of activism.

The results of Becht et al (2010) regarding specialist activists versus non-specialists have not been tested on U.S. data. Therefore, we divide the hedge funds in our sample in the same way, and denote them "activists" and "non-activists", to study the differences in abnormal returns of their respective interventions.

Most previous research have nonetheless supported the hypothesis that hedge fund activist campaigns are associated with positive abnormal returns. The period from 1994-2010 has been extensively studied by other researchers. Clifford (2008), Boyson and Mooradian (2007), Klein and Zur (2009), Brav et al (2008) and Becht et al (2015) reach similar results when they research hedge fund activist events during the periods 1998-2005, 1994-2005, 2001-2006, 2003-2005 and 2000-2010, respectively. Each of those studies conclude that hedge fund activists have been able to generate abnormal returns in target firms. Abnormal returns are recorded to be significantly positive during short-term event windows and there are no signs of long-term reversals of those abnormal returns. Later research on hedge fund activism mostly focus on other areas, such as its impact on innovation (Brav, et al., 2014) and productivity (Brav, et al., 2015) in target companies.

Brav et al. (2008) find that the average cumulative abnormal return from a hedge fund activist campaign was about 7 % for the period 2001 to 2006. They note that the cumulative abnormal returns in their sample dropped from 15.9 % in 2001 to 3.4 % in 2006, and discuss the potential of activism being just another form of arbitrage that will eventually be depleted. When more investors pour their money into activist funds, the competition for attractive targets will increase and drive abnormal returns to zero. Assuming markets will incorporate all available information into security prices, the potential of being targeted by an activist should also increase the price of stocks in likely target firms, they argue.

Becht et al (2015) use a sample of 1740 activist events from 23 countries to study the performance of hedge fund activism in different markets. For the North American events in their sample, they find that the short-term returns from hedge fund activism interventions have declined from 10.5% over the period 2000-2005 to 5.8% over the period 2006-2010 (Becht, et al., 2015, p. 26).

One of the questions triggered by the results in previous research is thus whether hedge fund activism will continue to exhibit diminishing returns, and whether increased competition in the activist market will eventually reduce abnormal returns to zero. By extending our sample period

from 1999 through 2014, we are able to study the trend in abnormal returns to activism during more recent years.

### 2.4 Hypotheses

The trend reported in previous research shows that abnormal returns to hedge fund activism have been declining steadily up until 2010. We predict that the abnormal returns will have continued to decline during the subsequent years and approached zero. While the continuation of the trend is not obvious in itself, we expect that as long as there are abnormal returns to capture in the activist market, the competition for target firms will increase and drive abnormal returns to zero. Our hypothesis is that *the average abnormal returns to hedge fund activist campaigns will have continued to decline during our sample period, until they reached zero*.

We also predict that campaigns conducted by activist funds have been more successful in generating abnormal returns than those carried out by non-activist funds. Hedge funds focused on the activist strategy have more experience of shareholder activism and should be able to adjust lock-up provisions to better suit the activist strategy, which typically requires large investments over long periods of time. On the other hand, it may also be that non-activist hedge funds only act on particularly good opportunities to pursue shareholder activism, which could compensate for their relative lack of experience. The second hypothesis is however that *hedge funds focused on the activist strategy have on average generated larger abnormal returns in their activist campaigns, than have the non-activist funds.*

## 3 Data

### 3.1 Hedge fund activist campaigns

As a first step in our data collection, we create a directory of hedge funds. Since there is no exhaustive database of hedge funds, we use several sources to create this list. We first include all 401 constituents in the CSFB/Tremont hedge fund index. That sample should be expected to introduce survivorship and backfilling biases as the index only includes active and voluntarily reporting hedge funds. To mitigate those biases we complement our list of hedge funds by including funds found in the news articles from Factiva searches on activist interventions. We search for articles from 1999-2014 with the text strings “Hedge fund activism” and “Hedge fund 13D filing”, to collect identities of additional hedge funds that have been involved in activist interventions. We confirm that all the entities that show up in the news searches can rightly be described as hedge funds by browsing the fund’s websites and by conducting supplementary searches on the identities of those funds.

To construct a variable that indicates whether a hedge fund has an activist strategy or a non-activist strategy, we gather information about the strategies of each hedge fund from the news searches, fund websites, and by looking under Item 2 "Identity and Background" in the Schedule 13D filing. In this way we are able to classify most hedge funds as either activist or non-activist. However, for 24 hedge funds in our sample, we do not find any classification and instead classify them based on their frequency of activist interventions. Those remaining 24 funds, we classify as activist if they have pursued ten or more activist campaigns during our sample period, and non-activist if they pursued fewer than ten campaigns.

In a second step we search the Security and Exchange Commission's EDGAR Archives for Schedule 13D filings that have been filed by the hedge funds we listed. Any investor that acquires a 5% stake in a target company's equity, and has the intention of influencing the management of the company, is required to file a Schedule 13D within ten days of crossing the 5% threshold. The question whether hedge funds truthfully disclose their activist blockholdings has been discussed, but as Clifford (2008) notes, hedge funds have strong incentives to do so, mainly because the management of target companies can effectively use misstatements of intentions as a basis of lawsuits against the activists. Thus, we use the Schedule 13D filing dates to identify initiations of activist campaigns. From the Schedule 13D forms we also obtain the identity of the target firms.

Finally, we match the data on hedge fund activist campaigns with the CRSP database to add stock returns of the targeted firms. We use daily stock returns around the filing date to compute short-term abnormal returns, and monthly holding returns until one year after the event window to compute long-term abnormal returns subsequent to the initial market reaction. We also use the Compustat Annual database to retrieve data on firm characteristics that we use to match targeted firms with a control group of non-targeted firm, for the long-term event study.

In SEC's EDGAR database, firms are identified by a CIK-code. We drop all firms that miss matching identifiers in the CRSP and Compustat Annual databases.

### 3.2 Descriptive statistics

By following the process outlined above, we collect data on 2111 activist campaigns from 1999 through 2014. The activist campaigns were conducted by 279 hedge funds, against 1857 individual target firms. Of the total activist campaigns, 621 were carried out by hedge funds with non-activist strategies and 1490 by hedge funds with an explicit activist strategy.

