Hedge Fund Activism and Tender Offers: The Effect on the Acquiring Firm*

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Abstract

Hedge fund activism is becoming increasingly important in the market for corporate control. We use an event study to analyze the impact of hedge fund activism for acquiring firms, exploiting a new dataset which combines the universe of acquisitions in the presences of hedge fund activists with other financial data. Our results show that acquiring companies realize approximately 2% higher abnormal returns in the presence of hedge fund activists at the target company. Our results complement findings in the literature which indicate that there are also positive effects of hedge fund activists for the target company, and therefore suggest that the primary role of hedge fund activism is to reduce transaction costs in mergers and acquisitions, which benefits both sides of the market.

Keywords: Hedge-fund Activism, Tender Offers, Acquisitions.

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1. Introduction

The separation of ownership and control in public corporations raises concerns about conflicts of interest between a company's management and the company's shareholders. While it is possible to limit such concerns through corporate governance policies (e.g., corporate disclosures, performance-based compensation schemes, or external monitoring of management activity), it is impossible to eliminate conflicts of interests using governance policies alone. In theory, hedge funds should mitigate principal-agent problems by targeting companies that have low performance, and seeking significant changes to these companies' corporate strategy, financial structure, board and management composition, or pushing for the sale of the target company to another firm.

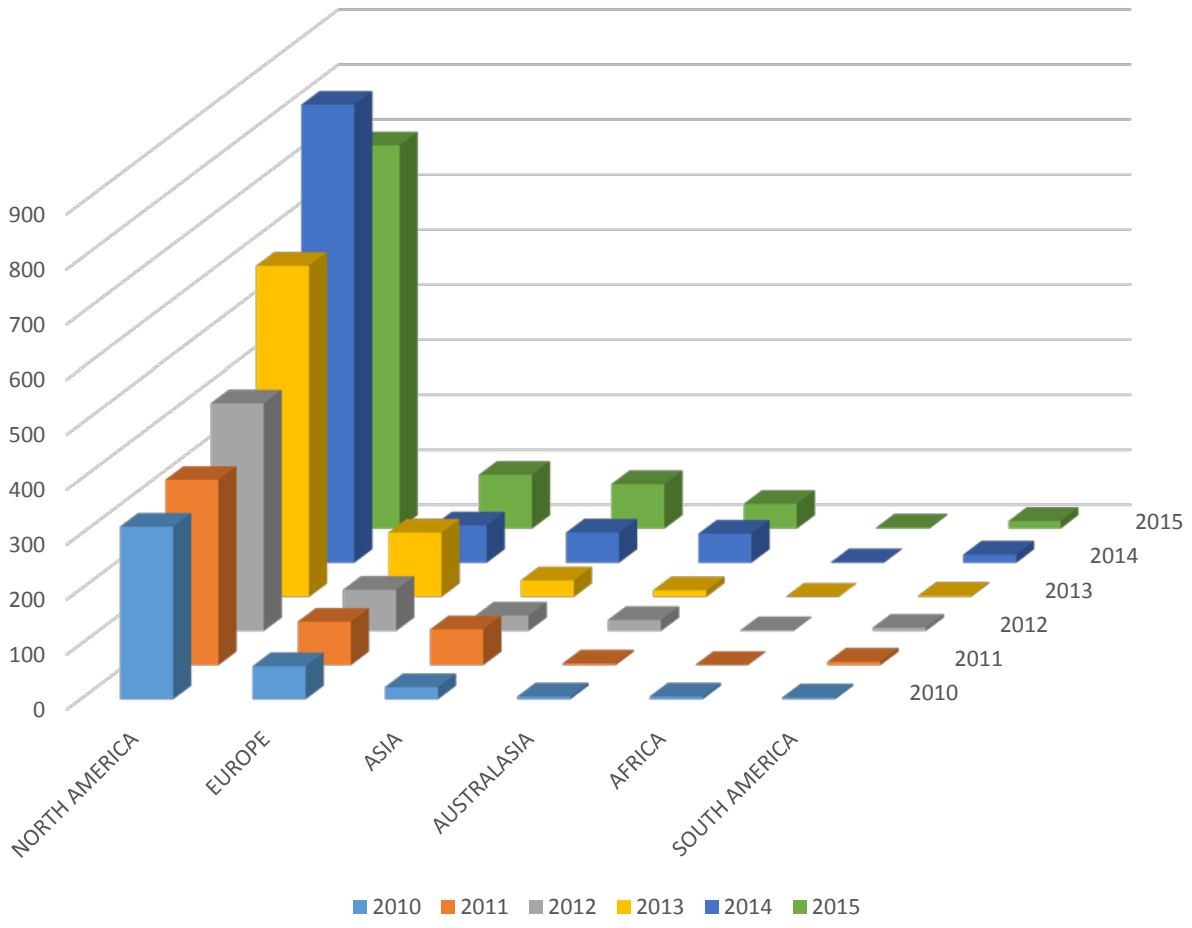
As a result, hedge funds have become increasingly active in the corporate landscape in recent times, both in terms of the number of new hedge fund activists in the market (an increase of approximately 165% in the US between 2010–2014 alone – see Figure 1) and in terms of the scope of activities these activists are involved with.[1] The latter is most noticeable with regards to mergers and acquisitions, where there was a 285% increase in on-going or concluded deals which involved hedge fund activists between 2010 and 2014 (see Figure 2). The extensive role of hedge fund activism in mergers and acquisitions (M & A deals) therefore now has a substantial impact on the market for corporate control.