Our sample of hedge funds and target firms show similar characteristics to those collected by previous researchers (Brav, et al., 2010). The average target firm is a small to mid-cap

company with high growth rate but modest profitability. Target firms are spread widely across industries, with the most common industry being business services. The average number of events for each hedge fund in the sample is 7.6 (see Table 1).

The distribution of hedge fund activist events during our sample period shows that the activist market became increasingly busy in the years leading up to the financial crisis (Figure 1). During the subsequent years, the number of activist events have been more stable, averaging at 140 events per year in our sample.

## 4. Methodology

To answer whether the abnormal returns to hedge fund activism have declined and approached zero, we study both the trend in abnormal returns and the abnormal returns for each year during the sample period. We do this separately for short-term and long-term abnormal returns. To answer the question posed by our second hypothesis, whether campaigns by non-activists have lower abnormal returns than campaigns by activists, we test for differences between the two.

The short-term abnormal returns are computed as the difference between actual return and predicted return based on the correlation with the S&P500 index during a one-year estimation window preceding the event day. We construct a variable for the cumulative abnormal returns, which sums the abnormal returns for each day in a 41 day event window (-20,20), centered around filing date.

For the calculation of long-term abnormal returns, appropriate risk-adjustment becomes more critical and we therefore devise a more sophisticated estimation model. Instead of using expected returns based on the correlation with an index, we use the returns of a matched reference firm. Additionally, we construct a variable for the buy-and-hold abnormal returns, which geometrically sums the returns, since compounding effects will be more substantial in the long-term.

### 4.1 Short-term abnormal returns

We use the filing date of the Schedule 13D as the event date. For most campaigns, the filing date is the date when the event is first publicly announced. To refine the event date selection, Boyson and Mooradian (2007) used news searches to find campaigns that were publicly leaked before the filing date and used the date of the leakage as the event date for those cases. However, their results were largely similar when they used the filing date as event date for their entire sample. Therefore the filing date should be considered appropriate to use as the event date.

The event window we use is set to 41 days (-20,20). Defining the event window as such, we capture potential abnormal returns related to early leakage of information about the campaigns as described above. Secondly, we also capture the abnormal returns that can be caused by trading frictions around the filing date. As shown by Brav et al (2008), the abnormal trading volumes are most significant during the ten days immediately preceding the filing date, but continue to positive during the subsequent 20 days.

The estimation window is set from 252 trading days before the event to 20 days before the event. Thus, the estimation window starts one year before the filing date which makes for an appropriate estimation of the stocks predicted performance. Interventions in target firms that miss daily stock return data for any day during the event window, or for more than 25 days in the estimation window are dropped from the sample.

As a benchmark to calculate the expected returns, we use the S&P 500 index. We compared with another benchmark by using Nasdaq Composite Index instead, which yielded similar results. The S&P500 is nevertheless the index most commonly used by professional investors, and should better reflect the wide range of industries in our sample, as the Nasdaq index is disproportionately weighted towards technology firms.

We regress the returns for each individual firm on the market return during the estimation window to estimate a beta for the firm. We then calculate the abnormal returns as the difference between actual returns and predicted returns, based on the estimated betas, for each day in the event window. Abnormal returns for each day is accumulated to construct the variable CAR, which captures the cumulative abnormal returns for the entire event window.[2]

We compute the average CARs for various time periods, individual years, and for the two hedge fund strategy categories. Furthermore, we use two different types of regressions, to determine if the average cumulative abnormal returns are declining and approaching zero. We regress the mean of the CARs for each year in our sample period (see Table 4). We also regress the mean of the CAR on year dummy variables, to identify trends. To compare our results with previous literature, we do one trend regression for the years 1999-2010. To examine how the trend has developed after the period covered by previous research, we also run a trend regression for the years 2010-2014 (see Table 2).

The differences in cumulative abnormal returns to interventions executed by non-activists and activists, is studied by using t-tests (see Table 6). This is to distinguish if there is any statistical evidence that the coefficients from the two strategies are different from one another.

[2] More formally, abnormal return is defined as $AR_{i,t} = R_{it} - E(R_{it}|X_{it})$ and cumulative abnormal return is defined as $CAR = \Sigma AR_{it}$ for any firm i on any day t

### 4.2 Long-term reversals

To measure if short-term abnormal returns associated with an activist event are reversed over the long-term, we calculate buy-and-hold abnormal returns for the 12 months immediately following the short-term event window. The average holding period for hedge fund activism is approximately 2 years (Boyson & Mooradian, 2007), which is the reason we do not use a longer window than one year, as we want to avoid effects from a fund's exit to largest possible extent.

We compare the characteristics of our target firms with a matched sample of firms that have not been targeted by activism. We use these comparable firms as a benchmark to our target firms in order to find the effect of being targeted. Propensity score matching is used to find a set of control firms. In order to obtain a credible estimate of the counterfactual[3], we match on year, SIC-3 code and market value. In this way participation is independent on outcomes conditional on our matching variables.

We match on a 1-to-1 basis and use the control firms as a benchmark to calculate the buy and hold abnormal return for the targeted firms. By calculating long-term abnormal returns using matched firms, we alleviate the new listing, rebalancing and skewness biases associated with calculation of abnormal returns using asset pricing models or reference portfolios. (Barber & Lyon, 1997)

Barber & Lyon (1997) also argue that when estimating long-run abnormal returns, the buy-and-hold abnormal returns is favoured due to a smaller measurement bias. The buy-and-hold abnormal returns allow for compounding effects and better mimic investor experience over longer horizons than cumulative abnormal returns.[4]

In the same way as for the short-term abnormal returns, we regress average buy-and-hold abnormal return for each year individually (see Table 5), and on year dummy variables to study trends (see Table 3). We also do a t-test to analyse differences between long-term BHARs for activist and non-activist funds (Table 7).

## 5 Results

### 5.1 Trends in abnormal returns

Figure 1 shows the number of hedge fund activist events for each year in the sample period. One of the expectations behind our main hypothesis that abnormal returns to activism have

[3] What would have happened to targeted firms (treated units) had they not been targeted

[4] Buy-and-hold abnormal returne are calculated as follows: $BHAR_{it}=\Pi^{t}_{t=1}[1+R_{it}]- \Pi^{t}_{t=1}[1+E(R_{it})]$, where $E(R_{it})$ is the return of the matched control firm.

declined and approached zero, is that the hedge funds will increase their efforts to go after target firms. While this was clearly the case in the years leading up to 2007, the amount of activist campaigns has since then levelled out at a stable rate of about 140 campaigns per year in our sample.