Much of the policy debate and media attention around hedge fund activism has focused exclusively on hedge fund activism;s impact on value creation and destruction in target companies. Empirical analyses has contributed to these policy debates, by showing that HFA often lead to positive short-term abnormal returns for targeted companies (see, e.g., Coffee and Palia, 2014; Bebchuk et al., 2014; Betton et al., 2008).

However, to assess hedge fund activism's role in the market for capital control, it is equally important to understand how the *acquiring* company is affected by the presence of hedge fund activist in M & A deals. To illustrate that hedge fund activism can have a significant impact also on the acquiring company, Corum and Levit (2015) cast the problem between the target and acquiring firm as a bargaining model, where the acquiring company either directly negotiates with the target board - "direct tender offer" (henceforth TO) - or utilizes the presence of hedge fund activists who are independently pushing for the sale of the target company - "HFA mechanism" (henceforth HFA). Their theoretical analysis shows that the effect of HFAs on the acquiring company is ambiguous. On the one hand, the presence of

[1] The goals of today's activist hedge funds are broad, including capital allocation strategy, mergers and acquisition, board memberships, and general business strategy.

Figure 1: Hedge Fund Activism across countries and time.

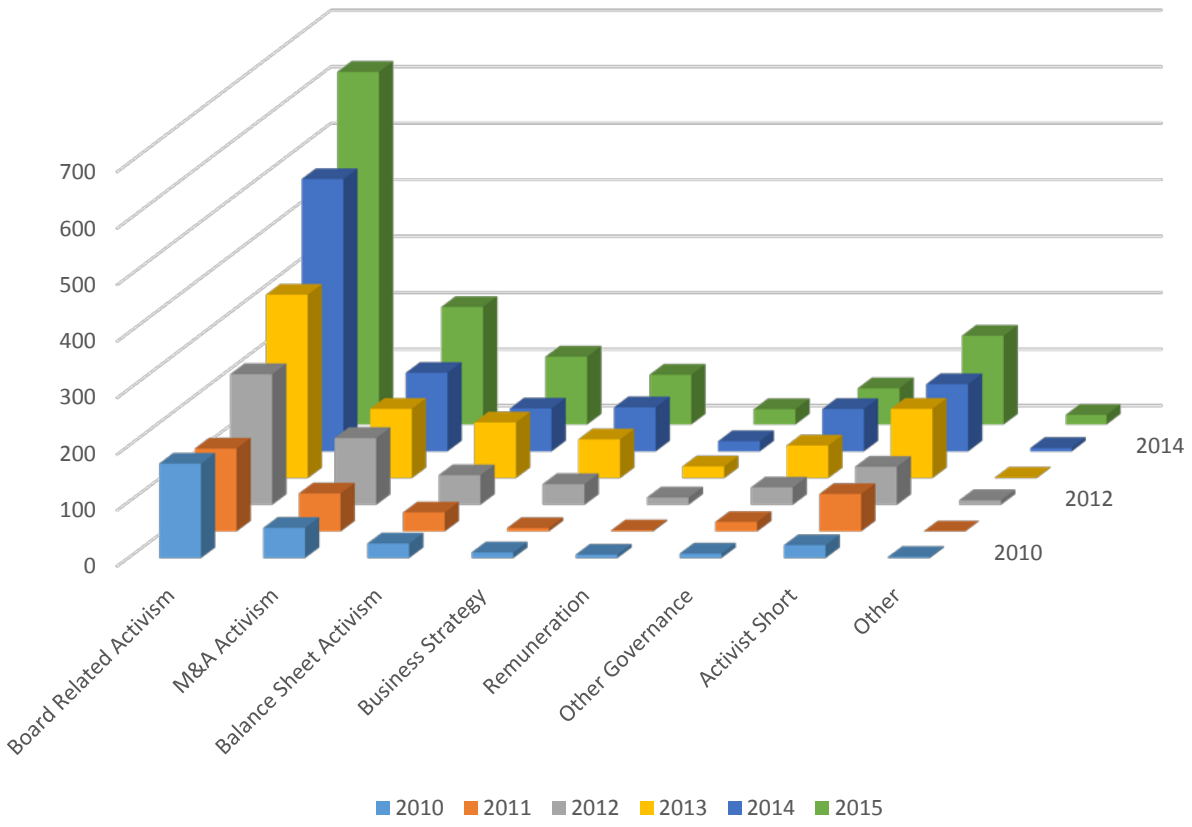


Source: Activist Insight.

HFA provides a strategic complementarity for the acquiring company, since activist investors can mitigate opposition to the take-over in the target company's board. On the other hand, activists may force the bidder to pay a higher take-over premium for the target company than would otherwise be the case. Relative to a direct tender offer, the presence of HFA may therefore result in either positive or negative abnormal returns for the acquiring company.