The long-term BHARs for each year, and the mean of BHARs for all years are reported in Table 5. Most importantly, we find that the mean for the whole sample period is insignificantly different from zero. This result is consistent with previous literature, and indicates that the short-term abnormal returns are not reversed over time. For two years, 2002 and 2006, the BHARs are however negative, significant at the 5% level. Although the short-term market reactions to activist campaigns might be similar, these results suggest that for some years, the short-term gains are reversed in the long-term. The long-term reversals to campaigns in 2006 provide a likely explanation for the substantial drop in the number of activist campaigns carried out after 2007. Table 3 shows the absence of any trends in long-term BHARs. Relating to our hypothesis that abnormal returns should have declined, there are no signs of long-term reversals becoming more prevalent during the latter years in our sample period. The coefficient for the trend during the period 2010-2014 is positive, but insignificantly different from zero, implying that short-term abnormal returns can still be considered adequate proxies of total returns to activist interventions.

Table 4 reports the trends in short-term CARs to activist campaigns. The trend during 1999-2010 is significantly negative at -0.5% per year, which corresponds to the trend observed in previous literature. For the subsequent years, 2010-2014, the trend is however insignificant. Figure 4, which plots the mean of CARs for each year, furthermore shows that the negative trend is mostly attributable to the particularly high returns during 1999-2001, when the mean of CARs were higher than 10% for all years. Since 2002, the mean of CARs for each year have been stable around 6-9%, with the only outlying year being 2012. Not only have the CARs for each year levelled out at a lower rate than before, the volatility of CARs within each year have also been reduced. For the last four years the standard deviation of CARs have been between 0.20-24, which can be compared to the standard deviation of 0.54 during year 2000.

The results conclusively reject our main hypothesis that abnormal returns to hedge fund activism have declined and approached zero. A negative trend persisted for the early years in our sample period, but for the last 12 years the abnormal returns have levelled out at a lower rate than before.

### 5.2 Activist and non-activist strategy hedge fund

Long-term BHARs for hedge funds with non-activist strategies are insignificant just as for the activist hedge funds (see Table 5). In other words, we find no conclusive evidence that campaigns by the non-activist funds are subject to long-term reversals in any greater extent than the campaigns by the activist funds. However, the coefficient for the non-activist BHARs is negative, whereas it is positive for the activist BHARs. This could indicate that the activist hedge funds are on average better at sustaining the initial value creation in target firms, although it cannot be statistically confirmed.

From Table 4 we note that the short-term CARs from the interventions by non-activists are on average 6.9%, whereas the short-term CARs from interventions by activists are on average 8.6%, both significant at the 1% level. Table 7 reports the differences in short-term CARs between campaigns by activist hedge funds and non-activists, and the results show that there is no significant difference between the two.

Our second hypothesis, that hedge funds with non-activists strategies on average fail to realize the same level of abnormal returns as the activist hedge funds, has little support in our data. To the contrary, non-activist hedge funds are on average able to generate similar abnormal returns as the hedge funds with a focused activist strategy. However, these results are somewhat less conclusive than the results on our first hypothesis. It could be that some of the initial value creation is reversed in the average campaign executed by hedge funds with non-activist strategies.

## 6 Conclusions and implications

Both hedge funds with an explicit activist strategy and hedge funds with other strategies are on average able to realize abnormal returns from pursuing activist campaigns. This stands in contrast to previous research on the European activist market, where non-activist hedge funds on average fail to realize any abnormal returns when they sporadically pursue activist campaigns. The reasons for this is most likely the differences in laws, rules and institutions between jurisdictions in the different countries and regions discussed in Becht, et al. (2015). However, for U.S. hedge fund managers of non-activist funds, our results signal that ventures into shareholder activism might be worth considering.

The distribution of events during our sample period undermines one of the underlying assumptions behind our main hypothesis, that returns in the activist market will decline and approach zero. Both in previous research, which focuses mainly on the period leading up to the

financial crisis, and more recent media reports[5], there are frequent suggestions that a growing herd of hedge fund activists are increasing their efforts to go after target firms. In contrast, our results indicate that the activist market has reached an equilibrium. The number of campaigns, the short-term CARs and the volatility in short-term CARs have all levelled out at a lower rate than before. In contrast to individual activist interventions, which are often characterised by high levels of uncertainty, the aggregate activist market is better described as increasingly mature and predictable.

Despite the fact that prevalence of significant abnormal returns, fund managers are not rushing to compete in the activist market. One likely explanation for this are the substantial costs that can be associated with shareholder activism, as described by Gantchev (2013). The costs of for example launching a proxy battle, may be so high that the average net abnormal returns to the investors in the funds are in fact close to zero. The robustness of abnormal returns combined with the relative absence of competition certainly support the notion that net abnormal returns to hedge fund activism are low. Thus, in the typical activist campaign, the initial shareholders are the only ones that will be unambiguously better off, since they benefit from the value creation without having to bear the costs. Regulators should take this in account when considering stricter control of hedge funds.

There are no strong reasons to believe that abnormal returns to hedge fund activism will take any different turn in the future. To better understand the activist market, future research might focus on the supply side of the activist market. Although target firm's operative and financial characteristics have been thoroughly researched, more work could be done to map out the defence tactics in target firms and their relative likeliness to succeed in repelling hedge fund activist interventions.

[5] See, for example, Sullivan, Ruth "Activist shareholders step up pace", http://www.ft.com/intl/cms/s/0/41abc294-6581-11e2-a3db-00144feab49a.html#axzz2IpgGliMy, January 23, 2013

## References


Barber, B. M. & Lyon, J. D., 1997. Detecting long-run abnormal stock returns: The empirical power and specification of test statistics. *Journal of Financial Economics,* 43(3), p. 341.

Bebchuk, L. A., 2005. The Case of Increasing Shareholder Power. *Harvard Law Review,* 118(3), pp. 833-914.

Becht, M., Franks, J., Grant, J. & Wagner, H. F., 2015. The Returns to Hedge Fund Activism: An International Study.. *Discussion Paper No. 10507, Centre for Economic Policy Research.*

Becht, M., Franks, J., Grant, J. & Wagner, H. F., n.d.

Becht, M., Franks, J. R. & Grant, J., 2010. Hedge Fund Activism in Europe. *ECGI - Finance Working Paper No. 283.*

Black, B. S., 1998. Shareholder Activism and Corporate Governance in the United States. *The New Palgrave Dictionary of Economics and the Law*, 3(.), pp. 459-465.

Boyson, N. M. & Mooradian, R. M., 2011. Corporate Governance and Hedge Fund Activism. *Review of Derivatives Research,* Volume 14.2, pp. 169-204.

Boyson, N. & Mooradian, R. M., 2007. Hedge funds as shareholder activists from 1994-2005. *Working Paper, Northeastern University.*

Brav, A., Jiang, W. & Hyunseob, K., 2015. The Real Effects of Hedge Fund Activism: Productivity, Asset Allocation, and Labor Outcomes. *Working Paper.*

Brav, A., Jiang, W. & Kim, H., 2010. Hedge Fund Activism: A Review. *Foundations and Trends in Finance,* Volume 4, pp. 185-246.

Brav, A., Jiang, W., Ma, S. & Tian, X., 2014. Shareholder Power and Corporate Innovation: Evidence from Hedge Fund Activism. *Kelley School of Business Research Paper No. 2014-05.*.

Brav, A., Jiang, W., Partnoy, F. & Thomas, R., 2013. *Hedge Fund Activism: Updated tables and figures.* [Online]
Available at: https://faculty.fuqua.duke.edu/~brav/HFactivism_SEPTEMBER_2013.pdf
[Accessed 14 5 2015].

Brav, A., Jiang, W., Partnoy, T. & Randall, T., 2008. Hedge Fund Activism, Corporate Governance, and Firm Performance. *The Journal of Finance,* Issue 4, pp. 1729-1775.

Clifford, C., 2008. Value creation or destruction? Hedge funds as shareholder activists. *Journal of Corporate Finance,* Volume 14, p. 323–336.

Gantchev, N., 2013. The costs of shareholder activism: Evidence from a sequential decision model. *Journal of Financial Economics,* 107(3), p. 610–631.

Gillan, S. & Starks, L. T., 2007. The Evolution of Shareholder Activism in the United States. *Journal of Applied Corporate Finance,* Issue 19, pp. 55-73.

Greenwood, R. & Schor, M., 2009. Hedge fund investor activism and takeovers. *Journal of Financial Economics,* Volume 92:3, pp. 362-376.

Hotchkiss, E. S. & Mooradian, R. M., 1997. Vulture investors and the market for control of distressed firms. *Journal of Financial Economics,* 43(3), pp. 401-432.

Klein, A. & Zur, E., 2009. Entrepreneurial Shareholder Activism: Hedge Funds and Other Private Investors. *The Journal of Finance,* p. 187–229.

Lipton, M. & Rosenblum, S. A., 1991. A New System of Corporate Governance: The Quinquennial Election of Directors. *The Univeristy of Chicago Law Review,* 58(1), pp. 187-253.

Pound, J., 1992. Raiders, Targets, and Politics: The History and Future of American Corporate Control. *Journal of Applied Corporate Finance,* 5(3), pp. 6-18.

Smith, M. P., 1996. Shareholder Activism by Institutional Investors: Evidence from CalPERS. *The Journal of Finance,* 51(1), pp. 227-252.

Strickland, D., Wiles, K. W. & Zenner, M., 1996. A requiem for the USA Is small shareholder monitoring effective?. *Journal of Financial Economics,* 40(2), pp. 319-338.

## Table 1: Hedge funds and target firms in the sample

**Panel A** reports the number of hedge funds by strategy classification and the number of activist campaigns they launched during the sample period 1999-2014. **Panel B** reports average firm characteristics and the most frequent industries of target firms. **Panel C** reports descriptive statistics for the cumulative abnormal returns for individual years during the sample period.

**Panel A**

| | |
|---|---|
| Number of hedge funds | 279 |
| Number of campaigns by activist hedge funds | 1490 |
| Number of campaigns by non-activist hedge funds | 621 |
| Total number of campaigns | 2111 |
| Average events per fund | 7,6 |
| Number of hedge funds | 279 |

**Panel B**

| Target firm characteristics | |
|---|---|
| Average market value | $1.7 Bn |
| Average revenue growth | 7,7% |
| Average return on assets | 6,6% |

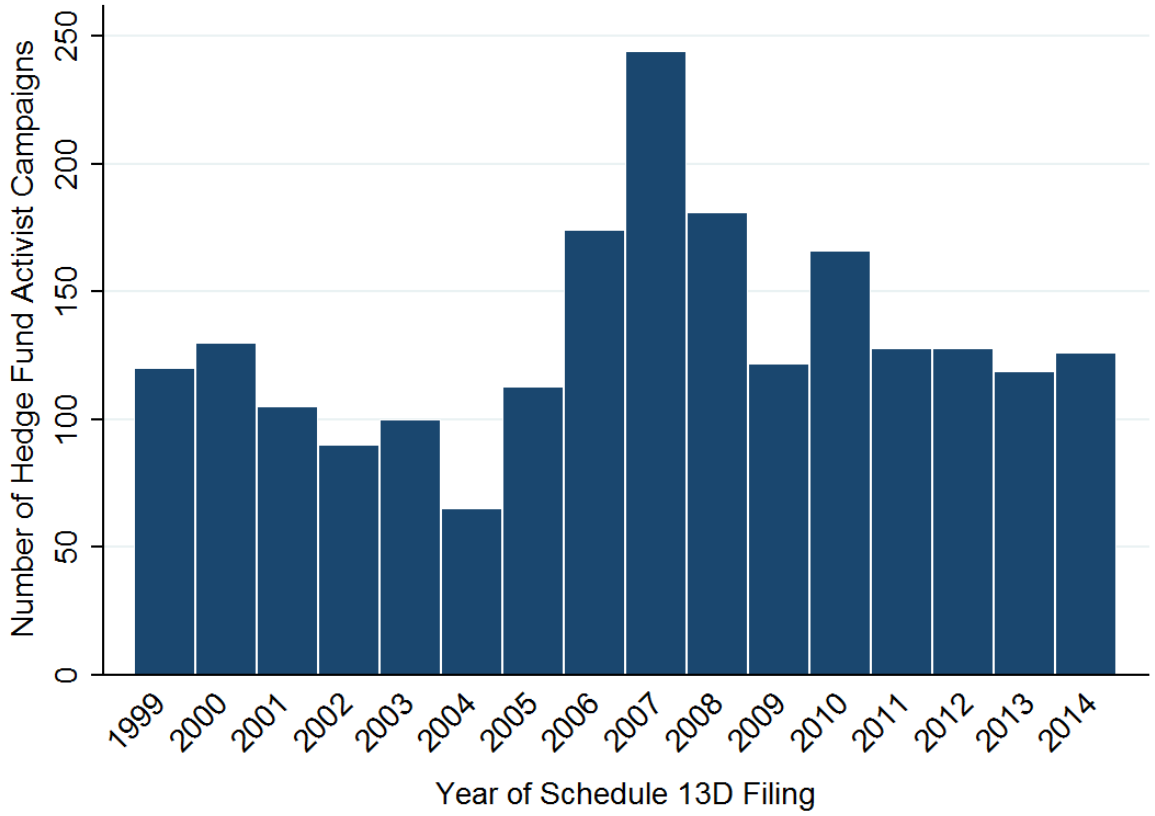
| Most frequent industries of target firms | Number of target firms |
|---|---|
| Business Services | 211 |
| Chemicals and Allied Products | 147 |
| Petroleum and Coal Products | 105 |
| Electronic & Electric Equipment | 104 |
| Holding & Investment Offices | 88 |
| Industrial Machinery, Equipment | 74 |
| Communications | 64 |
| Oil and Gas Extraction | 52 |
| Electric, Gas & Sanitary Services | 46 |
| Miscellaneous Retail | 40 |