In this paper, we perform the first (to our knowledge) empirical analysis of the effect of HFAs on cumulative abnormal returns (CARs) in the acquiring company. To address this question, we compile a unique dataset on M & A deals. We extract data on tender offers from the *Bloomberg* terminal, and acquire data on hedge fund activism from a novel database privately collected by *Activist Insight*. We combine this data with announcement dates for acquisition retrieved from *Factiva*, and match it with other financial variables collected from *Compustat*. As a result, we have an extensive dataset with the universe of successful acquisitions that took place either through direct tender offers or HFA mechanisms

Figure 2: Hedge Fund Activism across type and time.



Source: Activist Insight.

from 2006 to 2014. We exploit this data to conduct an event study around announcement dates of successful acquisitions, to quantify the impact of HFA mechanisms on CARs in the acquiring company. The main identification assumption in our analysis is that the presence or absence of HFA in a target company is not driven by the performance of the acquiring company. While this assumption surely does not hold strictly, it is supported by the regulatory environment surrounding M & A deals. In particular, in accordance with federal rules overseen by the Securities and Exchange Commission (SEC), any collusion between hedge fund activists and an acquiring company prior to the disclosure of the intention of the acquiring company to take-over is deemed illegal and subject to penalties. As a result, there are considerable reputational and pecuniary costs attached for both the acquiring company and the HFA to limit the type of collusion that would undermine our identification assumption.

Our results show that HFA mechanisms lead to a short-term increase in CARs of approximately 2% relative to direct tender offers. This effect is robust to alternative models used for measuring CARs, as well as the inclusion of traditional controls such as Tobin's q,

size, cashflow, and leverage of the firm. Studies focusing on the effect of HFA mechanisms from the target company's point of view have found an increase in the CARs of anywhere from 0–8% (see Section 2). Our results complement these findings by showing that there are also significantly positive benefits of the presence of HFA activists for short-term CARs in the acquiring firm. Our findings that the presence of HFAs in an M & A deals is beneficial also for the acquiring firm therefore suggests that HFA mechanisms may considerably reduce transaction costs in M & A deals, benefiting both sides of the market for corporate control.

The outline of the paper is as follows. We discuss related literature in the next section. Section 3 discusses our data. In Section 4, we outline our empirical methodology. Section 5 presents the baseline results and discusses a number of robustness checks (presented in an appendix). In Section 6, we discuss the results and conclude.

2. Related Literature

The role of hedge fund activists in M & A deals has been highlighted in the previous literature. In particular, the use of empty voting by hedge fund activists, a phenomenon identified by Hu and Black (2006), allows them to acquire voting power in excess of their economic interest in a firm thereby mitigate governance problem arising during takeovers. Although usually seen as undesirable for good corporate governance, empty voting can reduce transaction frictions arising from the lack of coordination and asymmetric information between shareholders (Burkart and Lee, 2015). As a result, Gillan and Starks (2007) argue that activists are better suited to identify undervalued targets and initiate a takeover operation than to tackle long-term corporate governance issues.[2]

Previous empirical studies on the effect of HFA mechanisms on M & A deals have focused on the short-term shock price reaction of the target company. The results from these studies show a large variation in terms of the size of the abnormal returns of the target firms. This could be due to the differences in the data, the selection of post intervention window and the choice of the event date across these studies. Greenwood and Schor (2007) find that target firms earned on average 3.5% higher market size and momentum-adjusted abnormal returns in a [-10, +5] day window with HFAs; Clifford (2008) finds on average 3.4% higher abnormal returns in [-2, +2] day window; Boyson and Mooradian (2011) find on average 8.1% higher abnormal returns in [-25, +25] day window, and 2.45% higher abnormal returns in [0, +25]

[2]In an empirical analysis, they find positive abnormal returns for the hedge fund activists when they request a sale of the target or oppose the terms of a merger to push for a better price (see also Brav et al., 2008).

day window; Bebchuk et al. (2014) find on average 6% higher abnormal returns in [-20, +20] day window; Gillan and Starks (2007) find no effect on abnormal returns in [-1,+7] day window; Becht et al. (2010) find a 5.74% higher returns in [-5, +5] day window; and Hamao et al. (2010) find that target firms earned on average 2% higher abnormal returns in [-5, +1] day window in the presences of HFA. Coffee and Palia (2014) and Gillan and Starks (2007) provide an overview of this empirical literature focusing on short-term stock price reaction following an activist intervention. Our work differs from this previous work because we assess whether the method of acquisition (HFA mechanism or tender offer) results in varying effects on the market adjusted abnormal returns of the acquiring company. In addition, unlike the existing literature, we use a more complete and detailed dataset that tracks and records all activism related M & A activities in the US. We describe the data in more detail in the next section.

3. Data

Our dataset is constructed by combining data from four sources: Activist Insight, Bloomberg, Factiva, and Compustat.