**Panel C**

| Year | Observations | Max | Mean | Min | Std.dev |
|---|---|---|---|---|---|
| 1999 | 65 | 1.031 | 0.119 | -0.647 | 0.310 |
| 2000 | 72 | 3.829 | 0.150 | -0.442 | 0.535 |
| 2001 | 70 | 0.990 | 0.106 | -0.659 | 0.360 |
| 2002 | 49 | 0.700 | 0.080 | -0.355 | 0.202 |
| 2003 | 60 | 1.117 | 0.088 | -1.315 | 0.358 |
| 2004 | 42 | 0.482 | 0.070 | -1.318 | 0.293 |
| 2005 | 74 | 0.755 | 0.092 | -0.931 | 0.247 |
| 2006 | 109 | 1.355 | 0.059 | -0.715 | 0.247 |
| 2007 | 163 | 2.411 | 0.063 | -1.118 | 0.312 |
| 2008 | 138 | 1.405 | 0.065 | -1.613 | 0.381 |
| 2009 | 87 | 1.725 | 0.086 | -0.989 | 0.352 |
| 2010 | 110 | 1.393 | 0.071 | -2.106 | 0.354 |
| 2011 | 100 | 0.856 | 0.061 | -0.443 | 0.203 |
| 2012 | 97 | 0.748 | 0.119 | -0.581 | 0.243 |
| 2013 | 88 | 0.927 | 0.071 | -0.877 | 0.226 |
| 2014 | 79 | 1.006 | 0.066 | -0.255 | 0.201 |
| Total | 1403 | 3.829 | 0.082 | -2.106 | 0.313 |

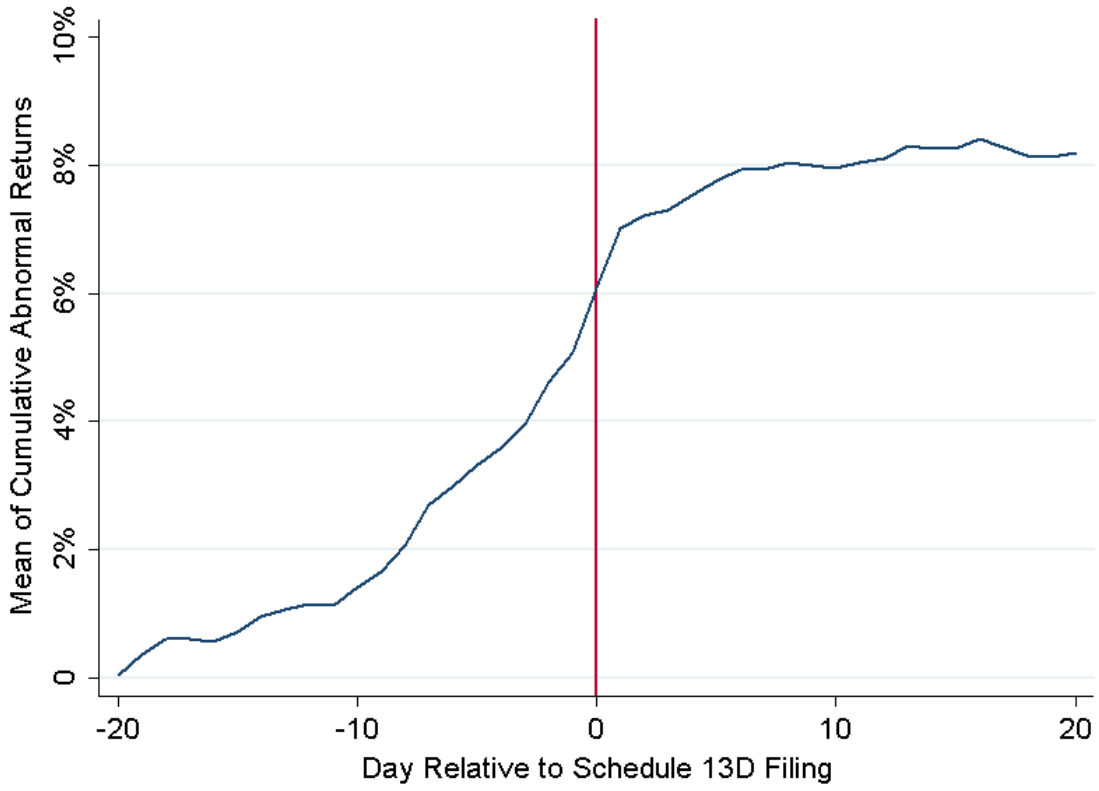
**Figure 1: Number of hedge fund activist events by year**

The figure plots the time series of the number of activist campaigns per year. All campaigns are annualized by their corresponding Schedule 13D filing date. The total number of campaigns in the sample is 2111.



## Figure 2: Mean of short-term cumulative abnormal returns

The line plots the average cumulative abnormal return centered on the filing date of the Schedule 13D, in excess of the return of the market, from 20 days prior the filing date to 20 days past. The cumulative abnormal returns are calculated as the difference between the actual returns during the event window (-20,20) and the returns predicted from the estimation window (-252,-21). The vertical line marks the Schedule 13D filing date.



## Figure 3: Mean of short-term cumulative abnormal returns by hedge fund strategy

The solid line plots the average cumulative abnormal returns to activist campaigns, conducted by hedge funds with an explicit activist strategy. The dashed line plots the average cumulative abnormal returns to activist campaigns, conducted by hedge funds with a non-activist strategy. Cumulative abnormal returns are calculated as the difference between the actual returns in the event window (-20,20) and the returns predicted from the estimation window (-252,-21). The vertical line marks the Schedule 13D filing date.

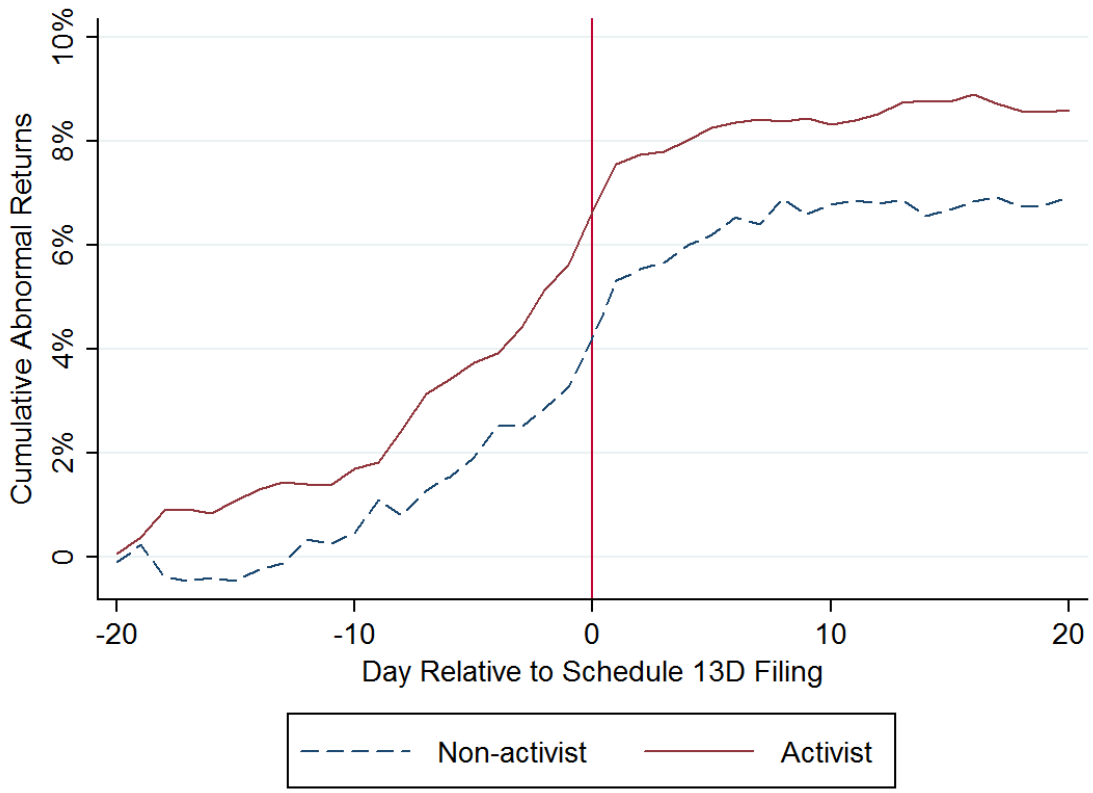


**Figure 4: Mean of cumulative abnormal returns by year**

The line plots the mean of annual cumulative abnormal returns centered on the filing date of the Schedule 13D, for a 41 day event window (-20,20). The cumulative abnormal returns are annualized by the filing date of each activist campaign.



## Table 2: Trends in short-term cumulative abnormal returns

The table reports the annual average trend in cumulative abnormal returns. The year variables are dummy variables based on the year when the Schedule 13D was filed. The regressions are for the last day in the event window (-20,20). The trend variables are, one for the whole sample period (1999-2014), one for the first years covered in previous research (1999-2010), and one for the subsequent years (2010-2014). *Trend* variables take the value of 0 in the first year, 1 in the second, 2 in the third, and so forth. Regression 2, 3 and 4 are clustered by the year of the filing date. Robust standard errors are reported within parentheses. Significance at the 1%, 5% and 10% levels are represented by ***, ** and * respectively.

| VARIABLES | (1) CAR | (2) CAR | (3) CAR | (4) CAR |
|---|---|---|---|---|
| Constant | 0.119*** | 0.105*** | 0.118*** | 0.0768*** |
| | (0.0384) | (0.0131) | (0.00162) | (0.0115) |
| 2000 | 0.0310 | | | |
| | (0.0737) | | | |
| 2001 | -0.0132 | | | |
| | (0.0576) | | | |
| 2002 | -0.0389 | | | |
| | (0.0480) | | | |
| 2003 | -0.0314 | | | |
| | (0.0600) | | | |
| 2004 | -0.0490 | | | |
| | (0.0591) | | | |
| 2005 | -0.0266 | | | |
| | (0.0479) | | | |
| 2006 | -0.0598 | | | |
| | (0.0451) | | | |
| 2007 | -0.0563 | | | |
| | (0.0455) | | | |
| 2008 | -0.0540 | | | |
| | (0.0503) | | | |
| 2009 | -0.0329 | | | |
| | (0.0538) | | | |
| 2010 | -0.0475 | | | |
| | (0.0511) | | | |
| 2011 | -0.0579 | | | |
| | (0.0434) | | | |
| 2012 | 0.000130 | | | |
| | (0.0457) | | | |
| 2013 | -0.0482 | | | |
| | (0.0453) | | | |
| 2014 | -0.0529 | | | |
| | (0.0445) | | | |
| Trend1999-2014 | | -0.00281* | | |
| | | (0.00145) | | |
| Trend1999-2010 | | | -0.00551*** | |
| | | | (0.0120) | |
| Trend2010-2014 | | | | 0.000664 |
| | | | | (0.00365) |
| Observations | 1,403 | 1,403 | 1,039 | 474 |