Activist Insight is used to compile information on HFA involvement in M & A deals. Activist Insight is a private database that has been tracking hedge fund activist campaigns since October 2006. For every activist campaign, along with complimentary information, the data contains information on the objective of the campaign, the response of the target firm, and the outcome of the campaign (successful or unsuccessful). Successful is defined as the announcement of a sale or merger of the target firm with a third party company (this does not necessarily imply that the transaction is completed, but rather that it was announced). The campaigns in which the hedge fund activist was not successful in its objective were then filtered out. In addition, all campaigns in which the third party was a private company were eliminated from the sample. Since we use stock prices in order to evaluate our main hypothesis, only public acquirers are considered in the sample. This yields a sub-sample that includes all activist campaigns resulting in the announcement of a sale of the target company to a public third party company. The total number of events is therefore 68 ranging from 2006 – 2014 (where only handful of HFA events are part of the dataset for the period 2006–2010. Since HFA's involvement in M & A deals is a recent phenomenon, most of the events span 2010–2014 period).[3]

[3]There are additional acquisition events in the presence of HFA for 2015, but due to lack of available data for the other variables of interest for 2015, we drop the events for 2015.

Bloomberg was used to compile information on tender offer campaigns. Bloomberg, also a private database, contains data on financial markets and corporations. It has a specific database on mergers and acquisitions. We extracted all takeover campaigns that used only tender offers as the acquiring method. In order to match the sample collected from Activist Insight, only the campaigns between 2006 and 2014 were selected. In addition, the campaigns in which the acquirer and/or the target are private were filtered out to match the characteristics of our activist campaign sub-sample. This yielded a second sub-sample including all takeover campaigns announcement using a tender offer as the acquiring method. The data contains a total number of 182 tender offer events.

Merging the two sub-samples creates our universe of takeover campaigns. The event study methodology that is used to evaluate this data sample requires the collection of the announcement date of every campaign: the date on which the acquiring firm announces its intention to acquire or merge with the target company. In the case of the campaigns collected from Bloomberg, the announcement date is included in the dataset. The campaigns collected from Activist Insight however do not possess this information. As such, the announcement dates for the activist campaigns in the sample were collected using a narrative approach. We used newspaper articles provided in Factiva and the details provided by Activist Insight to track event dates. We remove any events where the event dates are ambiguous or unclear.

The event study methodology also requires daily stock returns around the announcement date for all the acquiring firms. The daily returns for the 200 days surrounding the announcement date were extracted from Compustat. Similar data is needed for the market as a whole. We use the S & P 500 index as a proxy for the market and extracted the daily index returns using Compustat as well. Finally, from the same database, we extract company-specific information for all acquiring firms as well as transaction-specific information. The variables of interest are discussed in detail in Section 4.

4. Methodology

In this section, we discuss our empirical methodology. We first discuss the measurement of three categories of variables: acquirer's return (dependent variable), event characteristic as a dummy variable for whether the event involved hedge fund activist or not (explanatory variable), and acquirer specific characteristics (controls). We then present the empirical specification we use to quantify the effect of HFA mechanisms on returns in the acquiring company.

4.1. Acquirer's Returns

We measure the effect of acquirer's announcement of acquisition by using market model, market-adjusted model and Fama-French three factor model based returns around initial acquisition announcements. We compute 3-day cumulative abnormal returns (CARs) during the event window of [-1,+1] days around the event which took place at date 0. The model's parameters are estimated over the 200 day period from the $(eventday - 210)$ to $(eventday - 11)$. In Table 1 we present the summary of CARs for the events that are based on acquisitions in the presence of a hedge fund activist in the target company and call it HFA, and events that are based on direct tender offers to the target company and call it TO. We also present the CARs for the entire sample. The t-test for the null hypothesis of no significant difference between the average CARs of HFA and TO events is rejected. We also find that CARs for HFA events are significantly higher than the CARs for TO events.

Table 1: Announcement Abnormal Returns and Hedge Fund Activism and Tender Offers

Group	Mean	Std. Err.	Std. Dev.	lower	Upper	Obs
TO	-0.00368	0.00439	0.059221	-0.01234	0.004984	182
HFA	0.017894	0.009985	0.082342	-0.00204	0.037825	68
combined	0.002189	0.004227	0.06683	-0.00614	0.010514	250
diff	-0.02157	0.009419	-0.04012	-0.00302		

Ho: diff = 0	t = -2.2904
Ha: diff < 0	$Pr(T < t) = 0.0114$
Ha: diff ! = 0	$Pr(\|T\| > \|t\|) = 0.0228$
Ha: diff > 0	$Pr(T > t) = 0.9886$

4.2. Event

We construct a dummy variable for whether the HFA was present in the target company while the deal for acquisition between the target and the acquirer took place. The dummy variable takes value 1 if HFA is present; otherwise the event is characterized as a direct tender offer between the acquirer and the target and the dummy get a value of 0. In total, we have 68 HFA events and 182 TO events spanning 2006–2014.

4.3. Acquirer's Characteristics

Our acquirer's characteristics are chosen based on Masulis et al. (2007). In particular, the acquiring company's features that we control for are firm size, free cashflow, Tobin's q, and leverage, all of which are measured at the fiscal year-end prior to the acquisition announcement, as well as pre-announcement stock price run-up, which is measured over the 200-day window from event day -210 to event day -11.

We measure the size of the acquirer firm as the log of its total assets. This variable allows us to control for large acquirer's ability to either take-over larger targets or pay higher premium for the acquisition (see Roll [1986]). The previous literature has argued that management in larger firms may make deals which are not in fact value adding to the acquirer's shareholders, and therefore size of the acquiring firm may negatively affect the CARs.