## Table 3: Trends in long-term buy-and-hold abnormal returns

The table reports the annual average trend in buy and hold abnormal returns. BHARs are compounded on a monthly basis from the month after the filing date and 12 months onwards. The table is in all other regards equal to Table 2. Robust standard errors are reported within parentheses. Significance at the 1%, 5% and 10% levels are represented by ***, ** and * respectively.

| VARIABLES | (1) BHAR | (2) BHAR | (3) BHAR | (4) BHAR |
|---|---|---|---|---|
| Constant | 0.244* | -0.0149 | 0.00216 | 0.0167 |
| | (0.144) | (0.0875) | (0.0981) | (0.118) |
| 2000 | -0.361* | | | |
| | (0.198) | | | |
| 2001 | -0.258 | | | |
| | (0.210) | | | |
| 2002 | -0.523*** | | | |
| | (0.192) | | | |
| 2003 | -0.161 | | | |
| | (0.232) | | | |
| 2004 | -0.292 | | | |
| | (0.185) | | | |
| 2005 | -0.0382 | | | |
| | (0.226) | | | |
| 2006 | -0.477*** | | | |
| | (0.174) | | | |
| 2007 | -0.214 | | | |
| | (0.154) | | | |
| 2008 | -0.282 | | | |
| | (0.176) | | | |
| 2009 | -0.316 | | | |
| | (0.200) | | | |
| 2010 | -0.122 | | | |
| | (0.183) | | | |
| 2011 | -0.394** | | | |
| | (0.180) | | | |
| 2012 | -0.189 | | | |
| | (0.191) | | | |
| 2013 | -0.107 | | | |
| | (0.0179) | | | |
| Trend1999-2014 | | 0.00217 | | |
| | | (0.00920) | | |
| Trend1999-2010 | | | -0.000652 | |
| | | | (0.0124) | |
| Trend2010-2013 | | | | 0.0198 |
| | | | | (0.0472) |
| Observations | 576 | 576 | 450 | 173 |

## Table 4: Annual mean of short-term cumulative abnormal returns

The table contains the annual average cumulative abnormal returns (CAR) for each individual year in the sample period. The regression is made on the dependent variable CAR for each different year, based on the filing date of the Schedule 13D. Regression 17, 18 and 19 are clustered by year. *CARtot* is the average cumulative abnormal return centered on the filing date for all fund strategies. *CARnon-activist* is the average cumulative abnormal return centered on the filing date for non-activist fund strategies. *CARactivist* is the average cumulative abnormal return centered on the filing date for funds pursuing an activist strategy. Robust standard errors are reported within parentheses. Significance at the 1%, 5% and 10% are represented by ***, ** and * respectively.

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | CAR1999 | CAR2000 | CAR2001 | CAR2002 |
| Constant | 0.119*** | 0.150** | 0.106** | 0.0801*** |
| | (0.0385) | (0.0630) | (0.0430) | (0.0289) |
| Observations | 65 | 72 | 70 | 49 |

| | (5) | (6) | (7) | (8) |
|---|---|---|---|---|
| VARIABLES | CAR2003 | CAR2004 | CAR2005 | CAR2006 |
| Constant | 0.0876* | 0.0700 | 0.0924*** | 0.0592** |
| | (0.0463) | (0.0453) | (0.0287) | (0.0236) |
| Observations | 60 | 42 | 74 | 109 |

| | (9) | (10) | (11) | (12) |
|---|---|---|---|---|
| VARIABLES | CAR2007 | CAR2008 | CAR2009 | CAR2010 |
| Constant | 0.0627** | 0.0650** | 0.0861** | 0.0715** |
| | (0.0244) | (0.0324) | (0.0377) | (0.0337) |
| Observations | 163 | 138 | 87 | 110 |

| | (13) | (14) | (15) | (16) |
|---|---|---|---|---|
| VARIABLES | CAR2011 | CAR2012 | CAR2013 | CAR2014 |
| Constant | 0.0611*** | 0.119*** | 0.0708*** | 0.0661*** |
| | (0.0203) | (0.0247) | (0.0241) | (0.0226) |
| Observations | 100 | 97 | 88 | 79 |

| | (17) | (18) | (19) |
|---|---|---|---|
| VARIABLES | CARtot | CARnon-activist | CARactivist |
| Constant | 0.0820*** | 0.0692*** | 0.0860*** |
| | (0.00643) | (0.00134) | (0.00667) |
| Observations | 1,403 | 335 | 1,068 |

## Table 5: Annual mean of long-term buy-and-hold abnormal returns

The table contains the annual average buy and hold abnormal returns for each individual year in the sample period. The regression is made on the dependent variable CAR for each different year, based on the filing date of the Schedule 13D. Regression 16, 17 and 18 are clustered by year. *BHARtot* is the average buy-and-hold abnormal returns for all strategies. *BHARnon-activist* is the average buy-and-hold returns for funds pursuing a non-activist strategy. *BHARactivist* is the average buy-and-hold abnormal returns for fund with an activist strategy. Robust standard errors are reported within parentheses. Significance at the 1%, 5% and 10% are represented by ***, ** and * respectively.

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | BHAR1999 | BHAR2000 | BHAR2001 | BHAR2002 |
| Constant | 0.2442 | -0.1171 | -0.0141 | -0.2787** |
| | (0.1445) | (0.1371) | (0.1540) | (0.1287) |
| Observations | 29 | 27 | 32 | 22 |

| | (5) | (6) | (7) | (8) |
|---|---|---|---|---|
| VARIABLES | BHAR2003 | BHAR2004 | BHAR2005 | BHAR2006 |
| Constant | 0.0831 | -0.0478 | 0.2059 | -0.2332** |
| | (0.1828) | (0.1191) | (0.1746) | (0.0975) |
| Observations | 28 | 14 | 32 | 42 |

| | (9) | (10) | (11) | (12) |
|---|---|---|---|---|
| VARIABLES | BHAR2007 | BHAR2008 | BHAR2009 | BHAR2010 |
| Constant | 0.0298 | -0.0377 | -0.0715 | 0.1225 |
| | (0.0534) | (0.1017) | (0.0377) | (0.1120) |
| Observations | 80 | 62 | 35 | 47 |

| | (13) | (14) | (15) |
|---|---|---|---|
| VARIABLES | BHAR2011 | BHAR2012 | BHAR2013 |
| Constant | -0.1494 | 0.0555 | 0.1372 |
| | (0.1074) | (0.1252) | (0.1056) |
| Observations | 40 | 45 | 41 |

| | (16) | (17) | (18) |
|---|---|---|---|
| VARIABLES | BHARtot | BHARnon-activist | BHARactivist |
| Constant | 0.00214 | -0.0554 | 0.0247 |
| | (0.0344) | (0.0654) | (0.0369) |
| Observations | 576 | 162 | 414 |