We measure free cashflow as operating income before depreciation minus interest, income taxes and capital expenditures, relative to the book value of total assets of the firm. We control for free cashflow because the free cash flow hypothesis (Jensen and Meckling, 1976) suggest a negative effect on CARs. The rationale is that firms with higher cashflow have more resources available for acquisitions, and managers may therefore engage in empire building rather than maximizing the welfare of shareholders. On the other hand, free cashflow may also indicate good performance, judgment and decision making skills of the management, and therefore correlate with better M & A deals (inducing a positive effect on CARs).

In line with Masulis et al. (2007), we define Tobin's q as the ratio of the company's market value of assets over its book value of assets, where the market value of assets is computed as the book value of assets minus the book value of common equity plus the market value of common equity. Tobin's q can positively or negatively affect the acquirer's CARs. Previous studies such as Moeller et al. (2005) also find a negative relation between acquirer's CARs and Tobin's q.

We measure leverage as a sum of market value of long term and short term debt of the firm relative to the market value of total assets of the firm. Leverage therefore captures the relative ratio of firm's debt and equity. A firm with more debt than equity relies on the control of the creditors, and managers therefore have an additional mechanism that governs their behavior and decisions with regard to acquisitions.

Finally, we also control for the acquirer company's stock price run-up before the acquisition announcement in order to isolate the effect of prior stock performance that may have temporarily experienced a sudden price increase which is not related to the event of this

study. We measure stock price run-up by the acquirer company in terms of buy-and-hold abnormal return (BHAR) for the 200 day window that lies between event days -210 to -11.

Table 2 summarizes the variables for the sub-sample of HFA events, TO events, and for the full sample.

Table 2: Summary Statistics

Acquisition	Stats	CAR(-1,+1)	Size	Tobin's Q	Leverage	Free cash-flow	BHAR
HFA	mean	0.0179	8.4276	1.9655	0.1466	0.0567	0.0403
	sd	0.0823	1.6377	1.2485	0.1307	0.0812	0.4580
	p25	-0.0155	7.3522	1.2523	0.0423	-0.0046	-0.1948
	p50	0.0000	8.4903	1.5862	0.1280	0.0618	-0.0515
	p75	0.0390	9.5393	2.2191	0.2101	0.1179	0.2331
	min	-0.1474	4.5444	0.7705	0.0000	-0.2596	-1.1521
	max	0.3478	11.8417	8.1852	0.5871	0.2081	1.9608
	N	68	60	60	60	60	68
TO	mean	-0.0037	8.7030	2.1012	0.1189	0.0782	-0.0030
	sd	0.0592	2.0002	1.2336	0.1330	0.0653	0.5230
	p25	-0.0242	7.2166	1.3652	0.0316	0.0398	-0.2152
	p50	-0.0001	8.7681	1.8183	0.0852	0.0832	-0.0353
	p75	0.0234	10.1725	2.4505	0.1511	0.1142	0.2168
	min	-0.3317	4.0025	0.3649	0.0000	-0.1183	-2.1076
	max	0.1416	14.6334	7.1104	0.7727	0.2756	3.2977
	N	182	179	179	179	179	179
Total	mean	0.0022	8.6339	2.0671	0.1259	0.0728	0.0089
	sd	0.0668	1.9161	1.2361	0.1327	0.0700	0.5054
	p25	-0.0221	7.2778	1.3365	0.0342	0.0378	-0.2092
	p50	-0.0001	8.6693	1.7574	0.0949	0.0800	-0.0364
	p75	0.0272	10.0454	2.3465	0.1730	0.1151	0.2168
	min	-0.3317	4.0025	0.3649	0.0000	-0.2596	-2.1076
	max	0.3478	14.6334	8.1852	0.7727	0.2756	3.2977
	N	250	239	239	239	239	247

4.4. Empirical specification

Based on the variables of interest discussed above our empirical specification is as follows:

$$CAR_i = \alpha + \beta * HFA_i + \gamma x_i + \epsilon_i,$$

where CAR_i are the acquirer's CARs, HFA_i is the dummy for presence of HFA in the acquisition, x_i is a vector of acquirer's characteristics, and ϵ_i is error term assumed to be i.i.d-normal for the statistical tests.

We test whether the dummy for HFA is significant and positive. A significantly positive coefficient on HFA_i indicates that relative to acquisition through direct tender offer, an acquirer's abnormal return on the day of the acquisition announcement performs better in the presence of HFA. In the next section, we present our results.

5. Results

We start by presenting our baseline results for CARs estimated using the Fama-French model for the event window [-1,+1] in Table 3.

Table 3: Cumulative Abnormal-Returns [CAR(-1,+1)] Fama-French Model

CAR(-1,+1)	(1)	(2)	(3)	(4)	(5)	(6)
HFA	0.022**	0.023**	0.019*	0.017*	0.020**	0.020**
	(0.011)	(0.011)	(0.010)	(0.009)	(0.009)	(0.009)
BHAR		-0.008	-0.007	-0.010	-0.007	-0.007
		(0.010)	(0.011)	(0.009)	(0.009)	(0.009)
Tobin's Q			-0.005	-0.002	-0.003	-0.003
			(0.003)	(0.004)	(0.004)	(0.004)
Leverage				0.071	0.083*	0.085*
				(0.047)	(0.048)	(0.050)
Free cash-flow					0.137**	0.140**
					(0.059)	(0.067)
Size						-0.000
						(0.003)
Constant	-0.004	-0.005	0.004	-0.010	-0.019	-0.015
	(0.004)	(0.004)	(0.008)	(0.013)	(0.013)	(0.028)
N	250	247	236	236	236	236
R^2	0.021	0.027	0.028	0.045	0.065	0.065

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In each of the columns in the above tables, the coefficient β on HFA_i is significant and

Table 4: Cumulative Buy-Hold-Abnormal-Returns [CBHAR(-1,+1)] Fama-French Model

CBHAR(-1,+1)]	(1)	(2)	(3)	(4)	(5)
HFA	0.021*	0.017*	0.016	0.018*	0.018*
	(0.011)	(0.010)	(0.010)	(0.009)	(0.010)
Tobin's Q		-0.005	-0.002	-0.004	-0.004
		(0.003)	(0.004)	(0.004)	(0.004)
Leverage			0.060	0.074	0.078
			(0.049)	(0.050)	(0.053)
Free cash-flow				0.140**	0.148**
				(0.061)	(0.068)
Size					-0.001
					(0.003)
Constant	-0.003	0.006	-0.006	-0.016	-0.008
	(0.004)	(0.008)	(0.013)	(0.014)	(0.028)
N	250	239	239	239	239
R^2	0.021	0.024	0.038	0.059	0.060

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

positive, implying that the presence of HFA during the acquisition process increases the acquirer's returns by about 2% relative to the acquisition with direct tender offers. For each table, we also add the aforementioned controls one-by-one to show that the main result for acquirer's return and the presence of HFA stays significantly positive. In addition, we also observe that the effect of free cashflow and leverage is significantly positive, both of which are in line with predictions based on the previous literature.

In order to interpret the effect of HFA on CARs as causal, the main identification assumption is that the presence or absence of HFA in the target company is not driven by the CARs of the acquiring firm. As argued in the introduction, this assumption is supported by the legal framework surrounding activities of HFAs in M & A deals. As a result, we interpret the results of Table 3 as evidence that HFA mechanisms positively impact CARs at the acquiring company.

To assess the robustness of the findings in Table 3, we also conduct a number of variations on the baseline specification (corresponding tables are provided in the Appendix). First, we study how the results change for alternative measures of CARs. In Table (5 – 6) and Table (7 – 8), we present the results for CARs and cumulative buy-hold abnormal returns (CBHARs) measured using market model and market-adjusted model, respectively. Across these alternative specifications, we find consistent results, indicating that our baseline specification is robust to the model chosen for measuring the dependent variable.

Second, to ensure that the announcement event is the reason behind the systematic change in the CARs of the acquirer company, we redo the analysis looking at the effect of HFA just prior to announcement (i.e., a window of [-1,0]), and just after the announcement (i.e, a window of [0,+1]). If the announcement event is the source of an increase in CARs, we should find no effect for the window [-1,0], and find a positive effect only in the window [0,1]. The results presented in Tables (9 – 12) support our interpretation that announcement events are the source of increases in CARs, by showing that the effect of HFA is indeed insignificant for the pre-event window [-1,0], while it is significant for the post-event window [0,1].

Finally, we also re-run the baseline specification with alternative windows of [-2,+2] and [-5,+5]. Tables 13 and Table 14 present these results, respectively. The point estimates with larger windows are consistent with our baseline specification, although the coefficients on the HFA dummy are no longer significant. The large standard errors may be due to the fact there is a limited number of HFA events in the data, limiting the power of the statistical tests. However, even with these larger windows we can reject any significantly negative impact of HFA mechanisms on the acquiring company's CARs, supporting the interpretation that the

presence of HFAs at the target company does not adversely affect the acquiring company.

6. Conclusion

Hedge fund activism is becoming increasingly important in the market of corporate control. Theoretically, the presence of hedge fund activists in the target company could either hinder or benefit the acquiring company. On the one hand, HFAs may demand a higher takeover premium. On the other hand, HFAs may reduce transaction costs, by reducing frictions in the takeover process due to coordination and asymmetric information problems.

In this paper, we study this question with an event-analysis, exploiting a novel dataset on M & A deals from 2006–2014 which combines the universe of successful acquisitions in the presences of hedge fund activists with other financial data on acquiring firms. We define events as acquisition announcements of the acquiring company, and distinguish between successful acquisitions which involve direct tender offers and HFA mechanisms. Our baseline results show that the acquiring company realizes (on average) approximately 2% higher cumulative abnormal returns when HFAs are present, relative to the acquisitions which did not involve activist. The results are robust to including a variety of controls, including Tobin's q, firm size, leverage and cahsflow. For alternative windows, we find similar point estimates, but lose significance due to poorly powered tests. Consistently, however, we find that the presence of HFAs in M & A deals does not adversely impact the CARs of the acquiring company.

Our results complement findings in the literature which show that HFA mechanisms also lead to higher CARs in the target company. Combining these findings suggests that the primary role of HFAs is to reduce transaction costs and other frictions in the takeover process, thereby benefiting both sides of the market. This interpretation is in contrast to much of the media attention on HFAs, which often presents a narrative in which hedge funds are "corporate raiders" destroying value in the firms they are involved with.