**Table 6: Test for differences in short-term cumulative abnormal returns between activist and non-activist strategies**

The table reports a t-test for the difference in average cumulative abnormal returns between the activist and non-activist strategies. Significance at the 1%, 5% and 10% are represented by ***, ** and * respectively.

Two-sample t-test with equal variances:

| Variable | Obs | Mean | Std. Err. | Std. Dev. |
|---|---|---|---|---|
| BHARactivist | 414 | .0246 | .0354 | .7211 |
| BHARnon-activist | 162 | -.0554 | .0635 | .8089 |
| diff | | .0801 | .0692 | |
| diff = mean(BHARactivist) - mean(BHARnonactivist) | | | | t = 1.1574 |

**Table 7: Test for differences in average long-term buy and hold abnormal return between activist and non-activist strategies**

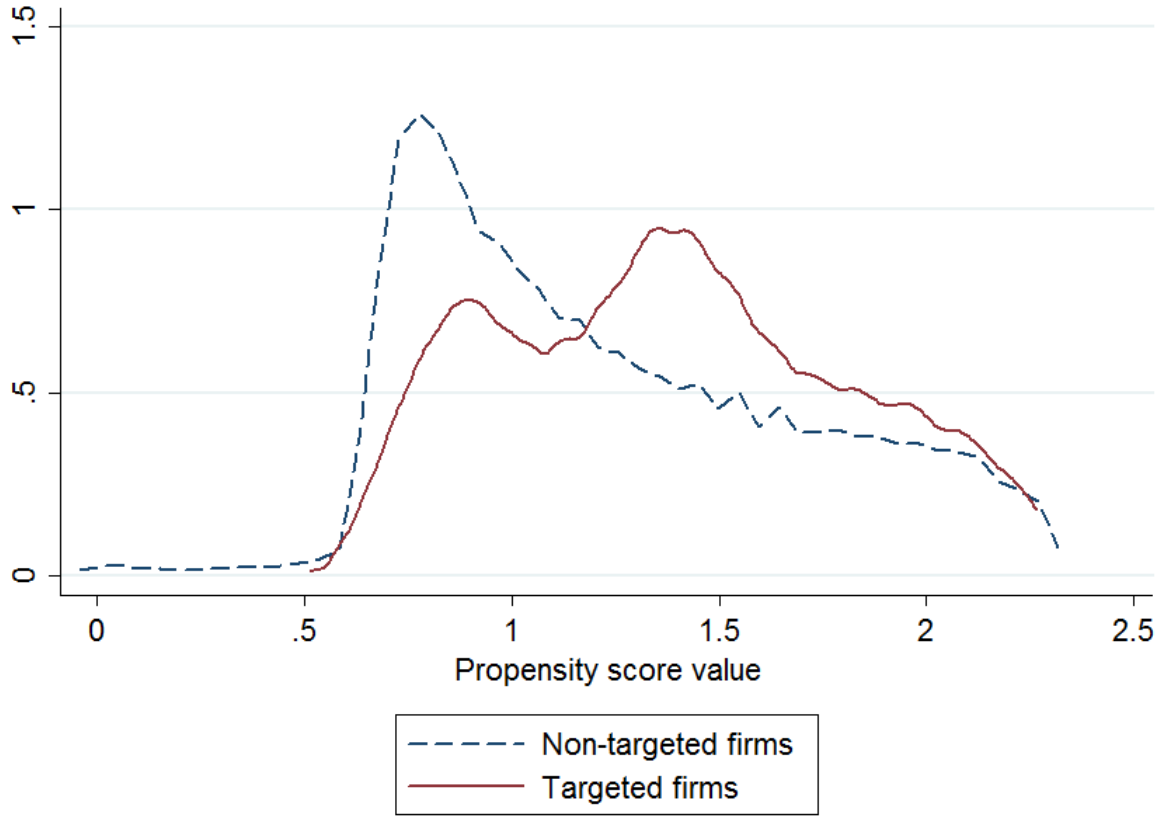
The table reports a t-test for the difference in average long-term buy and hold abnormal return between activist and non-activist strategies. Significance at the 1%, 5% and 10% are represented by ***, ** and * respectively.

Two-sample t-test with equal variances:

| Variable | Obs | Mean | Std. Err. | Std. Dev. |
|---|---|---|---|---|
| CARactivist | 1068 | .0859 | .0095 | .3096 |
| CARnon-activist | 335 | .0692 | .0177 | .3247 |
| diff | | .0167 | .0196 | |
| diff = mean(CARactivist) - mean(CARnonactivist) | | | | t = 0.8527 |

## Figure 5: Distribution of Targeted firms and the matched control firms

The figure reports the density distribution of the firms being targeted and the matched control firms that have not been targeted. The firms are compared on their propensity score value which is used in the matching process. The dashed line represents firms that have not been targeted by hedge fund activism and solid line represent the ones that have been targeted. All firms have been matched on year, industry (SIC-3) and market value.




## Table 8: Descriptive statistics of the matched sample

The table reports the average difference in market value for firms being targeted and their matched control firms, firms that have not been targeted, through a t-test. Significance at the 1%, 5% and 10% are represented by ***, ** and * respectively.

| Group | Obs | Mean | Std. Err. | Std. Dev. |
|---|---|---|---|---|
| Non-targeted | 1199 | 1526.2 | 118.5 | 4103.8 |
| Targeted | 1199 | 1328.4 | 105.8 | 3664.5 |
| diff | | 197.7 | 158.9 | |
| diff = mean(Non-targeted) - mean(Targeted) | | | | t = 1.2445 |