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A. Appendix

A.1. Alternative Measures of CARs

Table 5: Cumulative Abnormal-Returns [CAR(-1,+1)] Market Model

CAR(-1,+1)	(1)	(2)	(3)	(4)	(5)	(6)
HFA	0.020*	0.021**	0.017*	0.016*	0.018*	0.017*
	(0.010)	(0.010)	(0.010)	(0.009)	(0.009)	(0.009)
BHAR		-0.001	-0.001	-0.003	-0.001	-0.002
		(0.010)	(0.010)	(0.009)	(0.009)	(0.009)
Tobin's Q			-0.004	-0.002	-0.003	-0.003
			(0.003)	(0.004)	(0.004)	(0.004)
Leverage				0.062	0.071	0.078
				(0.046)	(0.047)	(0.049)
Free cash-flow					0.111*	0.122*
					(0.059)	(0.067)
Size						-0.002
						(0.003)
Constant	-0.002	-0.003	0.006	-0.007	-0.014	-0.002
	(0.004)	(0.004)	(0.008)	(0.012)	(0.014)	(0.028)
N	250	247	236	236	236	236
R^2	0.018	0.020	0.022	0.035	0.049	0.051

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Cumulative Buy-Hold-Abnormal-Returns [CBHAR(-1,+1)] Market Model

CBHAR(-1,+1)	(1)	(2)	(3)	(4)	(5)
HFA	0.020*	0.016	0.014	0.016*	0.016*
	(0.011)	(0.010)	(0.009)	(0.009)	(0.009)
Tobin's Q		-0.005	-0.002	-0.004	-0.004
		(0.003)	(0.004)	(0.004)	(0.004)
Leverage			0.053	0.064	0.074
			(0.048)	(0.050)	(0.053)
Free cash-flow				0.108*	0.124*
				(0.059)	(0.067)
Size					-0.002
					(0.003)
Constant	-0.001	0.008	-0.003	-0.010	0.007
	(0.004)	(0.008)	(0.013)	(0.014)	(0.028)
N	250	239	239	239	239
R^2	0.018	0.021	0.032	0.044	0.048

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Cumulative Abnormal-Returns [CAR(-1,+1)] Market-Adjusted Model

CAR(-1,+1)	(1)	(2)	(3)	(4)	(5)	(6)
HFA	0.020*	0.021**	0.017*	0.016*	0.018*	0.017*
	(0.010)	(0.010)	(0.010)	(0.009)	(0.009)	(0.009)
BHAR		-0.001	-0.001	-0.003	-0.001	-0.002
		(0.010)	(0.010)	(0.009)	(0.009)	(0.009)
Tobin's Q			-0.004	-0.002	-0.003	-0.003
			(0.003)	(0.004)	(0.004)	(0.004)
Leverage				0.062	0.071	0.078
				(0.046)	(0.047)	(0.049)
Free cash-flow					0.111*	0.122*
					(0.059)	(0.067)
Size						-0.002
						(0.003)
Constant	-0.002	-0.003	0.006	-0.007	-0.014	-0.002
	(0.004)	(0.004)	(0.008)	(0.012)	(0.014)	(0.028)
N	250	247	236	236	236	236
R^2	0.018	0.020	0.022	0.035	0.049	0.051

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Cumulative Buy-Hold-Abnormal-Returns [CBHAR(-1,+1)] Market-Adjusted Model

CBHAR(-1,+1)	(1)	(2)	(3)	(4)	(5)
HFA	0.020*	0.016	0.014	0.016*	0.016*
	(0.011)	(0.010)	(0.009)	(0.009)	(0.009)
Tobin's Q		-0.005	-0.002	-0.004	-0.004
		(0.003)	(0.004)	(0.004)	(0.004)
Leverage			0.053	0.064	0.074
			(0.048)	(0.050)	(0.053)
Free cash-flow				0.108*	0.124*
				(0.059)	(0.067)
Size					-0.002
					(0.003)
Constant	-0.001	0.008	-0.003	-0.010	0.007
	(0.004)	(0.008)	(0.013)	(0.014)	(0.028)
N	250	239	239	239	239
R^2	0.018	0.021	0.032	0.044	0.048

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A.2. Alternative Event Windows

Table 9: Cumulative Abnormal-Returns [CAR(0,+1)] Fama-French Model

CAR(0,+1)	(1)	(2)	(3)	(4)	(5)	(6)
HFA	0.020**	0.021**	0.017*	0.016*	0.017**	0.017**
	(0.010)	(0.010)	(0.009)	(0.009)	(0.008)	(0.008)
BHAR		-0.002	0.001	-0.001	0.000	0.000
		(0.009)	(0.009)	(0.008)	(0.009)	(0.009)
Tobin's Q			-0.004	-0.001	-0.002	-0.002
			(0.003)	(0.004)	(0.004)	(0.004)
Leverage				0.061	0.068	0.067
				(0.042)	(0.043)	(0.044)
Free cash-flow					0.082	0.082
					(0.054)	(0.060)
Size						0.000
						(0.002)
Constant	-0.004	-0.005	0.003	-0.010	-0.015	-0.016
	(0.004)	(0.004)	(0.008)	(0.012)	(0.012)	(0.026)
N	250	247	236	236	236	236
R^2	0.020	0.022	0.022	0.036	0.044	0.044

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10: Cumulative Buy-Hold-Abnormal-Returns [CBHAR(0,+1)] Fama-French Model

CBHAR(0,+1)	(1)	(2)	(3)	(4)	(5)
HFA	0.020**	0.016*	0.014	0.016*	0.016*
	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)
Tobin's Q		-0.004	-0.002	-0.003	-0.003
		(0.003)	(0.003)	(0.004)	(0.004)
Leverage			0.055	0.063	0.065
			(0.043)	(0.044)	(0.046)
Free cash-flow				0.077	0.080
				(0.052)	(0.059)
Size					-0.000
					(0.002)
Constant	-0.004	0.005	-0.007	-0.012	-0.008
	(0.004)	(0.008)	(0.012)	(0.012)	(0.025)
N	250	239	239	239	239
R^2	0.020	0.021	0.033	0.041	0.041

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11: Cumulative Abnormal-Returns [CAR(-1,0)] Fama-French Model

CAR(-1,0)	(1)	(2)	(3)	(4)	(5)	(6)
HFA	0.015	0.016*	0.012	0.011	0.012	0.012
	(0.010)	(0.010)	(0.009)	(0.008)	(0.008)	(0.008)
BHAR		-0.007	-0.005	-0.007	-0.006	-0.006
		(0.007)	(0.007)	(0.006)	(0.006)	(0.006)
Tobin's Q			-0.004	-0.001	-0.002	-0.002
			(0.003)	(0.003)	(0.003)	(0.003)
Leverage				0.053*	0.058*	0.055*
				(0.029)	(0.030)	(0.031)
Free cash-flow					0.058	0.054
					(0.051)	(0.053)
Size						0.001
						(0.002)
Constant	-0.001	-0.002	0.005	-0.006	-0.010	-0.015
	(0.003)	(0.003)	(0.006)	(0.008)	(0.009)	(0.020)
N	250	247	236	236	236	236
R^2	0.016	0.024	0.023	0.040	0.047	0.047

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 12: Cumulative Buy-Hold-Abnormal-Returns [CBHAR(-1,0)] Fama-French Model

CBHAR(-1,0)	(1)	(2)	(3)	(4)	(5)
HFA	0.015	0.011	0.010	0.011	0.011
	(0.010)	(0.009)	(0.008)	(0.008)	(0.008)
Tobin's Q		-0.004	-0.002	-0.003	-0.002
		(0.003)	(0.003)	(0.003)	(0.003)
Leverage			0.045	0.051*	0.048
			(0.028)	(0.029)	(0.030)
Free cash-flow				0.058	0.054
				(0.052)	(0.053)
Size					0.001
					(0.002)
Constant	-0.001	0.006	-0.003	-0.007	-0.012
	(0.003)	(0.006)	(0.008)	(0.009)	(0.021)
N	250	239	239	239	239
R^2	0.017	0.020	0.032	0.039	0.039

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 13: Cumulative Abnormal-Returns [CAR(-2,+2)] Fama-French Model

CAR(-2,+2)	(1)	(2)	(3)	(4)	(5)	(6)
HFA	0.017	0.018	0.014	0.013	0.015	0.015
	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)
BHAR		-0.006	-0.004	-0.007	-0.005	-0.005
		(0.009)	(0.009)	(0.008)	(0.008)	(0.009)
Tobin's Q			-0.005	-0.003	-0.004	-0.004
			(0.003)	(0.004)	(0.004)	(0.004)
Leverage				0.058	0.068	0.067
				(0.045)	(0.046)	(0.046)
Free cash-flow					0.112*	0.111*
					(0.062)	(0.067)
Size						0.000
						(0.003)
Constant	-0.004	-0.005	0.006	-0.006	-0.013	-0.014
	(0.005)	(0.005)	(0.009)	(0.013)	(0.015)	(0.032)
N	250	247	236	236	236	236
R^2	0.011	0.015	0.021	0.032	0.044	0.044

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 14: Cumulative Abnormal-Returns [CAR(-5,+5)] Fama-French Model

CAR(-5,+5)	(1)	(2)	(3)	(4)	(5)	(6)
HFA	0.015	0.019	0.008	0.007	0.009	0.009
	(0.015)	(0.015)	(0.012)	(0.012)	(0.012)	(0.012)
BHAR		-0.033**	-0.027*	-0.030**	-0.028**	-0.027**
		(0.014)	(0.016)	(0.014)	(0.014)	(0.013)
Tobin's Q			-0.007*	-0.005	-0.006	-0.006
			(0.004)	(0.005)	(0.005)	(0.005)
Leverage				0.069	0.079	0.074
				(0.057)	(0.058)	(0.057)
Free cash-flow					0.121	0.112
					(0.083)	(0.087)
Size						0.001
						(0.003)
Constant	-0.011*	-0.013**	0.003	-0.011	-0.019	-0.029
	(0.007)	(0.006)	(0.011)	(0.017)	(0.019)	(0.039)
N	250	247	236	236	236	236
R^2	0.006	0.040	0.040	0.050	0.060	0.061

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$